

CLASSE

System Setup



Source Setup

Volume Setup

Teach IA

Configuration Setup

EQ Setup

Remote F Keys

Display Setup

Tone Control Setup

DC Triggers

MENU

CP-800

MUTE

## CP-800

SETUP GUIDE FOR APPLE AND WINDOWS



## COMPUTER AUDIO, AN OVERVIEW

The introduction of computers used as a source of music in a stereo system brought a revolution in the way we buy, organize and play digital music. For the first time we have the opportunity to exploit the full potential of computer audio. The CP-800 is revolutionary in its ability to process digital music to an unprecedented level of accuracy and musicality.

The CP-800 takes control of the music files through the USB connection in an asynchronous mode, meaning that it decouples the computer's internal clock and utilizes its own internal clock system to determine when and how music files will be imported. In this context, the computer's job is to store bit-perfect files of your copied CDs on its hard drive and manage its media player software like iTunes or others described later.

The music stored on your computer will be accessible from the computer itself or, even better, accessed via an iPad, iPhone or iPod Touch used as a remote control and visual interface. These devices allow full access to your entire music library from your fingertips and from the comfort of your listening chair.

The CP-800 combines in a single box the functions of three different components.

1. An analog preamplifier
2. A Digital-to-Analog Converter (DAC)
3. A Digital Signal Processor (DSP) managing three different functions: Parametric Equalization, Tone Control and Bass Management

- The system's architecture is simple. The main source is a computer which stores the music files that will be imported by the CP-800 via its USB port.
- The iPad (or iPhone or iPod Touch) is used as a remote control and visual interface. The artwork, name of the artist, name of the song, etc. will be displayed on the iPad screen. Functions such as Play, Pause, Skip, Stop and Volume are also accessed from the iPad.
- The bi-directional communication between the computer and the iPad is done wirelessly through a domestic Wi-Fi system.

This guide will show you the step by step procedures to configure your media software and optimize the performance of your computer to get bit-for-bit transmission of data between your hard disk drive and the CP-800's USB input.

## APPLE OR WINDOWS?

Without doing an analysis of the pros and cons of Apple versus Windows we will provide a few guidelines to help you choose what will best suit your needs.

Regardless whether you decide to use a system based on Apple or Windows, in both cases you will be able to achieve excellent results with a CP-800.

### APPLE

In just a few words, if you are beginning from scratch, this is the most simple and user friendly system to use. If you consider using an iPad, iPhone or iPod touch to access a music library stored on a Mac Mini or another Mac using iTunes and a wireless router such as the Airport Express, then you will be in a coherent, easy to configure and use ecosystem. Do not think for a minute that the ease of use is done at the expense of sound quality, this system is impeccable.

There are currently over 300 million iPods and iPads in circulation in the world. Therefore, over 300 million people already use iTunes.

The choice of media players available for an Apple based system is somewhat limited but it is not a real problem, keep in mind you only need one and iTunes works very well. There is however a weak point. If you decide to download and play high resolution files you will have to manually adjust the sampling rate output of your computer each time you switch between CD quality and higher resolution recordings. Alternatively you may purchase an additional media player such as Amarra or Pure Music which handle this switching automatically for you.

### WINDOWS

There are many reasons why you would want to use a Windows based system for a music server. It could be that you already own a PC and are familiar with the Windows environment. In this case there is a vast selection of software packages capable of superb performance. These media players usually offer more flexibility and possibilities of configurations than what is offered by iTunes. The corollary of this statement is Windows software is often more complex and requires more steps to be configured.

One of the best known Windows based media players is *JRiver*. This media player is capable of excellent performance and has an enviable reputation amongst audiophiles. The visual environment of JRiver will look familiar to those who already use iTunes. *JRiver* also reads FLAC files, a format not supported by Apple. It handles in a fluid manner high-resolution files (e.g. 24-bit/96 kHz) with no need to manually configure settings. It will be comfortable playing a wide variety of file formats and sampling rates.

## HARD DRIVES STORAGE CAPACITY

Over time, the storage capacity of a computer's hard drive becomes an important asset. Here are a few tips to evaluate your needs. A CD ripped to a computer will require about 500 MB of storage space. Two CDs will therefore require about 1 GB of space. As a result, a 1,000 CD library will require about 500 GB of storage space. A 1 TB (terabyte) hard drive will hold about 2,000 CDs.

When a lossless compression codec is used such as ALAC (Apple Lossless Audio Codec) or FLAC (Free Lossless Audio Codec) a saving of 40% of the storage space can be achieved. A *codec* is an algorithm or program that does **CO**mpression and **DE**Compression of data. The compression and decompression of the audio file is done, as the name "Lossless" implies, without any loss of information. So, the same 1 TB hard disc drive containing 2,000 uncompressed CDs will now hold about 3,200 CD's in lossless.

Lossy compression algorithms such as MP3 are not optimized for high fidelity applications because in the compression process, a significant portion (about 90%) of the musical information, interpreted as non-essential, is actually removed from the file to minimize storage space. Lossy files will take up to 10 times less space meaning your 1 TB hard drive will hold 20,000 CDs! The dilemma is simple, you can choose between quantity and quality.

On a high-resolution system such as the CP-800, lossy files should be considered as a handicap. Even if you do a file conversion from MP-3 to, let's say AIFF, what will be transcoded will be the exact content of your low-resolution file. The problem with lossy files is that any information removed at the source is lost forever and cannot be magically retrieved later. In this case the compression is done at the expense of both quantity and quality of information! Changing the file format (the vehicle) will not change the passenger (the musical data).

## BACK-UP COPY

Regardless of the computer, operating system or media player you might have chosen, there is an important fact that you should know. Any hard disc drive system can potentially develop problems. In the long term the question is not "if" but "when". So, there is a risk that you might lose your precious musical data.

Transferring your complete collection of CDs and downloading on-line music files will imply a substantial investment in time and money. It would be a good idea to take a few minutes to make a back-up copy of your music files. External hard drives now have huge storage capacity and are inexpensive. They are indeed a good insurance policy!

# CP-800

**A SYSTEM BASED ON APPLE COMPONENTS**

**Apple**



## A SYSTEM BASED ON APPLE COMPONENTS

### Recommended equipment

- A Mac computer (we show a Mac Mini with wireless keyboard and mouse)
- An Apple Superdrive (if using a current generation Mac Mini, this CD/DVD drive is used to read and copy your CDs)
- A USB cable (to connect your computer to your CP-800)
- An iPad (used as visual interface and remote control)
- Apple AirPort Extreme (your connection to the Internet to get metadata; other routers may also be used)
- Apple AirPort Express (optional, this will allow a strong local Wi-Fi signal if needed)
- Apple portable devices such as iPhone or iPod Touch (used as optional additional remote controls if desired)

### Recommended software

- *iTunes*: The media player included with your Apple OS (Operating System).
- *Remote*: Free application downloaded from the Apple App Store. This application turns your Apple portable device such as iPad, iPhone or iPod Touch into a remote control for your iTunes media player.

### Optional software

#### *Pure Music or Amarra*

These software programs are installed *on top* of iTunes and will allow direct access to high resolution files. This topic is discussed later in this document.



## MAC MINI

The Mac Mini is a computer that can store music, photos and documents, access the Internet (wired or wireless) and perform the wide range of tasks that we associate with other computers. Its advantage in our application is that it is quite elegant, quiet and small, is easy to set-up and can provide excellent sound quality.

The Mac Mini has an HDMI output. This can be connected to a flat panel display or projector in the listening room to act as a monitor for setup and to help with copying discs and getting cover art. Use a mouse and keyboard for these functions. Since ripping CDs and getting cover art is not something you ordinarily will need to do on a daily basis, the keyboard and mouse can be disconnected and hidden away during everyday use. This is why a wireless keyboard and mouse are so convenient. You don't need to connect and disconnect them whenever you need them.



## iTunes SETUP

It is possible to transfer an iTunes library or even completely copy the setup of another Mac onto your Mac Mini. Instructions for doing this are available from Apple. iTunes comes installed on the Mac Mini, so you can begin loading it with your CDs after just a few setup adjustments. Either way, you will be using iTunes to access stored music files and to make copies of your CDs. Let's begin with ripping (ripping is the term used for copying CDs to a hard disc drive). There are just a few items to check first.

1. Open iTunes and go to iTunes/Preferences



2. Choose the General tab where you will find the Import Settings button. Note also that you should probably check the box to "Automatically retrieve CD track names from Internet." It is also convenient if iTunes is set to "Ask to Import CD" when you insert a CD.



3. Pressing the Import Settings button gives you access to the file format iTunes will use when importing CDs. Among the options you can choose any of the following three, all of which allow you to store full resolution, bit-for-bit data copies of the CD. Choose the option that best suits your needs.

- WAV (Waveform Audio File Format) creates full resolution, full size files. They are uncompressed so they consume the most storage space (not a concern for most of us) but are easily transferred to other platforms. The one drawback is that metadata (disc info including track names and album art) do not attach to the music files automatically, so if you move the files you need to move the metadata as well.
- AIFF (Audio Interchange File Format) is Apple's version of WAV. It is also uncompressed, full resolution and full file size, so it consumes storage space. Metadata remain associated with AIFF files. iTunes can easily convert AIFF to WAV if you ever want to do that, so many Mac users and audiophiles choose this option.
- Apple Lossless Encoder uses lossless compression to save storage space. Once uncompressed for playback, the file is bit-for-bit identical to a full size AIFF or WAV file. Like AIFF, metadata are attached to these files.

Through a properly set up system using a CP-800 you should hear no difference between any of these three formats.



Make sure the box is checked to “Use error correction when reading Audio CDs.”

Unlike a CD player, which reads the disc in real time, a computer may make multiple attempts to read the data. **The result is that a ripped music file can have a more accurate representation of the data on the disc than you would get when playing the original disc in a CD player.** This is one of the advantages of playing music from your computer instead of a CD player.

4. Click OK, return to the Preferences window and choose the Playback tab.



## Mac Mini AUDIO OUTPUT SETUP

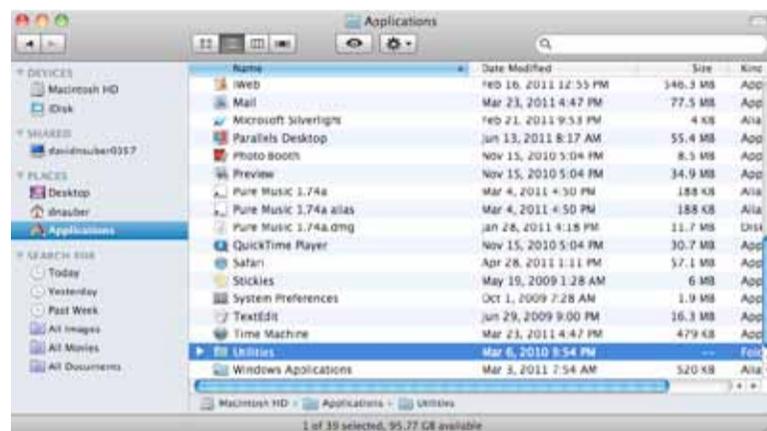
Connect a USB cable from the Mac Mini to the rear panel of the CP-800. The CP-800 is designed to minimize the influence of properly designed USB cables, but like everything else, have a listen and if you prefer one over another use that one. USB cable lengths are usually limited to about 3 meters (10 feet).

On the CP-800, press Menu, System Setup, Source Setup, USB B. This gives you access to the source naming option for the USB Back panel connection. Re-name the input Mac Mini (or whatever suits you). Remember to press <enter> when exiting the keyboard page in order to save the new name. Return to the home page, touch the screen to access the Source Select page and choose the Mac Mini.

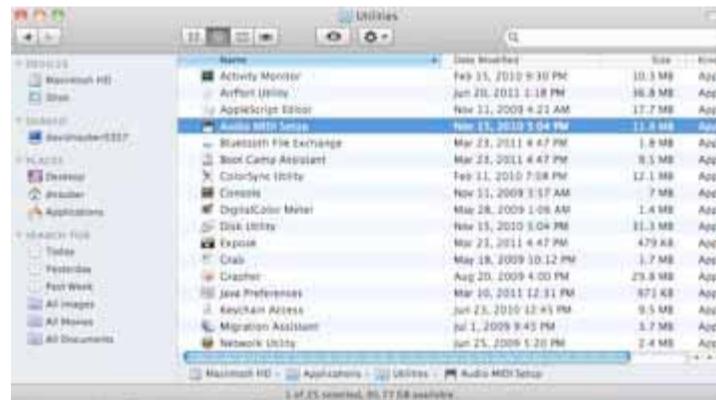
The CP-800 will be recognized by the Mac Mini but to establish sound output to the CP-800 you may need to enable the path. To do this, access the Audio MIDI Setup page using the Finder.



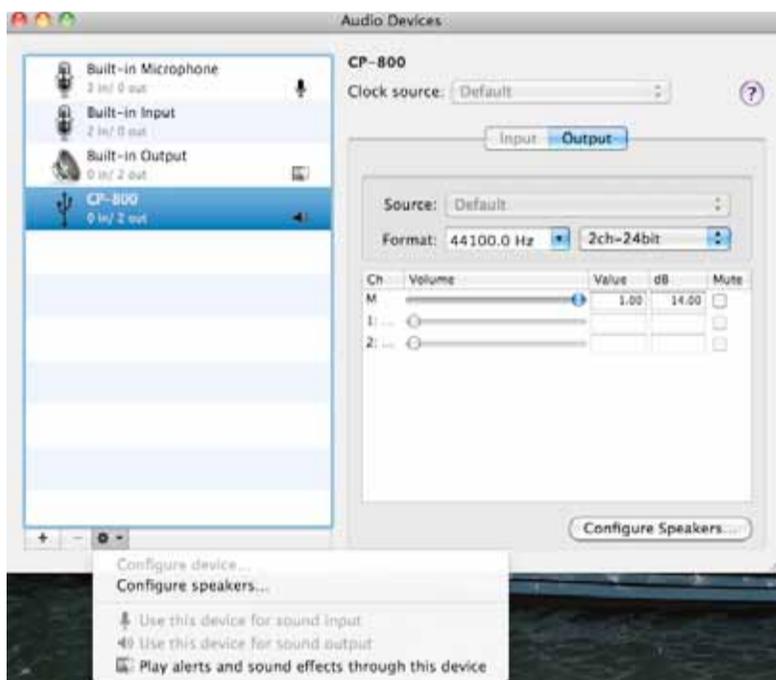
Under Applications, choose Utilities.



Choose Audio MIDI Setup.



Highlight the CP-800 and using the settings tool (gear) at the bottom of the window, choose “Use this device for sound output.” Once chosen, you may disconnect and reconnect the CP-800 and the sound will automatically be routed through the CP-800 whenever it is connected.



Before exiting the Audio MIDI Setup page, make sure to set the output to 44,100.0 Hz. At the bottom of the CP-800 touchscreen you should now see a sampling frequency of 44.1 kHz displayed. If not, close and reopen iTunes.

**Since most of the recordings you will play from iTunes will have been ripped from 44.1 kHz CDs, you will want to play them back at their native rate, so the computer needs to be set up to output 44.1 kHz.** If you don't manually set this output frequency, the Mac will negotiate a higher (96 kHz) rate with the CP-800.

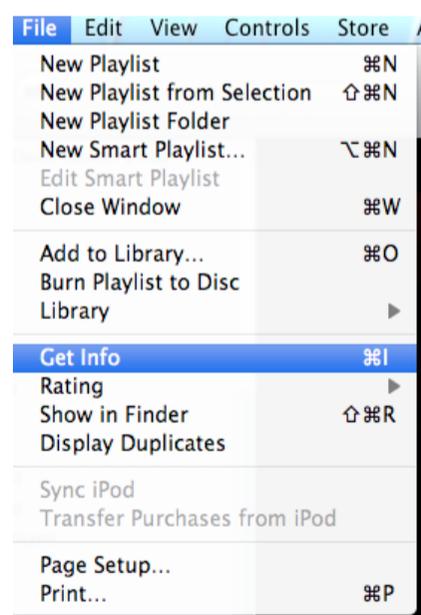
**This is an extremely important setting.** If ripped CDs are played back at anything other than 44.1 kHz, the computer will have applied sample rate conversion with damaging effects on the sound. It is a good idea to check periodically to be sure the sampling frequency shown on the CP-800 is the one you expect.

Software packages like Pure Music and Amarra are available to help manage things like automatically playing back music files using their native rate. This eliminates the need to manually make changes if you frequently switch between 44.1 kHz and 96 kHz recordings.

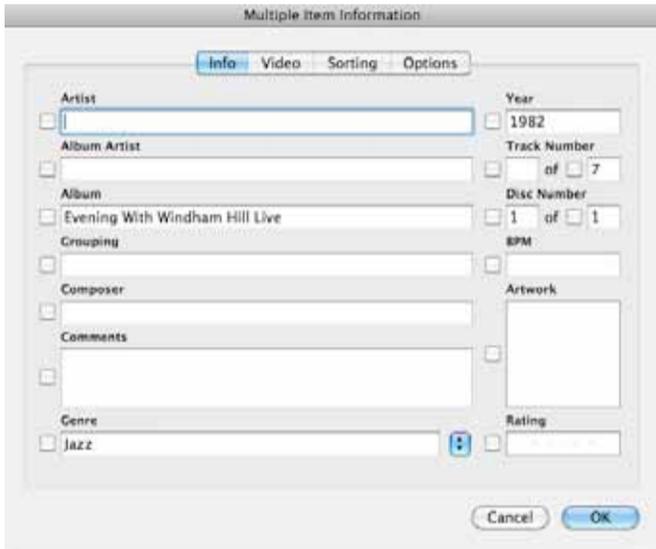
## ALBUM ARTWORK

Unfortunately, some of what you rip to your iTunes library will be missing the associated artwork. The iTunes library can be a rich graphical experience, but to take full advantage, you must be vigilant about matching missing artwork to the music in your library. Songs without artwork detract from the otherwise rich graphical experience.

The easiest way to fill in missing artwork is to locate images online. You can use Amazon.com or Google the album name and look for the cover art images. Save the image to your iPhoto library. In iTunes, highlight the entire album or song that is missing cover art. Click File, and then Get Info.



Double click the empty Artwork box or the Artwork tab and choose the cover art from your iPhoto library, then click OK. The cover art should now appear for the associated album or song(s).



### iPad/iPhone/iPod Touch SETUP

The iPad, iPhone or iPod Touch (hereafter referred to only as iPad) can be used to access the songs in your iTunes library from your listening chair. You can download the Remote App for free from the App store. With the Mac Mini and iPad connected to the same Wi-Fi network, follow the instructions for establishing control.



Once done, every time you turn on the Mac Mini and iPad, choosing the Remote App icon on the iPad will connect it to iTunes and you will be ready to use your system. The one caution worth noting is that the signal strength and reliability of the Wi-Fi network could be, in some cases, poor or inconsistent.

For \$100 you can buy an Airport Express which can plug into an outlet in your listening room and provide a strong, secure and reliable local Wi-Fi network with which to connect your iPad and Mac Mini. It is not necessary to have an Internet connection for your Airport Express to be able to use it as a shared network for the iPad and Mac Mini. In some cases, you may need to take the Mac Mini to another room to have an Internet connection for importing discs, getting info and finding cover art. In your listening room, whether using the Airport Express or your home's Wi-Fi network, a strong, reliable connection is critical to really enjoy the benefits of your system. Everything must work quickly and reliably to achieve your goals of getting a rich graphical experience that enhances the listening experience. Bear in mind you can, of course, connect your Airport Express to your existing domestic Wi-Fi. In this case there would be no need to move anything at all.



Airport Express

## AND FINALLY...LISTENING!

At this point you should have audio playing from your Mac Mini to the CP-800 at 44.1 kHz (confirmed by checking the CP-800 touchscreen display), CDs imported to iTunes at full resolution using WAV, AIFF or Apple Lossless and error correction turned on, Sound Enhancer and Sound Check turned off, artwork associated with *all* CDs and a shared, reliable Wi-Fi network with the iPad running the free Remote App.

Since the graphical and musical discovery experience is stronger when you have more content, the general rule is the more CDs you can rip to iTunes the better your listening experience will be. Start with at least twenty discs, but work up to several hundred as soon as possible. Not only does this give lots of listening options but will make obvious the benefit of having an entire music collection at your fingertips.

One of the great advantages of this type of setup is that you will listen to more music and a greater variety of recordings than ever before, simply because access is so quick and easy. The bonus is that with the CP-800, the sound quality will be better than if you had gotten up, found the disc and loaded it into a CD player!

## SETUP a PLAYLIST

Playlists may be used to organize music into theme-based groups or simply to manage a listening session in real time. Create a new playlist called Listening Session, Evening Music, Party, etc. Load it with the number of tracks that you want to have available for your next listening session. Using the iPad, practice changing the order of songs in the playlist and adding or removing songs from the list while you are listening. The more familiar you are with this process the more comfortable you will become at structuring your playlists and the more useful the Remote App will be to you.

Time to get started...happy listening!



## WINDOWS 7 and Vista



### Used with iTunes or JRiver

iTunes is by far the most popular media player. It can be used as well on a Windows or an Apple platform. Many CP-800 users will end up using iTunes on a Windows based system. This section is intended for Windows users.

Everything discussed in the previous sections of this manual regarding the use of iTunes, like importing metadata or using an iPad as a remote control remains identical. The object of the exercise, which is to copy your CD's to the hard drive of your computer while **keeping the native sampling rate at 44.1kHz** remains not only unchanged but very important. When ripping your CD's, you will still need to use the iTunes error correction system as described earlier. So, even if you intend to use iTunes on a Windows platform, reading the previous sections will enable you make all the necessary adjustments to get the best sound from your CP-800.

However, a Windows operating system being different from a Mac OS, some adjustments specific to Windows will have to be done on PC's. Specifically, you will want to configure the digital output from the soundcard.

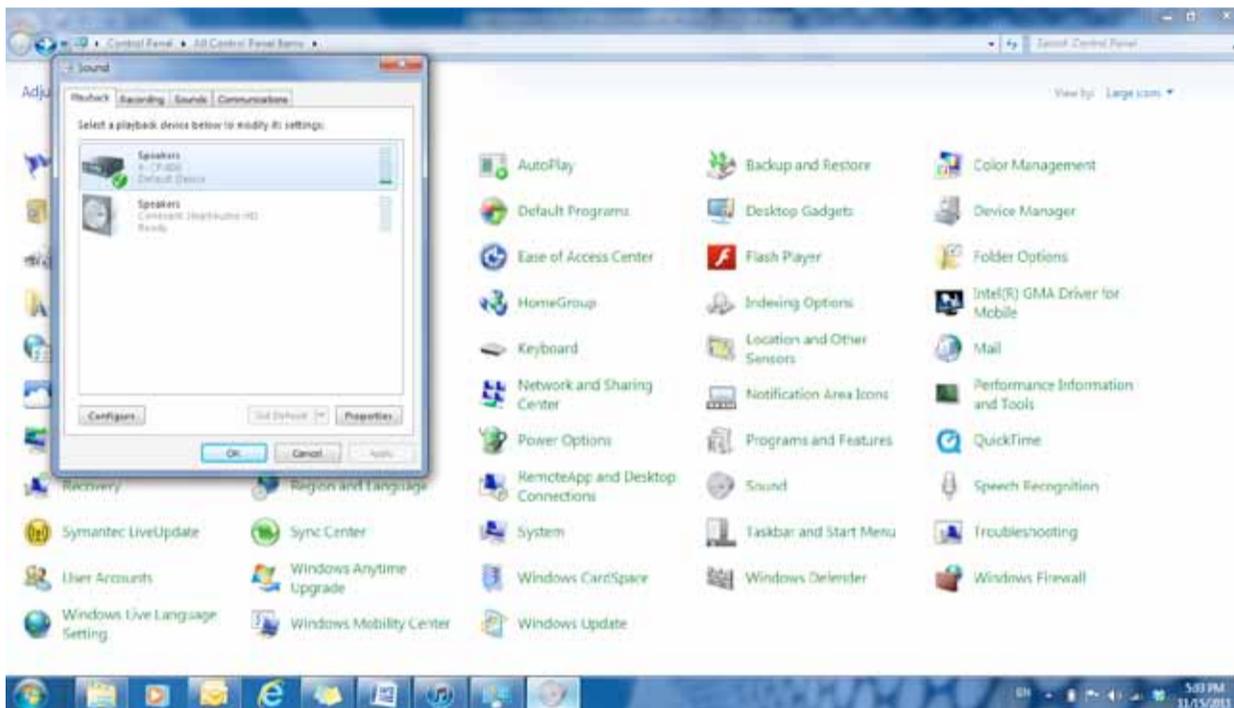
Please keep in mind that the touch screen located on the front panel of your CP-800 will display at all times the sampling rate of the incoming data and taking a look at it will give you instantaneous confirmation that a CD file is indeed sampled at 44.1 kHz.

With Windows 7 for instance, the default parameter of the sound card is 96 kHz, 24 bits. This will need to be changed to 44.1 kHz.

### Configuration of the Windows output (regardless of the media player)

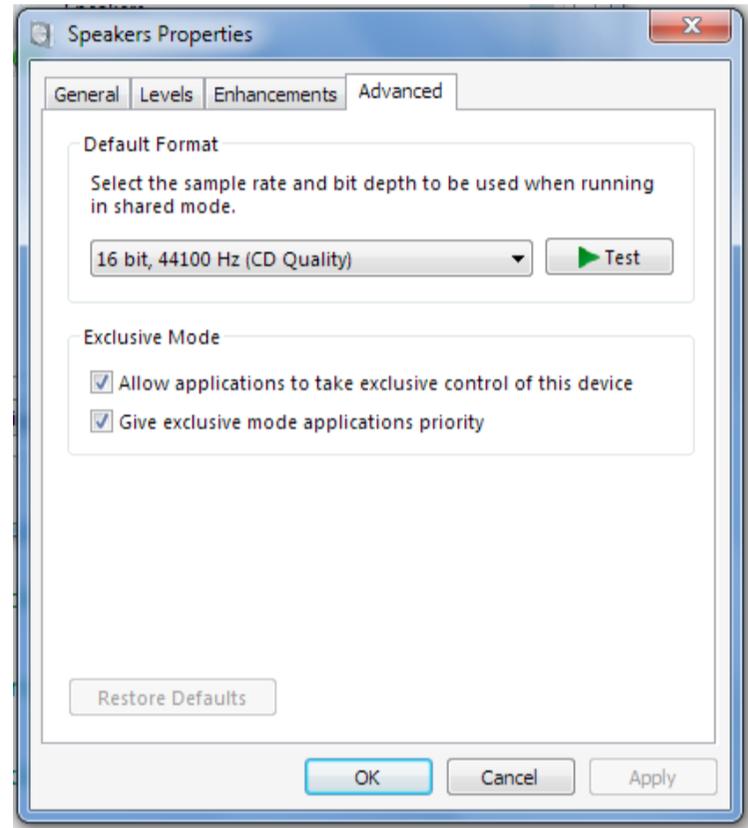
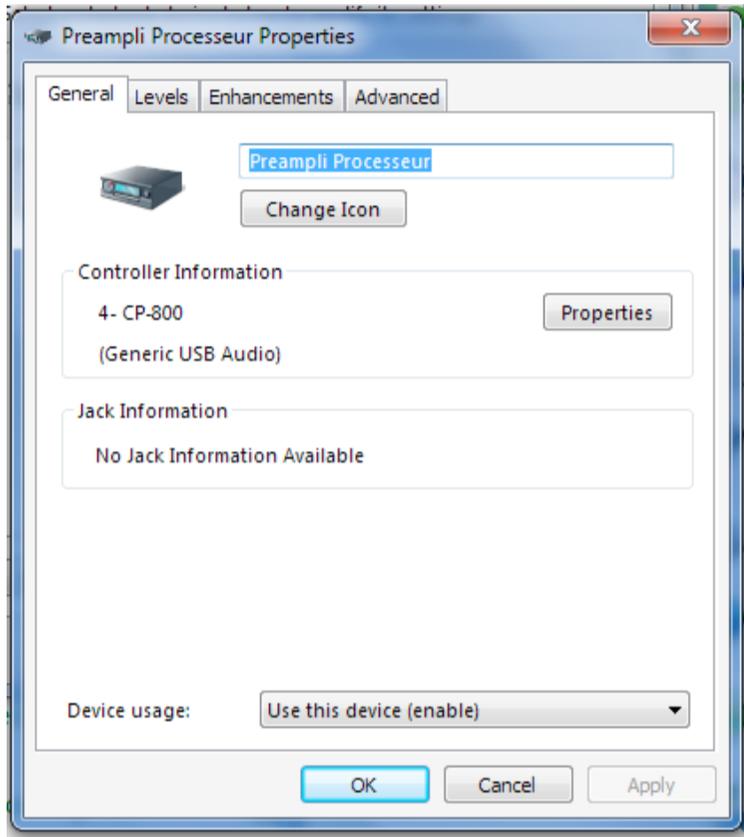
Connect a USB cable between your computer and the USB port located on the back panel of the CP-800.

- In the lower left corner of the screen, click on the Windows logo.
- In the new window click on *Control Panel*.
- Select the *Sound* icon (speaker).
- The CP-800 will appear in the new window, click on it in order to highlight it, then click again.



In the new window, click on the *Advanced* tab.

- *Optional:* In the window on the next page, you could have decided to change the icon showing a speaker and replace it with an icon showing an audio component and give it any name you want (Classé, or DAC or preamp, etc).
- This could be useful if you ever end-up with several digital components. It makes them easier to spot with an icon instead of reading who they are. This is only for visual presentation and convenience and does nothing to the performance.
- To modify the icon, click on *Change Icon* and select a new one. Enter the new name and click OK.



After selecting *Advanced* you will finally get access to the sampling rate window. From this window you will be able to adjust the sampling rate of the music files that will be imported by your CP-800.

Close all windows, your PC soundcard is now configured and ready to play your CD music files in their native sampling rate!

1. The default parameter displayed will be 96 kHz. Click on the tab and, from the drop-down menu, select the option *44100 Hz*.
2. Check both boxes in the exclusive mode section.
3. Click on *Apply* then on *OK*.

# CP-800

**A SYSTEM BASED ON WINDOWS**

**Configuration of JRiver Media Center**



## OVERVIEW OF THE JRIVER MEDIA PLAYER

There are two versions of the **JRiver** media software:

1. **Media Jukebox**
2. **Media center**

**Media Jukebox** is the basic version. It is downloadable for free and does work very well for most people but has two weak points. There is no bit-for-bit accuracy during playback and no automatic sample rate change when playing high resolution files unless a plug-in driver called *ASIO4ALL* is installed. The installation of *ASIO4ALL* is very complex and should only be attempted by people with above average computer skills.

At the time of writing this guide, the most recent version of the **Media Center** was *Version 17* (most recent but also the most sophisticated yet). The purchase of *JRiver Media Center 17* will cost you \$50. But if you want to try *JRiver* before you buy the download comes with a free 30 day trial period.

The Media Center has a built-in feature called WASAPI; this is a new audio software interface between the operating system and the music player. It bypasses many unnecessary windows layers and keeps the signal path as direct and short as possible. More importantly, the latest versions of Media Center (version 14 and up) feature a variation on the same theme called WASAPI EVENT STYLE (Windows Audio Session Application Program Interface, **Event Style**). This software has been specially developed for Windows 7 and Vista to optimize data transfer between

windows and an asynchronous DAC. The Media Center 17 version is especially well suited to be used with a CP-800 because the CP-800 uses the most sophisticated asynchronous DAC technology. A computer is a multi-task machine. Using WASAPI Event Style will give absolute priority to undisturbed bit-for-bit transfer of your precious musical data. The CP-800 not only bypasses the computer's clocks but is also given priority and the shortest path through the windows layers to import music files. They beautifully complement each other's work!

Media Center 17 can easily import your music libraries. (If you are already using iTunes because you own an iPod or iPhone you could still rip (copy) your CD's using iTunes and import your files to JRiver. In such a set-up iTunes would still be used to download to your portable devices and JRiver to feed your CP-800).

JRiver Media Centre will decode Apple files or other types of files such as FLAC, APE, etc. and will also automatically read high-resolution files. Installation is easy and straightforward and does not require third party software, everything is included.

### SET-UP FOR CD RIPPING

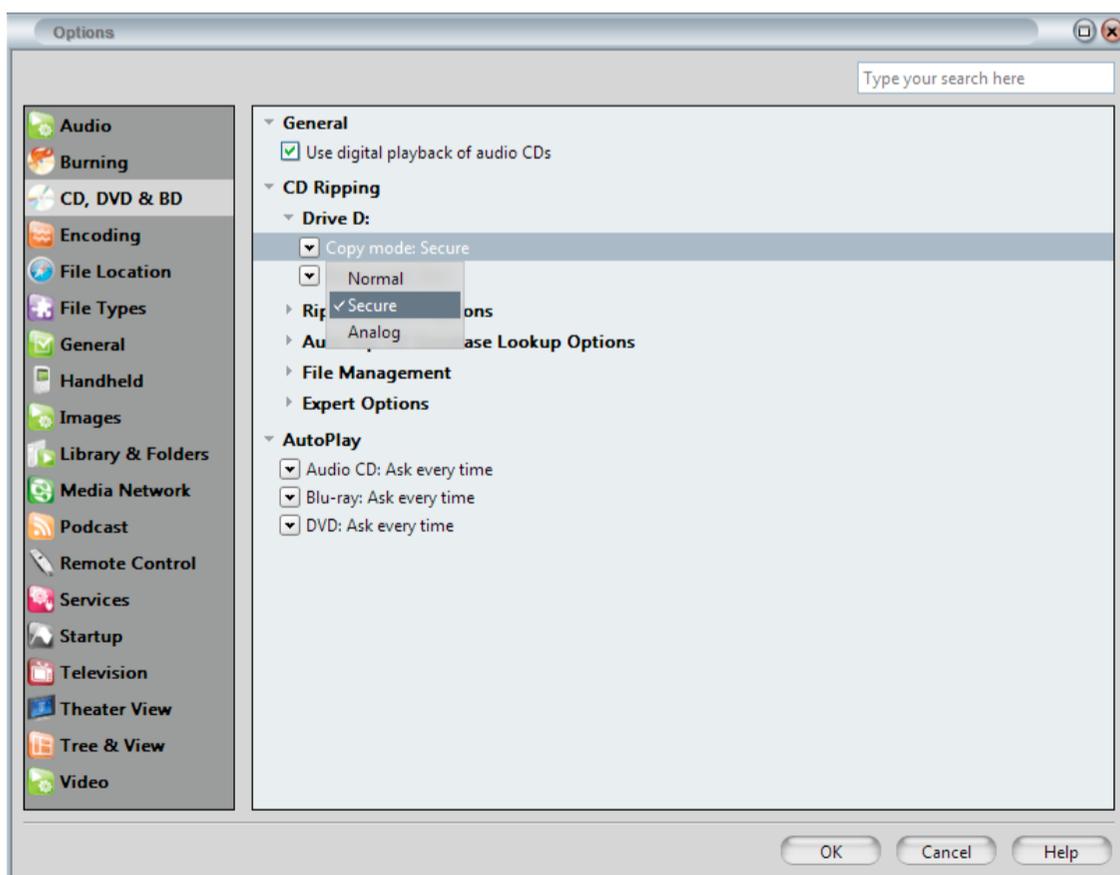
Once downloading of *Media Center 17* is completed open the application and on the task bar and select *Tools, Options*.

In the new window select (highlight) *CD, DVD*.

Under the *CD Ripping*, tab select from the drop-down menu *Copy Mode: Secure*.

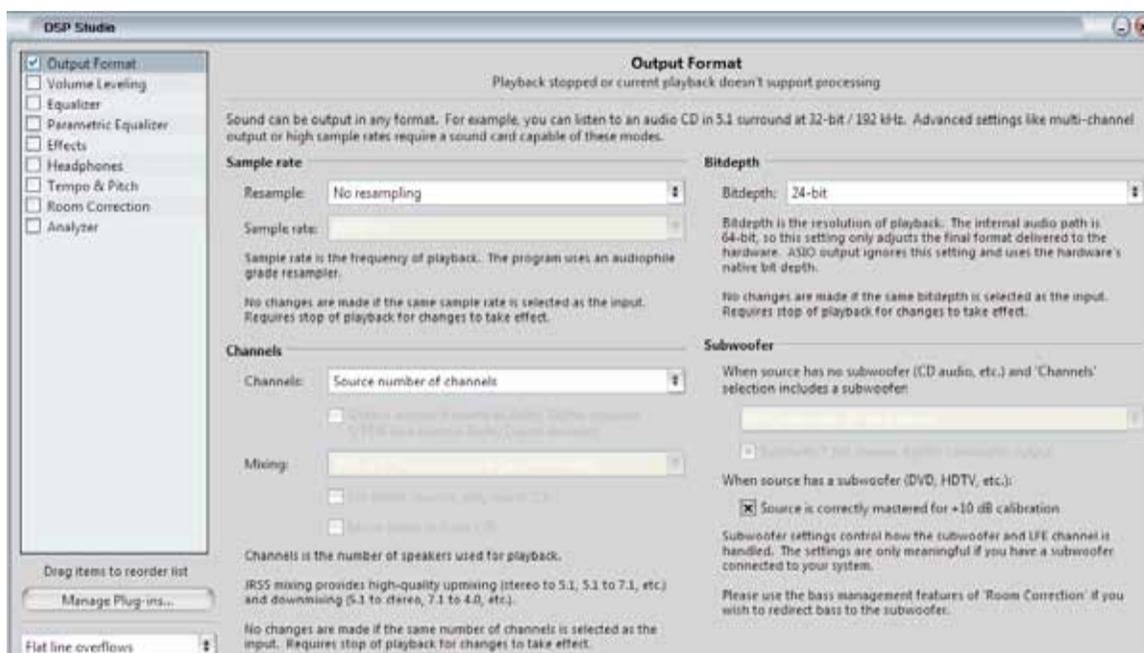
This is a very important adjustment. If you use JRiver to rip your CD's this setting will give you a secure copy, in other words, a bit-for-bit copy. With this feature activated, your computer will be given permission to read the information on your CD as many times as required until the whole content of the copied file is an exact replica of the original. Contrary to a CD player that needs to read the musical information imbedded in your CD in real time with the inherent losses and mistakes implied in a real-time reading, your computer will only care about recovering all the information, regardless of the time it will take. This is one of the reasons why computer audio has the potential to outperform even reference CD players.

Click on *OK*.



## SET-UP OF THE AUDIO OUTPUT

From the task bar select *Player, DSP Studio*.



- In the new window, in the left column, check the box *Output Format*.
- Make sure every box on the left column is empty except for *Output*
- In the middle column, under *Sample Rate*, select *No resampling*
- On the right side, under *Bitdepth*, select *24-bit*.
- Close this window using the red X in the upper right corner. The system will remember the setting.

## SET-UP OF THE WASAPI EVENT-STYLE SOFTWARE

Go back to the main tab. Under *Player*, select *Playback Options* from the drop-down menu.

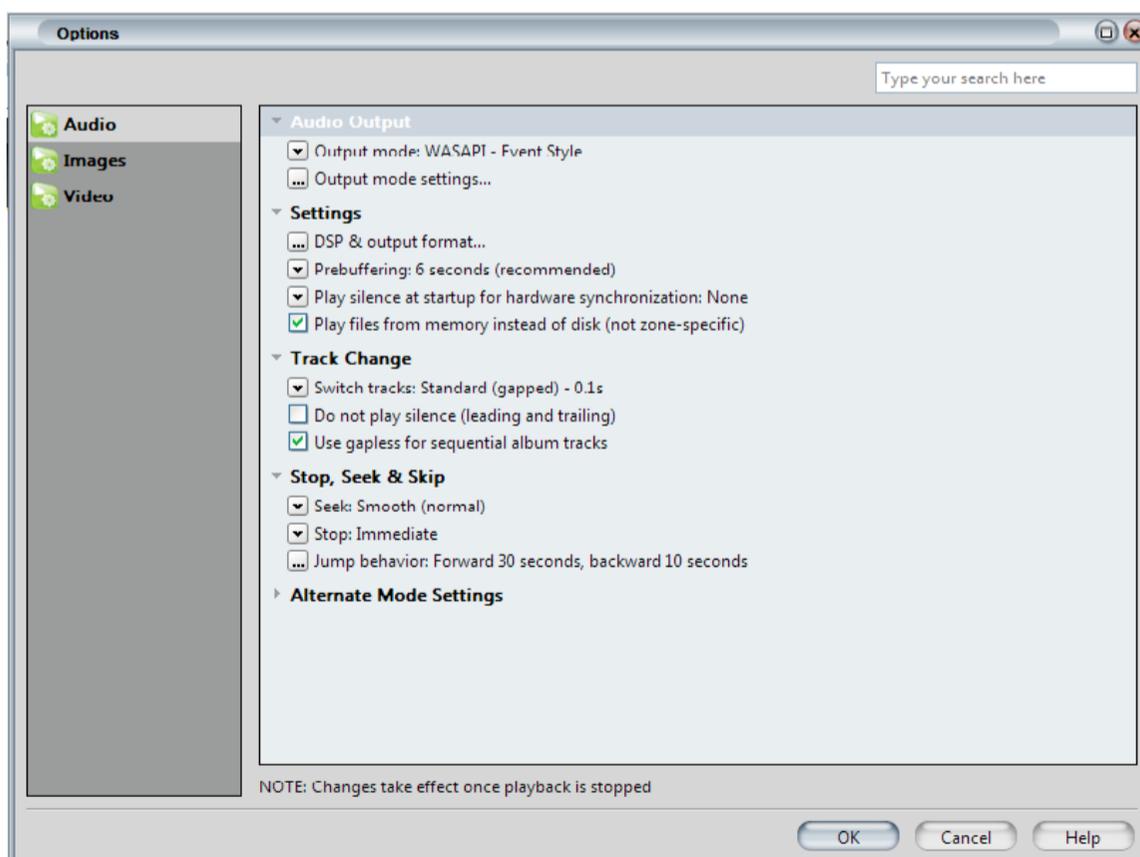
In the left column select *Audio*.

Right hand side, under *Audio output* select *WASAPI – Event Style*.

Click OK.

You are now ready to begin ripping your CD's and playing them back using JRiver!

### WASAPI Event-Style Window



## My River



This is a great application available from the AppStore. *My River* is available in two versions. A version for iPhone and iPod Touch (\$2.99) and a version for iPad (\$4.99).

*My River* will give you control of JRiver Media Center using your iPad, iPhone or iPod through your wireless network. With this app you can browse your library by *Audio*, *Artist*, *Genre*, *Playlist*, etc.

Search, Play, Add to playing now, control volume and more from wherever you are.

## My River for iPad



## GIZMO

GIZMO is a free Android application used to control the JRiver Media Center. This Android application is compatible with Android phones and PC tablets. You can download it from the Android Market web site at: <https://market.android.com/search?q=jRiver&c=apps>

GIZMO is an intuitive and efficient application that can be used to control your JRiver from anywhere in your house.



## CONCLUSION

There is a vast selection of media player software available on the market. Some are more specialized than others both in terms of sound quality and features. For instance, if you are a real collector of all the possible versions of a piece of classical music; a software package such as *Sonata*, might be what you are looking for to organize your library. Some audiophiles might be attracted by *Foobar* and there are many others. You can even find specialized ripping software like *dB Poweramp* for Windows or *XLD* for the Mac OS. This market is actually booming and keeping track of every new development is not easy. So, we have recommended a couple of systems we are familiar with and know work very well but feel free to explore this vast and fascinating domain.

This is all very promising. We can already benefit from getting access to a complete library of music at our fingertips, from the comfort of our listening chair through a rich graphical interface. This alone would be a good reason to browse through your music collection on a daily basis and rediscover lost gems. But in addition, the real bonus is we can have our cake and eat it too because the sound quality is better than ever.

The CP-800 is simply the best sounding preamplifier we have created. It also uses our own state-of-the-art DAC and DSP. It will get the best out of any analog or digital source. For the first time also, we can exploit the full potential of computer audio with brilliant results. It is with this preamble that we would like to wish you many years of listening pleasure using your CP-800!

Good listening sessions!

The Classé team

**CLASSE**