



Ausgabe 1/2021

lp

Stromtank S 2500 Quantum

» Without a doubt, Stromtank's 2500 Quantum delivers the most compelling sound enhancements of any power conditioner we have ever tried.

QUANTUM MECHANICS

One would think that Stromtank has already achieved the pinnacle of what is possible years ago with their completely uncompromising battery supply systems for hi-fi systems. And that is true – kind of.

These gigantic machines derive much of their visual fascination from the large porthole in the middle of the panel that glows in an almost magical green light. And a wonderfully old-fashioned pointer provides perfect analog information about what is going on with the device's energy balance. You never saw them? This can't be ruled out entirely because these „power tanks“ are rare, if only because of their hefty purchase price, and can only seldomly be spotted „in the wild,“ which does not change the fact that they are the best available means of powering a hi-fi system. At least if it doesn't consume abstruse amounts of energy and you are not the type for continuous listening sessions lasting several days. Stromtanks are built in Berlin and come from a small, highly specialized company whose core competence lies in alternative energy production. „Winbat Technology“ makes small wind turbines and the corresponding energy storage systems so that there is also electricity when the wind is not blowing. Or when the sun is not shining, because photovoltaic systems can also be connected to these storage systems. And if there is no lake with a pumped-storage plant to store electricity, or if the solution's dimensions are to be a few orders of magnitude smaller, rechargeable batteries can be used. This technology has been tried and tested for 100 years, and every car driver knows the thick lead-acid block that ensures that the car starts in the morning. Even if lead batteries in all their various forms are a robust and tried and tested matter - they are not state of the art in battery technology. They are not, and neither are lithium-ion and lithium-polymer batteries, which are an indispensable part of today's daily life. You know, the ones hidden in your smartphone or tablet where you are probably reading these lines. The ones that usually pass away after three years. This is not tolerable for professional power storage devices, which is why Winbat uses lithium-iron-phosphate batteries instead. These allow a significantly higher „number of cycles,“ i.e., more charging and discharging processes than all other batteries produced on an industrial scale, and they also have very low self-discharge. Under the label Stromtank, Winbat has

made hi-fi-compatible buffer storage units based on the same technology for quite some time now. Only they are not charged by wind or solar energy, but from the mains supply. The point is that electricity is allowed to be as capricious as the sun and wind. And it can also be contaminated with any kind of high-frequency interference. This is because when the system is running on the Stromtank, the power input takes a break. In other words: There is no connection to the grid; the system draws its energy exclusively from the integrated lithium iron phosphate batteries („LiFePo4“). Of course, rechargeable batteries are DC voltage suppliers. Their energy flow must first be converted into a 230-volt mains voltage using suitable technology. The company, in its daily business, masters this technology skillfully. In practice, this module turns out to be a potent switching regulator, which sits inside a carefully sealed shielded housing inside a Stromtank.

Our current test subject is the model „S 2500 Quantum“ and represents a select variant of the „normal“ S 2500, which we already presented to you in LP 1/2019. The differences between the two devices have very little to do with quantum effects, but rather with a pragmatic engineering spirit, making the „Quantum“ even better than the original.

Externally, both differ only in the model designation on the front. The innovations are found exclusively on the inside. In short, the „quantum leap“ consists of increasing the system voltage of the battery compartment from 24 to 48 volts. In other words: Whereas the original S 2500 has eight batteries in milk-bag format with a nominal capacity of 100-ampere hours at a cell voltage of 3.2 volts, the Quantum edition has 16 smaller models with 40-ampere hours. Although the arrangement's nominal capacity has thus become somewhat lower, this has proven to be no problem in practice: Even relatively power-hungry setups run for several hours on the Quantum without having to recharge the battery. Which, by the way, would not be a bad thing either, because the device also improves the sound when the charger is swit-



Power of the key: Without the key, the device cannot be put into operation

Team players

- Turntable:**
 - TechDAS Air Force III
- Cartridge:**
 - DS Audio DSE1
- Phono pre-amplifier:**
 - DS Audio
- Integrated amplifier:**
 - Thivan Labs 805
- Loudspeakers:**
 - Thivan Labs Grand Horn

Opponents

- Power conditioner:**
 - PS Audio P10

Dominique Fils-Aimé – Stay Tuned!



Music

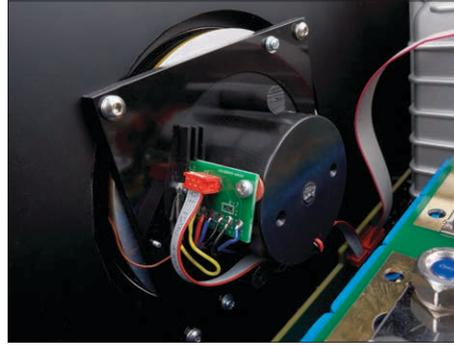
Dominique Fils-Aimé
Stay Tuned!

Kikagaku Moyo
Forest Of Lost Children

Crippled Black Phoenix
A Love Of Shared Disasters

Dire Straits
Communiqué

The Stromtank has three sockets on the output side. Therefore, an additional plug strip is usually required



The opulent display instrument of the device from behind



One of the numerous control boards that watch over the well-being of the machine

ched on. The S 2500 Quantum can charge its batteries much faster than its sister model anyway: The nominal charge current has been increased from eight to ten amps, and because of the doubled system voltage, it only needs half the current, which means that in practice, the batteries of the S 2500 Quantum are full again more than twice as fast. The „double voltage means half the current for the same power“ is also beneficial on the „discharge side.“ Because only half the current now flows in the system, the device’s continuous load capacity could be increased from 550 to 650 VA, and for a short time, there are now even 2600 instead of 2300 VA in it; this should be a rather academic value. The lower currents in the voltage converter also ensure an even quieter output voltage. The other side of the coin: 16 batteries require 16 individual monitoring boards and thus twice as many as the original 2500, which explains the new model’s surcharge: It costs 22,500 Euro, respectively 22,900 Euro for the high-gloss black version. A green LED chain in-

dicates the charge status of the batteries. The huge pointer instrument - illuminated in blue - indicates the charging current in mains operation and the discharging current in pure battery mode - then in bright green. At the back of the S 2500, there are still only three consumer sockets, so you will have to use an additional power strip in many cases. But this does not affect the performance of the overall system in any way. This time, I’ll spare myself the overflowing technical details of the device, as you probably already know that from our examinations of the other Stromtanks.

It suits me quite well that I am currently running a high-efficiency chain of 100-decibel speakers and very power-hungry tube

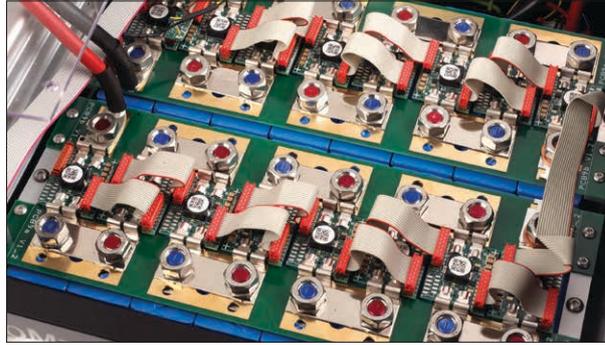


Stromtank S 2500 Quantum

- Price from 22,500 Euro
- Manufacturer Stromtank, Berlin, Germany
- Phone +49 (0)30 52688330
- Internet www.stromtank.com
- Warranty 2 years
- W x H x D 480 x 310 x 450mm
- Weight ca. 57kg

amplifiers. The integrated amplifier 805 of Thivan Labs treats itself with almost half a kilowatt from the mains and demands quite a lot from the Stromtank. However, the success of the use of the device is immediate. It does not only extend to what comes out of the loudspeakers: the mechanical hum of the mains transformers in the amplifier has almost wholly disappeared. This also works with the PS Audio P10, which usually does the job, but not quite as thoroughly. The sonic effects of the mains-supported operation at the power tank cannot be ignored. First of all, the loudspeakers' background noise is noticeably lower and has a different character: there are less disturbing higher frequency components. For example, Dominique Fils-Aimé rushes a few meters closer to the listener, her choir grouping around the lead vocalist at a respectful distance. Much freer, much more colorful than when operated from a power outlet. Switching to pure battery operation makes things almost a bit scary: Significantly more pressure in the electronically generated low tones, more melodiousness in the voice, more sparkle in all areas. Wonderful. I experience somewhat similar things with the weird Japanese rock band „Kikagaku Moyo.“ Battery operated, the 2004 album „Forest Of Lost Children“ sounds even more bizarre than without and more endearing, catchy. The S 2500 Quantum simply peels out the character of what's happening right there. In the end, it's as always: once you get used to it, the inevitable farewell to this kind of sound improvement is frustrating. So be warned if you want to try this live-cell cure for your system

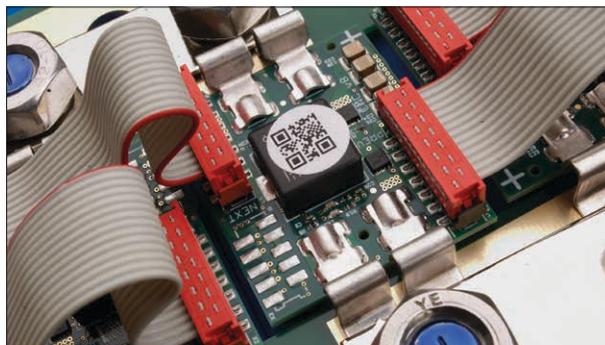
Holger Barske



The trick with the Quantum is the use of 16 batteries for a system voltage of 48 Volt



The small silver box generates the 230-volt alternating voltage from the DC of the batteries



Lifesaver: Each of these boards watches over the well-being of two batteries



If you want to control your power tank from your sofa, you can do so with this cute remote control