

Review of the RAAL REQUISITE HSA1b on Musicalhead

Almost two years ago, the Serbian/American manufacturer RAAL REQUISITE brought their first ear speaker on the market. In October 2019, the first review of the SR1a followed in Germany on my blog, whereby the Serbian flat radiator at that time even climbed the musical throne in my TOP10 on Musicalhead.

However, the orthodynamic competition was able to immediately recapture this throne due to significant performance advantages when operated via the speaker outputs of the RIVIERA AIC10. Although the team around Danny McKinney and Aleksandar Radisavljevic succeeded in creating a true masterpiece with their new Earfield™ headphone monitor in "True Ribbon™" technology, the choice of a suitable playing partner with adequate dynamic reserves can be somewhat problematic.

Due to the incredibly low impedance of the full-range aluminum ribbon drivers of the SR1a of only 0.2 ohms, the Serbian flat radiator requires not only a protective interface in the form of a rather unadorned black box, which raises the resistive load via an intelligently switched resistor network to a player-friendly 5.6 ohms, but also a full-blown integrated amplifier with a stable output of at least 100 watts per channel at 4 ohms, if the headphones are to be operated at higher listening volumes without distortion.

However, since the peak level of the SR1a (111 dB) actually requires only 500 mW per channel, nearly 99% of the amplifier power fizzles out in the unfathomable depths of the matte black box. For this reason, it was already clear to the RAAL developers when they presented the flat radiator that the unique Ribbon technology would require a completely new type of amplifier to drive the innovative ear speaker directly.

This headphone amplifier would easily have to be able to master a load impedance close to the electrical short circuit without sacrificing the fine dynamic qualities of the SR1a and neglecting its phenomenal detail work.

Raal Requisite HSA1a

Almost simultaneously with the presentation of the new ear speaker, Dragan Domanovic, employee of RAAL REQUISITE and founder as well as chief engineer of the Serbian company SAEQ, received the order to construct a synergetic playing partner for the SR1a, which should effortlessly reveal all significant strengths of the headphone and compensate its system-immanent weaknesses as completely as possible. In particular, uncompromising fidelity was a special focus of the development.

However, since the SR1a acts like the famous acoustic magnifying glass and thus defects in the upstream front end are revealed with an almost merciless harshness, no

less than 9 prototypes of the new HSA1 direct drive amplifier were "worn out" in the course of several years of development before the RAAL team was satisfied with the final musical result in the regularly scheduled listening sessions.

In the first production-ready version, the HSA1a was not only able to drive two ribbon ear loudspeakers in parallel via 2 outputs in a load-stable manner, but also impressed with enormously low distortion values and fantastic sound quality due to an intelligent circuit layout using bipolar transistors (BJT) for linear current amplification.

All components used, such as semiconductors and capacitors, were selected in sheer endless hours of listening and measuring in the process according to purely audiophile criteria - and apparently without regard to cost.

Because at this time most likely no one in the team had seriously thought about the subsequent pricing of the new current amplifier. Probably just as little as about the practical benefit of being able to operate two identical SR1a headphones simultaneously.

Finally, the range of applications of the HSA1a was expanded after careful examination of the actual market acceptance and the much more practical possibility was created to also play non-brand, dynamic headphones with the now HSA1b christened version.

The HSA1b

And that brings us to today's test candidate - the new HSA1b from RAAL REQUISITE, for which I would like to thank Stefan Gürtler from Headphone Auditions Amsterdam once again.

Because with the new HSA1 in the B version is offered to the grail knight of the fine tones from my point of view a truly exquisite headphone amplifier, which is absolutely unique on the international market.

Via a specific compensation curve, which linearizes the frequency response of the SR1a and is activated via a toggle switch on the front panel of the amplifier, the HSA1b helps the in-house flat radiator to achieve a perfect tonal balance with simultaneously exorbitant dynamic reserves.

However, due to its enormous current delivery capability, RAAL says it is equally capable of playing any (ortho) dynamic ear speaker on the planet - regardless of its load impedance. And even on bitchy headphone divas, the amp is said to be completely unimpressed in terms of performance. Of course, this still has to be proven.

The constructive design as an integrated amplifier plays the HSA1b of course fully into the cards. While the RAAL REQUISITE provides a relatively modest 2 x 10 watts at 8 ohms at its rear speaker outputs, the sinusoidal power at a load impedance of 1 ohm already increases to an astonishing 55 watts per channel.

Very insensitive magnetostats such as the HIFIMAN SUSVARA could thus theoretically also be driven via the rear LS outputs of the HSA1b using an appropriate cable adapter. Of course, this operation is always associated with certain risks.

Functionality 2.0

There are also 3 different headphone outputs freely available on the front panel. While efficiently operating ear loudspeakers can be driven via a 4-pin XLR socket and the obligatory 6.3 mm jack with an output power of 2 x 250 mW at 32 ohms, another XLR connector is designed as a plug version in order to establish a connection to the SR1a without confusion.

However, dynamic headphones can optionally also make conclusive contact with the HSA1b via this special connector using a supplied adapter - especially low-efficiency test subjects will be grateful for the considerable additional power of 2 x 1,900 mW at 32 ohms.

Although the RAAL REQUISITE was primarily developed as a congenial playing partner for the in-house SR1a, the current version thus has a pleasingly high functionality and predestines the Serbian current amplifier as a real all-purpose weapon for stationary use.

In addition, the HSA1b also impresses with exquisite technical solutions, for example with regard to volume control, whose perfect channel synchronization is ensured via stepped attenuators in a discrete 24-stage resistor network.

And as with the SR1a, the design language of the HSA1b follows more of a technical approach and is reminiscent of professional studio equipment in the best sense. The build quality of the matte black amplifier with partially brushed aluminum surfaces is undoubtedly excellent and the choice of materials is also absolutely appropriate for this price range. A tare weight of 6 kg is also evidence of the manufacturer's efforts not to be stingy with the materials used for the HSA1b's inner workings.

Preparation

In order to sound out the acoustic qualities of the new RAAL REQUISITE HSA1b as completely as possible, I connect the headphone amplifier for my following review not only with its in-house counterpart SR1a, but logically also with the already above

described HIFIMAN SUSVARA. A MEZE EMPYREAN, as a high efficiency representative of the headphone guild, also gets some playing time with the HSA1b.

My signal source is my APPLE iMAC, optimized with Audirvana+ software, which feeds a MYTEK BROOKLYN DAC+ with digital data via a CHORD EPIC USB cable. The MYTEK is powered by a separate S-BOOSTER BOTW MK2 power supply.

Furthermore, a set of INAKUSTIK NF-204 Micro AIR cables connects the BROOKLYN DAC+ to the balanced XLR inputs of the RAAL amplifier, and an INAKUSTIK AC-1204 AIR provides clean power via an ISOL 8 MINISUB AXIS mains filter. Unbalanced contact via gold-plated RCA jacks would be just as possible, by the way.

To further optimize the musical transmission to the SR1a, Danny McKinney also provided me with the brand new RIBBON SR728 silver cable directly from the USA. By means of a specific conductor geometry, the use of Kapton as dielectric and a complex burn-in process, the cable designers at RAAL were, according to their own statement, able to achieve an exemplary tonal system balance. What would also still have to be verified.

My musical test material is composed, as usual, of the listening examples from classical music, jazz, blues, rock and pop, which are well known to me in the meantime, predominantly in HIGH-RES resolution. Information about the new RAAL REQUISITE HSA1b can be found on the manufacturer's homepage at: raalrequisite.com or also at Headphone Auditions Amsterdam under: headphoneauditions.nl

Sound test

Why not like this? These thoughts inevitably pop into my head when I connect the SR1a with the HSA1b for the first time and immediately listen to the grandiose synergistic interaction of these two exceptional components.

RAAL REQUISITE may even have done themselves a disservice by presenting their unique flat radiator without the appropriate playing partner 2 years ago. Because only the new and congenial HSA1b now puts the musical crown on the SR1a and catapults the ear speaker from my personal point of view into completely new sonic spheres.

The unique way in which the Serbian headphone amplifier provides the bass of the SR1a, which is often described as problematic, with exemplary precision and effortlessly controls it even down to the lowest registers, separates all musical events in an outstanding manner and at the same time focuses them with ultimate localization sharpness in the spatial context, is undoubtedly of world-class caliber.

And without question, this great combination could again have a significant impact on the ranking of my TOP10 on Musicalhead. I'm already pretty sure of that after just a few minutes of listening.

Although the SR1a is not completely capable of reproducing the lowest frequency ranges < 30 Hz with the sovereignty of a HIFIMAN SUSVARA, even in conjunction with the HSA1b due to the lack of a pressure chamber effect, the Serbian ribbons on the in-house playing partner nevertheless run up to absolute top form and surpass the bass technical possibilities of a SENNHEISER HD800S, for example, by far.

Lightning-fast transients

Especially the outstanding impulse response of the SR1a is unrivaled in the headphone segment so far. Neither the representatives of the (ortho) dynamic, nor the electrostatic fraction are, in my opinion, able to match the sensational speed of the RAAL REQUISITE, especially in the bass range.

The HSA1b delivers the desired current as fast as lightning, without limiting it via various protective circuits, which is particularly noticeable with regard to the excellent fine dynamic qualities of the Serbian ear speaker. Every musical nuance is reproduced meticulously and with insane speed and can hardly be surpassed in terms of authenticity in my opinion.

This also applies to the phenomenal reproduction of micro details with super sharp edges, which seem ghostly real without any discolorations in the form of reflections or resonances caused by the usual ear pads. Differences between the musical performance and random ambient noise in the listening room blur into each other and can often not be clearly assigned with regard to the sound source. Simply incredible.

The RAAL REQUISITE HSA1b virtually celebrates the first-class detail work of the ingenious flat radiator and surpasses even the RIVIERA AIC10 as a playing partner in this discipline. However, it cannot be completely ruled out that the inevitable adapter box could be responsible for the minimal loss of final resolution of the RIVIERA.

And although the AIC10 in the forced marriage with the small black box sometimes even gains minimal advantages in terms of richness of sound color, for me the great dynamic class of the Serbian current wonder still prevails and qualifies the HSA1b from my point of view as the slightly better choice for the SR1a.

The frequency compensation of the HSA1b has been excellently achieved by the Serbian engineers. In addition to the dust-dry and excellently contoured bass, the SR1a also impresses with transparent as well as equally plastic mids and a flawless high frequency range. The tonal differences can be easily validated via the

corresponding toggle switch - in the neutral position (HP), the trebles of the Serbian flat radiator often seem overdrawn.

„Cable sound“

This musical dream combination from RAAL REQUISITE can actually be topped. Only in combination with the new RIBBON SE728 silver cable does the team around Danny McKinney and Aleksandar Radisavljevic show the assembled world elite where Barthel really gets it.

The inconspicuous black headphone cable with a length of 2.20 m lends the bass frequencies of the SR1a a bit more blackness and punch, also perfects the three-dimensional imaging in the sound-relevant mids and finally resolves even the finest reverberant tails in the high frequencies with an all-out dedication. What a devilishly good cable upgrade.

I am so thrilled that my wife can only finally separate me from my beloved listening spot late in the evening under threat of a cooking strike. This is without a doubt the best headphone system I have heard to date - the WARWICK ACOUSTICS APERIO and a SENNHEISER HE1 included.

This unheard of level of authenticity due to a sensational transient speed by means of the innovative ribbon drivers and the simultaneous lack of coloration due to the complete absence of spatial restrictions, is in my view difficult to achieve even by speaker-based high-end systems in a monetary 100K environment.

In my opinion, the many years of development work regarding a perfect amplifier for the SR1a have paid off in full. Because RAAL REQUISITE, with the synergetic combination of SR1a, HSA1b and the RIBBON SE728, crosses the boundary between the reproduction via ear loudspeakers and a reproduction of music by means of excellent nearfield monitors. Consequently, both playing partners can be used in professional recording studios without any problems in the future. And thus ultimately follow their original purpose.

Dynamic partner

For all knights of the grail of sound, this grandiose combination naturally proves to be a musical stroke of luck. Especially since the RAAL REQUISITE HSA1b does not refuse (ortho) dynamic playing partners and already pleases the audiophile heart with an exemplary tonal balance at the 6.3 mm jack output. Provided, of course, the aforementioned toggle switch was previously set to the described HP position.

Due to its high efficiency, the MEZE EMPYREAN is often connected to mobile devices and consequently usually plays below its sonic potential. This is because the

Romanian ear loudspeaker usually needs a current stable drive in order to fully convince, especially in the slightly critical bass range.

The Serbian current amplifier truly guides the bass of the EMPYREAN with an iron hand and does not allow the semi-open magnetostat the slightest acoustic misstep. Bass runs are always cleanly and precisely separated from each other, dynamic attacks are also amazingly dry and reproduced with a tight contour.

Also in the midrange the HSA1b does not afford itself any weaknesses and inspires with excellent transparency and a very good spatial representation, although the stage base width keeps itself with the MEZE still in a manageable framework. The Serbian headphone amplifier also shines in the high frequencies and once again shows a lot of sensitivity for the small details without neglecting the musical whole.

Final stumbling block

Could HIFIMAN SUSVARA be the final stumbling block for the Serbian high-flyer? Not at all. As expected, Dr. Fang Biang's masterpiece spurns the mundane jack as well as the "normal" 4-pin XLR socket and immediately demands a proper cabling via the SR1a connection using an adapter, but then plays dynamically ambitious and at the same time completely stress-free in the latter connection variant.

In combination with the SUSVARA the HSA1b acts almost like the famous wire and impresses with an exemplary neutral reproduction of my musical Pretiosen. Only in the lowest frequency cellar the RAAL amplifier has to let acoustically something feather in the direct comparison to the RIVIERA AIC10. The Italian super amplifier masters the reproduction of the lowest tones like no other.

This also applies to the same extent to the qualities of the AIC10 with regard to a fabulous, because extraordinarily airy spatial imaging. In terms of spaciousness in width and depth, the RIVIERA simply cannot be surpassed, even when the HIFIMAN is ultimately operated via a 4-pole JPS adapter cable directly to the speaker outputs of the HSA1b.

Nevertheless, the RAAL REQUISITE naturally leaves an excellent impression in combination with the dynamic representatives of the headphone division and thus emphatically recommends itself for this mode of operation as well, although the congenial interaction with the SR1a undoubtedly marks the Serbian direct drive amplifier's parade discipline.

My conclusion

Even without the possibility to drive (ortho) dynamic ear speakers, the RAAL REQUISITE HSA1b (4.999,- Euro) would be worth every single cent in my opinion.

In order to surpass the acoustic qualities of the Serbian headphone amplifier, one would have to invest in full-blown power amplifiers in the 5-digit price segment.

The SR1a uncompromisingly separates the wheat from the chaff in terms of sound, so that the musical shortcomings of lower-priced integrated amplifiers are mercilessly revealed. In the last few months, several representatives of this species have come to my home test environment and tried their hand at the capricious Serbian flat radiator - with limited success.

Neither the CYRUS ONE nor a NAIM UNITY ATOM were suitable to satisfy the SR1a in terms of performance, a NAD M10 and the SCHIIT JOTUNHEIM R failed in my opinion from a purely sonic point of view. Only the tube-armed OCTAVE V110 SE (6,999, - €) knew with an output of 2 x 110 Watts at 4 ohms as well as wonderfully natural sound colors lastingly to inspire.

Nevertheless, I would personally prefer the in-house direct drive, which by means of a successful frequency compensation with the SR1a in conjunction with the RIBBON SE728 silver cable just plays perfectly together. The RAAL REQUISITE SR1a mounts together with the brilliant HSA1b thus again the sound Olympus on Musicalhead and displaces the ABYSS AB1266 PHI TC after many years of reign from the throne.

The RAAL REQUISITE HSA1b receives my unconditional recommendation to all Grail knights of the fine tones, which prefer primarily audiophile playback characteristics and an absolute maximum of authenticity in combination with the SR1a and can thereby conciliatory do without the ultimate bass.

Yours Fidelio

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