iTunes - HQPlayer Server

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Chapter 1

Introduction

"iTunes - HQPlayer Server" allows you to play any audio tracks from your iTunes library on a Mac through the software player HQPlayerDesktop from Signalyst. "iTunes - HQPlayer Server" runs on Apple Macintosh™ computers. It can send your music to any Macintosh or Windows computer on your network.

Why would you want to play your iTunes music files through HQPlayerDeskop? Well there are a number of third party audio software players which work in conjunction with iTunes in some way. All of them promise to improve the sound quality over standard iTunes audio playback. Below is a list of these software audio players which I am familiar with on Mac OSX:

1. Amarra

2. Audirvana Plus

3. Bitperfect

4. Decibel

5. Fidelia

6. Pure Music

In my opinion all of these players make a very worthwhile improvement to the sound over standard iTunes playback. They all recognise files with different sample rates and can switch automatically from one sample rate to another, when changing between music files with different sample rates. This is something iTunes itself cannot do, so it would be worth choosing one of these players or HQPlayer for this reason alone.

It is beyond the scope of this short user guide to go into any futher detail about these players, suffice it to say that they all allow for some sort of iTunes integration as, at least, an option and in some cases it's the default mode of operation. In this way you create and manage your music library in iTunes and play them through one of these players.

HQPlayer is a standalone player. By this I mean that, unlike the other players listed above, it doesn't integrate with iTunes in any way. HQPlayerDesktop is also limited as far as the audio formats which it supports. They are as follows:

1. AIFF

2. WAV

3. FLAC

4. DSD (DSF and DFF files)

5. CDA (CD Audio, which allows playback of CD through HQPlayer with an optical drive)

iTunes for its part does not support FLAC or any of the DSD formats. It is common for iTunes libraries to contain a lot of files in either Apple Lossless format or in AAC, which is the lossy format of music files purchased from the iTunes store.

1.1 HQPlayer

So what does HQPlayer bring to the table?

The Author of HQPlayer, Jussi Laako from Finland has a background in digital signal processing used in military applications. He brought this knowledge to bear on audio when he created HQPlayer. As a result HQPlayer contains a large selection of filters and ditherers for up-sampling PCM audio files up to the maximum supported by your DAC (digital to analogue converter). If you have a DSD capable DAC, an HQPlayer filter and modulator combination can be used for both up-sampling and converting PCM files to DSD format.

Although I understand that Jussi has a preference for DSD, plenty of his customers are using HQPlayer with a PCM only DAC and are very happy with the results.

Obviously you must have HQPlayerDesktop installed on the machine you want to use to play the music using "iTunes - HQPlayer Server". That would be the machine connected to your DAC and the rest of your Audio system. I will refer to this machine as the "client" machine. If HQPlayerDesktop is to play the music on the same Mac where your iTunes library is installed, this machine will be both the client and server machine. If you have HQPlayerDesktop installed without a license, it will be limited to 30mins of playback time for each launch of HQPlayerDesktop.

1.2 iTunes - HQPlayer Server

What does "iTunes - HQPlayer Server" bring to the table? It allows you to create and organise your music library in iTunes on a Mac and play the music through

HQPlayer, taking advantage of HQPlayer's features for improving the sound. It also provides the following features:

1. All iTunes music files selected for playback may be copied and the copy can be converted to either .wav or .flac formats.

2. These temprary converted versions may be written to a Ram disk or any mounted disc of your choice on a remote client computer. The original files are left untouched.

3. When your client machine is the same Mac that's running iTunes, if you select not to create a Ram Disk in "iTunes - HQPlayer Server" preferences, any temporary files created will be stored in "~/Music/HQP Server temps". That is your home folder, then music followed by a folder named "HQPlayer Server temps". This folder will be created for your automatically by "iTunes - HQPlayer Server", as necessary.

4. If you select to create a Ram Disk in "iTunes - HQPlayer Server" preferences it will automatically be created for you when "iTunes - HQPlayer Server" is first launched after you click "OK" in the preferences window. The Ram disk size can be either 50% or 75% of installed ram. This applies only if you are using "iTunes - HQPlayer Server" in local mode ("localhost" is chosen as the machine for playing back the files).

5. Alternatively "iTunes - HQPlayer Server" can be configured to only create temporary copies of files for playback, when the original file is in a format that HQPlayer doesn't support. All files in an HQPlayer supported format will then be loaded as file URLs directly into HQPlayer. This speeds up the loading of those tracks.

6. The ram disk (named "Ramdisk") is completely cleaned of any previously played temporary music files, each time you choose new music to play. When the temporary files are written to a Ram disk or other disk on a remote machine the temporary files are cleaned from this remote mounted disk.

7. Creation and conversion of temporary .wav or .flac files allows playback of all audio formats supported by iTunes through HQPlayer, except that you can't play Apple Music files through HQPlayer, since these are DRM protected.

8. Remote control of iTunes is supported via the Remote IOS app or by whichever means you normally use to control iTunes, while the actual playback will be through HQPlayer on the same machine or other client machine chosen for playback.

9. You may also control HQPlayer's volume from iTunes or the Remote IOS app. For this to work you will have to set HQPlayer's volume range to be wide enough for volume control to take place. A very narrow volume

range such as; minumum -3db, maximum -0db, in HQPlayer's settings will cause iTunes volume changes to have no effect on HQPlayer's volume. In this case you would be using another means of controlling volume, such as with your Amplifier, Pre-amplifier or DAC with volume control.

10. If your version of HQPlayer is at least 3.19 you may elect to apply different settings to different music files. This will be explained fully below.

The first feature allows you to play any audio file supported by "iTunes - HQPlayer Server", regardless of whether or not HQPlayer supports the original file's format. It also allows you to listen to the music in .wav format without having to store the files in iTunes as .wav. The standard .wav format does not support tags, which makes it very difficult to manage .wav files within an iTunes library. There are some Audiophiles who feel that .wav sounds superior to any other format though, including the other uncompressed format, aiff which does support tags. "iTunes - HQPlayer Server" allows you to listen and determine for yourself if .wav is the superior sounding format, without having to permanently convert your library files to .wav with all the hassle that entails.

The other option for temporary files is for them to be created in .flac format. These will obviously take up less space than .wav files and you may prefer their sound through HQPlayer. Temporary .flac files will take a little longer to create than .wav files.

When "iTunes - HQPlayer Server" plays back from RAM, rather than an SSD, Hard Drive or Network Attached storage, you may find it to be a sound quality advantage. Depending on your client machine though you may find the SSD in the playback (client) provides superior sound quality. One possible limitation when using Ram disks, is the amount of RAM installed on the machine in question.

When you launch "iTunes - HQPlayer Server" you are given the option of choosing 50% or 75% of installed ram, when using the local machine. Some people feel that 50% is around the maximum you should go to for a Ram disk, others say you're quite safe with 75%. The choice is yours. For a dedicated audio PC it is best to use a machine with a minimum of 8gb. At 50% of this 4gb is ample to playback single disk albums, even if they are high resolution up to 192khz and you convert to .wav (uncompressed) format. Once you get into muti-disc albums and if they are high resolution you could start to run into limits though. Similarly, if you like to play long playlists, you're less likely to be able to fit all the tracks from the playlist into Ram. In that case "iTunes - HQPlayer Server" will load as many of the tracks from the playlist into Ram as it can and play them through HQPlayer.

"iTunes - HQPlayer Server" remembers the last track that would fit into Ram and once HQPlayer has finished playing the first batch of tracks, these will be cleared and the next batch of tracks loaded for playback.

There will, of course, be an interval between these batches of tracks.

To maximise the chances of all the tracks you want to play being loaded into ram and played by HQPlayer in a single batch, you should choose the 75% of installed ram as the size option when your Ram disk is created.

You can also choose the option to have the temporary files converted to .flac instead of .wav which will further increase the chance of all tracks loading and playing in a single batch.

If you have selected not to use a Ram disk the temporary files will be created in your "~/Music/HQP Server temps" folder as explained above. You should, of course, ensure you have plenty of space available in your home folder on your Mac. If there is insufficient space in "~/Music/HQP Server temps", again the temporary files will be created in batches as descibed for a Ram Disk above.

The same consideration applies when the client machine running HQPlayer is a different machine to the one running iTunes and "iTunes - HQPlayer Server". In that case you would need to specify a shared folder on that client machine. This shared folder could be a Ram Disk on the separate client machine or any other location on the client machine which you specify. When HQPlayer is running on a separate client machine and you want to use a Ram Disk, the ram disk on the client machine will have to be created manually. "iTunes - HQPlayer Server" can only automatically create a ram disk when iTunes, "iTunes - HQPlayer Server" and HQPlayer are all running on one machine. That machine would have to be a Mac as "iTunes - HQPlayer Server" is only available for Mac.

The same consideration descibed above applies regarding the space on the shared folder of the client machine. Temporary files will be created by "iTunes - HQPlayer Server" in batches if there is insufficient space to create all the files of the Album or Playlist requested for playback in one go.

1.3 What it can't do

iTunes attempts to be all things to all women and men as you probably already know. "iTunes-HQPlayer Server" is a solution for audiophiles who wish to play their Albums, Playlists and Tracks at the highest possible sound quality by using HQPlayer as an audio engine.

What it can't do though, is to play any music stored in "the Cloud". This includes the following:

1. Apple music (Apple's music streaming service).

2. Play music from other iTunes shared libraries on your local network via "Home Sharing".

Note: If you use iTunes Match, you can play iTunes match albums through "iTunes - HQPlayer Server". You must first download the albums from the cloud within iTunes though. They are then stored in your iTunes/Music folder along with the rest of your iTunes music library items. These downloaded iTunes Match files will be in lossy AAC 256 kbps format. So even using HQPlayer, don't expect these iTunes Match files to sound as good as lossless or uncompressed files. You should still find that the sound quality is improved by playing them through HQPlayer using "iTunes - HQPlayer Server" though.

"iTunes-HQPlayer Server" will check to make sure that what you are attempting to play is a local file stored on your Mac in the internal drive, a directly connected drive, or network connected media. If you attempt to play music from the cloud while "iTunes-HQPlayer Server" is running, this music will not be played through HQPlayer.

If you use Apple Music or like to connect to other iTunes shared libraries on your network, my recommendation would be to have two separate iTunes libraries:

1. Your main library for playing locally stored music only for use with "iTunes-HQPlayer Server"

2. Another library when you want to make use of all the "Cloud" features.

It's very easy to create a new iTunes library or swap between different libraries. Just hold down the "alt/option" key on your keyboard as you launch iTunes.

1.4 Music purchased from the iTunes store

Any music that you've purchased from the iTunes store in Apple's lossy AAC format may be played with "iTunes-HQPlayer Server" through HQPlayer. Although I don't normally recommend playing lossy formats, most of us experience those time when we absolutely must have a piece of music and it isn't available from any other sources. At least not in a way that would provide such instant gratification. Apple's lossy AAC at 256kbps will sound a lot better than you might have imagined when played through HQPlayer.

Chapter 2

Installation

Installation is a simple matter of unzipping the "iTunes - HQPlayer Server.zip" file you downloaded from the supplied link.

You may run "iTunes - HQPlayer Server.app" from anywhere. If you drag it to your "~/Library/iTunes/Scripts" folder" it will be available in the "Scripts" menu within iTunes.

This user guide named "iTunes - HQPlayer Server guide.pdf" should be dragged to wherever you normally keep your user guides.

Note: "~/Library/iTunes/Scripts" stands for the library folder within your home folder. If you do not already have a folder named "Scripts" within the iTunes folder in your Library folder simply create a new folder there and name it "Scripts".

Your library folder doesn't show up by default on the Mac OSX Finder window's left hand pane. If you don't see it there choose "Go" from the Finder's menu, then "Go to folder..." and in the dialogue box that appears enter "~/Library" as the address, or go straight to "~LIbrary/iTunes".

Chapter 3

Launching iTunes - HQPlayer Server

With "iTunes - HQPlayer Server.app" installed, either double click it or choose it from the "Scripts" menu within iTunes, if you installed "iTunes - HQPlayer Server" in your "~/Library/iTunes/Scripts folder".

3.1   Client machine is localhost

When "iTunes - HQPlayer Server" is launched the following window will appear:
   The exmaple shown in figure 3.1 is the simplest and most basic example of how your parameters would typically be set up if iTunes and HQPlayer are both running on the same Machine, which in that case would have to be a Mac. Let's step though each of the settings:

1. Do not show this message again.

   (a) Leave as unchecked unless you want these same settings to always be applied in the future. I advise you to leave it unchecked while you are still getting to know "iTunes - HQPlayer Server" and determing which settings work best for you.

   (b) If you check this box the preferences window will not appear on any subsequent launches of "iTunes - HQPlayer Server" after you've quit it. This is useful when you know are happy for these same settings to be applied for all subsequent launches of "iTunes - HQPlayer Server". It's useful for headless servers, where you set "iTunes - HQPlayer Server" to automatically launch each time you startup the machine running "iTunes - HQPlayer Server". If you change your mind about this at any time, you will need to delete the "itunesHqpserver.plist" file and empty the trash. This will cause the preferences window to

Figure 3.1:

    appear again with the default settings. Any values that you previously entered will be lost.

    (c) The "itunesHqpserver.plist" file is located in "~/LIbrary/iTunes". Meaning in the iTunes folder located in the library folder in your home folder.

2. Client machine address

    (a) In the example in figure 3.1 this is left at the default "localhost" since iTunes, "iTunes - HQPlayer Server" and HQPlayer are all running on the same Mac.

3. Mapped location of this Mac's iTunes music folder on client machine.

    (a) In this case, this is left at the default value of "Not Applicable".

4. Location of temporary files on client machine

    (a) In this case, this is left at the default value of "Not Applicable".

5. Share name on client machine as it appears on this Mac

    (a) In this case, this is left at the default value of "Not Applicable".

6. Choose the operating system of the client machine.

    (a) In this case this must be set to Mac

7. To create Ram disk enter percentage of Ram

    (a) If you leave this at "No Ram disk" a ram disk will not be created. In that case if any temporary files need to be created, they will be created in "~Music/HQP Server Temps". Meaning the music folder in your home folder then a folder named HQP Server Temps, which will be created for you automatically by "iTunes - HQPlayer Server".

    (b) If you choose 50% of Ram a ram disk will be created named "Ram Disk" using 50% of the available free memory on your Mac.

    (c) If you choose 75% of Ram a ram disk will be created named "Ram Disk" using 75% of the available free memory on your Mac.

8. Always create temporary files or only when necessary?

    (a) HQPlayer supports aif/aiff, and WAV files; but not any of the other file types that may be in your iTunes music library. For this reason if you request any of these non-HQPlayer supported files to be played, such as Apple Lossless files, "iTunes - HQPlayer Server" *will always automatically create temporary files* in either .flac or .wav format. In those cases it is those temporary files which will be loaded into and played by HQPlayer in place of the original file which HQPlayer

cannot handle. You are unlikely to have .wav files stored in your iTunes library because standard .wav files do not support file tags and are therefore a challenge for iTunes to manage.

(b) If you set this parameter to "Only when necessary" the file urls for any files present in your iTunes library, which are in a format supported by iTunes, will be loaded directly into HQPlayer. No temporary files will be created in those cases for the HQPlayer supported files. Temporary files will only be created for non-HQPlayer supported files. So if your entire music library is in aif/aiff format, temporary files will never be created.

(c) If you set this parameter to "Always", as implied, temporary files will always be created and played in place of the original files. This includes for original files that are in an HQPlayer supported format, such as aif/aiff. Some people believe that a freshly minted file will sound superior to the original file. It is further believed by some audiophiles that when the temporary file is written to and played back from a Ram disk it will sound even better. This is the reason for the Ram disk and "always create temporary files" feature.

9. Format of temporary files, wav or flac?

(a) This should be pretty self explanatory. Some audiophiles believe .wav files sound superior when played back through HQPlayer, others prefer .flac. Here you have a choice so you can determine for yourself which sounds better to you. The creation of .wav files is generally a little faster than creation of .flac files. The temporary .wav files will lack any meta-data tags. Perhaps this allows them to sound a little better? Again, you can determine this for yourself.

10. Launch HQPlayer?

(a) If this parameter is set to "Yes' and HQPlayer is already running it will be quit and re-launched. If not running it will simply be launched.

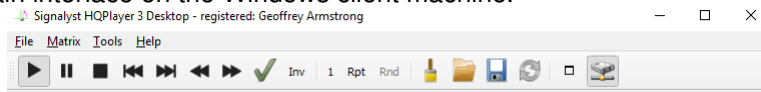(b) If this parameter is set to "No" *you must ensure you have launched HQPlayer before launching* "iTunes - HQPlayer Server".

11. Apply custom HQPlayer settings?

(a) If this parameter is set to "No" you will not have the ability to apply different HQPlayer settings to different music.

(b) With this parameter set to "Yes" you will be able to apply different HQPlayer settings to different music by adding the following into the comments field of the music track/album concerned:

i. "hqp-<settingsfile>" Without the quotes and where <settingsfile> is replaced by the name of the HQPlayer settings file you wish to be applied.

ii. To use this feature *you must have a default.xml settings file and this must be stored in* "~/.HQPlayer" which is the hidden HQ-Player folder in your home directory.

iii. Any other settings files you wish to be applied must also be saved in "~/.HQPlayer". Use HQPlayer's "Export settings. . . " command from its file menu after setting up the default prefer-enes in the preferences window, which appear when you choose "Preferences. . . " from the "HQPlayerDesktop3" menu.

iv. When you enter a settings file in the comments field of a music file/album you must precede the settings file name by "hqp-" as shown above. The ".xml" extension may be either included at the end of the settings file name or omitted.

v. If there is more than one comment in the comments field for the music track or album concerned, including the "hqp-. . . " com-ment, each comment must be seprated by a comma (,).

   A. Exmaple: "label: ECM, hqp-liveJazz"

vi. How you name the HQPlayer settings files, is of course, entirely up to you, within the normal rules of the operating system.

3.2 Client is an external Windows machine

To use this option you will need to enable the "network" button on HQPlayer's main interface on the Windows client machine.

In the next example in Figure 3.2, iTunes and "iTunes - HQPlayer Server" are running on the Mac which holds your "iTunes Library.xml" and iTunes Library.itl" files. HQPlayer though is running on a different machine, which in this case is a Windows machine:

- Client machine adddress

  - "localhost" is replaced by the IP address or host name of the win-dows machine where HQPlayer is running.

- Mapped location of this Mac's iTunes music folder on client.

  - From your Mac navigate to the folder containing your actual music files.

  - Right click (or equivalent) on this folder and choose "Get Info" from the drop down menu that appears.

  - Check the "Share folder" check box if it isn't checked already

Figure 3.2:

– In Windows file explorer you will have needed to create a Mapped network drive for the iTunes music folder located on the Mac running iTunes as follows:

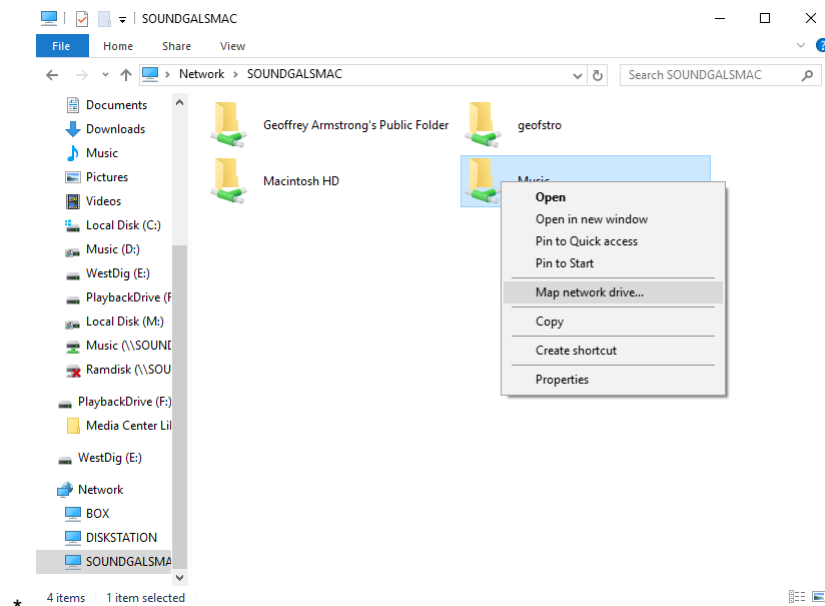* From the windows machine File Explorer under Netowork locate your mac running iTunes and navigate to the iTunes Music folder.
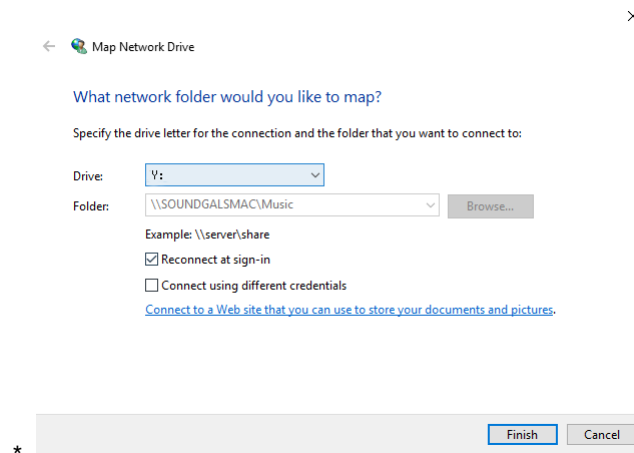

* Right click (or equivalent) on the shared "Music" folder and choose "Map network drive".

* In the window that appears either accept the proposed network drive letter or choose a different one from the appropriate drop down menu.

- This is the drive letter (Y) in the example which you enter into the "Mapped location of this Mac's iTunes music folder on client" parameter in "iTunes - HQPlayer Server" prerferences as shown in Figure 3.2

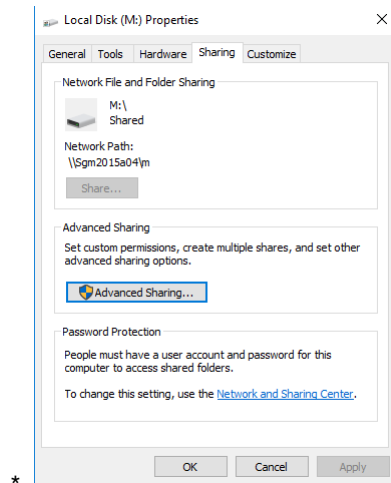• Location of temporary files on client machine

- "iTunes - HQPlayer Server" always needs to assume that temporary files will need to be created at some stage. Even if your entire music library is in aif/aiff format you may try to play something at

some stage which is in a format that HQPlayer does not support. When the client machine running HQPlayer is different to the Mac running iTunes and "iTunes - HQPlayer Server", you need to supply a location on the client machine which HQPlayer can pick up any temporary files from. Furthermore that location must be a shared location on the client machine, so that the temporary files can be written to it from your Mac running iTunes. In this example the location for temporary files on the client machine happens to be a Ram disk with the drive letter "M". It could be any location on the client machine which can be shared. In which case the full path to the shared folder would need to be specified for this parameter; e.g. "C:\Users\Geoffrey\Music"

– In order to share this Drive/Folder on the client machine, when the client machine is Windows, please perform the following steps:

  * Right click (or equivalent) on the driver or folder concerned in Windows File Explorer and choose "Properties" from the drop down menu that appears.

  * In the Window that appears click on the "Sharing" tab.

* Notice that we've made the "Share name" the same as the drive
  letter (M) in this example. We could have given it whatever name
  we wished; but we named it the same as the drive letter to keep
  things simple. Click on the "Advanced Sharing" button and put
  a check mark in the check box next to "Share this folder", then
  click on the "Permissions" button.

* Place a check mark in all of the permissions check boxes as
  shown.

* Click on "OK" to dismiss each of these windows.

* That's all you need to do on the Windows side. Now you need to go back to your Mac running iTunes and "iTunes - HQPlayer Server".

* In the Finder choose "Connect to Server..." from the "Go" menu.

* In the window that appears, in the field under "Server address: type "smb://<ip address>" where <ip address> is replaced by the ip address of the Windows client machine and click on the "Connect" button.

*

* You should now see a window that proposes all the shared Drives/Folders on the Windows client machine:

* Choose the Drive/Folder you just shared from the Windows machine and click on OK..

*

* The shared drive/folder from the client machine should now be mounted on your Mac. This is the location that any temporary files will be written to.

* When you launch "iTunes - HQPlayer Server" this is the share name you'll need to enter for the parameter "Share name on client machine as it appears on this Mac" and as shown in figure 3.2. In this example the share name you gave in Windows is the same as the drive letter of the Ram disk; "M".

• Choose the Operating System of the client machine.

– As in figure 3.2, you will need to select "Windows" from the drop down menu for this parameter.

- To create a Ram Disk enter percentage of Ram

  – Whatever you choose here will have no effect in this case. A ram disk can only be automaticall created when the client is "localhost". In other words when HQPlayer is running on the same machine as iTunes and "iTunes - HQPlayer Server", which must be a Mac.

- Always create temporary files or only when necessary?

  – This is the same as described under "Client machine is localhost" and figure 3.1 above.

- Format of temporary files, wav or flac?

  – This is the same as described under "Client machine is localhost" and figure 3.1 above.

- Launch HQPlayer

  – Whether you choose "Yes" or "No" in this case will have no effect. HQPlayer can only be auto launched on the Mac which is running iTunes and when the client is "localhost" as in figure 3.1 above.

- Apply custom HQPlayer settings?

  – The considerations here are the same as when the client machine is "localhost" except that on Windows the "default.xml" settings file and any custom settings files that you create are in a different location. That location is the hidden folder "C:\Users\<your user name>\AppData\Local\HQPlayer" replace <your user name> with your actual user account name on Windows.

Chapter 4

iTunes - HQPlayer Server in operation

Whichever of the following methods you're accustomed to using to control iTunes playback, will work just fine with "iTunes - HQPlayer Server":

1. Apple Remote app on IOS

2. Apple silver remote

3. Traditional mouse and keyboard

It's important to keep in mind that playback will be taking place via both iTunes and HQPlayer.

You don't want both iTunes and HQPlayer trying to send their output to the same audio device at the same time. The typical scenario is that iTunes would output to your default internal audio sound card to the Mac's built in speakers and HQPlayer would output to a separarte DAC connected to your high quality audio system.

4.1   Perform all commands via iTunes

The first and most important point to bear in mind when using "iTunes - HQPlayer Server" is that you must perform all playback control through iTunes, *never through HQPlayer itself*. Otherwise you'll be likely to throw eveything out of sequence.

The iTunes commands to play, pause; etc can be performed in iTunes on your Mac or via the Remote app for IOS or the silver Apple remote.
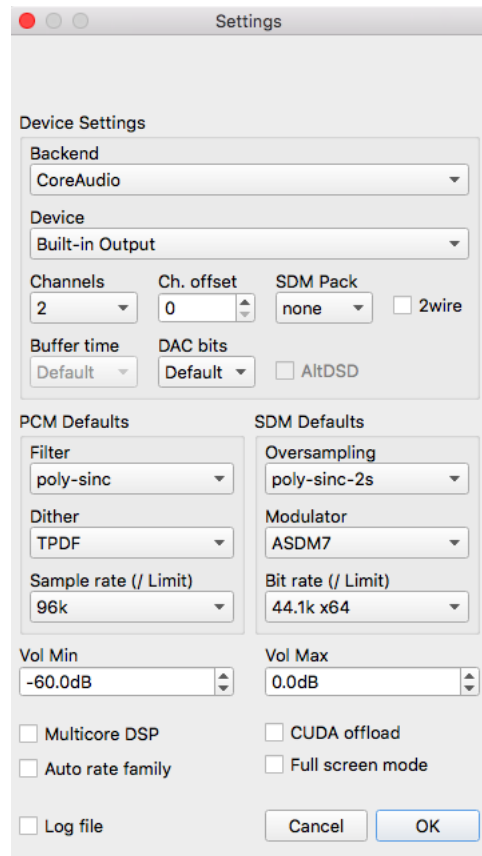
4.2   Volume control

If you use HQPlayer's volume control, this can also be controlled from iTunes or the iTunes remote app on IOS.

Within HQPlayer itself you can choose a volume range in HQPlayer's preferences. If you set this to a very narrow range such as -6db Minimum, -3db Maximum, then changing the volume in iTunes will have little to no effect. In that case your intention is obviously to control volume via your Amplifer, Pre-amplifier or DAC with Volume control. If on the other hand you set this to a wide range, such as -60db Minimum, -3db Maximum, then obviously you do want to control volume in software. In that case it would obviously be desirable to control HQPlayer's volume in sync with changes to iTunes volume. This will also permit volume changes in the Apple remote app for IOS. Be aware there may be some delay between changing volume in iTunes and having that volume change take effect in HQPlayer.

If you set the volume range in HQPlayer to a wide range as shown in the image, you will need to ensure that whatever audio device iTunes is playing to is muted. Usually this will be the Mac's internal speakers.

Alternatively you could send iTunes output to a virtual output such as Soundflower if you have it.

4.3   Playback from Albums view

Now let's go into a little more detail as to what exactly happens when you choose music for playback in iTunes.

We'll carry out this exercise directly on the Mac running iTunes with a mouse or trackpad, so we can see exactly what's happening.

With iTunes open, "iTunes - HQPlayer Server" having been launched and the preferences filled in as necessary, we're ready to select some music to play. Make sure "My Music" is selected towards the top of the iTunes window and "Albums" is selected at the top right hand side as shown in Figure 3.4:

In this case I have clicked once on an album to see all the track names. I could have double clicked on the album to start playing directly from track one. With the album open though, I can choose to commence playback from any of the tracks of this multi-disk album by double clicking on the track I wish playback to commence from. Playback will start from the track I've double clicked on, and continue through this multi-disk album until the end or until I interrupt playback by choosing different music to play or pausing iTunes.
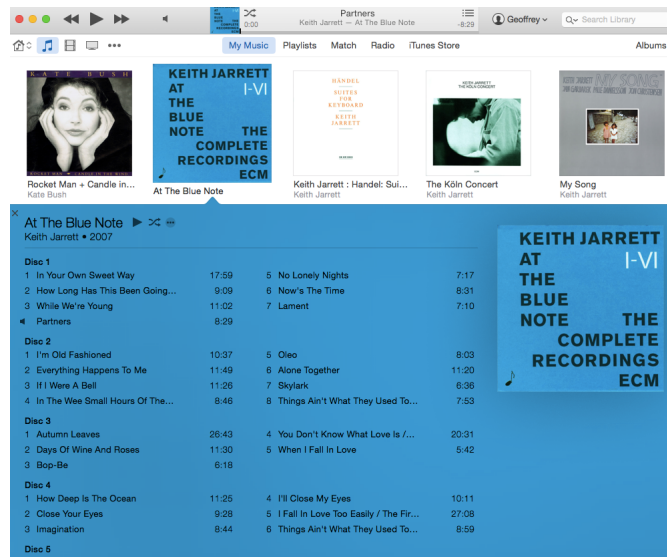
Figure 4.1:

What happens next is that iTunes will commence playing the track. At some point you'll see the track progress indicator in iTunes halt, if you're playing close attention.

This will take longer to happen if temporary files need to be created.

Any temporary WAV or FLAC files (depending on which option you chose) that need to be created will be created in the chosen location. If temporary files do not need to be created, the file urls will load into HQPlayer. This should be very fast. If temporary files need to be created, you may want to open the location chosen for them in your finder to observe what's happening.

If you are using a different machine on your network as the client machine, such as a Windows or Linux machine, you must have made sure HQPlayer is already running on that machine. Assuming this client machine is a machine dedicated to music playback, I recommend you have it set up to automatically launch HQPlayer whenever the machine needs to be re-started/booted up.

As soon as the first track of an Album or Playlist selected for playback has been written to the Ram or other disk or the first URL is loaded, HQPlayer will begin playing that track. The rest of the tracks will be progressively added one by one, so that playback will continue smoothly (gap-lessly), through the rest of the tracks of the album or playlist concerned, until you pause iTunes or select a new track for playback to commence from.

When you select new music for playback the previously loaded tracks will immediately be cleared from HQPlayer and any temporary files removed from the Ram disk or other location on the local or other client machine.

Just before playback commences in HQPlayer the iTunes progress indicator will be set back to the beginning of the first track selected for playback and

playback in iTunes will re-commence from the beginning of that track. This keeps the progress indicator in iTunes in sync with the progress indicator in HQPlayer as closely as possible.

4.4 What happens when all tracks won't fit into the temp file location?

When the total size of all tracks selected for playback in iTunes are too great for all of the temporary converted tracks to fit into your temporary file location, "iTunes - HQPlayer Server" wait's for the total time necessary for each batch of tracks to play and then loads the next batch of tracks which constitute the playlist or long album selected for playback.

This process will continue until all tracks of the selected playlist or album have played or until you choose different music in iTunes or hit the iTunes pause button.

4.5 Playback from a playlist Songs view

If I now switch to Playlists and select a particular playlist in "Songs" view, I can double click any track in the playlist and playback will commence from that song. Figure 4.2 shows both iTunes and HQPlayer playing the same track. When temporary files need to be created, the list of tracks in HQPlayer corresponds with the iTunes playlist up to the point of the last track that could fit into the temporary file location.

If I double click on any other track in this playlist, "iTunes - HQPlayer Server" will ask HQPlayer to clear its playlist and load a new batch of tracks. Any temporary files will be converted and loaded into the temporary file location from that track onwards, or the file URLs, correponding to the tracks will be loaded from that track onwards. As before, once the first of any temporary files are loaded to the temporary file location or the first file URL is loaded, playback in HQPlayer will recommence from that first track.

The same is true if you swtich to another playlist or to Albums or Artists view within iTunes and double click to commence playback from a new track.

However you navigate to choose new tracks to play within iTunes, "iTunes - HQPlayer Server" will follow you and cause the tracks to be played back through HQPlayer.

Whenever playback is interrupted as a result of choosing new music to play, HQPlayer's playlist will be cleared and the new tracks will be loaded. Playback will commence from the first of those new tracks.
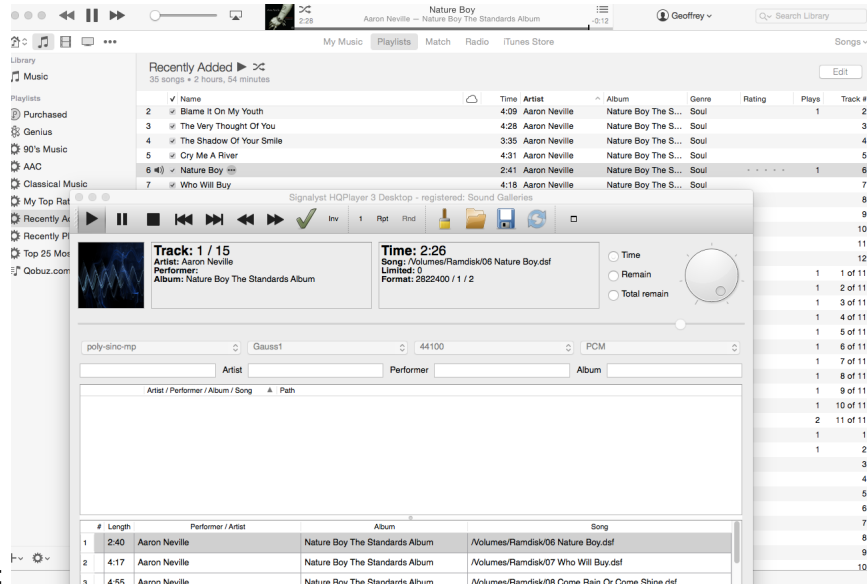
Figure 4.2:

4.6   Using the remote app

There is really not much for me to say about this. I access my iTunes library from the remote app on my phone as normal. I find an album I want to play and decide which track to start playback from in the usual way as shown in Figures 4.3 and 4.4.

I choose the track Tabarka from Keith Jarrett's - My Song album.

. . . and the result is that playback starts from Tabarka in HQPlayer.

4.7   Pausing

Pausing iTunes and HQPlayer playback is simply a matter of hitting the pause button in iTunes or on whatever type of remote you may be using. iTunes and HQPlayer will both pause, waiting for you to recommence play or take some other action.

4.8   Quitting

Quitting "iTunes - HQPlayer Server" is simply a matter of the following:

1. With iTunes as the front most app hit command-period (command .) to put iTunes in "Stopped" mode.

Figure 4.3:

Figure 4.4:

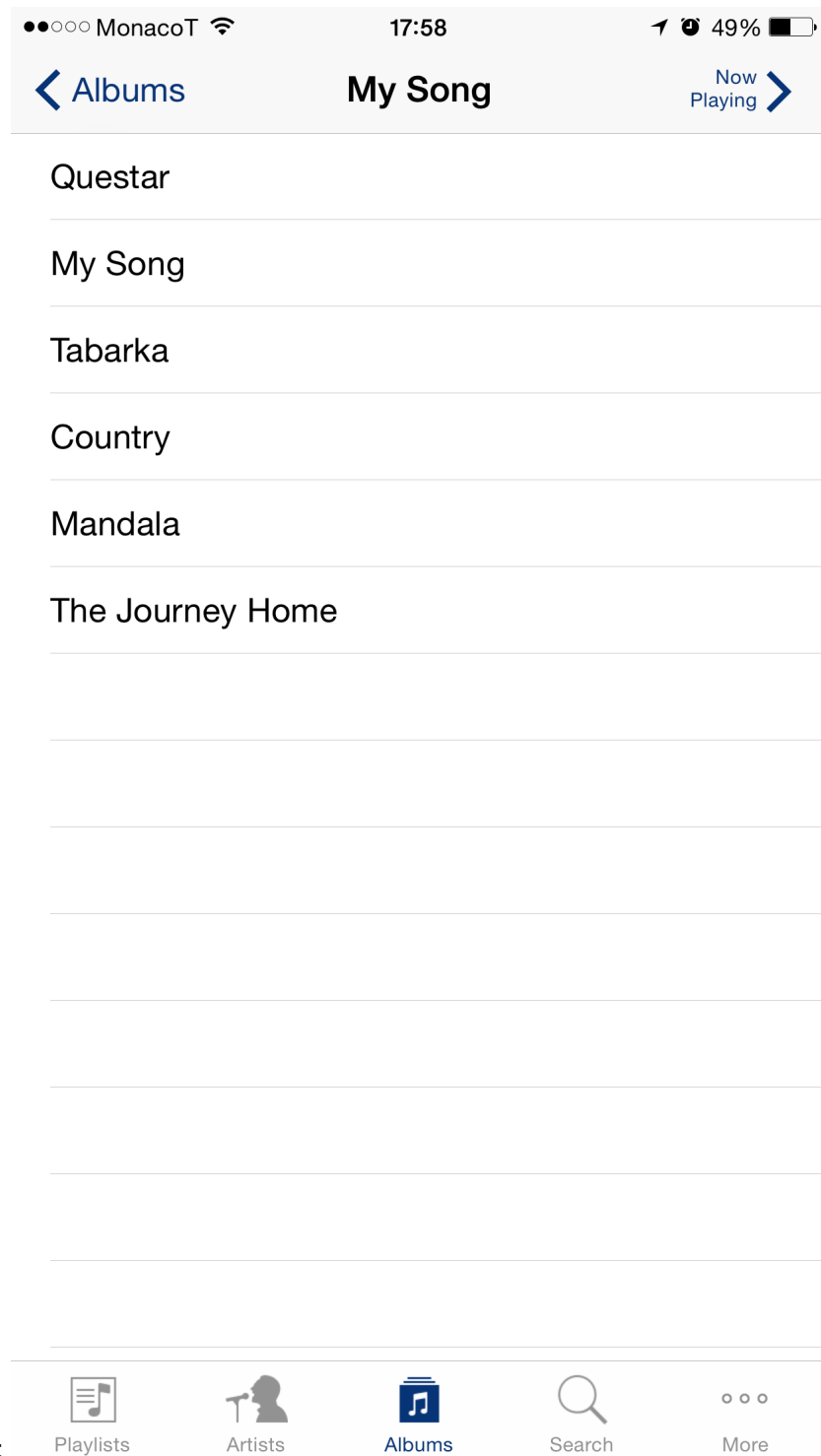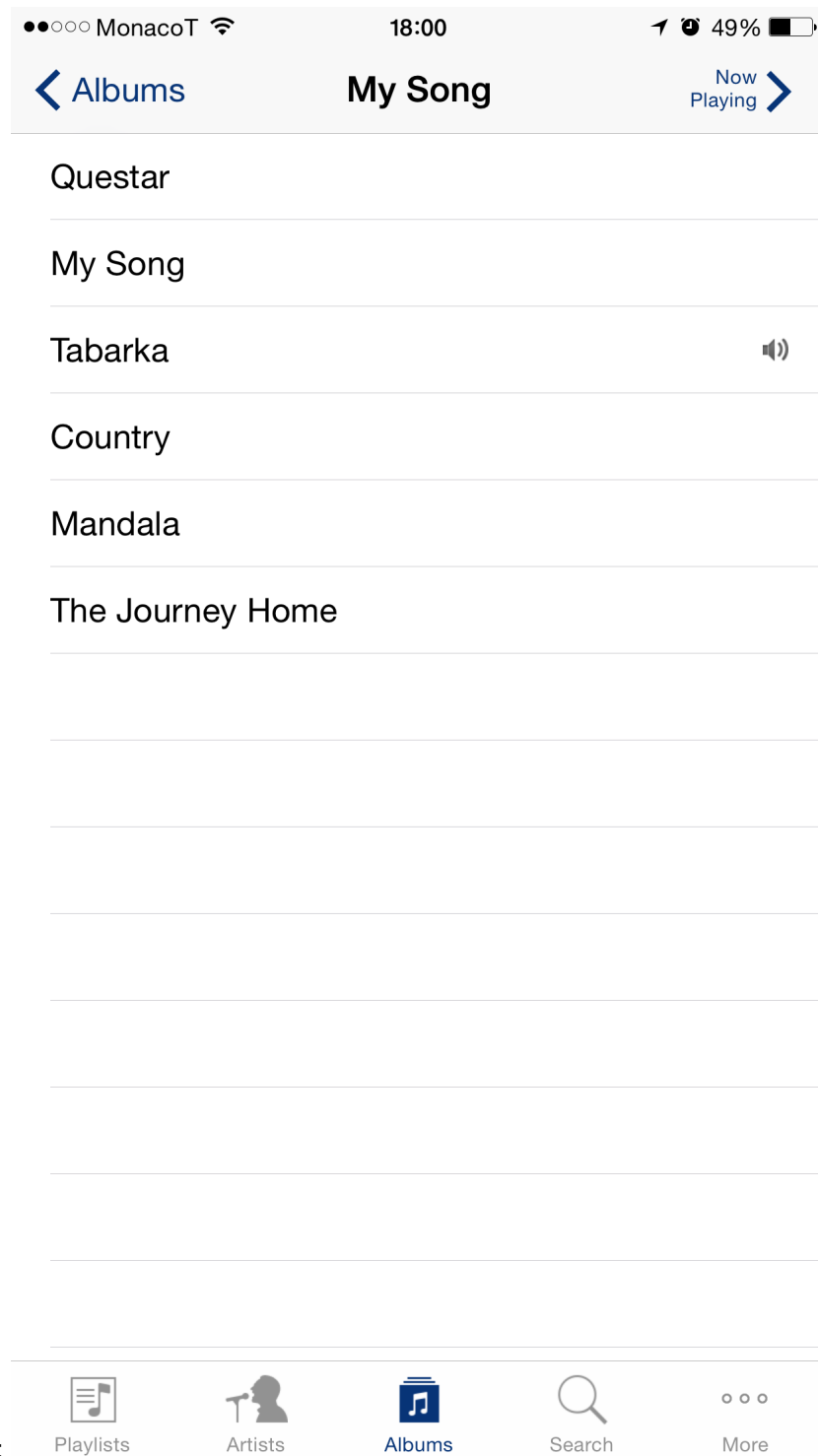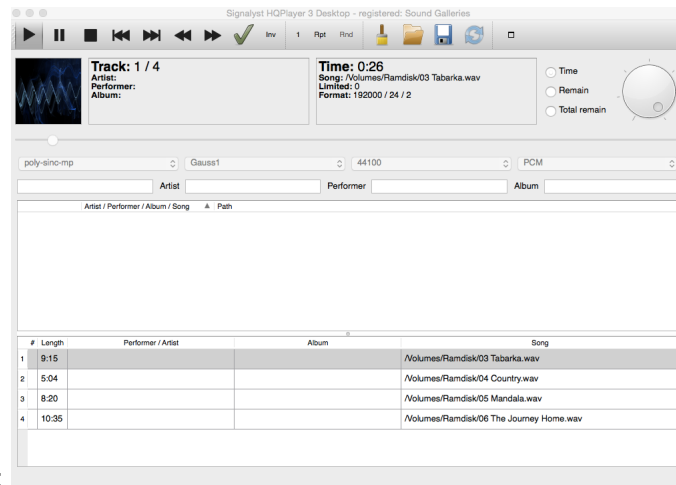Figure 4.5:

(a) This will clear the playlist in HQPlayer and delete any temporary files.

2. Now bring "iTunes - HQPlayer Server" to the front and quit it as you do with any other app.

NOTE: The only way to put iTunes in "Stopped" mode from the remote app on IOS is to back track or forward track on the remote until you've gone past the first or last track of the album/playlist which was playing.

Chapter 5

Advanced features

5.1   What about DSD?

As you're probably aware iTunes cannot handle DSD files. DSD files are in either .dff or .dsf formats and you may have some in your collection that you've either brought from an online site or ripped from SACDs using a Sony Playstation 3. It seemed a shame to me not to offer some kind of support for DSD when HQPlayer can handle DSD so well.

So I've implemented a solution for those of you with DSD files in your collection who would like to send them to HQPlayer from iTunes in the same way as described for PCM files here.

This solution invloves the following steps on your part.

1. With a DSD album organised first by artist and the DSD album or albums placed inside the artist folder, copy this DSD album or albums to the same location as the rest of the files used for your iTunes library. If you already have a folder for this artist for PCM albums in your iTunes library, then just add the DSD album(s) within this artist folder. (For compilations substitue the name "Compilations" for artist and place the DSD albums concerned in the Compilations folder or create a "Compilations" folder if you don't already have one).

2. With your installation of "iTunes - HQPlayer Server" if you requested it you will have been provided with an additional Applescript named "Copy DSD to ALAC". "Copy DSD to ALAC" is optional and you only need it if you want to take advantage of this DSD support.

3. With all of the above in place you will be able to choose "Copy DSD to ALAC" from your iTunes scripts menu or double click it from its location in the Finder.

4. Next surrogate alac files will be created for each of the DSF files. Note: *these are not proxy files* they are alternative full quality and perfectly play-

bable PCM alac versions of your DSD files. They can be useful if you want to stream the music to yourself over the internet or play them directly through iTunes or another player that does not support DSD.

5. Now you will be prompted to choose a folder. Navigate to the artists folder which you know to contain DSD files, or to the DSD album itself. Then hit OK.

The alac (Apple Lossless) files will be created alongside the original DSD files. Any DFF files will have been converted to DSF first and the DFF files in this location discarded. DSF is preferable to DFF because DSF files can be tagged and there is no difference in sound quality between the two.

Because DSF files can be tagged. If your files are already in DSF format before running "Copy DSD to ALAC" you may want to run the app called "Yate" which I recommend for tagging them, if they are not already properly tagged. "Copy DSD to ALAC" will respect any tags already present in the DSF files.

"Copy DSD to ALAC" will use the name of the artist and album from the folder names in order to keep all files belonging to an album together in iTunes, when it automatically adds the ALAC versions to iTunes.

5.1.1 The advantage of "Copy DSD to ALAC"

With the ALAC versions of your DSD files added to iTunes, when you run "iTunes - HQPlayer Server" the DSD (DSF) versions that live alongside them will be sent to HQPlayer for playback *instead of their ALAC counterparts in iTunes*. In this case no conversion is performed by "iTunes - HQPlayer Server". The original DSF file URIs are loaded to HQPlayer for playback.

When not using a DSD capable DAC HQPlayer will down-sample/down-convert these DSF files using the filter and ditherer options selected by you in HQPlayer, up to the maximum capability of your DAC. They should still sound very good, though probably/argualbly not as good, as playing them back in DSD to a DSD capable DAC.

Chapter 6

Conclusion

"iTunes - HQPlayer Server" combines iTunes library management and convenience with the superb sound quality of "HQPlayer". It gets around the limitations of lack of support in HQPlayer for certain audio formats supported by iTunes, by creating temporary versions of these files in WAV or FLAC versions. These temporary files may be written to a Ram Disk or from the HQP Server temps folder in your music folder. Alternatively they can be sent to a dedicated music playing client machine on your network, also for playback from a ram disk or location of your choice.

We can also optionally get around the lack of support for DSD in iTunes as long as you are willing to accept the extra disk space that alternative ALAC versions will use up.

By playing temporary music files from Ram disk you may get an additional noticeable improvement in sound quality. Even better is to use a seperate client machine, which could be running a different operating system, such as Windows 10 or Linux, dedicated for music playback, while you continue to interact with your Mac in the way you are accustomed to.

Chapter 7

Some things to be aware of

I have strived to make "iTunes - HQPlayer Server" as reliable as possible. As with most software though, you may encounter issues from time to time. "iTunes - HQPlayer Server" is provided as is with no warranty and the usual disclaimers apply, that neither myself or Sound Galleries will accept any responsibilty for any loss or corruption of data as well as any hardware problems you may experience whilst using the software described in this guide.

Having stated that, I can say that "iTunes - HQPlayer Server" does not alter any files stored on your computer in any way, except for creating temporary music files as discussed in this guide.

If HQPlayer fails to play the temporary files loaded into Ram and you are sure the settings are correct in HQPlayer for sending music to your DAC, do the following:

With iTunes as the front most application do commend-. (command followed by a period). This will clear the files from the temporary file location, as well as anything in the HQPlayer playlist. Then try to play the same file(s) again. Usually this will solve any issues you have playing back the temporary converted files.