

HIFI STATEMENT NET MAGAZINE



TEST Bryston BDA-3 DAC

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The name Bryston has sounded auspicious for many years. The Canadian concern has an excellent reputation because it always offers good sounding and reliable products. The BDA-3 D/A converter does not only fulfill these expectations, there's more to it than that.

For over 35 years Bryston has developed and manufactured electronics and loudspeakers in Peterborough, Ontario, Canada. Its twenty year warranties for their traditional product groups, i.e. analog electronics and loudspeakers, demonstrate that the Canadians stand confidently and self-assured behind their products. Additionally, the warranty for their modern digital electronics is for five years. Every Bryston component is carefully produced by hand, even soldering is done manually and not by a machine, i.e. not wave soldered, and before a product leaves the company and starts its journey to the consumer, it receives an extensive final inspection. The target group of the brand, besides the at-home music fans, is foremost the professional market. Prestigious recording studios and radio as well as television companies utilize Bryston components, and that very high standards are set here, not only in reference to operational reliability, is not a question. Despite its worldwide reputation, Bryston publishes a list of noted personalities that use Bryston equipment, and we here (in Germany) never had any kind of hype around this brand. It was, and is, something for connoisseurs.

The BDA-3 DAC distinguishes itself from today's readily and abundantly offered D/A converters. It serves one singular purpose, namely the conversion of a digital signal into an analog one. It does not incorporate a headphone output, and also offers no volume control. If

one looks more closely at its modest, elegant, solidly constructed



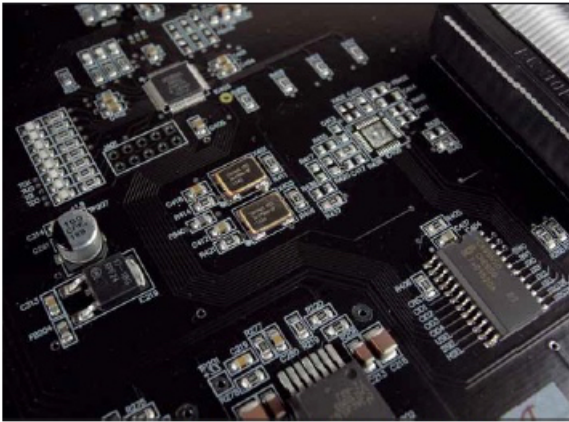
cabinet, unfamiliar connections attract attention. Right away one sees ten inputs. There are two USB-2.0 jacks, and besides the usual SPDIF inputs, also one superior quality BNC. Completely unusual with an audiophile D/A converter are the four HDMI inputs in combination with one HDMI output. In stereo components HDMI is very rarely offered, and normally not at all. This modern input option is primarily reserved for multichannel equipment. We are used to connect source components like Blu-ray or DVD players via HDMI with a TV set, projector, or monitor. Here as a rule the picture stands in the foreground, and yet in the meantime the HDMI interface also for stereo audio does make sense, and should in the future gain in importance.

Currently due to the still modest demand only a few manufacturers offers this HDMI interface for two channel audio. Via the HDMI interface highly resolved stereo material from optical data carriers can be read in full resolution and subsequently analog converted. Perhaps you own DVD audio discs, or you are interested in the still relatively young Blu-ray audio format? High-Res material on Blu-ray is an alternative to High-Res downloads on a computer. In contrast to

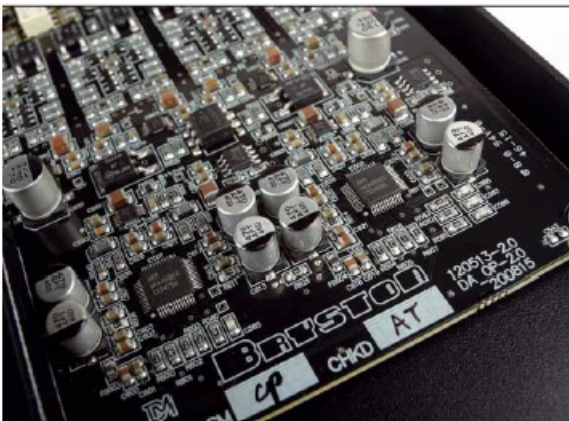


the latter, here one again holds something in ones hands. Until now the offerings are not gigantic, but just the JPC firm (a German record dealer) offers almost 300 titles of all genders. DVD audio and Blu-ray audio can be played on any available Blu-ray player. However the internal D/A converters rarely meet our demands for tonal quality. The digital signal that these players produce at the coaxial or Toslink output does not contain the high resolution present on the sound carrier (DVD or Blu-ray disc). In practice this is PCM in 24 bit/96 or 24 bit/192 KHz format. For the usual SPDIF output, coax or Toslink, the digital signal is converted downward to 48 KHz, and with that a portion of its actual quality is lost. Considering today's state of technology, the highly resolved two channel audio signals require the HDMI interface, and this is exactly what the BDA-3 DAC incorporates. It separates the two channel PCM or DSD signal from the fed in HDMI signal. At this point one must ask, why DSD, since this format cannot be found on either a DVD or a Blu-ray disc.

However a few SACD transports of different manufacturers likewise use the HDMI interface in order to pass the digital data stream on to an external D/A converter, which is always offered by the same manufacturer. Hence for the interaction with such a separate CD-SACD-transport the Bryston BDA-3 DAC can indeed be the proper choice, however before a purchase one must check whether the HDMI interfaces match with each other. This usage option would not justify the effort of the BDA-3 DAC because SACD transports with DSD output via HDMI belong to the rarest appearances in the HiFi heavens. However this looks totally different with DVD and Blu-ray, since inexpensive Blu-ray players can be found in many households. High quality equipment with outstanding integrated D/A converters are comparatively very rare and above all very expensive. The general area of application for Blu-ray is simply video, which manufacturers take into account. For the price of an extravagant Blu-ray player with a built-in high-quality D/A converter I can definitely acquire our Bryston BDA-3 DAC and a simple but adequate Blu-ray player, which can also play DVD Audio when that is wanted. Such a Blu-ray player I will now connect



Zwei Quarze kümmern sich um das richtige Timing der Signale. Einer pro Frequenzvielfaches



Die beiden AKM-DAC-Chips sitzen direkt vor der analogen Ausgangsstufe, um die Signalwege kurz zu halten

with a decent HDMI cable into one of the four inputs of the BDA-3 DAC. I will connect the single HDMI output of the DAC to a monitor or TV set that happens to be somewhere in the room, in order to operate the player with a remote control according to its menu. After the start of a music program I can turn off the visual display. A large size screen should not stand between the speakers for tonal reasons.

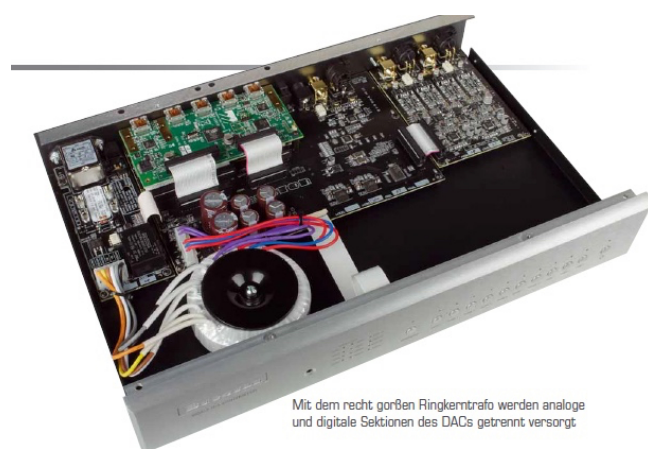
In the menu it is necessary to choose the PCM stereo format, since nothing else, for example multichannel DTS or multichannel Dolby, works because the audio signal is illegibly encoded by the Bryston BDA-3 DAC. It is also important to at least once check, and possibly correct, the audio settings so that the highly resolved music signal emanates

from the HDMI output. The basic menu is naturally different from diverse manufacturers, but not especially difficult to establish, after all one also sees and hears the result, because the Bryston BDA-3 DAC indicates the data rate via a green LED on its front panel. Once correctly set up, everything is optimally prepared for future listening sessions. Basically the whole matter is very uncomplicated. In fact the Bryston BDA-3 DAC in no way makes life difficult for its owner, but rather the opposite.

while my routinely used D/A converters from Antelope or Audio-GD now and then act irascible and require a reset by disconnecting them for a brief time from their power source, the Canadian behaves exemplary. At all times it recognizes via a touch of a button the switched inputs across relays and also correctly indicates format and resolution. So it's evident that at Bryston one pays attention to mature functionality.

Besides the ten digital inputs the BDA-3 D/A converter offers the choice between two analog outputs: RCA or balanced XLR. Even though Bryston recommends the balanced output in their user instructions, especially with cables of more than three meter length, I could not hear any audible differences during my listening test. However the cables used were a maximum of two meters. Consequently one does not have to fear any losses when the associated amplifier does not incorporate balanced input and therefore requires use of the RCA input. Both outputs cannot be used at the same time. As soon as an XLR connection is made, the signal only originates from this output.

The inside of the BDA-3 DAC is fastidiously and cleanly constructed. The individual areas of operation have their own circuit boards, altogether a total of six. An opulently dimensioned toroidal



transformer plus substantial filter capacitance provides power for the circuits. The digital input signal is cleanly re-sampled and re-clocked. The separate processing of the PCM and the DSD signals is noteworthy, and therefore PCM signals up to 32 Bit/384 KHz and four times DSD 256 traverse their own paths. PCM is not

upsampled, and there is no kind of conversion of the native DSD signal. This is worth mentioning because it still represents an exception. In fact chips many other manufacturers like to use sometimes wander internally to PCM, although this procedure is not mentioned in their description, and which can indeed have audible consequences for the purity of the digital signal.

In the BDA-3 Bryston DAC two AKM 32 bit converters provide the transfer to analog. The following output stage is discrete, and symmetrically built up in Class A. By the way it should be noted that the HDMI inputs are able to accept 4K video, whereby even in the video area the highest transmission quality is assured. Additionally the BDA-3 DAC is equipped with a network module with control connections such as RS-232, USB, Ethernet, and a trigger socket, and with the latter it can also be integrated into modern home electronics. If desired, an optional IR remote control increases the ease of operation of the BDA-3 DAC.

Listening

My first listening test was in reference to the HDMI input. My pure-Audio Blu-ray disc *Night Train* by the Oscar Peterson Trio functioned technically perfect. The BDA-3 D/A converter indicated with its green LED the 96 KHz resolution. On the other hand soundwise it was not a special treat, which however is obviously due to the recording quality of the year 1962. Completely differently David Crosby and Graham Nash stepped into the limelight with their *Another Stoney Evening*. Admittedly this DVD Audio disc in stereo is only resolved to 48 KHz, and accordingly it is connected to the SPDIF output, but despite this the disc sounded extraordinarily good. The live atmosphere and the sense of space of the light hearted appearance of both of these musicians in a great mood, almost takes the listener into the concert hall in Los Angeles in the year 1971. Thus audio via HDMI functions flawlessly with the BDA-3 DAC, and even my simple Blu-ray player is sufficient in order to savor sparkling sound. Soundwise the Bryston DAC distinguishes itself by its pleasant, multifaceted high frequency resolution.

For CD reproduction the Bryston BDA-3 D/A converter was connected to my Primare transport via AES-EBU, and also here the Canadian pleased me immediately. Gregory Porter with his *Be Good* was able to take center stage in his entire splendor and vocal dynamism. The BDA-3 DAC precisely identifies the instrumental subtleties of his band, and places them large-scale and plastic into the room. The stage depth is a bit less pronounced than I have already heard it. Nonetheless I also miss nothing with classical music, for instance Stravinsky's *Pulcinella Suite* with the BBC Symphony Orchestra under Pierre Boulez, which I sent to the BDA-3 DAC, streamed from Qobuz per USB. The representation of the orchestra is transparent and homogenous, acoustic colors are a strength of the Bryston, and in the reproduction of upper frequencies it rises beneficently above many other D/A converter colleagues. Furthermore with my own DACs after hour-long listening there is often a feeling of "it's enough", but it's a completely different matter with the BDA-3, which I have only turned off during these weeks when a look at the clock necessitated it. This BDA-3 Bryston DAC presents itself and the music without becoming tiresome.

I personally value this aspect of the non-tiring sound picture considerably higher than a little bit more depth in the spaciousness, because during concert visits I always ask myself where this spaciousness actually is which so many favor during home music reproduction. Thus beheld, the Bryston BDA-3 is a very honest interpreter for me, and its fun and enjoyment factors lie in the pleasurable and at the same time accurate reproduction, which is in no way soft or flattering. With caution I might want to designate it as dry, in a positive sense, like with a good red wine. Altogether its sonic interpretation is equally harmonious and believable, and it articulates unobtrusively and homogeneously. With these qualities it favors no musical genre, but brings its expertise, no matter what musical direction, into play.

Something should not remain unmentioned, namely that the operation of the Bryston BDA-3 DAC is truly a pleasure. The pushbuttons with light pressure trigger the respective relay, and with a brief delay the desired input is connected. But it's actually a pity that the BDA-3 DAC rarely offers the user anything to switch, however there is something else, i.e. on the substantial aluminum front panel there is another operating button which is labeled "Upsampling." For CD reproduction I now switch to AES/EBU where the Upsampling function indeed works. It does not work with the HDMI and the USB inputs, but also with the coaxial SPDIF, BNC, and Toslink. Switched on Upsampling upsamples 44.1 KHz by a factor of four to 176.4 KHz, and 48 KHz and 96 KHz are transposed to 192 KHz. According to my previous experience selectable Upsampling is often soundwise difficult to perceive, and I also can remember no instance where I liked it better than the native format. However it's a different matter with the Bryston BDA-3 DAC, Gregory Porter's voice gains clearly in body. In general some volume is added to the fundamental range, and with all types of music, especially when listening through headphones, the difference is clear and pronounced, but I do not wish to rate these differences better or worse. Both tonal variances had something attractive, hence Upsampling is not only in order, but an advantage since personal individual preferences can be realized.

STATEMENT

Bryston's BDA-3 DAC appears to be a truthful, pleasurable music-making D/A converter. Its tonal characteristics make it attractive despite

its handsome price, especially considering that its excellent processing also assures fun during its operation. The BDA-3 DAC's musicality and its unusual multifaceted configuration clearly raise it above its competitors. Thanks to HDMI it is the perfect playmate for new media like Pure Audio Blu-ray, and also the correct choice for demanding video fans.

LISTENED WITH

Computer	Apple MacMini with OS X EI Capitan, Amarra, Audirvana Plus, Qobuz
CD Player	Primare DVD30
Blu-ray player	Panasonic DMP-BD30
Preamplifier	Audio-gd Master 9 and MuSiCa NoVa Phoenix
Power amplifier	for bass: two Primare A-32 For mid and high range: Spectral DMA-100
Loudspeaker	Triangle Magellan Grand Concert
Headphones	Denon AH-D 2000
Accessories	Audioquest Diamond or Carbon USB, Inakustik Black & White NF-1302, QED Genesis Silver Spiral with Enacom LS, MudraKustik Max power strip, Mudra and Audioquest NRG-X2 power cord, AHP pure copper fuses, Groneberg wall socket, mbakustik room absorber, ifi-audio iPurifier2
Furniture	Creaktiv Audio with absorbing floors, Finite Elemente Pagode, Audio Exklusiv d.C.d. Basis

CAPTIONS

The BDA-3 DAC is modestly, functionally, and overseeably designed. It does not push itself into the foreground by blatant illumination.

A green LED indicates the digital signal format and the lock. To the left the receiver for optional infra-red remote control is located.

Which other D/A converter offers that many inputs?

Two possible output connection options: XLR or RCA. The S/PDIF input is also available as a high quality BNC connection.

In the inside everything is neatly apportioned. Below the HDMI boards besides the power supply board, is the board with the USB inputs and the control connections.

One can clearly see the two quadratic D/A converter chips from AKM.

Translated from the German by Peter Ullman