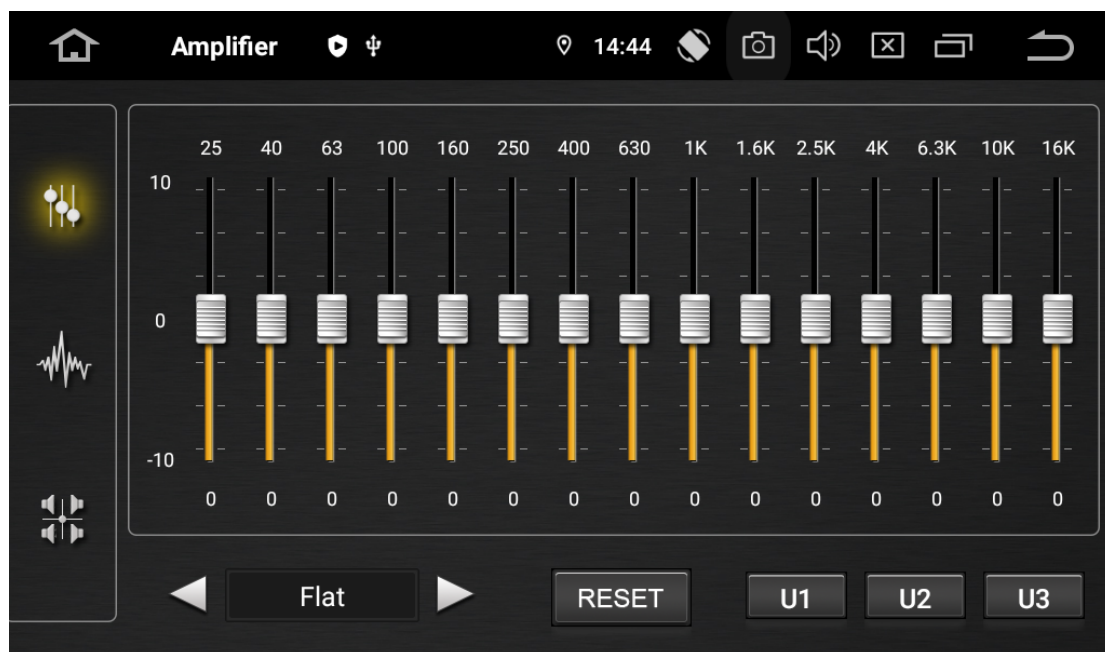


# Android Navigation DSP User Manual

The Hengchangtong Android navigation can automatically recognize the hardware, the UI with and without DSP hardware amplifier settings are different. Picture 1 shows the hardware interface with DSP, and picture 2 shows the hardware interface without DSP.



The picture above (picture 1) is with DSP hardware UI.

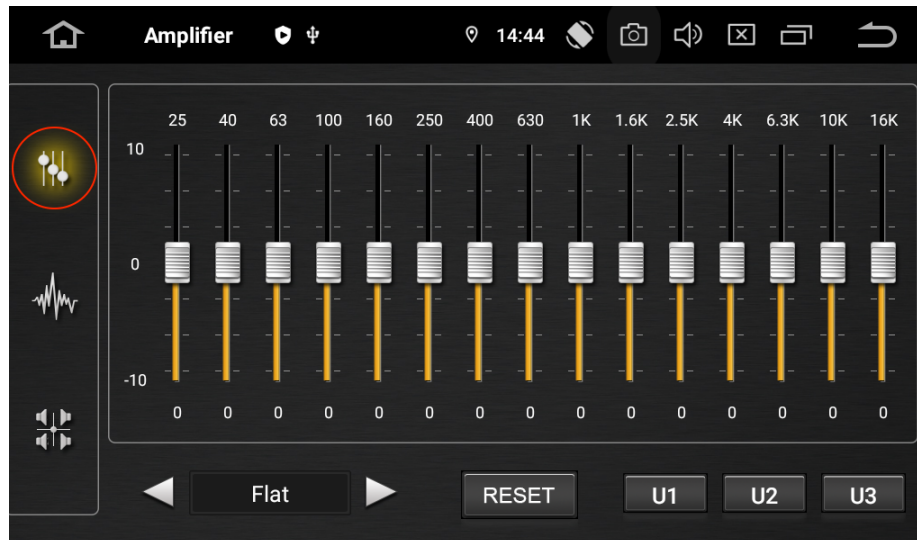


The picture above (picture 1) is without DSP hardware UI.

# DSP Interface Instructions

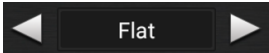
## 1. Amplifier Settings Interface

Light up the first icon on the left  to enter the EQ settings, as below:



## 2. Set a preset EQ effects


2.1. Click on the triangle arrows on the left and right sides of this icon

 to select a preset EQ value (flat, vocal, user, rock, pop, jazz, classic and other sound effects), as below:



Select a preset sound effect by clicking on the triangle icon.

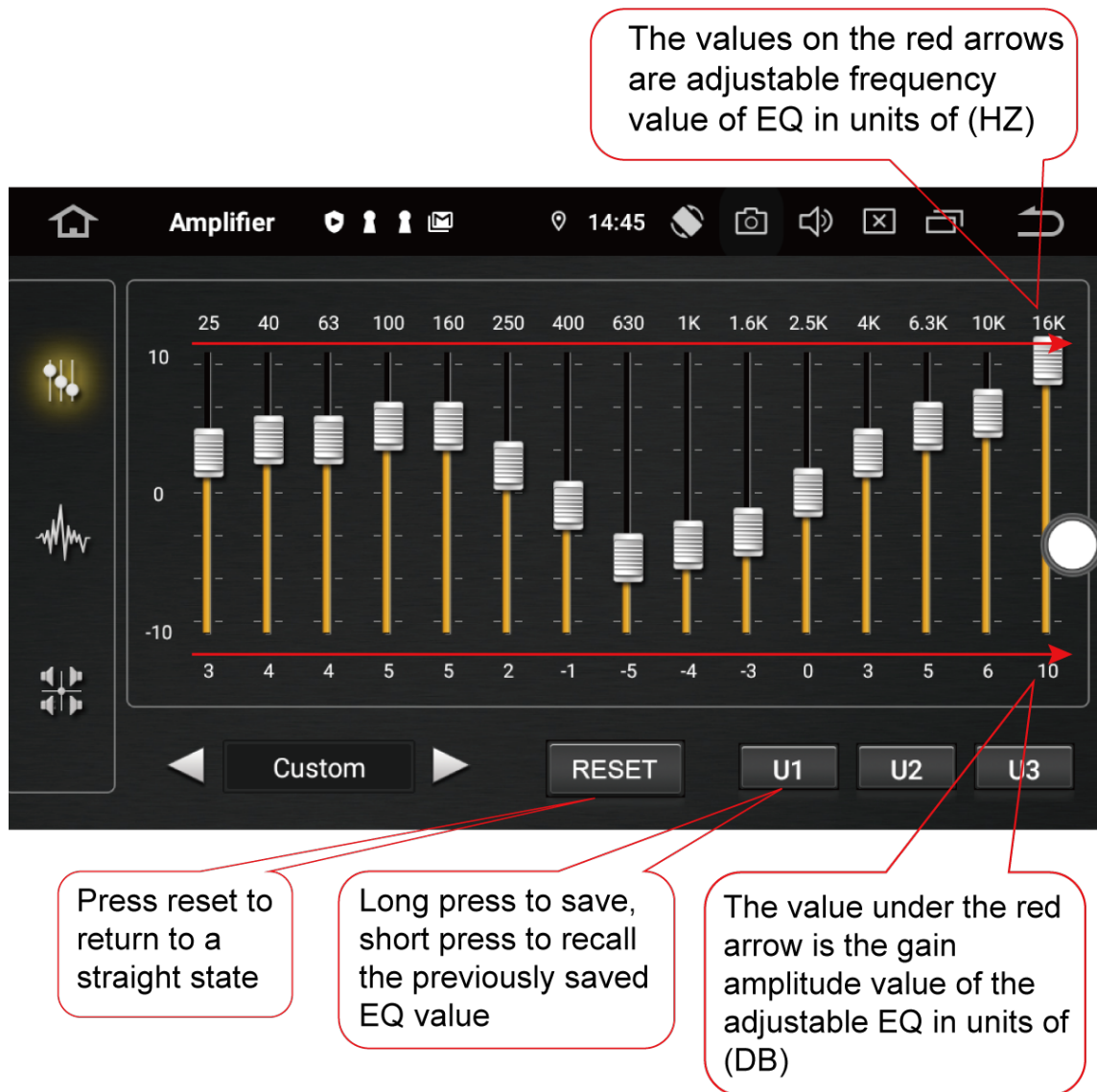
2.2. User-defined sound effect setting and saving. The user can set the EQ

frequency band value to adjust the sound effect, and drag the icon  to set the audio frequency output amplitude of this segment. The value at the top of the icon is the adjusted frequency value (HZ) for this segment EQ, and the value at the bottom of the icon is the amplitude value (DB) for this segment.


The EQ effects set by the user can be saved in three files: Custom 1, Custom 2,

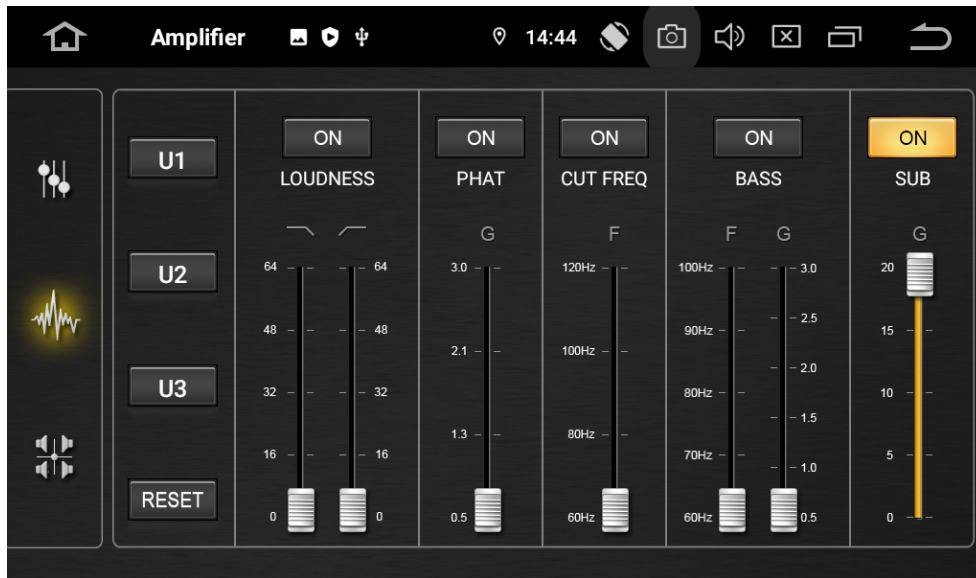
Custom 3. Long press    after adjusting the EQ value.

After saving, press the icon  to recall the previously saved EQ value.



### 3. Special Effect Adjustment




Users can adjust various sound effects, light up  this icon to entre sound effect setting interface, as below:

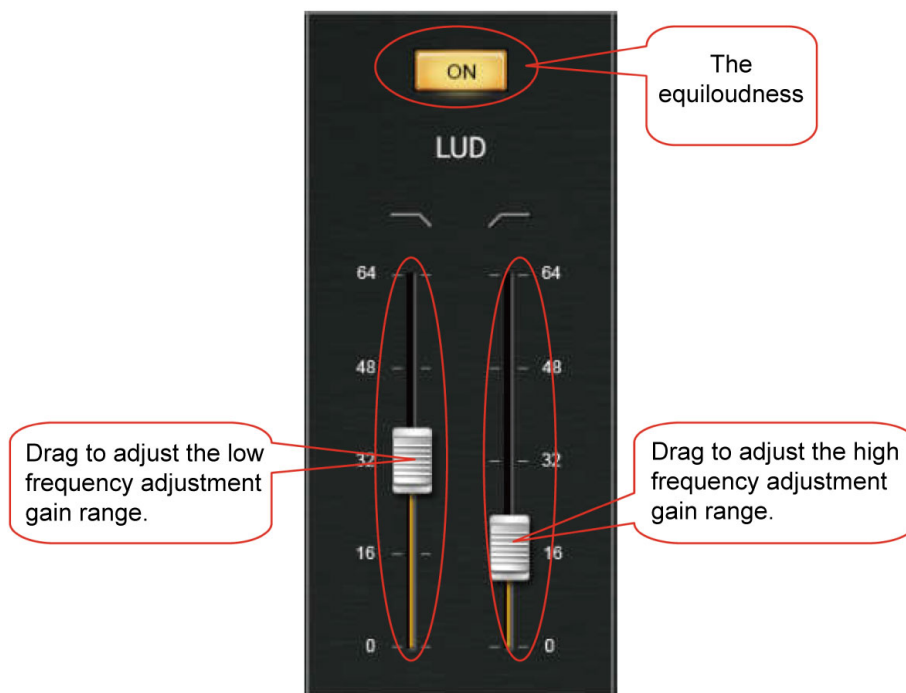


### Equiloudness Setting:

Description:

The equiloudness setting means to increase the low and high frequency amplitude when the volume is low.


The low frequency amplitude is adjusted by the sliding bar below this icon  and the high frequency amplitude is adjusted by the sliding bar below this icon  This icon  is the switch for equiloudness settings, as below:

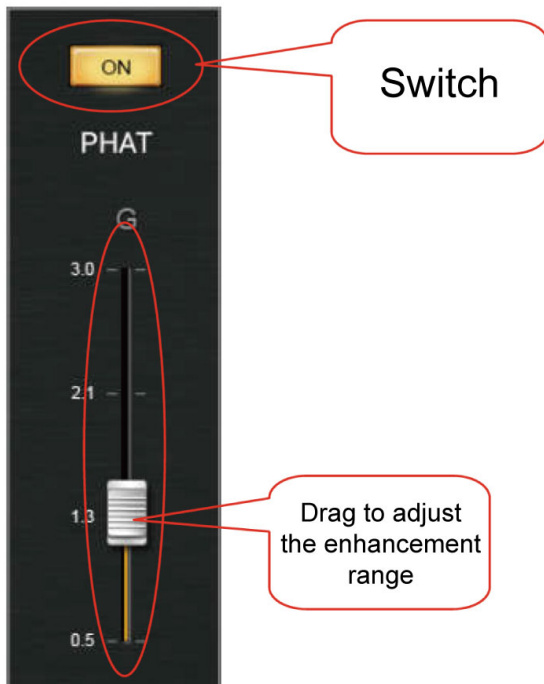


### Surround system enhancement settings:

Description:

Surround system enhancement refers to improving the stereo and spatial sense of the sound field.


Click on  to turn on surround system enhancement setting. Drag the slide bar below the switch to adjust the amplitude as below:

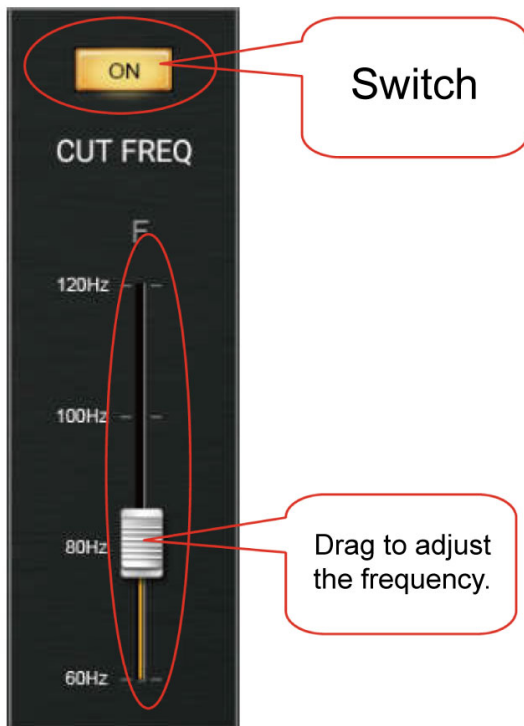


### Cut Frequency Setting:

Description:

Frequency cutting refers to the removal (elimination) of audio at or under a certain frequency point to make the sound more clear and transparent, and to increase the height of the sound field.



Light on  to turn on the increasing cutting frequency setting. Drag the slider below the switch to select the frequency point of the cut frequency.




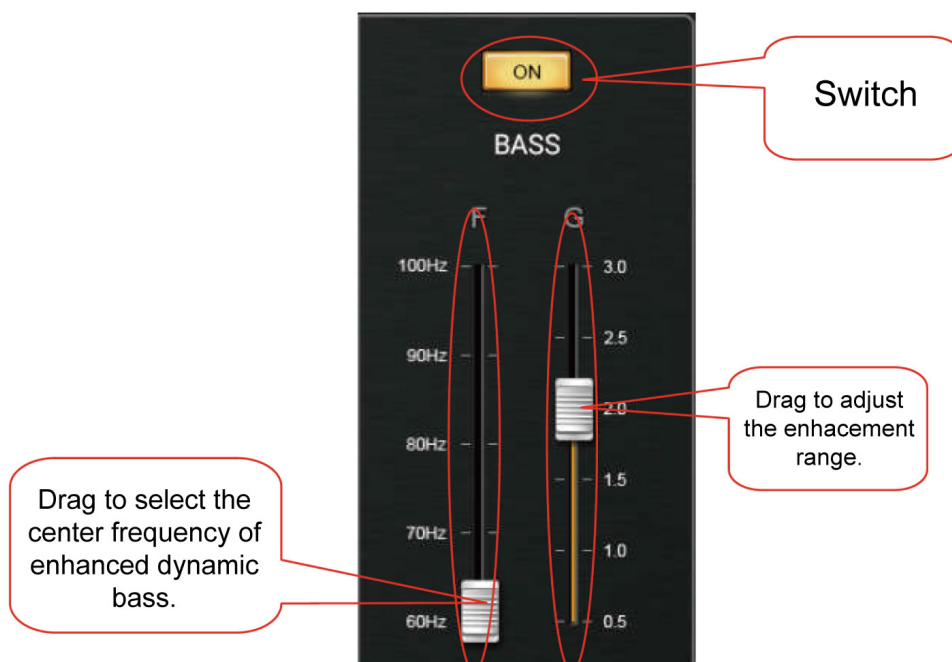
### Dynamic Bass Adjustment:

Description:

Dynamic bass refers to the dynamic promotion of low frequencies, so that the sound is more powerful and appealing.

Light on  to turn on dynamic bass adjustment setting. Drag the slide bar below  this icon to select the center frequency of the enhanced dynamic bass.

The column of slide bars below this icon  can adjust the enhancement amplitude as below:

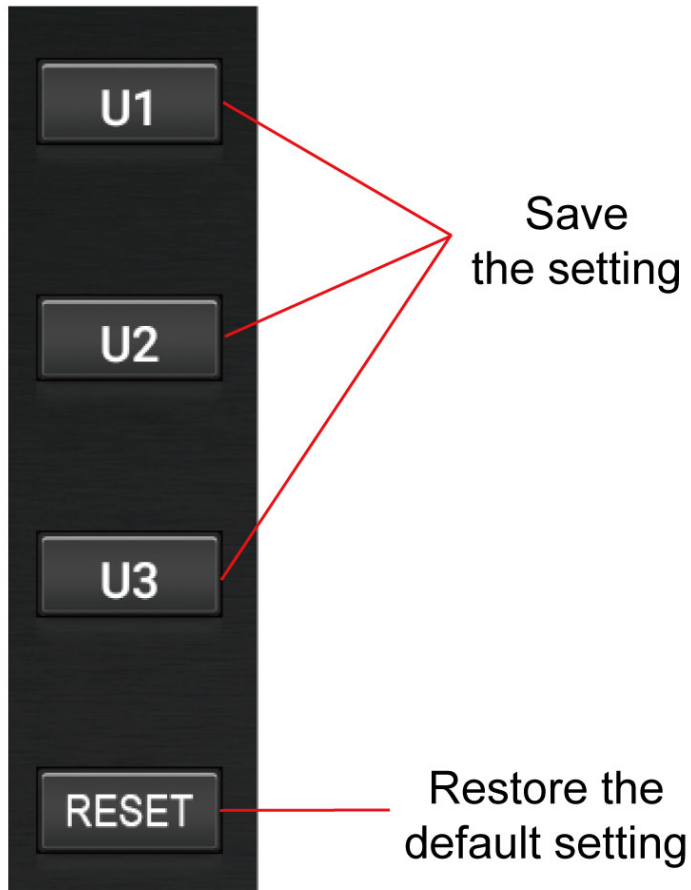




### Archive and reset settings:


After setting the user's favorite sound effect, long press: Custom 1, Custom 2, Custom 3. Any of which can keep the current setting


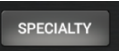
Click on  to restore to the unset state !

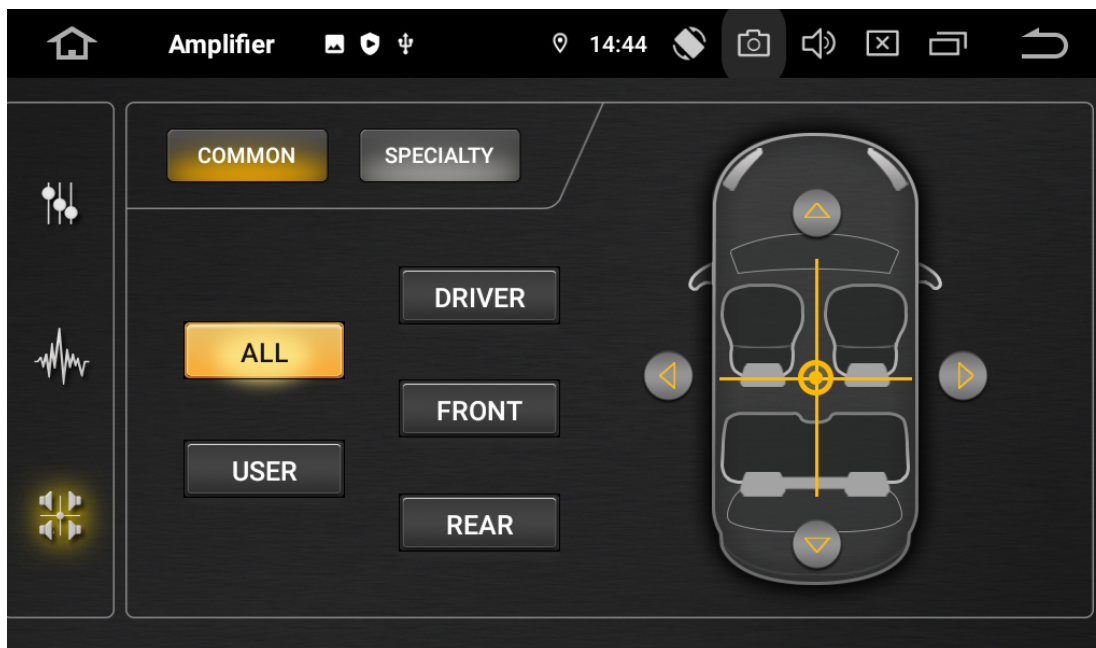


### Best listening position setting:

The best listening position means that after setting up, the listener at the designated position can feel the center of the sound field (stage) gathered in the middle of the center console, and the positions of various instruments and vocals are distinct.

Light on this icon  to enter sound field adjustment interface.

  If you click COMMON, you will enter the common column sound field mode. If you click SPECIALTY, you will enter the professional mode and set the best listening position. As shown below:




The image above shows the normal mode, which is consistent with the traditional. sound field adjustment method.

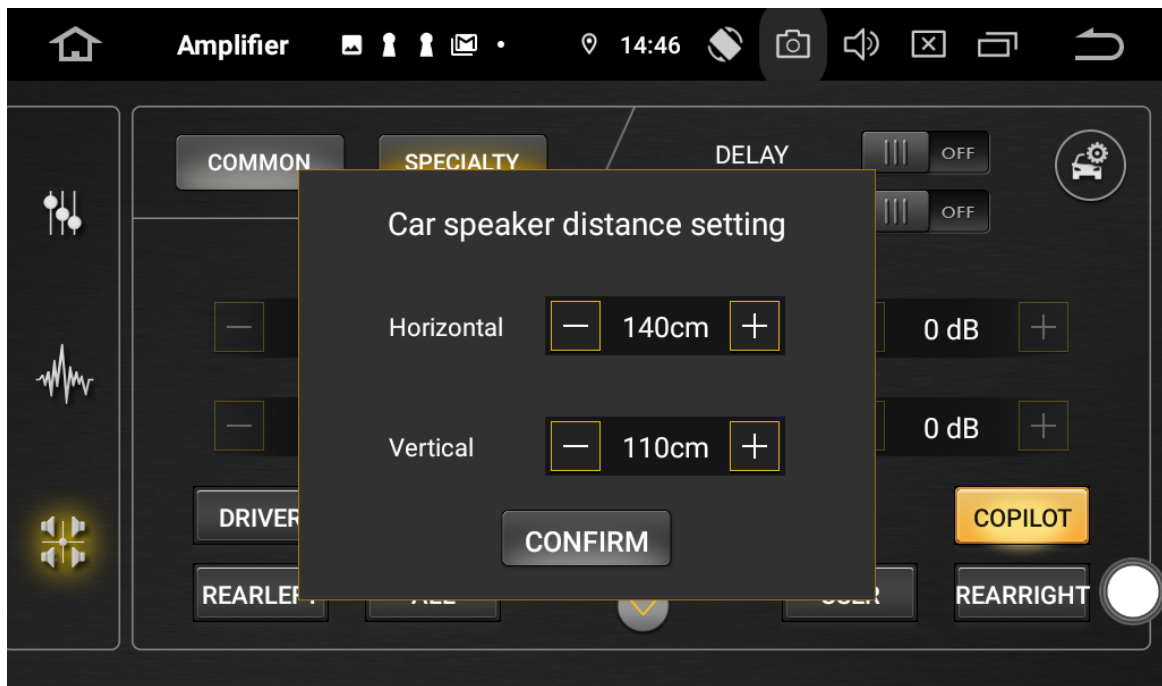


The picture above shows the professional sound field adjustment mode.


### Professional sound field mode setting instructions:

1. Click this icon  in the upper right corner of the interface to enter the speaker spacing setting dialog box. Use a ruler to measure the actual size of the speaker in the car. The horizontal refers to the distance between the two front speakers and the longitudinal refers to the distance between the front and rear speakers on either side of the cabin. As shown below:

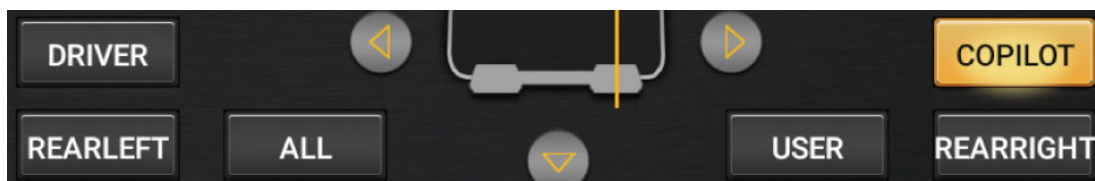





After setting the speaker distance, click confirm.

2. Click **DELAY** **ON**  to turn on the delay switch. Note: After this switch is turned on, the DSP system will automatically calculate the required speaker phase, delay arrival and other parameters for the subsequent setting of the best listening position according to the previously set speaker spacing and the sound field specific formula.

3. Click the icons in the picture below for driving mode, co-pilot, rear left, rear right, etc. to set the best listening position. Note: There is only one best position, which is the position that a user litght on. At this time, the center of the sound field heard from the best listening position is right in the middle of the center console.

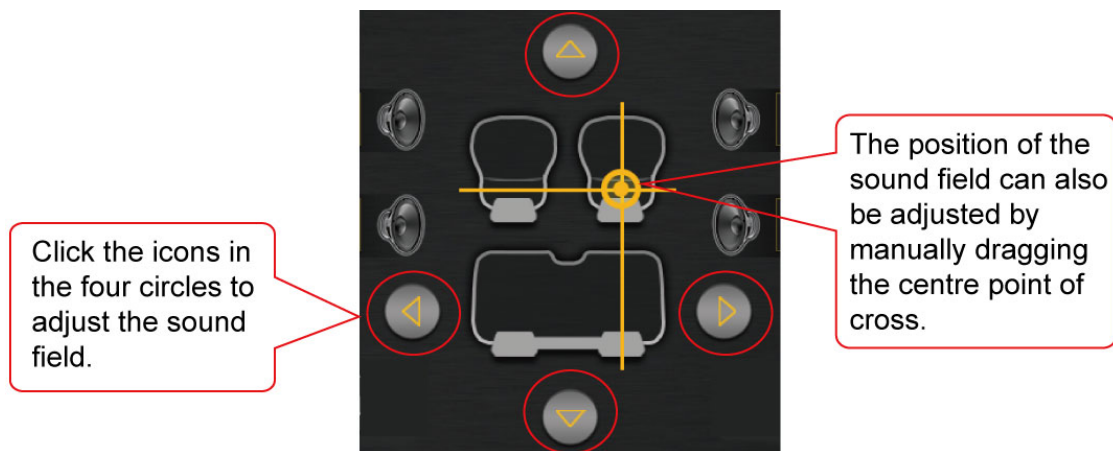


4. Auxiliary settings, due to the inconsistency of the length and width of the speakers or car body, sometimes the best listening position will have a slight deviation. At this time, the sound field can be calibrated by adjusting the gain attenuation and phase of each speakers separately, as below:

4.1. Click **Fader** **ON**  to open the tone-up adjustment. At this time, the buttons next to the four speakers on the interface can be adjusted. Click "—" to

attenuate the volume of this speaker.

4.2. Click the up, down, left, and right arrows in the picture below or drag the center point of the middle cross to adjust the best listening position to achieve the effect.



Method (4.1) and method (4.2) can be adjusted individually or in combination!

The above is all the methods of using DSP. Thank you for reading this user manual, Good day!