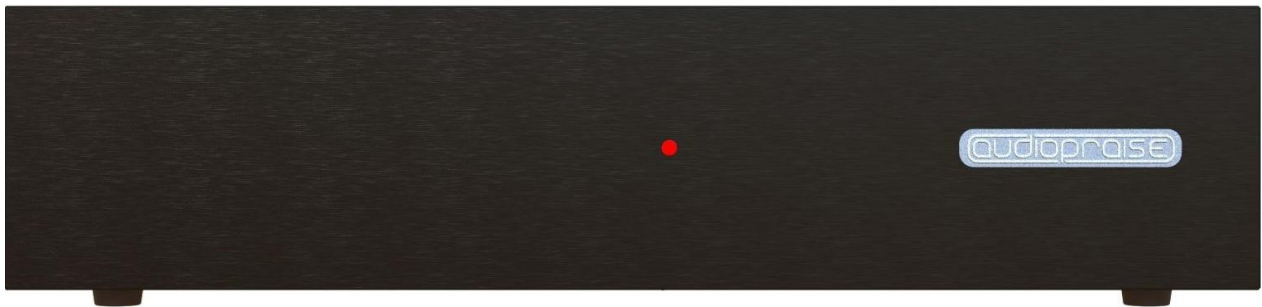# audiopraise

Vanity^{PSU}

The Vanity^{PSU} is a very low-noise linear power supply designed specifically for the Vanity^{PRO}, but it can be used as a universal power supply too. It has three independent power rails, two with 5V and one with 12V outputs.

The unique feature of our power supply is two stage linear regulation and each output regulated separately. Both regulator stages are discrete designs, with the second one being extremely low noise, not seen in stand-alone power supplies before.

KEY FEATURES

- Fully discrete low-noise regulator design.
- Two stage linear regulation.
- Over 50mF of combined filtering capacitance.
- Three independent galvanically isolated power rails.
- 5 DC outputs in total.
- AC voltage selector for global voltage compatibility.
- Brightness-adjustable LED indicator.

If used to power the Vanity^{PRO}, the additional 5V outputs can be used to power other HDMI devices such as splitters or selectors, while the 12V output can power a DAC, network switch or other equipment requiring clean 12V power input.

The AC input can be easily switched between 230V and 115V mains voltage. Last but not least, the brightness of the front panel LED can be manually adjusted to match indicators of other equipment.

HIGHLIGHTS

Very Low-Noise

The Vanity^{PSU} features two linear regulation stages. Both are fully discrete design without any monolithic regulator being used. The first stage creates stable DC voltage after the rectifier to eliminate its ripple, while the second one is ultra-low noise type to regulate the output voltages.

The output voltage has virtually no residue of the mains AC component, the broadband noise level is extremely low, and the output voltage stability is rock solid.
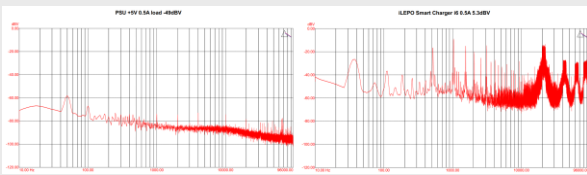
Comparison of noise spectrum plots between VanityPSU (left) and common multi-port USB charger (right). The difference is over 54dB of RMS noise voltage.

Five DC Outputs

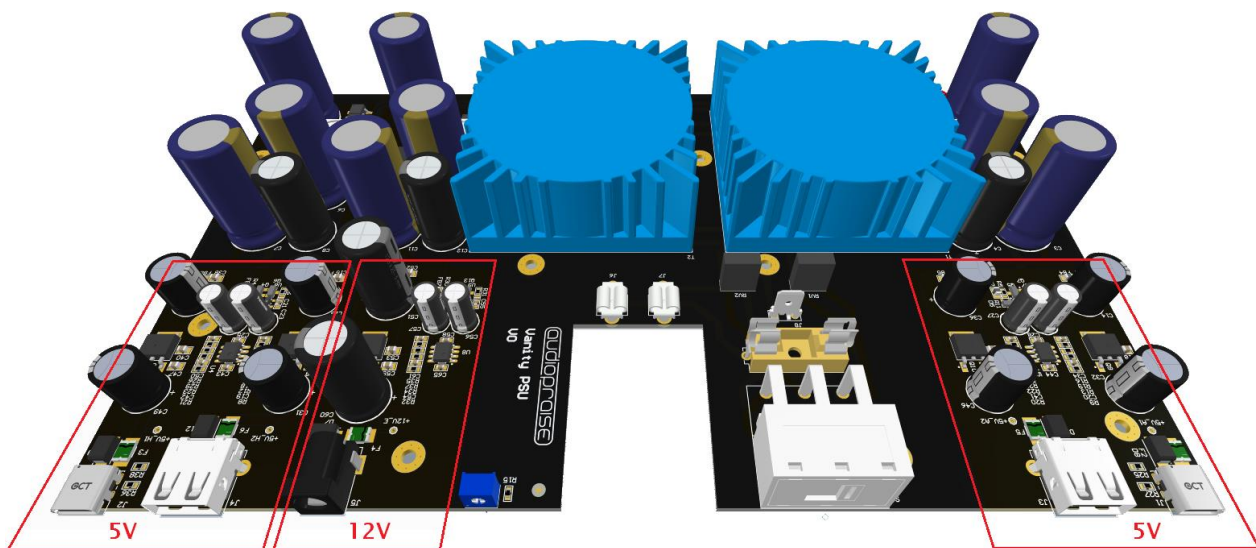Overview of all five DC outputs.

- Outputs 1+2: 5V DC USB-C+USB-A, 1A max
- Output 3: 12V DC barrel jack 2.1mm, 1A max
- Outputs 4+5: 5V DC USB-A+USB-C, 1A max

Design Matched with Vanity^{PRO}

Three Galvanically Isolated Power Rails

The Vanity^{PSU} features three independent rails. Two with 5V and one with 12V. This is to support one of the key features of the Vanity^{PRO}, which has a galvanic barrier between the HDMI and audio parts. With the Vanity^{PSU} both parts can be powered without creating ground connection between them.

SPECIFICATIONS

AC Input

- 115V or 230V AC user selectable, 50Hz/60Hz
- Filtered IEC C14 socket with ON/OFF switch
- Internally fused 1A medium blow
- Maximum input power 50W
- Class 1 appliance

DC Outputs

- Five DC output connectors
- Outputs 1+2: 5V DC USB-C+USB-A, 1A max combined
- Output 3: 12V DC barrel jack 2.1mm, 1A max
- Outputs 4+5: 5V DC USB-A+USB-C, 1A max combined
- Output voltage accuracy (all outputs): max ±1%
- Load regulation (all outputs, 0-1A): max ±2%
- Noise – outputs 1,2,4,5 (5V): <4µVRMS 10Hz-95kHz @1A
- Noise – output 3 (12V): <5µVRMS 10Hz-95kHz @1A

Power Derating

- Total output DC power should not exceed 15W
- Outputs 1+2 have combined 1A limit (0.5A each)
- Outputs 4+5 have combined 1A limit (0.5A each)
- Outputs 1+2+4+5 have combined 1.6A limit (0.4A each)
- Output 3 load must observe total output power limit

Dimensions & Weight

- w/d/h: 266/180/65 mm
- weight: 2.5kg

Availability

The product is available to purchase through the distribution network of our partner company JVB Digital and other dealers. Please visit product Resources page for more details.

Support

The user manual, other documentation and future software updates are available to download from the product Resources page as well as JVB Digital's website. Pre-sale and after-sale support are also available from JVB Digital.

Disclaimer

The product has been designed and manufactured using high quality materials in accordance with best practices in the industry and international harmonized safety standards. JVB Digital and Audiopraise accept no responsibility for any damage or injury caused by incorrect installation, use or operation of the product. Do not disassemble the product.

MAINS VOLTAGE: HAZARD OF ELECTRICAL SHOCK.