

The advantages of the Baetis lineup of media computers in a nutshell – stop believing the junk you read on the internet.

1. The main thing -- we do NOT ever use a PCI-bus for audio as do the legions of DIY builds (and some of the “name-brands”). The PCI connection in any computer/server suffers from massive common-mode noise. You may not hear it as a “hum” but rather it simply degrades the quality of the audio.
2. We take the 2-channel audio straight from a “header” on the Motherboard, then significantly improve it via our proprietary daughter-board. The effects are a) improvement in the shape of the digital signal on the oscilloscope; b) increased amplitude (voltage) which is vital when connecting to the best DACs in the world; and c) lower (faster) rise time.
3. Our cooling systems are hybrid and therefore perform much better than any fan-less computer/server. This is why no fan-less maker ever publishes the temperatures of the MB (the heat sink and heat pipes cool mainly only the CPU). To maintain maximum product life, the MB must be cooled via a Noctua™ fan which generates so little noise that it is actually measured to be the same as the noise of the fan-less models at a distance of 3 feet from the server. In a fan-less computer, the heat sink and heat pipes over the CPU send heat to the exterior fins and this heat causes air to move over the fins. This air movement can be measured on a sound pressure meter. Fan-less computers are NOT silent; you just can’t hear them. But temperatures on the fan-less computer’s MB can become WAY too high – even above 90° C -- when playing MCh DSD files or MCh Blu-ray files with A/V for hours on end. Meanwhile, any puny wattage internal PSU (ac/dc converter) can become quite hot to the touch when using a fan-less computer.
4. On our more expensive Reference models – the Reference X, the Reference S, and the Reference 2 – we take advantage of academic research that suggests that the type of wire used to send the digital signal within the computer makes a significant difference in audio quality. So, we use cryo-treated silver wire, with double EMI-shielding, to send these signals to the SPDIF and AES connectors on the rear of the chassis. A 6” standard internal SPDIF cable costs us \$6; the same length in cryo-treated silver costs \$200 with double EMI shielding.
5. We employ two types of EMI-reduction fabric within our Baetis models – EMI-absorption and EMI-reflection. The amount and placement of these fabrics is learned only through empiricism, not theory. Importantly, we use a nickel-alloy EMI shield on our daughterboard to protect it from the EMI coming from the main motherboard (in our Reference models).
6. Baetis and Prodigy models (except for the Prodigy-M) come with a Neutrik™ PowerCon™ DC connector on the rear of the chassis. This allows the user to upgrade at any point in the future to the very best linear PSU made by HD-Plex™ or other 3rd party makers. See our page dealing with LiFePO4 battery-based PSUs (including those placed INSIDE the computer without EMI-shielding -- <http://baetisaudio.com/powersupplies.php>.) For the very best audio, the linear PSU should be connected through the PowerCon DC connector via cryo-treated DC cable. Yes, our more expensive models come standard with the 300-watt linear HD-Plex™ PSU and this cryo-silver DC cable.
7. The JRiver™ software playing the media, as well as that software’s DSP functions, are the very best. Similarly, we use dBPoweramp™ software and Makemkv™ software for ripping of CDs, DVDs, and Blu-ray discs.
 - a. You must use another computer to rip discs with the other brand-names of server such as Aurender™.
 - b. These other computers typically are regular factory models that have extremely cheap optical drives. The cost of the optical drives in our Reference models is about 4 times the

cost of the drive used in a factory Mac.™ And, iTunes™ or even JRiver™, does NOT rip a CD as well as dBPoweramp, which uses UltraSecure™ rip.

- c. The Windows Operating System (“OS”) in our computers uses tens of thousands of Beta testers compared to the proprietary OS in our competitors’ computers/servers. The JRiver playing software, similarly, has many more Beta testers than any proprietary music playing software. Quite often, a Baetis server is sold to someone who is fed up with the limitations and stoppages of their proprietary-OS brand-name server.

Most importantly, the proprietary software on these competitors simply cannot play all the audio formats played by the JRiver software. Nor can these other brands of Music Server do multi-channel audio or video.

- d. Have you ever listened to a 96/24 2-channel or multi-channel rip of a Blu-ray concert? Is such ripping illegal? Is ripping of a CD illegal? The media industry allows Blu-ray capable optical drives to be installed in computers only via separate license by One-Blue™, the Blu-ray industry’s one-stop licensing company. Only Baetis™, among all the “high-end” computer/server makers, holds such a license. We are not lawyers so we can’t advise you on the law – but you can get a Blu-ray disc ripped at Walmart’s. Did you know that? You are missing some VERY good Blu-Ray music without a Baetis.

- 8. Only a music server built on a real computer can allow you to stream ANYTHING from any website. Tidal™, Pandora™, Spotify™, etc. are just the beginning – the Berlin Philharmonic Digital Music Hall™ (now available on a single brand of disc player with a proprietary OS), the NY Met™, and many others are continuing to upgrade the quality of two-channel streaming. Meanwhile, MQA™ is making inroads on 2-channel audio quality that promises to revolutionize streaming of the highest quality. We have found that the MQA decoding process requires hardware in the DAC. So, JRiver should be all set to use its bit-streaming function to send the MQA file to the DAC to allow MQA-capable DACs to do the decoding. We have also learned that Roon™ playing software is very good with MQA – and ONLY a real computer can play JRiver and/or Roon in a number of different configurations with or without multi-room set-up.

Because of all the important things that only a REAL computer can do, we think it most important that Baetis has the training and support function that is needed to fully educate you on all the possibilities -- and to do so in the most effective training method. We connect to your Baetis via the internet, then watch as you move the cursor on the screen to learn what to do to enable ANY audio function. Or video function. Or multi-channel function. After training is over (usually about 90 minutes) you can then run the Baetis using an iPad or Android tablet (but keep the small monitor handy for any future training or support issue). Or, if your eyes are not so good, a large monitor can be used – great to see the performers actually perform.

- 9. So, when you hear or see the following claims by dealers or public relations people at the other server makers, think twice and visit our website to see the truth.
 - a. It’s all zeros and ones so all computers/servers sound about the same. No, it’s an electrical signal over which the zeros and ones are sent to the DAC. So, common-mode noise reduction, after all 35 years of digital music’s history, is still the most important issue.
 - b. Real computers are unstable and require constant updating. No, it is the proprietary operating systems that are less stable, and their updating occurs in fits and starts. Several times a year, we sell a Baetis to replace another music server with a proprietary OS. Meanwhile, the JRiver industry

leading playing software is constantly being updated as is the OS (Windows) on which it rests. Also, some software features are not even available on Linux or Mac OS versions of the software.

- c. A DAC must be “DSD capable” to be any good. Well, this is a complex topic and we urge you to buy the best PCM-capable DAC you can afford because more than 95% of all music was mastered in PCM – and most DSD albums themselves were also mastered in PCM! Also, almost all DACs than CAN play native DSD files do so via DoP (DoP means “DSD over PCM”; meaning the DAC uses PCM as a “delivery box” for the DSD signal). We are big fans of DSD music; it contains some titles that are the best music we have ever heard. But, please, read our white paper on this subject:

http://baetisaudio.com/DSD_VS_PCM.pdf

Every PCM DAC is “DSD capable” when you use JRiver playing software. JRiver pioneered the transcoding of DSD back to the PCM in which it was mastered and VERY few competing servers do such transcoding (e.g., Aurender). Meanwhile, NONE of the other music servers do MCh, while none of the HTPCs (simple computers used for playing MCh and video) have all the hardware specifics of a Baetis media computer.

10. For those customers who already own a DAC or pre/pro that is said to produce music that sounds the best via a USB port on the server, we make available what some have called the very best USB ports in the world. This special circuitry is made by SOTM™, known for its PCI-card-based USB circuitry in many of the Do-it-Yourself computers, as well as some commercial servers. But Baetis uses the new SOTM™ USBhubIN ports, which consists of two separate cards that do NOT use a PCI-bus. The resulting circuitry has far lower common-mode noise than the USB ports on a factory computer, as well as much lower common-mode noise than on an SOTM PCI-based USB card. It is, according to SOTM, Baetis Audio, and other long-time computer audio fans, the very best out there. It is available ONLY on Baetis models that have sufficiently large chassis sizes – the Prodigy X and all the Reference models. We improve the sound of the USBhubIN ports two ways: a) by providing the very best DC power to the main USB card, and b) by providing the best USB cable to the DAC. Talk with us about those possibilities.
11. Critically, no SACD (the disc itself) sounds as good on a universal disc player as an SACD disc that is professionally ripped properly or downloaded, then played by, yes, a computer, so long as the computer is a Baetis ☺ Similarly, no CD music sounds as good via a CD transport as it does by ripping the disc with dBPoweramp™ software (or downloading it). That is, the ripped file is much closer to the mastered WAV file that was used to “burn” the CD at the CD factory. If your dealer says “the rip of the CD can never be any better than the original CD itself” – dump him as your source of knowledge. The CD is not the “original”; the WAV file at the CD factory is the original file, and the computer file on the CD is CONVERTED by the ripping software back to the original WAV file – that’s why we don’t use the term “copy the CD”. The word “rip”, meanwhile, really means “convert” back to the original computer file. If your favorite high-end audio dealer still thinks that playing the CD is the best way to listen to digital audio – well, we recommend that you get another opinion.