Playback Software

We strongly believe that a third 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.

For Windows our recommendation is to use JRiver Media Centre 18 (JRiver) to manage your music collection and JPLAY for playback software. We feel JRiver along with JPLAY offers the best combination of convenience and sound quality for Windows.
In this example I will use JRiver Media Centre 18 in conjunction with JPLAY V5.1 on a Windows 8 64 bit computer.

If you are currently using Windows 7 or earlier versions we have found that Windows 8 offers a superior sound quality and believe it is worth the effort to upgrade to Windows 8.

JPLAY can be purchased here:

http://jplay.eu/

Please use a computer using a 64bit operating system. We feel that a 64 bit operating system sounds significantly 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 provides direct integration with JRiver Media Centre which can be purchased and downloaded from here:

http://www.jriver.com

Once you have installed JRiver you now need to integrate JPLAY so JPLAY handles the playback of your music and not JRiver:

1) Open TOOLS ---> OPTIONS

You should see this screen:

![Tools Options](image)

2) Under Audio ---> Audio Output, Change Output Mode to: **ASIO**

3) Under Audio ---> Audio Output, double click Output mode settings... You should see this screen:
Under **Device** choose: **JPLAY Driver**

We have found that you can improvement the sound quality by doing the following:

Move the **Buffering** slider all the way to the right to the minimum 0.02 seconds & uncheck **Use large buffers (recommended to prevent stutter)**.

Now go down to **Volume** and choose **Disable Volume**:

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

Go to **Track Change** and set **Switch tracks** to: **Switch tracks: Cross-fade (smooth) - 1 sec**
Configure your music collection

You need to connect your music collection to your computer before you start this next step. There are many options, some of which are:

- external hard drive connected via eSATA, Thunderbolt, Firewire or USB
- Ethernet connected Network Attached Storage (NAS)
- Internally connected SATA drive

**Note**: We 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. If possible use a different interface than your DAC uses and the fastest interface your computer has. If you have a USB DAC then eSATA, Thunderbolt or Firewire 800 are all good options. If you do not have those connections but your computer has USB2.0 & USB3.0, use the USB3.0 for your music drive and USB2.0 for your DAC.

You do not have to have all your music in one location or one drive, you can use multiple drives if you wish.

We will now configure JRiver to import and manage your music collection.

To configure your music collection go to: TOOLS --- IMPORT:
Click on *Configure Auto-Import* and hit NEXT. Now click on the *Add...* button and you should see the following 2 windows:

From here you can pick the location(s) of your music by clicking on the *Browse* button on the *Folder Settings* window. Once you find your music location click on the *OK* button. This will then close the *Folder Settings* window. If you have another location you want to add then click on the *Add...* button on the *Media Import* window once again and repeat. If you see some locations in your *Media Import* window that do not contain your music, highlight it and click on *Remove*.

Once you are done click on the *Finish* button. JRiver will now import your music collection. It is very fast, a 500GB collection will take under 10 minutes.
You will not have to do this again unless you change your music location or add an additional drive. There are various options to add new music. Typically, I just paste my new music into any location specified above and JRiver will automatically import it and search for metadata. This is very easy if your music collection is on your local area network.

**Remote Control of JRiver**

There are many options for controlling JRiver. You can of course control it directly on the computer and do not need to use a wifi device (i.e. iPad) at all. In this example I will show how to set up an iPad to control JRiver. There are several iPad applications out there that will control JRiver. I have tried most of them and I found that JRemote works well for me. You can purchase JRemote here:

http://www.jremote.net/

To allow JRiver to connect to JRemote on your iPad do the following:

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

You should see this screen:

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

Now click on:

*Access Key: Click for access from another Media Center, Gizmo, Webremote, or Webplay*

This will give you a key. Write this key down and you will need to enter that into JRemote on your iPad to allow JRiver on your computer to connect to JRemote on your iPad.

To use the key in JRemote open up JRemote on your iPad. In the top left corner of the screen click on the icon, (it looks like a toothed sprocket). In the new window that opens click on:
Add a new JRiver Media Center server. In the new window that opens up click on: Connect with access key. Then enter the access key and click on: Add and connect. That should do it.

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 also improves sound quality. I strongly recommend to do this!

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

![ JRiver Options Startup Screen ]

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 will not see JRiver on your computer screen - but it is running! You can use JRemote on your iPad and you will have complete control of JRiver. If you need to get into JRiver just double click the icon on your desktop and the interface will open up. Give it a try.

**Driver Installation**

The 1543 DAC needs a driver installed on your computer for the DAC to operate. You can download the Windows Vista/7/8 Driver from here:

[Windows Vista/7/8 1543 DAC Driver](#)

There is also a manual with instructions on installing the driver:

[Windows Driver Installation Instructions](#)
This is also located on the CAD website under "Downloads". Please install the driver before continuing on to the next step.

**JPLAY Settings**

Please also look at the JPLAY manual for instructions:  http://jplay.eu/manual/

In this example I will be using JPLAY Version 5.1. Plug your DAC into your computer before starting this section.

In Windows 8 go to Search and type in: JPLAY. You should see this:

To make life easier right click on JPLAYSettings and in the bottom left hand corner of the screen click on Pin to Start and on Pin to taskbar. Now you have easy access to the JPLAY settings no matter where you are in Windows 8. Double click on JPLAYSettings and you will see this screen:
You can choose between Kernel Streaming (KS) and WASAPI by clicking on the Playing Via button. I prefer KS, but try both and decide for yourself.

You can change the Engine between ULTRAstream, Xstream, River or Beach. ULTRAstream only works with Windows 8. They all have a slightly different sound quality. I prefer ULTRAstream, but you may not!

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.

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

The different Buffer settings allow you to set the latency for different sampling frequencies. DirectLink has the lowest latency and we feel gives 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 the music drop outs increase the number of samples.

I will not go into Hibernate mode in this article, see JPLAY Forums. Leave Throttle set to ON.

If you use ULTRAstream, (which I recommend) there is one other crucial setting that you need to change.

Unfortunately it is in the registry so you have to use the registry editor. You only need to do this once and the improvement in sound quality is worth it.

To start the registry editor go to Search and type in: regedit You should see this:

Double click on regedit and you will see something similar to this:
Now go to: **HKEY_CURRENT_USER/Software/JPLAY**

Double click on **UltraSize** that is located in the right hand screen. A window called *Edit String* will open. The *value data* will say 250. Change that number to 170 and then click on *OK*. Then click on the red x close button in the top right hand corner of the regedit window.

What this has done is decrease the latency setting to the minimum that we have found works consistently with the 1543 DAC and our computers. If you have problems with music stopping or not starting increase this value.

Reboot, listen and enjoy!

My suggestion it to use the computer this way for a while and get use to all the new software. Once you are comfortable you may want to move on to the next manual which shows some advanced (but not difficult!) software modifications to improve sound quality even further.