ANTIPODES MUSIC SERVER REFERENCE GUIDE

REFERENCE GUIDE

Introduction

This Reference Guide provides additional information to add explanation to the Quick Guide. It should be read in conjunction with the Quick Guide, which can be found at.

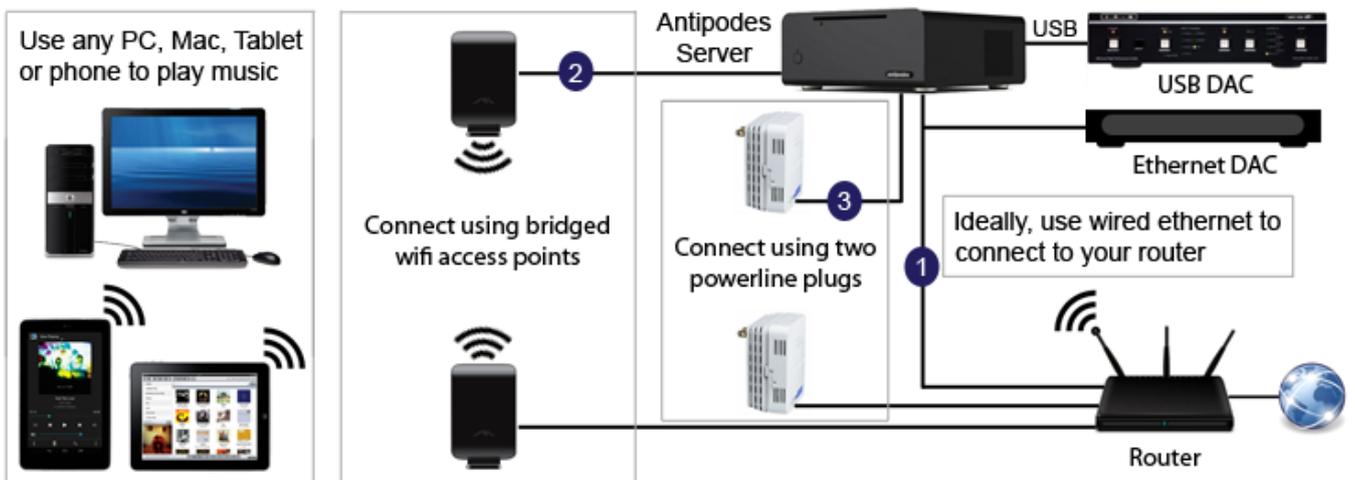**www.antipodesaudio.com/quick_guide.pdf**

Contents

MORE INFORMATION

Installation

If it is not practical to install a wired Ethernet connection from your router to your stereo, you can use bridged wireless access points or Ethernet over Power plugs. This does not affect sound quality when playing from internal storage through the USB outputs. However a wired connection is recommended:
- for the reliable operation of the server,
- if you are playing from a NAS,
- if you are playing internet streaming services, or
- if you are using the music server as a DLNA server or DLNA renderer.

Connect your Antipodes Music Server to your network using wired ethernet ① or bridged wifi access points ②, or a pair of powerline plugs ③.

Use any PC, Mac, Tablet or phone to play music

Connect using bridged wifi access points

Antipodes Server

Connect using two powerline plugs

USB

USB DAC

Ethernet DAC

Ideally, use wired ethernet to connect to your router

Router

Turning The Server On/Off

For servers powered by an external SMPS power supply, check the power light is lit on the power supply brick, and that the power connection to the server is correctly made.

For servers with internal power supplies, check that the red window on the IEC inlet shows the correct power setting. The power setting can be changed, and the fuses checked, by using a thin flat screwdriver to flip the IEC receptacle open to re-fit the red fuse holder so that the correct voltage shows. See the image at right.

Connect power to the rear of the server. For servers with an IEC inlet, turn the switch from '0' to '1'. If possible leave the power on at the rear of the server permanently, as this keeps the key capacitors powered and so ensures the server is always ready to perform at its optimum audio quality. You may even prefer to leave the server booted up permanently for the best sound.

A new server will take about a week to burn in and perform close to its best, and will improve for some weeks, so we recommend you connect and leave a new server running for about a month to complete burn in. If fully powered down for a period, a burned in server may take around 40 hours to return to its optimum performance.

If you cannot start the server - ie. when you click the power button on the frontplate of the server the blue light does not illuminate - then your server is faulty. Contact your dealer or Antipodes Audio quoting fault code **F01.**

Opening The VortexBox GUI

If you have allowed 3 minutes for the server to boot up, but cannot browse to the VortexBox GUI (by entering **antipodes1** or **antipodes1.local** in the address bar of a browser), it is possible that your server is not booting up fully. To test this, click the power button on the front plate of the server.
- If the blue power light goes out immediately then there may be a fault with the server - quote fault code **F02**.
- If the blue power light goes out after several seconds, the server is booting up fully, there is NOT a problem with the server, but there is a problem with your network - described below.
- If the blue light does not go out, it is likely that a minor DAC incompatibility is holding a service open, preventing shutdown. You need to force a shutdown. To force a shutdown, click the power button, wait 30 seconds and then hold the button in till the blue light goes out. This does NOT indicate a server problem, but a network problem - see below.

A Common Network Problem

Many home networks have problems resolving local domain names - **antipodes1** is the local domain name of your server. When you enter a website's address (eg. www.ebay.com) in the address bar of a browser, your router asks a specified Domain Name Server (DNS), out in the worldwide web, for the IP address (a set of numbers) of the website, and then uses the IP address to connect you to the website. The DNS server is a bit like a telephone directory service. DNS servers know about websites on the worldwide web but they don't know about domains that are on your network.

The network problem starts with your ISP setting up their DNS server incorrectly. A common mistake made by many ISPs results in the DNS server sending a false response to your router when you try browsing to a local domain, and the router stops looking for the domain on your network. Fortunately there are ways around it.

Best Solution

The network problem is overcome if you set your router to use properly setup DNS servers. If you can login to your router and change the DNS server settings, set the first DNS server to 8.8.8.8 and the second to 8.8.4.4 (these are Google's DNS servers). Unfortunately many 'free' routers provided by ISPs are not only poor routers but are locked to their, incorrectly setup, DNS servers. This is true of some of the largest ISPs so don't assume yours would not make this mistake. The simple solution is to buy a good router and set the DNS server settings to Google's.

Second Best Solution

A simple solution is to find out the IP address of your server another way, and then open the VortexBox GUI by entering the IP address in the address bar of your browser. You can download free network scanning software that will display all of the devices on your network by domain name and IP address. We recommend you download Fing from the Apple App Store, or Fing from the Android Play Store, to your tablet/smartphone. On a PC, try Advanced IP Scanner . On a Mac try Angry IP Scanner. You can find these last two by googling their names.

Another way to get the IP address of your server is to open a system prompt and type the command

<div align="center">

nslookup antipodes1

</div>

To open a system prompt:
- On a PC open cmd.exe (from the start menu, or Metro, enter cmd into the search box, or select Run and enter **cmd**).
- On a Mac, open Finder and then Applications and search for Terminal - which is located in Utilities under Applications.

The downside with this second best solution is that the IP address of your server can change, so if one day you cannot open the GUI with the IP address used previously, you will need to repeat the solution described above to find the IP address again. At the VortexBox GUI you can set a fixed IP address for your server but in our experience this can create problems later - such as if you sell the server to someone and forget to undo the fixed IP address first, or if you change your router.

If the server is fully booting (see above) but the IP scanner does not find your server then it may be that the network cabling to your server is faulty. To check this, move the server next to the router and use the network cable supplied with the server to connect it directly to the router. Make sure you are connecting to a normal router port and not the WAN port. Start the server and wait 3 minutes before running the scanner again. If the server is not found by the scanner then it is possible that your server needs to be serviced - quote fault code **F03**.

Configuring Players

Key Points

Note that you only need to define a player or players when you intend to use the USB output or the 1/8" output jack. You do not need to define a player in order to use the server as a DLNA server for a Streamer DAC.

Note also that if you have an Antipodes Server that uses VortexBox v2.2 (not the current v2.3), you will not have a drop-down menu for selecting **'USB Device 1; USB Device 2; Auxilliary Outputs'**. Instead you need to type in the address for the audio device.

For example, for USB Device 1 type **hw:1,0**
And for the 1/8" Output Jack type **hw:0,0**

Note that you can use any name you like for the player name, the system allocates the Mac address, but you need to get the Audio Output Device setting exactly right. Some DACs may require you to click 'Submit' at the Configure Player screen every time you restart the server, or reselect the USB input on your DAC - due to a DAC incompatibility.

DAC Not Showing

Just because your DAC may have its own power source does not mean it will work with an unpowered USB source. Many DACs require the 5v USB power to be present to power, or trigger the power to, their USB input receiver. If your DAC does not show on the Configure Player screen as ALSA Device 1 then, with your DAC connected to the powered USB audio output on the server, the DAC powered on and the USB input selected, try refreshing the web page.

Antipodes Music Servers are 100% compatible with the XMOS USB input used by most USB DACs, with the Hiface inputs and most others. They are also 100% compatible with the USB Audio 2.0 standard. If there is a compatibility problem then it is usually because the DAC manufacturer has simply not tested their USB input with Linux drivers.

Therefore if your DAC does not show up at the Configure Player screen, it is possible that your DAC's USB input is not compatible with the native Linux drivers used by the server. But it may only be a minor foible in the design of the USB input's firmware that can be overcome. A common problem is that DACs are often designed to power off their USB receiver chip when there is not an input signal present, and a lack of Linux compatibility prevents it powering back up when a USB source is connected to it. As an example, if you restart the server, the DAC may power down its USB receiver chip when the server shuts down, and then fail to power it up again to connect to the server after the reboot.

This problem is overcome by using an appropriate startup sequence. Unfortunately the designs of DAC USB inputs are not all the same, so the way to get your DAC connected to the server depends on the DAC. In our experience, DACs fall into three categories:
1. The majority of DACs are compatible with Linux drivers these days and will be readily recognised by the server and will show as ALSA Device 1 at the Configure Player screen.
2. With some DACs, you need to turn on the server and, very soon after clicking the button to start the server, restart the DAC and select the USB input.
3. With some DACs, you need to restart the DAC and select its USB input, and then restart the server.

Once you work out the startup sequence and timing for a particular DAC you will find it works the same every time.

If you still can't get the DAC to show up, then you can check for a server fault. Connect the USB cable to the Backup port on the server instead of one of the USB audio ports, refresh the screen and then follow the instructions on this page again. If this method succeeds, and using a USB audio port fails then the server requires servicing - quote fault code **F04**.

But if the Backup port also fails then the fault is NOT with the server, but with the USB cable, the DAC, or the DAC's lack of compatibility.

Another fault may arise, where the table loses its settings - ie. the Configure Player table is blank. This does NOT indicate a fault with the server, but can happen due to a network instability. This may seem illogical to you but there is a relationship between network communications and communications with the DAC. When this occurs, restart all network devices (modem, router, wireless access points etc) by turning them off, removing power for a minute, and then restarting them. Then configure your player(s) again (see page 4).

Playing Music

Key Points About Playing Music In SBS

Note that with a large library, and particularly if it is on a NAS, SBS may take some time to become available after you restart the server, so please be patient. If SBS fails to open, and yet you can open the VortexBox GUI, then the problem is with your network. Restart your network devices, as discussed at the bottom of page 9, to clear any problems. Network devices can get somewhat confused if not restarted from time to time.

Note that despite your DAC showing in the Configure Player screen, and having set up a player, a DAC compatibility problem may prevent the player showing in SBS. Try setting it up again and if it continues to fail contact your DAC manufacturer and ask them about Linux compatibility. You may find the DAC manufacturer is aware of, or is working on it, or has a firmware upgrade to provide Linux compatibility.

In some cases music may appear to be playing in SBS but you get no sound from your system. One cause of this can be if the music database has been corrupted. As a first step, open Settings and change the 'Rescan media library' setting to 'Clear library and rescan everything' and then click the 'Rescan' button.
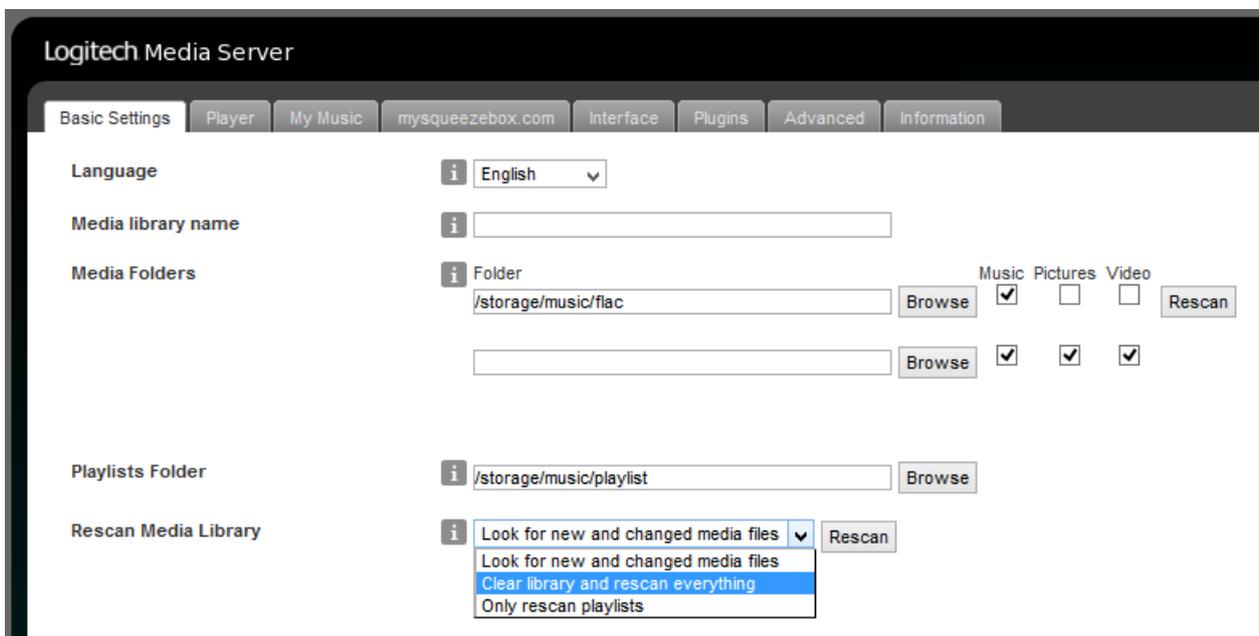
If you can still not get sound, then it does NOT indicate a fault with the server but a DAC compatibility issue. Contact Antipodes Audio so that we can login to your network to analyse the problem. Sometimes the issue is a minor one where the DAC manufacturer has simply done something in a non-standard way and we can add some instructions to a script to overcome it. Contact us and quote fault code **F05**.

Note that, under the 'Player' tab in SBS 'Settings', you can select 'Audio' from the drop-down menu and enable digital volume control from your remote application. By default the setting is fixed at 100% volume.

Key Points About Playing Music From A Tablet/Smartphone

If you strike a problem playing music from a remote control device, the first thing to do is try playing music in SBS on your PC or Mac. If you can play music in SBS the problem is NOT an issue with the server but an issue with your tablet/smartphone. Try a restart of the tablet/smartphone, and when you open the remote application make sure you have selected the correct Server and Player. If that fails to fix it, delete the application and re-install it.

If you continue to have a problem you should contact the author of your remote control software as they can provide you with the best advice on how to use and resolve issues with their software.

Ripping Disks

Ripping is automatic. Just slip the disk in and wait till it ejects. Ripping is in paranoid mode (no error correction is used), in order to get the best possible rip (unlike standard rippers), and this process can take 10 to 20 minutes per disk. The lack of error correction means the ripper may get stuck on a disk that is damaged or is not completely compliant with the redbook standard. You can view ripping progress by opening the VortexBox GUI and clicking on the CD/DVD Ripper icon. You can stop the ripping process and eject the disk by clicking on the Restart Autoripper button at the CD/DVD Ripper screen in the VortexBox GUI.

Problems ripping disks indicate a non-compliant disk, NOT a fault with the server. Sometimes a few tracks will rip and then ripping stops, and this is because of a non-compliant insertion of a hidden track at that part of the disk. We recommend you rip non-compliant disks on another computer (using error correction to rip it if necessary) and then copy the album to the server.

Tags and cover art are added automatically from the internet and music files are stored in the following network address \\antipodes1\files\music\flac\<album artist>\<album>\<track>. Some albums may not be found on the internet, and if so will be stored under 'unknown artist'. Albums not being found on the internet does NOT indicate a fault with the server, just a limitation of the internet databases used during ripping (we use MusicBrainz, Discogs and Amazon). Therefore you will at some point have the need of a tag editor (of which there are many) to add or correct tags.

There are three possible fault conditions with ripping, and each of them may indicate that the unit requires servicing by a technician.

1. The ripper does not grab the disk as you insert it, indicating the ripper is faulty or not receiving power.
2. The ripper shows no ripping progress at the CD/DVD Ripper screen, and the disk stays in the ripper.
3. The ripper rips the disk over and over without ejecting the disk.

For condition 3 above, a foreign object may be preventing the disk ejecting. Some of our customers with small children have found a foreign object has been 'posted' through the slot. If you see an obstruction through the slot you may be able to remove it.

For conditions 2 and 3 above, try ejecting the disk by clicking on Restart Autoripper at the CD/DVD Ripper screen. If this fails, reboot the server. If this fails to eject the disk then the server needs to be serviced by a technician. In some cases the problem can be caused by a very badly made or very badly damaged disk, or a disk being inserted upside down.

If you cannot resolve it then the ripper may need to be serviced or replaced - quote fault code **F06.**

Managing Music Files

You can access the music files on the server remotely from a PC by opening File Explorer, and on a Mac by opening Finder. The server (antipodes1) should appear under Network or Shared headings in the left panel of these programs. You can simply drag and drop to and from the server, or delete files on the server in just the same way as if they were on your computer - but this only applies to files that are in the network location **\\antipodes1\files\music\flac**. Do not delete folders above this level.

If you cannot see the server in one of these programs, then the first thing to check is that the server is connected to the network by browsing to the VortexBox GUI.

On a Windows PC, you may need to change settings to allow file sharing and change intranet settings. In File Explorer, enter **\\antipodes1\files** in the address bar and hit enter, or if this fails do the same thing but replace **antipodes1** with the server's IP Address (which you can get from the VortexBox home screen, Fing on a tablet/smartphone, etc.

On a Mac, click Finder menu item **Go**, and then sub-menu item **Connect To Server**. In the dialogue box that appears, enter address **smb://antipodes1/**, and click **Connect**. If you are asked for a username, click on the **Guest** option.

Note that getting an error message that you don't have permission to change files means you are trying to change files at **\\antipodes1\music\flac**, when the correct address is **\\antipodes1\files\music\flac**.

Playing From A USB Disk

Music Servers from March 2015 can play from a USB disk. If you have an earlier Server, contact support if you want this feature added.

Connect the USB disk to the 'Backup' port on the rear panel of the Server.

USB disks can be formatted a number of ways, but in many cases you need to connect the USB disk and then reboot the Server. The exception is NTFS formatted disks (Windows format method) which will auto-mount, meaning there is no need to reboot the server.

To remove the USB disk, shut the Server down first, to ensure no files get corrupted when you remove the disk.

One issue you need to be aware of is that the files will not show up for playback till the library has been rescanned. Similarly, after removing the USB drive the database records will still exist (and therefore the music appear to be play-able) until you rescan the library again. Scanning of the library is done at the SBS Settings screen.

If you intend to only connect the USB drive temporarily, you may find it frustrating that all the music will be shown to-gether with your existing music, by genre, artist, album etc and you may prefer that the USB drive is able to be browsed on its own. If so, open the 'Music Folder' option at the SBS (or remote application) top menu. The music files on your USB drive will usually be found in folder 'd1', but may be in 'd2' or 'd3' depending on how your USB drive is partitioned. The first partition on your USB drive will mount on 'd1', the second on 'd2' and the third on 'd3'. Opening these folders to play your music may be more convenient for you as this method can display just the files on the USB drive.

If the files on your USB drive do not show up in any of the three folders then the USB drive may not use a compatible format or partition table. All relatively common formats will mount properly.

Playing From Another Antipodes Server

All Antipodes Music Servers are shipped with the domain name set to 'antipodes1'. If you add a second server, when you get it, ensure only one is powered up, browse to it and change its name to, for example, 'antipodes2'. Once they have different domain names you will be able to power both up and use them independently. If they were left with the same name then your network router would get confused between them. Note, of course, that this user guide refers to the domain name 'antipodes1', and assumes you have not changed it.

To change the domain name, open the VortexBox GUI, open the Network Configuration screen, change the system name, and then click on 'Submit' - this will reboot the server with the new name.

If you wish an Antipodes Music Server to play from another Antipodes Music Server, you have two options. We recom-mend the first option below. Note that this section applies to later Antipodes Music Servers, and also refers to how you can use Extenders and the DV Zero with a 'main' Antipodes Music Server.

Option 1. Mount the library that is on your 'main' Server.
To do this, simply change the domain name of your 'main' Server to 'antipodes0', and when it has rebooted, reboot the server(s) you wish to mount the library on. With this option you can use SBS and any SBS-compliant remote control application to control the all of the servers. Just change Server and Player from within the application as needed. As with playing from a USB Disk (see above), you can use the 'Music Folder' option in SBS, and then open the 'antipo-des0' folder to browse just the mounted files.

Option 2. Use DLNA. Antipodes Music Servers come with MinimServer installed and you can use any open DLNA remote application to control playback, setting one Antipodes Music Server as the DLNA Server and another as the DLNA Renderer.

If your Server does not have these features, or if you need assistance setting them up, contact Antipodes Audio.

Playing From A NAS

Antipodes Music Servers can play music files stored on a NAS. You can do this using DLNA, or by mounting. We recommend mounting using NFS sharing. If you need help setting this up, contact Antipodes Audio. But if you follow the instructions below you may be able to set this up without assistance. These instructions apply to Antipodes Music Servers supplied from March 2015. Any earlier Server can be updated to this configuration in an online session.

Setup Your NAS

1. Open your NAS Control Panel.
2. Change the domain/system name of the NAS to 'nas'. For a Synology, you can change the name under General, which is under Network in the Control Panel. For a QNAP it is under General Settings, under System Settings in the Control Panel.
3. Enable NFS sharing in your Control Panel. For a Synology, create (or ensure you already have one) a shared folder on Volume 1 called 'music'. If your NAS is from a different brand (and does not use volumes) create a shared folder 'volume1', and create a folder underneath it called 'music'.
5. Provide open NFS permissions to the shared folder (see below).

Setup NFS Permissions

The setup procedure will differ between NAS from different brands, and can change between firmware versions, so we are not able to provide detailed instructions. We can provide some general guidance, but you may need to look at your NAS manual or go to your NAS provider's site for help. With most NAS:

1. Select Shared Folders in your Control Panel, and then open Permissions settings for the relevant shared folder.
2. Select the desired access rights - read/write if you will be ripping to this location.
3. For the Squash setting, select 'No Root Squash' or 'Map All Users to Admin' or similar (unfortunately this setting is different for different NAS).
4. Enable wildcard access by entering '*' for the Hostname or IP.
5. There may be other settings required for some brands of NAS. Since the data is not sensitive you can err on the side of open access.

Cautionary Note

Each time your Music Server is rebooted, it needs to check the files on the NAS in case you have edited, added or deleted files while the Server was turned off. While this is happening you will not be able to open SBS or play music. If the library is very large then this process can take several minutes, so you need to be patient when restarting your Server. Note also that for a DV Zero playing from a NAS, the NAS is mounted under the 'flac' directory, not the 'nas' directory, so that ripped CDs will be automatically stored on the NAS.

Synchronising With iTunes

Learning a new music file management system is not necessary if you have been using iTunes. From March 2015 all Antipodes Music Servers have Supersync installed,

If you have an earlier music server you can install Supersync at the VortexBox GUI Upgrade screen. After you have installed Supersync you need to add the directory to the ones that are scanned in SBS.

You can now go to http://supersync.com/downloads.php, to download Supersync for the computer you have iTunes running on. You will need to pay for a license beyond any free trial period for use of Supersync on your computer, but not for the program on the Server. The installation process will take you through how to synchronise the iTunes library with the server.

The result is that the iTunes library will be copied to the /storage/supersync directory on the Antipodes Music Server. And any changes in your iTunes library will be mirrored on the Server the next time they synchronise. You can make settings within Supersync to control this.

Note that the Server has other music directories and these are unaffected. The only synchronisation is between the iTunes library on your computer and the /storage/supersync directory on the Server.

This means you can continue to use iTunes for managing things like tags and coverart too, and even use add-ons like Tune-Up. But note that Server rips to Uncompressed Flac and iTunes cannot work with Flac files. Therefore the files are placed in the flac folder.

Editing Music Tags & Cover Art

If you are new to computer audio you may not be aware that music playback applications use tags to identify GENRE, ARTIST, ALBUM, TITLE, YEAR etc and that these differ from file and folder names. It is a common error by newcomers to change the file and folder names in say File Explorer (PC) or Finder (Mac) and be surprised that nothing has changed when the tracks are displayed in the playback application. Tags are different - they are small pieces of data that are embedded in the music files themselves, and are skipped when playing the file, but are used to sort tracks under albums, artists, genres, etc. To change the tags you need to use a tag editor. Some are free to download and others are charged for.

You can manage the tags/artwork of music files on the server from any tag editor installed on a PC or Mac. You may wish to try the Bliss tagger, which is particularly good at mass-correction of coverart, and is opened from the VortexBox GUI. Other good tag software we like includes popular downloadable programs like dBpoweramp, Musicbrainz Picard, MediaMonkey, JRiver, Tag&Rename, etc. Musicbrainz Picard and JRiver can be installed on either PC or Mac, and are two of the few Mac programs that will tag FLAC files. You can get support on how to use each of these software packages from each developer's website.

A great source for coverart is albumartexchange.com - search for the album, drag the image into the album's folder on the server (open the music folder File Explorer or Finder, and just drag from alb), and name it cover.jpg.
1. Open the music folder in File Explorer (Windows) or Finder (Mac).
2. Open www.albumartexchange.com in a browser (eg. Internet Explorer, Firefox, Chrome etc)
3. Search in albumartexchange.com for the album.
4. Select the artwork you like (in .jpg form) and drag and drop it into the album's folder on the server.
5. Rename the cover art file to cover.jpg.

Some files, particularly DSD files and WAV files, do not have widely accepted tagging standards. We recommend you convert WAV files to uncompressed FLAC files to add tags. We recommend you use JRiver to convert .dff DSD files to .dsf DSD files (as the .dff file tagging is less successful), and then use JRiver to tag your .dsf DSD files. When using a program like JRiver, you need to start a new library and import the files on the server into it - this leaves the files on the server. Then when you change the tags and save the changes they save to the server.

However, SBS and the remote playback software we have recommended have the option to drill down on your library by Music Folder to access untagged music files. This means you should organise these music files under suitable folder/file structures, and then drill down via Music Folder to find and play these files.

After changing tags and artwork you should refresh the application or trigger a rescan of the database (which can be done within SBS Settings or via the remote applications).