Syrah Music Server

Syrah – Playback Designs Sonoma Series Music Server

COMMON UNDERSTANDING

The common understanding is that a „music server“ is a computer platform running some kind of large operating system, a music playback application, and a remote control, mostly in the form of a state-of-the-art tablet. In fact, many customers took the same definition quite literal, bought a standard computer (laptop or desktop), downloaded any of the many available music playback applications and installed all the necessary software on their tablet - voilà, done.

Yes, it can work that way and provide a great deal of enjoyment. So can a DAC for $500. In other words, it is relatively easy to build a music server based on standard hardware and software, but it can be quite a project to optimize it for sonic performance and features that are sometimes desirable for audiophiles, much more than for more common iTunes customers.

Playback Designs spent the same amount of care and diligence in creating and developing its Syrah server as it does for any other audio product. Here is a selection of key elements that are used in Syrah:

MOTHERBOARD

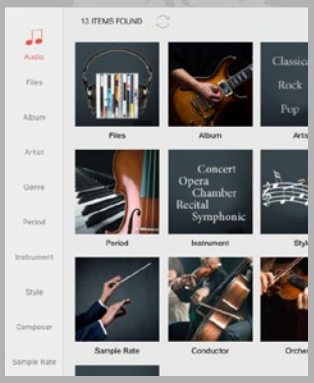
The criteria for the mobo are quite tricky. While for general computers you want as much CPU speed, RAM, bus bandwidths and connectivity as possible, for dedicated music servers this can be a disadvantage resulting in compromised audio performance. Playing back audio files is not a heavy load on today‘s CPU‘s and it is not necessary to aim for the fastest version. In fact our own research and long experience have shown that certain slower CPU‘s perform better in audio applications.

Rather than maximizing connectivity for general purpose computers, this is a feature that needs to be minimized, because most communication protocols require asynchronous clocks - at Playback Designs we understand very well what that means for audio quality (PBD products belong to a very small selection in the market that use completely synchronous clock designs, from power supply all the way to front panel displays).

After many long and grueling tests with many different mobo‘s we found one

based on Intel‘s NUC designs, that has enough CPU power for our application, does not require a fan to cool and provides the right connectivity for the intended purpose.

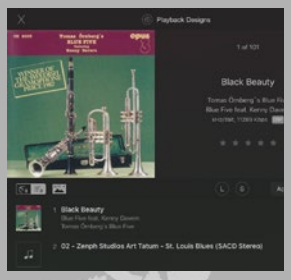
PLAYBACK SOFTWARE APPLICATION



There is no value in re-inventing the wheel for this. There are many software packages available that have been perfected over many years already, offer the right features, and are „audiophile worthy“. Over the last several years we have used and analyzed most software packages and have come to the conclusion that JRiver‘s Media Center offers the most comprehensive and versatile solution for our application. But like with everything in life, there are also disadvantages, and with Media Center that can be a steep learning curve for many customers.

We addressed that concern by using the server version of Media Center and making it somewhat hidden to the user by remote controlling it with a very easy-to-use application running on your tablet. This app was created specifically for Playback Designs in collaboration with a 3rd party vendor. The result indeed makes it very easy to start using the Syrah server right away.

RIPPING CDS



A requirement that we felt would be important for our customers is easy ripping and automatic retrieval of meta data (album title, cover art etc.). For this we have also worked with a 3rd party vendor on a customized version of dbPoweramp that uses 5 different data bases to locate the meta data. Among those is Sonata that is one of the most comprehensive lists for audiophile music.

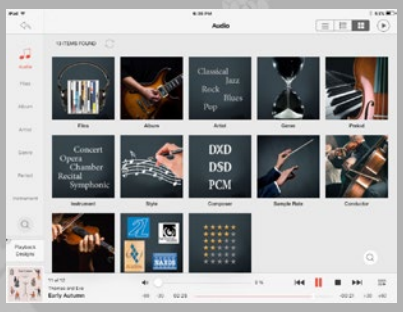
Syrah is shipped standard with an external DVD-ROM drive that can be used to rip CD‘s fully automatically: just insert your CD and Syrah ejects it again when it is ripped, the music files are placed on the server and the meta data is retrieved from the internet - no user interaction required at all.

OPERATING SYSTEM

When the Syrah project was started the Windows operating system was the only one that could easily support quad DSD. However, Windows is a very large software package designed for many applications, most of them much more demanding than playing audio. Over the course of many months we have minimized, configured and eliminated unnecessary features from Windows in order to optimize the sonic performance. The resulting system is excellent in playing audio, but would hardly be capable of performing other functions that you normally would expect from a Windows computer.

MEMORY AND STORAGE SYSTEM

There are many opinions on this topic. Some insist on SSD (solid state drive) vs. HDD (hard disk drive) and others prefer playback via large amounts of RAM. While there is some truth to such opinions the optimal architecture has to be analyzed and understood in the context of other elements and optimizations in the system, such as described above, but also in the context of the DAC being used in conjunction with Syrah.



Of course, the Syrah has been designed to be used with any of Playback Designs‘ DACs, which all use extensive and proprietary technology to isolate the sensitive analog audio circuitry from interferences from digital circuits in general, asynchronous computers in particular. For this reason we also feel that a DAC does not belong inside the same chassis as a computer.

Nevertheless, the Syrah server uses extensive RAM buffering and caching on various levels before sending any audio data to the external DAC. But since this is also a very subjective and often very subtle criterion we also offer the Syrah server with an internal SSD drive instead of the standard HDD.