BRYSTON

# OWNER'S MANUAL
# &
# FIRMWARE USER'S GUIDE

# BDP-2

## IMPORTANT SAFETY INSTRUCTIONS

The lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of un-insulated "dangerous voltage " within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time or when moving apparatus.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.
DO NOT EXPOSE THIS EQUIPMENT TO DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, ARE PLACED ON THE EQUIPMENT.
TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE.
THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE.

## BRYSTON LIMITED WARRANTY

Bryston analog audio circuits are warranted to be free from manufacturing defects for twenty (20) years from the original date of manufacture. The warranty includes parts and labour.
Bryston Digital circuits and cables are warranted for five years from the original date of manufacture. The warranty includes parts and labour.
Bryston products having motorized moving parts, excluding motorized volume controls, are warranted for three years from the original date of manufacture. The warranty includes parts and labour.
Bryston will remedy the problem by repair or replacement, as we deem necessary, to restore the product to full performance. Bryston will pay only return shipping costs for the full length of the specific products warranty.
In the event of a defect or malfunction, contact Bryston's repair centers for return authorization. Products must be returned using original packaging material only. Packing material may be purchased from Bryston if necessary. This warranty is considered void if the defect, malfunction or failure of the product or any component part was caused by damage (not resulting from a defect or malfunction) or abuse while in the possession of the customer. Tampering by persons other than factory authorized service personnel or failure to fully comply with Bryston operating instructions voids the warranty. This warranty gives you specific legal rights and you may also have other rights which may vary from province to province and country to country.
As of 2006-02-22 Bryston will only warranty Bryston products purchased through authorized Bryston dealers. Bryston products with a date code of 0608 or higher (date code format is "yyww", where "yy" is the two least significant digits of the year and "ww" is the week of the year) must be accompanied by a copy of the bill-of-sale from a Bryston authorized dealer to qualify for warranty service. The warranty is transferable from the original owner to a subsequent owner as long as a copy of the bill-of-sale from the original authorized Bryston dealer accompanies the re-sale. The copy of the bill of sale to any subsequent owner need ONLY include the Name of the Bryston Authorized Dealer and the Model and Serial number of the Bryston product The warranty will only be honored in the country of the original purchase unless otherwise pre-authorized by Bryston.


*BRYSTON SERVICE in CANADA*:

*Postal address:* **P.O. BOX 2170, Stn. Main**
**PETERBOROUGH, ONTARIO**
**CANADA K9J 7Y4**

*Courier address:* **677 NEAL DRIVE**
**PETERBOROUGH, ONTARIO**
**CANADA K9J 6X7**

PHONE: 705-742-5325
FAX: 705-742-0882
E-mail: cdnser@bryston.ca

*BRYSTON SERVICE in the USA*:

**79 COVENTRY ST., Suite 5**
**NEWPORT, VERMONT**
**U.S.A. 05855-2100**

PHONE: 802-334-1201
FAX: 802-334-6658
E-mail: usaser@bryston.ca

*BRYSTON SERVICE outside Canada and the USA*:

contact your local distributor *or*

CHECK OUR WEB SITE: www.bryston.ca
E-MAIL BRYSTON DIRECTLY: cdnser@bryston.ca
FAX BRYSTON DIRECTLY: 01-705-742-0882
PHONE BRYSTON DIRECTLY: 01-705-742-5325

# BRYSTON BDP-2 DIGITAL PLAYER

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# GENERAL

## DESCRIPTION

The Bryston BDP-2 is a state-of-the-art digital music player that can play back most high resolution digital music formats including AIFF, FLAC & WAV files up to 24 bits @ 192 kilo samples per second (192/24) as well as standard formats and lower resolution digital music files like MP3's. It receives digital audio inputs via any of its six USB ports. The BDP-2 outputs digital signals via its SPDIF and AES/EBU ports for connecting to an external digital-to-analog converter like Bryston's BDA-1, which in turn delivers analog audio signals to preamps and integrated amplifiers. The BDP-2 can be controlled locally via its front panel push-button controls using the BDP-2's dot matrix display and by Bryston's infra-red handheld remote control, the BR2. It can be controlled remotely via Bryston's web apps; MINI and MAX. It can also be controlled by the *iPod Touch* music player or the *iPad* using their WiFi interface and the *mPod* app.

## BDP-2 FEATURES:

- Linear power supply for audio processing circuitry
- A separate power supply for microprocessors and for maintaining standby mode.
- Six USB-2 (USB-1.0 and 1.1 compatible) inputs: 2 on the front panel, 4 on the rear panel.
- OPTIONAL internal SATA hard disc drive
- Multiple control options:
  - Front panel push button controls
  - iPod Touch or iPhone (with mPod app)
  - Bryston-MINI web app for mobile devices running Android or iOS
  - Bryston-MAX web app for PC's
  - Bryston's BR2 hand-held infra-red remote control
- Two digital outputs:
  - SPDIF (75 Ohm BNC female)
  - AES/EBU (3 pin XLR male)
- Compatible with digital music file formats of up to 24 bits at sample rates up to 192 KHz including: **AIFF**, **FLAC**, **WAV**, **MP3, M4A** (MPEG-4 Audio), **OGG**
- User upgradable firmware web apps
- Optional IR Remote Control
- Remote 12 Volt On/Off Trigger (IN & OUT via 3mm/2 conductor phone jacks)
- Compatible with USB flash drives (Memory Sticks, *Thumb Drives*) and USB Hard Disc Drives
- Cosmetically matches C-Series BP26, MPS2, BDA-1, BCD-1, etc

## NETWORK VERSUS LOCAL CONTROL

**NETWORK:** In this context NETWORK refers to any control method that physically interconnects to the BDP-2 through its Ethernet port. These methods include *Bryston -Mini* and B*ryston-Max* and the mPod app for iPod Touch or iPhone, and similar web based applications. All computer network control methods require the use of a Web browser application. Using an iPod Touch as a remote control requires a wireless home computer network with a Web Browser. The BDP-2 interfaces to the home computer network's router via its Ethernet port.

**LOCAL**: includes the front panel push button switches and alpha-numeric/dot matrix display and infra-red remote controls like Bryston's BR2.

See *Operational Notes* for more information.

## BR2 REMOTE CONTROL (OPTIONAL)

The BR2 infra-red remote control can be used with the BDP-2 to control the basic PLAY, STOP, PAUSE, FORWARD & REVERSE functions. The BR2 is a multi-function remote capable of operating not only the BDP-2, but also the BDA-1 & BDA-2 digital-to-analog converters and many Bryston preamps and integrated amplifiers such as the BP26, BP6, BP16, B60R and B100. To use the BR2 with the BDP-2, set it to "D/A" mode. For more information see the *BR2 Owner's Manual*.

## POWER CONSIDERATIONS:

In general, if your BDP-2 has a three prong grounded line cord you can reduce the possibility of local ground loops which could cause hum or noise in the system by plugging its line cord into the same wall outlet next to the power amp and other equipment in your system.

## FUSES & ELECTRICAL SAFETY:

The BDP-2 contains two glass fuses (5x20mm cylindrical), one for the standby power supply and one for the main linear power supply. IF it should become necessary to replace either of these fuses we recommend that you seek the assistance of qualified service personnel. If you decide to change the fuse yourself we advise the following:

1st) Turn off the BDP-2

2nd) Disconnect ALL cables from the rear of the BDP-2, especially the power cord.

3rd) Remove all 10 screws securing the top cover to the chassis and remove the top cover.

4th) Locate the 5x20mm glass fuses on the power supply board at the rear left corner of the unit (near the IEC power inlet). Replace blown fuses only with the same type and value. All fuses are rated 250V and are slow acting (time lag) types. Refer to the Fuse label inside the unit for the exact replacement values.

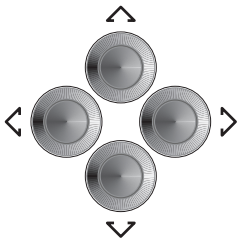
5th) Replace the top panel and all screws and reconnect all cables before plugging in the unit and turning it back on.

| MAINS VOLTAGE | STANDBY FUSE | | MAIN FUSE | |
|---|---|---|---|---|
| | mA | Part Number | mA | Part Number |
| 100 | 250 | 218.250 | 500 | 218.500 |
| 120 | 250 | 218.250 | 500 | 218.500 |
| 200 | 315 | 218.315 | 315 | 218.315 |
| 230 240 | 315 | 218.315 | 315 | 218.315 |

## FIRMWARE UPDATES

BDP-2 firmware updates will periodically be available from Bryston. To install updates you will have to have your BDP-2 connected, via its Ethernet connection, to a router or computer with an internet connection. Enter ***bryston-BDP-2.local*** in the address bar of your computers web browser to connect to the BDP-2 and then click *update available*.

To determine which version of firmware is running on your BDP-2, use the front panel navigation keys to go back to the top of the BDP-2's menu. Then push the UP key ^ again to display the firmware version number and its date on the 2nd line of the display. Press the DOWN v arrow navigation button to display the units IP address (this would be useful if *Bonjour* or a similar service discovery protocol isn't installed on your personal computer and you have to use the actual IP address instead of the name ***bryston-BDP-2.local*** ). With the IP address displayed, pressing the LEFT button < will display the units MAC address.



## REMOTE TRIGGER

The TRIGGER IN and OUT connectors (3.5mm 2-conductor phone jacks) allow for implementation of a hard wired remote power ON/OFF control. The INput can accept any DC voltage between 3 and 12 volts DC and the input is polority insensitive as the input voltage is bridge rectified. A minumum control voltage of 3Vdc @ 1mA is required to trigger the unit ON. As soon as the BDP-2 has powered up, whatever control voltage is present at the IN jack will be connected to the Trigger OUT jack via an isolated to allows for daisy chaining several pieces of equipment to a single remote control voltage signal .

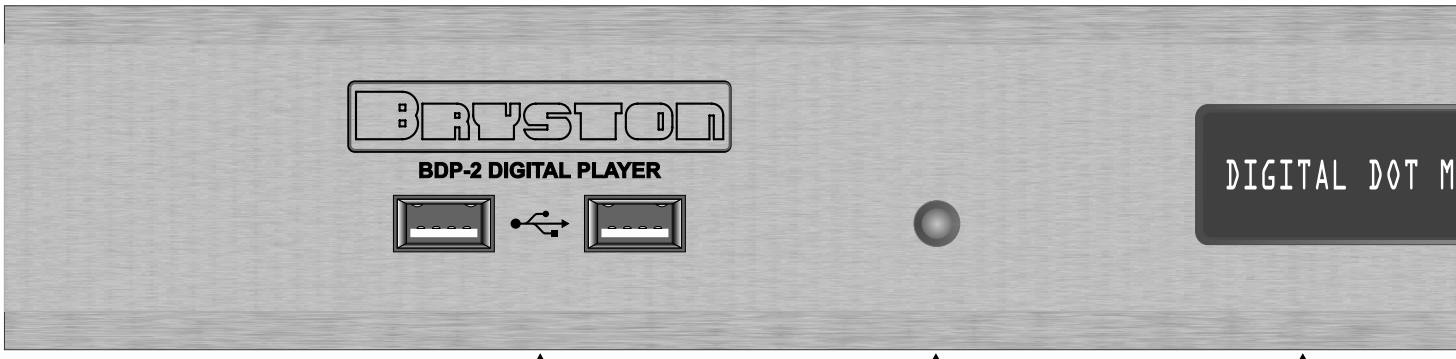
## DISPLAY BRIGHTNESS & AUTO SHUTOFF

To bring up a brightness and auto shutoff time delay menu, press the UP ^ and LEFT < menu navigation buttons in rapid succession. Use the UP ^ and DOWN v buttons to switch between setting the brightness (from 1 to 4) and the time delay (from always on, 10 seconds, 1 minute, 5 minutes, etc.) using the LEFT < & RIGHT > buttons. The menu will dissappear approx. 10 seconds after the last button press SYSTEM CONFIGURATIONS:

## MINIMAL SYSTEM CONFIGURATION

The minimal system configruation shown below requires only a BDP-2, a BDA-1 (or BDA-2)digital-to-analog converter, a Flash Drive, interconnect cables and, of course, a sound system. The BDP-2 can operate as the hub of a completely independent (i.e. free of any computer network) high

[*contd. on pg 5*]




*BDP-2 FRONT PANEL:*

## FRONT PANEL

① **USB INPUTS:** Two $USB_A$ receptacles are located on the front panel and four more are located on the rear panel. These are USB-2 inputs but are USB-1 compatible. See also item 8 on the next page

② **INFRA-RED SENSOR** for IR remote controls such as Bryston's BR2. The BR2 can remotely control the basic drive functions (PLAY, PAUSE, STOP, PREVIOUS,NEXT)

③ **DOT MATRIX DISPLAY**: Approximately two rows of 23 characters and/or graphics

④ **FILE/FOLDER NAVIGATION KEYS:** (UP ^, DOWN v , LEFT <, RIGHT > ) Use the UP ^ and DOWN v keys to step through list of connected USB data devices (flash drives and disk drives). Then use the Right > key to select a device. If the files are located within nested folders then navigate through the folders with the and keys pressing the > key to select a folder and load a list of playable files within the selected folder. If the PLAY button is pressed at this point, the BDP-2 will commence playing all song files in that folder. Folders are identified by a 🗁 icon and individual music files are indicated by the ♫ icon. Subsequent playable files will automatically be played from this point in the file list until the last playable file in the selected folder is played. See also *Operational Notes*

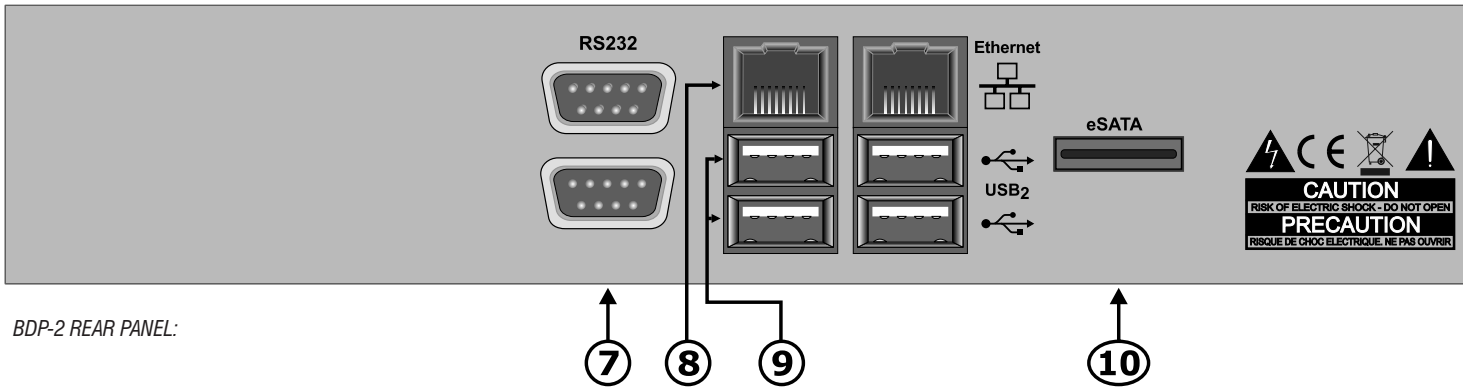
⑤ **FUNCTION KEYS:** PLAY, PAUSE, STOP, PREVIOUS & NEXT; these keys function in essentially the same manner here as they would on a CD player like the BCD-1

⑥ **POWER SWITCH & LED INDICATOR:** When the LED above the power switch is lit red the unit is on standby, when it is lit green, the unit is fully powered up. If your unit is equipped with a blue/red LED, then blue represents the power ON state. *See also Remote Trigger section*

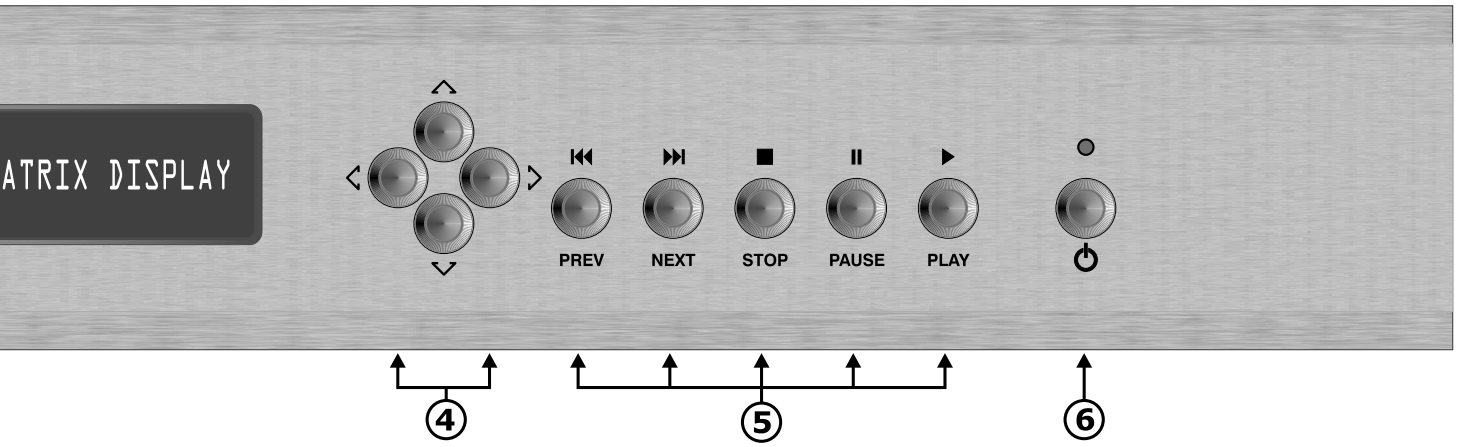
## REAR PANEL

⑦ **RS232 ports:** For connecting hard wired control systems like AMX, Crestron, etc.

⑧ **ETHERNET Ports:** CAT-5 (or CAT-5e or CAT-6) connections using an 8P8C (RJ45) connector to interface with a home computer network to




*BDP-2 REAR PANEL:*




facilitate remote control of the BDP-2 via personal computers and other networked devices like iPhone/iPad Touch/iPad, SmartPhones running Android, etc.

⑨ **USB INPUTS:** The BDP-2 is supplied with six USB-2 ports; two on the front panel and four on the rear panel. When connecting *port powered* USB hard disc drivesnote that each USB port is limited to 50mA. All USB ports are USB-2 but are USB-1 compatible. All are USB ports are type A receptacles

⑩ **eSATA Hard Disc Drive Connector:** Drive must be independently powered.

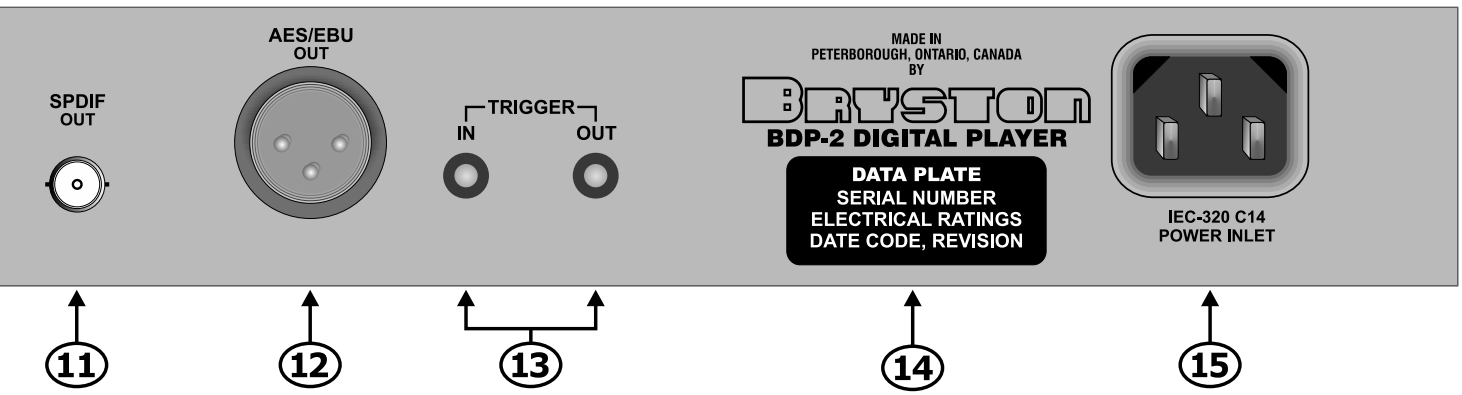
⑪ **SPDIF Output (75 Ohm BNC connector):** A Sony/Philips Digital Interface output port for connection to an outboard digital-to-analog converter like Bryston's BDA-1

⑫ **AES/EBU Output (3 pin XLR male connector)** An AES/EBU output port for connection to an outboard digital-to-analog converter like Bryston's BDA-1

⑬ **REMOTE POWER ON/OFF TRIGGER CONTROL:** The BDP-2 is equipped with two 3.5mm two conductor phone jacks for implementing a remote power On/Off function. Supplying a DC control voltage between 3 and 12 volts (at greater than or equal to approximately 1mA) to the Trigger IN port will allow you to remotely power your BDP-2 on or off. Whatever control voltage is applied to the IN port will be routed to the OUT connector, via an isolated relay, after the BDP-2 has fully powered up. This OUT port can then be used to control other devices that are similarly equipped. The the *Remote Trigger* input takes precedence over the front panel push-button switch and as long as a valid control voltage is present at the BDP-2's Trigger IN port the unit cannot be powered Off. *See illustration on next page*.

⑭ **DATA PLATE:** This label provides the units exact model number, serial number, electrical rating and date of manufacture. Do not remove.

⑮ **IEC Power Inlet:** **The IEC-320 C14 power inlet accepts IEC-320 C13 equipped power cords.** Use only appropriate power cords that have been approved for your region.



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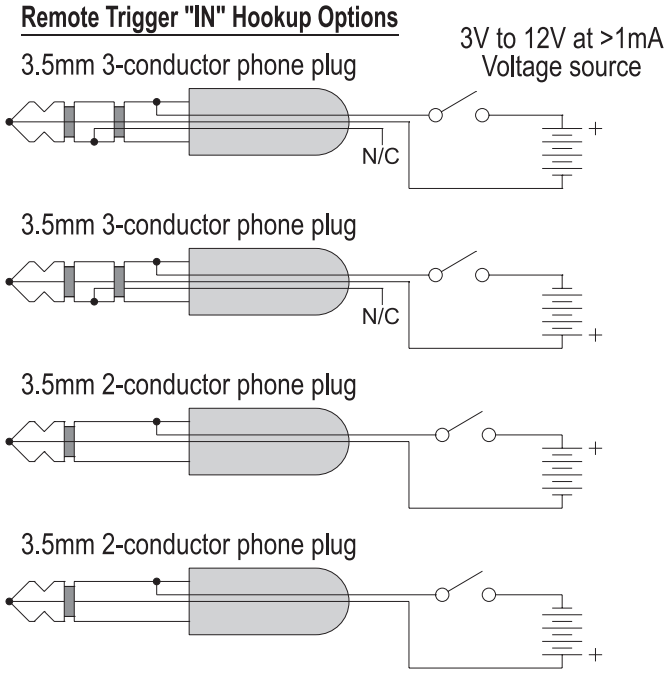
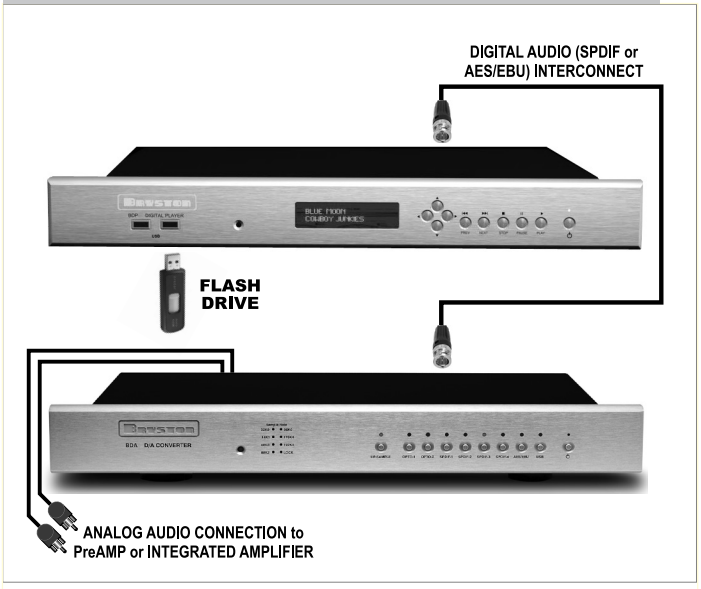



fidelity digital music system. In this minimal configuration the front panel folder/file navigation keys are used to select the files that are played.

*Minimal System Configuration:*




## EXPANDED SYSTEM CONFIGURATION

The **EXPANDED SYSTEM CONFIGURATION** shown on the opposite page, includes a wide range of remote control options. The only thing that is not shown is the Remote Trigger (power on/off control) hookup.

Besides the BR2 infra-red remote control, which is essentially a **LOCAL** control option since it requires a line-of-sight between the remote and the BDP-2, all other remote control methods are **NETWORK** control options. Whether it is a personal computer, an ***iPod Touch*** or Android tablet running appliations such as the ***mPod*** or Bryston's MINI and/or MAX web apps, all NETWORK control methods require a hard wired Ethernet connection between the network's router and the BDP-2 The ***iPod Touch***, running the ***mPod*** application, utilizes the iPod Touch's Wifi connectivity to interface with the personal computer network via the network router, which must be a WiFi router in this instance.

## ESATA HARD DISC DRIVES

Although faster than USB interfaced HDD's, eSATA hard disk drives must be independently powered when used with the BDP-2

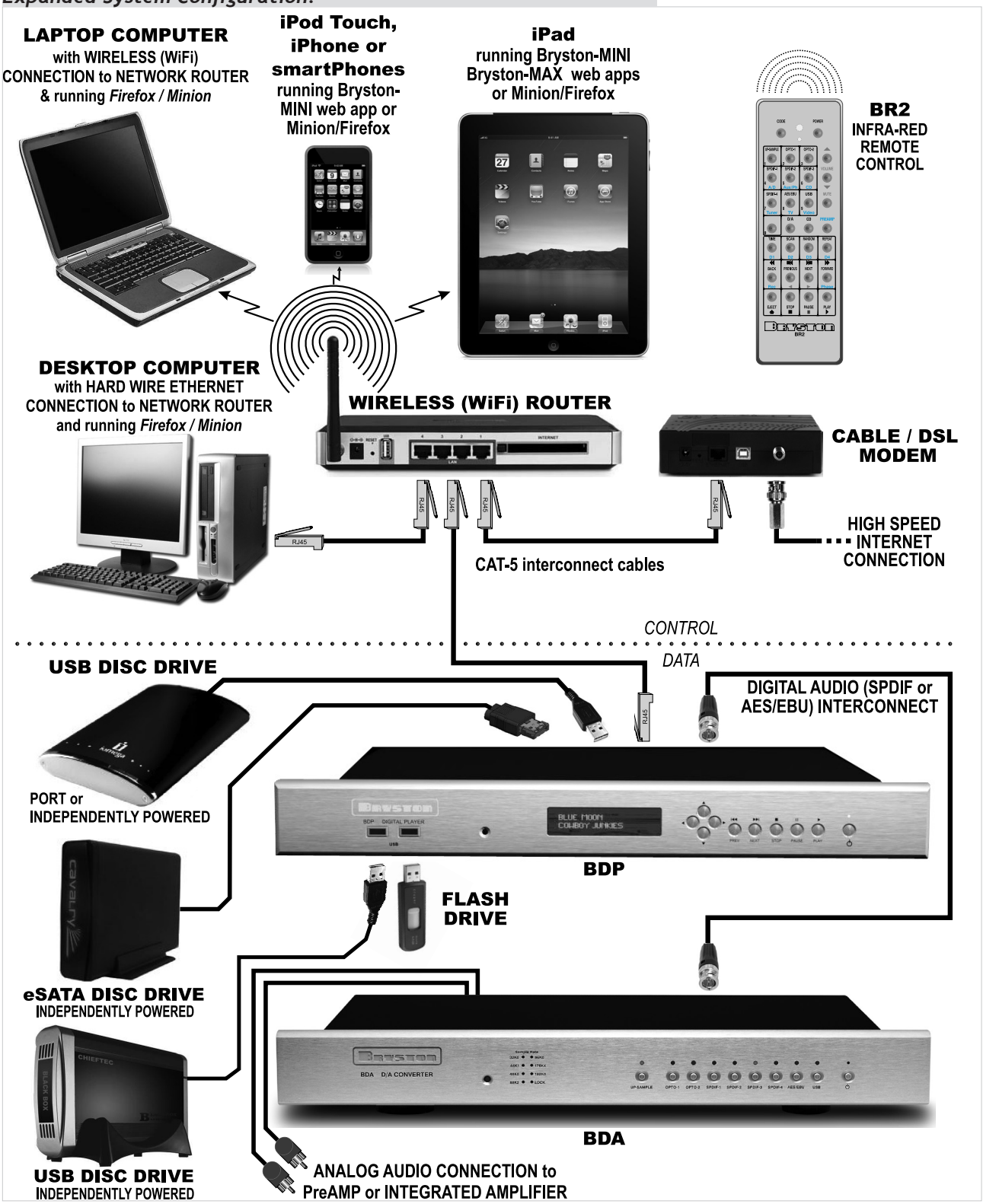
## USB HARD DISC DRIVES

**USB hard disc drives** can be are powered from the USB port itself or can be independently powered.

### DRIVE RECOMMENDATIONS

- Via its 6 USB ports, the BDP-2 can utilize USB connected *self powered* drives (i.e. hard disk drives that connect to via a USB interface but are powered from their own power supply or AC power adapter), USB port powered hard disk drives or *Thumb* drives (flash memory drives).
- Each USB port is limited to 500mA (½ amp) of current on the BDP-2 so we do not recommend USB drives requiring more current than 500ma's be used if they are going to be powered by the internal USB ports in the BDP-2.

*Expanded System Configuration:*




The specific options & assignments shown above are representational and are intended only to highlight the wide range of possible connectons to Bryston's BDP-2 digital player.

## APPLICATION SOFTWARE

The ***Bryston-MINI*** and ***Bryston-MAX*** web apps that are built in to the BDP-2 provide the easiest way of remotely controlling the BDP-2 from either a personal computer (Bryston-MAX) or SmartPhone or iPod Touch or iPad. In both cases the internal programs are utilized by simply connecting the BDP-2 to a personal computer network, launching the computer or SmartPhone's web browser and entering the address bryston-BDP-2.local The MINI version of the Bryston web app is intended for portable devices like the iPod Touch with small screens (requires iOS 3.1.2, iOS 4.0.1, Android 1.5 or Android 2.2). The MAX version is intended for the full size displays of laptop and desktop computers.

You can create your own **PLAYLISTS** by adding single songs or multiple songs to the existing playlist and touching or clicking "Save Playlist" in the menu bar. Name the Playlist and it will now show up in the menu bar on the interface.

To recall a specific playlist simply touch or click on the saved playlist name and it will load the playlist.

To delete the Playlist click on Playlist in the menu bar and then hit Delete in the right hand colum of the interface

## OPERATION NOTES

Because of the continually evolving nature of firmware and application software, the user is directed to seek the latest operational notes and other details relating to the BDP-2 and other Bryston digital audio products at **www.bryston.com** in the *Download - Technical - Digital Audio* section

## SETUP

### QUICK START:

To get your BDP-2 up and running quickly:

- Once the BDP-2 is connected to your BDA-1 or other compatible D/A converter, power up the BDP-2 and it will *Initialize*. This process may take up to 2 minutes. When initialization is finished the display will show "BRYSTON BDP-2".
- Insert a USB Flash drive or hard disk drive into one of the 6 USB sockets. Once the scanning is complete the updating indicator, a "U" in the lower left corner of the display, will disappear.
- The default username and password are both *bryston*.
- Press the RIGHT navigation button and the BDP-2 will read the contents of the drive and built an on-the-fly internal playlist, "USB" will displayed. If the USB drive contains folders, these will be displayed first. Use the UP & DOWN navigation buttons to select a folder or song title and then press right navigation button again to either load the contents of the folder or PLAY the song title displayed. Note that loading large drives or folders may take up to a minute or two. This may take up to a minute or more depending on the size of the drive and the number of files.
  Use the navigation buttons to select other songs, folders or devices (up to 6 USB devices can be connected) or use the NEXT and PREVIOUS buttons on either the BDP-2's front panel or on the BR2 infra-red remote control.

  *If you have any trouble starting up (or restarting) your BDP-2 see page 9 (back page) for more information.*

### SETUP for BDP-2 & iPod Touch/iPhone/iPad:

- Connect the BDP-2 to your household computer network by connecting the Ethernet port on the BDP-2 to a wireless (WiFi) router using a CAT-5 (or CAT-6) cable.

- Plug in a USB drive (Flash drive or hard disc drive) containing compatible music files into one of the BDP-2's USB ports. Note: on Window's PC's you may have to have *Bonjour* (see Glossary) installed. *Bonjour* is installed as part of Apple OS's.

- Launch your web browser and enter the ***bryston-BDP-2.local*** in the address box. When using iPhone, iPod Touch or iPad, Apple iOS-4 is recommended.

- Select the Bryston-MINI client application (Bryston-MAX is intended for web browsers using full size displays). When the application connects to the BDP-2, and assuming that one or more USB drives are connected, the display should show "USB". Expand "USB" to display folders and/or song lists and use the control buttons to control playback.

***or***

- Download and install the free iPad/iPhone/iPod Touch program ***mPoD*** on your iPad/iPhone/iPod Touch and under Connection Preferences enter ***bryston-BDP-2.local*** You can now use your iPad/iPhone/iPod Touch to remotely control the BDP-2 and playback any compatible music files located on the USB drives connected to it.

## SETUP for BDP-2 & NETWORKED COMPUTER:

- Connect the BDP-2 to your household computer network by connecting either Ethernet port on the BDP-2 to a wireless (WiFi) router using a CAT-5, CAT-5e OR CAT-6 cable.

- Plug in a USB drive (Flash drive or hard disc drive) containing compatible music files (AIFF, FLAC, WAV, MP3, M4A) into one of the BDP-2's USB ports. Note: on Window's PC's you may have to have *Bonjour* (see Glossary) installed. *Bonjour* is installed as part of Apple OS's.

- Select the Bryston-MAX application (the Bryston-MINI application is intended for web browsers using small screens). When the application connects to the BDP-2, and assuming that one or more USB drives are connected, the display should show "USB". Expand "USB" to display folders and/or song lists and use the control buttons to control playback.

## GLOSSARY

### AES/EBU:

This digital audio standard is also called AES3 and was published as part of IEC 60958. It is used for carrying digital audio signals between devices. Developed by the Audio Engineering Society (AES) and the European Broadcasting Union (EBU) Several different physical connectors are defined as part of the overall group of standards. A balanced connection (IEC 60958 Type I) uses 3 conductor, 110 ohm twisted pair cabling with a 3 pin XLR connector (this is the variant used on the BDP-2 and other Bryston products). See also SPDIF which is a variant of the AES3 standard.

### *BONJOUR*

*Bonjour* is a service discovery protocol. Bonjour locates devices such as printers, the BDP-2 and other computers, and the services that those devices offer on a local network using multicast Domain Name System service records. It is available as freeware from Apple Inc. for personal computers running Apple or Windows operating systems. It is usually pre-installed on Apple computers but *may* have to be installed on some Windows PC's.

### MPD (Music Player Daemon):

MPD is a server that plays music and provides a queue and control for your music. It can can be controlled through various clients locally and over the network with TCP. It is a also music file decoder with various open source audio input plug-ins and output plug-ins, using multiple outputs simultaneously if requested. It is not a full featured music player program. A version of MPD is build into the BDP-2 but is limited to decoder, queue and control functions. The current installed version of MPD (0.15.8) supports the following audio file formats: mp3, mp2, ogg, oga, ogg, oga, flac, wav, au, aiff, aif, aac, m4a, mp4, mpc, wv, sid, 16sv, 3g2, 3gp, 4xm, 8svx, aa3, aac, ac3, afc, aif, aifc, aiff, al, alaw, amr, anim, apc, ape, asf, atrac, au, aud, avi, avm2, avs, bap, bfi, c93, cak, cin, cmv, cpk, daud, dct, divx, dts, dv, dvd, dxa, eac3, film, flac, flc, fli, fll, flx, flv, g726, gsm, gxf, iss, m1v, m2v, m2t, m2ts, m4a, m4v, mad, mj2, mjpeg, mjpg, mka, mkv, mlp, mm, mmf, mov, mp+, mp1, mp2, mp3, mp4, mpc, mpeg, mpg, mpga, mpp, mpu, mve, mvi, mxf, nc, nsv, nut, nuv, oga, ogm, ogv, ogx, oma, ogg, omg, psp, pva, qcp, qt, r3d, ra, ram, rl2, rm, rmvb, roq, rpl, rvc, shn, smk, snd, sol, son, spx, str, swf, tgi, tgq, tgv, thp, ts, tsp, tta, xa, xvid, uv, uv2, vb, vid, vob, voc, vp6, vmd, wav, wma, wmv, wsaud, wsvga, wv, wve .

### *mPoD:*

mPoD is a freeware application available from Apple

*GLOSSARY continued:*

Inc. for iPod Touch, iPad and iPhone. MPoD is a remote control for MPD (Music Player Daemon). Note that MPoD is not a stand-alone application: it will only work in combination with MPD, and it doesn't play music itself. You can find out more about MPD at http://www.musicpd.org. mPoD is essentially a front end for MPD.

SB flash memory storage device also referred to as a flash drive, memory stick, USB stick, etc.

### USB HDD:

Universal Serial Bus Hard Disk Drive. May be powered directly from the USB port (sometimes referred to as *self-powered*) or by an external power supply.

### eSATA HDD

A hard disk drive with an eSATA connector which is a high speed serial ATA inferface and has higher transfer speed than $USB_2$.

### SPDIF:

Sony/Philips Digital Interface or Sony/Philips Digital Interconnection Format. It is both a data link layer protocol and a set of physical layer specifications for carrying digital audio signals between devices and components over either optical or electrical cable. The BDP-2 uses BNC connectors which are intended to be used with 75 Ω coaxial cable. SPDIF is essentially an unbalanced version of the AES/EBU format.

### IP address

An Internet Protocol address (v4) is a 32 bit number usually expressed as 4 bytes translated into decimal numbers (e.g. 255.255.255.255) used for both identification and addressing of devices and nodes on the network.

### MAC Address

Media Access Control address is binary number used as a unique identifier built into firmware or hardware. It is usually shown as a group of 6 hexadecimal number separated by colons (e.g. 01:23:45:67:89:AB). Each BPD-1 has its own unique MAC address built into it.

### Default Username & Password

The default username for BDP-2's is ***bryston***.
The default password is the same: ***bryston***

## RE-START PRODCEDURE

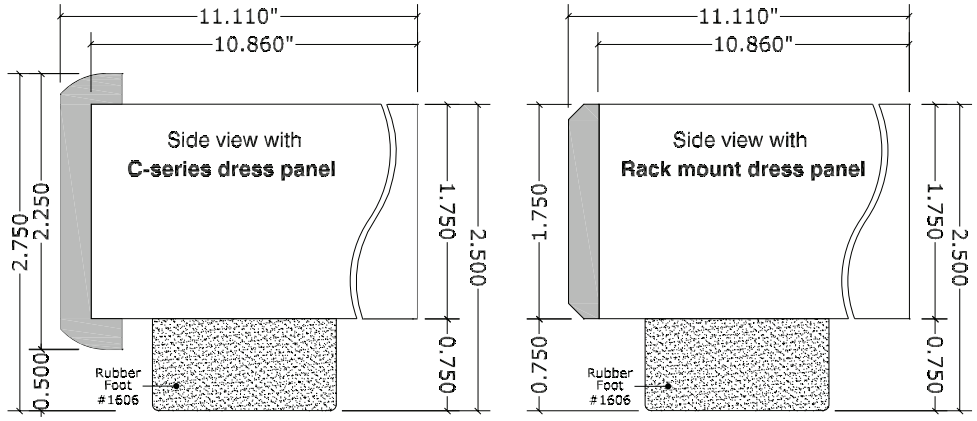
In the event that your DBP-2 is having reading files from a USB thumb drive

1) If the unit is on, turn it off.
   Unplug the USB drive from the BDP-2.
   Power the BDP-2 back on.
   After the BDP is done initializing it will display the firmware revision followed by a pause symbol ( ⏸ ) in the lower left corner. After a short while this pause symbol will change to a top symbol ( ■ ).

2) Plug the USB thumb drive into the BDP-2 & within a few seconds the stop symbol will change to "U". The "U" represents the BDP reading the contents of the thumb drive. The more files you have the longer it will take. If there are fewer then a dozen songs the update process may be so short that the "U" never appears. If the USB thumb drive has an led on it, the led should flicker during the update process.

3) Once the update process is done you should see the stop symbol reappear and the thumb

## DIMENSIONS:




- Shipping Wt: 15.2 Lbs (6.9 Kg)
- Maximum width is determined by the front dress panel. There are two types available; the C-series dress panels, in black or silver, are 17" wide. The rack mount dress panels are also 17" wide, but they allow the addition of rack mount adaptor brackets to either side of the unit allowing it to be mounted in a standard 1U (1.75" high x 19" wide) rack space. The chassis is 16.985 inches wide.

drive should be readable. If you plug the thumb drive in before the BDP displays a stop symbol after turning it on, the contents won't be read in. ***If you unplug a USB thumb drive while the BDP is reading the contents you'll cause software in the BDP to crash and will require a restart***.

4) If you still can not play back music on the thumb drive contact Bryston's service department at (01) 705-742-5325. You may be asked to allow the technician or engineer toremotely access your BDP-2 in order to diagnose and fix your BDP-2's firmware setup or configuration. This would require that your BDP-2 be plugged into a network that has Internet access.

## SERVICE MODE:

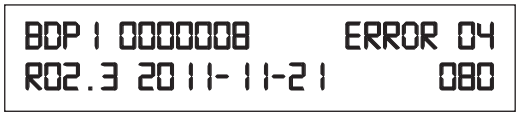
For information on Service Mode please refer to these on-line videos:
https://www.youtube.com/watch?v=I0nfBG5xDrA

# BRYSTON DIGITAL PLAYER (BDP) ERROR CODES

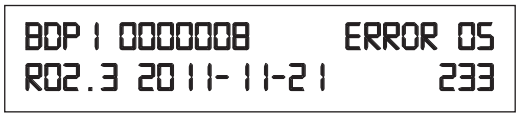
This article outlines meaning and troubleshooting steps of the various Error Codes that appear on the alpha-numeric display on the front of the BDP. There are a total of four error codes that can appear on the BDP's display and are generated by a microprocessor that is independent from the BDP's main processor board. The main processor runs the Linux OS that plays music and handles other various tasks.


**Error 03** will be displayed if the microprocessor doesn't detect voltage on the BDP's built-in analog Power Supply Unit (PSU). This usually occurs either due to a blown fuse (F1), so check the fuse for continuity or if the toroidal power transformer (part of the power BDP's built-in power supply) is unplugged. The toroidal transformer makes use of a four pin connection on the primary side and a two pin connector on the secondary side.

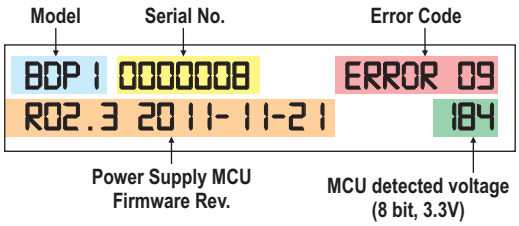
**N.B.** Before attempting to remove the fuse to check for continuity, either visually or using a meter, turn off the unit and remove all cables from it, especially the power cord.




**Error 04** will be displayed if the microprocessor detects that the voltage has sagged too low for the linear supply to generate the needed 12 volts for the BDP's main board. This message will also appear during brown outs. It is not uncommon to return home on hot summer days to find this message here in Canada. Simply put during the summer our power grid suffers from brown outs with all the central AC units running all day long. A brown out usually lasts for only a fraction of second, but this is all it takes to trip the microprocessor. A multi-meter generally won't show these brown outs or dips in AC power because they are too brief to be captured by general purpose meters. To catch a brown out you would need something that can take reading quickly and record it much like a digital storage oscilloscope. The BDP's minimum line voltage for 120V and 240V units are 100V and 190V respectively.



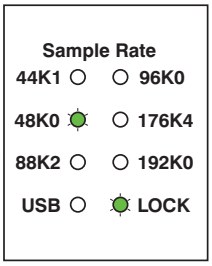

**Error 05** will be displayed if the microprocessor detects that voltage is to high for the linear power supply to handle, as if the linear regulator has an upper limit as to what it can dissipate before it overheats and damages itself. Again it is not overly uncommon for power spikes to occur once in a while. Also, different regions have varying levels of power line regulation. Power spikes generally behave much like brown outs so they also can't be caught with something as simple as a multi-meter. The maximum input voltage that the BDP will accept before triggering this error code for 120V and 240V units are 128V and 254V respectively. the central AC units running all day long. A brown out usually lasts for only a fraction of second, but this is all it takes to trip the microprocessor. A multi-meter generally won't show these brown outs or dips in AC power because they are too brief to be captured by general purpose meters. To catch a brown out you would need something that can take reading quickly and record it much like a digital storage oscilloscope. The BDP's minimum line voltage for 120V and 240V units are 100V and 190V respectively.




**Error 9** is the only error message to not be triggered by power line conditions. This message occurs if the microprocessor doesn't hear from the main board running the Linux OS. The way this operates, when the system is working as it should, is that the user triggers the BDP to turn on (using the power button, BR-2 remote or 12v triggers) and this tells the microprocessor to turn on the linear 12 volt power supply. This, in turn, causes the main board to start the Linux OS. When the Linux OS is up a running it sends its firmware revision to the microprocessor to be displayed on the BDP's display. If the firmware revision is not received by the microprocessor within two minutes of applying power, then the microprocessor cuts power and displays the above message. When this occurs there are a handful of things that you can check.

# BDP ERROR CODES continued

***Error 9 continued:***




Before taking anything apart check to see if your DAC receives lock at any point before the message appears, if the DAC is receiving lock it will stop when the error code appears.

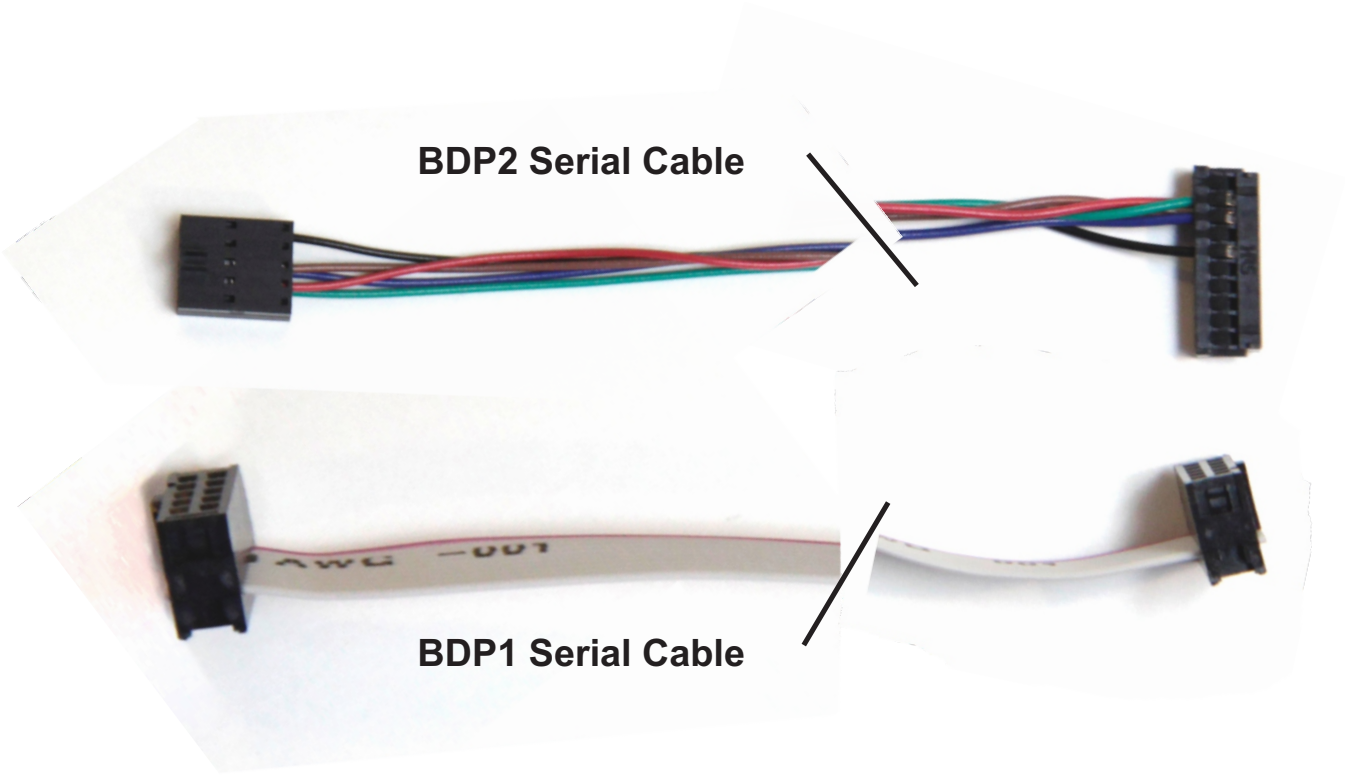
If the DAC does receive lock at any point during initialization then the Linux OS is starting up and loading drivers, this tells us the most likely culprit is a loose serial cable. You should check to make sure that the serial cable that connects the main-board to the microprocessor is connected and there aren't any loose wires.
The picture above shows the BDP-2's serial cable (top) and the BDP-1's serial cable (bottom). You should identify and follow this cable to both ends are connected.

If the DAC is not receiving lock then the problem is likely that the Linux OS isn't booting which could be caused by a drive (simply unplug any drives and try turning on the unit) or and more likely a faulty CF card, if you feel technically inclined follow the steps linked below to re-flash the CF card.

**https://dl.dropboxusercontent.com/u/86196657/DOCS/BDP%20image%20Mac%20OS%20X.pdf**

**https://dl.dropboxusercontent.com/u/86196657/DOCS/BDP%20image%20Windows.pdf**

Otherwise we can send you a replacement CF card in the mail.



**For more information visit Bryston's web site at**

## www.bryston.com

and go to the Technical Downloads section. This are schematics, Owner's Manuals, Physical Dimension drawings, and other documents such as tables, notes & other background infomation available for many models.

For still more indepth technical information you may wish to visit Bryston's FTP site at

## ftp.bryston.com/pub

where many downloadable documents are available including:

- Firmware updates (ftp.bryston.com/pub/firmware)
- Owners Manuals (ftp.bryston.com/pub/manuals)
- Reviews (ftp.bryston.com/pub/reviews)
- Photographs (ftp.bryston.com/pub/photos)
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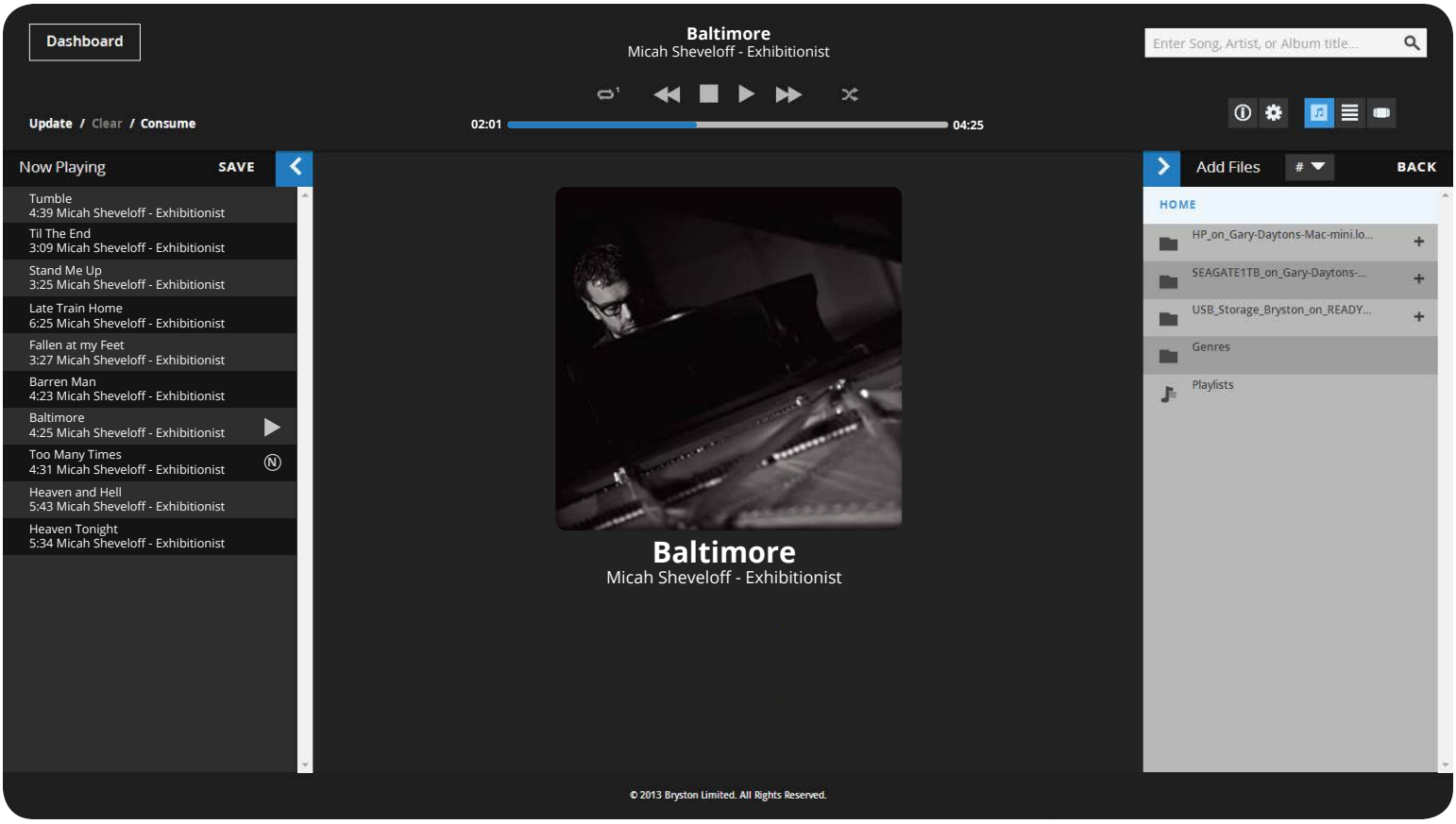



# Firmware User's Manual

## Manic Moose: S2.0

# Contents

# Introduction to Manic Moose

The 3rd major firmware release for the Bryston Digital Players has been rewritten from the ground up to satisfy the desire for more features, a more attractive and intuitive look and feel, and even greater stability. Though, none of the improvements disturb the sound quality upon which Bryston has built it's sterling reputation. Also unaffected is the ability to use third-party control applications like MPaD (for iPad) and MPDroid (for Android devices) if that's how you prefer to interface with your BDP. However, you may wish to take another look at our built-in interface.

A primary design goal of Manic Moose was to provide the same user interface experience on all platforms. Despite the screen size differences, and lack or absence of a keyboard and mouse, you should always be able to control your BDP in a familiar and intuitive way from any device you own.

To make this work, we have developed the user interface with a protocol called WebSockets which is found in virtually all modern browsers for computer and mobile device applications. If your device of choice is incompatible, you'll simply receive a warning saying WebSockets not supported at which point you can download a more modern version of your browser of choice.

Though you can print this manual for reference, note that subsequent firmware updates may render this version invalid. So, each time you download a firmware update, check for a new version of the manual as well, though it may not always be immediately available.

# MPD

## Library and Playlist

The core of Bryston's Digital Players is an open source software called MPD, Music Player Daemon. We build MPD to work specifically with our hardware to catalog your library and play your music bit-perfectly. In order to understand how MPD works, think about it in terms of your regular physical media collection: From your entire collection, you set up a queue (a playlist in MPD parlance). The playlist is simply an ordered list of tracks. For many of us, a playlist is commonly a single album we wish to listen to. Or, perhaps guests are coming over, and you want to stack up (just like records!) a few hours of music that sets the mood through greetings, cocktails, dinner and conversation.

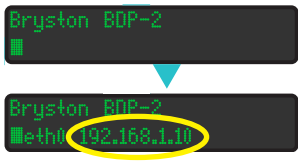
We have designed our software to make playlist building simple and enjoyable. If you have a carefully organized music library, we provide a method by which you can navigate your library through drives, folders and tracks. Or, if you prefer to browse by artist with album cover art, we've designed an intuitive interface for that too.

## File Types

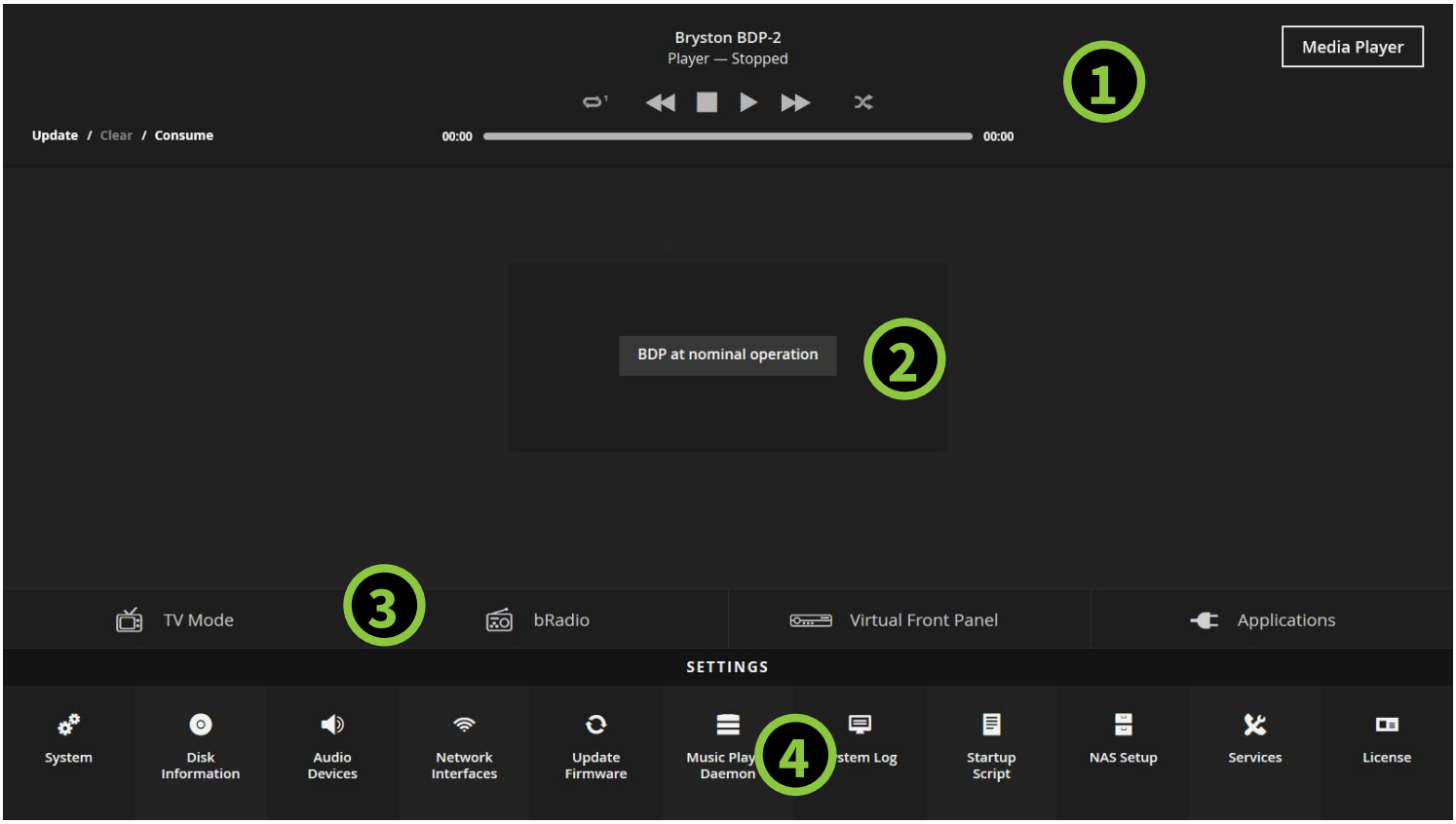
We build in support for the vast majority of codecs and file types available including WAV, AIFF and other uncompressed PCM. FLAC, Apple Lossless, and other losslessly compressed files are supported as well as a variety of popular lossy file types such as MP3, WMA, and OGG. If you have a DAC that will accept DoP (Direct Stream Digital over PCM), you can play these files as well. It's unlikely you'll find a file type we can't play.

# Orientation

Find the IP address of your BDP from the front panel home screen by pressing the down button once or twice. Your IP address will be shown to the right of eth0 or eth1 depending on the Ethernet port you've used on the back of the unit.




View the Dashboard (the home screen) of your BDP from your web browser by entering the IP address of your player in the address bar. Alternately, you may enter http://bryston-bdp-*[1 or 2]*.local. Use 1 or 2 depending on which model player you have.




1. The Media Player Header contains basic controls for playback of your music persistent across all screens. The upper right corner features a button that will take you to the Media Player where you can interact with your library and playlists.
2. A message window alerts to you important information about the status of the player such as when a firmware update is available, or when a serious error has occurred. Note that upon restarting, it may show that no internet connection is available, but this will resolve after a few moments.
3. A row of special applications described in detail later in the manual.
4. The Settings menu offers access to a wide array of tools and services used to customize your BDP.

# Adding Music to your Library

There are two basic ways to add music to the library on your BDP-1. The BDP-2 features a third.

1. Locally attached storage: You can attach an external drive or thumb drive via one of the available USB ports. The BDP-2 also offers an eSATA port on the back and an internal SATA connector for internal drive installation.

2. Network Attached Storage: Any music library shared on your local area network can be access by the BDP.

## Locally Attached Storage

The most common way to supply music to your BDP is by connecting a drive directly to one of the USB ports. USB 1.1, USB 2.0, or USB 3.0 (at USB 2.0 speeds) drives are all compatible. If your drive is buss powered (has no extra power connector), and draws more than 500mA of current, you may need a powered USB hub for it.

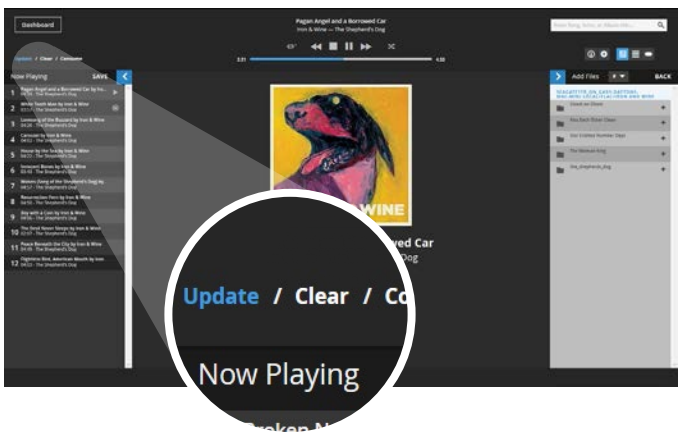
Each of the USB ports on the BDP-2 is independently powered and can support buss powered drives, that is drives with no external power supply. The BDP-1 USB ports share power supplies. The front panel USB ports are suitable for thumb drives, or self-powered drives. The rear panel USB ports are suitable for buss powered or self powered drives.

The BDP-2 also features an eSATA connector useful for connecting compatible self-powered hard drives. Finally, the BDP-2 can also have an internal hard drive or SSD installed. Please refer to your BDP-2 Owner's Manual for information on how to install one.

## Connecting your USB Drives

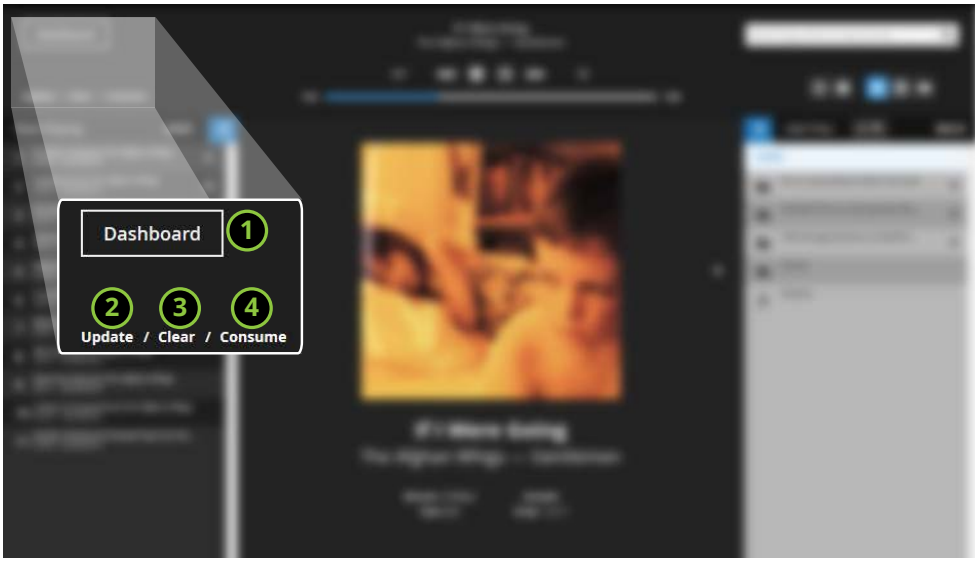
Simply insert the USB cable for your music drive(s) into the appropriate USB port on your BDP. The BDP will automatically scan and index the drive.

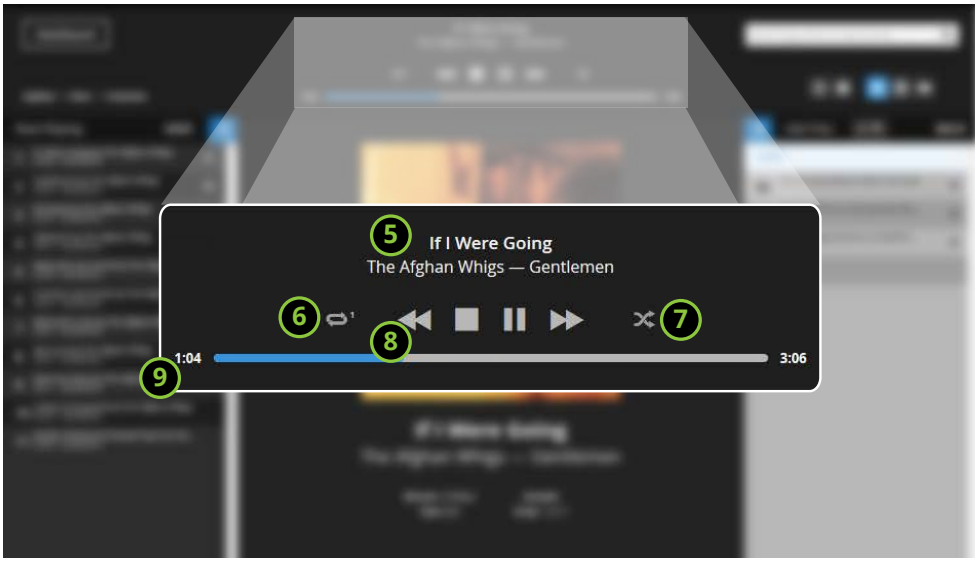

The time it takes to index your music is proportional to the size of the library contained within. The BDP gives two indications that the library is being updated. A capital letter **U** is displayed in the lower left corner of the display on the unit, and **Update** appears in blue rather than white on the web interface. All music on the entire drive will be scanned and indexed.

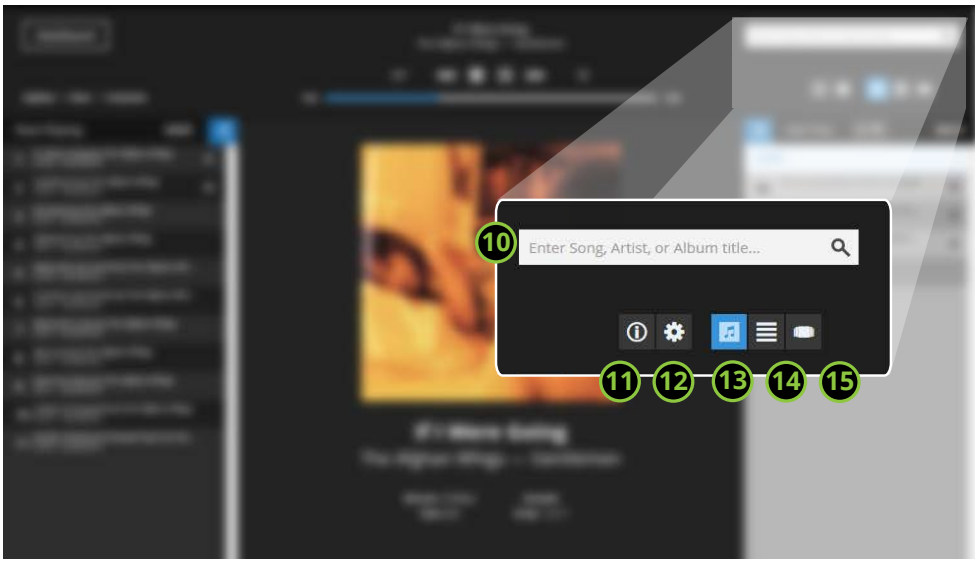



# **Media Player:**Header

The header is persistent across the entire web user interface of Manic Moose so that you always have immediate access to basic playback controls. Even if you are in a settings page, you can always pause, skip tracks or even update your library database with a single click or tap.



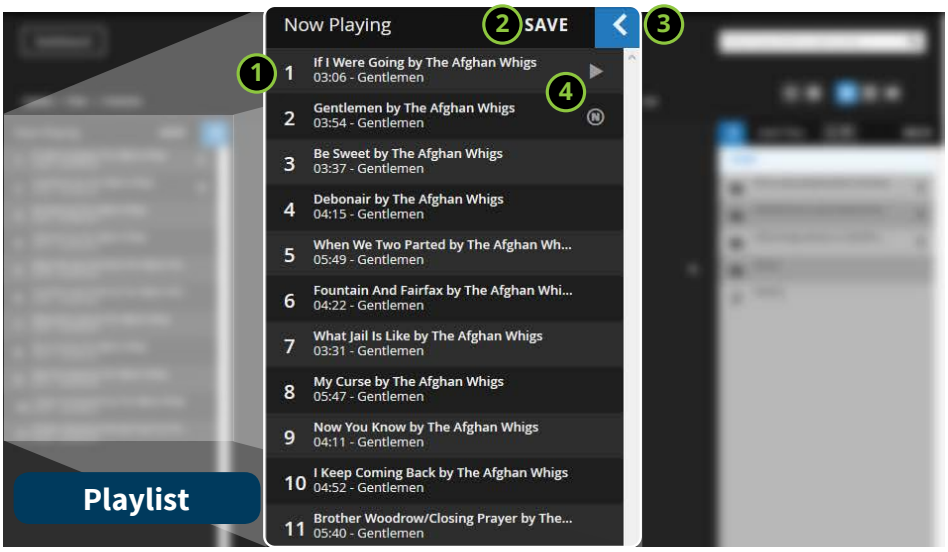



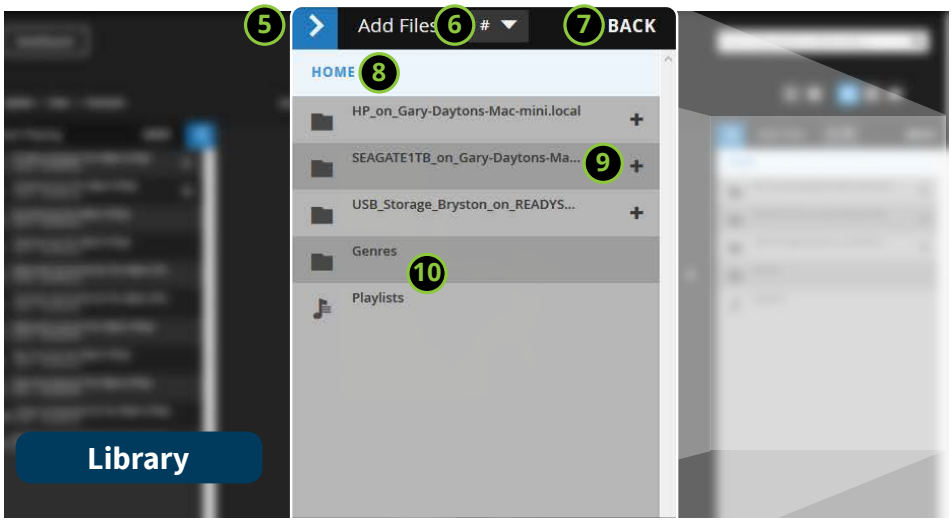




1. From the Media Player, you can jump back to the **Dashboard** where you can adjust configuration settings with this button.
2. After you add new music to your drives, click the **Update** button so it will be included in your Library
3. **Clear** the current playlist and stop playback immediately.
4. **Consume** mode removes tracks as they are played. This is especially useful when used with Shuffle since using them together shuffles a playlist without playing the same track twice.
5. The top row is the currently playing **track title**, and the bottom row is the **artist - album**.
6. **Repeat** Playlist. When blue, the playlist will be repeated. When gray, play will stop at the end of the playlist
7. **Shuffle** tracks within the current playlist. This is often used with “consume”. See 4.
8. **Transport controls**. Skip forward or backward, stop or pause the playlist. When play is stopped or paused, the pause button changes to a triangle for Play.3.
9. **Track time bar**. The left clock shows the time elapsed in the current track, and the right clock indicates time remaining. Click anywhere along the bar to instantly jump to that time.
10. Type a **search** term here to narrow down your library
11. Initiate a basic **metadata editor**. See “Info” on page 10 for details
12. Change Media Player **settings**. See “Settings” on page 11 for details.
13. **Default View** to browse your library by directory structure.
14. **Song View** permits detailed browsing of your current playlist.
15. **Artist View** organizes your library by Artist, then Albums and provides an attractive cover art view.

# Default View

Browse your library and add tracks to the playlist based on your chosen organizational scheme for the files. For instance, if you have your music collection spread across 3 hard drives: one for classical, one for jazz, and one for rock, then you have artist folders on each drive, and album folders within those drives, you can easily navigate your library based on that structure.



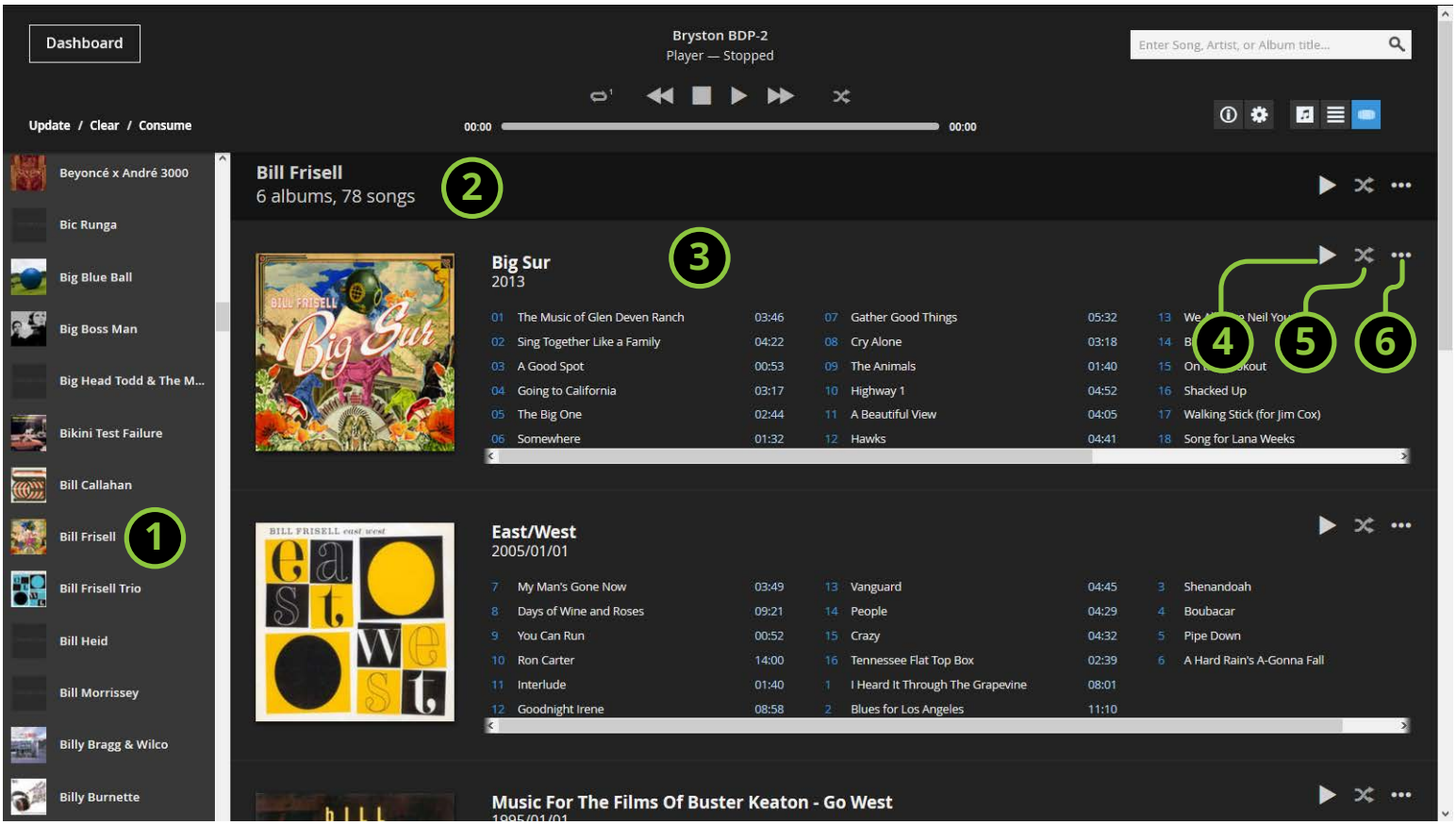





1. Your playlist in order. To edit a playlist, see “Playlist Management” on page 9
2. To save a playlist for later retrieval, click Save. To delete a saved playlist, see “Removing a Stored Playlist” on page 9.
3. Collapse the Playlist frame by pressing the **<** button.
4. The playing track is indicated by the ▶. Next track is indicated by the Ⓝ
5. Collapse the Library frame by pressing the **>**.
6. Skip quickly to folders beginning with letters or numbers with this dropdown.
7. Step backwards in the file structure by pressing Back
8. Indicates current folder being viewed.
9. Indicates all drives or folders within the location in item (8). Click + to add drives, folders or tracks to the playlist.
10. Genres and Playlists are special folders. Genres organizes your library based on file tag genre. Playlists include any of your saved playlists.
11. Cover art for your currently playing track. To setup cover art, see “Setting a Scratch Disk” on page 14
12. Currently playing track title.
13. Currently playing artist -- album.
14. Data rate of currently playing file based on file type.
15. File type of currently playing track. For supported file types, see “File Types” on page 3
16. PCM sample rate of currently playing track (e.g. 44K1=44,100 samples per second).
17. Position in the playlist of currently playing track out of total number of tracks cued.

# Artist View

A beautiful graphical perspective of your library as organized by Artist or Album Artist. From Artist View, you can instantly play an entire artist's repertoire, just one album, or stack up a playlist of songs from each album. Album view works best when the metadata for your music is correct and thorough. See document *Metadata Best Practices*. Also, set a scratch drive. See "Setting a Scratch Disk" on page 14.




1. Every artist in your library has an entry. Use "Media Player Settings" (page 11) to select whether to use metadata for individual track artists (default) or album artists to comprise this list.
2. The currently selected artist, number of albums by that artist, and total number of songs by the artist.
3. Each album by the currently selected artist has it's own frame anchored on the left by the cover art[1] for that album. The title and release date are listed for the album. Then song titles, track numbers and length are listed for all tracks in the album. You can add individual songs to your playlist by clicking on them.
4. Add the entire album to the playlist and play it at once by clicking ▶.
5. Add the album to the playlist in shuffled order by pressing the.
6. Hover over the ••• button to see two options. Either add the entire album to the current playlist, or add the entire album to another saved playlist.

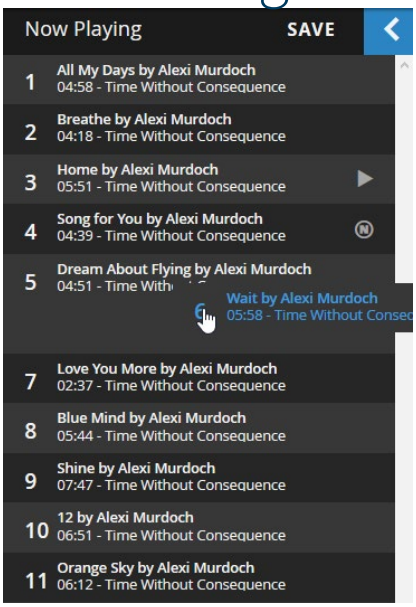
Buttons 4-6 are also available in the black bar that shows the currently selected Artist. These buttons perform the same task as described above, but for the entire Artist rather than the album.

1 *See "Setting a Scratch Disk" on page 14 for Album Art*

# Playlist Management

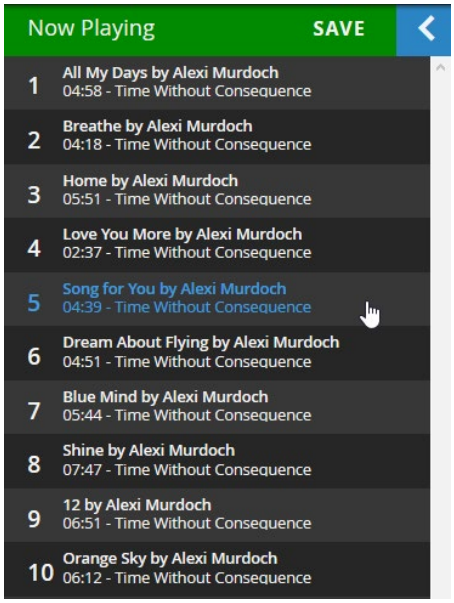
Once you have stacked up a playlist, it will play back in order unless you have enabled Shuffle. You may occasionally wish to re-order the playlist or simply remove tracks altogether. You can also save a playlist for later recall, and remove saved playlists from your library without permanently deleting your tracks.

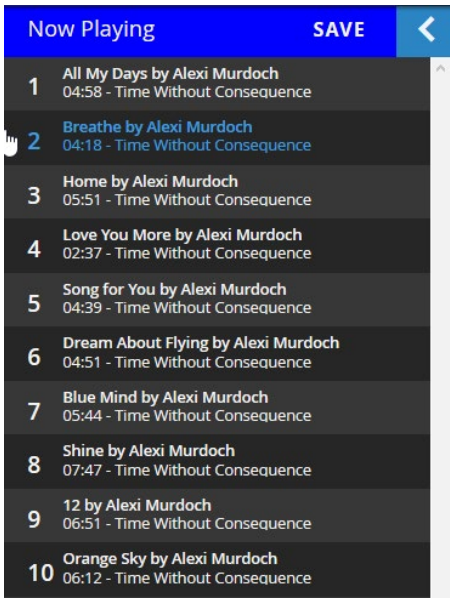
## Reordering Your Playlist




Tap or click and hold the number beside a track and drag it into the new position in a playlist.

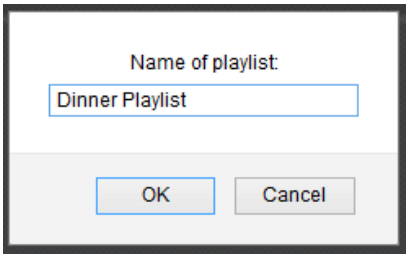
Or



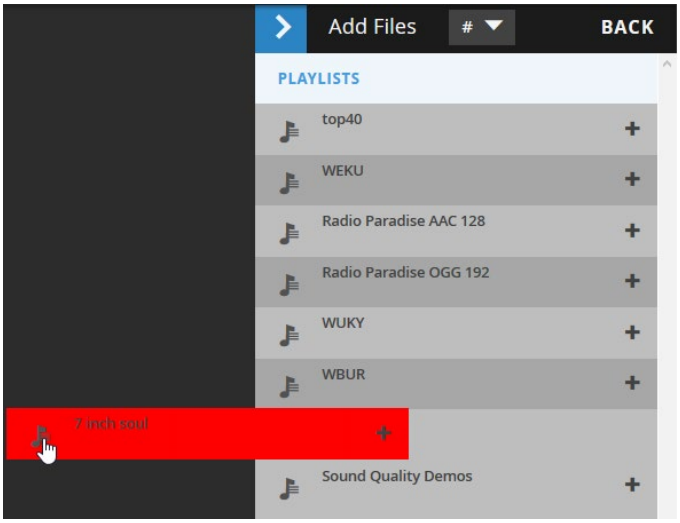

1. Press the “M” key on your keyboard. Now Playing turns Green.
2. Click the track you would like to move. Now Playing turns Blue.
3. Click the track above which you’d like to place the track you are moving.

## Saving a Playlist




You can save a playlist for later recall by simply clicking the “Save” button in the Now Playing frame. In the dialogue box that appears, enter a unique name for your playlist and click “Save”.

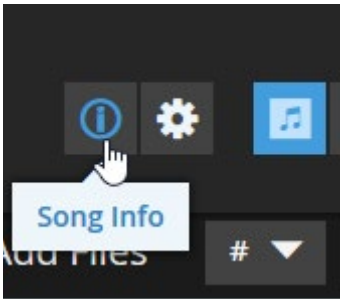
## Removing a Stored Playlist



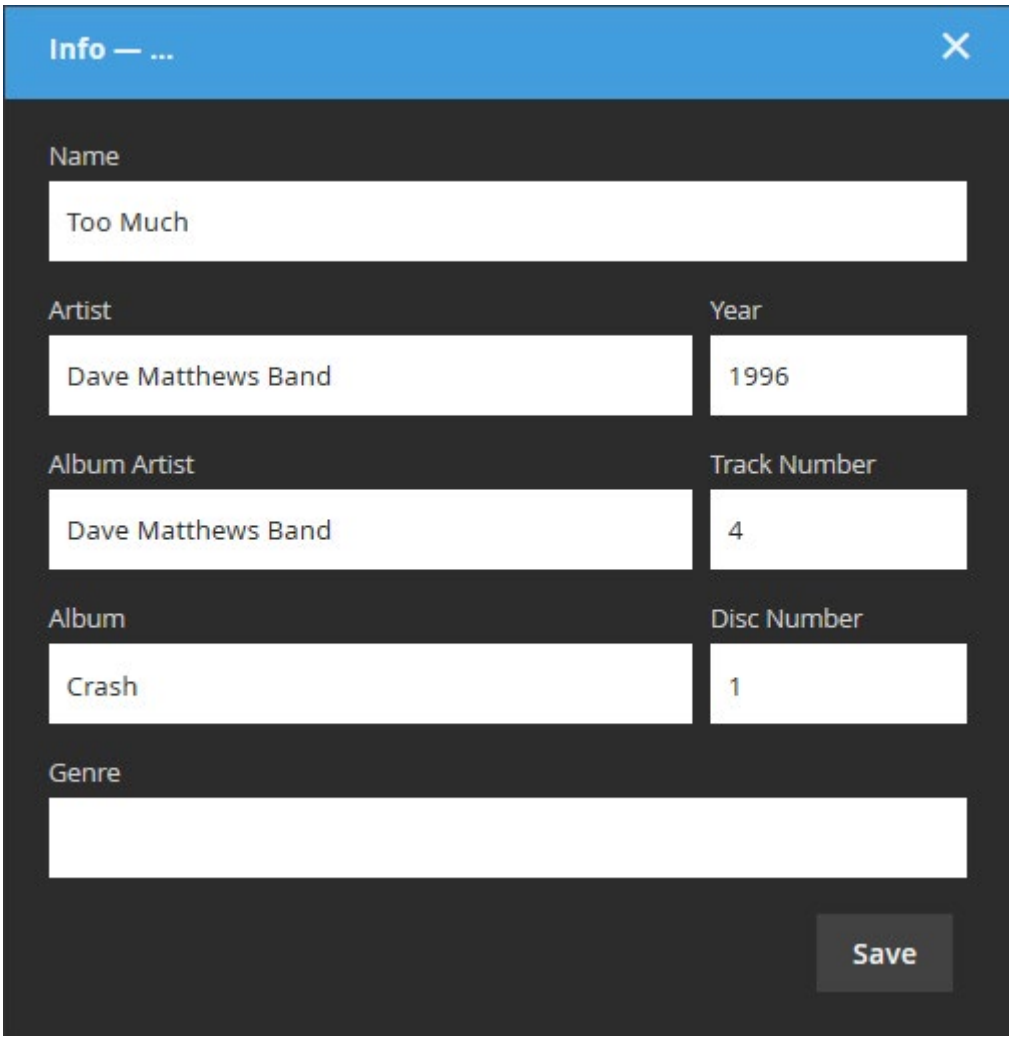

Any stored playlist can be removed from your library by clicking and dragging the playlist icon corresponding to that list towards the middle of the screen. When it is highlighted red, release. Note that the tracks themselves are not deleted.

# Info

Manic Moose features a simple editor that enables you to edit basic metadata in an individual track. It is not designed to manage metadata for your entire library. Rather it's a useful quick access tool to view and edit metadata for individual tracks. For instance, if you notice a spelling error in a track title, you can use the Bryston built in editor to correct it without having to rely upon 3rd party software.

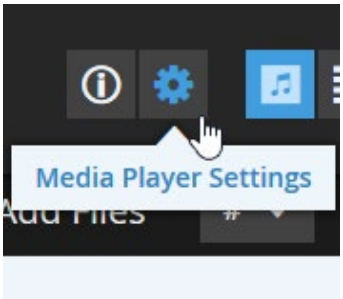



1. Click the ⓘ to open the "Song Info" metadata editor from any Media Player.
2. The editor will open and show metadata for the currently playing track.
3. Edit any of the available fields and press **Save** to save your changes.
4. Once you are satisfied with your changes, press the X in the upper right corner of the frame to close the editor.



# Settings

The web browser based interface is designed to be as intuitive and simple to operate as possible. However, we offer a few settings for you to customize based on your liking.




1. Click the ⚙ to open the "Media Player Settings" frame from any Media Player.
2. The editor will open and show available options with currently enabled ones indicated by checked boxes.
3. Select desired options and press Save.
4. Once you are satisfied with your changes, press the X in the upper right corner of the frame to close.

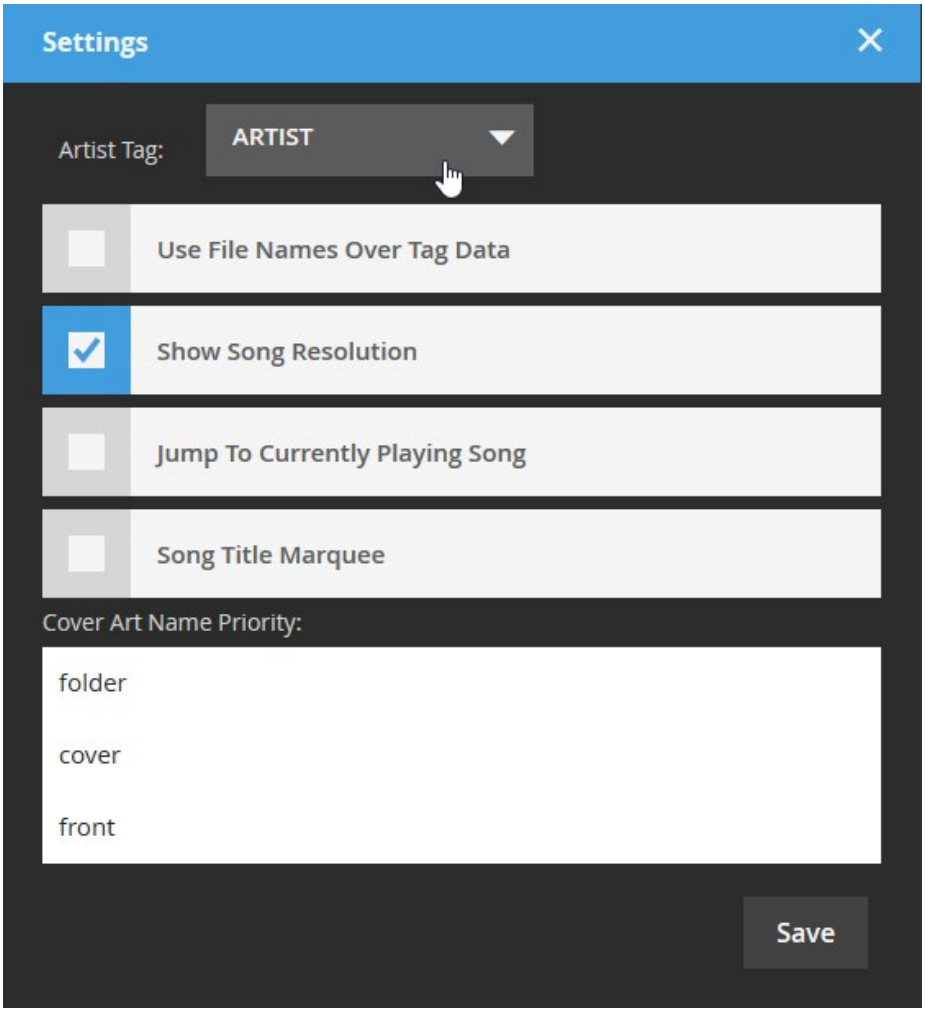
**Artist Tag** lets you choose whether Artist View should organize by the Album Artist tag in your metadata or the Artist Tag. The difference is that, for example, a compilation album will be sorted by "Various Artists" and remain together as an album, or each track will be independently listed by its artist.

**Use File Names Over Tag Data** tells the media player to ignore metadata and display file names instead when browsing in Normal View. This is useful if you have named your files with precisely the information you want to appear on screen or if your file names are more accurate than your tag data.

**Show Song Resolution** adds indicators for PCM sample rate and bit depth in the Normal View. Useful if you would like to know the resolution of a file before playing it.

**Jump to Currently Playing Song** XX

**Song Title Marquee** permits very long track titles to scroll at the top of the Media Player Header.




**Cover Art Name Priority** determines order in which the library updater will scan album folders looking for cover art. The example shown indicates that if folder.jpg isn't found, it will then search for cover.jpg, then front.jpg.

# **Settings:**System

The System window gives you non-adjustable information about your BDP. It is divided into two sections. The MPD section provides statistics on your player and library. The About section indicates currently installed software versions.

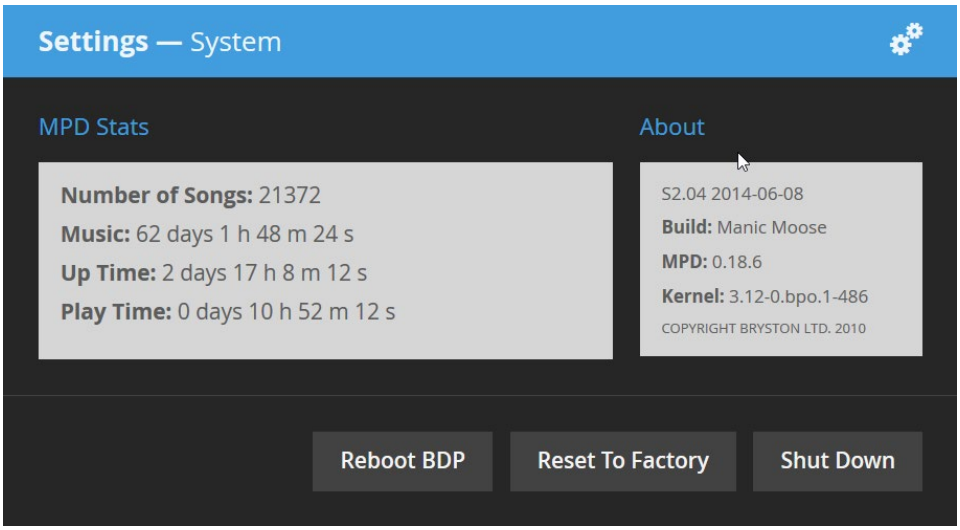
**MPD Stats**

**Number of Songs**: A count of all indexed audio tracks

**Music**: How much consecutive time it would take to play each song in your library once.

**Up Time**: Length of time since last restart of your BDP

**Play Time**: Length of time BDP has been playing music since last restart.




**About**

**S2.xx**: The version number of your firmware and its associated build date.

**Build**: Colloquial name for the major firmware version.

**MPD**: Version of MPD loaded.

**Kernel**: Linux Kernel version upon which the firmware is built.

**Buttons**

**Reboot BDP**: A software restart of the BDP

**Reset To Factory**: Resets all settings to factory default and clears the library

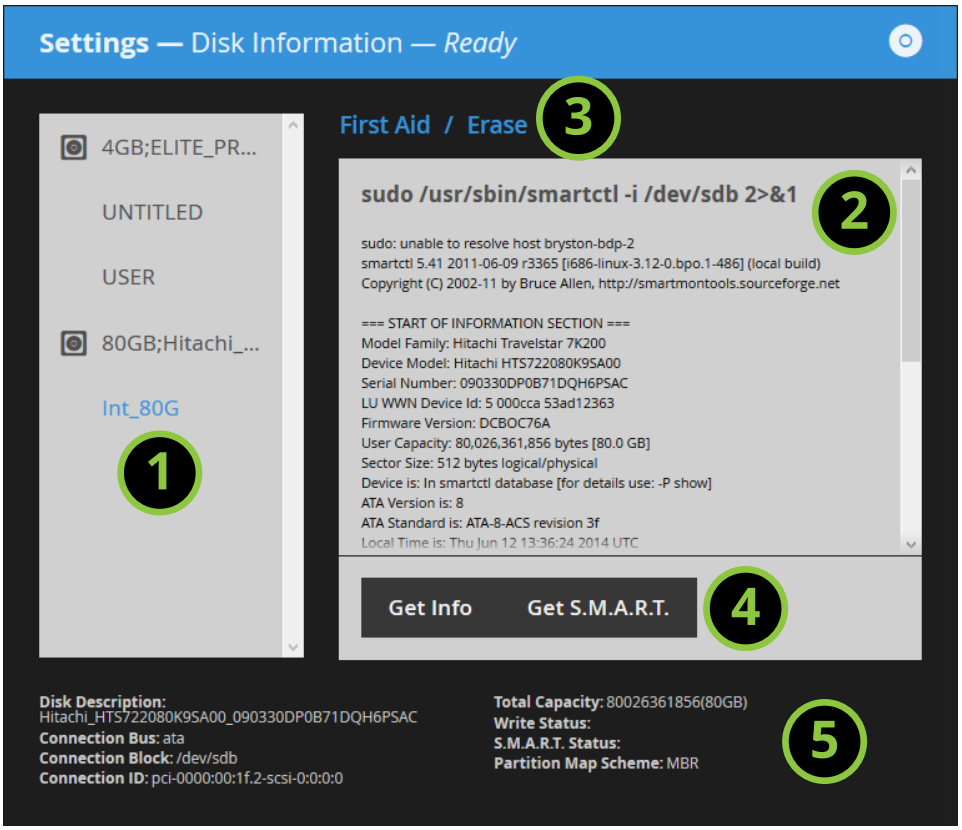
**Shutdown**: Powers down the BDP.

# Disk Information

Disk information is a valuable tool for getting details about the disks connected locally to your BDP. It lists details about the internal Compact Flash card on which the operating system runs as well as USB and eSATA attached drives. In the event of trouble with your BDP, diagnostic and repair utilities can be run on the disks without removing them from the BDP.

*Because disk operations are inherently at risk for data corruption, this area is password protected and shouldn't be used without knowledge of the processes or without guidance from Bryston technical support.*

1. List of attached disks and their respective partitions.
2. Click on a disk or partition to view information about it in this window.
3. Perform First Aid or Erase a disk or partition.
4. Buttons providing access to utilities appropriate for either the entire disk or a partition depending on which you have selected in window (1). See Disk Utility Options for details.
5. Detailed information about the disk or partition selected.




## Disk Utility Options

**Disk Selected:**

**Get Info:** A complete accounting of physical details about the disk

**Get S.M.A.R.T.:** If the selected disk is compatible with S.M.A.R.T., this function will report the health of your disk.

**Partition Selected:**

**Mount:** Mount or unmount the selected partition.

**Verify:** Verify the file system structure is healthy

**Repair:** If the file system structure is found to have problems, attempt to repair them.

**Update:** Update the music library with the contents of the selected partition

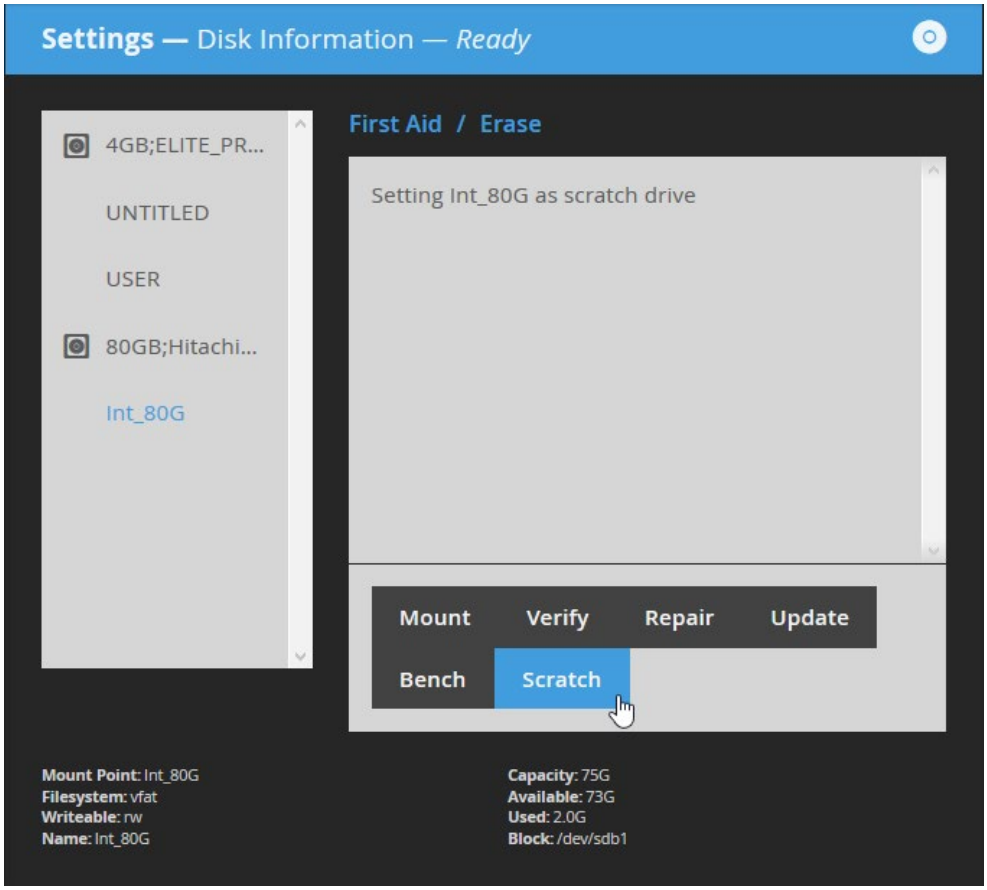
**Bench:** Benchmark the performance of the selected partition.

**Scratch:** Set the selected partition as a scratch drive to enable cover art to be used in Artist View. A spare thumb drive or any other locally connected disk can be safely used. See "Setting a Scratch Disk" on page 14.

# Setting a Scratch Disk

In order to create BDP compatible album art used in the Artist View, you need to define a Scratch Drive - a drive for storing cached copies of this art for quick retrieval. Any locally attached drive formatted as FAT32 can be used. The drive can be one that is already used for music, or a separate USB drive specifically for scratch. Allow between 1-5 gigabytes of free space depending on the size of your library.

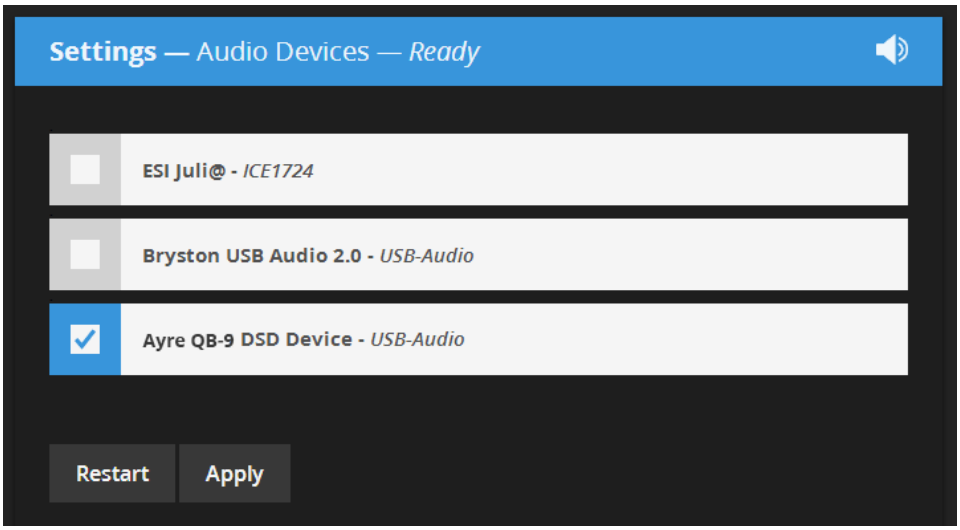
1. From Disk Information, click the partition you wish to use as your scratch drive. You cannot choose any partitions on the internal flash card.
2. Click the Scratch button.
3. You will receive a confirmation message in the window saying "Setting [your chosen partition] as scratch drive"
4. You can now navigate away from the Disk Information window. Subsequent visits to the Disk Information window will show your chosen scratch drive in blue text.



# Audio Devices

A distinguishing feature of Manic Moose is the ability to connect external DACs via USB. This includes standard USB Audio Class 2 models that can decode DSD (Direct Stream Digital) received via the DoP protocol. In Audio Devices, identify any connected DoP capable device and place a check next to it to enable DSD playback. Any USB port on the BDP1 or BDP2 can be used provided the DAC is self powered.

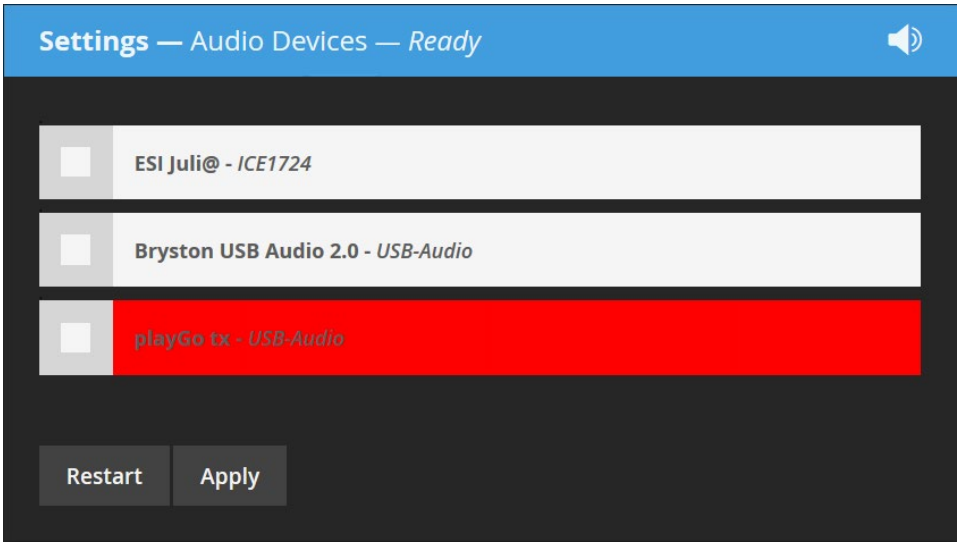
1. Plug your DAC into any available USB port.
2. Click Restart
3. If your USB DAC is capable of DSD over PCM (DoP), check the box next to it. Note that in our example, the built in audio device (ESI Juli@) is not DSD capable, nor is the Bryston BDP-2 connected via USB below it. However, the Ayre USB DAC is DSD capable, and therefore we have checked the box next to it.




4. Click Apply to save your changes.

The BDP will remember these settings and they will be applied each time the device is restarted.

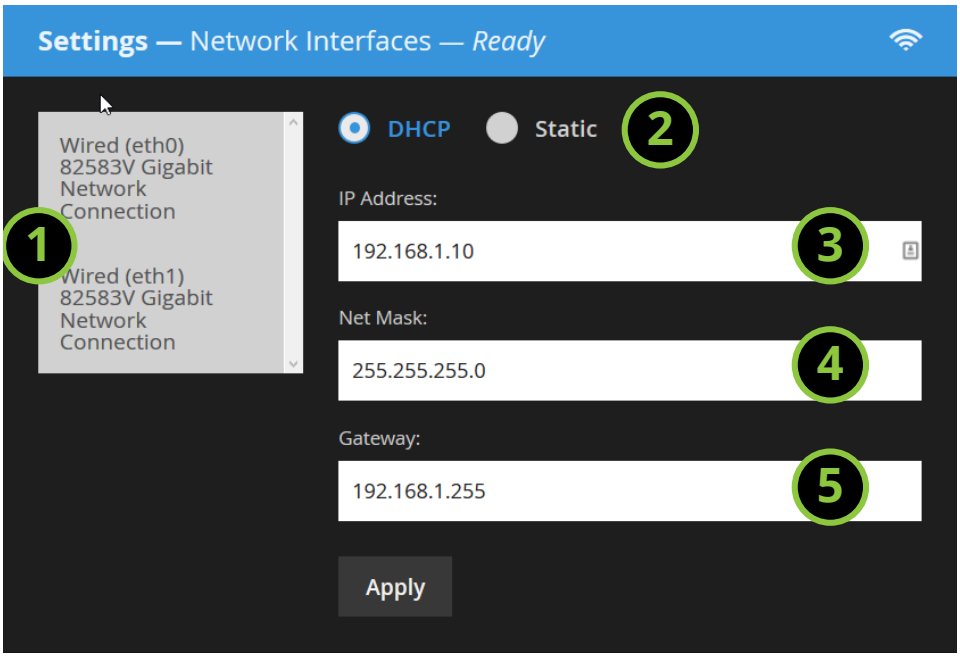
If a connected audio device appears highlighted in RED, it has been recognized, but MPD needs to be restarted to enable it. Simply click the Restart button.



# Network Interfaces

The BDP-1 features a single 100 mbps Ethernet port, and the BDP-2 features two gigabit Ethernet ports. This menu lets you view and control settings for these interfaces. When first opened, you will see a default screen while information about your Network Interfaces is populated.

1. Click the network interface you wish to view or edit information about.
2. Choose whether the interface should receive automatically assigned information from the router(DHCP - default), or if you would like to set it manually (static[1]).
3. Once you are satisfied with your settings, click apply.

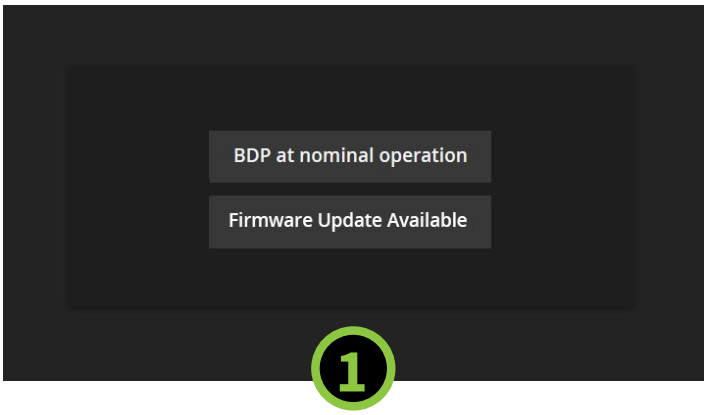


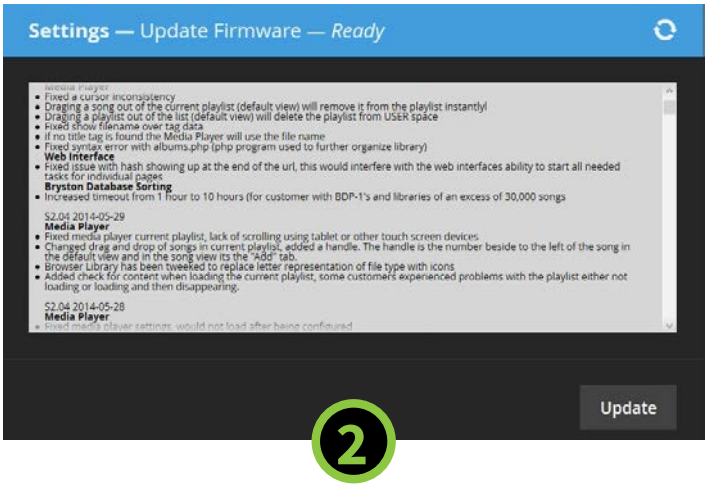

*1 You may feel the need to set a static IP address from within the BDP to prevent the BDP from receiving a different IP address from the router each time the BDP is restarted. If you forget to set DNS servers, or if your ISP's DNS servers change, the BDP will be usable from the local network, but will not be able to reach the internet to receive firmware updates and stream internet radio.*
*Two other methods exist that mitigate the need to keep up with the BDP receiving different IP addresses:*

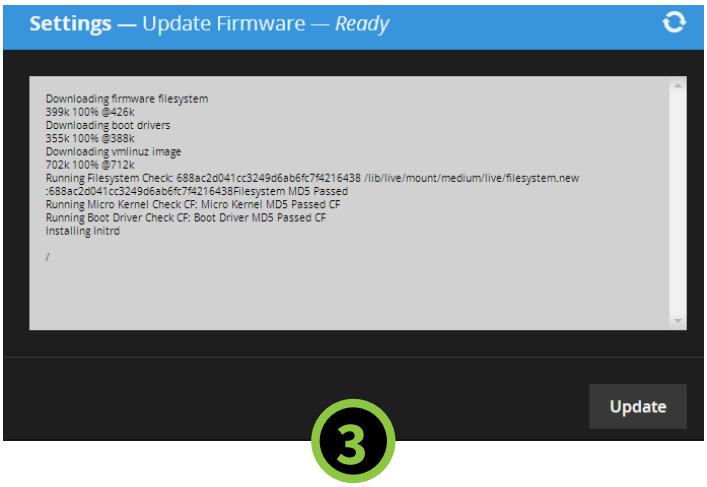
*a. Rather than remembering an IP address, devices running zeroconf networking (such as Bonjour or Avahi) can find the BDP by using the URL http://bryston-bdp-2.local or http://bryston-bdp-1.local. Most computers with iTunes installed, and all Apple mobile devices can use this method. Or, install Bonjour or Avahi separately.*
*b. From your router's settings page, create a DHCP reservation for your BDP which assigns the BDP the same IP address all the time.*

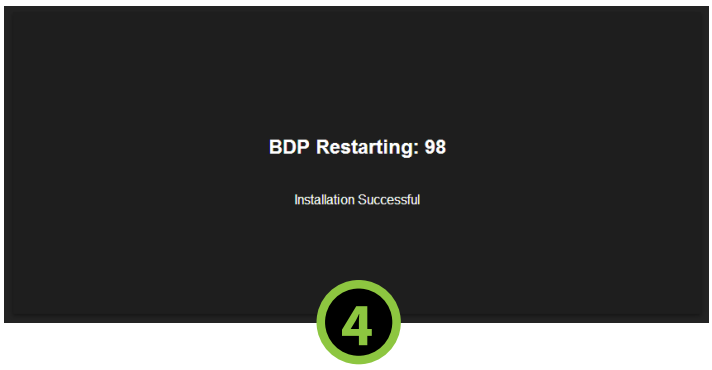
# Update Firmware

From time to time, Bryston will release updates to Manic Moose which may add features or fix bugs in the software. When a new firmware update becomes available, you will receive notification on the Dashboard (the home page) for your BDP. If you click the Update Firmware box in the Settings row at the bottom of the page, you can view a list of changes for the new update and several previous updates. Based on these changes, you may elect to update the firmware. Note that firmware updates are never mandatory and are never automatically installed. If you are perfectly satisfied with the performance and feature set of your BDP, you are free to choose to ignore any firmware update as you wish.




1. Upon viewing the Dashboard - the home screen for your BDP, you may notice an alert indicating new firmware is available.
2. Click Update Firmware on the settings bar. A window appears with a detail of changes made in each firmware revision starting with the most recent. Press Update.
3. The change log will be replaced with a status window indicating percent download complete, and the rate at which the download is progressing. The track time bar will also reflect time elapsed and estimated time remaining.
4. The new firmware version will install automatically. Then, the BDP will reboot at which time, a countdown timer of 120 seconds will appear on the screen. At the end of 120 seconds, your BDP will be finished restarting, and the page will refresh to the dashboard.

# Music Player Daemon

MPD is the music player engine in the BDP. It's responsible for cataloging your library, managing playlists, and playing bit-perfect sound. These settings do not affect sound quality.

**MPD Version:** This is the version number of the MPD core. By default, this is 0.17.5. Choose the version from the dropdown you wish to use.

**Maximum Playlist Length:** This defines the max number of tracks that can be cued in the playlist at any time. The default is 300 to prevent accidental loading of an entire drive into the cue which would temporarily paralyze the BDP. BDP-2s with more RAM and faster processing than BDP-1s are better equipped to handle very large playlists.

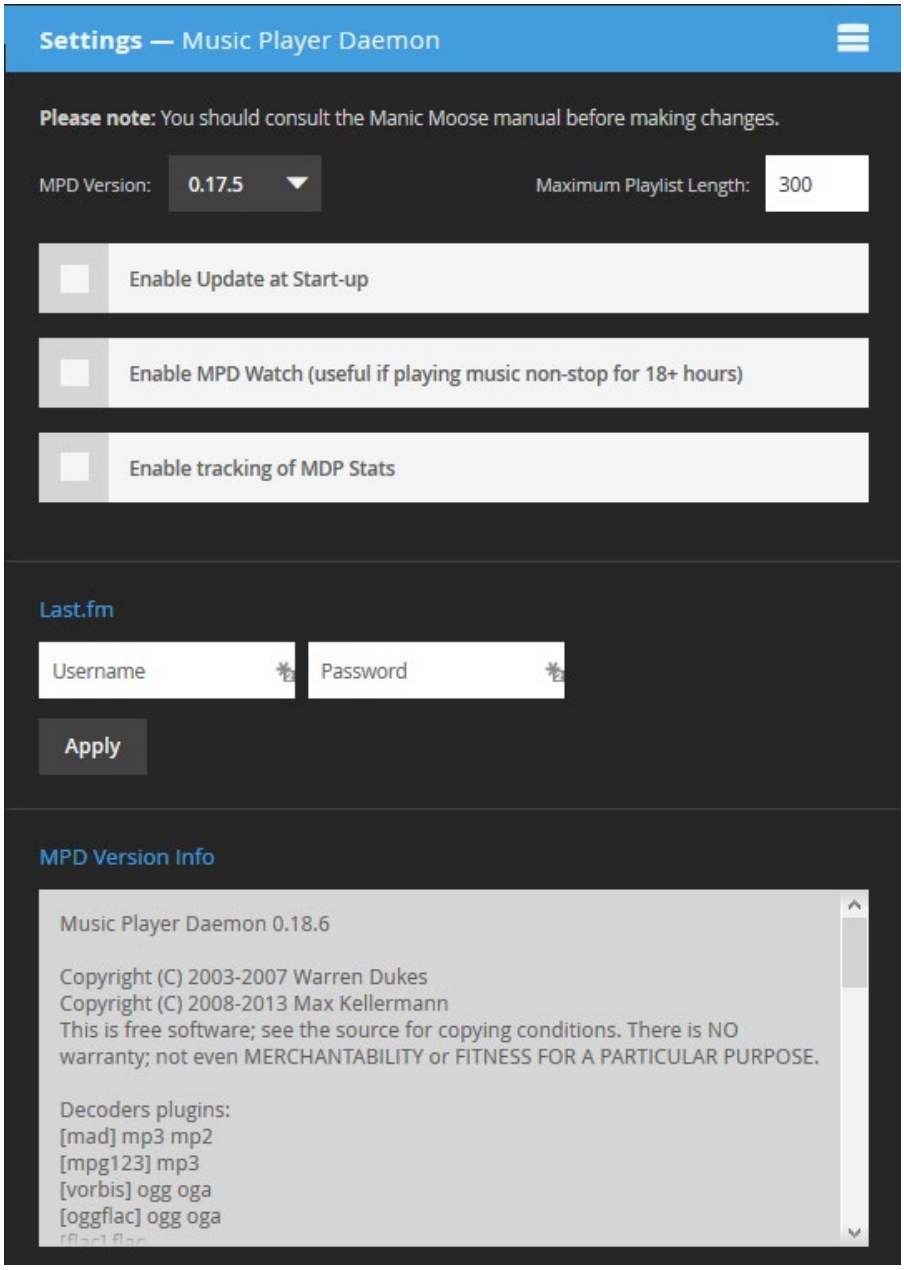
**Enable Update at Startup:** Check to have MPD re-index your library each time the unit is restarted.

**Enable MPD Watch:** A utility designed to watch MPD for crashes and automatically restart itself. Useful if you play your unit constantly, otherwise it consumes system resources unnecessarily.

**Enable Tracking of MPD Stats:** Tracks the music you play in order to automatically generate your Top 40 playlist.

**Last.fm:** Login to your Last.fm account to "scrobble" or keep a diary of music you play.

**MPD Version Info:** Shows currently loaded MPD version and associated information including decoders.



# System Log

In the event you need to contact support, or are experiencing misbehavior, it's helpful to reference these logs as we often find clues as to the root of the problem within. The logs are separated into 5 sections each responsible for a different area of operation. If you contact support, you may be asked to copy and paste portions of the log into e-mail correspondence. Also, if you are asked to place your BDP into service mode for us to evaluate in real time, we'll review these logs.

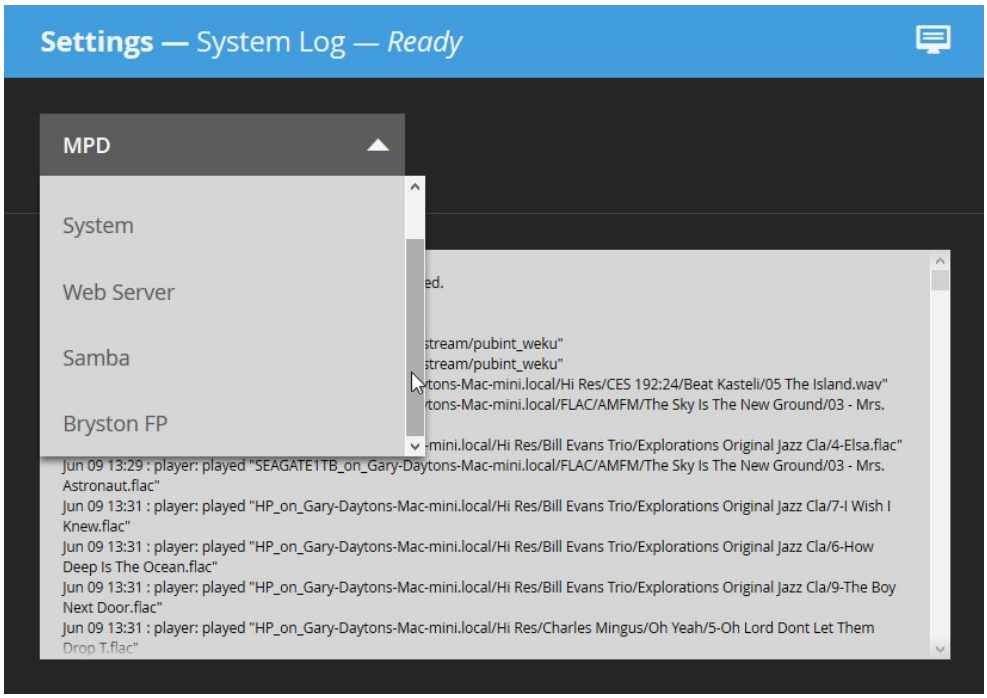
**MPD:** MPD logs report the events generated by Music Player Daemon.

**System:** These detail information about the Linux operating system.

**Web Server:** Activity and errors related to the built in web server and web user interface.

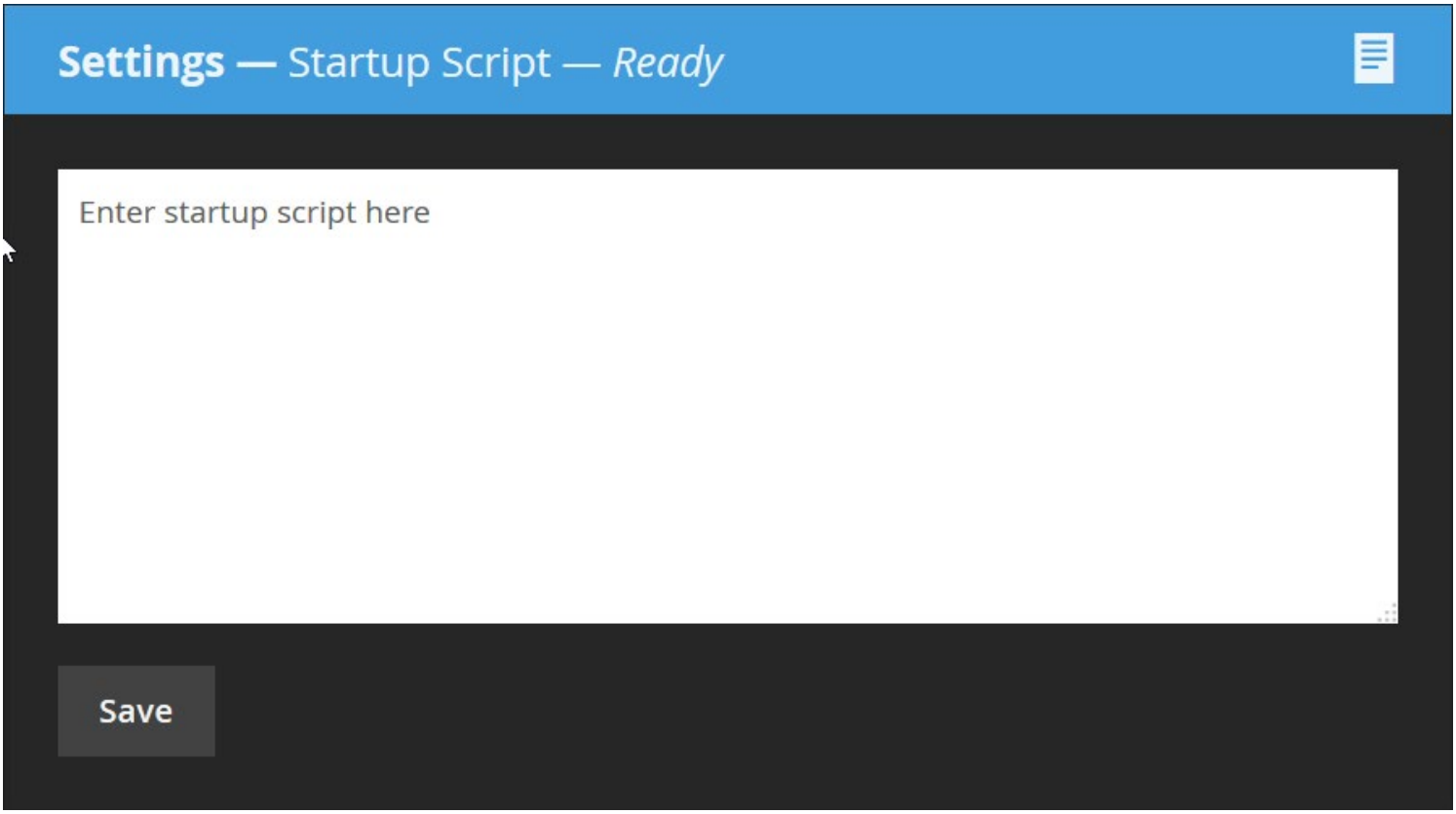
**Samba:** Activity and errors related to sharing local drives over the network via the Samba (SMB) protocol.

**Bryston FP:** Messages generated by the software running in the Linux OS that manage communication between MPD and all Bryston software such as the front panel controls, Media Player, and more.



# Startup Script

Power users may wish to harness the ability of the Linux operating system to perform specific tasks upon startup of the unit. One example is to enable RS232 control over the unit. This function requires Linux command line knowledge.




# Enabling RS232

By default, RS232 is disabled. To enable it, enter the following in the Startup Script window.

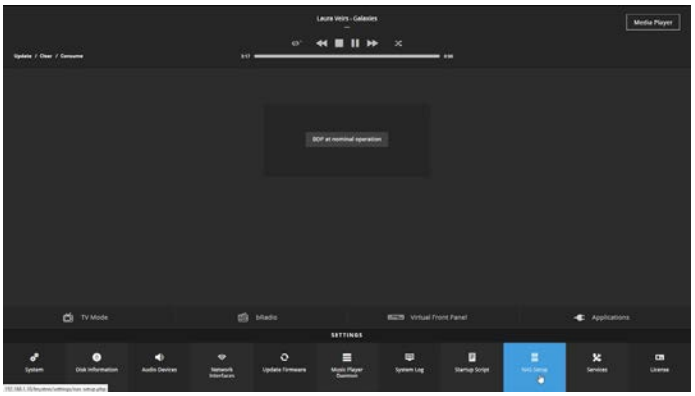
```
#!/bin/bash

/sbin/getty -l /bin/rs232.pl -L 9600 -n ttyS0 vt100 &
```

Press Save and restart your BDP. The following commands are available via the RS232 interface:

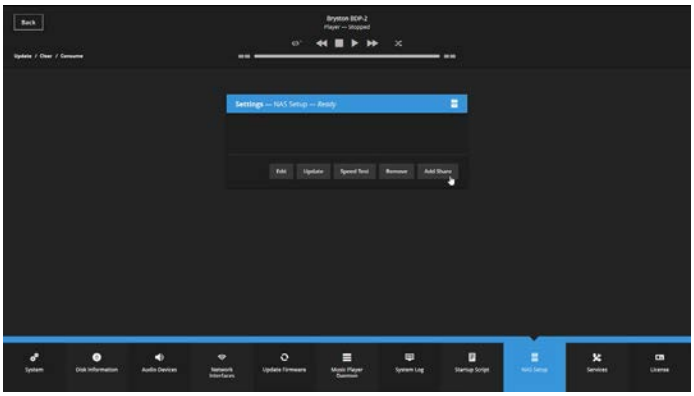
| RS232 Command | Description |
|---|---|
| BDP_PLAY | Starts playback of current song |
| BDP_PAUSE | Pauses playback of current song. Remembers position in track |
| BDP_STOP | Stops playback. Resets track time to 00:00 |
| BDP_NEXT | Skips to the next track in the playlist |
| BDP_PREVIOUS | Skips to the previous track in the playlist |
| BDP_SONG | Returns information about currently playing track |
| BDP_PLAYLIST | Returns current playlist |
| BDP_INFO | Returns MPD Statistics |

# NAS Setup

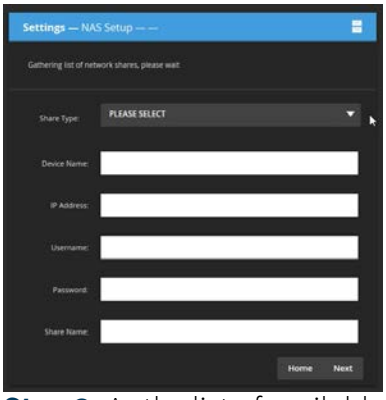
Either in place of or in conjunction with locally attached storage, music stored on network accessible drives can be accessed by your BDP. Unlike locally attached storage, a subfolder can be specified so that not all music on the shared drive is indexed. To add music on network attached storage, complete the following steps from the web interface.



**Step 1:** From the Dashboard, under settings, click ***NAS Setup***

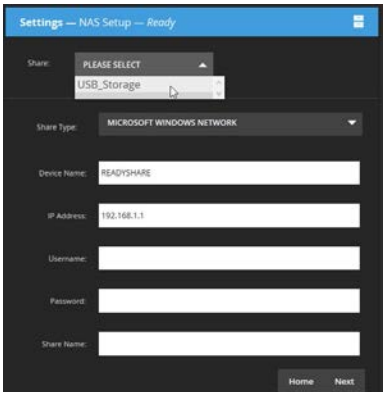


**Step 2:** Click ***Add Share***

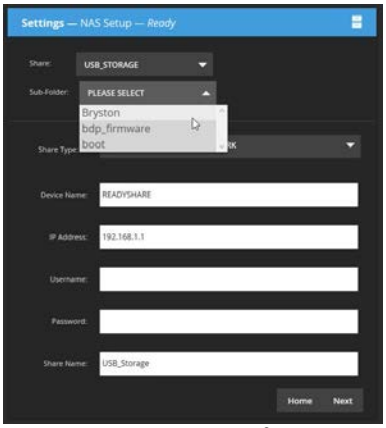



**Step 3:** As the list of available network shares is compiled, you will see a row of dashes (----) at the top of the Settings-NAS Setup window


**Step 4:** Click the Devices drop-down menu and choose the appropriate device from the list. If your device is protected by a user name and password, enter them.

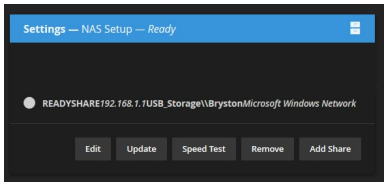



**Step 5:** Within the device, multiple drives may be available. Choose the drive on which your music is stored.




**Step 6:** Choose the folder within the drive that contains your music. Click ***Next***

*Note that choosing a folder is optional and not available with AFP shares.*



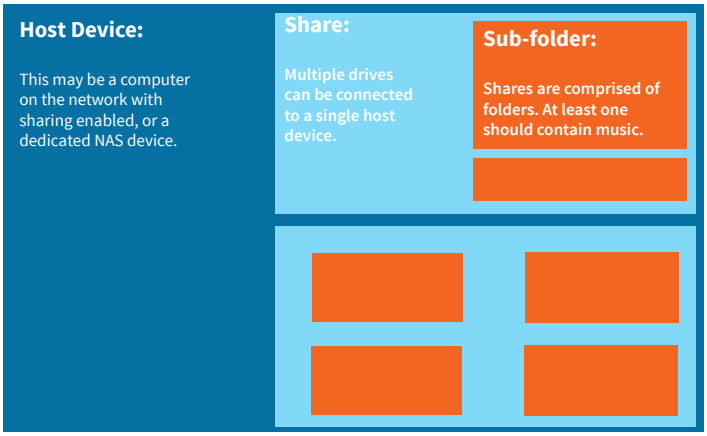

**Step 7:** The window will revert to one similar to Step 2, and you will see your drive added. The Update function will automatically begin and music contained on this drive will be added to your collection.

# Notes on Network Attached Storage

## SMB and AFP Shares

Manic Moose supports adding shares from both SMB (pronounced samba, Windows File Sharing or CIFS) and AFP (Apple Filing Protocol). When you have the option, SMB is the preferred protocol since AFP support is hasn't been tested as thoroughly.

## NAS Hierarchy of Organization



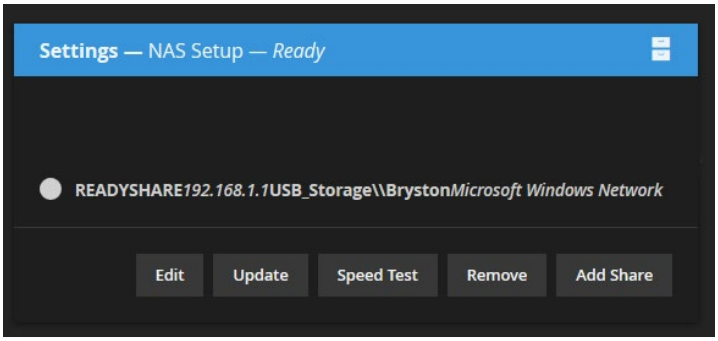

Bryston has done our best to minimize the number of steps required to access network attached storage, though the series of steps required to select the desired network share to index may seem to include unnecessary steps. However, a study of the hierarchy will lead to greater understanding of this process.

## Speed

The BDP-1 and BDP-2 include Ethernet network interfaces capable of 100 megabits per second (100 mbps) and 1 gigabit per second (1000 mbps) respectively. Real world network conditions make it unlikely that these maximum speeds will ever be realized, but only 3 megabytes (24 megabits) per second are required for high resolution music playback. If your network is congested or is otherwise functioning improperly, audible dropouts may occur.

A variety of factors may affect the actual network speed in your home including the speed and quality of your router, the integrity of cabling, and the amount of traffic generated by other devices on the network. If you are experiencing audible dropouts, investigate these factors. Note that internal network speed is not related to your internet speed.

## Other NAS Functions




Once an NAS is configured, a variety of tasks can be performed on it. Select the radio button at the right of the drive upon which you would like to perform the task, then click one of the five task buttons below.

***EDIT:*** If you need to choose a different share or folder within a device, or if you need to change the user name and password, you can do this through the Edit function.

***UPDATE:*** Rather than update your entire catalog, you can instruct MPD to update the music collection stored on a particular NAS device. If your catalog is particularly large and spans multiple physical drives, this can reduce the time required to re-index the library when new music is added or metadata is changed.

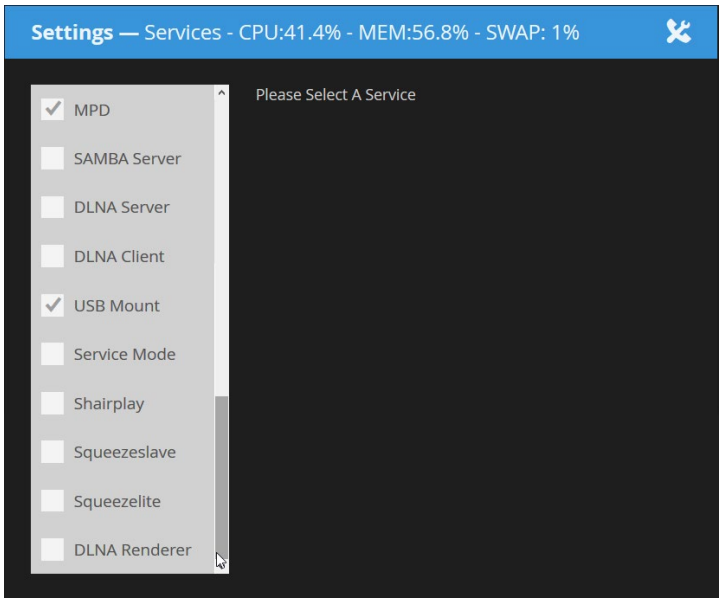
***SPEED TEST:*** If you are experiencing audio dropouts when playing files stored on a network attached storage device, use Speed Test to determine if access to this device falls beneath the minimum acceptable threshold of 3 mbps. Typically a BDP-1 should score above 6 mbps and a BDP-2 should score above 20 mbps.

***REMOVE:*** Use this function to remove a network attached storage device from your music catalog. This does not delete your music, rather it simply removes it from the catalog accessible by the BDP.

# Services

The Services menu provides access to settings for a variety of optional services that enable a wide variety of capabilities that may be of particular interest to users. The best practice is to keep services turned off unless you use them. Each requires some system resources to operate. Since many of these are not essential to primary intended operation of the BDP, they should be considered in beta testing.

The Services Window also shows the current processor load, RAM usage, and SWAP usage.




**MPD:** The core audio engine of the BDP. Unless you use the BDP exclusively as a DLNA or Squeezebox renderer, this must remain enabled.

**SAMBA Server:** Enable this to share any locally attached drives over the local network.

**DLNA Server:** Publish the music library via DLNA (UPnP) for access by other compatible devices on the LAN. *BDP-2 Only.*

**DLNA Client:** Other DLNA shares on the LAN are made available for MPD to index into the music library.

**USB Mount:** If you intend to plug drives directly into the BDP via USB, this must remain enabled.

**Service Mode:** Enables Bryston technical support to remotely log into your BDP for diagnostic purposes.

**Shairplay:** A Linux emulator for Airplay. When enabled, Apple devices can stream audio directly to the BDP. You must first clear the MPD playlist for this to work. Since this is not an official Airplay implementation, reliability may vary. Audio is not bit-perfect.

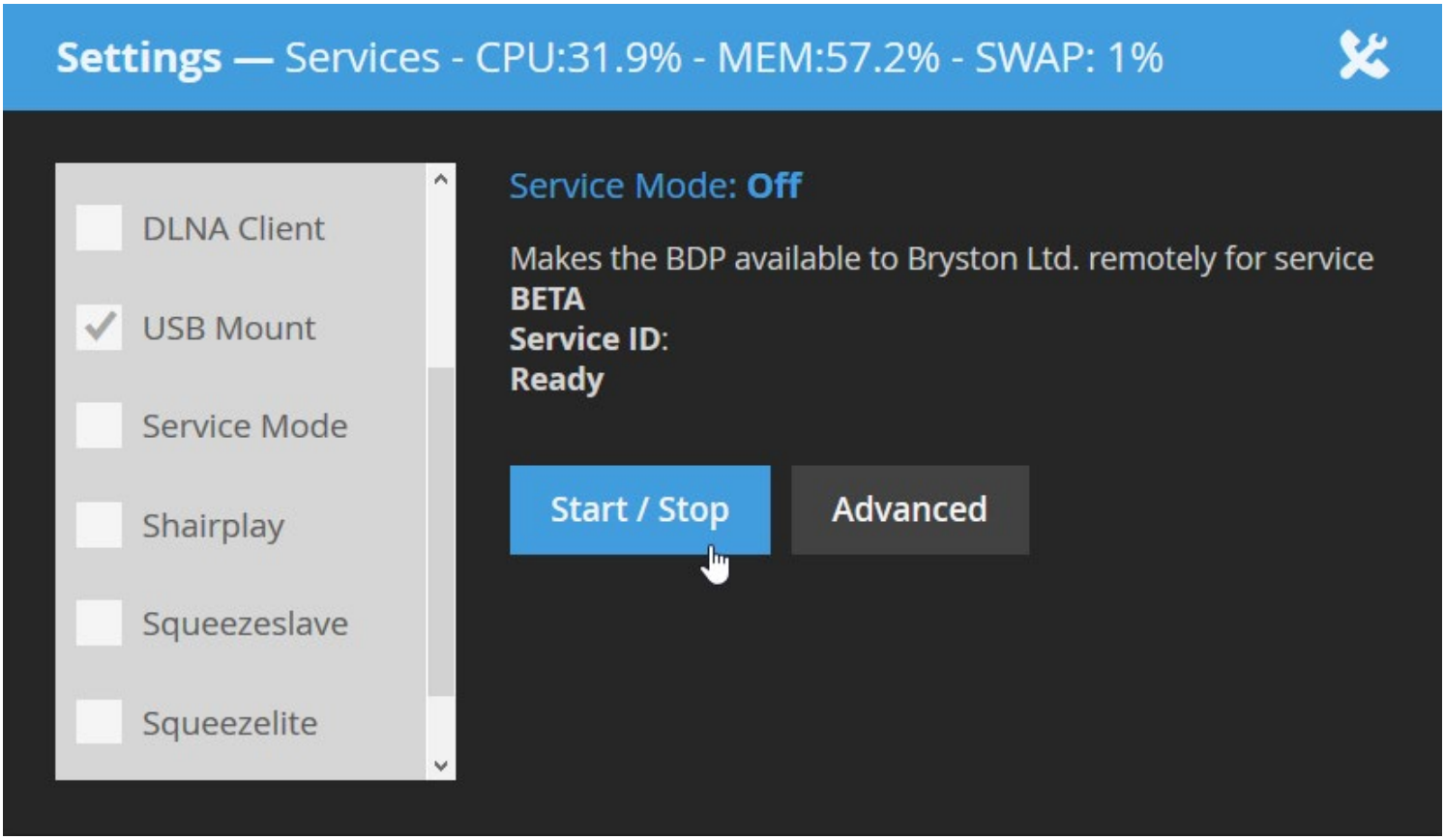
**Squeezeslave:** One of two squeezebox clients, be sure to clear the BDP's current playlist before using and to disconnect the BDP as the renderer when done using the feature (or turn the service off).

**Squeezelite:** One of two squeezebox clients, be sure to clear the BDP's current playlist before using and to disconnect the BDP as the renderer when done using the feature (or turn the service off).

**DLNA Renderer:** Allows the BDP to receive audio and be controlled by DLNA control points and servers.

# Services / Service Mode

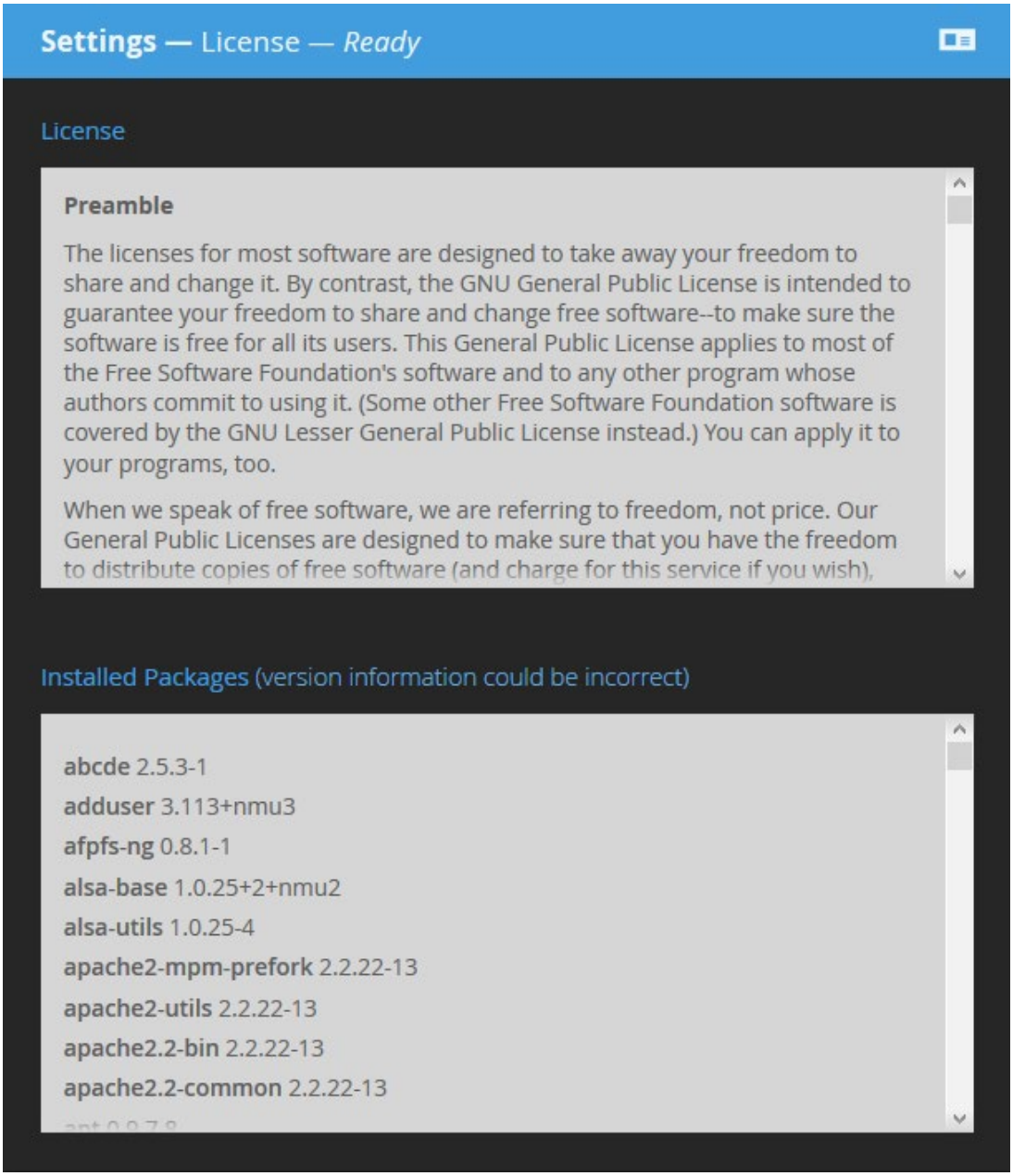
Service mode is provided as a convenience to customers who are experiencing difficulties with their BDP. If you contact Bryston for support, you may be asked to turn this service on. Service Mode sets up a VPN (a secure Virtual Private Network) tunnel to our engineering department so that we can see first-hand the trouble you describe, read logs, and perform service.




1. Click Service Mode.
2. Click the Start/Stop button and note that the blue Service Mode text indicates ON.
3. E-mail crice@bryston.com with a description of your trouble and your Service ID number.

# License

Bryston makes use of a wide variety of open source software to enable features for the BDP devices. Each is licensed under GNU General Public License. The license is available to read along with a listing of packages installed under this license. Note that for any given firmware version, the version numbers of these packages may be incorrect.



# **Dashboard:**TV Mode

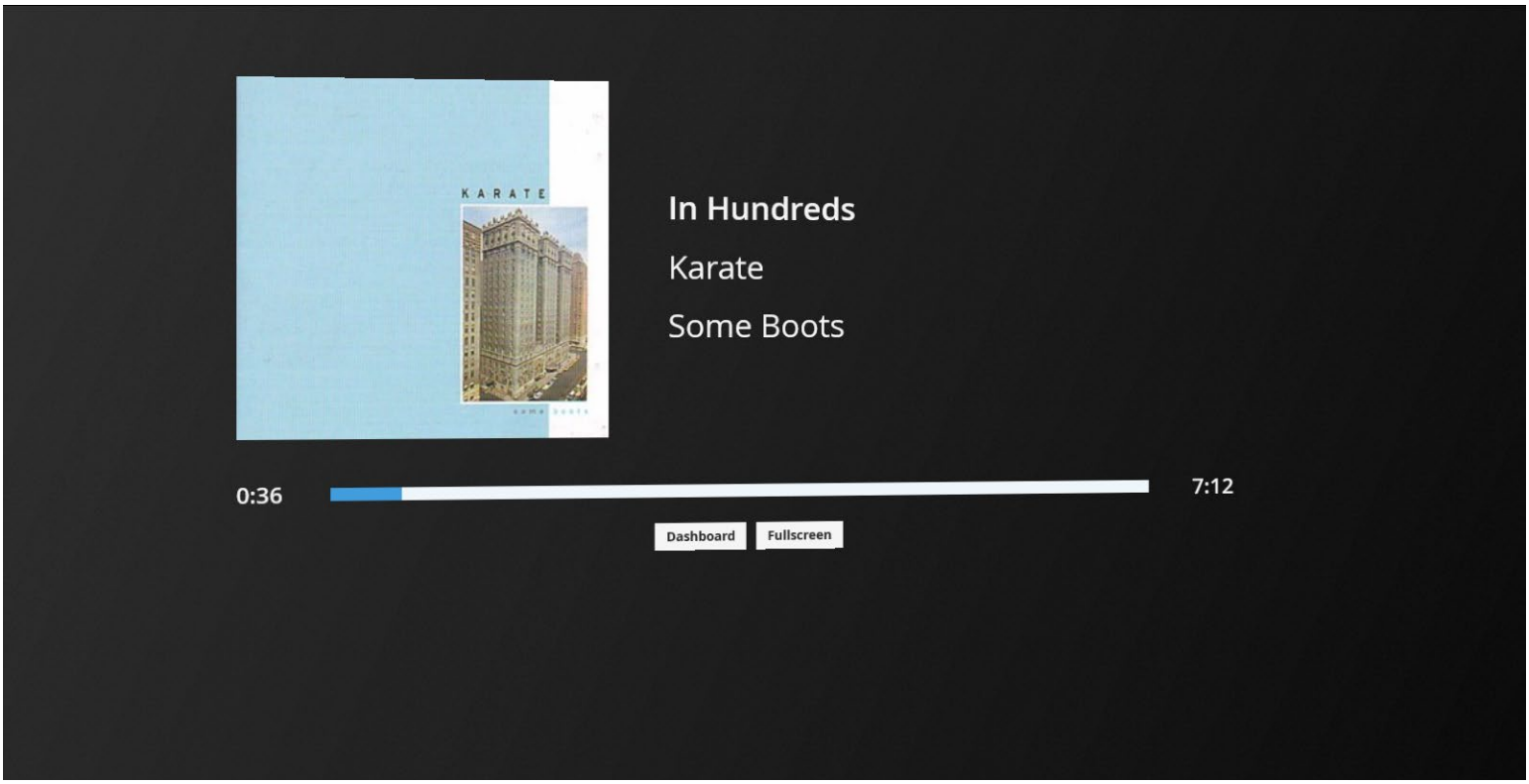
In order to maintain the best possible sound quality, Bryston deliberately omits a video output from the BDP since the EMF such devices emit cause distortion in the audio band. However, you may wish for a graphical display of what's playing especially if the BDP is part of an audio/video home entertainment system.

TV Mode is a simplified display of the currently playing track and it's associated artwork that slowly crawls around the screen. It can be accessed by network-connected television monitors and projectors by opening the following URL from that device's web browser:

`http://bryston-bdp-[1 or 2].local/bryston/tv-mode/`

Or enter your BDP's IP address followed by /bryston/tv-mode/

You can also access TV Mode from the Dashboard by clicking TV Mode from any web-enabled device that allows for touch or pointer input.



# bRadio: Internet Radio

Though it is currently not possible to match the sound quality of your own music collection with streamed music from the internet, online radio stations can provide an endless stream of music for casual or background listening. Bryston is currently developing an interface specifically for browsing a wealth of internet radio stations.

In the mean time, the best way to listen to internet radio is by enabling Squeezelite in Settings:Services, and installing Logitech Media Server on your computer.

Logitech Media Server provides a web user interface which provides access to a broad list of internet radio options. There are also a wide variety of free remotes for Android and iOS.

# Virtual Front Panel

As a matter of convenience, we provide a Virtual Front Panel on the web interface which provides access to those functions which do not yet have a web counterpart such as saving a playlist to external storage. All controls detailed in the Front Panel Control section can be done here or on the physical front panel of the player.

# **Front Panel:**Overview

Unlike competing digital music players, Bryston uses a simple 2 line VFD display which is unmatched by more fashionable full color touch screens. For the same reason remote controls supplanted front panel dials on televisions, smartphones and tablets provide a much more enjoyable way to control your BDP than an on-board interface.

However, we've designed a front panel interface with discrete buttons for basic playback for instant access as well as a menu-driven interface navigable by 4 directional arrows so that even if your tablet battery is dead, or you're closer to the equipment rack than the listening seat, you can control your system.

# Navigation and Functions