
Trends
Innovative HiFi Audio

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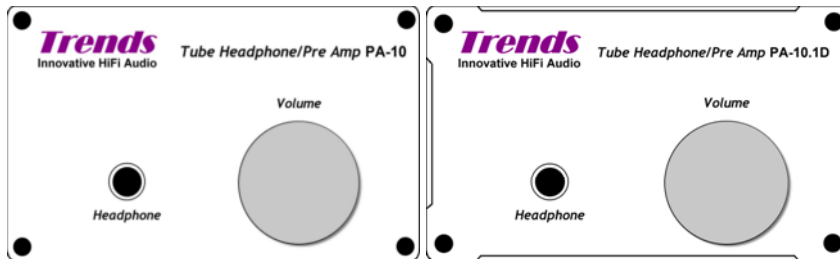
Website : www.TrendsAudio.com

Trends PA-10/PA-10.1D

Tube Headphone/Pre Amplifier

Version 1.0

USER GUIDE



CE FC RoHS

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1. Safety Instructions

Please take note the following instructions before installing your Trends PA-10/PA-10.1D Tube Headphone/Pre Amplifier, they will enable you to get the best performance and prolong the life of the product.

This unit must not be exposed to dripping or splashing water or other liquids. No objects filled with liquid, such as vases, shall be placed on the unit. In the event, switch off immediately, disconnect from the main supply and contact your dealer or us for advice

Do not route the power cable so that it can be walked upon or damaged by other items near it.

Electronic audio components have a running in period of around a week (if used several hours per day). This will allow the new components to settle down; the sonic properties will improve over this time

If you do not intend to use this unit for a long period of time, unplug it from main socket

To clean the unit, wipe its case with a moist, lint-free cloth. Do not use any cleaning fluids containing alcohol, ammonia or abrasives. Do not spray an aerosol at or near Trends PA-10.

These units are not user serviceable, never attempt to repair, disassemble or reconstruct the unit if there seems to be a problem. A serious electric shock could result if this precautionary measure is ignored. In the event of a problem or failure, please contact your dealer or us.

2. Introduction

Thank you for purchasing a Trends PA-10/PA-10.1D Tube Headphone/Pre amplifier.

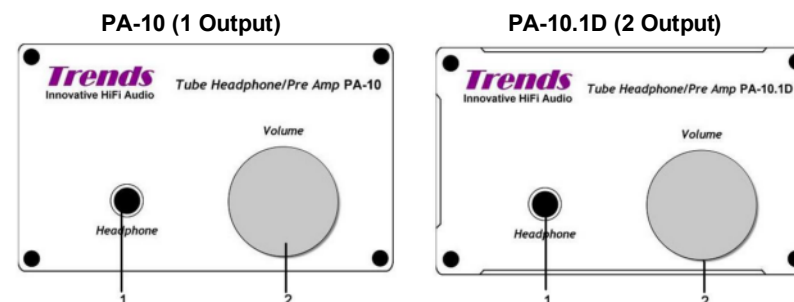
Trends PA-10/PA-10.1D Tube Headphone/Pre Amplifier is an innovative audio product and provides all functions of headphone amplifier and pre-amplifier. It includes the innovative circuit design of low voltage hybrid (tube/transistor) pre-amp to provide audiophile quality sound, compact size, and easy/safe DIYer accessibility - pure class-A circuit to provide the best sound performance and have fun tube rolling with this fantastic headphone/Pre amplifier.

3. Features

- the innovative circuit design of low voltage hybrid (tube/transistor) pre-amp to provide audiophile quality sound, compact size, and easy/safe DIYer accessibility
- pure class-A circuit to provide the best sound performance
- support both 6DJ8/6922 series and 12AU7 series tubes by simply switching the jumpers. DIYers can easily change their both series tubes to enjoy the fun.
- ONE bi-triode 6DJ8/6922 or 12AU7 tube as voltage amplification and TWO MOSFETs as output driver which perform the warm, comfortable tube sound and in addition, guarantee the high fidelity & sufficient driving power to the next power amplifier stage.
- provide all functions of headphone amplifier and pre-amplifier
- provide TWO sets of switchable audio inputs. Besides the normal CD input, the PC/iPod input with higher gain is provided for small output phono amplifier or PC/Mac/iPod.
- Besides the normal audio output in the back panel, ONE headphone output in the front to drive even high-impedance audiophile-grade headphones
- compact design (mini-size & light weight), suitable for hi-fi room, living room, sleeping room or even right beside your laptop computer.
- TWO precise screw-driving potentiometers for professional audiophiles to adjust the tube's bias voltage to guarantee the best working point for different tubes.
- require just a single +24V power supply ONLY, besides the bundled AC adaptor, audiophiles can apply all other power supply with the same spec., e.g. lead-acid batteries.
- a specially designed AC power adaptor with extra low ripple & noise for Hi-Fi device is bundled for continuous power supply
- separate pre-amp unit & power adaptor to minimize interference and flexible to apply other power sources, e.g. lead-acid battery.
- all audiophile-graded parts and components
- the stylish aluminum case provides outstanding shielding & grounding capability to keeps the background silent and maximize the S/N ratio.

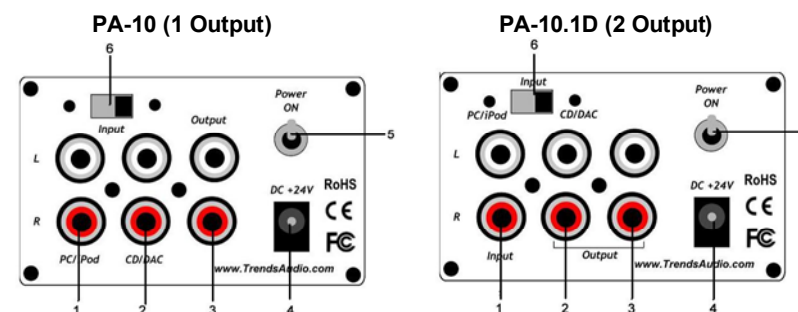
4. Overview

Front View



1. Headphone Socket
2. Volume Controller – Turn Anti-clockwise to lower down volume and vice versa.

Back View



1. PC/iPod - Input from PC/Mac/iPod/iPad/Smartphone with higher gain by RCA-RCA cable.
2. Output - To any line level input on your amplifier by RCA-RCA cable (PA-10.1D); CD/DAC - Input from CD/DAC by RCA-RCA cable (PA-10).
3. Output - To any line level input on your amplifier using audio cable(2RCA-2RCA).
4. Power Supply Socket - Plug the bundled AC Adaptor to this socket to supply power.
5. Power ON/OFF switch - pull up to power on and pull down to power off.
6. Input - Selection for CD/DAC or PC/iPod input. The default is CD/DAC input.

5. Hints and Tips

- Try to have a soft work area in case you drop the tube.
- Use cloth glove or baggie to hold the tubes, wipe off any fingerprints on glass portion of tube with a soft cloth. Fingerprints can lead to premature tube failure
- Try not put excess force on the glass of the tube this can (rarely) cause the seal between the glass and base to leak the vacuum.
- do not leave Trends PA-10 unattended for long lengths of time during the 22 hour initial burn-in
- The sound of Trends PA-10 will open up after about 5 minutes of warm-up. At least half an hour of warm-up, if you are doing some audiophile listening
- Always wait at least 5 minutes prior to turning Trends PA-10 back on after turning it off.

6. Specification

6.1 Specification of the Pre-Amplifier Unit

Model	PA-10 (1 Output)	PA-10.1D (2 Output)
Vacuum Tube	6DJ8/6922 series or 12AU7 series (exchangeable) Standard Edition: Chinese 6N11 Tube SE Edition: Russian 6H23n GE Edition: USA 12AU7 Tube	
Power Filtering Capacitor	Rubycon MCZ	ELNA Silmic II
Audio Output Capacitor	Standard: 10uF cap (Black) SE/GE: EVOX cap (White)	ELNA Silmic II
Output Stage	MOSFET x 2	
Amplification Gain	x3 (for Audio CD/DAC IN) x6 (for Audio PC/iPod IN)	
Signal-to-Noise Ratio (SNR)	92dB	
Dynamic Range	92dB	
THD+Noise	0.05% @ 10k ohm 0.15% @ 33 ohm	
Input	Two Audio CD/DAC IN RCA (L/R) x 1 [3Vpp max.] AND Audio PC/iPod IN RCA (L/R) x 1 [0.55Vpp max.] Power Socket (5.5mm/2.1mm) x 1	Two (switchable) Audio CD/DAC IN RCA (L/R) x 1 [3Vpp max.] OR Audio PC/iPod IN RCA (L/R) x 1 [0.55Vpp max.] Power Socket (5.5mm/2.1mm) x 1
Output	Audio OUT RCA (L/R) x 1 Headphone OUT (3.5mm) x 1	Audio OUT RCA (L/R) x 2 Headphone OUT (3.5mm) x 1
Other Switch & Knob	Audio IN selection switch x 1 Power ON/OFF switch x 1 Power Indicator (Blue LED under Tube Socket) x1 Taiwan Made Volume Knob x 1	
Front Panel	1.5mm	4mm
Power Supply	DC 24V-26.5V (max.)	
Dimensions	(W)76mm x (H)46mm x (D)114mm	
Weight	380g	400g

6.2 Specification of the Headphone Amplifier Unit

Model	PA-10 (1 Output)	PA-10.1D (2 Output)
Vacuum Tube	6DJ8/6922 series or 12AU7 series (exchangeable)	
Power Filtering Capacitor	Rubycon MCZ	ELNA Silmic II
Headphone Output Capacitor	Rubycon MCZ	ELNA Silmic II
Output Stage	MOSFET x 2	
Amplification Gain	x3 (for Audio CD/DAC IN) x6 (for Audio PC/iPod IN)	
Signal-to-Noise Ratio (SNR)	92dB	
Power Output:	3.0 Watts per channel on 33 Ohm Headphone	
Frequency response:	15 Hz - 100 kHz -1db	
Input Impedance:	100k Ohms	
THD+Noise	0.05% @ 10k ohm 0.15% @ 33 ohm	
Input	Two Audio CD/DAC IN RCA (L/R) x 1 [3Vpp max.] AND Audio PC/iPod IN RCA (L/R) x 1 [0.55Vpp max.] Power Socket (5.5mm/2.1mm) x 1	Two (switchable) Audio CD/DAC IN RCA (L/R) x 1 [3Vpp max.] OR Audio PC/iPod IN RCA (L/R) x 1 [0.55Vpp max.] Power Socket (5.5mm/2.1mm) x 1
Output	Audio OUT RCA (L/R) x 1 Headphone OUT (3.5mm) x 1	Audio OUT RCA (L/R) x 2 Headphone OUT (3.5mm) x 1
Other Switch & Knob	Audio IN selection switch x 1 Power ON/OFF switch x 1 Power Indicator (Blue LED under Tube Socket) x1 Taiwan Made Volume Knob x 1	
Front Panel	1.5mm	4mm
Power Supply	DC 24V-26.5V (max.)	
Dimensions	(W)76mm x (H)46mm x (D)114mm	
Weight	380g	400g

6.3 Specification of the AC Adaptor

AC Input	Universal AC 100V-240V/50-60Hz
DC Output	DC 24V 0.6A (15W)
DC Plug	DC 2.1mm
Ripple & Noise	<= 25mV
Over-load Protection	105%-150%
Over-voltage Protection	115%-150%
Dimensions	(L)78mm x (W)50mm x (H)33mm
Weight	150g

- Trends PA-10 SE: Trends PA-10 Tube Headphone/Pre Amplifier -Special Edition
- Trends PA-10 GE: Trends PA-10 Tube Headphone/Pre Amplifier - GE Edition with 12AU7 Tube series
- Two-Year limited warranty for Trends PA-10/PA-10.1D
- One-Year limited warranty for the tube
- To continuously improve our product, we reserve the rights to change some specifications without further notice.

7. Troubleshooting

If your machine is out of order, it may not be very serious. Before you call your local distributor or us to repair, you are suggested to check the following:

Symptoms	Possible Reasons	Handling Methods
cannot power ON indicator not bright	power cords not properly connected power switch is OFF	properly connect the power cords switch ON the power
no sound at all	the volume level is too low	turn volume level higher
	the audio cable not properly connected	properly connect the audio cable
	the audio source (e.g. CD player) not started playing	start playing the audio source
	wrong input is selected	check input selection
hum	the speaker cables not properly connected	properly connect the speaker cables
	tube not fully pushed in	insert Tube securely
	audio connector plug not fully pushed in	insert plug securely
	incorrect input switch position	check the corresponding input switch
sound out(s) out	loose connection	check input and output connections. When all has been double-checked reduce volume and switch unit back on

8. Accessories

- Tube x1
- +24V power supply x1
- User Guide x1
- Warranty Card x1

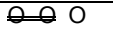
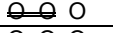
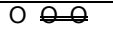
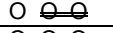
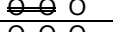
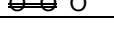
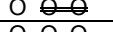
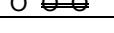




9. Technical Notes (For Professional User Only)

Trends Audio has already pre-set the jumpers and fine-tuned the DC bias voltage of each PA-10/PA-10.1D with the packaged vacuum tube before shipping. However, changing different tubes to taste for different sound is the great fun for many audiophiles and also a great feature of PA-10/PA-10.1D. There are some important notes should be aware before changing tubes.

Trends PA-10/PA-10.1D supports two major tube series: **(1) 6DJ8, 6922, 6N11, 6H23n, ECC88, E88CC, etc...**, and **(2) 12AU7, 5963, 5814, ECC82, etc...** If you change the tube within the same series, it needs to re-tune the DC bias voltages ONLY. If you change the tube from another series, it needs both to re-tune the DC bias voltages and re-set the jumpers. **Otherwise, the tube may be burnt out.**

9.1 Jumper Setting for Different Tube Series

You can simply configure the amplifier to support the two different tube series by resetting the jumpers in J3, J4, J5 in the PCB as follows. (Remember to power OFF the machine before setting)

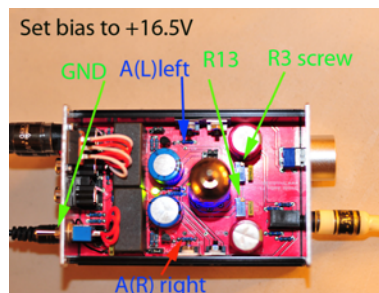
	6DJ8 Series	12AU7 Series
J3	 	 
J4	 	 
J5	 	 

9.2 DC Bias Voltage Tuning

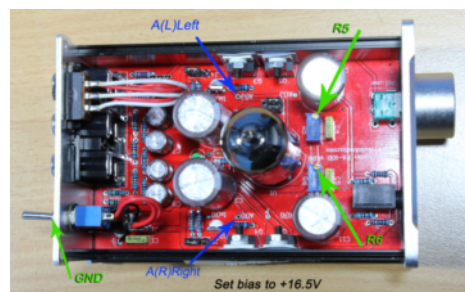
Since each tube may deviate a bit in parameters, especially from different series, it needs to re-tune the DC bias voltages to guarantee the machine is working in the best point and performing the best sound quality.

There are two blue precise adjustable potentiometers (**R5/R6(L/R channel) of PA-10.1D, or R3/13(L/R channel) of PA-10**) for tuning the DC bias voltage of each channel. The DC bias has been tuned in factory. But after run-in for a period or changed another tube, it would be deviated that the fine-tuning is needed.

Before you tune these, you need a screwdriver (take off the case), a small screwdriver (turn the screw of the potentiometer) and a (digital) multi-meter to detect the DC bias voltage.



PA-10 (1 Output) Bias Setting



PA-10.1D (2 Output) Bias Setting

1. Use screwdriver to take out the two upper level screws in the front panel & another two screws in the back panel. Then, open the upper case.
2. Power ON the machine with no audio signal input.
3. Wait at least 5 minutes for the machine to run in.
4. Use the multi-meter to detect the DC voltage between the test point **A(L)** [red] in the PCB & the **GND** [black] (e.g. the ring of the power switch or the outer ring of those RCA sockets) of the LEFT channel.
5. Turn the screw on the top of the **R5 of PA-10.1D** or **R3 of PA-10** potentiometer by a small screwdriver clockwise or anticlockwise until the voltage as close as to **+16.5V**.
6. Then, repeat step 4 and 5 for the RIGHT channel by changing the test point to **A(R)** [red] and turning the screw on the top of the **R6 of PA-10.1D** or **R13 of PA-10** potentiometer.
7. Power OFF the amplifier.
8. Cover back the upper case and tighten the screws.

10. Regulatory Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

11. Contact Us

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