From: James Tanner
Sent: Tuesday, 7 June, 2011 10:36 PM
Subject: Motivation and Choices for Bryston BDP-1 Digital Player

Hi Folks,

I have been asked a number of times why we choose the particular components we did in the BDP-1 Bryston Digital Player and the motivation for the development of the BDP-1.

The BDP-1 was born out of my frustration with trying to assemble a quality digital playback system that would do all the way to 192/24 without glitches (dropouts etc.). I spent a year playing with different operating systems like Windows and MAC and different sound cards and finally decided on Linux because it can be dedicated to do 'one thing'- PLAY A MUSIC FILE - no housekeeping, no virus issues etc.

I played with a number of soundcards and many had issues integrating with the specific operating systems the operating systems had to have many areas 'deactivated' (ex - 'do not map through this device' in Windows) in order to get 'bit perfect' output. Some would play 96/24 and 192/24 but not 176/24 etc. Anyway long story short I wanted a plug and play system which performed at a state of the art level and you did not have to be a computer guru to figure out how to setup your computer operating system and choose an appropriate sound card that did not have issues with high resolution (192/24) playback.

So it is not easy to assemble a computer system which will have an incredibly low noise floor with low distortion and high resolution file playback that the BDP-1 has to offer. Certainly a knowledgeable computer guy can assemble a great sounding setup but it is not a simple task.

The raw components in the BDP-1 were selected for their performance and reliability. Designing computer components from scratch is challenging with the short life cycle of consumer computer components.

The Sound Card in the BDP-1 player is a ‘Julia@’ sound card and it is excellent in native configuration - one of the best out there. To improve its performance we modified it with a much better output stage (both the transformer and driving stage are removed) so it is NOT a stock unit. We also install a dedicated balanced low noise, low distortion AES EBU and BNC output section to integrate properly (impedance matching) with our BDA-1 DAC.

The specific Computer Mother board was chosen because it is used in industrial areas and changes very little over time so you have a consistent supply of parts and predictability of performance. But the really important part is it has NO MOVING PARTS - no fans or switching power supplies etc. that can generate noise. The motherboard has been used for metro area wireless

systems for a number of years and has a very good reliability record. It also meets the essential requirements of low power and fan-less operation, both essential to the low noise, both acoustical and electrical, requirements for good audio.

The BDP-1 provides as faithful a bitstream as we know how to provide with current technology. Very few PCs come close to this goal and then only with a lot of special optimizations that cripple their utility as a pc. Many PCs have a lot of audio processing running in the background as well as a lot of EMI and RFI that can influence the performance of connected equipment. Sometimes the effects of the noise and jitter can be pleasing but they are not necessarily accurate.

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