



LEGENDARY PERFORMANCE™

McIntosh 32/192 PCM DAC, Preferred Settings to Play all File Types with JRiver Media Engine 20 using a Windows 7 or 8 Computer

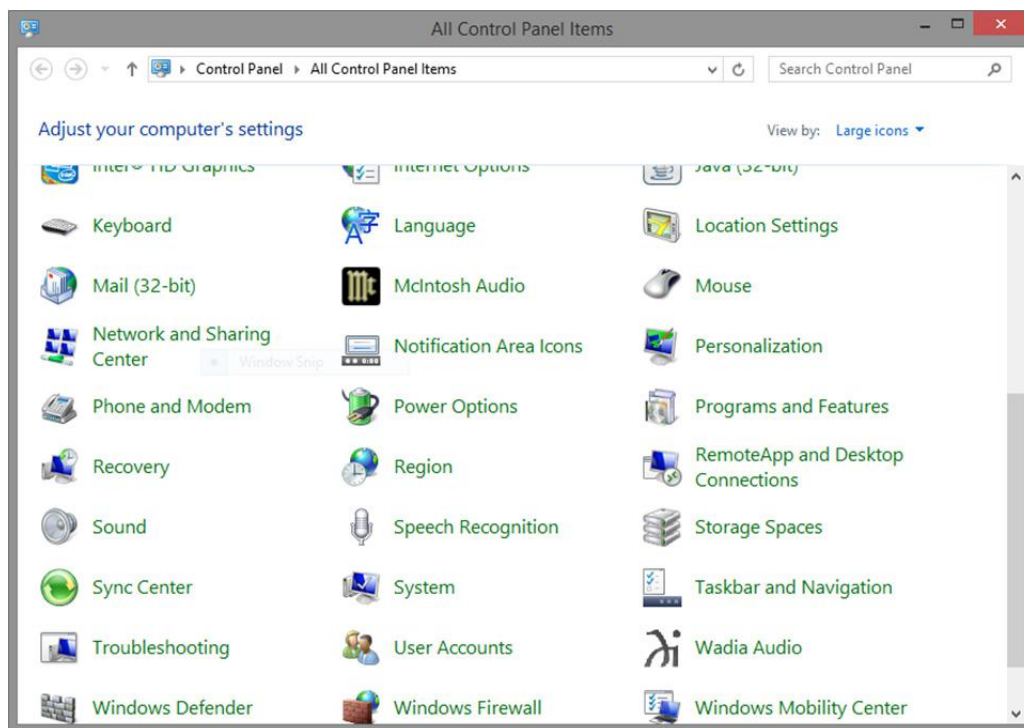
Purpose of this Document: To add the capability of playing DSD-DXD file types over McIntosh 32/192 USB 2.0 DACs as used in C48, C50, C2500, D100, MHA100, MXA70, MA5200, MAC6700, MA6700, MA7900, MA8000

The following hardware will be needed:

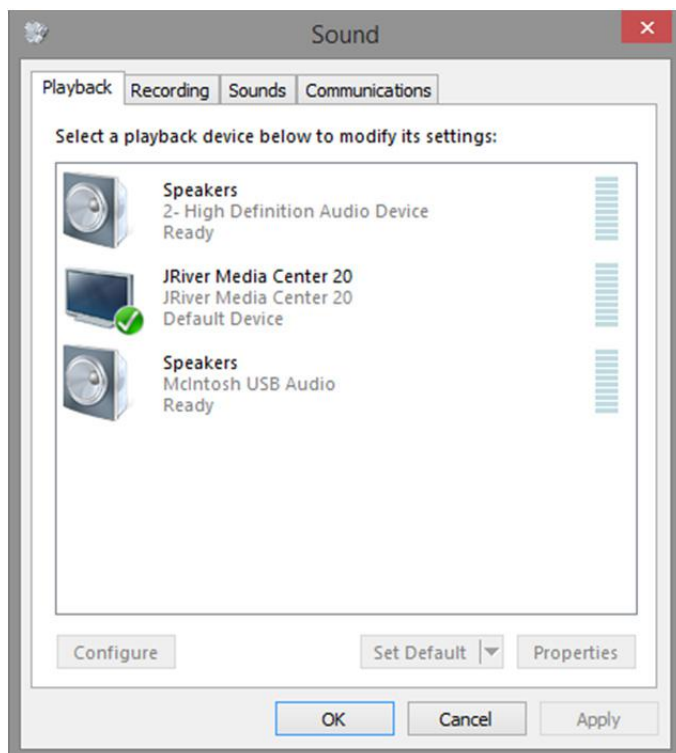
- 1-A modern Win 7 or 8 computer using high performance Quad Core processors
- 2-A USB 2.0 High Speed A-to-B cable (Belkin Gold or better)
- 3-A Music Program that is capable of providing DSD-DXD support. We will be using JRiver Media Engine 20.XX in this example.

Steps on set up of PC:

- 1-Download the McIntosh USB audio driver from the McIntosh website, www.McIntoshlabs.com -> product page of model used->Downloads-> McIntosh USB Audio Windows Driver Av2.0 and install on your computer.
- 2-Install JRiver Media 20 on your computer. If you have an older version of JRiver it is a good time to update to version 20. JRiver 20 is available as a 30 day free trial from www.jriver.com
- 3-Connect the McIntosh to your computer with a USB 2.0 High Speed A-to-B type cable and turn on.
- 4-In your PC go to Settings-> Control Panel and open **Sound**. See screen below:



The Sound window should show JR as the default device.

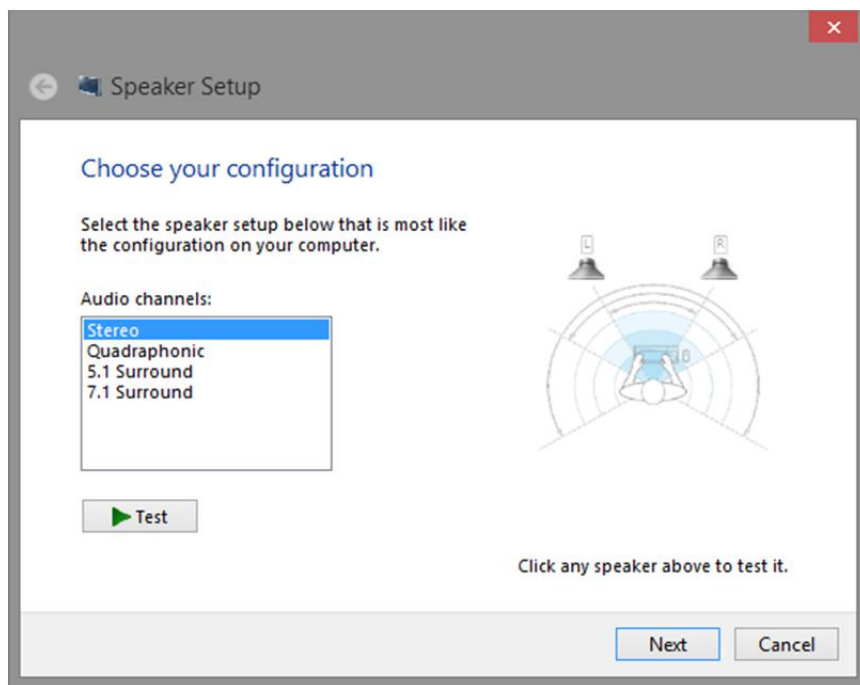


If the McIntosh USB shows up as Default or Default Communications Device Check on the Properties tab and Disable.

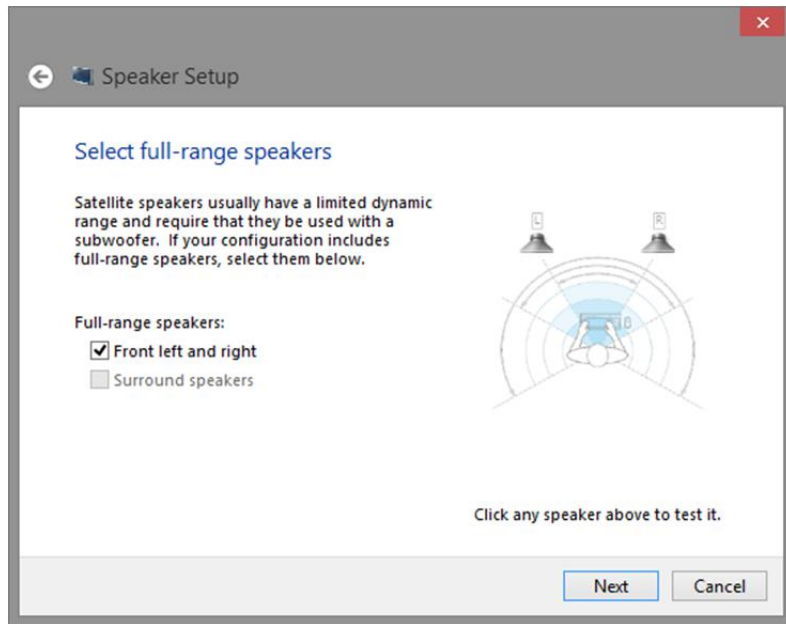
Although the system could be run with two devices checked we are going to use JR-MC20 as the main USB device.

This will simplify the digital signal path, allow for customization, cut latency by more than half and result in cleaner sound quality with enhanced dynamics, both macro and micro.

Next step is to check the **Configure** in the lower left of the **Sound** box with JR highlighted blue. The box below will open.

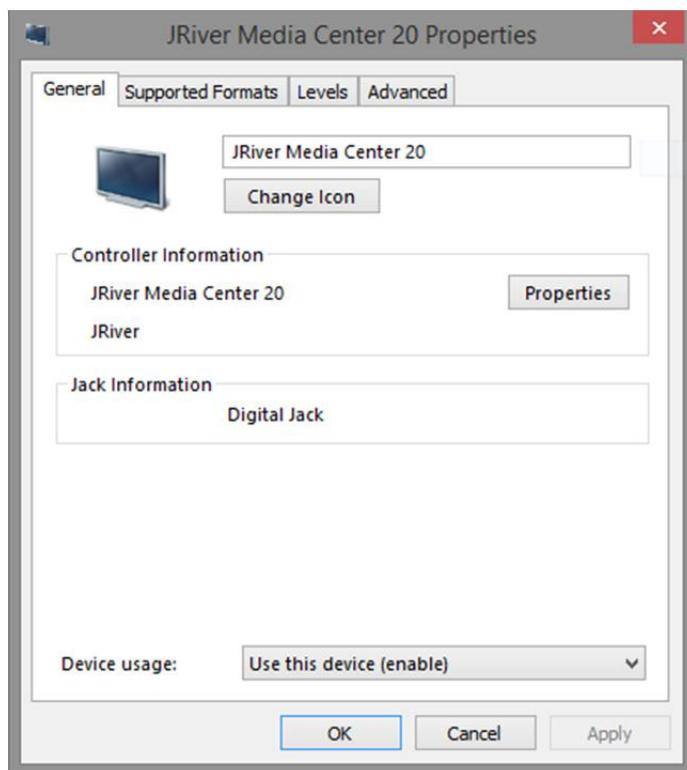


Make sure **Stereo** is highlighted then click **Next**, this screen below will show up.

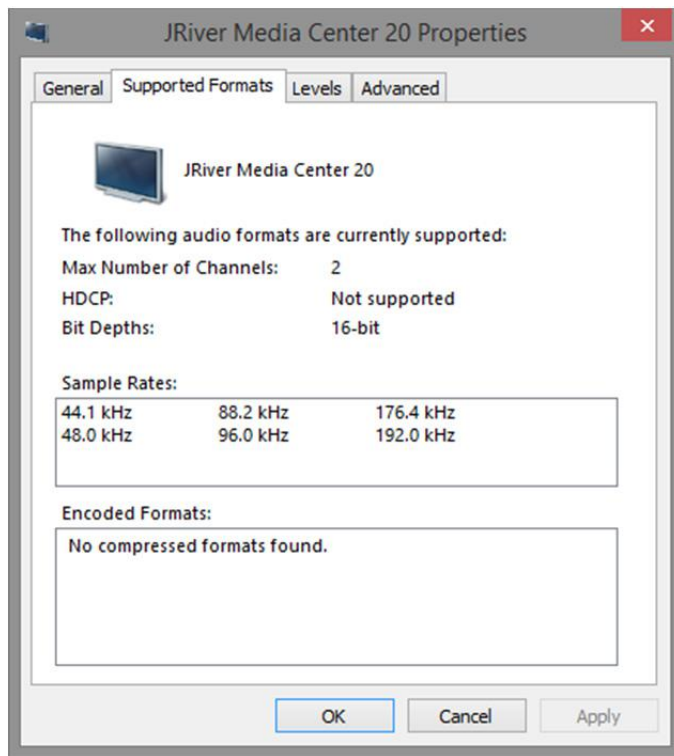


Select full-range speakers and then with no other music playing and the USB-D/A input selected on the McIntosh stereo, click one speaker at a time. You will hear the chime sounds come out of your left and right speaker. After the chimes are played, click **Next** then **Finish** in the final box.

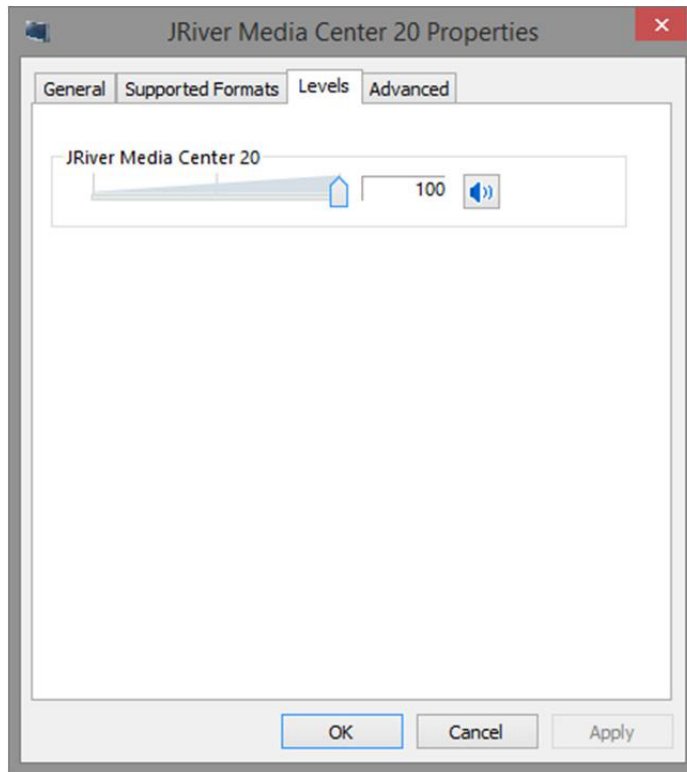
Next is to make the top tab choices in the JRM C 20 Properties screen.



First we need to set Supported Formats:

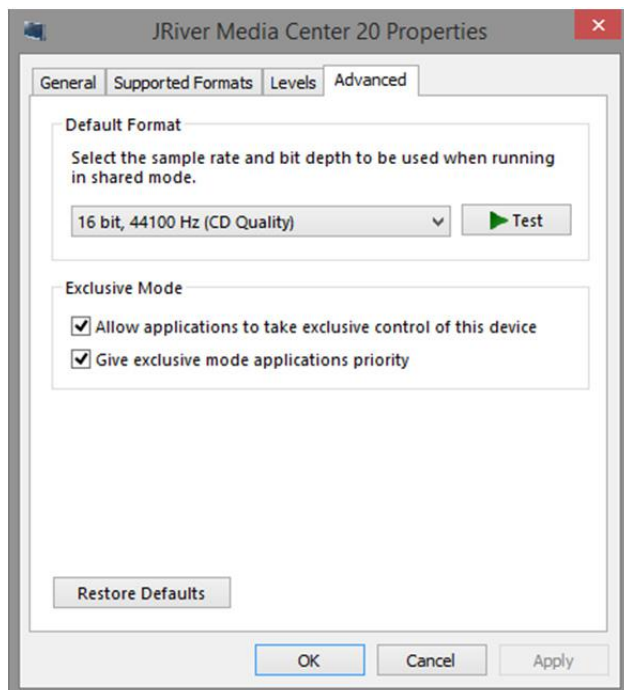


In the **Supported Format** tab/window, all six, 44.1kHz through 192kHz should be shown. Bit depth will be set later in the JR20 Music program so ignore the 16 bit.



Level tab should always be set to 100% as shown since listening Volume is set in the connected McIntosh model and all bits are always sent from the JRiver player to the McIntosh for Bit Perfect conversion to stereo analog playback.

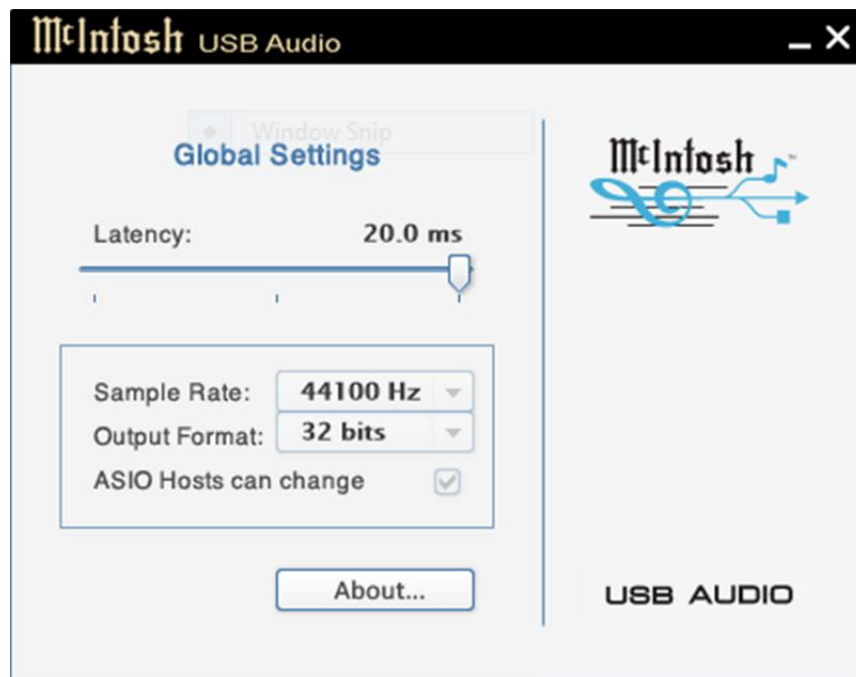
Finally open the Advanced Tab section of JRiver Properties screen.



Once again 16/44 should be checked or simply **Restore Defaults** as the data rate will be set in the music program. **Exclusive Modes** should be checked.

If you are using, say a laptop for music storage on multiple USB audio playback devices, each with their own drivers, you will need to switch default devices in the Sound settings whenever you connect to a different device. You may have multiple drivers installed on a computer since you are only using the Default device and driver at any one time with JRiver doing the actual work while bypassing the built in audio processing of the computer. Most computers will change the default driver to the one the computers USB port is connected to. Different McIntosh models, not mentioned in the top, bold, list, will use their unique USB driver which is always downloaded from the McIntosh website. When the computer is powered up it will recognize the device and driver needed as long as the driver has been previously installed on the computer.

The McIntosh driver will look like this when playing and will reflect the setup in JRiver, no adjustments are needed. The sample rate will change with the music file and the driver will remain in 32 bit mode as that is the size of the digital 'package' containing the music files which is sent from the connected computer to the McIntosh component.

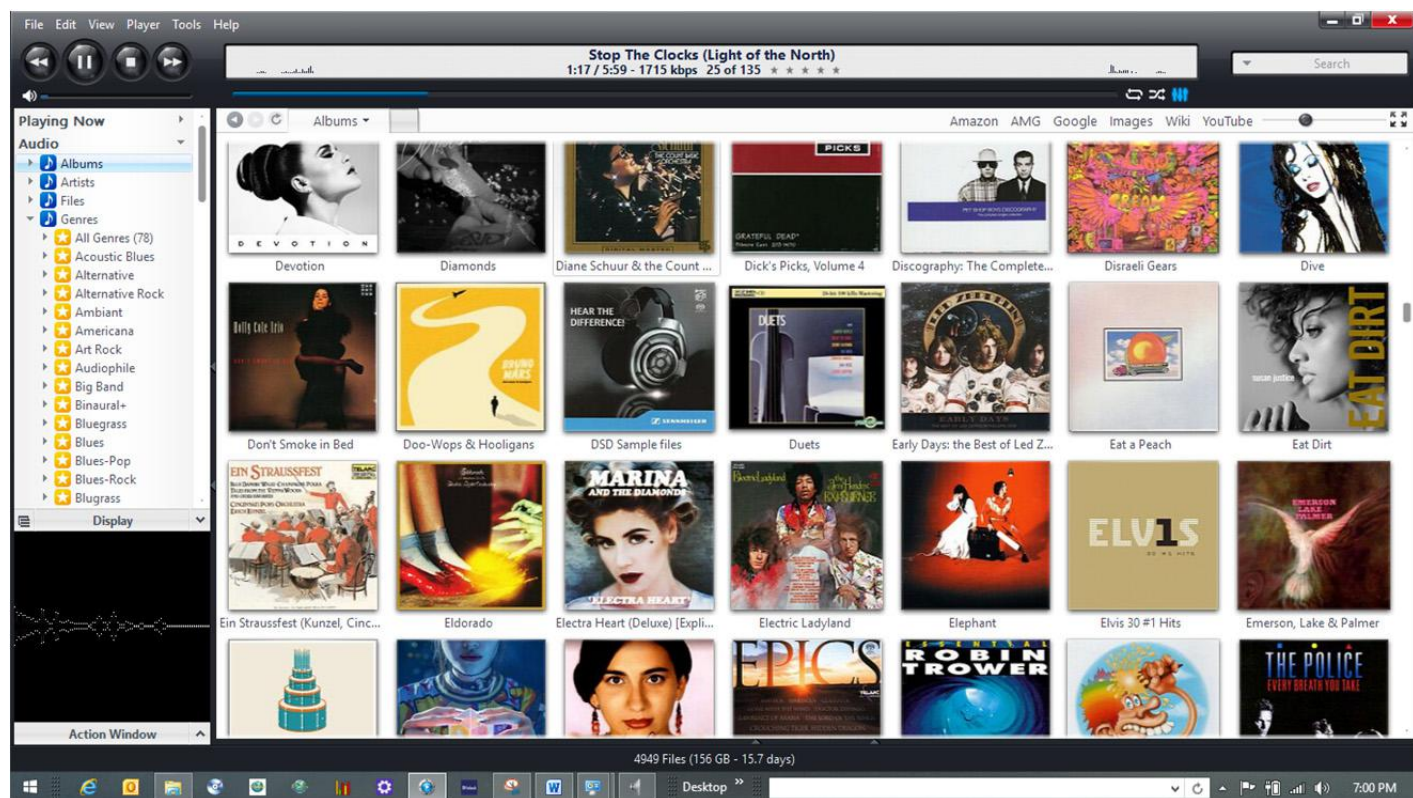


ASIO Hosts can change should be checked.

The next section will cover the settings in the JRiver Media Engine 20.

Settings in JRiver 20 for McIntosh 32/192 PCM DACS.

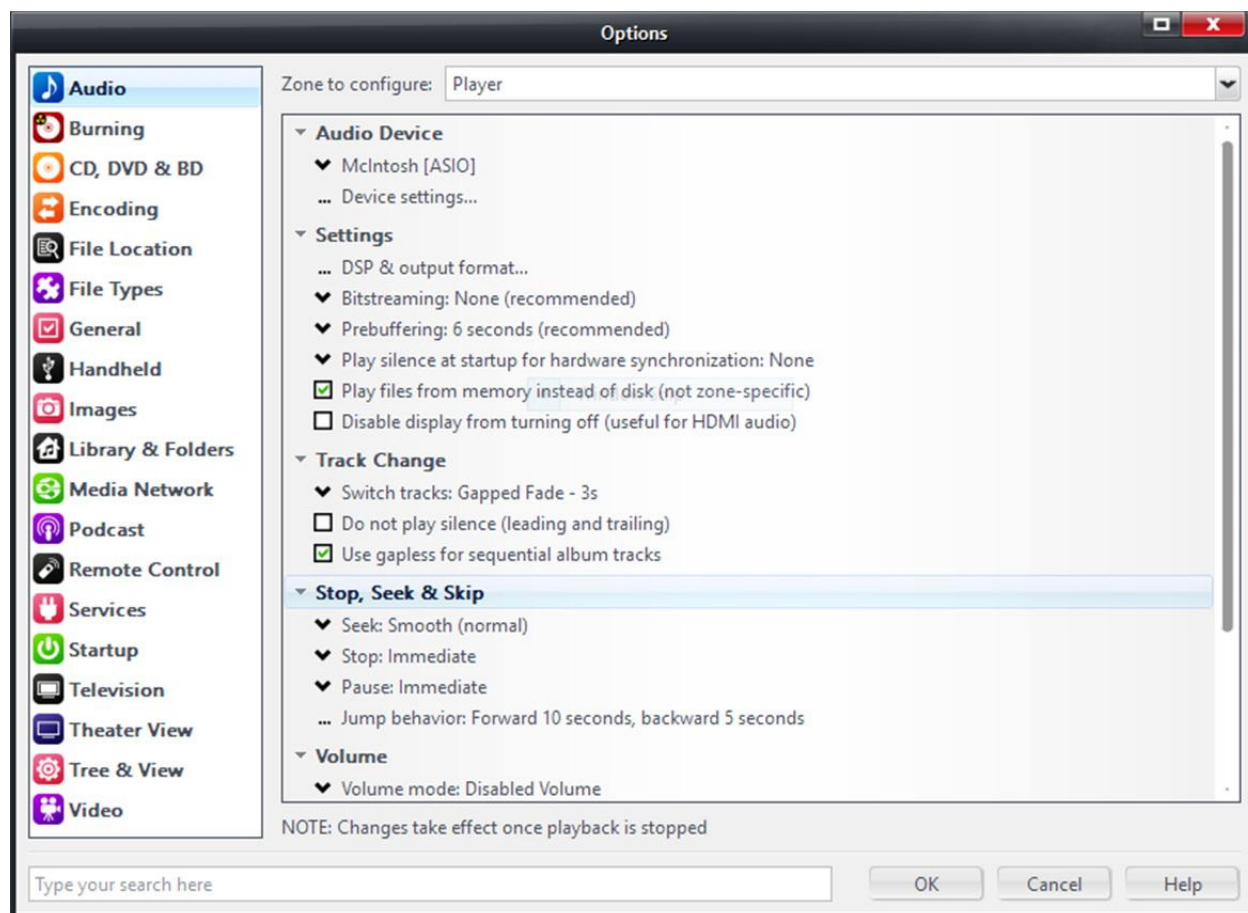
JR20 is a powerful computer program that will allow the manipulation and playback of many types of files. Under the HELP tab at the top left of the JR home screen you will find a drop down menu that lists HELP ->HELP WIKI. This is an open interact forum where other JRiver users, engineers and experts can answer questions and share solutions for JR operation. To be an expert on all computers is beyond the scope of this outline but these basic settings will work well with the McIntosh 32/192 USB 2.0 High Speed input for music playback of all file types using a Windows 7 or 8 machine.



The top left corner of the JR home screen has a series of tabs; File, Edit, View, Player, the Tools where the playback setting are located, and Help.

Left click on the Tools tab and go to the bottom of the list and select Options. This will open up the main adjustment page. The top left hand side AUDIO tab should be checked so the adjustments to the Audio Device section of the program are listed.

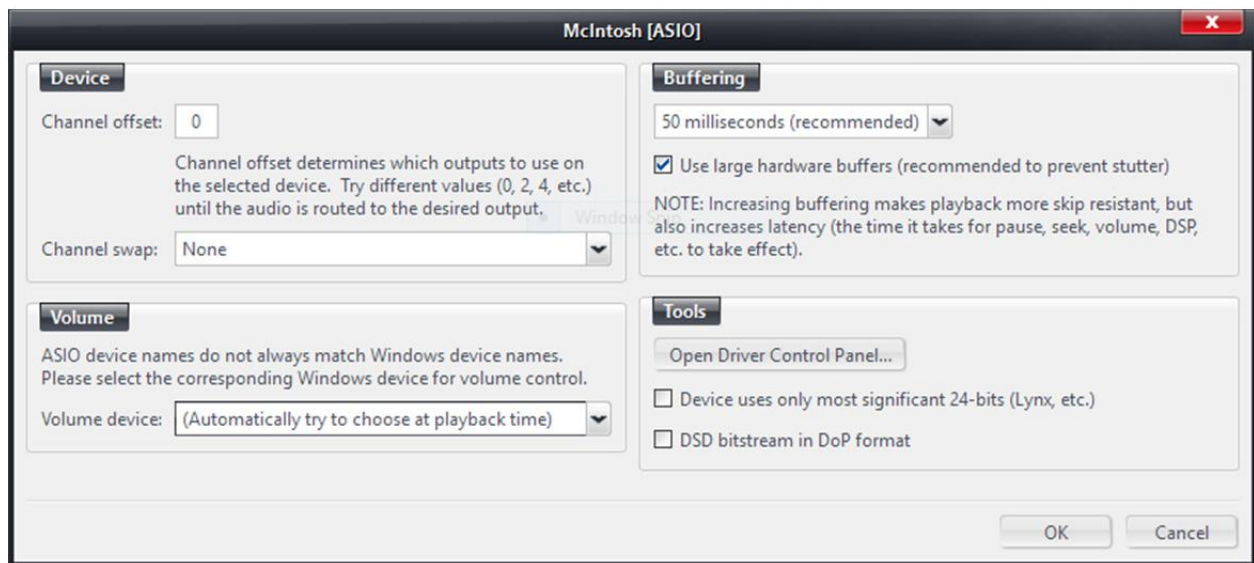
The first selection made needs to be Digital Output under Audio Device. Selecting Digital Output will list all of the USB audio drivers on the computer. Please check McIntosh (ASIO). This matches the McIntosh 32/192 USB input. If it does not appear in the list please see the driver download directions on the first page of this Doc.



Next tab ... Device settings ... will need to be opened. The settings listed below are the preferred settings for smooth playback. After these are made click OK at the bottom of the screen.

All of these following adjustments are being made to match the way the data from the WIN computer is sent to the McIntosh ASIO USB input. If only ONE type of digital file was used for all music this would be simple. If however, ANY audio file type and all resolutions are to be played then the JR 20 settings must match the switching cadence of the McIntosh DAC. These recommended settings are based on extended testing using mixed files from 16bit-44 kHz, mp3 quality through 5.6 MHz DSD files on a Windows 8.1 computer with a quad core i5 processor.

Device Setting tab- **McIntosh ASIO** should be set as below. Please make sure your setting **exactly** match these as shown in this screen.



Next, open DSP and Output format under Settings, in the top left corner please check Output Format and Volume Leveling. This will allow access to the output format and activate Volume Leveling.

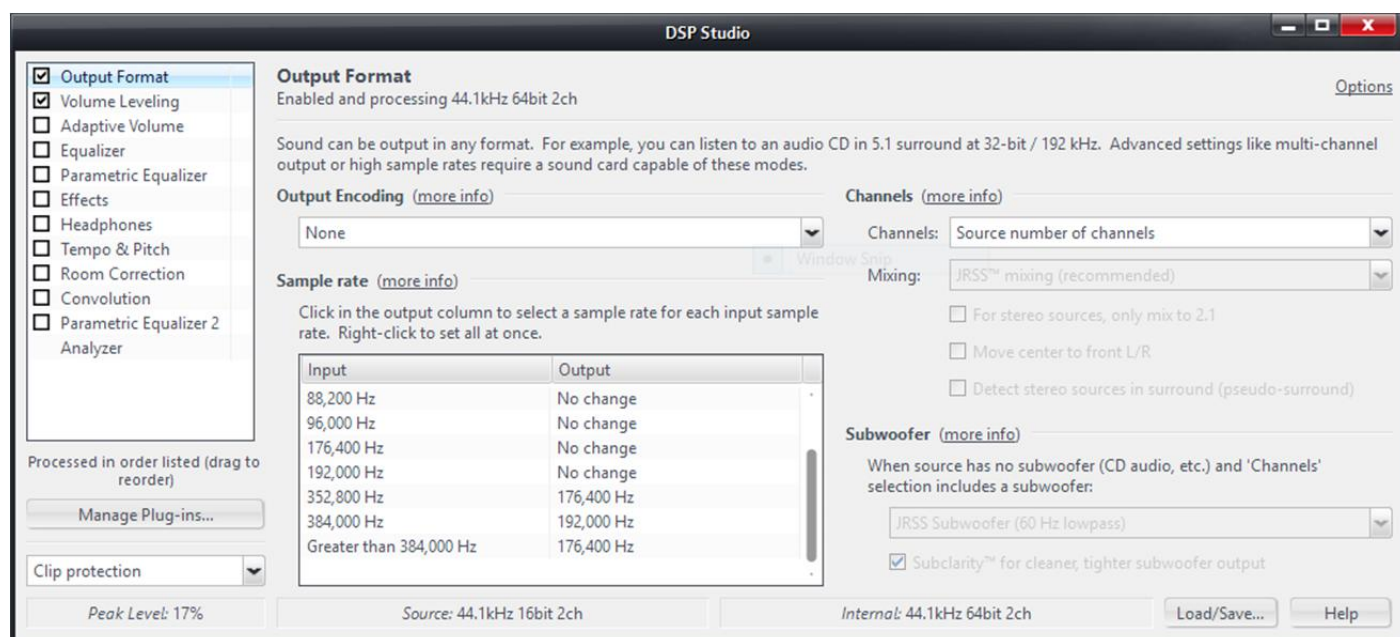
Volume Leveling will adjust the playback volume of each song in relation to all others in the music library. Since these files will be manipulated at 32 or 64 bits this will not change the actual volume of the songs but will adjust their playback relationship to each other so dramatic volume changes are lessened. Volume Leveling does not change the dynamic range of the recording in any way.

Output Format will allow the actual playback resolution bit rates to be set which also determines the file types that can be played.

All other tabs in this left hand list can be used but this will result in the loss of Bit Perfect playback, which for maximum fidelity, is the goal of these adjustments.

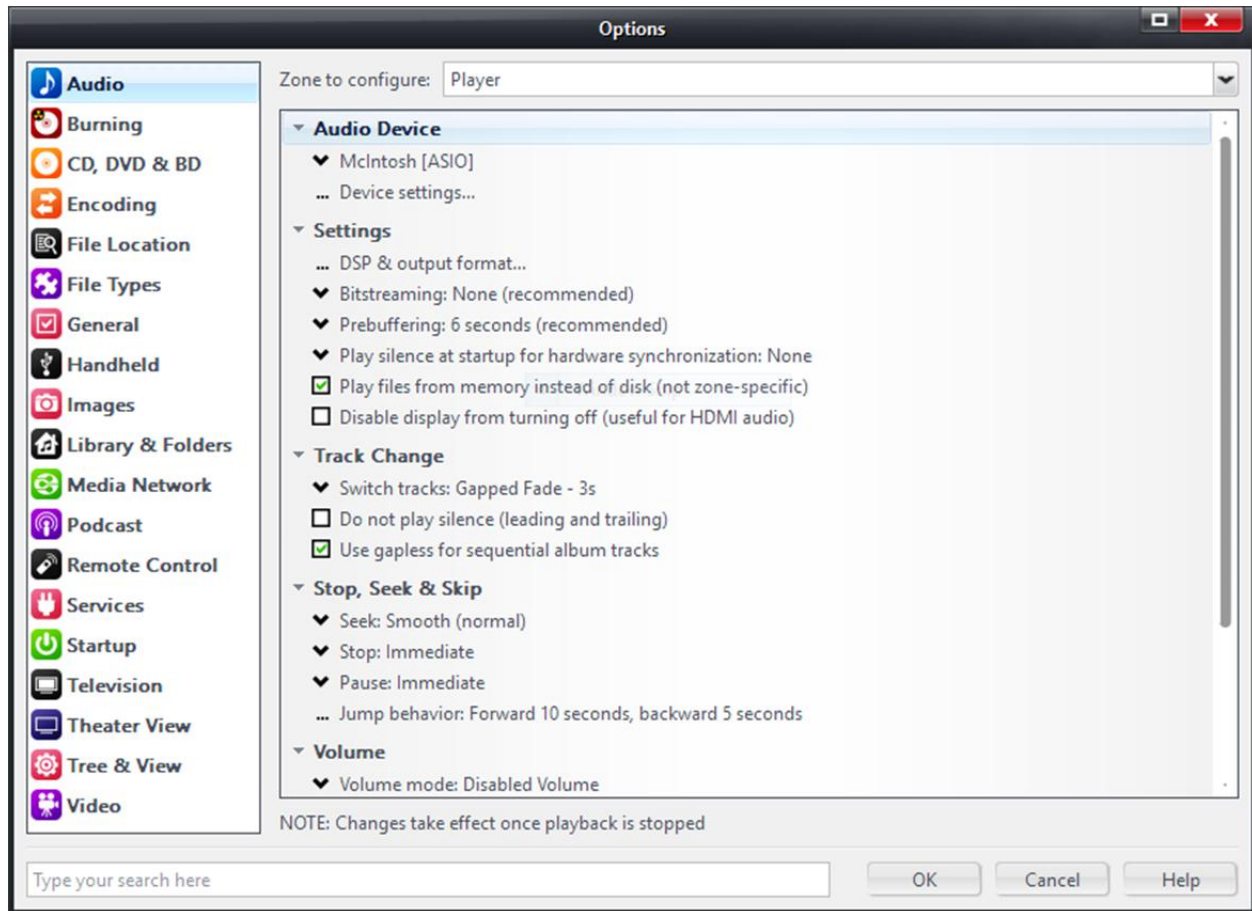
B-Clip Protection should be checked as this will prevent digital overload which can produce harsh sounds. **Volume Leveling** will also protect against clipping.

In the center of the screen output formats are set. This is two columns of input, the original file encoding, and output what is sent to the DAC. By checking No change, the McIntosh USB input will see each file in its' original format. If all the formats are set to 192,000Hz, as an example, this will only increase the file size or 'container' of the original music file with no change in sound quality.



Music files referred to as DSD64, DSD128 or DSD 2.3MHz and 5.6MHz can be used with McIntosh 32/192, High Speed USB inputs running JR-20. JR20 will transparently convert and output these DSD files over high data rate PCM.

This screen shot is of a normal 16 bit, 44.1 CD rip to the HD playing. At the bottom of the page the actual peak level is showing 17% which changes the volume changes in the course of the song playing. Internally, JRiver is processing this CD file at 44.1KHz and 64 bits. The 64bit Internal processing allows Volume Leveling mentioned above since the maximum music file size of 24 bits is far exceeded by the computer so files can be volume leveled since the computer's processing is a much larger 'bit box'. Clicking on the red X in the upper right hand corner will close the DSP studio and return to the options box.



These **Setting changes** as shown will need to be duplicated for proper playback.

1-DSP & Output format ... was set above

2-Bitsreaming: None (recommended)

3- Prebuffering: 6 seconds (recommended)

4-Play silence at startup for hardware synchronization: None

5-Check - Play Files from memory instead of disk. Note: This will pull the music from the solid state memory instead of the spinning disc drive which is more precise.

Track Change

1-Switch Tracks: Standard (gapped) - 3s, allows the time needed by the DAC when tracks are of a different resolution. If the tracks are the same resolution they will switch like a normal CD.

2- Use gapless for sequential album tracks- Check. (Note: this is for albums that are gapless like Dark Side of The Moon, etc.)

Stop, Seek and Skip- Set Seek:

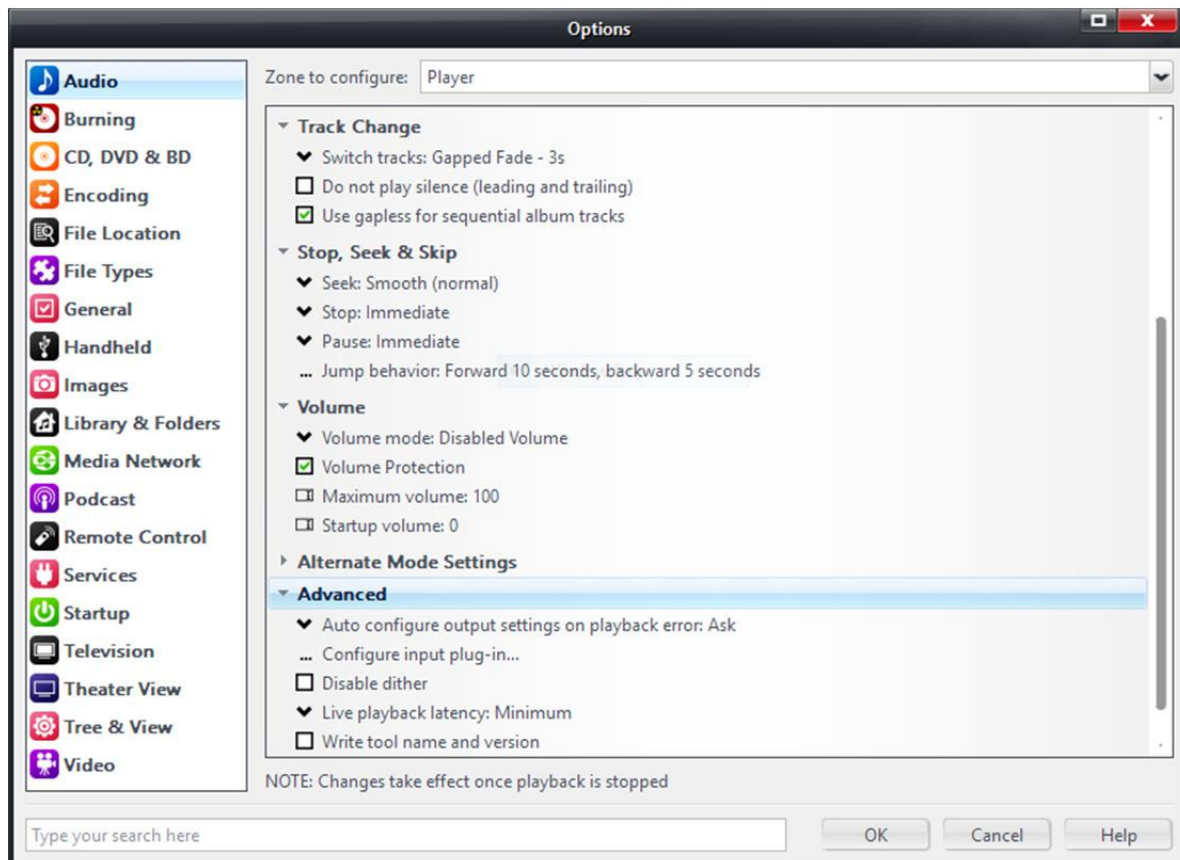
Seek: Smooth (normal)

Stop: immediate

Pause: immediate

At the bottom of the Options page is a tab, Advanced that will need one setting adjustment.

As shown below, Live playback latency: Minimum, should be set. This will aid in sound and picture synchronization when watching Youtube or other streaming AV web content.





These are all of the settings needed for smooth playback from the computer to the McIntosh Asio USB input. Please refer to the JRiver Wiki Help forum for detailed advice and information on JRiver operation.

Additional questions on the McIntosh ASIO USB input may be sent to McIntosh Tech Support.

Thank you,

McIntosh Tech Support
RC-2-11-15