

Digital-to-analog converter (DAC)

DAP-999EX TOKU High Fidelity Edition

Manufacturer: **COMBAK CORPORATION**

Price (when reviewed): **51 990 PLN**

Contact: **Combak Corporation**

4-20 | Ikego 2-chome

Zushi-shi Kanagawa 249-0003 | Japan

harmonix@combak.co.jp

www.combak.net

MADE IN JAPAN

The tested product was supplied by: **MOJE AUDIO**



REVIEW

Translation: Ewa Muszczyńska

Text: Wojciech Pacuła

Photos: Píksel Studio/Bartosz Łuczak
Wojciech Pacuła

Reimyo

Published: 1 September 2016, No. 148

The cover of the August edition of the “Stereophile” magazine is decorated with a photograph of the Moon by Simaudio Evolution 780D – a two-in-one converter and file player. It is a device which accepts digital PCM signal up to DXD (24/384), DSD up to DSD256 (11.2896 MHz), as well as decodes aptX signal sent wirelessly through Bluetooth and, on top of that, plays audio files from external storage media (HDD) through an Ethernet connection. As it seems, this is the future of audio from any price range.



Michael Fremer, aka the “Analog Man”, who was responsible for the test, writes in the introduction:

However, there is another equivalent way, but here the vector points at a slightly different angle. Such is the case with Reimyo and I am going to explain it using an example. The day before I listened to the new DAC for the first time, I got a parcel with two Master CD-R discs produced by M-MAM Audio, with material from the latest Krzysztof Duda’s, Robert Kanaan’s and Przemysław Rudź’s album entitled *3CITY (Trójmiasto)*. The music it brings is fantastic and, no matter how much I liked their previous album, *Hold*, the new release goes much further – both when it comes to music and sound.

While listening to new albums during a test, I never know what to expect. Recordings that I know help me make comparisons, as I can focus on sound, not paying so much attention to music, while a new album is a mystery. With the Reimyo device I could hear really well how the recording was produced (recorded, mixed and mastered), but I was mostly curious about the music, so I was sitting like at the cinema, watching a movie that I had been waiting for years. A fantastic combination of “pure” electronics with electrically generated sounds imitating live instruments was naturally accepted by the Japanese system which neither pointed out a lack of harmonics in the “instruments”, nor forcefully reduced electronics to its synthetic component. So, I had great low bass and fantastic dynamics that electronic albums usually lack.



Even though it may seem an exaggeration to some people, the process of giving up CD is definitely too slow for most of us. There is nothing nostalgic or pleasant in putting a CD in a player and no heat goes through our body when we take out a plastic disc from a mediocre box that does not evoke any positive thoughts, and look at how it disappears in the device. Looking at digits on a display is not nearly as engaging as the view of a needle touching the surface of a vinyl disc.

Michael Fremer, *Moon by Simaudio Evolution 780D*, "Stereophile", August 2016, No. 8, p. 58

I think many people share his opinion.

On the other hand, there is Mr Kazuo Kiuchi the CEO of the Combak Corporation (Reimyo, Harmonix, Enacom) and co-owner of the XRCD24 patent. He represents the opposite pole, claiming that today's technology allows us to render absolutely high-end sound from a CD, provided that the CD is appropriately prepared and played. The CEC company, whose beautiful system we presented at the beginning of the month acts in accordance with this belief. There are also many people who think the same as Mr Kiuchi-san.

So, it might seem that there will be another format war. However, reality is completely different – Michael Fremer represents the opinion of the absolute majority and even a small local war is out of the question. Systems such as the Moon by Simaudio Evolution 780D are the future and the future seems bright thanks to high resolution files.

DAP-999EX TOKU
High Fidelity Edition

However, this is still the future and we do not know when it will finally become reality. It will also mean a complete departure from the physical aspect of a recording. This is not my future. Sooner or later, I will surely find a file player that will satisfy me. However, the Compact Disc, Long Play and, above all, analog tape will remain my natural habitat.

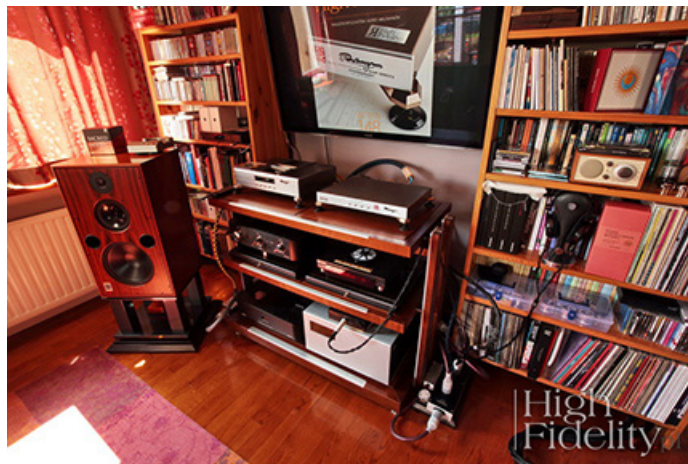
It is even truer, as, due to a paradigm shift, we now have the CD format in its best condition. Silver and gold discs have never sounded so well before and there is probably not much left to be achieved in this domain. A good example is the DAP-999EX TOKU converter prepared by Mr Kazuo Kiuchi especially to honor our magazine (hence the added "High Fidelity Edition").

When I heard for the first time, about a half year ago, that he was working on what he called his last DAC that would crown his work in this domain and combine Reimyo with "High Fidelity", I thought I would have a heart attack. It is both great responsibility and honor for us.

Even though we did not take part in listening tests, in a way it is "our" product. Initial plans aimed at a "Red Fingerprint Edition" version, which would have referred to the award that we gave to its predecessor, the [DAP-999EX Limited](#), but we came to a conclusion that its status will be better represented by a HF logo with the letter "R" meaning "Reference".

There is an appropriate panel on the cover of the August edition of our magazine, but its final look may still change – we got the first device that was assembled for our test and we are still thinking about the details. What we know so far is that only 36 such devices will be manufactured, each with our logo and certificate.

Mr Kazuo Kiuchi's Digital Audio Processor does only one thing (but does it well): it changes digital signal from a Compact Disc to analog signal – it accepts only 16-bit signal. Even though it offers four different digital inputs, we



TOKU models sound in a specific way. In the DA0 3.0 CEC-a test I wrote that its sound is close to the master (analog) tape, in the case of a Superlink connection. With an RCA connection it was not that strong anymore. CEC, similarly to dCS, presents all recordings in this way, even if their master tapes are digital. It is sound which does not very clearly show the edge and attack, brings closer the perspective between instruments and has incredible dynamics. Modeling that we get with Reimyo is about focusing more on sound sources. Everything is clearer and less ambiguous with it. It is also sound close to the master tape, but with emphasis on reproducing its copy, similarly as in the case of a vinyl disc.

Space is shaped in a similar way here. It is really vast and one can clearly hear where a given instrument was planned to be placed by the sound engineer – this is what the Lektor Grand SE sounds like. This is planning clearer than reality, closer to requirements characteristic for listening at home. At home, events have to go through some kind of "lenses" to be able to get through the system at all.

Finally, a few words about the bass. It is low and very energetic, completely different than in the CEC system, and yet different than in the top [MSB Technology system](#). If I could use speakers for comparison, the MSB system produces bass like top-class speakers with a bass reflex port, e.g. my [Harbeth M40.1](#) or [JBL 4367 Studio Monitor](#) speakers. Most turntables sound similar. The CEC system shows the lower range like speakers with sealed enclosures. The range is short, with excellently controlled attack and decay, but also a bit less "present" at bass reflex. Finally, the Reimyo system sounds like speakers with a baffle. It goes lower than enormous "vintage" speakers of the 1920s and 30s, and it also has much more built-up treble. However, the impression of bass presence without its continuous presence is similar.

Summary

Which perspective is the right one? Which system reproduces a live event better? I do not know the answer to questions formulated in this way. All these top systems look at recorded material in their own way and all of them are perfect in this respect. The Reimyo system is the cheapest of all of them, except for the Polish Ancient Audio set. It can do only one thing, i.e. play CDs, so it is the second most limited and least functional system (after the Polish player). Despite its price, it is comparable with each of the abovementioned players. It beautifully crowns the work of an amazing man, excellent manager and exceptional constructor – Mr Kazuo Kiuchi. **GOLD** Fingerprint.

will probably use the RCA S/PDIF input, as such outputs are found in most CD transports, including the Reimyo CDP-777 which the DAP was designed for.

The heart of this device is the K2 circuit. It is an interpolator unit which changes 16/44.1 signal into 24/176.4 signal, interpolating in an "intelligent" way. The patent belongs to the [Japan Victor Company](#) (JVC) and we know it from K2, K2HD, XRCD/XRCD2 and XRCD24 discs where it is the basis for signal coding and disc preparation. It works with all types of CDs and does not require any preliminary signal "coding".

TESTING METHODOLOGY

In order to ensure conditions similar to the test of the previous converter version, I used the CDP-777 Reimyo transport and the Ancient Audio Lektor AIR V-edition player (the Philips CD Pro-2LF drive is used in both). To connect the transports with the DAP, I used the digital Harmonix HS-102 cable. To supply power to the transport, I used the 2-meter [Harmonix X-DC350M2R Improved Version power cord](#) and to supply power to the DAC – the [聖HIJIRI Nagomi X-DCH cable](#). Both components were placed directly on the top shelves of the Finite Elemente Pagode Edition rack.

Apart from Harbeth M40.1 speakers that are part of the reference system, the Reimyo system was also tested with YG Acoustics Carmel 2 speakers. The Reimyo system was placed exactly at the same place where the CEC system (the [TL0 3.0 transport](#) and the DA0 3.0 converter had stood shortly before. It was an A/B comparison test where A and B were known. Music samples were 2 minutes long, but we also listened to whole albums – both through speakers and a reference headphone system.

SOUND

Recordings used in the test (a selection)

- *Paganini For Two*, Gil Shaham, Göran Söllscher, Deutsche Grammophon/Universal Music Ltd, Taiwan 480 246-5, XRCD24 (1993/2009)
- Alessandro Rolla, *Duets for violin & viola*, wyk. Isabelle Faust & Thomas Riebel, Glossa GCD C80021, CD (2016)
- Andrzej Trzaskowski Quintet, *Andrzej Trzaskowski Quintet*, Polskie Nagrania „Muza”/Warner Music Poland, „Polish Jazz vol. 4”, Master CD-R (1965/2016)
- Art Ensemble of Chicago, *A Jackson in Your Home/Message to Our Folks/Reese and the Smooth Ones*, Actuel/Charly 649X, 2 x CD (1969/2013)
- Bach, *Violin Concertos*, dyr. Yehudi Menuhin, EMI/Hi-Q Records HIQXRCD9, XRCD24, CD (1960/2013)
- Chet Baker, *It could happen to you*, Riverside/ZYX Music OJC20 303-2, „Original Jazz Classics”, Super Bit Mapping CD (1958/1987)
- Duda/Kanaan/Rudź, *3CITY*, 2 x Master CD-R (2016); płyta przygotowywana do wydania
- Enrico Rava, *The Pilgrim and the Stars*, ECM Records ECM 1063, „ECM Touchstones”, CD (1975/2008)
- Enya, *Enya*, BBC Entertainment BBC CD 605, CD (1987)
- Fausto Mesolella, *Live ad Alcatraz*, Fonè/Master Music NT017, XRCD24 (2014/2016)
- Martin L. Gore, *Counterfeit e.p.*, Mute/Sire 9 25980-2, CD (1989)

The Digital Audio Processor DAP-999EX TOKU High Fidelity Edition is a small semiconductor device which accepts only 16-bit signal of 32, 44.1 and 48 kHz sampling frequencies. In the introduction I wrote that, due to this fact, it is exclusively designed for signal from Compact Discs, but it is not exactly true. It is so today, but several years ago it would have been a converter designed to work with Compact Discs AND a DAT (Digital Audio Tape) recorder. The latter usually worked with 16/48 signal, but it was also possible to change it to 16/32 mode, elongating recording time on a given tape in this way.

Today, as I think, only one green LED will turn on, the one at the input signal sampling frequency of 44.1 kHz. Naturally, there are three diodes, one per each frequency. Below there are three other diodes informing the user about the synchronization of the DAC with a signal source, de-emphasis operation and any errors. Next to them there are four buttons to change the active input: RCA, BNC and an optical input (all of them S/PDIF) or AES/EBU. Switching between them is automatic after signal enters the device, but they can also be changed manually.

DE-EMPHASIS

The description is related to an ancient technology, but it can prove useful. In any modern DAC there is almost always no diode signaling 32 kHz sampling frequency, as this type of signal is very rarely used. There is also no information whether a given recording was coded using pre-emphasis, since CDs have been pressed without it for many years. D/A chip producers often forget about that ancient technology and a de-emphasis circuit which is obligatory for CDs is not included by them. However, it sometimes proves useful, especially if we deal with the first pressings of digital discs.

Some of the first CD players used 14-bit converters that worked like 16-bit devices thanks to higher oversampling. Their problem was high noise. In order to eliminate it, a method known from, for example, a Dolby noise reduction system was used. When a CD was pressed, the treble was raised and when it was played, digitally, de-emphasis was used, i.e. the treble was decreased. A "flag" was placed in the CD's sub-code to inform the DAC that it was necessary to turn on the de-emphasis circuit.

The technology was used in CDs since their beginning until the end of the 1980s, especially on discs coming from Japan. It was later given up and many players do not "see" that flag, and CDs with pre-emphasis are played in a bright and rough way, with an emphasis on the treble.

The power switch is located at the back with inputs and outputs. The device has a balanced design, so we can obtain signal on RAC and XLR outputs. Their level is a bit higher than the CD standard and equals 2.55 V instead of 2 V on the RCA output, and 5.1 V, not 4 V on the XLR outputs. Next to digital inputs there is a mechanical switch changing the absolute phase of digital signal.

The new version differs from the previous one mostly when it comes to the TOKU logo which resembles a personal signature stamp that any Japanese artist has. The housing is made of aluminum, which is not a new thing, but it is differently coupled with the ground. Instead of round pads there are aluminum feet extending beyond the housing. Wide brass spikes, placed on special Harmonix RF-909X tuning feet, are attached to the bottoms of the aluminum feet. Similar spikes can be found in the CD-777 transport, but in TOKU their latest "TuneUPmate" RS-1115 version has been used. The spikes are a bit shorter, so if we want the transport and the DAC to stand at the same height, we have

- Paula Cole, *Courage*, Decca B0008292-02, CD (2007)
- R-men, *I thought about you*, T-TOC Records MCDR 3002, „Platinum Gold Sound“, CD-R11α (2010)

Japanese issues available at  cdjapan.co.jp

The news of the latest and perhaps the last converter in the history of the Reimyo company made us think about what Mr Kiuchi-san wanted to achieve this time and which direction he wanted to take. He could go anywhere, as there are a few equally important paths in top high-end. If someone thinks that there is one universal and unquestionable “model” of top sound, he or she is wrong. We talk about re-production, i.e. about a process which aims to re-create sound “according to the likeness” of the original event. It is a bit similar to translation, the purpose of which is to use one’s own words to express the *spirit* of the original work as faithfully as possible. When it comes to music, the “original work” is a situation in a studio or at a stage.

It appears that the sound of the TOKU HFE model was modeled in a very similar way to the sound of the CEC DAO 3.0 which was tested some time before and is twice as expensive. It is neither “the same”, nor “identical” sound, but the language of music produced by the devices is very similar, as if both creators similarly felt and understood music reproduced at home.

The tested DAC sounds exceptionally clear. There is nothing left of the earlier slight but clear rounding of sound and the slight emphasis on lower midrange has also disappeared. Both these elements are great. I like such devices very much as they ensure incredible listening comfort. To a greater or lesser extent, the ultimate resolution and differentiation “no matter what” are sacrificed in them, providing in return beautiful listening experience while we listen to all albums, not only the best ones or some special re-editions and releases. Examples of very good converters of this type would be the [Exogal Comet Plus](#) tested in the June edition of “High Fidelity” (No. 146) and the [Accuphase DP-720 SACD player](#) that we have known for a long time.

The Reimyo system does not round anything and does not fill the lower midrange unless it is required by the given musical material. Because of that, its sound is harsher and more direct. At first, it may seem that this is against the idea of reproducing music, as most CDs are not sound masterpieces. However, after listening to the device even for a short time, one comes to a conclusion that it does not butcher worse CDs and does not emphasize their defects. Thanks to exceptionally good resolution, it overcomes this problem and enters music deep enough to make faults and problems connected with CD preparation “unimportant”. They become part of the message as much as music itself does and become a “flavor”, not a fault (these are not always faults anyway, but often cumulated compromises independent of the producer, as well as his or her conscious choices).

A part of this creation is stronger energy of the midrange, especially within the range of 1 – 2 kHz. It is the “presence” range which we are evolutionally especially sensitive to. It is most frequently slightly lowered in order to conceal faults and I opt for any action taken in accordance with the rule – “first, do not harm.” However, in the best products something that I hear when I listen to the TOKU HFE and what I know from the top CEC system, the dCS Vivaldi system and the Ancient Audio Lektor Grand SE player can be allowed: we show everything as it really is and go deeper. The strong midrange does not explode in our face

to buy new spikes for the transport.

The TOKU HFE is a variation of the Limited version, so it should be no surprise that all the basic modules are exactly the same in both devices. The differences lie in slightly different passive elements selected with regards to the way they change sound. The differences that we can see with the naked eye include, among others: the mains fuse – here we have a black version of HIFI-Tuning.com, a better AC mains voltage filter and different capacitors in the output stage – the ones used here are flat and screened with gold-plated copper plates. For a change, the digital NPC filter has disappeared. It makes sense, as it was used in the first version of the DAP, without the word “Limited” in the name. In the subsequent version with the “Limited” plate on the housing it was inactive, but it was left in its place, in an effort to change as little as possible in the topology of the printed circuit board. The K2 JCV8009 circuit, used in the first version and inactive in the “Limited” version has also been removed from the main board now, alongside with two secondary circuits.

Digital inputs are isolated from the signal transmitter using matching transformers that also take care of the desirable input impedance (75 and 110 Ω). Next, signal enters the digital receiver, the old Yamaha YM3436D circuit. Even though its production was stopped a long ago, it is valued for low jitter. The circuit accepts signal up to 24 bits, but the sampling frequency is limited to 48 kHz. The receiver is isolated from the inputs using matching transformers.

Signal is then transmitted from the large board to a secondary board that is the “heart” of the device. On its input there is the K2 JCV8009 circuit surrounded by eight CMOS gates operating, I guess, as part of the upsampling and digital filters circuit. A really good looking MXO clock ensures time coherence.

16/44.1 signal is synchronically changed here into 24/176.4. Changing 16-bit into 24-bit words is not an example of simple upsampling which relies on adding 8 more “empty” bits to 16 signal bits. Here we have an interpolating circuit that “predicts” changes that should take place and generates missing signal. Apart from JVC with the K2 circuit, the Denon company has also had achievements in this field with a similar Alpha Processing circuit, now in its Advanced AL32 Processing version.

Signal is transmitted from the board through the Burr Brown DF1706 digital filter and reaches a battery of optoelectronic circuits, galvanically isolating this component from the next one. I do not know if you remember, but some time ago it was regarded as one of the best external digital filters and co-operated with D/A Burr Brown PCM1704 converters, just like here. One such NOS circuit operates in each channel, in the highest specification (“K”); chips are paired. The converters are surrounded by excellent purple Sanyo capacitors.

with many irritating and annoying colorings, and details which have nothing to do with music. It is different. Thanks to this open quality the sound is clearer, more distinct and direct, and therefore closer to a live event.

I have focused on the specific elements that belong to the “hi-fi” realm because they reflect music perception that Reimyo guarantees really well. It is a “direct” message in the sense that it is exceptionally tangible and immediate. It is tangible not due to the fact that instruments come before the front plane of the speakers, but because of their clarity, sonority and richness. The sound attack is exceptionally fast and loud. I do not hear any delay or subtlety.



It is something that “vintage” sound lovers will not like, as they are used to warmth and sound condensation. As regards TOKU HFE, condensation means increasing the amount of information from the whole frequency response range, within the whole range reproduced by a given instrument (group, band) and it is not about burning out sub-ranges that might *suggest* something like this. Therefore, sound changes from one album to another and often from a track to another track, as everything depends on what is being played at the given moment.

It has special influence on the audience. It is because we (audiophiles, of course) sit and listen to music, but at the same time we still think about how it is reproduced. That intuitive awareness of matter makes us perceive a musical message in a really attentive way. If the sound of a new device is notably better than what we have known so far, we often listen to more and more albums, testing what this or that recording sounds like. We browse through our collection, enchanted by the improvement in sound quality, captured in our listening position by sound fireworks that we have never heard before. This is the way of listening proposed by dCS and CEC, and it is outstanding.



The analog section seems much simpler, even “normal”. The Burr Brown OPA627 integrated circuit is responsible for I/U conversion, while low pass filters and amplification are made using standard JRC 5534 integrated circuits. The XLR output sockets are rhodium-plated, while the RCA output sockets are gold-plated. It is worth paying attention to the fact that the XLR output has “American style” cables, i.e. No. 3 is the hot pin. If we connect the DAC to devices from outside Japan, it is worth changing the absolute phase by 180°.

I have not mentioned it yet, but power supply in the device looks great. There are as many as five separate power supply units, drawing voltage from two little, beautiful, double-C transformers. Input voltage is preliminarily filtered in a metal TDK Lambda “tin” and “conditioned” in an Enacom filter (the company belongs to the [Combak Corporation group](#)).

Technical specifications (according to the manufacturer)

Input signal: 16 bit
Input signal sampling frequency:
48 kHz, 44.1 kHz, 32 kHz
Digital inputs:
1 x AES/EBU/input impedance: 110 Ω
1 x BNC/ input impedance: 75 Ω
1 x RCA/ input impedance: 75 Ω
1 x TOSLink
Digital signal processing: K2 Technology (K2 LSI; 16-24 bit)
DA converter: 24 bit, 16-time oversampling
Output voltage:
XLR – 5.1 Vrms (hot = 3)
RCA – 2.55 Vrms
Frequency response: DC – 20 kHz (+/-0.5 dB)
S/N ratio: >114 dB (IHF-A)
Dynamic range: >100 dB
Channel separation: >105 dB (1 kHz)
Linearity: +/-0.5 dB (+10 dBm ~ 90 dBm) 1 kHz IHF-A
THD: >0.003% (1 kHz Vo=F/S) (30 kHz, LPF On)
Power consumption: 15 W
Dimensions: 430 (W) x 44 (H) x 337 (D) mm
Weight: 5.5 kg



System odniesienia

SYSTEM A

ŹRÓDŁA ANALOGOWE

- **Gramofon:** AVID HIFI Acutus SP [Custom Version]
- **Wkładki:** Miyajima Laboratory MADAKE, test [TUTAJ](#), Miyajima Laboratory KANSUI, recenzja [TUTAJ](#) | Miyajima Laboratory SHIBATA, recenzja [TUTAJ](#) | Miyajima Laboratory ZERO (mono) | Denon DL-103SA, recenzja [TUTAJ](#)
- **Przedwzmacniacz gramofonowy:** RCM Audio Sensor Prelude IC, recenzja [TUTAJ](#)

ŹRÓDŁA CYFROWE

- **Odtwarzacz Compact Disc:** Ancient Audio AIR V-edition, recenzja [TUTAJ](#)

WZMACNIACZE

- **Przedwzmacniacz liniowy:** Ayon Audio Spheris III Linestage, recenzja [TUTAJ](#) -
- **Wzmacniacz mocy:** Soulution 710
- **Wzmacniacz zintegrowany:** Leben CS300XS Custom Version, recenzja [TUTAJ](#)

AUDIO KOMPUTEROWE

- **Przenośny odtwarzacz plików:** HIFIMAN HM-901
- **Kable USB:** Acoustic Revive USB-1.0SP (1 m) | Acoustic Revive USB-5.0PL (5 m), recenzja [TUTAJ](#)
- **Sieć LAN:** Acoustic Revive

KOLUMNY

- **Kolumny podstawkowe:** Harbeth M40.1 Domestic, recenzja [TUTAJ](#)
- **Podstawki pod kolumny Harbeth:** Acoustic Revive Custom Series Loudspeaker Stands
- **Filtr:** SPEC RSP-901EX, recenzja [TUTAJ](#)

OKABLOWANIE

- System I**
- **Interkonekty:** Siltech TRIPLE CROWN RCA, czytaj [TUTAJ](#) | przedwzmacniacz-końcówka mocy: Acrolink 7N-DA2090 SPECIALE, recenzja [TUTAJ](#)
- **Kable głośnikowe:** Tara Labs Omega Onyx, recenzja [TUTAJ](#)
- System II**
- **Interkonekty, kable głośnikowe,** kabel sieciowy: Tellurium Q SILVER DIAMOND

SIEĆ

- System I**
- **Kabel sieciowy:** Acrolink Mexcel 7N-PC9500, wszystkie elementy, recenzja [TUTAJ](#)
- **Listwa sieciowa:** [KBL Sound REFERENCE POWER DISTRIBUTOR](#) (+ [Himalaya AC](#))
- **System zasilany z osobnej gałęzi:** bezpiecznik - kabel sieciowy Oyaide Tunami Nigo (6 m) - gniazdko sieciowe 3 x Furutech FT-SWS (R)

AKCESORIA

- ANTYWIBRACYJNE**
- **Stolik:** Finite Elemente PAGODE EDITION, opis [TUTAJ](#)/wszystkie elementy
- **Platformy antywibracyjne:** Acoustic Revive RAF-48H, artykuł [TUTAJ](#)/odtwarzacze cyfrowe | Pro Audio Bono [Custom Version]/wzmacniacz słuchawkowy/zintegrowany, recenzja [TUTAJ](#) | Acoustic Revive RST-38H/testowane kolumny/podstawki pod testowane kolumny
- **Nóżki antywibracyjne:** Franc Audio Accessories Ceramic Disc/odtwarzacz CD /zasilacz przedwzmacniacza /testowane produkty, artykuł [TUTAJ](#) | Finite Elemente CeraPuc/testowane produkty, artykuł [TUTAJ](#) | Audio Replas OPT-30HG-SC/PL HR Quartz, recenzja [TUTAJ](#)
- **Element antywibracyjny:** Audio Replas CNS-7000SZ/kabel sieciowy, recenzja [TUTAJ](#)
- **Izolatory kwarcowe:** Acoustic Revive RIQ-5010/CP-4
- **Pasywny filtr Verictum X BLOCK**

SŁUCHAWKI

- **Wzmacniacze słuchawkowe:** Bakoon Products HPA-21, test [TUTAJ](#) | Leben CS300XS Custom Version, recenzja [TUTAJ](#)

SYSTEM B

- Gramofon:** Pro-Ject 1 XPRESSION CARBON CLASSIC/Ortofon M SILVER, test [TUTAJ](#)
- Przedwzmacniacz gramofonowy:** Remton LCR, recenzja [TUTAJ](#)
- Odtwarzacz plików:** Lumin D1
- Wzmacniacz zintegrowany:** Leben CS-300 X (SP) [Custom Version, test [TUTAJ](#)
- Kolumny:** Graham Audio LS5/9 (na oryginalnych standach), test [TUTAJ](#)
- Słuchawki:** Audeze LCD-3, test [TUTAJ](#)
- Interkonekty RCA:** Siltech CLASSIC ANNIVERSARY 550i
- Kable głośnikowe:** Siltech CLASSIC ANNIVERSARY 550i
- Kabel sieciowy (do listwy):** KBL Sound RED EYE, test [TUTAJ](#)
- Kabel sieciowy:** Siltech CLASSIC ANNIVERSARY SPX-380
- Listwa sieciowa:** KBL Sound REFERENCE POWER DISTRIBUTOR, test [TUTAJ](#)
- Platforma antywibracyjna:** Pro Audio Bono

LAN-1.0 PA (kable) | RLI-1 (filtry), recenzja [TUTAJ](#)
- Router: Liksys WAG320N
- Serwer sieciowy: Synology DS410j/8 TB

System II

- **Kable sieciowe:** Harmonix X-DC350M2R Improved-Version, recenzja [TUTAJ](#) | Oyaide GPX-R v2, recenzja [TUTAJ](#)
- **Listwa sieciowa:** KBL Sound Reference Power Distributor (v2), recenzja [TUTAJ](#)

- **Słuchawki:** Ultrasone EDITION 5, test [TUTAJ](#) | HIFIMAN HE-6, recenzja [TUTAJ](#) | Sennheiser HD800 | AKG K701, recenzja [TUTAJ](#) | Beyerdynamic DT-990 Pro, wersja 600 Ohm, recenzje: [TUTAJ](#), [TUTAJ](#)
- **Standy słuchawkowe:** Klutz Design CanCans (x 3), artykuł [TUTAJ](#)
- **Kable słuchawkowe:** Forza AudioWorks NOIR, test [TUTAJ](#)

CZYSTA PRZYJEMNOŚĆ

- **Radio:** Tivoli Audio Model One