





ULTRA OCXO CLOCK

Pink Faun

2.039 GHz (500 MHz)
Version 4.9
ID: Pink Faun 2021
Pink Faun GmbH

Clock

Pink Faun
1 A aM

Pink Faun

Or: probably the ultimate streaming device for people who have previously had nothing to do with this technology.

For Fans from Fans

The name Pink Faun is probably only familiar to a few people in the German-speaking countries.

But in the Benelux countries and especially in the Netherlands, the brand has been a fixture for ten to fifteen years. The history of this company began when Mattijs de Vries set up his own business, alongside following a course of applied physics at the University of Twente. Amongst his activities he also designed a simple but excellent-sounding preamplifier called the Minion, which only had a double triode for voltage amplification; From the outset the inventor relied on field effect transistors (FET) for the current. After successfully completing his degree - with a dissertation on power supplies (for the audio sector, of course) - de Vries joined forces with Clemens Huijding to open the Triple M Audio Shop in Rhenen in the building where Pink Faun is based today. The company initially became known primarily for modifying audio equipment of almost all brands, as de Vries was able to "familiarise" himself with circuits very quickly and to identify production-related compromises and developers' blind spots.

Over time extensive stocks of high-quality components from old inventories proved extremely helpful. I also had many of my devices upgraded there, which turned out to be an unbeatably cheap alternative to buying anew equipment by trading-in my old ones. Gradually there arose a portfolio of self-developed devices under the brand name Pink Faun. In addition to different variations on the Minion theme, these were initially very small editions of exotic products. There were also "toaster format" single-ended-triode amplifier (similar to those from Thöress) with 300B and 2A3 power tubes, a preamplifier that was based on a directly heated triode, fully active horn loudspeakers and even a CD player. Compared with these, the class D integrated amplifiers and power amplifiers and D/A converters in various stages, all in a half-width standard housing, were "mass-produced". In addition, there was a large cable programme, all of which was (and still is) produced in-house, and based on a non-inductive, tinned copper wire produced by extrusion. An outstanding price-performance ratio meant that Pink Faun rapidly estab-



lished itself on the Dutch market. As for the range of loudspeaker boxes offered in the shop, most of these were based on ideas by Clemens Huijding: slim columns equipped with Accuton ceramic drivers, whereas the columns designed by de Vries like the Retro, with their large-format paper cones and compression chamber drivers, were more like classic professional monitors. A large horn system, actively controlled by a six-channel power amplifier, was once Pink Faun's reference loudspeaker (and is still used as such in our own listening room). De Vries also moved slowly but steadily in the direction of the professional sector. At the same time the development team was expanded to include the young digital specialist Jord Groen and, in addition to its digital-analogue converters, it began designing its first streamers and multi-channel audio decoders. Towards the end of the last decade the sharp rise in demand for Pink Faun equipment made it increasingly difficult to run a shop alongside production became increasingly difficult; in addition, Clemens Huijding had to retire at around

the same time for health reasons. Thus the fate of the Triple M Audio shop was sealed. I still miss him a lot, especially the chats we had together about technical contexts and possible modification and construction projects.

The remaining stocks of devices were sold off, de Vries' new company Pink Pro devoted itself solely to the professional sector, and Jord Groen became the sole owner and chief developer of Pink Faun. For capacity reasons, the company's programme programme has since been limited to digital devices and cable, which means that the team is more than more than fully stretched already.

Today, in addition to cables - where the range has also been streamlined to concentrate on the highest-quality product lines - its portfolio consists of just one other product: the streamer 2.16 ultra, which is presented here. Like its predecessors 2.16 and 2.16x, it has a modular design: Customers can choose from various combinations of output cards (bridges which represent the interface to the digital-analogue converter), and internal data storage



Proudly Designed &
Handmade in
The Netherlands



STREAMER 2.16 ULTRA

serial no: **pa4 113a**

voltage: **230V**



network 1 - 2
data 1 - 2



AES/EBU out

Digital interface

MSI





Previous double page:

The 2.16 ultra has a modular design, giving you the choice between different bridges (interfaces) for USB, AES/EBU, I²S and S/PDIF. These are also available for home-built equipment on a PC basis, whereby clock generators ("clocks") in three quality levels (TCXO, OCXO and Ultra OCXO) are available. Three large toroidal transformers and a whopping 800,000 microfarads capacity are available to the separate linear power supply units for each individual component; The 12-core 24-thread processor is powered by the copper tubes (top in the picture) passively cooled with liquid. Our test sample included a standard Pink Faun Ultra Power-cord (2 metres, 3750 euros)

Right: The motherboard is protected by its own insulation platform with an extremely rigid honeycomb structure to protect it from resonance

devices, and can also have these retrofitted or replaced. Depending on the equipment, the price of the streamer ranges from around 20,000 to well over 25,000 euros (whereby the latter amount can even be twice as much, more on this below). While the original 2.16 model and its successor 2.16x could be purchased as pure streaming transporters without internal memory, the 2.16 ultra comes with a 1 terabyte SSD as standard. Whereas the two predecessor models could be equipped with a maximum of 8 terabytes of memory, the 2.16 ultra offers a whopping 24 terabytes. A device equipped in this way can play music in three different ways: as a network streamer via LAN connection from online sources like Tidal, Qobuz or YouTube (without an image); via a connection to a network-attached storage (NAS) for audio files, or from its internal memory, which has previously been filled by a computer with the corresponding files. In the former case, the files are first loaded completely into the streamer's working memory before the music starts to play.

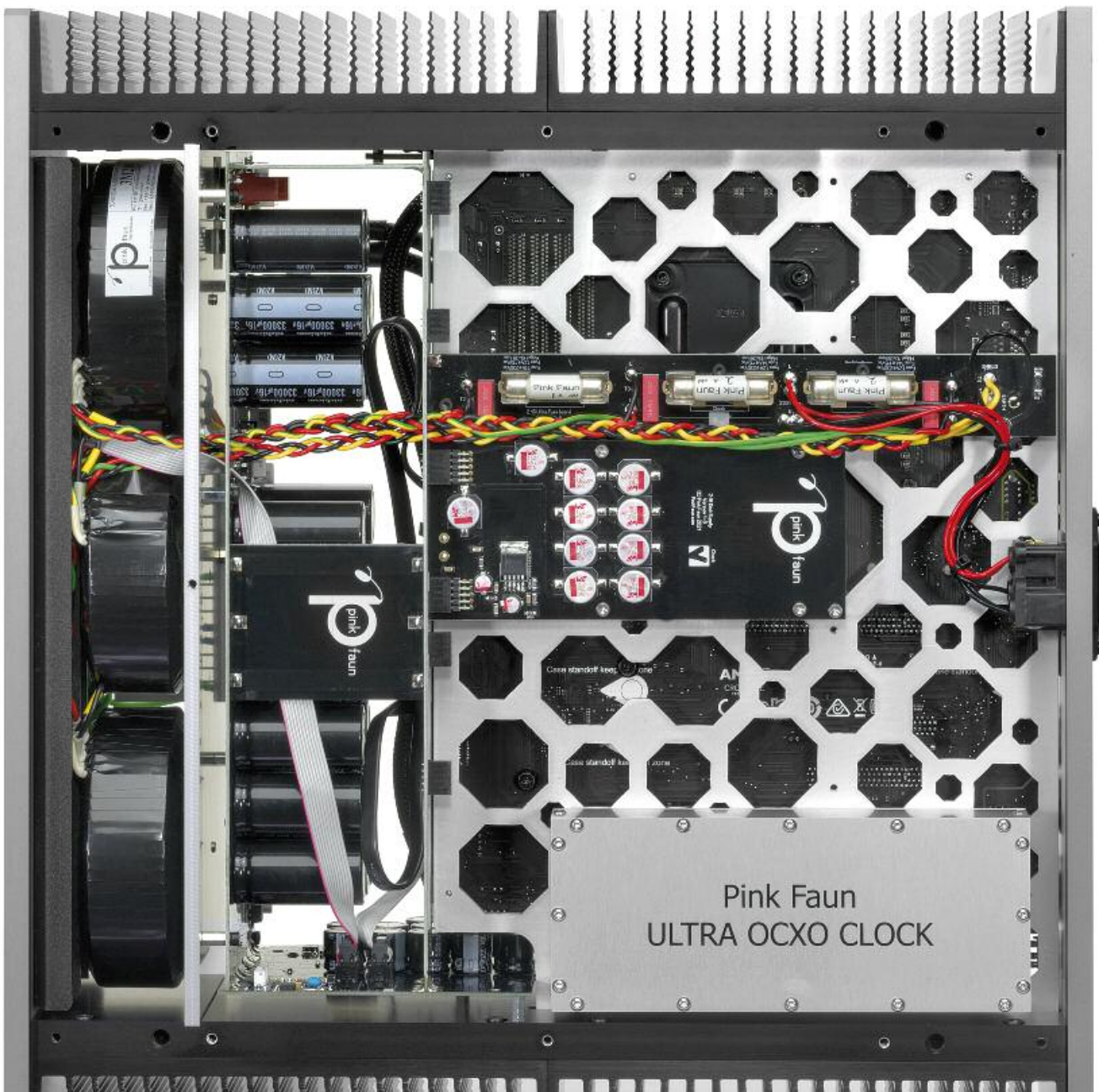
The streamer is housed in a solid casing that has been designed for maximum torsional rigidity and resonance control and, thanks to this, the device could easily pass for a high-end power amplifier; also because there are no controls on the front apart from a large on/off switch in the centre. Nor does the device have any volume control or headphone output (apart from a D/A converter and a CD drive). What the Pink Faun 2.16 ultra offers is pure streaming. This goal had already been pursued with the 2.16 model with a kind of obsession that is probably unrivalled. That said, the new Ultra version - which, after more than 15 months of development, is de facto not simply a refinement of the 2.16 and 2.16x, but a completely new device - is on another level in this respect. Incidentally, there is still considerable demand for the older models, which cost upwards of 10,000 euros. That's why Pink Faun accepts them as trade-ins when you buy a 2.16 ultra. The team checks them, makes a few improvements here and there, updates the software and offers them for sale again. There is now a waiting list for such "factory refurbished" streamers.

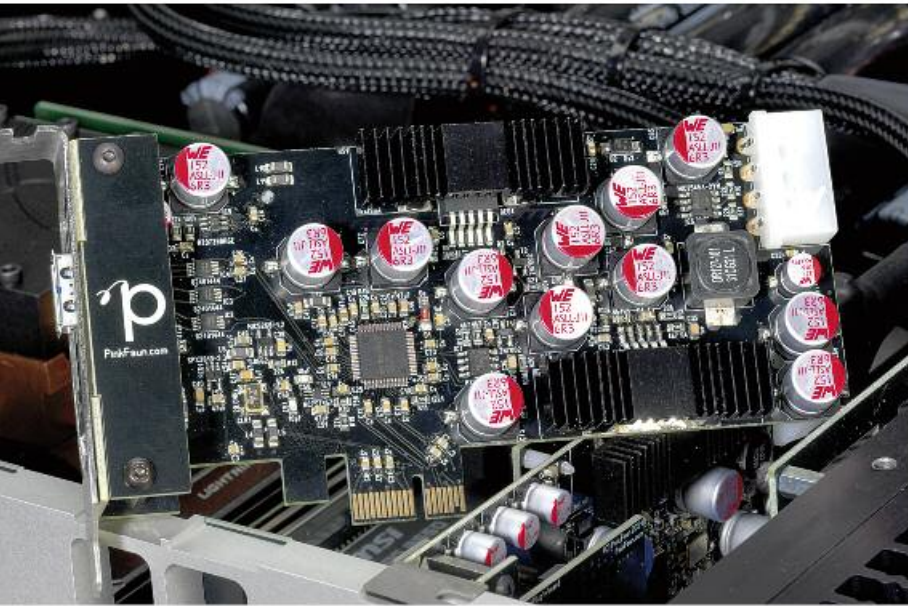
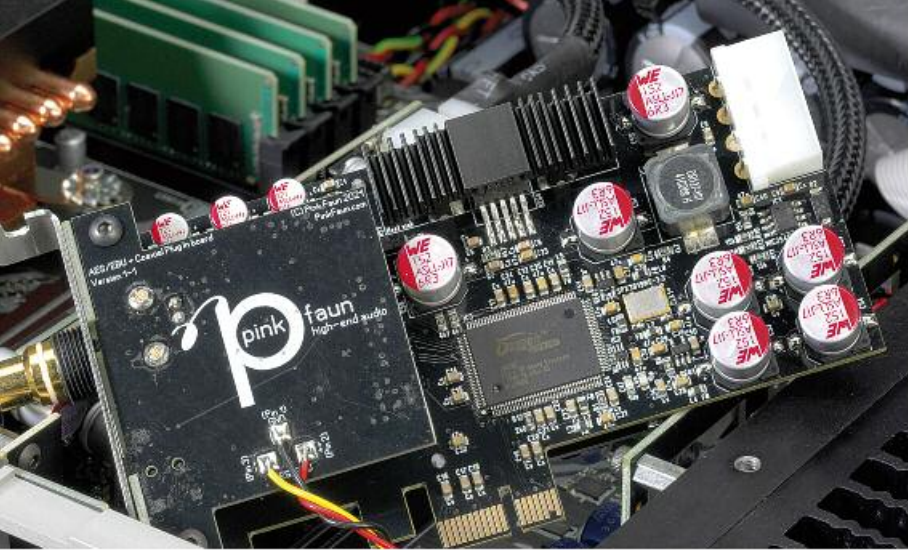
Now let's take a look at the power supply. The 2.16 already had separate power supplies for the processor, main board, SSDs and digital outputs, all linear of course, fed by three shielded toroidal transformers and a large circuit board that provides an incredible 800,000 microfarads of capacitance from a collection of high-quality Nichicon capacitors that would make almost any power amplifier green with envy. The "ultra" model also has so-

called supercapacitors with a total of 10 farads (!). This largely explains why a pure streaming device is delivered in a large wooden crate, resulting in a gross weight of 40 kilograms. Without the box, the device still weighs 30 kilograms. Power consumption and heat development - all Pink Faun streamers are passively cooled by liquid rather than fans - are on a par with a conventional class AB transistor

amplifier. Incidentally, Pink Faun doesn't make too much of a fuss about the pure performance data, which already seems utopian for a streaming transporter; the manufacturer makes a point of stating that every element built into the power supply units only became part of the final specification after extensive listening sessions.

The housing of the 2.16 ultra has been improved





once again: here the exposed cooling fins of the 2.16 and 2.16x are integrated into the frame, and the cooling has also been revised after thorough analysis. The motherboard with the processor is placed on an extremely rigid insulation platform with a honeycomb structure. For the first time, there is also a shielded area for the in-house Ultra-OCXO clock generators - the best ever developed by Pink Faun, which in turn have separate power supplies. The phase noise of this clock generator is even lower than that of the other two models. At the heart of the streamer is a 12-core 24-thread processor. The 2.16 ultra has a web-based operating system called Pink Faun Stylus, which has been specially customised for this device in collaboration with the Zagreb-based company Euphony Audio. Ideally, a tablet or laptop should be used to operate

Above: Pink Faun may be a small series manufacturer (all appliances are built and configured to order by a small team in the Dutch town of Rhenen). The design and assembly of the individual boards meets the highest industrial standard. The picture shows the AES/EBUS interface ...

Centre: ... and the input board for the network cable

Below: More than adequately installed and cooled: the 12-core 24-thread processor

the unit, but it can also be used with a mobile phone if necessary, although in this case Jord Groen advises against this due to its limitations in terms of user-friendliness. Incidentally, you don't necessarily need to control the streamer via Wi-Fi. It also works directly from a computer irrespective of whether this happens to be Windows, macOS or Linux.

As soon as the Pink Faun is connected to the home network via WLAN (in my house, a somewhat older Fritz!Box is the hub of all network devices), it is assigned an IP address. The Euphony launch page is then called up on the Internet, via which it is connected to the network using the address. Depending on the nature of the home or office network (in this case the image-hifi listening room), this procedure may take some time. The streamer can then be operated via Pink Faun Stylus from all end units in the network. If anything goes wrong, a single phone call to Rhenen is usually enough, as Jord Groen can take a look at the device from his workplace and make changes "over the air" if necessary. As in my case, when I connected the 2.16 ultra

Players

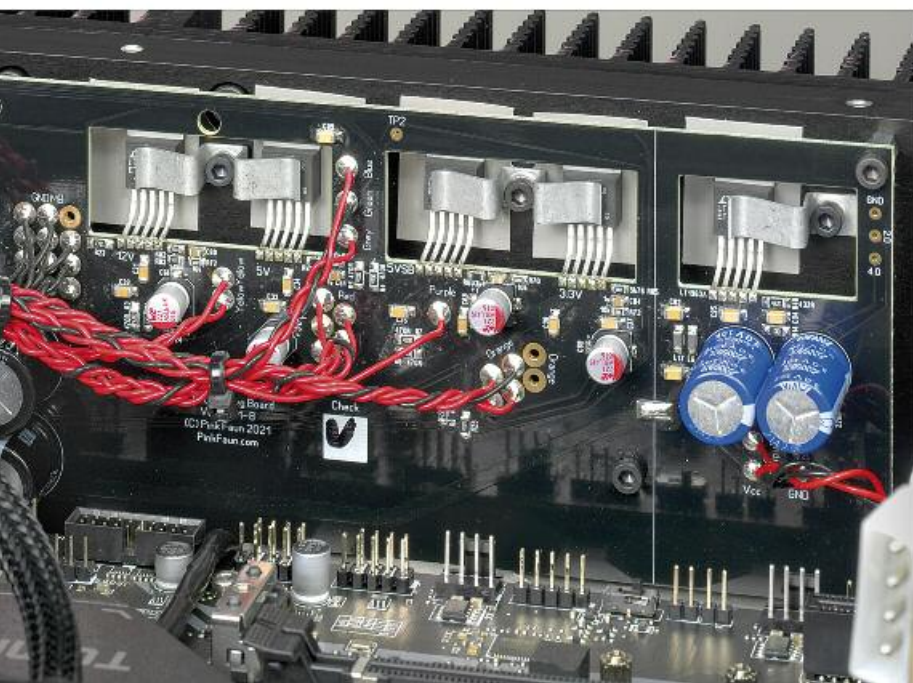
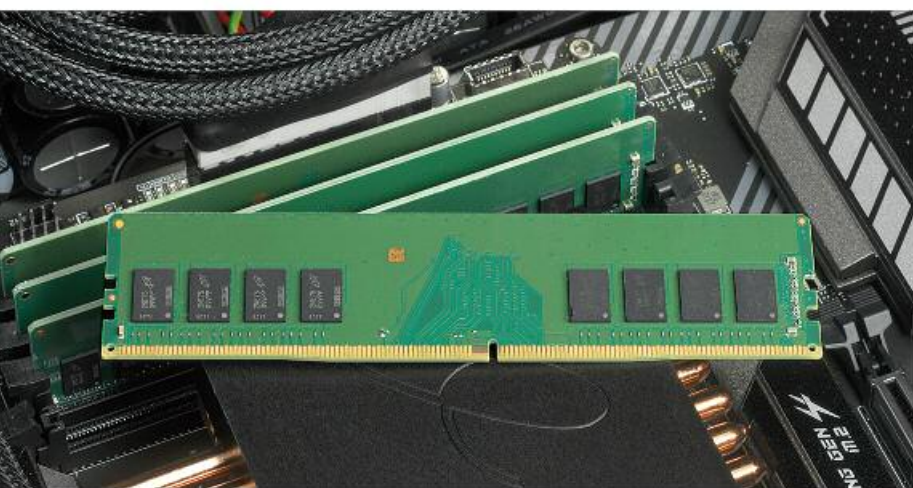
(*image hifi* listening room)

Turntable: Acoustic Signature Typhoon NEO **Tone arm:** Acoustic Signature TA-5000 NEO **Pickup:** Miyajima Takumi L Phono amplifier: Gryphon Orestes **CD Player:** Audio Note CD 3.1x/II Streaming transporter: Lumin U2 **D/A converter:** Audio Note UK DAC 3.1x NL Signature (2003, from Triple M Audio Shop/Pink Faun strongly modified), with permanently connected AES/EBU output cable Pink Faun IL-1 sym; Line Magnetic LM-32DAC **Integrated amplifier:** MBL N51 **Pre-amplifier:** Avantgarde Acoustic XA PRE, Phasemation CM-2200 **Power amplifier:** Avantgarde Acoustic XA POWER, Audio Note UK Quest 300B with AN-4300E power triodes **Speakers:** Avantgarde Duo GT, semi-active and fully active via built.in ITRON-Modul; Tannoy Stirling III LZ Special Edition **Equipment:** Geräterack Bassocontinuo Aeroline equipment rack F2, Audioplan Powerstar S3 power strip

Players

(at the reviewer's home)

Turntable: Acoustic Signature Challenger Mk3 with eight silencers in the turntable, two motors, two tonearm bases for 9"/10"- bzw. 12" tone arms; Lenco L75 (modified, with self-built case with oak frame, mounting plate made out of different layers of birch plywood (9/18 mm), okoumé (10 mm) and aluminium (1 mm), suspended on squash balls); Rega Planar 3 **Tone arm:** Acoustic Signature TA-1000, Reed Series L (Tone arm tube Wenge, newly wired with C37 Finewire silver cable), Rega RB 220 **Pickup:** Miyajima Takumi L, Ortofon SPU Royal N, Hana ML, Acoustic Signature MCX3, Denon DL- 160 **MC-transformer:** Audio Innovations Series 800 (modified: fixed, elaborately configured output cable, grounding) **Phono stage:** Allnic H-1500 II SE, Acoustic Solid Phono **CD drive:** C.E.C. TL-5100 (heavily modified and permanently connected to the DAC bypassing the S/PDIF output with cable Pink Faun IL-1 sym) **D/A converter:** Audio Note UK DAC 3.1X NL Signature (heavily modified by Triple M Audio Shop/Pink Faun), Line Magnetic LM-32DAC **Pre-amplifier:** Pink FaunTube Pre (modified as required) **Power amplifier:** Audio Note UK Quest 300B (mid-range) with standard- und Audio-Note-4300E power tubes; Welter EbIII (high frequency range), heavily modified, with TJ-Full-Music-2A3 power tubes and specially wound power transformers in separate housing **Integrated amplifier:** Rotel RB-570, Copland CSA28, PTP Audio Blok20 **Speakers:** Avantgarde Acoustic Duo XD, modified and fully active according to the Dedicated SETprinciple (specially designed for single-ended triode amplifiers with low power and minimal damping factor), power amplifiers with a bandwidth adapted to their range through correspondingly smaller coupling and output capacitors in the high-frequency output of the pre-amplifier, DSP corrected low frequencies according to room measurements (manufacturer's service); Dali Ikon 5 Mk2 **Cable:** NF-Kabel fastaudio, Pink Faun/Triple M Audio Shop, Wireworld, DIY LS cables DIY/Triple M Audio Shop, 47 Labs OTA 4708; mains cable ASR Magic-Cord, Avantgarde Acoustic, Furutech, Nordost Blue Heaven, Pink Faun **Equipment:** Titan Audio Ares power strip; second power strip from Rittal with Belden cable; Levar Twin record cleaner; Target and Rega wall brackets; Shure tone arm scales; various cones, spikes and and absorbers



to my relatively old but still excellent Audio Note UK D/A converter via its only remaining AES/EBU input and, after Groen had taken me on an extensive tour of the Stylus system from a distance, the pair played music immediately - and in a quality that I had never come close to experiencing over the network.

There were only a few songs where the DAC didn't emit any sound apart from clattering, whereupon the streamer usually shut down after a while with an error message via the user interface. I pondered for days about what could be the reason for this until I finally realised that these three or four tracks in my playlists were all 24-bit 192 kilohertz files. The processor in my Audio Note UK works at 18-bit, but can handle 24-bit files by down-scaling them to 18-bit. However, it is not capable of playing back more than 96 kilohertz. Unfortunately, some of my favourite songs are not available in lower resolution via Qobuz. Confron-

Above: The centrepiece of every signal-processing digital device: the clock generator - in this case the Ultra OCXO, the top model of the three "pacemakers" developed by Pink Faun

Centre: 32 gigabytes of RAM are available, to store individual tracks, albums or entire playlists before the playback begins

Below: Another part of the extremely complex power supply, located directly on the left heat sink

ted with the problem, Groen offered to change the settings so that the streamer only supplies the DAC with files with a maximum resolution of 96 kilohertz. It is not even necessary to send the device back to Pink Faun for this. As he assured me, any user of a Pink Faun streamer - regardless of the model - can avail themselves of this support. Even if you are not a reviewer for an audio magazine with a test device in front of you. Judging by the comments in the relevant forums, this doesn't seem to be an empty promise.

As a developer, Jord Groen does not fit the image of the average digital nerd who adheres to a linear model of progress and always assumes that better numerical values automatically lead to better sound results. Rather, he has been influenced by sound experiences with sometimes "old-fashioned" equipment like record players, single-tube amplifiers and high-efficiency loudspeakers. This becomes clear when you ask him about his favourite partners for processing the data from the Pink Faun streamer. Manufacturers like Audio Note UK, Lampizator and Aries Cerat are well in the lead. But (almost) regardless of which DAC was processing the data flow of the Pink Faun, its creators' background always shone through clearly when listening. I know it's a terrible cliché to talk about "analogue sound" with digital devices - but here it applies to a degree I've hardly ever experienced before. One technical reason for this could be that Groen has consistently designed his streamer for the "bit-perfect" transmission of digital data. Upsampling and other types of post-processing are not options here, even if they would allegedly achieve "better" results on paper. The fact that Groen, like the author of this article, generally favours digital-analogue converters that do not use oversampling clearly demonstrates a similarity between his philosophy and that of the developers of such equipment.

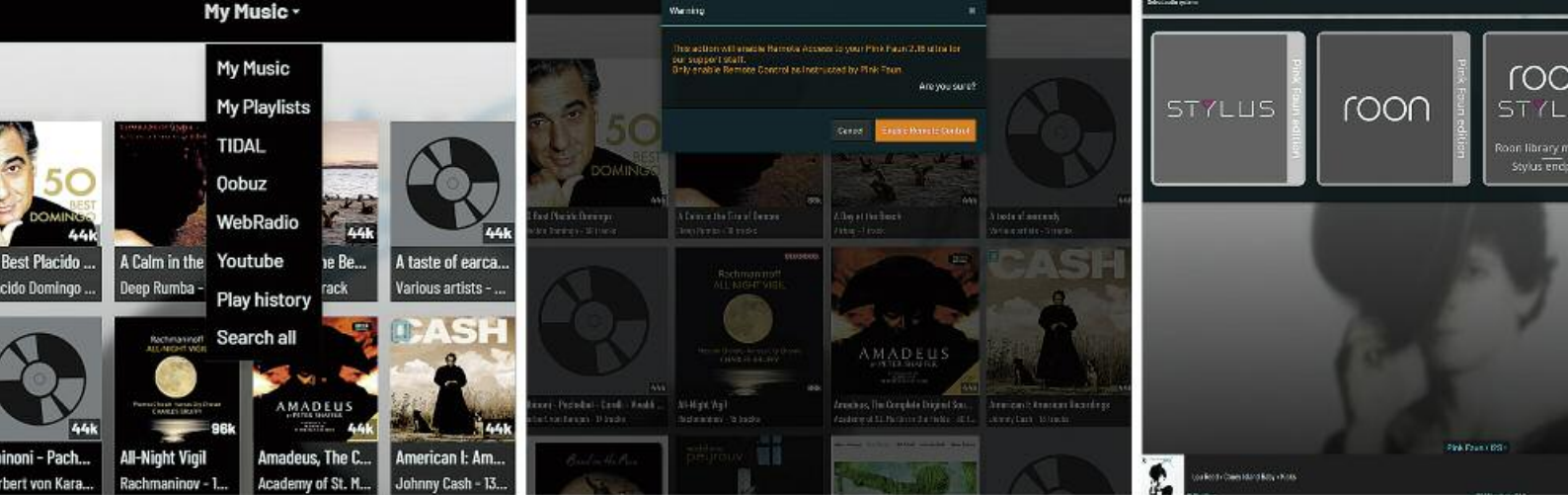
Before I go into more detail about the sound characteristics of the 2.16 ultra, however, I would like to point out a special feature that alone says a lot about the mindset of this developer and may fun-

damentally change the way we deal with streamed music. The Pink Faun Stylus operating system first loads individual songs, albums and playlists completely into RAM memory before they are played bit by bit - regardless of whether the tracks are selected directly or queued. This in itself has sonic advantages that are worth accepting the fact that you have to wait a few seconds before a track is played. But the "Play & Relax" function goes a big step further. Once the tracks to be played have been fully loaded into the RAM, the device is completely disconnected from the Internet - even if you now unplug the LAN cable, the music continues to play. However, this also means that from now on you can no longer intervene until all the tracks in the queue have been played, as the connection is only re-established afterwards. Even though Pink Faun went to great lengths during development to shield the streamer from interference from the outside digital world, the sound is even better without networking.

However, the biggest benefit of the Play & Relax mode is already indicated in the name: you can simply concentrate on the music without being distracted by any screen data or the temptation to quickly search for and listen to something else in between (also as opposed to an LP or CD, where it is still possible to select or skip individual tracks).

Speaking of connection: the operating instructions recommend plugging the device directly into a socket without a mains filter or any other type of mains power conditioning. For this purpose, the test device came with a 2 metre long Pink Faun Ultra Powercord cable, which contains several cable strands individually wrapped in PTFE tubes (polytetrafluoroethylene) as a dielectric and twisted into one another, and is equipped with the best plugs from Furutech's "Pure Transmission NCF Piezo Ceramic Series" and costs 3750 euros.

The Pink Faun 2.16 ultra may basically be a computer - and a very powerful one at that. But you would never guess it from its performance. The best way to tell is by the colour change of the LEDs

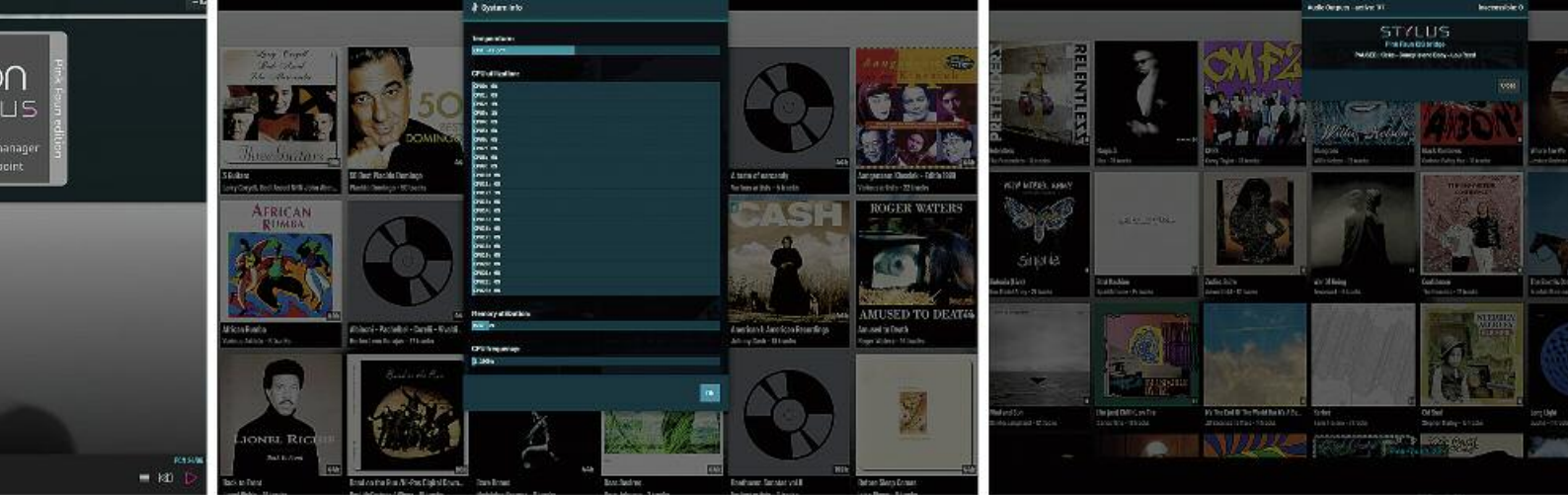


The graphic interface and user-friendliness of the Pink Faun Stylus operating system (a licensed, customised version of Euphony Stylus) leave little to be desired - as long as it is not operated via a mobile phone, but via a tablet or computer. Above all, the streamer sounds better with it than with Roon, which is also supported. Should a problem arise that cannot be solved quickly on site, you can hand over control to the Pink Faun technician in Rhenen at the touch of a button. Alternatively, you can also operate the streaming transporter with Pink Faun Stylus and use the Roon music library at the same time

around the on/off button, which indicates that the streamer is ready for operation. The colour then changes from pink-purple to white - from this moment on there is definitely silence. Once the Pink-Faun-Stylus system has found the hardware after (re-)connecting to the network, the whole thing runs absolutely smoothly. Apart from the aforementioned incompatibility of very high-resolution audio files with my older digital-analogue converter, which the streamer had nothing to do with, there were no failures during the extended tests. While our Internet table radio (connected to the smaller of the two systems via a jack plug) tends to lose its connection to the network, the 2.16 ultra played the same stations all day long without any dropouts between listening sessions. Even after it was connected to the fairly busy network in the publishing office, there was no cause for complaint. This should be a foregone conclusion, but unfortunately it is by no means the case when playing music from the network.

There are now a number of streaming devices in the high-price segment that objectively (and according to the usual high-end criteria) do almost everything "right" and get or receive the highest

scores in other publications. That said, the Pink Faun streamer goes one giant step further. It's not so easy to pinpoint exactly what it is that makes music played through this system sound more exciting and emotionally involving - regardless of the type and file format (as long as the listener can relate to it). At any rate, the sound image is by no means more vibrant or specifically dynamic. On the contrary: the 2.16 ultra's music is consistently relaxed, which suits extended listening sessions. It is precisely its flow, its absence of overemphasised contours (in other cases, the big picture is usually lost in all the superficially presented details) and its holistic style that give tracks like "Papa Was A Rolling Stone" by The Temptations the tension they deserve. Nothing stands out, but everything down to the smallest dynamic gradations is there in a completely natural way. In view of the vanishingly narrow lower dynamic threshold - the result of the exhaustive endeavours to eliminate noise from all components of the device, from the power supply units to the clock generator - there is simply no necessity for any kind of showmanship. In other words, you'll be rather disappointed if you're into "microphone porn", where every breathing sound



is handed to you on a platter and highlighted, or if you value the fact that you can clearly recognise when an elderly male lets out a gasp slightly left of centre in the seventh row. If, on the other hand, you want to experience music in the most authentic and emotionally appealing way possible, Pink Faun is the right choice. The company slogan "No sound, just music", which initially seems somewhat banal, clearly does stand for something.

In a direct comparison with the excellent Lumin U2 streaming transporter via USB, which was reviewed in the last issue of image hifi, with the equally excellent Line Magnetic LM-32DAC in the image hifi listening room, the differences were limited, with the tube output stage of the latter more or less clearly in the lead. Although there were minor differences between the USB, AES/EBU and optical coaxial inputs, these could not be clearly categorised as "better" or "worse". Assuming you have a suitably equipped converter, you could also connect the streamer to the processor in the DAC via the I²S protocol to allow the signal to flow even more directly. This might at least theoretically lead to a further increase in sound quality. However, neither the connection nor the pin assignment is standardised: Some I²S inputs are equipped with HDMI sockets, others with RJ-45 sockets (LAN cable). There are also relatively few high-quality D/A converters that are equipped with an I²S interface: the best known include individual models from Ayon, M2Tech, Mola Mola, Nagra and Rockna.

Whereas the signal processing handled by my tuned Audio Note UK DAC, which dates back to the

early 2000s, unfortunately had some kind of compatibility problem with the Lumin, the 2.16 ultra ventured into largely unknown territory for me. That surprised me a little. I have always liked the old Audio Note UK with its Analog Devices AD1865 converter module (but this is unfortunately no longer available), and the De Jong Systems tube power supply, but above all I liked it because it never annoyed me with obvious digital artefacts and therefore kept my CD collection of only a few hundred tracks "accessible" - with the quality of the subsequent devices in the system increasing over time. Since most of the later improvements and upgrades - including a permanently installed digital output cable - were made by the same people who now build the 2.16 ultra, synergy effects were more or less to be expected.

But in this combination, the first notes of Kraftwerk's album *Radio-Activity* (1975) in the 2009 remastered version via Tidal sound as physical as the rhythm of the pounding beats of the electronic drums banging out of the speakers from the left - that's not just fantastic by streaming standards. Even productions that are not necessarily intended for audiophiles, like *Whispering Sons'* album *Several Others* (2021), gain immensely: the dark, melancholic songs literally suck you in and threaten to crush you in a way very reminiscent of Joy Division's two albums. To be honest, apart from live concerts, I've only ever been as involved in the music as I am here when listening to analogue records, and only on those rare occasions when everything - from the pressing quality and the correct

setting of the tonearm and system to the adjustment of the phono preamp or the transformer to the latter - was spot on down to the smallest detail.

But apparently it can do even better. At the last High End in Munich, not one but two 2.16 ultra were on show in different rooms with very ambitious equipment. Not just in case one of them should break down, but in a dual configuration where, according to Jord Groen, one takes over all the "background tasks" and the other can focus solely on playing the music. A direct comparison would, of course, be very interesting but this would require considerable effort. But all the makers of such dual packs

say that this would work very well. Anyone who is prepared to lay out around 50,000 euros for a pure streaming unit without a D/A converter, is pretty clearly a genuine fan amongst fans...

Streaming transporter Pink Faun 2.16 ultra

Computer: Linux-based, 12-core 24-thread processor, 32 GB RAM

Operating system: web-based Pink Faun Stylus from Euphony Audio, alternatively Roon **Functions:** Support for Tidal, Qobuz, Webradio, YouTube (sound only) Special features: Play & Relax Function: Music playback while disconnecting the network input

Finish: Black anodised or brushed aluminium, other colours on request **Dimensions (W/H/D) :** 45/15/41 cm **Weight:** 30 kg
Warranty: lifetime, transferable **Price:** from 20000 Euro

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German distribution: My Sound GmbH, Würmstr. 4, 82319 Starnberg, phone 08151/9982261, www.my-sound.net
