

Computer Audio Design 1543 DAC Windows Recommended Playback Software Installation

Version 1.0a

February 2013

Playback Software

We strongly believe that a 3rd party playback software must be used. It is impossible to realise the full potential of the CAD 1543 DAC (or any DAC) without using audiophile playback software. Using audio playback software greatly simplifies computer setup because the software performs much of the computer optimization for you.

The 1543 DAC require a driver to be installed on your computer to function. You can download the driver and installation instructions from [here](#):

<http://www.computeraudiodesign.com/downloads/>

For Windows I recommend JRiver Media Centre 18 (JRiver) to manage your music collection. I also recommend JPLAY audio playback software. I feel the combination of JRiver with JPLAY offers the best combination of convenience and sound quality for Windows. JRiver will allow you to easily manage your music collection and JPLAY will be responsible for the actual playback of the music. Once JPLAY is set up it works in the background and you will not see it on your computer. You use JRiver completely normally and never have to worry about JPLAY.

In this example I will use JRiver Media Centre 18 in conjunction with JPLAY V5 on a Windows 7 64 bit computer.

JPLAY version 5 allows several different setup options. In this example I will show the easiest option that can be setup very quickly. JPLAY has more advanced options such as the use of two computers and other configurations so please visit the JPLAY forums if you are interested. I recommend starting with the easiest and that is what I will go through in this paper.

JPLAY can be purchased here:

<http://jplay.eu/>

Please try to use a computer using a 64bit operating system. We have found that 64 bit operating system sounds superior to 32 bit.

Once you have purchased and downloaded the JPLAY installation file ***right*** click on the file and choose "Run as Administrator" to Install the program. ***This is essential.***

You must reboot the computer after installation.

JPLAY 5.0 installs 3 applications:

- JPLAYSettings
- JPLAYMini
- Uninstall JPLAY

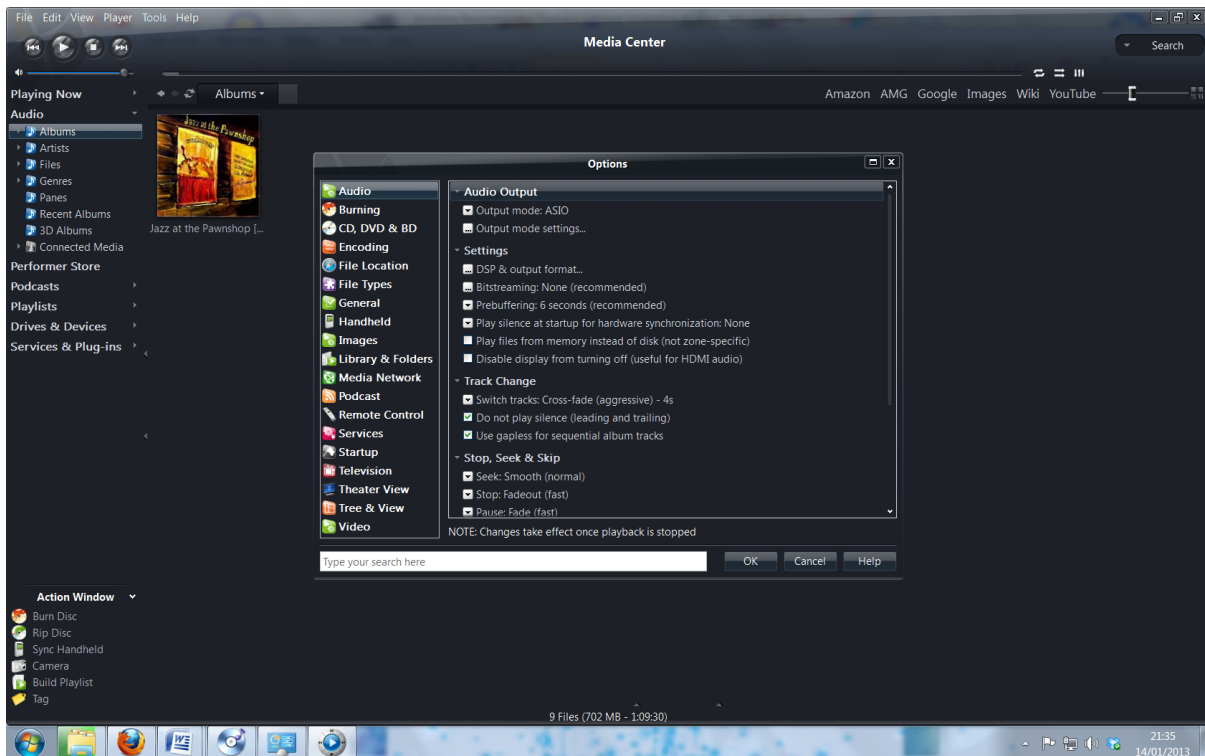
JPLAY provides direct integration with JRiver Media Centre.

JRiver can be purchased and downloaded from here:

<http://www.jriver.com>

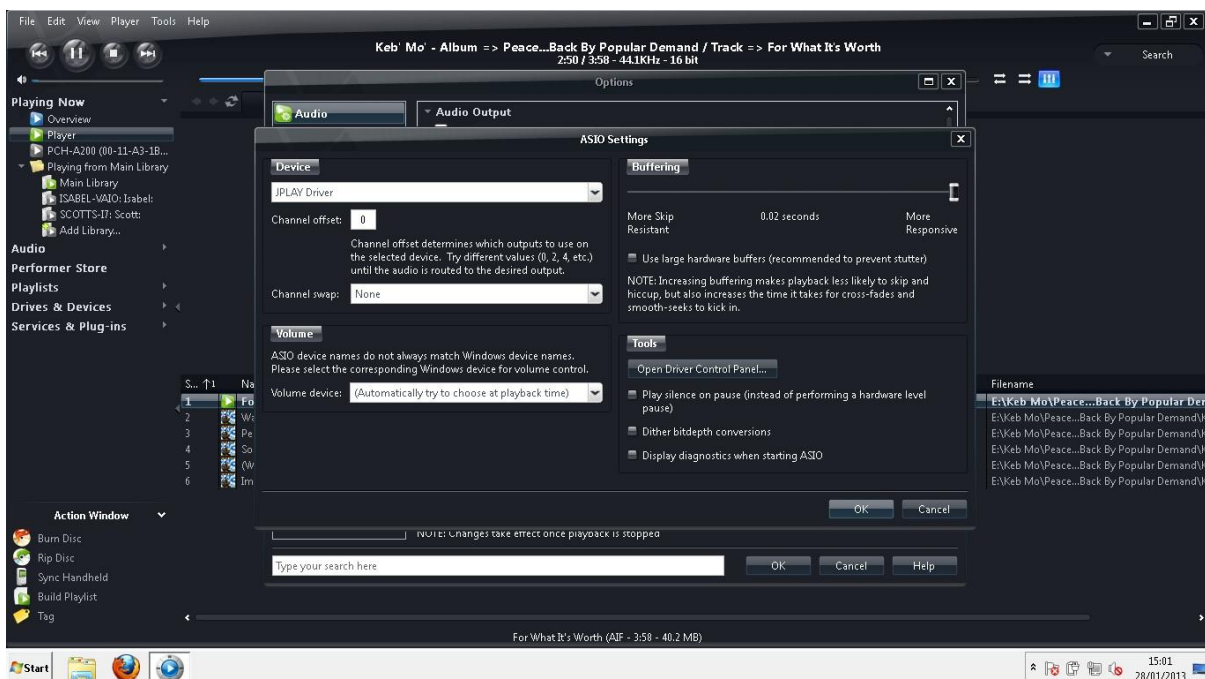
Once JRIVER is install here are the steps to integrate JPLAY:

1) Open TOOLS ---> OPTIONS



2) Under Audio Output, Change Output mode ---> ASIO

3) Under Audio Output double click "Output mode settings":



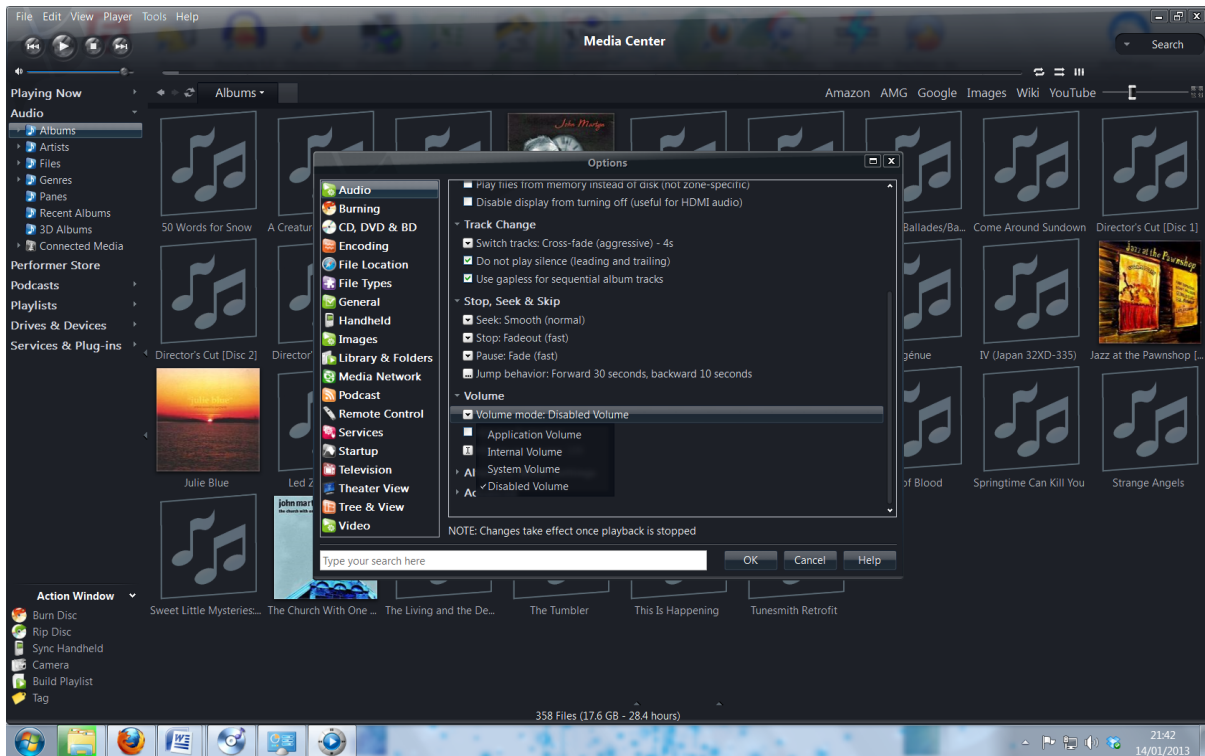
Under DEVICE choose the *JPLAY driver*.

I have found that an improvement in sound quality can be found by doing the following:

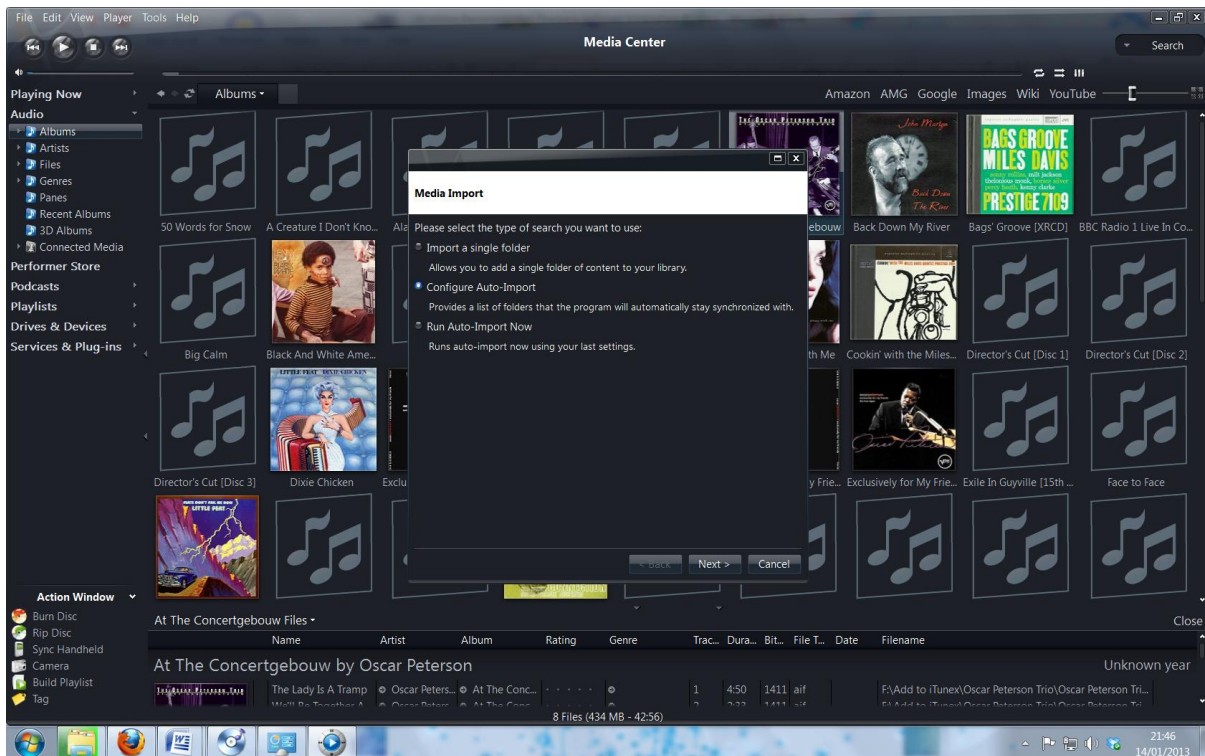
Change "Buffering" to the minimum 0.02 seconds & *uncheck* "use large buffers (recommended to prevent stutter)".

If you have a slower processor or not very much memory this may cause issues.

Now go down to "Volume" and choose "disable Volume":



To import your music collection go to: TOOLS ---> IMPORT:



You must now "Configure Auto-Import".

From here you tell JRiver the location(s) of where your music is stored. Once you do this JRIVER will automatically synchronise the files. What this means is all you need to do is copy your new music into any location you specified and it will automatically appear in JRIVER. Very easy!

Note: I have found that sound quality can be improved by storing your music on a different drive other than the one your operating system is stored on. Also try to use a different interface than your DAC uses. I recommend an external hard drive that uses the fastest interface your computer has. If buying a computer for audio use buy one that has both a USB connector and one of the following for your external hard drive: eSata, Thunderbolt or Firewire 800.

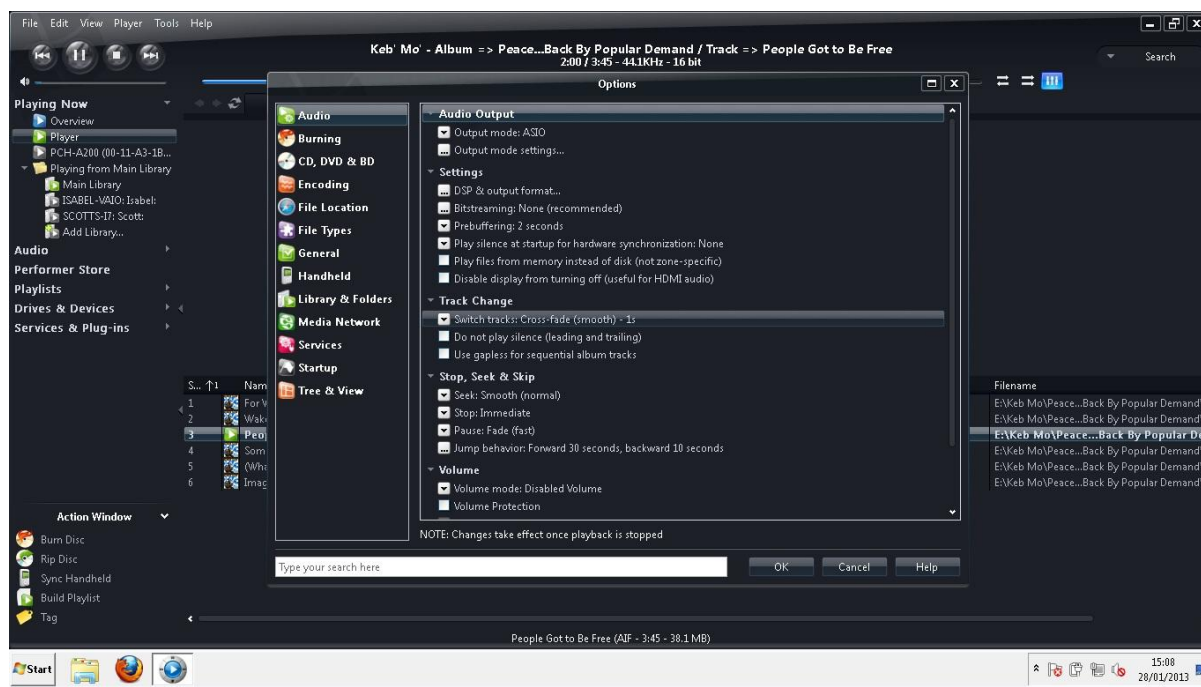
At this point you should have JRiver installed and working properly on your computer.

Track Change Behaviour

We have had some intermittent issues of "pops" when changing tracks with JPLAY software. This setting in JRiver completely eliminates this issue.

Go to Tools --> Options --> Track Change and set *Switch tracks* to: *Cross-fade (smooth) - 1 sec*

Should look like this:



Remote Control of JRiver

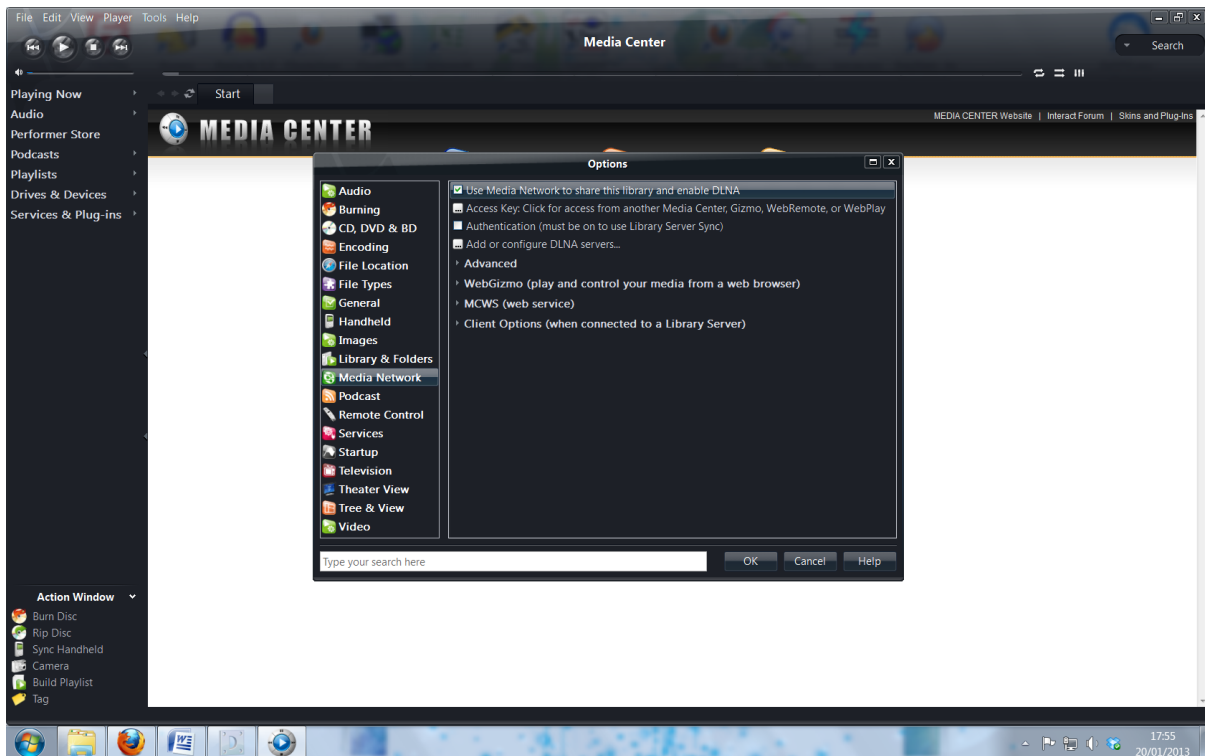
I use an iPad to control JRiver. I have tried many of the apps out there and found that JRemote works well for me:

<http://www.jremote.net/>

There are others so pick the one that you think is best for you.

To connect JRemote to JRiver do the following:

In JRiver go to: TOOLS --> OPTIONS --> MEDIA NETWORK:



Check the box that says "Use Media Network to share this library and enable DNA"

Here is how to connect JRemote to JRiver:

Click on:

"Access Key: Click for access from another Media Center, Gizmo, Webremote, or Webplay" box.

This will give you a key. Write this number down and you will need to enter that into JRemote on your iPad. Once you do this JRemote will automatically connect to Jroiver on your computer.

If you use an iPad to control JRiver you do not need nor do you want the entire JRiver application running. You can shut down the JRiver interface that you see on your computer but still have complete control of JRiver via JRemote. This works perfectly and cuts down on the number of processes and memory that JRiver uses (which improves the sound quality).

Go to Tools --> Options --> Startup and you should see this:



Go to "Windows Startup" and put a check next to:

"Media Server (allows library sharing, television recording, etc.)"

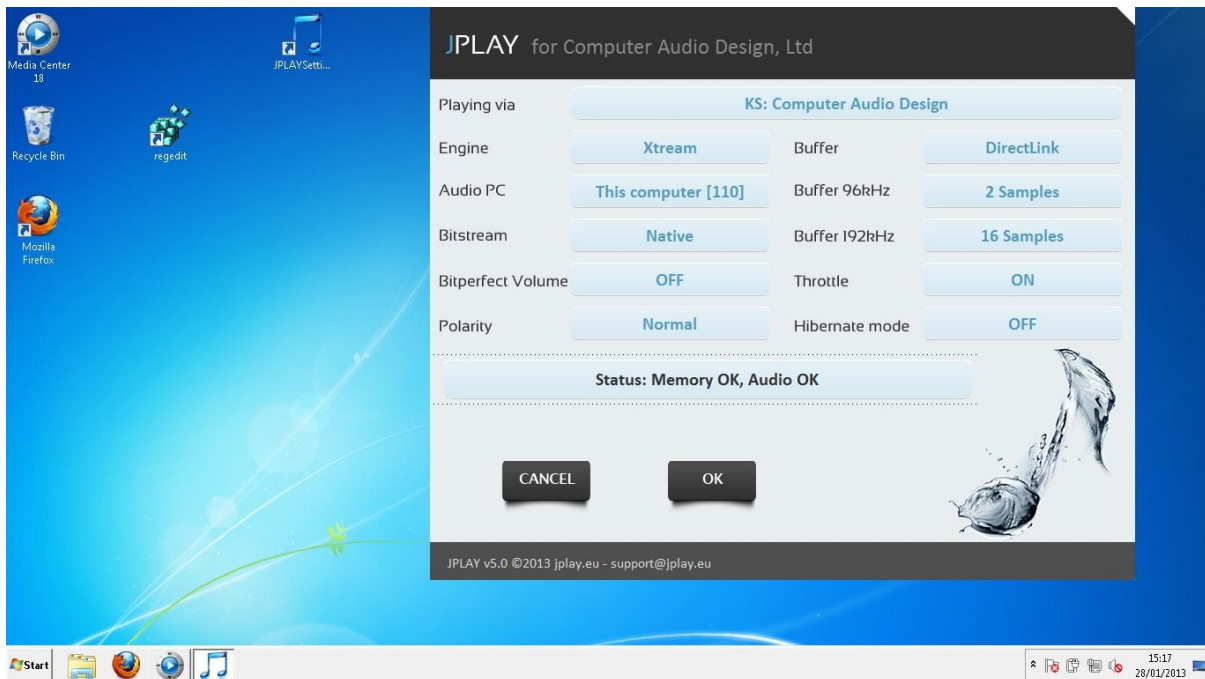
Now when you reboot your computer you can use JRemote on your iPad as normal but there will be nothing on your computer screen. If you need to get into JRiver just double click the JRiver icon on your desktop.

JPLAY V5 Settings

Please also look at the JPLAY webpage for instructions

JPLAY has 2 different locations where you can made changes that effect sound quality.

1) JPLAY Settings under ALL PROGRAMS --> JPLAY--> JPLAYSettings



You can choose between Kernel Streaming (KS) and WASAPI next to *Playing Via*. I generally prefer KS, but please try both and decide for yourself.

You can change the *Engine* between Xtream, River or Beach. They all have a slightly different sound quality. I generally prefer Xtream but it has a downside. With this *Engine* There will be a delay when you press start, pause, stop, etc.

Audio PC can be used if you use the 2 computer setup - To start with I would recommend using just one computer. If you would like to experiment visit the JPLAY forums. The number shown next to *Audio PC This computer* is the IP address of your computer.

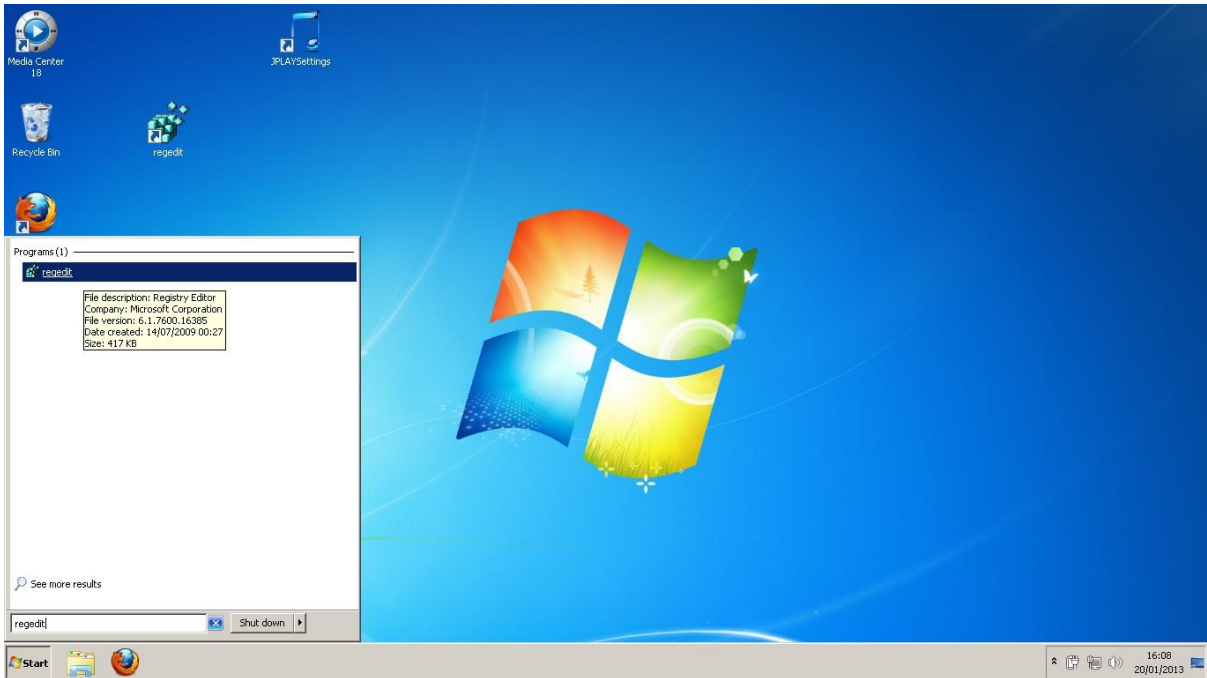
Bitperfect Volume allows you to attenuate the output voltage of your DAC by bit perfect steps.

Buffer - DirectLink has the lowest latency and will give the best sound quality. This is computer dependent and typically a faster computer with low latency memory will allow a lower latency setting. Start with Directlink and if you get drop outs of music increase the number of samples.

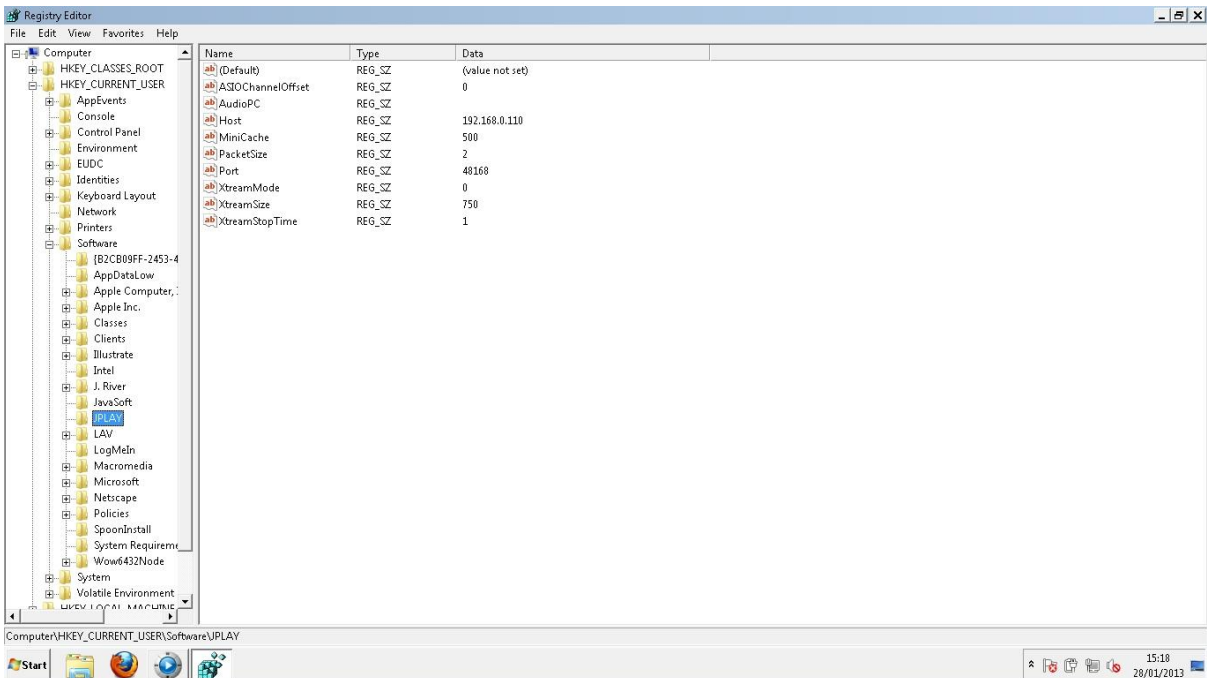
I will not go into Hibernate mode in this article, see JPLAY Forums.

2) In the registry under HKEY_CURRENT_USER/Software/JPLAY

To modify this go to Start Menu > Search programs and files > type: *regedit* then press "Enter." This loads the Registry Editor.



Double click on *regedit* and you will see this:



There are four variables you can change here:

1) PacketSize: [0-4] default 2

Lower values would result in more 'rapid' host player reaction, 0 being almost immediate (<1 sec). Larger values will increase delay between start/stop/next/pause button presses and music starting after the start button is pressed. Your preference, I personally prefer a setting of 0.

2) XstreamMode [0 or 1] I prefer a setting of 0

3) XstreamSize: [10-2000] default 750 - this changes the amount of RAM that the Xstream Engine uses. I leave this at the default 750.

You can change the amount of RAM used by Xstream engine. Some people prefer the sound quality produced by large values. (note 2000 won't work on 32bit or machines with less the 8GB RAM)

Larger values will increase delay for start/stop/next/pause commands.

4) XstreamStopTime [0 - 30000]: sets time (in milliseconds) how long to wait till playback is stopped after pressing stop whjen using the Xstream engine.

If set to greater than 0 then JPLAY will hard stop after the declared number of milliseconds. This gives the benefit of quick reaction to start/stop/next/pause commands but there is a significant downside! The last track on album or playlist may (usually is) cut 'short' - the music just stops before the song is over....

If set to 0 then JPLAY will always play everything that is in buffer i.e. prevent last track being 'cut' but you'll also have to wait longer until start/stop/next/pause commands take effect.

I have found a setting of 1 seems to be the best compromise for me.

That is it! Now sit back and enjoy some of the best sound you have ever heard!

Once you have this working well you may want to read my article on Windows Software Modifications. This is a more complex list of modifications that I feel improve sound quality and can be found on the Computer Audio Design website:

<http://www.computeraudiodesign.com/computer-setup/>

The modifications shown in this article are exactly what we used to win the "Best Sound In The Show" award at the 2013 Bristol Sound & Vision Show. We used a £450 Asus K55A Windows 7 laptop using an Intel 520 120GB SSD drive and 8GB of RAM.