



4-Channel DSP Amplifier

Model: ZDA4.6

KEY FEATURES

- DSP + Amplifier
- 800W Max Power, 400W RMS
- 4x60W @ 4Ohm, 4x100W @ 2Ohm with DSP control
- PC Control software (and APP control ready iOS and Android)
- BT streaming sold separately (includes APP Control)

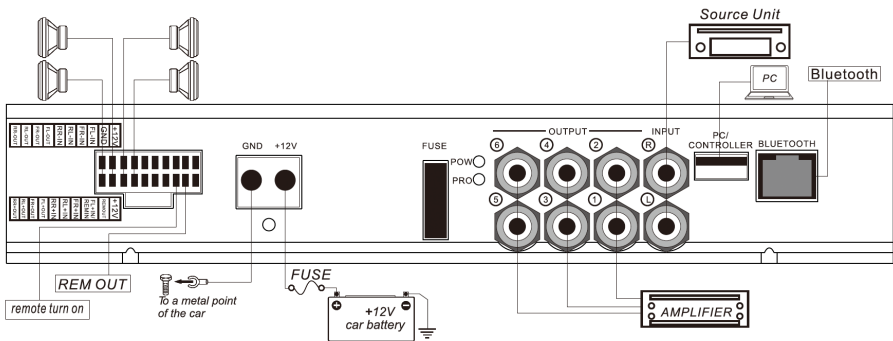


ZDA4.6 - DSP AMPLIFIER

INSTALLATION

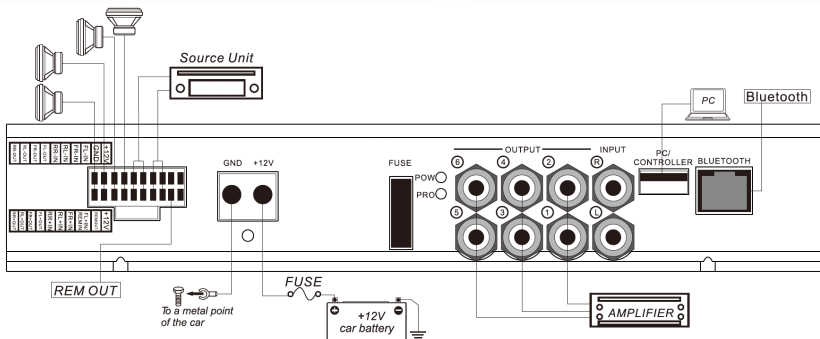
WHEN USING AN RCA INPUT:

- ▶ First, connect the positive wire (12v) to the vehicle battery **(20A fuse is required)**
- ▶ Next, connect the negative wire to the vehicle chassis to create a GND connection.
- ▶ Put the REM from main engine to "FL+" on the ZDA4.6 HI INPUT
- ▶ Finally, ensure all other connections are made, plug in PCA out, and ensure the unit is fixed securely in a location free of dirt and dust with enough ventilation for optimum operation.



WHEN USING A HI INPUT:

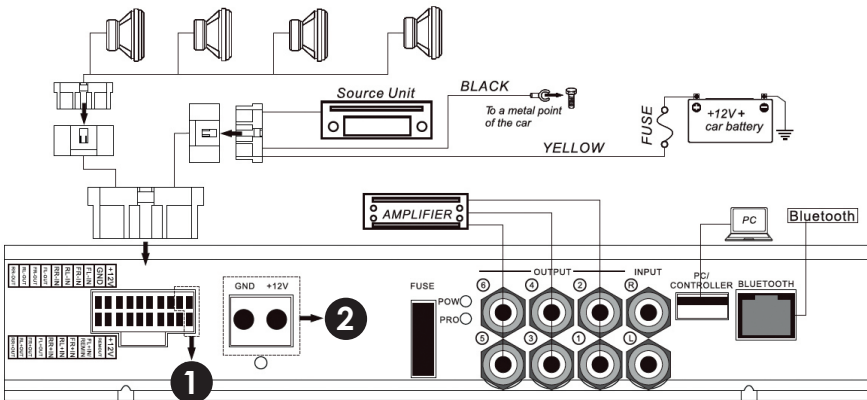
- ▶ First, connect the positive wire (12v) to the vehicle battery **(20A fuse is required)**
- ▶ Next, connect the negative wire to the vehicle chassis in order to create a ground connection.
- ▶ Finally, ensure all other connections are made, plug in PCA out, and ensure the unit is fixed securely in a location free of dirt and dust with enough ventilation for optimum operation.



ZDA4.6 - DSP AMPLIFIER

INSTALLATION - CONTINUED

- ▶ First, ensure the mounting location is free of dirt and dust and that there is enough ventilation in order to achieve optimum performance and avoid overheating when the ZDA4.6 is in use.
- ▶ Keep the wire connections as short as possible but with sufficient length in order to minimise any power losses and provide a higher audio output of the system.
- ▶ Where possible route all power and speaker wiring through any existing wire channels within the vehicle in order to ensure wiring does not pass through sharp edged metal.



The Power Connection Mode shown (1) only applies to a power outlet less than 40Watts; in other cases, please use power connection mode (2)

ZDA4.6 - DSP AMPLIFIER

SOFTWARE OPERATION INSTRUCTION

The PC software supplied offers a convenient and user-friendly interface that allows you to save various settings and parameters from the ZDA4.6, along with letting you switch or recover settings saved for multiple vehicles.

As well as the software included with the ZDA4.6, it can also be downloaded here: phoenixgold-eu.com if required.

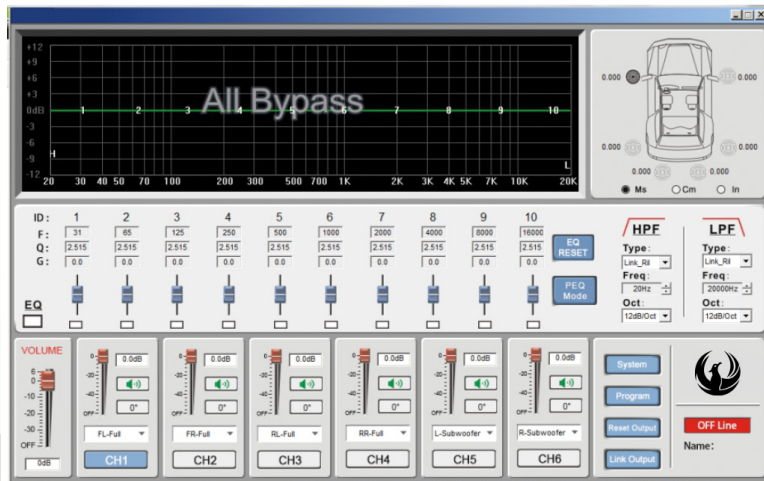
INSTALLATION

Windows XP/Vista/Windows 7/8/9/10.

The ZDA4.6 software is a standard WIN32 executable file named **ZDA4.6.exe**. This software will need to be directly installed on your hard drive in order to function.

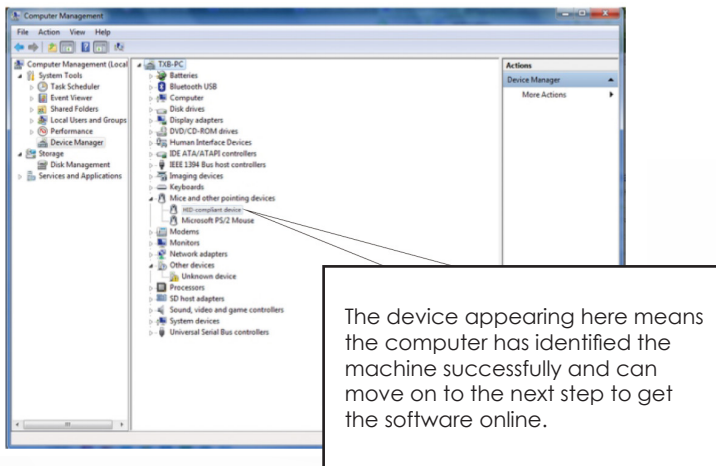
OPERATION

Insert the CD in your computer. Once loaded, locate the ZDA4.6.exe file and copy into a chosen location. Once copied, double click the .exe file to open. This will automatically create a 'Data File' in the same location. Once opened the main interface will look like the image below.



ZDA4.6 - DSP AMPLIFIER**SOFTWARE OPERATION INSTRUCTION****USB INTERFACE CONNECTION**

Connect the DSP to your PC via the USB cable supplied. The PC will locate the device, install and upgrade automatically. After a few seconds you will see a new device added and called HID-compliant device. See image below:

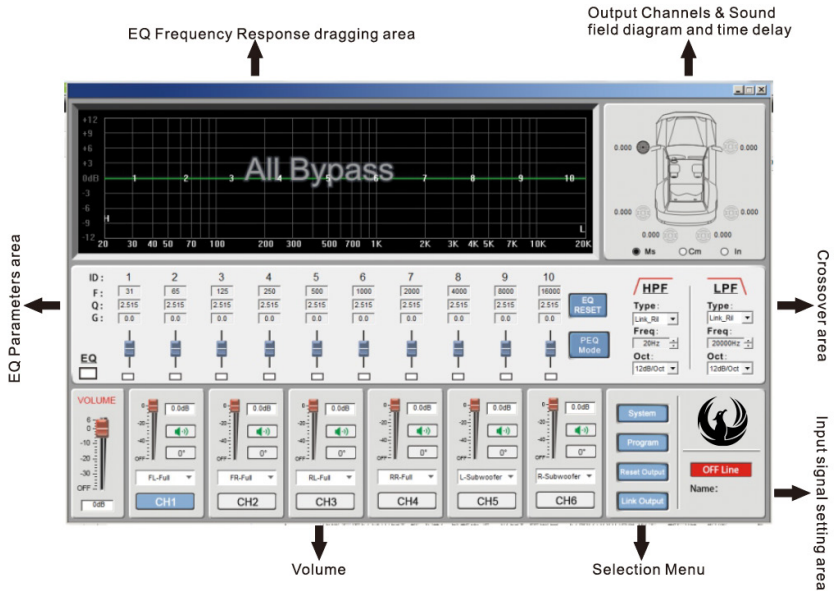


If the DSP software is OFFLINE, the button on the main interface screen will be RED. Once the DSP is connected, a dialogue box will show a 'CONNECTING TO DATA' message on screen. After a few seconds, the OFFLINE button will change to ONLINE and become GREEN.

OFFLINE**ONLINE**

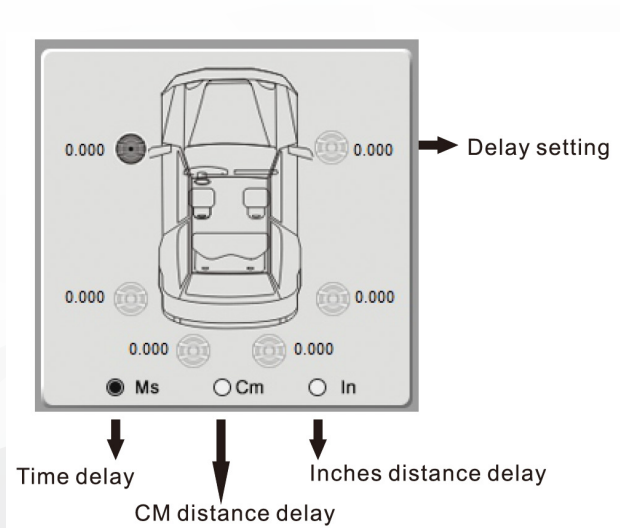
ZDA4.6 - DSP AMPLIFIER

SOFTWARE INTERFACE



ZDA4.6 - DSP AMPLIFIER**EQUALISER FREQUENCY RESPONSE DRAGGING AREA**

This area displays the output signal of the 10-BAND EQ parameters and crossover parameters clearly and you can drag the mouse to set the parameters. Left-click and drag the mouse in this 1-10 Band EQ display area to adjust the EQ parameters; Left-click and drag the mouse in the display area HPF (high pass or low cut) or LPF (low pass or high cut) to adjust the High Pass (low cut) or Low Pass (high cut) frequency.

OUTPUT CHANNELS CORRESPONDING TO THE SOUND FILED AND TIME DELAY

ZDA4.6 - DSP AMPLIFIER

SOFTWARE OPERATION INSTRUCTION

OUTPUT CHANNELS

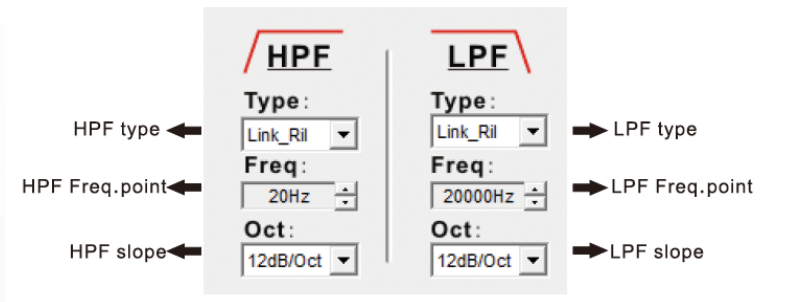
This area displays the CH1-CH6 output channel settings and you can click the mouse in the corresponding output channel speaker for setting. When the current editable channel is in white you can set the parameters accordingly.

TIME DELAY

This area displays the CH1-CH6 output channels time delay and you can left click the mouse directly in the output channel speaker to finish adjustment. There are MS/CM/ INCH unit buttons for time delay and distance delay setting. Click the white letter in the editing area and you can input a number, roll the mouse or use the keyboard arrow keys to finish the delay setting. The parameters range is listed below:

- A** MS: 0.000 MS - 20.000 MS
- B** CM: 0.00 CM - 692.00 CM
- C** INCH: 0.00 INCH - 272.37 INCH

CROSSOVER AREA



ZDA4.6 - DSP AMPLIFIER

SOFTWARE OPERATION INSTRUCTION

CROSSOVER AREA - CONTINUED

1. TYPE SETTING

Left-click the drop-down button of the HPF and choose filter type below:

- A** Butterworth
- B** Linkwitz-Riley
- C** Bessel

2. FREQUENCY SETTING

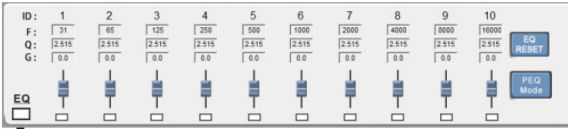
Input the numbers, roll the mouse or use the keyboard arrow keys to set the frequency adjustment range

- A** HPF Frequency 20HZ-20KHz
- B** LPF Frequency 20-20KHz

3. SLOPE SETTING

Left-Click the drop-down button of the HPF or LPF slope to choose the filter slope there are 6dB/oct - 12dB/oct

EQ PARAMETERS AREA



ID:	1	2	3	4	5	6	7	8	9	10
F:	31	65	125	250	500	1000	2000	4000	8000	16000
Q:	2.515	2.515	2.515	2.515	2.515	2.515	2.515	2.515	2.515	2.515
G:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EQ [] EQ RESET PEQ Mode

Start up

Reset EQ button

EQ mode switch button

1. FREQUENCY

In the parametric equaliser mode, you can adjust the frequency range (20Hz - 20000Hz) by inputting numbers, rolling the mouse or using keyboard arrow keys. In the graphic equaliser mode, the frequency is the 1/3 oct of the default value assignment and will not show a specific value.

2. Q-VALUE

In the Parametric equaliser mode, you can adjust the Q value range (0.404-28.82) by inputting the numbers, rolling the mouse or using the keyboard arrow keys. In the graphic equaliser mode, the frequency is the 1/3 oct of the default value assignment; and will not show a specific value.

ZDA4.6 - DSP AMPLIFIER

SOFTWARE OPERATION INSTRUCTION

EQ PARAMETERS - CONTINUED

3. GAIN

You can adjust the gain by putting the numbers in directly, using the keyboard arrows keys. Range (-12dB~+12dB) or push the buttons directly.

4. START BUTTON

There are 10 buttons for the 10-BAND EQ. Each band has 1 button that you can start this band accordingly.

5. RESET EQ BUTTON

Click this button and a dialogue box will appear. Click YES to reset all the 10-band (frequency, Q volume and gain volume reset to the preset, which is distributed evenly according to the 1/3 oct)

6. EQ MODE SWITCH BUTTON

This is a switch button for the parametric equaliser mode and the graphic equaliser mode. Click this button and a dialogue box will appear. Click YES to switch the EQ mode. The difference between graphic EQ mode and parametric EQ mode as below:

A. GRAPHIC EQUALISER

Using the constant-Q technology, set a fader that ensures the filter frequency band never changes per each frequency point, no matter the boost or decay of the frequency. Using the graphic equaliser structure is much more simple and straight forward and is commonly used in the professional audio studios to get a lot more fine composition.

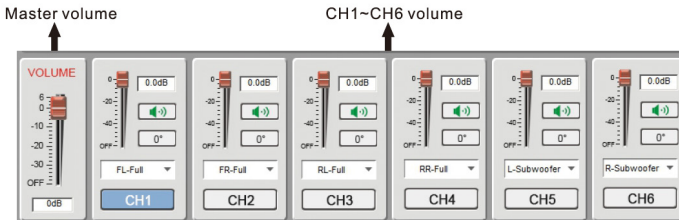
B. PARAMETRIC EQUALISER

For further adjustment in detail for various parameters including the frequency band, frequency point, gain Q-value etc, you can modify the sound to make it brighter, richer and more colourful to get the artistic effect that you wanted.

ZDA4.6 - DSP AMPLIFIER

SOFTWARE OPERATION INSTRUCTION

VOLUME ADJUSTMENT AREA



1. MASTER VOLUME ADJUSTING

Below the master volume there is a data frame. Left-click and set the volume with exact values or drag the volume buttons to set the volume adjustment range (39.9dB~6dB turn-off)

2. CH1-CH6 OUTPUT CHANNEL VOLUME ADJUSTING

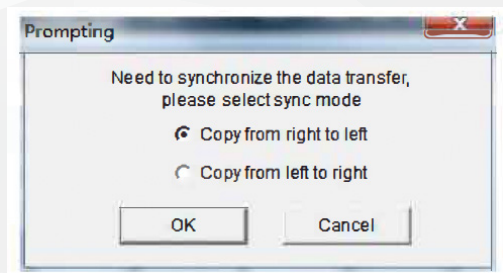
Below the CH1-CH6 channel there is a data frame. Left-click and set the volume with exact values or drag the volume buttons to set the volume adjustment range (39.9dB~6dB turn-off)

3. CH1-CH6 OUTPUT CHANNEL MUTE

Left-click the icon under the CH1 - CH6 channel volume and the icon will change. This enters MUTE state, click again to cancel MUTE.

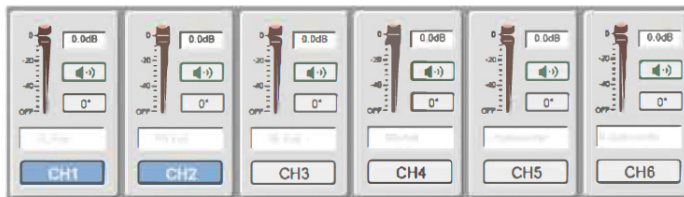
4. OUTPUT

Left click the output link, and the system as show in the diagram:

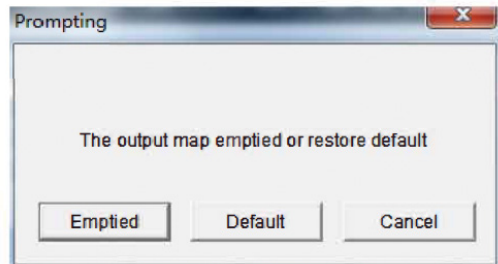


ZDA4.6 - DSP AMPLIFIER**SOFTWARE OPERATION INSTRUCTION****VOLUME ADJUSTMENT AREA - CONTINUED**

Choose the synchronisation style and click OK to enter into a new LINK mode (as shown below) Click the "UNLINK" button to exit the LINK mode.

**5. RESET OUTPUT**

Left-click the "RESET OUTPUT" to pop-up a dialogue box as below, and choose "Empty", "Default" or "Cancel".

**6. SIGNAL INPUT AREA**

Current Signal State.



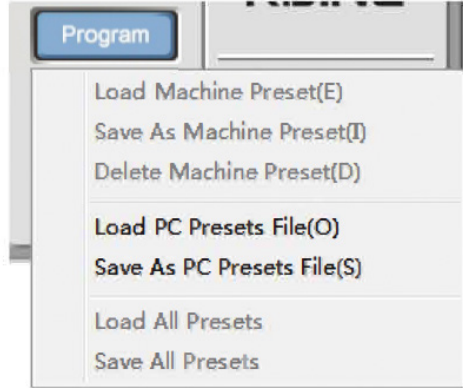
ZDA4.6 - DSP AMPLIFIER

SOFTWARE OPERATION INSTRUCTION

7. OPTION MENU

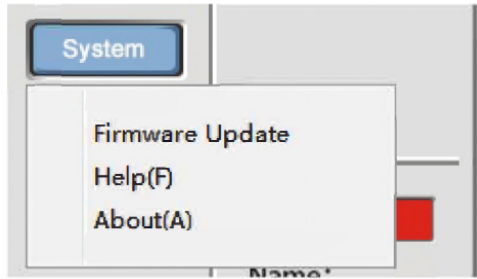
PROGRAM

Click programs and pop-up a menu as below, then choose the option accordingly to finish save, import or cancel operation



SYSTEM

Left-click the system and show up as below options



1. LANGUAGE SWITCH

2. FIRMWARE UPGRADES

- For Software Upgrade

3. HELP

- For System Help

4. ABOUT

- For Software Version Info

ZDA4.6 - DSP AMPLIFIER

APP SOFTWARE OPERATION INSTRUCTIONS

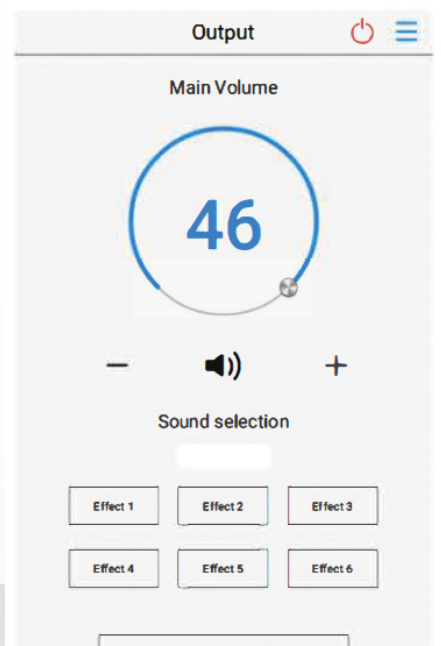
To support Android and iOS operation the system needs Bluetooth to function. The Bluetooth is optional and can support audio play and adjust the iOS & Android software.

HOW TO GET APP SOFTWARE

iOS APP software can be downloaded from APP store directly. Android APP software is recorded on the CD included with the machine in the box. Also you can download the latest software and more optimal upgrade files from our company website.

APP SOFTWARE AND INSTALLATION

The iOS and Android APP software installation are similar, and here is the Android APP software installation as an example:



OPERATION ENVIRONMENT Connect to the Android system. Find the "ZDA4.6.apk" executable files on the CD **Phoenixgold-eu.com**, and copy to your Android operating system, click this file and choose install to finish installation in few seconds. Then double-click to open this APP software and enter into the software main interface:

ZDA4.6 - DSP AMPLIFIER

APP SOFTWARE OPERATION INSTRUCTIONS

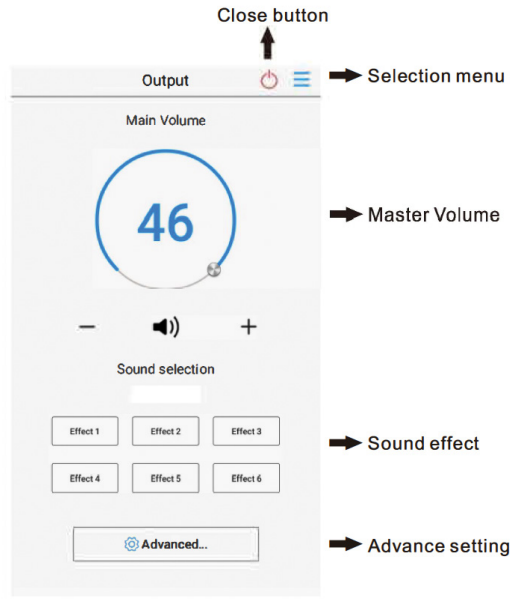
SOFTWARE ONLINE

Before connecting to online, please make sure the Android system Bluetooth is open, and find the name "ZDA4.6" in the Bluetooth connection interface, then click to make a connection. Once you are notified that the connection is successful, you will not need make connection again.

SOFTWARE INTERFACE

CLOSE BUTTON

Click this button to exit the software.



SELECTION MENU

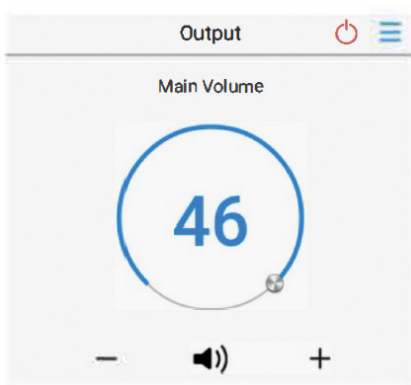
Click this selection menu button to enter the drop down menu opposite.

ZDA4.6 - DSP AMPLIFIER**APP SOFTWARE OPERATION INSTRUCTIONS****ABOUT**

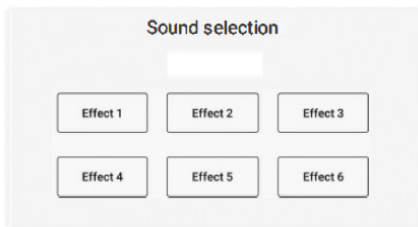
Display software version

EXIT

Click this button to exit software

**MASTER VOLUME**

You can adjust the master volume by clicking the "+" / "-" or clockwise or anti-clockwise for the fader (adjust range 0dB-46dB)

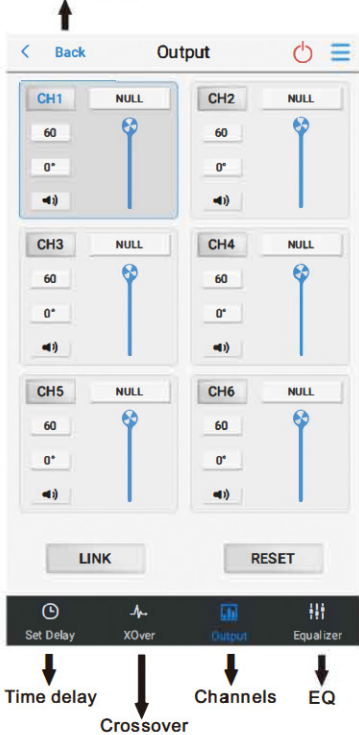
**SOUND EFFECT**

You can select any sound effect from the presets. The sound effect name will display in the choice box once selected.

ZDA4.6 - DSP AMPLIFIER

APP SOFTWARE OPERATION INSTRUCTIONS

Back to main page



ADVANCED SETTINGS

Click advance setting to enter

BACK TO MAIN PAGE

Click "BACK" to exit

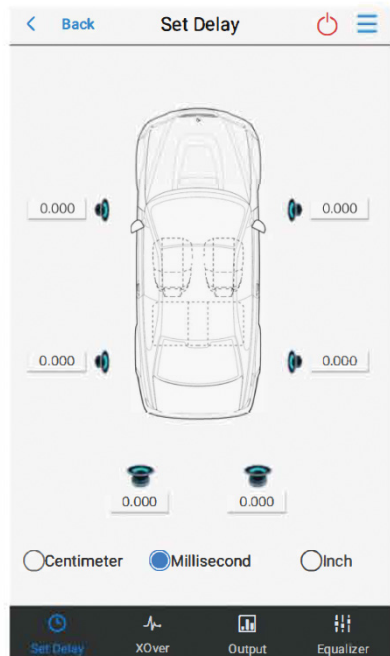
ZDA4.6 - DSP AMPLIFIER
APP SOFTWARE OPERATION INSTRUCTIONS
TIME DELAY

You can select any sound effect from the presets. The sound effect name will display in the choice box once you selected the sound effect.

Display CH1 -CH6 output channels time delay configuration, and you can set up directly for each speaker in the designated area. In this area you can click MS, CM and INCH these 3 unit buttons to set up time delay and distance.

The parameters as bellow:

- A** MS 0.00 MS -20.000 MS
- B** CM 0.00 CM - 692.00 CM
- C** INCH 0.00 - 272.37 INCHES



ZDA4.6 - DSP AMPLIFIER

APP SOFTWARE OPERATION INSTRUCTIONS

CROSSOVER

Click “Crossover” and enter below operation interface. You can adjust the parameters separately according to the CH1- CH6.

1. TYPE SETTING

Left-click the drop-down button of the HPF and choose filter type below:

- A** Butterworth
- B** Linkwitz-Riley
- C** Bessel

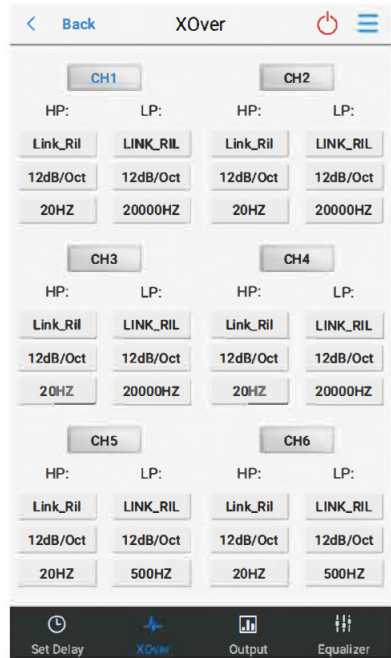
2. SLOPE SETTING

Left click the drop-down button of the HFP or LPF slope to choose the filter slope. There has 6dB/Oct, 12dB/Oct.

3. FREQUENCY SETTING

Click the HPF or LPF filter frequency button, and enter into the “Frequency” setting page. And you can click “+”“-” or push the fader to finish the Frequency setting. And the range as below:

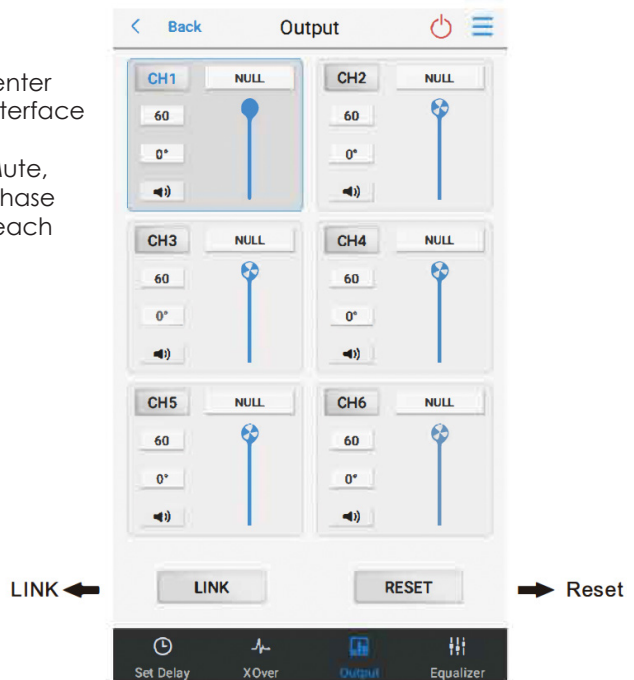
- A** HPF Frequency: 20HZ-20KHZ
- B** LPF Frequency: 20HZ -20KHZ



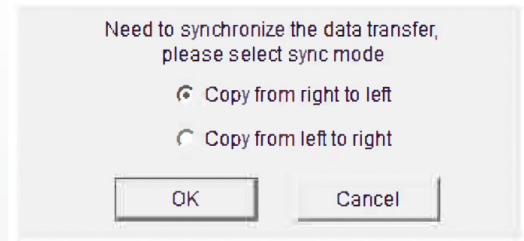
ZDA4.6 - DSP AMPLIFIER
APP SOFTWARE OPERATION INSTRUCTIONS
CHANNELS

Click the "Channel" and enter into as below operation interface

You can adjust Volume, Mute, positive phase/opposite phase for CH1 - CH6 output per each channel separately:


LINK

Click LINK and pop-up as below tips:

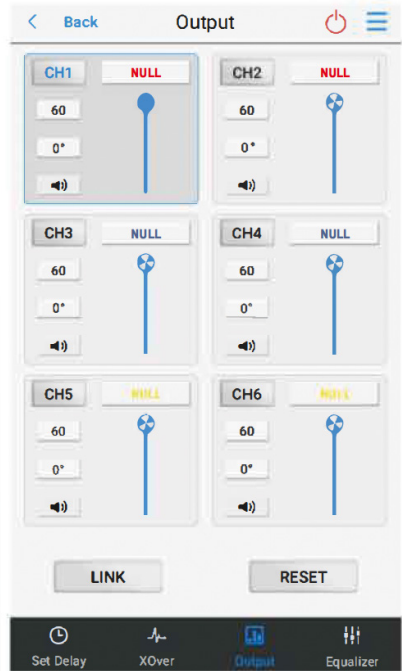


ZDA4.6 - DSP AMPLIFIER

APP SOFTWARE OPERATION INSTRUCTIONS

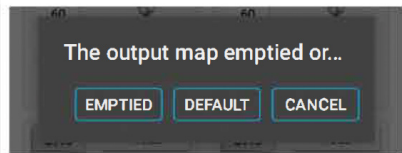
CHANNELS - CONTINUED

Choose the synchronisation mode and click "YES" enter into below LINK mode; Click "Cancel" to exit the LINK mode.



RESET

Click "Reset" and enter into dialogue box right, and choose EMPTY, DEFAULT or CANCEL.



ZDA4.6 - DSP AMPLIFIER

APP SOFTWARE OPERATION INSTRUCTIONS

EQ

Click EQ, and enter into control operation interface

1. GAIN

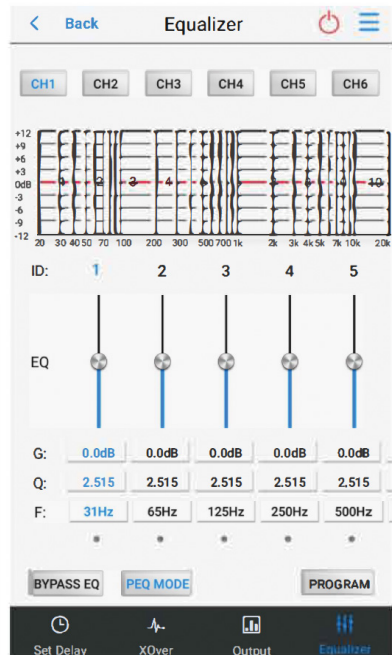
Input the numbers, roll the mouse or use the keyboard arrow keys to set the gain (range: -12dB - 12dB), or push the fader directly to adjust the gain.

2. Q-VALUE

In the Parametric equaliser mode, you can adjust the Q value (range: 0.404-28.85) by inputting the numbers, rolling the mouse or using the keyboard arrow keys. In the graphic equaliser mode, the Q value is the 1/3 oct of the default value assignment but does not show the specific value.

3. FREQUENCY

In the Parametric equaliser mode, you can adjust the frequency (range: 20Hz-2KHz) by inputting the numbers, rolling the mouse or using the keyboard arrow keys. In the graphic equaliser mode, the frequency is the 1/3 oct of the default value assignment but does not show the specific value.



ZDA4.6 - DSP AMPLIFIER

APP SOFTWARE OPERATION INSTRUCTIONS

4. RESET EQ BUTTON

Click this button and pop-up a dialogue box, and click "YES" to reset all the 10-band (Frequency, Q volume and gain volume reset to the preset, which is distributed evenly according to the 1/3 oct.

5. PARAMETRIC EQUALISER MODE AND GRAPHIC EQUALISER MODE SWITCH BUTTON

This is a switch button for the parametric equalizer mode and the graphic equalizer mode. Click this button and enter into the EQ mode accordingly. The difference between graphic EQ mode and parametric EQ mode as below:

A. GRAPHIC EQUALISER

Using the constant-Q technology, set a fader that ensures the filter frequency band never changes per each frequency point, no matter the boost or decay of the frequency. Using the graphic equaliser structure is much more simple and straight-forward and is commonly used in the professional audio studios to get a lot more fine composition.

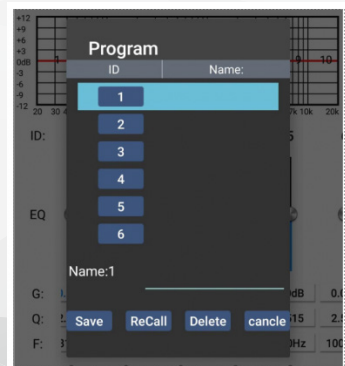
B. PARAMETRIC EQUALISER

For further adjustment in detail for various parameters including the frequency band, frequency point, gain Q-value etc, you can modify the sound to make it brighter, richer and more colourful to get the artistic effect that you wanted.

6. PROGRAM

Click Program" button and enter into interface.

You can save, call or cancel the saved settings according to the current scene parameters.



ZDA4.6 - DSP AMPLIFIER**SPECIFICATION**

Power Supply	9.8V - 16V
RMS Power Output	60W x 4 @4Ohm, 100W x 4 @2Ohm
MAX Power Output	800W
Input Range	4V
Control Mode	DSP Controller, PC Software, APP Software
Filter Mode	HPF/LPF
HPF	20-20KHz, 1/6 oct step
LPF	20-20KHz, 1/6 oct step
Filter Slope	6dB/oct - 12dB/oct
EQ Band	10-Band per channel
EQ Gain	-12dB ~ +12dB
EQ Q-Value	0.404~+28.852
S/N Ratio	102dB
Time Delay	20 MS per channel 0.021ms step
Product Size	266 x 150mm x 45mm

NOTES:

ZDA4.6 - DSP AMPLIFIER**NOTES:**

NOTES:



A Brand of AAMP Global.
phoenixgold-eu.com

© Copyright 2021

Phoenix Gold Product Warranty

LIMITED WARRANTY ON AMPLIFIERS

Phoenix Gold warrants this product to be free of defects in materials and workmanship for a period of one (1) years from the original date of purchase. This warranty is not transferable and applies only to the original purchaser from an authorized Phoenix Gold dealer in the United States of America only. Should service be necessary under this warranty for any reason due to manufacturing defect or malfunction, Phoenix Gold will (at its discretion) repair or replace the defective product with new or re-manufactured product at no charge. Damage caused by the following is not covered under warranty: accident, misuse, abuse, product modification or neglect, failure to follow installation instructions, unauthorized repair attempts, misrepresentations by the seller. This warranty does not cover incidental or consequential damages and does not cover the cost of removing or reinstalling the unit(s). Cosmetic damage due to accident or normal wear and tear is not covered under warranty.

INTERNATIONAL WARRANTIES:

Products purchased outside the United States of America are covered only by that country's Authorized Phoenix Gold reseller and not by Phoenix Gold. Consumers needing service or warranty information for these products must contact that country's reseller for information.