DC-output settings:
The BOTW P&P ECO product range has a 3 position switch for the selectable output voltage. The DC output voltage setting is used for the Sbooster Ultra upgrade. The Sbooster Ultra is an active filter and requires a higher input voltage than the Sbooster Ultra outputs. I.e. a 5V Sbooster Ultra requires a 6V input voltage to operate.

And the DC output setting can be used to manipulate the performance of an audio device in some cases. The most popular devices are the Mytek Brooklyn DAC (PLUS) 12V/13V/13.5V and Liberty DAC 12V/13V. For these products the user can select the voltage setting of his taste. The most used voltage setting is 13V for these Mytek DACs.

Inside the Sbooster power supply

1) IEC 14 power inlet
2) Audio fuse
3) Polypropylene film capacitor
4) Common-mode choke
5) Earth line choke
6) Overvoltage protector MOV
7) Silver plated wire with PTFE insulation
8) Mains voltage selection switches
9) Audio grade toroidal transformer
10) Non-inductive Polypropylene capacitor
11) Low ESR/ESL Bulk capacitor
12) Low drop linear regulator
13) DC output setting switch
14) Schottky rectifier
15) DC cable: Positive/Negative/Shielding
16) Braided cable
17) "Split-current"-system
18) Female DC connector

Product highlights:
- Power saving design, up-to 50% more DC output current compared to a conventional design with equal AC transformer power rating;
- 2 characteristics in 1 product:
  * Power for high current demanding equipment;
  * Precision for noise sensitive equipment;
- 3 selectable DC output voltages*;
- IEC 14 power inlet for High-end mains cables;
- High performance dual stage mains filter with Earth line choke;
- Current limit, short-circuit protection and thermal overload protection circuit;
- Custom made high efficient audio grade transformer with Electrostatic and HF Magnetic shielding;
- High quality safety rated polypropylene film capacitors in the mains filter;
- High quality non-inductive polypropylene film capacitors in the power supply circuit;
- Next generation Sbooster "Split-current"-system integrated in the DC output cable;
- High quality double sided PCBs with 2oz. copper and gold plated finish;
- High quality silver plated copper wire with PTFE insulation;
- Low impedance and high reliability Nichicon Bulk capacitors;
- Improved shunt reference-circuit;
- DC-output cable with additional shielding, braided sleeve and gold plated machined brass connector pins;
- Custom-made DC-plugs available in most common shapes and sizes for maximum flexibility;

The Best of Two Worlds Power and Precision ECO MKII power supply models:
- BOTW P&P ECO MKII 5V – 6V
- BOTW P&P ECO MKII 9V – 10V
- BOTW P&P ECO MKII 12V – 13V
- BOTW P&P ECO MKII 15V – 16V
- BOTW P&P ECO MKII 18V – 19V
- BOTW P&P ECO MKII 24V

Contact
For questions and remarks please contact your retailer or our office:
info@sbooster.com
For more product information and FAQ please visit www.sbooster.com

Thank you for your attention.

sbooster
The Ultimate Power Solution

The Best of Two Worlds Power & Precision ECO *MKII* Upgrade Power Supply

Sbooster
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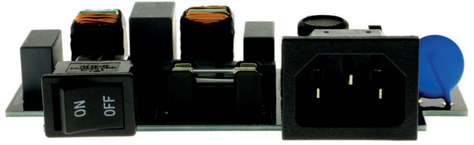
Most electronic devices today are powered by a so-called external Switch Mode Power Supplies (SMPS). These well-known mains adapters (wall-warts) are compact and efficient. Manufacturers often choose this type of power supplies, because they are cheap and they can be used worldwide. In addition, the usage of a low-cost SMPS avoids regional inspections or certification costs. So time and money is saved.

Why a different power supply?
In addition to the aforementioned advantages SMPS-technology has a number of drawbacks, which reduces the perfomance of a connected audio/video device. The result is loss of image and sound quality. In a SMPS a switching transistor switches on and off very quickly (switching frequency 50-100 kHz or higher). Due to this high-frequent (HF) switching a SMPS not only supplies power, but also behaves like a transmitter...

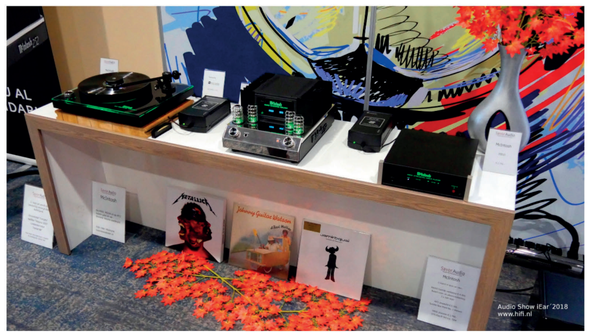
A transmitter, that doesn't sound good, what are the consequences?
The result is threefold. This switching causes HF polution on the output of the SMPS, kicked back poution to the mains and it radiates into sensitive parts of the audio/video chain, such as in the cabling, but certainly also into turntable cardridges. Often there are multiple devices in the audio/video chain that use such SMPS with all audible and visible consequences.

What can I do about this?
Always use well shielded cables and keep you SMPS as far as possible from your sensitive equipment, but it is better to replace the SMPS for a so-called linear power supply. A linear power supply has a different technology and lacks the super-fast switch. As a result, the connected device is now optimally powered and there is no contamination of the mains nor any HF radiation. The result is an improved image and sound reproduction.



Why a Linear power supply from Sbooster?
Sbooster has over (!) 9 years of experience in developing (replacement) power supplies for SMPSs. Only high quality components are used in the power supply and the layout of the circuits is optimized for use in audio/video systems. In addition, there is filtering of the mains power and the power supply is equipped with a smart circuit that reacts quickly to changes in the load. In addition, every effort has been made to keep power consumption to a minimum. That is why the Sbooster power supply also carries the designation ECO. And last but not least, reviews worldwide confirm the substantial improvement Sbooster brings!

Only for audio and video equipment?
It actually concerns all the equipment in the AV chain. At the moment streaming audio and video is quite popular. So in addition to audio and video equipment, there are also several computer related components, which are now part of the audio/video chain. These electronics are usually powered by an external SMPS, such as routers, modems, switches and network attached storages (NAS). In the ideal world every SMPS in the audio/video chain should be replaced by a linear power supply. With those of Sbooster of course!



The Sbooster power supplies
The BOTW P&P ECO power supply range is designed to improve the sound quality of wide range of audio, video and network devices. Most popular upgrades are; music streamers, low power consuming music servers, ROON servers, D/A convertors, turntables, phono-preamps, routers, switches, NAS drives, Martin Logan ESL speakers etc. Our compatibility list covers over 200 upgrade possibilities.

The BOTW P&P ECO power supply is equipped with unique features which lead to a gain in sound quality compared to the stock supplied SMPS as well as conventional and low cost linear power supplies.

Key for sound quality is a stable and low noise power supply. To achieve this low noise, the BOTW P&P ECO starts immediately with the purification of the AC power. Our dual stage mains filter with earth line choke removes HF pollution, before the current reaches the transformer. The transformer is a custom-made audio grade toroidal transformer with electrostatic and HF magnetic shielding.

The electrostatic shielding is a copper foil between primary and secondary windings of the transformer. The purpose of the shielding is to lower the leakage current of the transformer and to create a last HF purification stage of the AC mains, before the power reaches the power supply electronics. To avoid noise injection from a polluted earth line, the electrostatic shield is connected to the earth line choke. The HF magnetic shielding is a copper foil wrapped around the secondary windings of the transformer. The purpose of this foil is to keep the HF electromagnetic interference to a bare minimum. The latter is an excellent feature for high sensitive turntable cartridges, which performance degrades highly due to this type of pollution.

The electronic design is both innovative and efficient: it gets 50% more output out of the used electronics and consumes even up to 35% less energy than a conventional design with equal AC power rating. The BOTW P&P ECO audio upgrade concept is so efficient that it consumes only a bit more energy than the stock supplied high efficient, but also highly polluting SMPS.

A fine product to show this efficiency is the Mytek Brooklyn DAC. An English magazine has tested the power consumption (AC mains voltage side) of both the internal SMPS and the BOTW P&P ECO and there is barely a difference. For this test the BOTW P&P ECO needs to be set to 13V or 13.5V for the best test results.

The power supply design of the BOTW P&P ECO range is a non-conventional linear power supply design. The AC power of the transformer is rectified with a quad pair of High-Voltage power Schottky rectifiers. To avoid transformer oscillation the units are equipped with a CCR snubber circuit. The bulk capacitors are 105 °C 10K hours low ESR/ESL Nichicon capacitors. The capacitors are bypassed with three dipped non-inductive film capacitors.

The regulation circuit comprises a High-Current Low Dropout Regulator in a hybrid configuration with an additional shunt reference circuit. This unique concept does not only increases the response and stability of the regulator notably, it also lowers the output noise significantly.

Finally, at the end of the DC cable the unique “Split-current”-system has been placed. The power supply part of the BOTW P&P ECO provides the “Split-current”-system with continuous powerful and clean power, so the electronics of the “Split-current”-system can do their job profoundly. The “Split-current”-system buffers the power, so that the power supply becomes very fast, and filters one last time the voltage and current just before they enter the audio device.

The reason, why the “Split-current”-system is located at the end of the DC-cable, is that the *performance of the power supply should be there where the power enters the device* and not at the start of the DC-cable.

This unique upgrade power supply with its large headroom delivers at all times sufficient clean power to the audio device to ensure a stable and continuous performance of the internal processes of the audio device in order to get the best performance out of the audio device.

This combination of power and precision results in “easy” music, a perfect soundstage and a natural detailed sound.