

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.

James Tanner
V/P Bryston