PHOENIX GOLD ZDA4.6 4-Channel DSP Amplifier Owner's Manual

4-Channel DSP Amplifier

Model: Z110-V2, Z112-V2
**ZDA4.6 Owners Manual**

Model: ZDA4.6

KEY FEATURES

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

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 the main engine to "FL+" on the ZDA4.6 HI INPUT
- Finally, ensure all other connections are made, plugin PCA out, and ensure the unit is fixed securely in a location free of dirt and dust with enough ventilation for optimum operation.
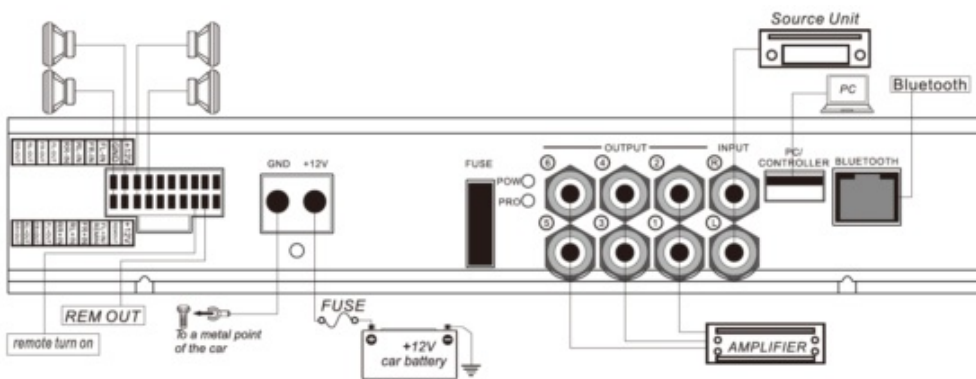
WHEN USING A HI INPUT:

- 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, plugin PCA out, and ensure the unit is fixed securely in a location free of dirt and dust with enough ventilation for optimum operation.
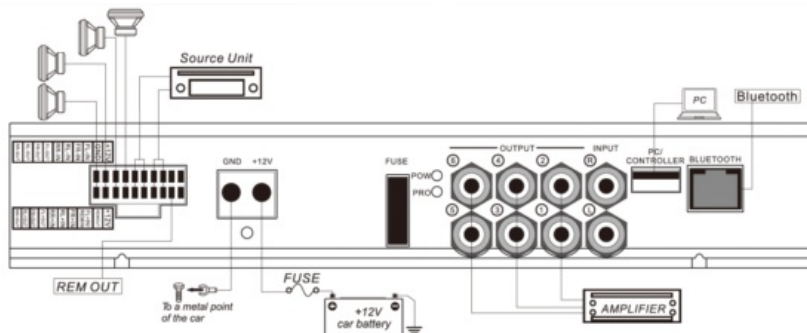

- First, ensure the mounting location is free of dirt and dust and that there is enough ventilation in order to achieve optimum performance and avoid overheating when the ZDA4.6 is in use.

- Keep the wire connections as short as possible but with sufficient length in order to minimize any power losses and provide a higher audio output for 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.
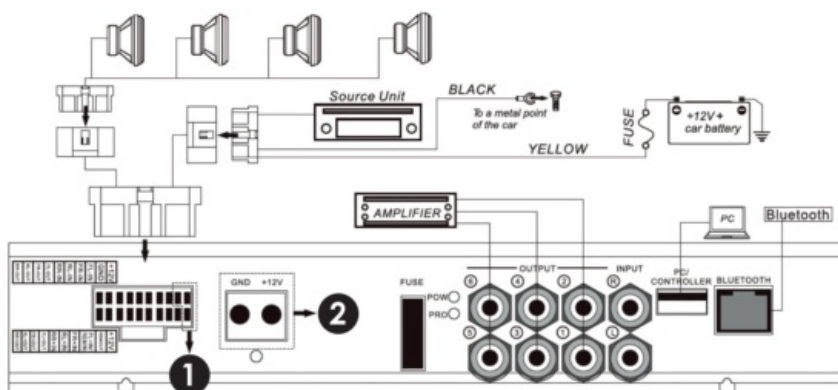
The Power Connection Mode is shown (1) only applies to a power outlet less than 40Watts; in other cases, please use power connection mode (2)

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 can also be downloaded here: **phoenixgold-eu.com** if required.
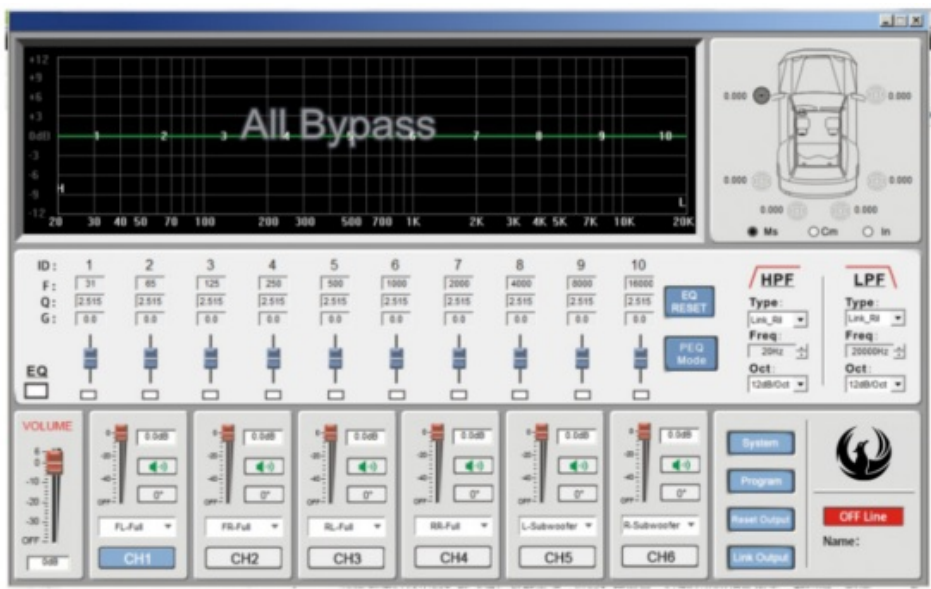**INSTALLATION**
Windows XP/Vista/Windows 7/8/9/10.
The ZDA4.6 software is a standard WIN32 executable file named ZDA4.6.exe.
This software will need to be directly installed on your hard drive in order to function.
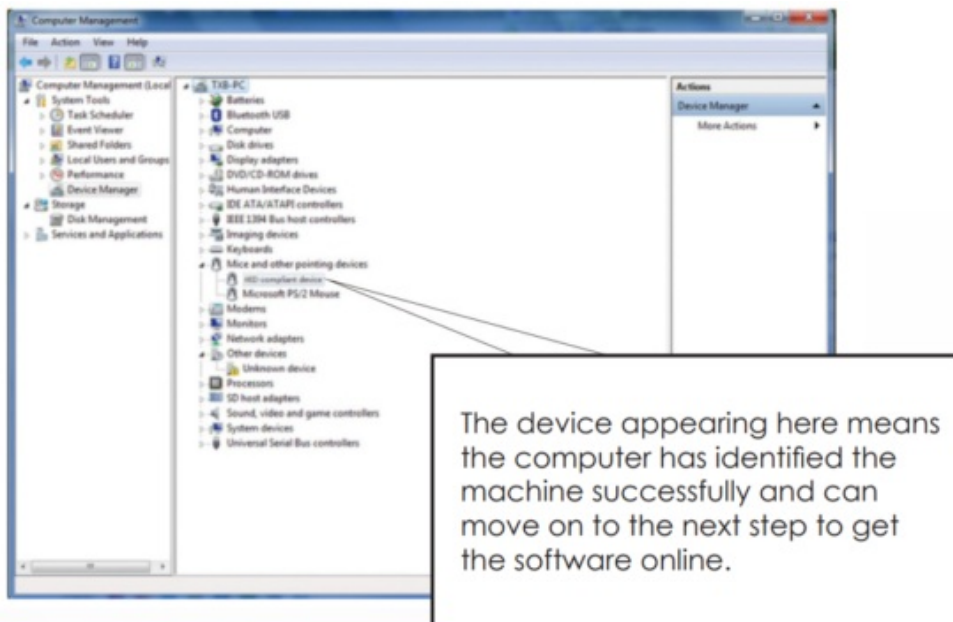
OPERATION

Insert the CD into your computer. Once loaded, locate the ZDA4.6.exe file and copy it 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.
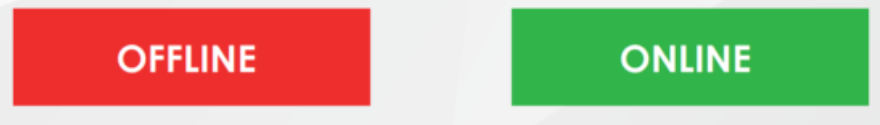
USB INTERFACE CONNECTION

Connect the DSP to your PC via the USB cable supplied. The PC will locate the device, and install and upgrade automatically. After a few seconds, you will see a new device added and

The device appearing here means the computer has identified the machine successfully and can move on to the next step to get the software online.
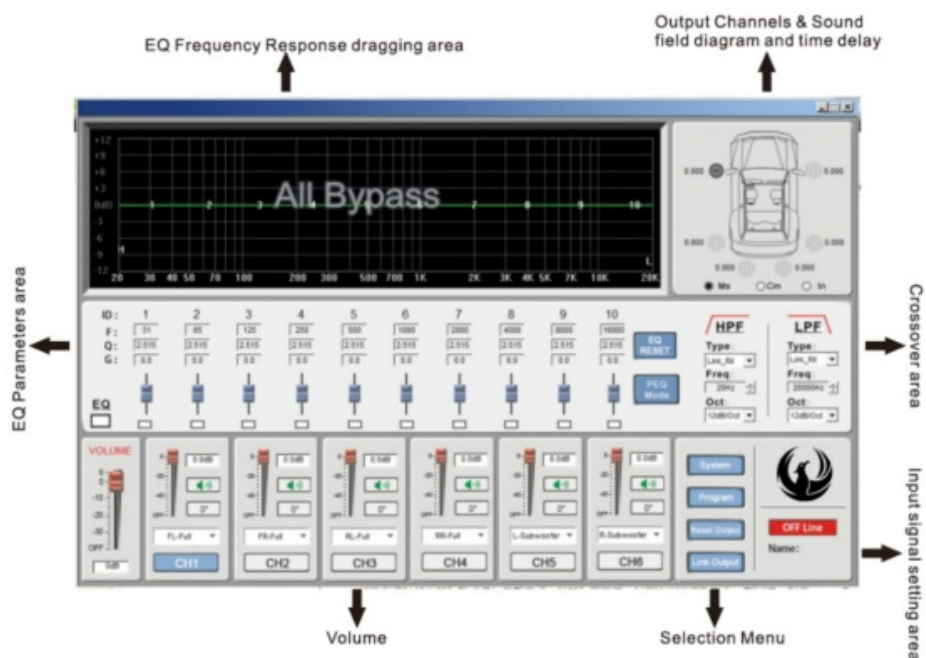
called an HID-compliant device. See the image below:

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 the screen. After a few seconds, the OFFLINE button will change to ONLINE and become GREEN.


SOFTWARE INTERFACE

Output Channels & Sound field diagram and time delay

EQ Frequency Response dragging area

All Bypass

EQ Parameters area

Crossover area

Input signal setting area

Volume

Selection Menu

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

Delay setting

Time delay

CM distance delay

Inches distance delay
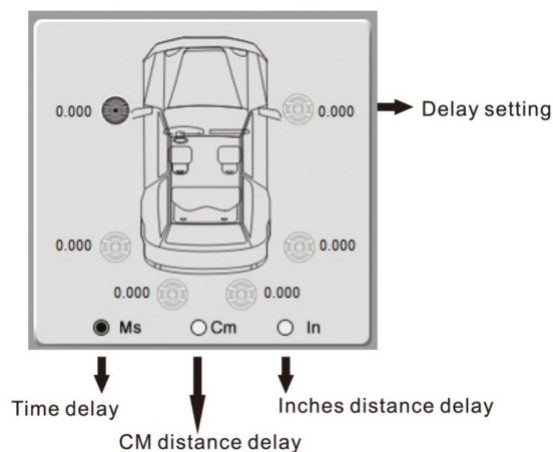
OUTPUT CHANNELS

This area displays the CH1-CH6 output channel settings and you can click the mouse in the corresponding output channel speaker for settings. 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 the adjustment.
There are MS/CM/ INCH unit buttons for time delay and distance delay settings.
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

HPF type

HPF Freq.point

HPF slope

LPF type

LPF Freq.point

LPF slope
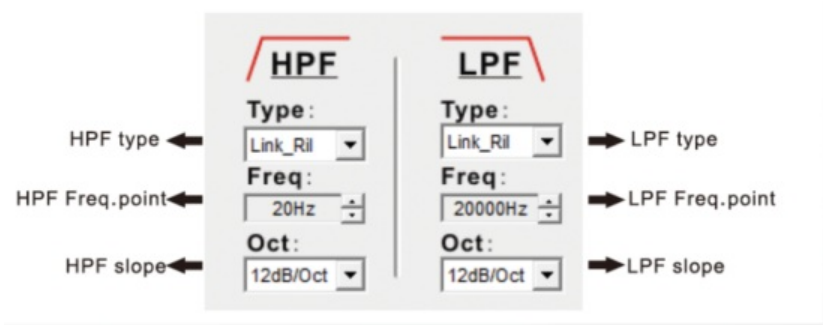
1. **TYPESETTING**
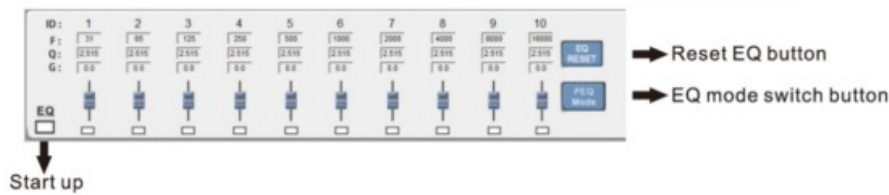Left-click the drop-down button of the HPF and choose a filter type below:
A Butterworth
B Linkwitz-Riley
C Bessel
2. **FREQUENCY SETTING**
Input the numbers, roll the mouse or use the keyboard arrow keys to set the frequency adjustment range
A HPF Frequency 20HZ-20KHz
B LPF Frequency 20-20KHz

EQ PARAMETERS AREA

Reset EQ button
EQ mode switch button

Start up

1. **FREQUENCY**
In the parametric equalizer mode, you can adjust the frequency range (20Hz – 20000Hz) by inputting numbers, rolling the mouse, or using keyboard arrow keys.
In the graphic equalizer mode, the frequency is 1/3 oct of the default value assignment and will not show a specific value.
2. **Q-VALUE**
In the Parametric equalizer 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 equalizer mode, the frequency is 1/3 oct of the default value assignment; and will not show a specific value.
3. GAIN
You can adjust the gain by putting the numbers indirectly, using the keyboard arrow 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 so that you can start the 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)
3. **EQ MODE SWITCH BUTTON**
This is a switch button for the parametric equalizer mode and the graphic equalizer 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 model is 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 equalizer structure is much more simple and straightforward and is commonly used in 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 colorful to get the artistic effect that you wanted.

VOLUME ADJUSTMENT AREA
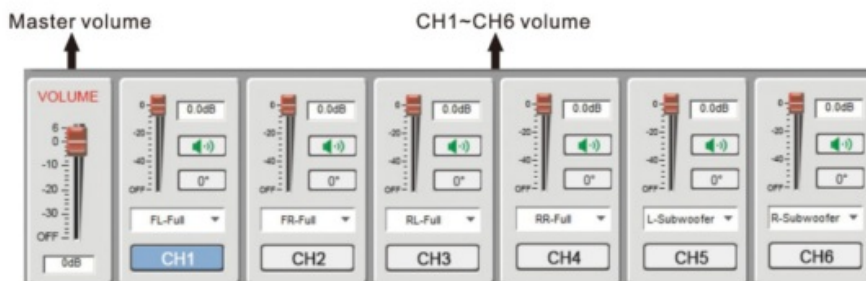
1. **MASTER VOLUME ADJUSTING**
Below the master volume, there is a data frame. Left-click and set the volume with exact values or drag the volume buttons to set the volume adjustment range (39.9dB~6dB turn-off)
2. **CH1-CH6 OUTPUT CHANNEL VOLUME ADJUSTING**
Below the CH1-CH6 channel, there is a data 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 the MUTE state, click again to cancel MUTE.
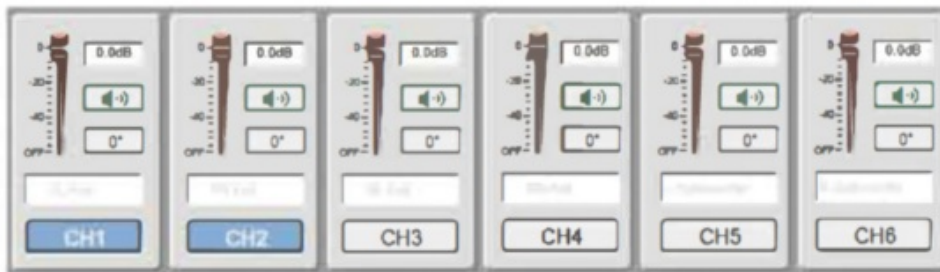4. **OUTPUT**
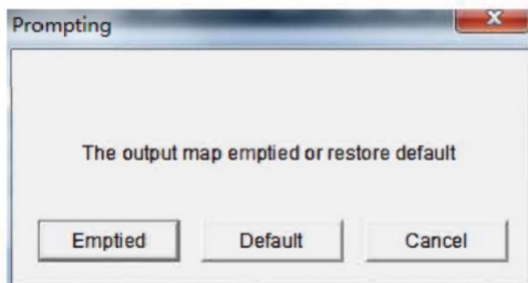Left-click the output link, and the system is shown in the diagram:
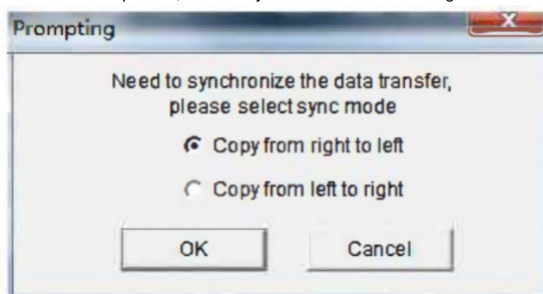
Choose the synchronization style and click OK to enter into a new LINK mode (as shown below) Click the "UNLINK" button to exit the LINK mode.

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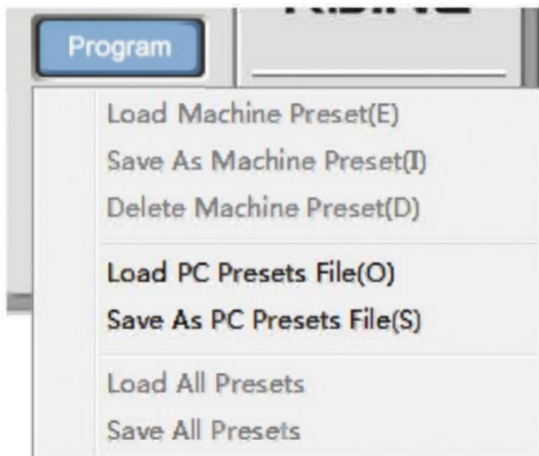

6. **SIGNAL INPUT AREA**
   Current Signal State.

7. **OPTION MENU**
   PROGRAM
   Click programs and pop up a menu as below, then choose the option accordingly to finish save, import, or cancel the operation

SYSTEM

Left-click the system and show up as the below options
1. **LANGUAGE SWITCH**
2. **FIRMWARE UPGRADES –** For Software Upgrade
3. **HELP** – For System Help
4. **ABOUT** – For Software Version Info

APP SOFTWARE OPERATION INSTRUCTIONS

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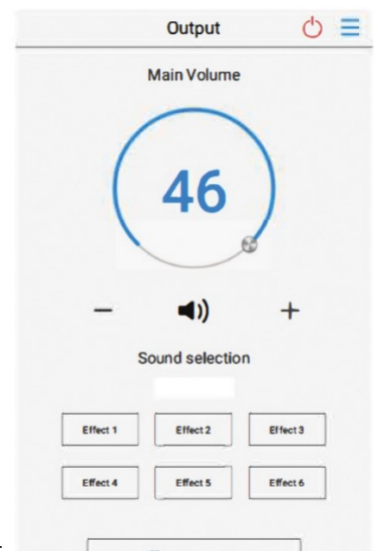
The iOS and Android APP software installations are similar, and here is the Android APP software installation as an example:

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

SOFTWARE ONLINE

Before connecting 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 to make a connection again.
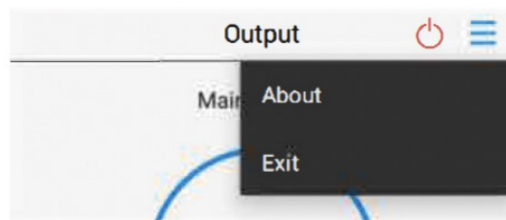
SOFTWARE INTERFACE

CLOSE BUTTON
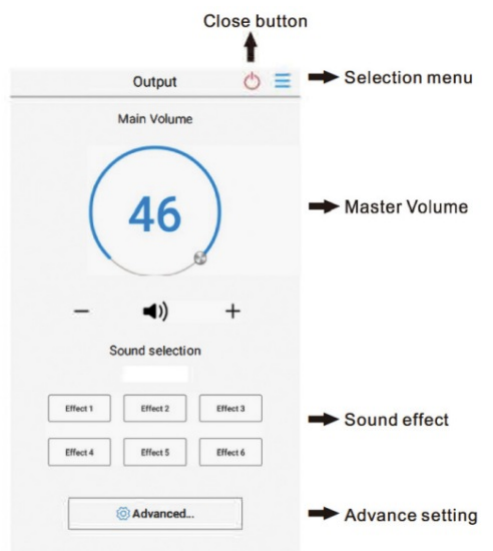
Click this button to exit the software.

SELECTION MENU

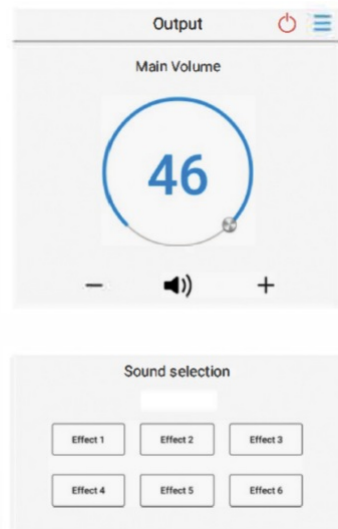Click this selection menu button to enter the drop-down menu opposite.

ABOUT
Display software version
EXIT
Click this button to exit the software
MASTER VOLUME

You can adjust the master volume by clicking the"+"/"-" or clockwise or anti-clockwise for the fader (adjust range 0dB-46dB)
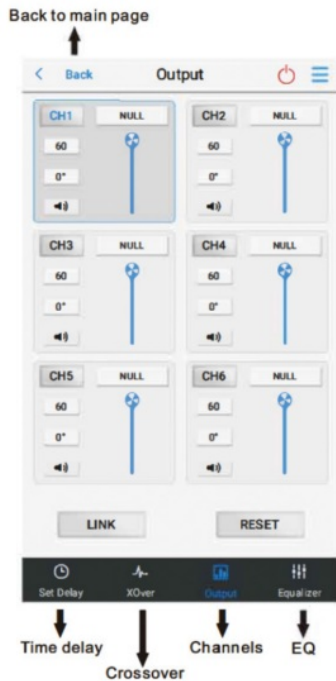
SOUND EFFECT
You can select any sound effect from the presets. The sound effect name will display in the choice box once selected.
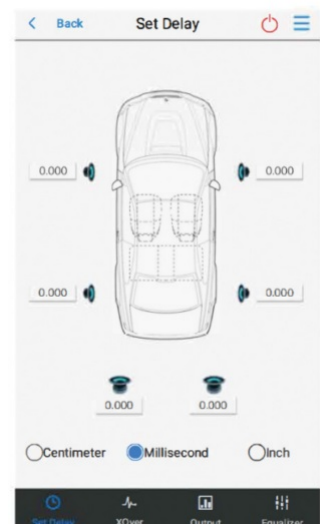**ADVANCED SETTINGS**
Click the advance setting to enter
BACK TO THE MAIN PAGE

Click "BACK" to exit

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 below:

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

CROSSOVER

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

1. **TYPESETTING**
   Left-click the drop-down button of the HPF and choose the 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 and 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 is as below:
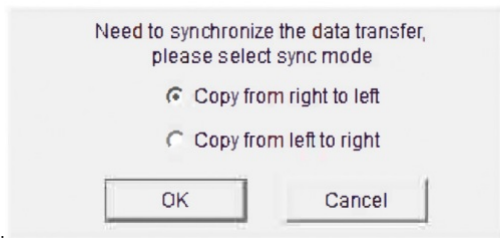
A	HPF Frequency: 20HZ-20KHZ
B	LPF Frequency: 20HZ -20KHZ

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:
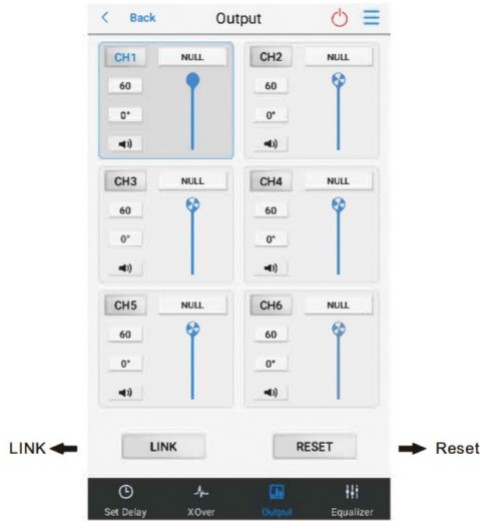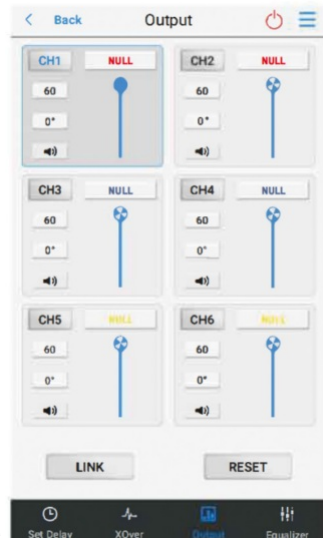

LINK

Click LINK and pop-up as below tips:

Choose the synchronization mode and
Click "YES" enter into the below LINK mode;

Click "Cancel" to exit the LINK mode.

RESET

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

EQ

Click EQ, and enter into the 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 equalizer 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 equalizer mode, the Q value is 1/3 oct of the default value assignment but does not show the specific value.
3. **FREQUENCY**
   In the Parametric equalizer 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 equalizer mode, the frequency is 1/3 oct of the default value assignment but does not show the specific value.
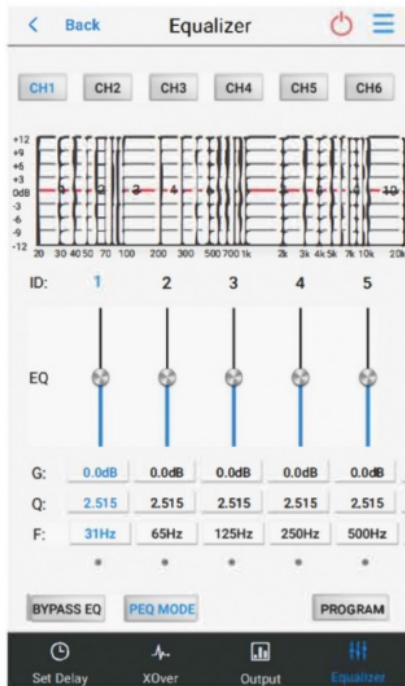
4. **RESET EQ BUTTON**

   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 model is 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 equalizer structure is much more simple and straightforward and is commonly used in 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 colorful to get the artistic effect that you wanted.

6. **PROGRAM**

   Click the Program" button and enter into the interface.

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

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:

Phoenix Gold Product Warranty

PHOENIX GOLD

A Brand of AAMP Global.

Documents / Resources

PHOENIX GOLD ZDA4.6 4-Channel DSP Amplifier [pdf] Owner's Manual
ZDA4.6, 4-Channel DSP Amplifier

References

- **Phoenix Gold Car Audio - Phoenix Gold High Performance Car Audio**

Manuals+,

- **home**
- **privacy**