TEST

USB DAC/line preamplifier/phonostage + USB cable + active loudspeakers
Alpha Design Labs GT40 + Furutech GT2-B + Dynaudio Focus 110A

Price: 1850 zł + 440 zł + 6690 zł (pair)

Polish distribution:
RCM | e-mail:(ADL+Furutech)
Eter Audio | e-mail:(Dynaudio)

Country of origin: ADL/Furutech: Taiwan/Japan | Dynaudio: Denmark

WWW: ADL/Furutech | Dynaudio

Text: Wojciech Pacuła
Pictures: Wojciech Pacuła
Translation: Krzysztof Kalinkowski

This is a different test than most others available on "High Fidelity". Usually we deal with individual products trying to show their assets and weaker points. In such tests it is important to extract such a component from its context and show it as it is, and not in combination with flaws of accompanying devices. This is why such texts are made with expensive, as "transparent" as possible products I have available, and placing the tested components in a system as it would be composed in reality is only a supportive element, not a basic one. I think that this methodology is clear and does not need to be defended. It allows for repeatability of the tests and comparable results even in longer time periods.

But this issue of High Fidelity is different. Although the rules for testing did not change, tests of complete systems became more important to us. The basis for this test is a device from the brand Alpha Design Labs, created by Furutech to sell inexpensive devices made in a Taiwan factory as OEM stuff. GT40 we are talking about is a very unusual piece of equipment – it is a combination of FOUR different devices in one slim box: an USB DAC, line preamplifier, phonostage and headphone amplifier.

Like I said, the GT40 is the heart of the tested system. The signal can be supplied by an USB input, here we used a USB cable Furutech GT2, or RCA inputs on line

or phono level. There are two output modules, a line and a headphone one. To the latter we connected active loudspeakers Dynaudio Focus 110A. In this way we created an ultra compact, incredibly versatile system, destined to be used in small offices, bedrooms and, most of all, in high quality computer sound systems. It is not cheap, but taking into account results of the listening tests, it defends itself well against this accusation.

SOUND

For the test I used the files prepared for the experiment made during the Krakow Sonic Society meeting – those were described HERE.

Also the following discs and files were used:

- Billie Holliday, *Songs For Distingue Lovers*, Verve/Classic Records, One-sided, 2 x 180 g, 45 rpm LP.
- Brian Eno, *Craft On A Milk Sea*, Warp Records, WAV 24/44,1.
- Cassandra Wilson, *Silver Pony*, Blue Note, 29752, CD;
- Chris Connor, *Witchcraft*, Atlantic/Warner Music Japan, WPCR-25166, CD.
- Clifford Brown and Max Roach, *Study In Brown*, EmArcy/Universal Music K.K. (Japan), UCJU-9072, 200 g LP.
- Depeche Mode, *Fragile Tension/Hole to Feed*, Mute Records, 12BONG42, 2 x 180 g, maxi-SP LP.
- Depeche Mode, *Ultra*, Mute, DMCDX9, Collectors Edition, CD+DVD.
- Dominic Miller, *November*, Q-rious Music, QRM 114-2, 2 x 180 g LP.
- Frank Sinatra, *Sinatra&Sextet: Live in Paris*, Reprise/Mobile Fidelity, MFSL 1-312, No. 238, 2 x 180 g LP;
- Frank Sinatra, *The Voice*, Columbia/Speakers Corner, CL 743, Quiex SV-P, 180 g LP.
- Freddie Hubbard, *Open Sesame*, Blue Note/Audio Wave, AWMXR-0012, XRCD24.
- Harry Belafonte, *Belafonte at Carnegie Hall*, RCA/Sony Music, 7783322, LPCD-M2 Mastering, No. 0953, HQCD.
- Jim Hall, *Live!*, Horizon/A&M Records/Universal Music Japan, UCCM-9225, CD.
- Suzanne Vega, *Close-Up, Vol 1. Love Songs*, Amanuensis Productions/Cooking Vinyl, COOKCD521, CD.

Japanese versions of the discs available on CD Japan.

A test of such a versatile system, composed of so many elements is not an easy task. To make it good I took on the following methodology:

- test of the GT40 as a headphone amplifier (line input),
- test of the GT40 as a line preamplifier,
- test of the GT40 as an USB DAC with a line preamplifier (+ power amp),
- test of the GT40 as a MC phonostage and line preamplifier (+ power amp),
- test of the GT40 with the Dynaudio Focus 110A (and Furutech GT2-B).
- **GT40 USB DAC as a headphone amplifier (line input)**

  As usual, the listening session of a headphone amplifier depends much on the used headphones. This dependency is – in my opinion – even more pronounced that the dependency between the power amplifier and loudspeakers. Because I own a few different headphones, with various impedances, construction and sound I always try to base my opinions on some kind of extract using them all. However I always need to have some reference point. For me, here and now, this reference point is the Sennheiser HD800 headphone.

  With those headphones the ADL amplifier sounded clean, in an open way and with good dynamics. We could immediately hear, that no one wanted to imitate a tube, but rather a maximally uncolored sound. And I think they succeeded in 100%. I rarely encounter headphone amplifiers, which would show the small differences between pressings, re-masters or flaws in recordings. Let us take for example the disc *Close-Up. Vol 1, Love Songs* Suzanne Vega – her voice got clipped in a few pieces. Was it due to a too deep compression during mastering, or already in the studio – I do not know. But I do

know that this can be heard as a slight hoarseness in louder passages, something that makes the vocals flat. This is not always so unanimous, getting lost within other problems of a device. Here it was not the case – everything was clear and certain.

If I would point to something, then it would be the slightly too light character of the sound. Bass was well controlled and resolved, but there was too little of it in connection with the HD800. And with Depeche Mode*Ultra* (a propos – I just got fooled – I wanted to save some money and bought cheaper a Taiwanese version Collector's Edition – don't do that: there is no plastic cover in that version, and the CD is just a CD and not a hybrid SACD. And it was pressed in the Polish Takt factory…), with *Open Sesame* Freddie Hubbard it was light. The same, but in the lower midrange, could be heard with the disc *Live!* Jim Hall, who's guitar was nicely placed in space – this is a strength of this device – and was brilliantly shown in terms of texture, but was not as deep as it should be.

This is why I changed the headphones. A splendid partner for the ADL were the planar headphones HiFiMAN HE-4, which lowered the tonal balance and confirmed the brilliant clarity of the treble. The midrange got filled and gained three-dimensionality. But there was a problem with the low efficiency of those headphones. With most material it will be OK, but with quieter CDs, like *Live!* Jim Hall, only putting the volume at maximum resulted in satisfactory loudness. But there started also the problems with compression and clipping.

And again, similar to the HiFiMAN EF-5 amplifier, the golden middle turned out to be the AKG K701 headphones. This does not mean, that no others will sound well. It is just that this amplifier needs to be partnered by low impedance and high efficiency headphones – ADL does not like 300 Ω and 600Ω units (like Beyerdynamic DT990 Pro), but it does also not like to be too loaded (I mean efficiency). With the AKG I had a very good tonal balance and the lower midrange was saturated. Also in this case the strong treble of the amplifier was heard, but it did not disturb anything, because AKG rounds it a little – this is a splendid combination!!!

- **GT40 USB DAC as a line preamplifier**

Here a total surprise and full respect… Plugging a multifunction device costing 1900zł into a system, where it replaces a preamplifier costing 80000zł (with the power cable) may cause a headache, and often does. Not this time – the Furutech has lower resolution, dynamics, three-dimensionality, it is just much worse, but it serves the sound in such a way, that it does not hurt. Most of all it keeps the same tonal balance as the Ayon Polaris III. This is a slightly warm, deep sound. It does not imitate a tube, but in a certain sense it sounds in a similar way. The more, that it has strong lower bass – such well led contrabass, and with such a strong kick on the lower octaves, I did not hear for a long time, regardless the price! And it has a splendid dynamics – really splendid. From this time this unit is for me the reference point for line preamplifiers below 10000zł. Point. The thing, in which the best tube amplifiers at this price beat the ADL, is the scale of the sound – here everything was slightly smaller and condensed on the listening axis. This is not a bad sound, like I say this is a splendid preamplifier, but a good tube preamplifier costing about 10000zł can sound with a more natural sound, having breath, scale, etc, closer to what we can hear live. But anyway – bravo!!!

- **GT40 USB DAC a line preamplifier + USB DAC**

The USB DAC built into this device is characterized with high resolution (subjective – I am not talking about the parameters of the unit) and differences between 16 and 24 bits or 44.1 and 96 kHz were clear. "Dense" files sounded calmer and had better timbre. With CD quality files ADL accented treble, what will not work well with all power amplifiers and loudspeakers. This is a clean, precise sound, but 24/96 files sounded much calmer and had better midrange and bass. The latter is strong and forcible, but with CD not as full, as when the device worked as a preamplifier.

But whatever we say, this is a very good DAC. It is not as saturated and "analog" (I am sorry for the generalization), like the KingRex UD-1 protested last month, but the upper midrange and treble are better differentiated and clearer, especially with 24/96 files.

- **GT40 USB DAC as a phonostage**

  Although for many of you this can be only a side feature of the unit, but in my opinion, the GT40 could justify its price with its analog side only – phonostage and line preamplifier (let me remind you, that in this case we cannot separate the phono input from the subsequent sessions – line preamplifier or the headphone amplifier). The phonostage amended the line part nicely, because it has a similar sound. I made the listening sessions mostly with the Denon DL103SA (MC cartridge), which I use as a reference point. The cartridge was mounted on the Music Hall mmf2.2wh turntable. This was a strong, quite low placed sound with a very nice timbre. The resolution was overwhelming, but it did not leave and aftertaste – it just cannot be done better for the money. With a more expensive turntable (Transrotor Rondino) the sound opened and resolution improved. I do not think, that owners of the Rondino would like to have a look in the direction of the GT40, but you should keep in mind, that such a combination is not a big misalliance as one might think.

- **GT40 + Dynaudio Focus 110A + Furutech GT2-B**

  After a few days of listening to that system, working at my computer, which was sending the signal to the GT40 (near field listening, the loudspeakers on the computer table), as well as in normal conditions, meaning half-near field I have already a feeling what this system can, and what cannot do. Listening to files, especially the high resolution ones, but not only them, is very comfortable. The Focus 110A, because this is mostly about them, sound with a slightly delicate sound in the top range. I mean, that everything between loudspeakers is three-dimensional, vivid, but without drawing saturated shapes. This is not a light sound, as we understand it from classic, passive, loudspeakers.

When in the recordings of the newest Brian Eno album *Craft On A Milk Sea*(24/44,1) low, massive bass enters, the loudspeakers play it with surprising easiness, going much lower than I would expect from such small loudspeakers. The same thing was with the 24-bit rips from Depeche Mode DVDs – when there was fleshy bass then I got fleshy bass.

But physics laws are also valid here. The trick to get such a sound is to slightly thin upper bass, where usually we get a significant pressure, requiring lots of power. With the Dynaudio we cannot hear this flaw, but rather a change of the tonal balance in the direction most listeners would like. The voice of Cassandra Wilson

from *Silver Pony* was not as nasal as on my regular system, although it is recorded just like that, for sure. On the other hand, most commercial, mass recordings sounded brilliant – with breath and fullness.

In general, after plugging in the system, the first thing we hear, is that the sound is absolutely not bound to the speakers. To get this effect we have to spend a while on positioning them – it is worth to uncouple them from the ground in some way, and setup in such a way, that the tweeter would not fire directly at the ears, but a little beside. The best height of the ears versus the loudspeakers is, when they are at the level of the midwoofer or a little below them. The voices are then a bit more massive and more coherent. Loudspeakers placed that way disappear completely. We often overuse this statement, while there is a gradation in this "disappearance". Here it is almost complete, and when an instrument is recorded in one channel only, like the contrabass in jazz recordings from the 50-ties, then the loudspeaker "appears", due to a lower volume of the sound than a contrabass should have.

Positioning the loudspeakers we could not forget about the switches on the back plate. Placing them close to the back wall it is best to set the bass and midrange to 0dB, or take a little the bass off. I would propose to take also something off the treble, because in the near field nothing absorbs it and the sound gets too bright. Adding to this the strong sound of the GT40 in that area and there could be too much of the treble. We could also think about plugs for the bass-reflex ports – on some recordings, with loud volume, bass, usually very low and fleshy lost control, as if the loudspeakers would overact. We have to force them to do it, with special recordings and sound levels, but it is a potential problem.

This because this inexpensive system would easily be used in a small (home) recording studio. And aided by a subwoofer it would be a perfect tool. The Furutech DAC shows differences in recordings well, also the word length, etc, confirming its good resolution. And this alone, together with a nice timbre of the loudspeakers is enough to recommend the system.

Summary

GT40 USB DAC by Furutech (this is the full name) is a brilliant combination of many devices. You will not get an equally good preamplifier for this money, not even mentioning a phonostage. Equally good is the headphone amplifier, under the condition of not loading it with high impedance and low efficiency. The USB DAC is also very interesting, with very good resolution and dynamics. It may sound a bit too bright with CD rips, so it is worth to correct that with settings in loudspeakers (absolutely not in the EQ of the computer!!!). It shows nicely the superiority of the 24/96 files, which are played in a calmer, more open and dynamic way.

The GT40 shows its rough side in a system. Already earlier, driving a 150000zł poweramp Tenor Audio 175S its showed, that the line preamplifier section is brilliant in it. So it is not strange, that the Focus 110A were so happy with that signal. This combination is fantastic. The loudspeakers absolutely disappear from the equation, leaving us alone with the sound. This is of course not ideal, sometimes it lacks saturation of lower midrange and the lower bass can "escape" the control of the amplifiers, but you get one thing for another. Dynamics is overwhelming, similar to the extension of the bass. An instant studio? Why not – just add a computer and a turntable and many "audiophile" and "purist" systems will be intimidated…

DESCRIPTION

GT40 USB DAC by Furutech

The Furutech DAC, sold under the ADL brand (Alpha Design Labs), is manufactured in a Taiwanese factory. This makes it much cheaper, than it would be carrying the Furutech brand. This is a combination of the following devices in one, slim cabinet:

- a line preamplifier
- headphone amplifier
- MM/MC phonostage
- DAC

Taking into account the complexity of the device it is not a surprise, that Jerold O'Brien titled its review *Better Than a Swiss Army Knive!*, what describes also my impressions (Jerold O'Brien, *Better Than a Swiss Army Knive!*, „Tone Audio", No. 34, December 2010, s. 40-45; internet magazine, available HERE).

In the front we have a nicely milled, steel knob and a precise scale. The knob is used to regulate the volume in the headphone amplifier and on the stereo RCA output. In the middle there is a headphone socket "big jack" (6.3mm diameter). To the left are two transparent buttons – the blue lit one switches the unit on and off, while the other lights red when the unit analog input is active, and green when the USB input is on.
On the back we have fantastic RCA Furutech FP-900 sockets, a small switch that switches between a line input, MM or MC phono input. There is also a USB (type B) socket. We can feed it with a 24 bits 96kHz signal. The DAC does not handle 192kHz. Next to it there is the earth terminal (for the turntable) and a 9V AC power input socket supplied by a wall wart transformer.

While unbolting the unit, we can see, that it has a splendid, rigid enclosure, made from aluminum molds and flats. The circuit is split between one big, and a few smaller PCBs.
The inputs are soldered into a small PCB with a switch and two stereo chips 2068, which are a part of the complete phonostage, built almost exclusively in SMD. From there we get to a small, open Soundwell potentiometer. Behind it we have another two 2068 chips. Near the headphone socket (gold plated) we see a bigger chip – this is a small power amplifier NJM4556 JRC powering the phones. Those are coupled using small Elna capacitors. Alternatively the signal can run to the line outputs (plugging in the headphones blocks them – this explains the relay next to the socket), and at the end we see further 2068 chips.
As you know, the GT40 can also work with USB signal. This input uses the Taiwan chip Tenor TE7022 – exactly the same as used in Ayon Audio players (for example in the CD-2s), or Stello (DA100 Signature 96/24 USB). This is a receiver/interface USB 2.2 Full Speed 24/96. It works here in the classic adaptive mode, not an asynchronous one. On the PCB we can see two more Tenor chips – TA1200 and TA1100. Those are 24/96 DACs with headphone amplifiers. Why two? I do not know... Maybe one is for the headphone output, and one for the line output. On the PCB there are traces for an S/PDIF input and output, transformer buffered – here the place was empty.
The power supply circuit is mounted on a separate PCB placed upside down. There is a single rectifying bridge and two different power supply lines with stabilizers.

Technical data (according to manufacturer):

- USB input: 24 bits/96kHz (also 16 bits/32kHz/44.1kHz/48kHz)
- Frequency response: 20Hz-20kHz (96kHz: 40Hz, +0.5dB; 32kHz: 15kHz, -0.5dB)
- S/N ratio: -90dB (A-wtd)
- Output voltage: 1V rms
- Input sensitivity: MC 0.4mV/MM 5mV/line 1V
- Gain: 62,5 dB/MC; 48,5 dB/MM
- Input impedance MM/MC: 47k Ω
- Headphone output (max.): 80mW/32 Ω
- Dimensions: 150 (W) x 111 (D) x 57 (H) mm

- Weight: 785g

Manufacturer:

Furutech Co., Ltd.

Head Office: 3F, 7-11-1 Nishi-Gotanda, Shinagawa-ku

Tokyo 141-0031

Japan

http://www.highfidelity.pl/@main-176&lang=en