

# BDP-1

BRYSTON DIGITAL PLAYER

*fuel for the senses*



# ACCURATE AND FAITHFULL REPRODUCTION



## PREAMBLE

We have entered a new age for music enjoyment. We have an ability to reproduce recorded music with more accuracy and faithfulness than ever before. This has been enabled by the recent developments on recording and distributing music in “high resolution” computer readable formats. Until recently any new format required an extensive infrastructure to get launched and need the cooperation of a complete chain of contributors and well as major investments to get underway. But with the continually increasing power of the personal computer and media like the internet and recordable DVD's it is now possible to distribute the highest resolution audio to anyone with the desire to play it.

Many digital playback systems incorporate an “all in one” approach to digital playback where the computer has the operating system (EX: Windows or Mac), the video interface, the CD ripper/player, the motherboard, the soundcard and the DAC's contained in one chassis. (Think of this approach more as an audio “receiver” rather than the more performance oriented approach of independent tuner, preamplifier and power amplifier in order to optimize performance in each specific area). This receiver approach is fine for what it is as it allows for a very easy solution for someone who is looking for ease of use. The problem is the performance suffers due

to issues of noise and distortion created by this all in one approach. The computer is a great tool for searching and downloading content, but it may become a cumbersome tool for playback of quality content. The Bryston BDP-1 Digital Player is much easier to use in practice than a typical multipurpose desktop interface.

## BRYSTON BDP-1

We addressed this process differently. We broke the different tasks apart and dedicated our efforts on the stages that we can bring the most value and performance to. We also felt (in the tradition of component audio) that a dedicated one-function device can do a task much better than the “Swiss Army Knife” personal computer approach ...example our BDA-1 DAC. All in one music servers have serious issues with noise and distortion so our approach is to totally separate the “digital processing” side of the procedure (playing music files) from the “data management” (storage, handling, ripping etc.) side of the equation. The Bryston BDP-1 Digital Players single function is to play high-resolution digital music files without compromise using a USB drive. The BDP-1 does not contain a hard-drive (no moving parts) or streamer or CD player or ripper, or noisy fans and switching power supplies.

## DEDICATED PERFORMANCE



To do this most efficiently, we use a Linux operating system optimized in ways only possible in Linux to provide the highest quality audio performance. Its mainboard is of industrial quality that uses only a small amount of its computing power. The Bryston modified soundcard is one of the finest available and the AES-EBU Balanced and BNC (spdif) output section provides for the highest possible performance when connected to the AES-EBU, BNC or COAX input on the Bryston BDA-1 external DAC. We also incorporate electronic isolation of audio components from computer components and use galvanic isolation to isolate and avoid charge-carrying particles moving from one section to another.

The Bryston BDP-1 Player focuses “only” on playing high resolution files and will support 16 bit and 24 bit files with the following sample rates: 44.1KHz, 48KHz, 88.2KHz, 96KHz,

176.4KHz & 192KHz. It accesses these digital files from a USB device – either thumb-drive or hard-drive (the CD of the 21<sup>st</sup> century).

The BDP-1 Digital Player allows for all resolutions from 44.1 to 192/24bit files to be played back with superb performance. It reproduces the digital content in its native sample rate and bit depth and outputs the data stream to the Bryston BDA-1 external DAC through a high performance dedicated AES-EBU balanced XLR output or BNC/COAX (SPDIF) connector. It processes digital music files at a performance level unattainable with other approaches.

# BDP 1 DIGITAL PLAYER

## TECHNICALLY SOPHISTICATED



### HOME NETWORK OPTION

The BDP-1 is a technically sophisticated component incorporating state of the art solid-state electronics which links up to your home network and may be controlled by a variety of graphic interface devices (eg, laptop, Netbook, PC, PDA, iPhone, iPod touch, iPad and web-browser etc.). Bryston also has its own interface (MINI) loaded on the BDP-1 as well as a computer web-browser interface (MAX). The BDP-1's graphic interface operates under "open source" software protocols, ensuring long term future proofing and compatibility with the widest possible range of other digital devices as they are developed. The main point to understand here is the BDP-1 is "accessing" the digital files from the attached USB drive(s) directly and not streaming files on the network. The network is only used to interface your library storage on your remote (itouch, laptop, notebook etc.) or using a web browser on your computer as the interface. This

approach eliminates all the issues inherent in streaming high-resolution digital files over the home network or having to "share the home network" with the rest of the family.

### DIRECT OPTION

The BDP-1 can also be operated "outside" the home network by simply utilizing the front panel buttons and the front panel two line graphic display. You can also access the basic functions of the player using the Bryston BR-2 remote (Play, Pause, Stop, Next and Previous). So with the BDP-1 you "DO NOT" have to be on the network to play your songs. You can do some simple and basic navigation of the USB drive(s) using the two line graphic display and front panel controls. You can open folders and choose songs to play. At this point you know it all works and you can then deal with setting up your network interface as time and talent permits.

# BDP 1 DIGITAL PLAYER

## REDEFINING INNOVATION

### ON THE INSIDE

Internally the Bryston BDP-1 music player employs a fanless motherboard with an integrated processor and flash drive memory. It runs an extremely pared down embedded version of the “Linux” operating system (as opposed to Windows or Mac OS). It boots in read-only mode so you cannot accidentally or purposely cause a system failure. It employs a very high quality Bryston modified digital soundcard capable of native resolutions all the way up to 192/24. The output section is a specially designed interface to allow state of the art digital connections between the BDP-1 Player and the Bryston BDA-1 external DAC utilizing either AES-EBU or BNC connectors.

The Bryston BDP-1 Digital Music Player uses any direct coupled USB (thumb drive or hard-drive) “storage source” and can play all high resolution FLAC, WAVE and AIFF files up to and including native 192/24 bit files. Music must be ripped using a different computer running any operating system and any ripping program the end user is comfortable with. Playback can be controlled via numerous methods. A popular option will be the iPod Touch, iPad or iPhone, a web browser such as Mozilla Firefox or the front panel controls on the BDA-1 digital player or basic functions using the Bryston BR-2 remote. Or of course the Bryston embedded MAX or MINI software interface.

In conclusion, the easiest way to understand the Bryston BDP-1 Digital Music Player is to think of it as an 21st century updated CD player. Instead of CD's as the music source though it utilizes USB thumb drives or USB hard-drives as the music storage source. For example you can use a large 500GB USB hard-drive which is permanently connected to the BDP-1 for mass storage of your music and then use a number of smaller 8-16GB USB thumb-drives to

create specific play lists – one for Jazz, one for Classical, one for Rock etc. and insert them into the BDP-1 as you wish. Also your friends can come over with their favorite songs loaded on their personal thumb-drives and listen as well.

The Bryston BDP-1 is designed to interface between your “music library” and a high quality external DAC (preferably the Bryston BDA-1). The “component” chain works out as follows:

- **The Bryston BDP-1 Player accesses the digital files from a USB thumb drive or USB hard-drive**
- **The USB device transfers the stored digital music content in its native sample rate and bit depth into the BDP-1 Digital Player**
- **The BDP-1 processes these music files at a state of the art level from 44.1/16bit all the way up to 192K24/bit**
- **The BDP-1 outputs the data stream to the Bryston BDA-1 external DAC through a high performance dedicated digital AES-EBU XLR Balanced connector or BNC/COAX (SPDIF) output.**

Playing high-resolution digital files (96/24, 176/24 to 192/24) without issues (dropouts, hiccups etc) is not as simple as it sounds. The CPU, soundcard and digital interface and output stage to the external DAC are critical in extracting as much quality and performance as possible. The Bryston DAC continues this focus on function specific design, again concentrating on doing the specific task well. This Bryston combination of BDA-1 External DAC and BDP-1 Digital Player will provide you with a state of the art high-resolution music playback system.

# BDP 1 DIGITAL PLAYER

## HIGH RESOLUTION



BDP-1 REAR PANEL

### SPECS

- File Types: FLAC - WAV - AIFF
- Output Sample Rates: 44.1K - 48K - 88.2K - 96K - 176.4K - 192K
- Jitter: Master Clocks standard deviation less than 20 picoseconds 10 Hz to 10 MHz \*
- Acoustic Noise: Silent
- Output Impedance: BNC 75 ohms, AES/EBU 110 ohms  
(Analog domain specs below are not really applicable to a digital source device)
- THD: N/A
- Channel Separation: N/A
- Signal to noise ratio: N/A
- Dynamic range: N/A
- Power Consumption: around 10 watts.
- Dimensions: W (17 or 19) x D-11 x H-2 3/4 inches
- Weight: 12 lbs, 5.44 kg



BR2 REMOTE

\*Jitter: the composite jitter and phase noise spectrum is a function of both the Player and DAC as a system. The individual components contribution to the overall result is difficult to predict and are mostly defined by the receiving circuit of the dac.

# BRYSTON WARRANTY

In a world where most things seem to need frequent upgrading, repair, or replacement, how can Bryston offer a comprehensive, unconditional, and fully transferable warranty on every audio product we make?

The answer would quickly become apparent if you were to tour Bryston's plant in Peterborough, Ontario, Canada. State-of-the-art design facilities, with the latest CAD and circuit simulation software, and an inventory of some of the best and most reliable parts on the planet, combine with a manufacturing philosophy that eschews the artifacts of mass production — robots, moving assembly lines, and, frankly, shortcuts. Every Bryston audio component is handcrafted by people who take great pride in building the very best. Starting with a bare circuit board, for example, each component is hand selected and installed, every wire is cut and bent by hand, every connection is hand soldered. On average, it takes thirty to thirty-five person-hours to assemble a single Bryston product. Is this just some romantic 19th-century notion of the artisan-craftsman, or is there a real benefit to you, the consumer? There is. Take the hand soldering, for example. We could do the job much faster by employing wave-soldering machines as many companies do. But that would mean exposing the entire circuit board to a molten-metal bath, a source of extreme heat shock that could result in long-term reliability problems.

We don't skimp on testing or rush our products through some last-minute go/no-go check; at every stage individual

parts, completed circuit-boards, sub-assemblies, and final assemblies are all put through rigorous inspection and testing procedures. When completed, every Bryston amplifier receives a comprehensive and carefully documented test of all its functions, and the printed results of this computer-aided analysis are actually packed and shipped with each unit. During this intensive procedure, we not only reject any product that falls outside of our advertised specifications, but also any not meeting an even narrower band of specifications that we use for internal testing. As a result, you can expect each Bryston product to perform at least twice as well as the advertised specifications.

Our 20-year amplifier and 5-year digital circuit warranty drives us in a different direction from the typical manufacturer. We consider a Bryston product to be a mutual investment: by you, in an amplifier of lasting quality, and by us, in that we invest in the quality of the product in order to be secure in offering our warranty. It simply makes good economic sense to produce the very best products we can.

As a result, it can be said that we don't just make amplifiers — we also make friends — extremely satisfied customers who become life-long evangelists for Bryston's philosophy and tell their friends about our products.

The logo for Bryston, featuring the word "BRYSTON" in a bold, uppercase, sans-serif font. The letter "B" is stylized with a vertical bar on its left side. The logo is set against a dark rectangular background.



**Canada's largest independent manufacturer  
of high-end audio electronics for consumers and professionals  
Founded 1962**

Bryston Limited P.O. Box 2170, 677 Neal Drive, Peterborough,  
Ontario, Canada K9J 7Y4 1-800-632-8217 [bryston.com](http://bryston.com)

**BRYSTON**

Engineering Assistants  
**AURALITI**