KanexPro AP3DBL 3-Input Audio Amplifier Instruction Manual

AP3DBL
3-Input Audio Amplifier

Contents

Introduction

1.1 AP3DBL Product Info

The KanexPro AP3DBL is a 3-Input 40-Watt audio amplifier supporting 70V or 100V. It comprises of 3-switchable inputs (RCA, 3.5mm, and TOSLINK) for quick switching and sound reproduction. The audio amplifier supports MIC mixing and EQ control perfect for classrooms, conference rooms, lecture halls, and restaurants.
Note: The unit includes an IR remote & sensor. Please make sure the contents are supplied in the box or contact your reseller immediately.

1.2 Features

- Ultra-fast switching audio amp
- Mono audio output at 40Watt.

- Switchable between 70V and 100V.
- Supports ducking function
- 16-ID codes for controlling between different AP3DBL amplifiers.
- 3-level MIC input, supports condenser microphone, dynamic microphone, and wireless microphone.
- MIC port can support balance/unbalance signals & suppresses the external noise effectively.
- Two stereo audio inputs and one digital audio input, switchable by button,
- IR remote & RS232. Volume/Bass/Treble controllable by buttons, IR remote & RS232.
- Convection cooled
- LED indicator, for power and working status.
- Antistatic case design.

1.3 Package Contents

- 1 x AP3DBL
- 1 x Power adapter (DC 24V)
- 2 x Mounting ears
- 1 x RS232 cable
- 1 x IR remote
- 1 x IR receiver
- 4 x Screws
- 1 x User manual

Product Appearance

2.1 Front Panel

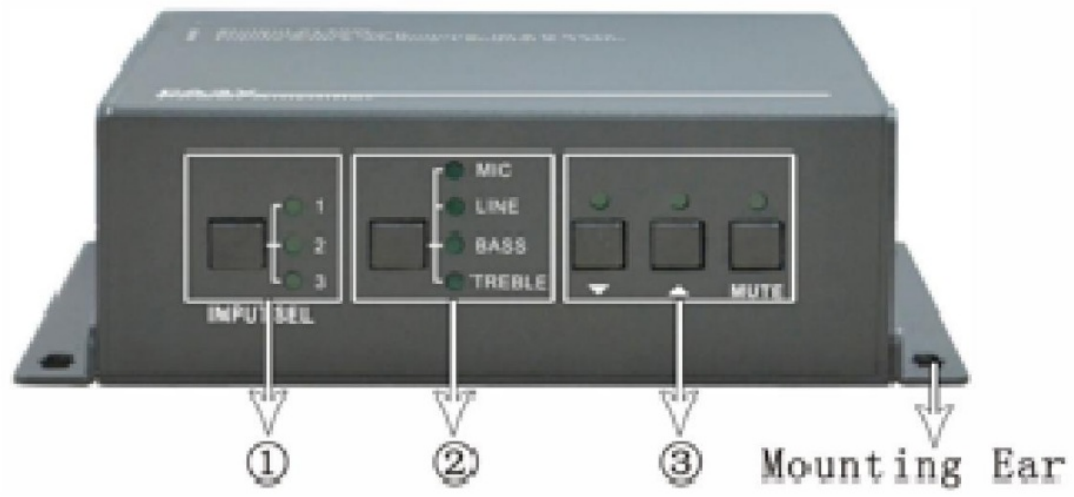
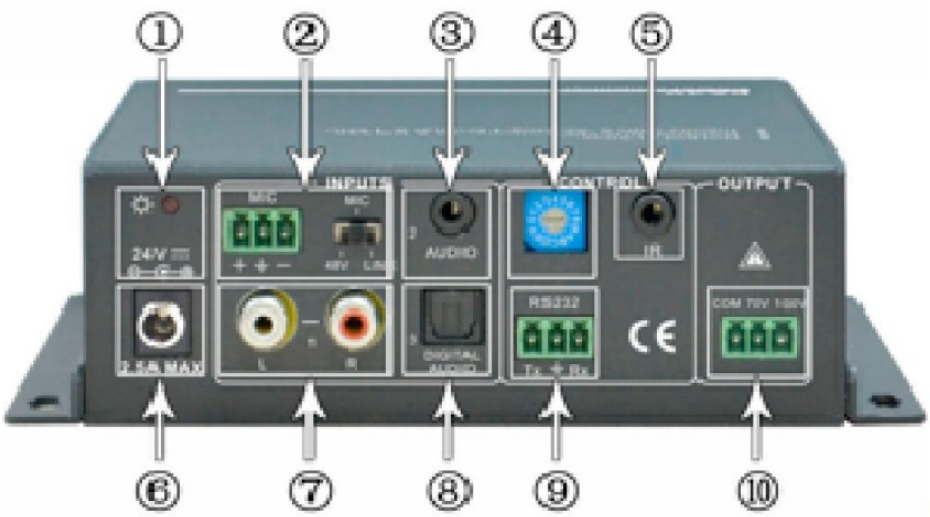


Figure 1 Front Panel

No.	Name	Function
1	Audio Input Selection	To select the input audio source, after choosing the audio source, the corresponding LED indicator will be on. No.1 is for dual mono audio input (2 RCA connectors for L&R), No.2 is for stereo audio input (3.5mm mini jack), and No.3 is for digital fiber audio input.
2	Audio Control	Adjust the volume of the MIC, Line, or the level of Bass and Treble with this button
3	Volume Adjustment	To turn up/down or mute the corresponding audio. V: Turn down the volume A• Turn up the volume MUTE: Mute the output

2.2 Rear Panel



e 2 Rear Panel

No.	Name	Function
1	Power Indicator	Turns red when power is on.
2	Microphone input port	3-pole captive screw connector for microphone input, the dial switch in the right side is to select the micro input kind, including 48V (for conde nser microphone), MIC (for dynamic microphone), and LINE (for line a udio).
3	Audio Inputs	3.5mm mini-jack for stereo audio input, it can be connected with an au dio source device such as a DVD player.
4	ID Code	16 codes range from 0 to F (hexadecimal), work together with the PC control software.
5	IR Eye	To connect with the IR receiver works together with the IR remote.
6	Power Port	To connect with the power adapter (DC24V).
7	2 x RCA	Dual-mono audio input, which can be connected with an audio source device such as a PC.
8	Digital Audio Input	A fiber connector for digital audio input, it can be connected with a device with a fiber port, such as a blue-ray player.
9	RS232	3-pole captive screw connector for serial control, it can be connected with PC (Use a 3-pole captive to 9 pin female D connector and serial c ontrol software) to control AP3DBL.
10	Audio Output	To connect with audio output devices, such as speakers (To select 70 V or 100V depends on the input voltage of the speakers). COM is for g rounding (GND).

System Connection

3.1 Usage Precautions

1. Make sure to connect everything before powering on.
2. Speakers must be connected before powering on.

3.2 System Diagram

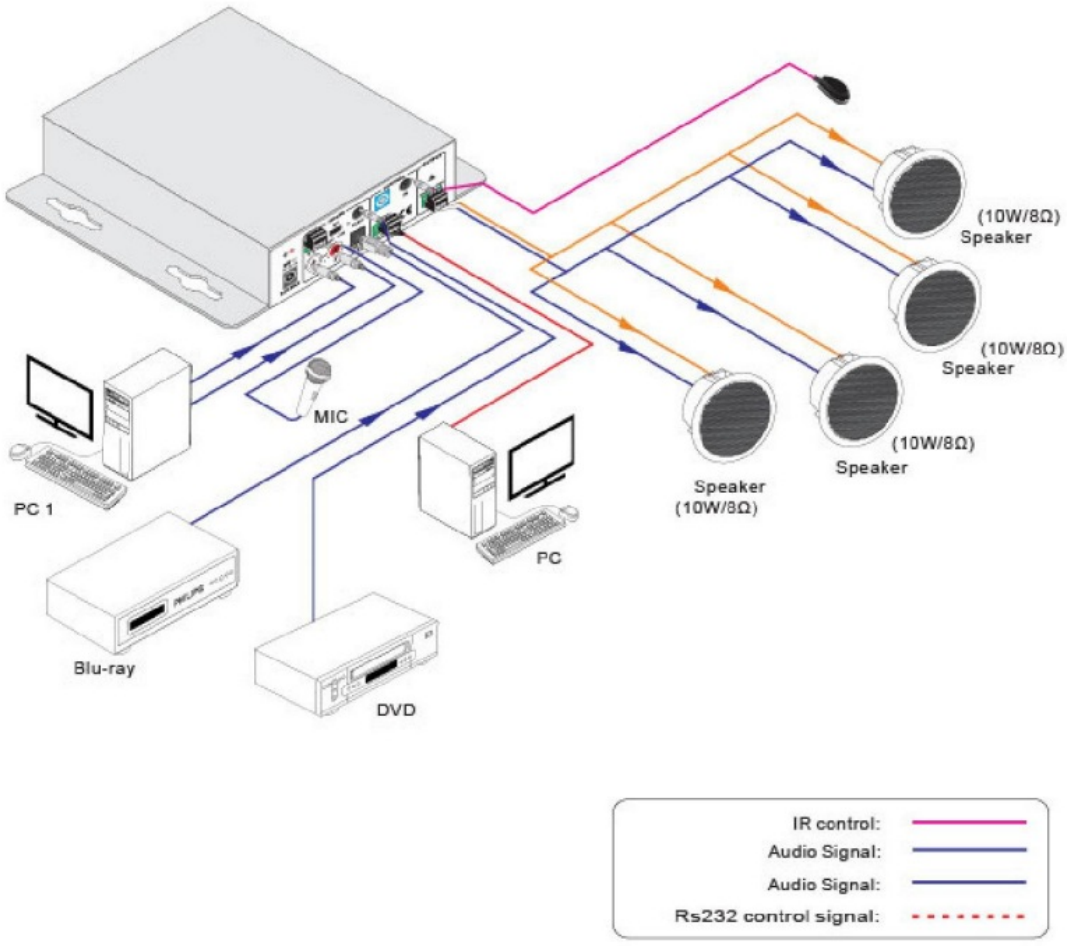


Figure 3 System Diagram

3.3 Audio Signal Connection

3.3.1 Audio Output

AP3DBL supports mono audio output, and the output voltage is 70V or an alterative 100V. With its dual-purpose design, it can be applied in different areas. The end COM is for grounding. The amplifier to be connected is mono audio output with rated power at 40Watt, so AP3DBL can be connected with several speakers in a parallel connectionay (Total power mustn't be more than 40Watt). The following figure shows us how to connect with the speakers. Here we take the speakers 10Watt@8Ohms for each as an example.

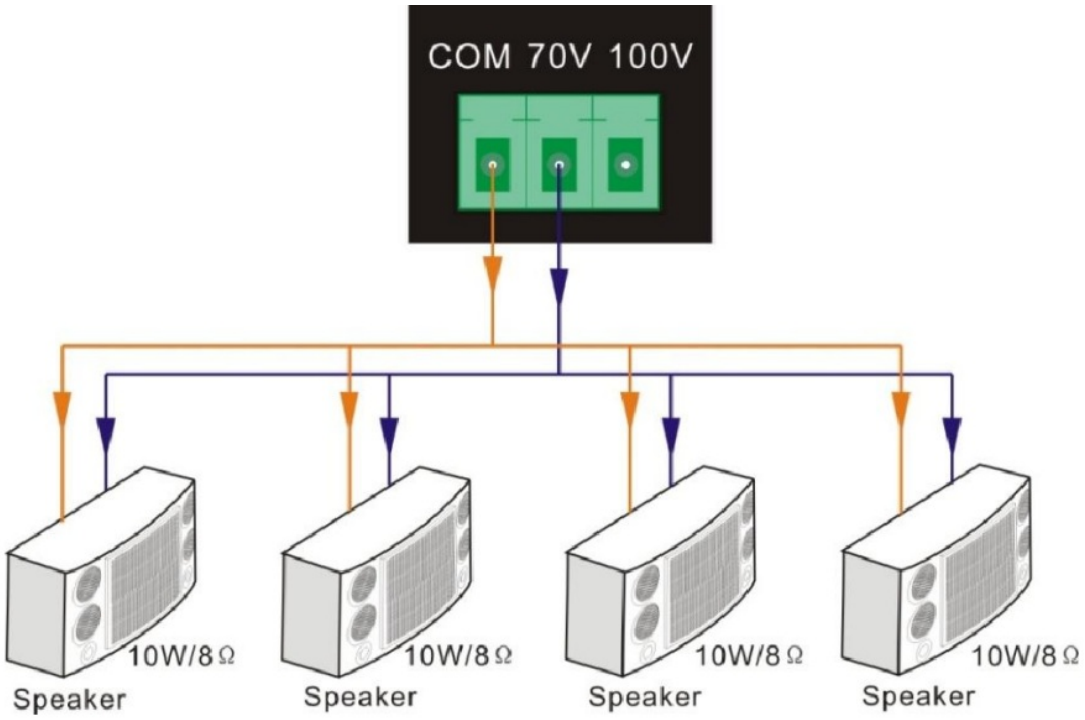


Figure 4 Audio Output Connection

3.3.2 Audio Inputs

AP3DBL provides with 2 stereo audio inputs, one microphone input, and one digital fiber audio input. The following figure shows the audio input ports.

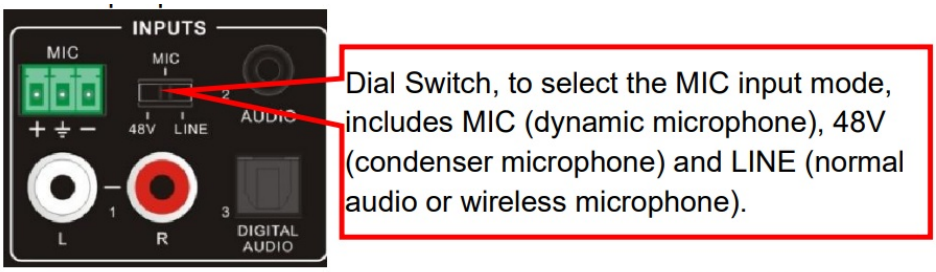


Figure 5 Audio Input Ports

48V phantom power input

When the switch turns to “48V” (It has a good frequency characteristic, high input impedance, and high sensitivity in this mode), the MIC input will provide a 48V phantom power. This is usually used for the power supply for the condenser microphone, Connection is: “+” connects to positive, “-” connects to negative, and “ ” to ground.

Note: In this mode, only the condenser microphone can be connected.

MIC input

When the switch turns to “MIC” (It has a low-frequency characteristic and wide frequency response in this mode), the microphone input is used for connecting with a dynamic microphone. There are two different connections:

a) Unbalanced connection: “+” and “ ” connect to ground, and “-” connect to signal. “-” and ” ” connect to ground, and “+” connects to signal. b) Balanced connection: “+” connects to positive, “-” connects to negative, and ” ” connects to ground.

LINE input

When the switch turns to “LINE” (It has a low-frequency characteristic and a wide frequency response in this mode), the microphone input is used for connecting with normal audio or wireless microphone output. There are two different connections:\

a) Unbalanced connection: “+” and ” ” connect to ground, and “-” connect to signal. “-” and ” ” connect to ground, and “+” connects to signal. b) Balanced connection: “+” connects to positive, “-” connects to

negative and “ ” connects to ground.
Digital Audio Input AP3DBL provides a fiber optical port to connect with a digital audio source device. With the SPF optical fiber, the audio signal can be transmitted faster, more stable, reliable, and can be transmitted over a long distance without distortion.

3.4 System Applications

AP3DBL can be applied in different occasions, such as in classrooms, small meeting rooms, lecture halls, bars,s, and hotels etc.

System Operations

4.1 Operations of Front Panel

The buttons provide the control of volume/EQ control and switching. The LED indicator will show the connecting status. The following content introduces audio switching and EQ control in detail. Operations: Press the corresponding button again for cyclic switching.

4.1.1 Audio switching

There are three switchable audio inputs, one 2xRCA input, one 3.5mm jack input, and one digital fiber audio input, switchable through the buttons as below:

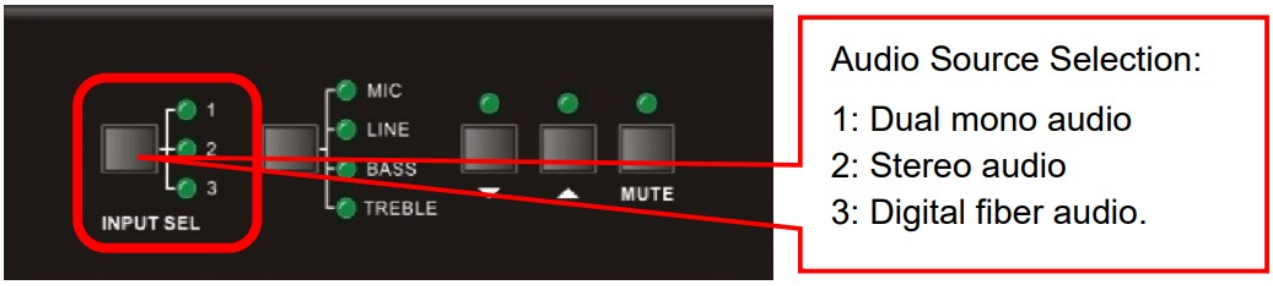


Figure 6 Audio Source Selection Button

4.1.2 Volume/EQ controlling

The buttons can control the line volume and MIC volume. The buttons, and control up/down/mute will select the MIC Volume/LINE volume/LINE bass/LINE treble by the function buttons. Please check the picture below:

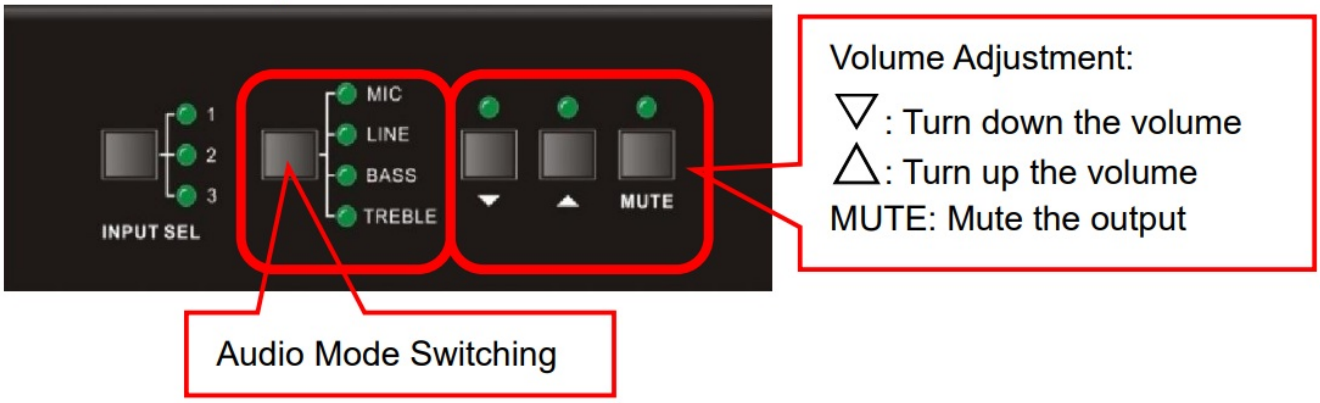


Figure 7 Audio Mode and Volume Adjustment buttons

For example, to turn up the line volume, you should select the “LINE” first, and then press the button ” “.

4.2 Operations of IR Remote

AP3DBL provides an IR eye, with the IR Receiver and the IR remote, the user can control AP3DBL remotely.

Notice: The IR Receiver and the IR remote are all offered for a charge.

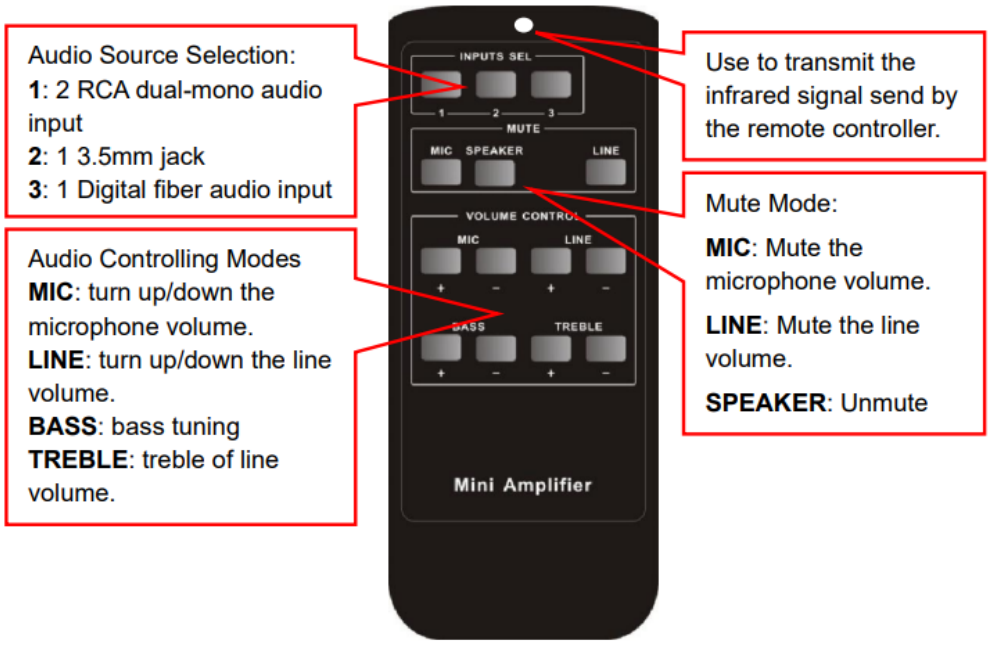


Figure 8 IR Remote

4.3 Operations of Control Software

4.3.1 Connection with Computer

When the amplifier connects to the COM1 or COM2 of the computer with control software, users can control it by that computer. To control the amplifier, users should use a 3-pole male captive screw to a 9-pin HD female connector and use the public COM software.

Figure 10 Connection of RS232 Port

4.3.2 Installation/uninstallation of RS232 Control Software

Installation Connect the input source devices and the output device according to the system diagram. Copy the RS232 control software to one computer, and then connect the RS232 port of this computer and AP3DBL. Double-click the EXE program to execute the software.

Here we take the software CommWatch.exe as an example. The icon is shown below:

Figure 11 Control Software

Figure 11 Control Software

Uninstallation Delete all the control software files in the corresponding file path.

4.3.3 Running Environment

While the control software is installed, we can activate the software through the RS232 port and set the parameters, to make it able to send RS232 commands to control.

4.3.4 Function Settings

With the control software, we can easily switch the input channel, mute the output, check the working status, adjust the volume etc. Please refer to the details in RS232 Communication Commands. The interface of the control software is shown as below:

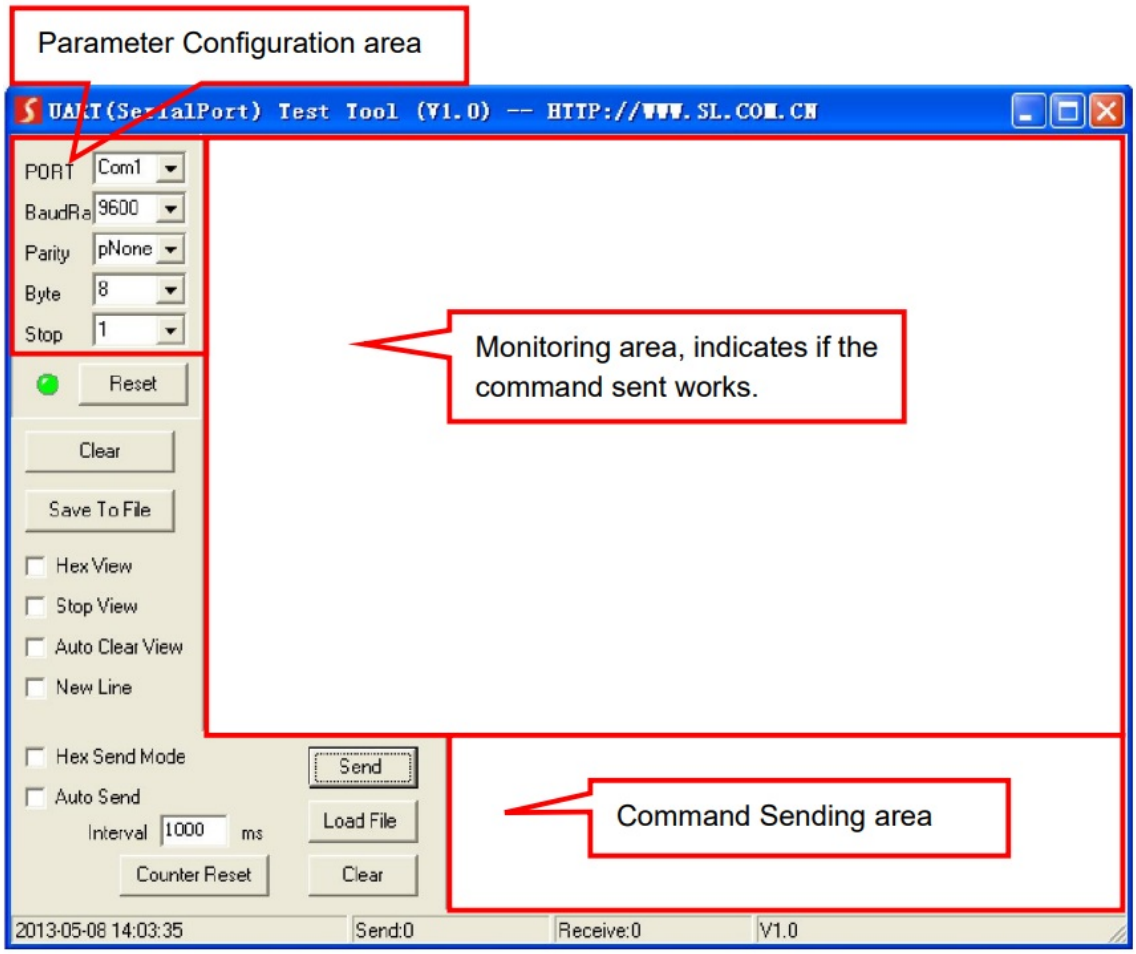


Figure 12 Main Interface of Control Software

4.3.5 RS232 Communication Commands

Communication Protocol: RS232

Communication Protocol

Baud rate: 9600

Data bit: 8

Stop bit: 1
Parity bit: none

Command	Function Description	Feedback Code
1A1.	Switching the audio to input 1	A: 1 -> 1
2A1.	Switching the audio to input 2	A: 2 -> 1
3A1.	Switching the audio to input 3	A: 3 -> 1
OM.	Mute Audio of MIC and Line out	Mute
1A0.	Mute audio of MIC	Mute MIC
2A0.	Mute audio of line out	Mute LIN
°A1.	Unmute Audio	Unmute Audio
600%	Checking the working status	A: 1 -> 1 The volume of MIC: 50 Volume of LINE: 50 Bass of LINE: 4 Treble of LINE: 4 Ducking Off
601%	MIC volume up	The volume of MIC: 51
602%	MIC volume down	The volume of MIC: 51
603%	Line volume up	The volume of LINE: 51
604%	Line volume down	The volume of LINE: 51
605%	Bass level up	Bass of LINE: 4
606%	Bass level down	Bass of LINE: 4
607%	Treble level up	Treble of LINE: 4
608%	Treble level down	Treble of LINE: 4
609%	Initialization, back to the default setting	!nit OK
610%	Enable/disable the ducking function.	Ducking off/Ducking on
4[x][x]Wo	Preset the volume level of the ducking function. [xx] Arr anges from [00] to [60]. 61 degrees in total.	Ducking of LINE: 50
5[x][x]%	Preset MIC volume, [xx] arranges from [00] to [60]. 61 d egrees in total.	The volume of MIC: 50
7[x][x]%	Preset line volume, [xx] arranges from [00] to [60]. 61 de grees in total.	The volume of LINE: 50
8[x][x]%	Preset the bass level, [xx] arranges from [00] to [08]. 9 d egrees in total.	Bass of LINE: 4
9[x][x]%	Preset the treble level, [xx] arranges from [00] to [08]. 9 degrees in total.	Treble of LINE: 4

Notice:

1. The letter inside bracket [ ] is the variable code, which is changeable.
2. The bracket [ ] is not included to the RS232 commands.
3. Any dot "." after the letters is part of the commands.
4. **Ducking function:**
   When input with MIC, the volume of the line audio will be automatically turned down to the preset volume level, if there is no input
   MIC audio signal after 5 seconds, then the volume will be automatically turned up to the original one. If you need to
   disable/enable the ducking function, just send the command "610%" again.
5. **ID coding**
   The ID codes of AP3DBL ranges from 0 to F (hexadecimal), when sending RS232 commands, please take notice of the address
   of the ID code.
   If the address of the ID code is 0, any RS232 command is available.
   If the address is in 1~F, it has one unique ID code (If the ID code is not the same with the address, no RS232 command will
   work).
   While the ID code is in 1~F, please add "ID/" before sending the command.
   For example, if the ID code is 5, the RS232 command needed is "604%", the correct command is in this format: 5/604%.
   There is no need to add "ID/" before the command when the ID code is 0.

Examples:

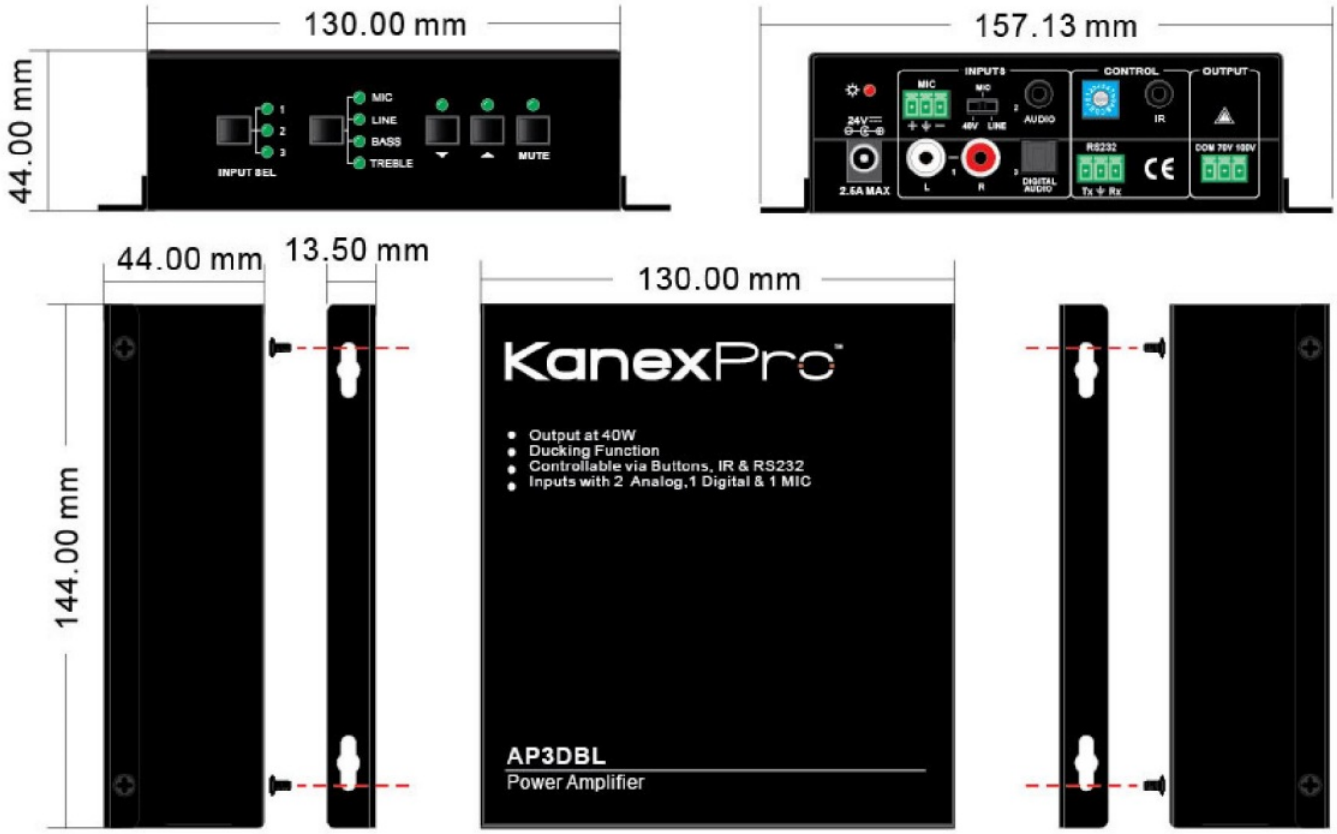
1. Switching input 2 to the line out, the command is: **2A1.**
2. Turning up the volume of the line audio, the command is: **603%**
3. Preset the MIC volume to "21" degrees, the command is: **521%**
4. Checking the working status of AP3DBL, the command is: **600%**
5. If the ID code is 0, sending command 601% is able to turn up the MIC volume.

If the ID code is 2, sending command 601% will not work, and the MIC volume remains unchanged. The right command is **2/601%.**

Specifications

Audio Input		Audio Output	
Input	2 stereo audio 1 MIC	Output	1 amplifier 1 Stereo audio
Input Connector	2 RCA 1 3.5mm jack 1 3-pole 3.81mm captive scre w connector	Output Connector	1 Captive Screw 1 x 3.5mm Ja ck
Input Impedance	>10KG	Output Type	500Jstereo, 4-8C1/Amplifier
Audio General			
Frequency Response	120Hz – 20KHz	CARR	>70dB@20Hz-20KHz
SNR	80dB (Max)	Bandwidth	120Hz – 20KHz
Rated Power Output	40Watt @8Ohms 1	THD + Noise	1%@1KHz, 0.3%@20KHz at n ominal level
Voltage Gain	32dB		
Control Function			
RS232 Control	1 3-pole 3.81 mm captive scr ew connector	Front Panel Control	Buttons
ID Code Control	16 ID codes for control.		
Optional	IR remote & TCP/IP control		
General			
Temperature	-20 – +70°C	Humidity	10% – 90%
Power Supply	DC 24V power adapter	Power Consumption	SW
Case Dimension	1.5″x3.78″x3.45″ (HWD)	Product Weight	0.67 lbs. (0.3Kg)

6. Panel Drawing



Troubleshooting and Maintenance

1. When there is no output audio:
   Check if there is any signal at the input.
   Check if there is any signal at the output.
   We can check these by using an oscilloscope or a multimeter. If there is no signal input/output, maybe the input/output cables are broken or the connectors loosen, please change for another cable.
   Check if the output port number is the same as the controlled one.
   If not the problem mentioned above, probably there is something broken inside the unit; please contact technical support
2. If the POWER indicator doesn't work or no respond to any operation, please make sure the power cord connection is good.
3. If the output sound interferes with it, please make sure the system is grounded well.
4. If the static becomes stronger when connecting the audio connectors, it is probably due to bad grounding, please check the grounding and make sure it is connected well, otherwise, it would damage the amplifier.
5. If the keys on the front panel, RS232 port or the IR remote, cannot control the AP3DBL amplifier the unit could be defective please contact technical support.

Safety Operation Guide

In order to guarantee the reliable operation of the equipment and the safety of the staff, please abide by the following proceeding in installation, use, and maintenance:

1. The system must be earthed properly. Please do not use two blades plugs and ensure the alternating power supply ranged from

100v to 240v and from 50Hz to 60Hz.

2. Do not put the switcher in a place of too hot or too cold.
3. As the power generates heat when running, the working environment should be maintained with fine ventilation, in case of damage caused by overheating.
4. Please cut off the general power switch in humid weather or left unused for a long time.
5. Before following the operation, ensure that the alternating current wire is pulled out of the power supply:
   Take off or reship any components of the equipment.
   Take off or rejoin any pin or other link of the equipment.
6. As to non-professional or without permission, please **DO NOT** try to open the casing of the equipment, **DO NOT** repair it on your
   own, in case of accident or increasing the damage of the equipment.
7. **DO NOT** splash any chemical substance or liquid on the equipment or around.

Warranty

A. LIMITED WARRANTY

KanexPro TM warrants that (a) its products (the “Product”) will perform greatly in agreement with the accompanying written materials for a period of 3 years from the date of receipt and (b) that the product will be free from defects in materials and workmanship under normal use and service for a period of 3 years.

B. CUSTOMER REMEDIES

KanexPro’s entire liability and Customer’s exclusive remedy shall be, at KanexPro option, either return of the price paid for the product, or repair or replacement of the Product that does not meet this Limited Warranty and which is returned to KanexPro with a copy of customers’ receipt. This Limited Warranty is void if failure of the Product has resulted from accident, abuse, or misapplicationAny replacement Product will be warranted for the remainder of the original warranty period of 3 year, whichever is longer.

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Brea, California KanexPro.com
MPN: AP3DBL

Documents / Resources

	**KanexPro AP3DBL 3-Input Audio Amplifier** [pdf] Instruction Manual AP3DBL, 3-Input Audio Amplifier
	**KanexPro AP3DBL 3 Input Audio Amplifier** [pdf] User Manual AP3DBL, 3 Input Audio Amplifier, AP3DBL 3 Input Audio Amplifier, Audio Amplifier, Amplifier

References

- Kanex Pro