

# LAB 12

## Owner's Manual

### hpa

*OTL Tube Headphone Amplifier/Preamplifier  
with USB DAC*

[www.lab12.gr](http://www.lab12.gr)

manual v1.6

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## **IT IS YOURS!**

Thank you for selecting Lab12 hpa, a real audiophile headphone amplifier with preamplifier output and a USB DAC. Every component on it is designed to provide smooth and untreated sound. It is a full tube amplifier with 3x 6n1p NOS dual triode vacuum tubes. Hpa offers two analog inputs and one direct USB input, so you can potentially connect almost any device. Just connect your laptop and your headphones and enjoy your music collection without compromising the audiophile sound you always loved. You can also use it as an audiophile analogue preamplifier, to connect your power amp of your system.

All components are carefully chosen after hours of listening and testing, while paying great attention to every detail affecting the outcome. As every Lab12 device, hpa has an ultra solid construction with glass blasting anodized finishing and retro analogue V/U meter.

Do not forget that your hpa is totally handcrafted with perfectly matched parts of the finest selections. In order to reach the optimal performance your hpa needs at least 150 hours of listening. In this time all components go from “burn in” period to stable.

Before setting up your new hpa, we encourage you to read this manual thoroughly to properly acquaint yourself with its features. We love music and audio devices; we have built your new device with emotion and personal treatment.

The information contained in this manual is subject to change without notice. The most current version of this manual is available on our official website at <http://www.lab12.gr>

## **Unpacking**

Hpa should be removed from its box with care. Remove all the foam protective pieces of the box before you unpack hpa. Unpack the device with your hands on both sides of the device.

## **Warnings**

No user serviceable parts are included inside. Do not unscrew the cover; high voltages remain after disconnecting from mains. In case your device requires any kind of service or upgrade, please ship or take your equipment directly to Lab12 or to one of our authorized dealers.

Always use same type of fuse for replacement.

## Features

- OTL tube headphone amplifier stage
- Blue Velvet ALPS Potentiometer
- Five separate regulated Power Supplies
- SRSG® implementation
- Analog retro nissei VU meter
- 5mm Aluminum face panel
- Five Years Guarantee

## Installation & Placement

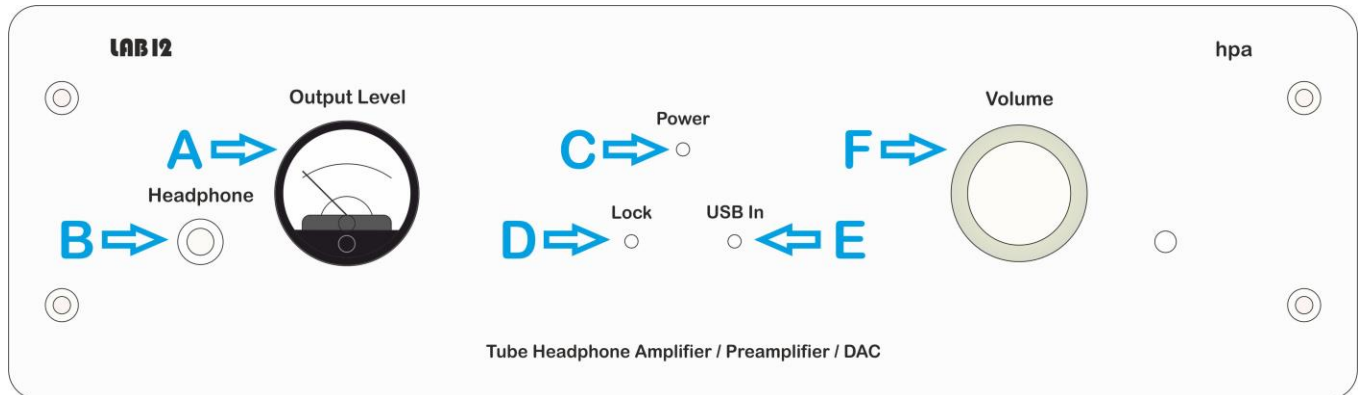
**Lab12 Hpa** should be placed on a solid flat surface. You should avoid placing it near a heat source as this could compromise the performance and reliability. You should never place another component directly on top of this device.

Make sure that your **hpa** has an adequate flow of air around it. **Hpa** could be warm in some points; this is normal and within parts' specifications.

Take care of the front panel's glass blasting anodized finishing using a soft dry cloth. No need to use any sprays or polishes. Never use cleaners containing abrasives, as this will damage the surface.

## Front Panel

HPA Front panel



In the front panel you will see three indication LEDs, a VU meter, the Volume control and the headphone output.

The center LED **(C)** indicates that the device is powered on.

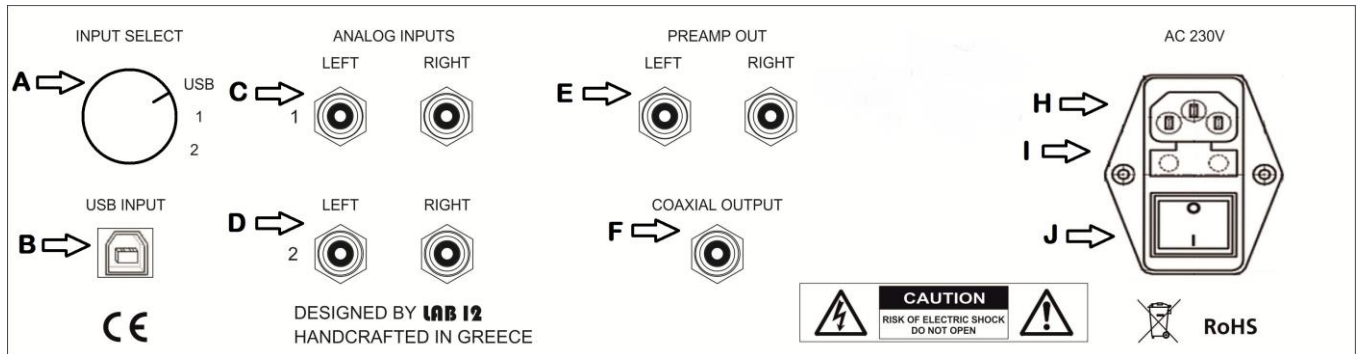
The LEDs **(E)** and **(D)** indicate that the USB input is connected and active.

To the left of the 3 LEDs, you will see a retro analog VU meter **(A)**. You can accurately monitor the output level on dB scale.

To the right of the 3 LEDs, you will see the Volume control **(F)**. You can adjust the Volume to the Headphone and Preamplifier output.

Finally, to the left end you will see a 6.3 mm jack output **(B)** to connect your headphones.

## Rear Panel



**HPA Rear panel**

In the rear panel you will find the connection inputs and outputs.

On the left side you will find the Input selector knob **(A)**. You can select between a USB and two analog inputs (1, 2).

Bellow the selector knob you will see the USB (type B) input **(B)**. USB can receive audio signals up to 48Khz/16bit.

On the right of input selector knob and USB input, you will find the two analog RCA inputs named 1 and 2 **(C & D)**.

In the middle of the rear panel, you will also find the preamplifier output with a pair of single-ended RCA analog audio output connectors **(E)**.

Bellow the preamplifier output you will find a coaxial output **(F)**. You can receive the USB input digital signal as SPDIF digital signal to connect another DAC.

To the right side of the rear panel you will find an **IEC AC input (H)**. Below IEC input the main fuse holder **(I)** and the Power switch **(J)** are located.

## Main connections

Connect a High-Grade Power cable to the IEC input and to your wall socket. Make sure that your wall socket provides a good ground before connecting the power cable. You must supply 230 to 240 Volt AC/ 50Hz (115 to 120 AC Volts / 60Hz). (Every **hpa** is tuned and calibrated using the **Lab12 Knack mk2 Power Cable**. We strongly suggest using this cable).

## Connect to your Power Amplifier

Connect the preamplifier analog output (**E**) to an analog line level input to your Power Amplifier. Make sure about the correct channel connections. We suggest using a good quality interconnect cable pair. Note that preamplifier output is deactivated when headphones are connected to the device.

## Connect an analog output Source

Make sure that your Source has an analog line level output. Connect an analog interconnect cable from the source output to one of analog inputs of hpa. Select input number with the selector switch in the left side of rear panel of your hpa. We suggest using a good quality interconnect cable pair.

## Connect a PC

Connect your PC with a USB (type A to Type B) cable (**Always use a high-quality audio grade USB cable to achieve ideal performance**). You only have to select the USB DAC output to your playback devices of your PC (maximum 48 KHz/16bit). Select the USB input with the selector switch on your **hpa**. If everything is ok LEDs (**E**) and (**D**) will turn on.

## Connect your headphones

We suggest connecting your Headphones 20 seconds after you turn on hpa. Connect a pair of headphones with impedance of 32 ohm to 600 ohm to the 6.3 mm output socket (**B**). Do not forget to lower the Volume before connecting your headphones.

## Note

The coaxial spdif output and the USB LEDs (**E**) and (**D**) are active even if the hpa is turned off, so you can use it only for USB to Coaxial spdif converter.

## **For the safety of your equipment**

**! Make sure that all your equipment is turned off before any connection.**

**! To avoid damaging your speakers you must turn on hpa some seconds before turning on your power amplifier and turn it off some seconds after turning off your power amplifier.**

## **Specifications**

- Power: 230VAC 50Hz (115VAC 60Hz)
- Power consumption: 60 VA max
- Frequency response: 5 Hz to 100K Hz (-3dB)
- Input impedance: 50K ohm
- Recommended headphones impedance: 32-600 ohm
- Tube complement: 3x 6n1p dual triode
- Inputs: 2x line stereo (RCA connectors), 1x USB
- Preamp output: 1x line stereo
- Headphone output: 1x 6.3mm jack
- Available Colours: Matt Black, Frozen Silver
- Dimension (WxHxD): 32x11x29 cm
- Weight: 6 Kg

## **Warranty**

This device has 5 years warranty for all parts (or 90-Day Limited Warranty for vacuum tubes) from the day of purchase.