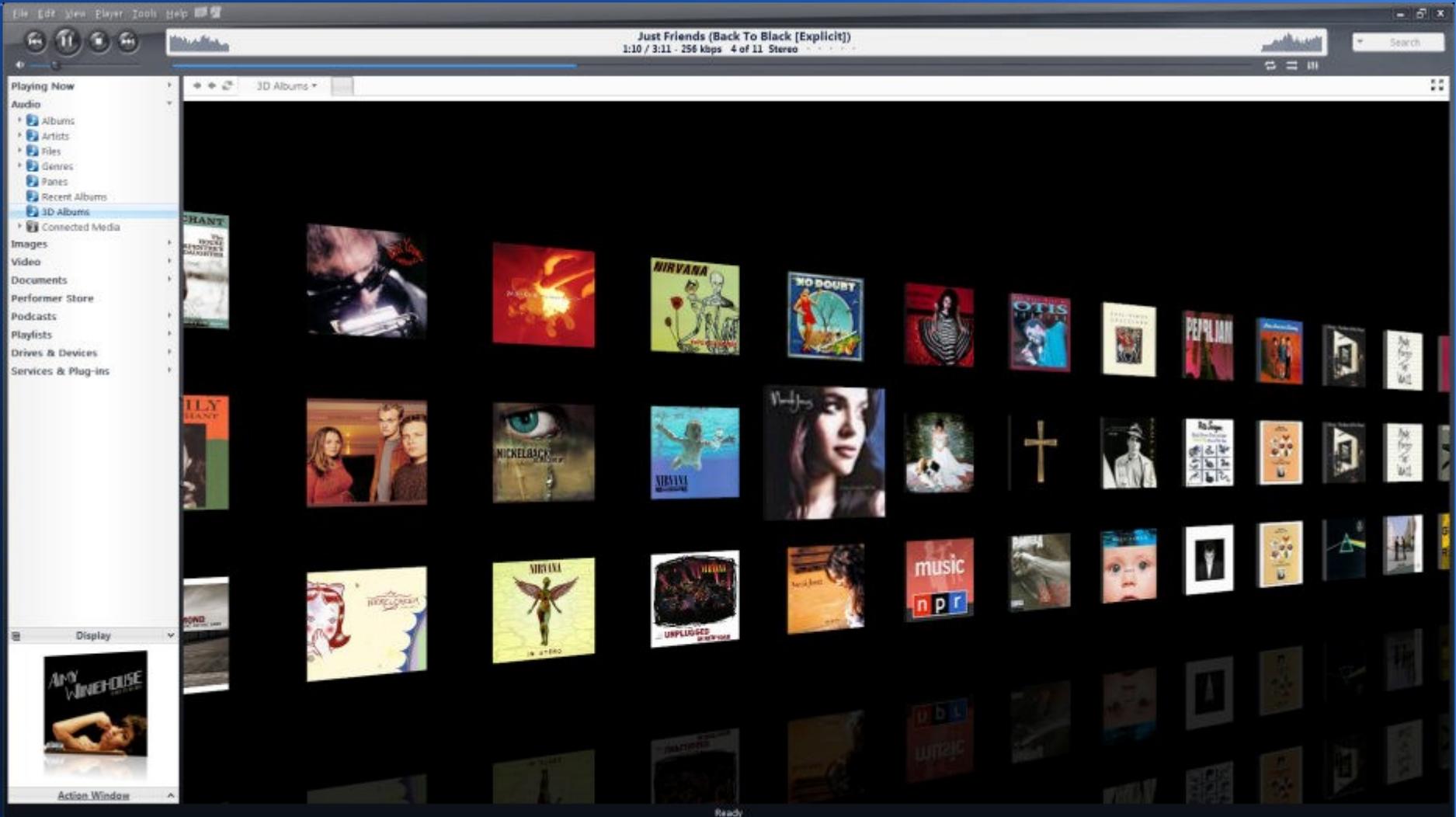


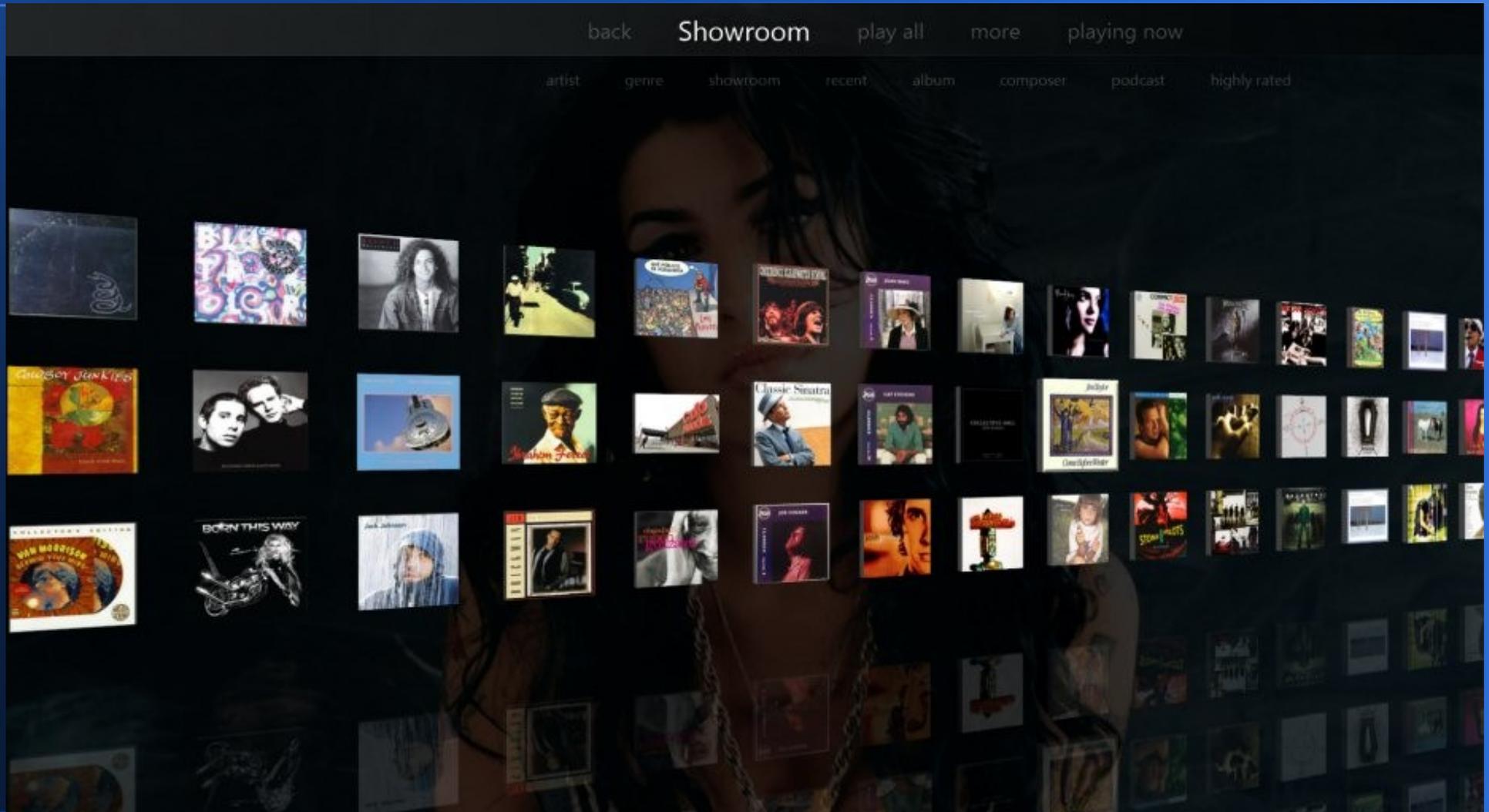
JRiver

- Publisher of JRiver Media Center, a leading solution for digital media on Windows
- Software began in 1998
 - 1.5 million lines of code
 - 120 man years of time
 - \$50 retail
- Company began in 1981
- Enjoying healthy growth (50% annually)

JRiver Media Center



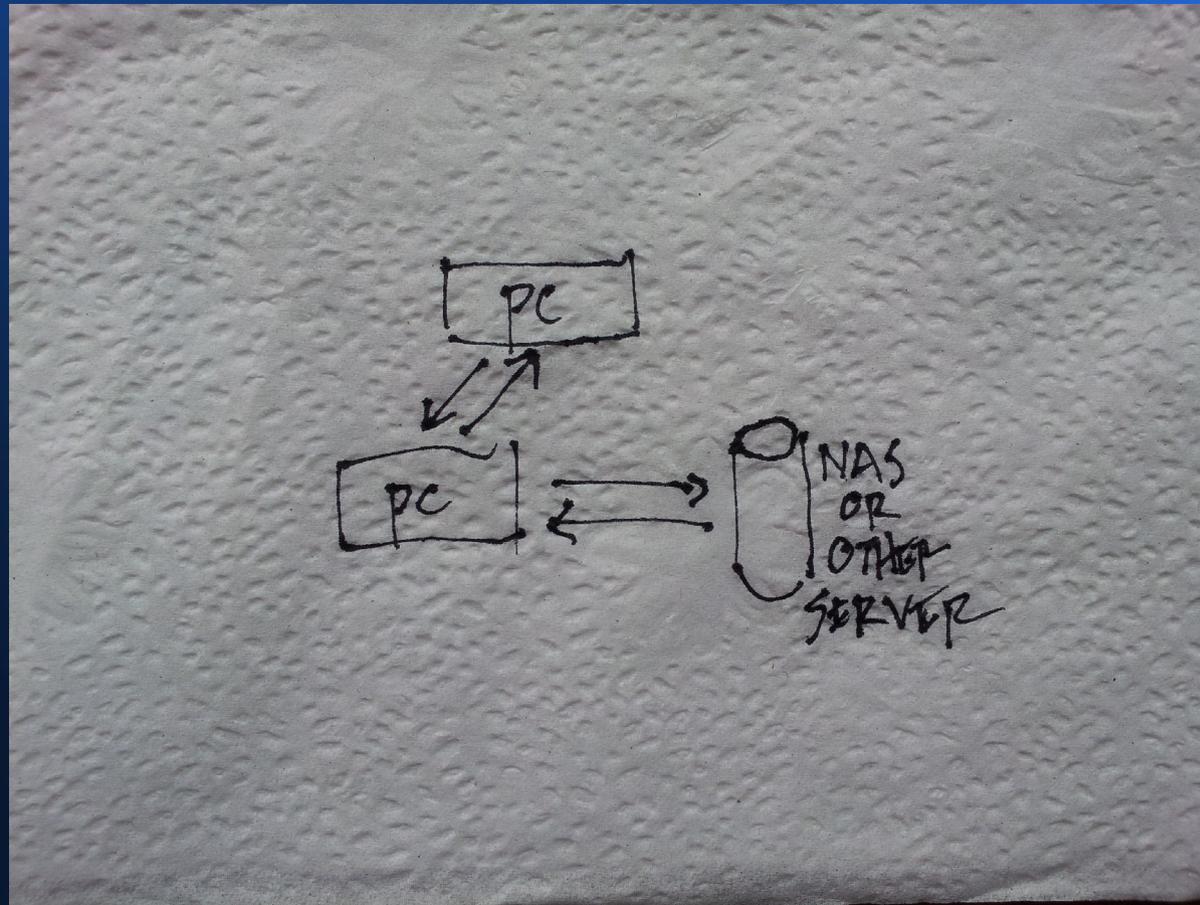
Theater View



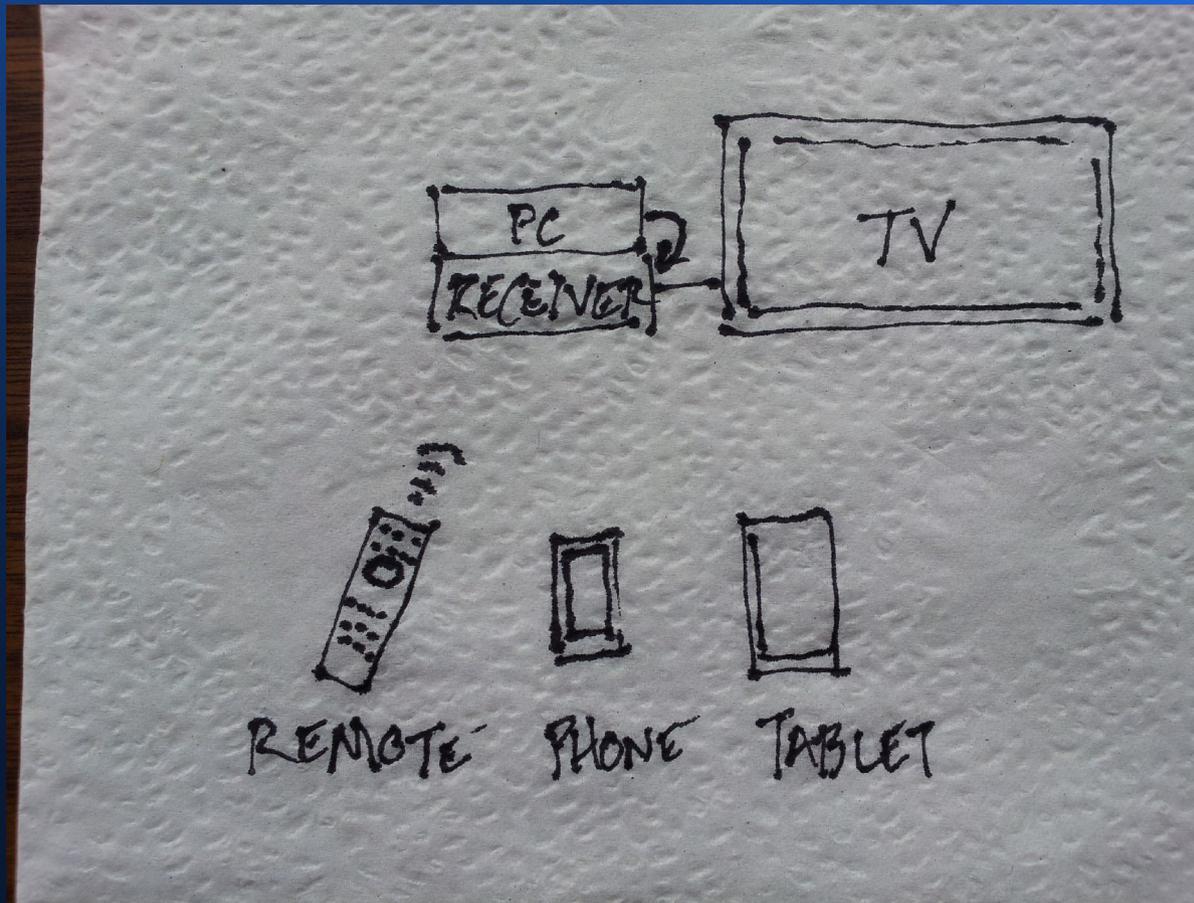
Why Switch to Digital?

- Convenient
- Easy to access
- Portable
- Visually rich
- High quality sound

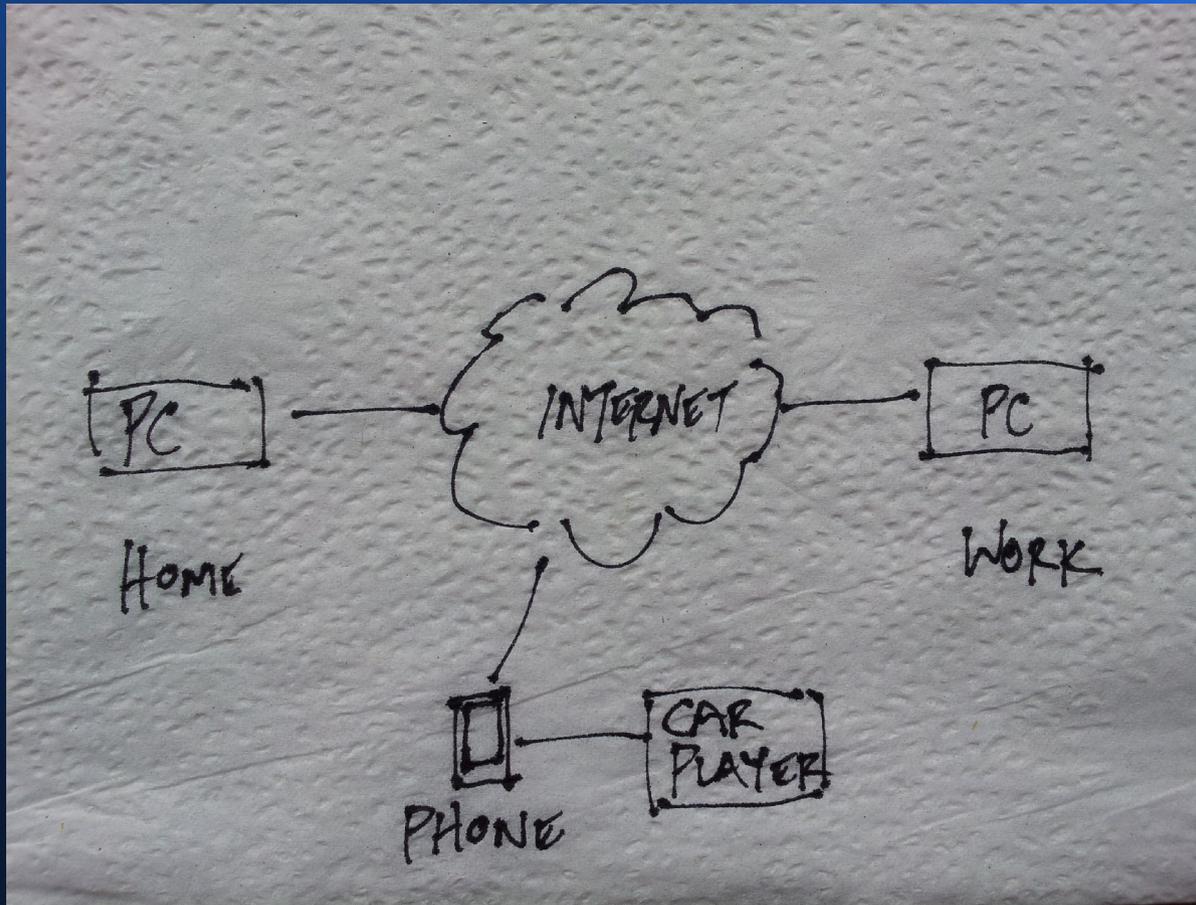
Servers



Remotes



Portability



Getting Started

- Understanding Terminology
 - CODEC
 - ASIO, WASAPI
 - Rip, Burn
 - Tags

Windows Configuration

- Windows 7 is recommended
- Control Panel / Sounds has a way to test
- Wiki article on “Getting Started” at wiki.jriver.com

Try the Demo

- Usually best to accept defaults the first time
- Make changes later, after it's working
 - Take notes on changes
 - Change one thing at a time and test

Windows Supports Most Hardware

What is a “driver”?

- A driver is a piece of software
- It connects the application to the hardware
- It is specific to the OS (Mac, PC)
- Drivers sometimes have bugs
 - Update
 - But be prepared to “roll back”

Resources

JRiver Wiki (wiki.jriver.com)

“Getting Started” link on the wiki

Google is Your Friend

- Search for your problem
 - Add a forum name (jriver.com, for example)
- Chances are good someone else has had the same problem and written about it

And so is Wikipedia

The image shows a screenshot of a Wikipedia article page for "Audio Stream Input/Output". The page is displayed in a browser window with a blue header. The article text reads: "intermediary signal path for non-professional users, ASIO allows musicians and sound engineers to access external hardware directly." Below the text is a "Contents [hide]" button. The article title "Audio Stream Input/Output" is prominently displayed, followed by the subtitle "From Wikipedia, the free encyclopedia". A yellow warning box with a question mark icon states: "This article includes a list of references, but its sources remain unclear because it has insufficient inline citations. Please help to improve this article by introducing more precise citations. (February 2011)". Below the warning box, the article text is repeated: "Audio Stream Input/Output (ASIO) is a computer sound card driver protocol for digital audio specified by Steinberg, providing a low-latency and high fidelity interface between a software application and a computer's sound card. Whereas Microsoft's DirectSound is commonly used as an intermediary signal path for non-professional users, ASIO allows musicians and sound engineers to access external hardware directly." To the right of the text is an image of the ASIO logo, which consists of the word "ASIO" in a bold, black, sans-serif font, with a red arrow pointing left and a green arrow pointing right. Below the logo is the caption "ASIO logo". The page layout includes a left sidebar with navigation links such as "Help", "About Wikipedia", "Community portal", "Recent changes", "Main page", "Contents", "Featured content", "Current events", "Random article", "Donate to Wikipedia", and "Interaction". A search bar is located at the top right of the page. The overall design is clean and professional, typical of a Wikipedia article page.

intermediary signal path for non-professional users, ASIO allows musicians and sound engineers to access external hardware directly.

Contents [hide]

Article Talk Read Edit View history Search

Audio Stream Input/Output

From Wikipedia, the free encyclopedia

This article includes a list of references, but its sources remain unclear because it has insufficient inline citations. Please help to improve this article by introducing more precise citations. (February 2011)

Audio Stream Input/Output (ASIO) is a computer sound card driver protocol for digital audio specified by Steinberg, providing a low-latency and high fidelity interface between a software application and a computer's sound card. Whereas Microsoft's DirectSound is commonly used as an intermediary signal path for non-professional users, ASIO allows musicians and sound engineers to access external hardware directly.

ASIO logo

Contents [hide]

Article Talk Read Edit View history Search

• Forums

- A forum is a discussion group
- You must register (login and password)
- You will receive an e-mail confirmation
 - SPAM filters often trap the e-mail
- Search first on any forum, using Google
- Start a “thread” or “topic”
- Use a subject that describes the problem (not “Help” or “Please Help”)

- Don't read too much. Just do it.

- Advice is cheap
- Experience is a better teacher

• Try things

- Don't forget to back up
- Change settings one at a time
- Test
- Wait
- Change again

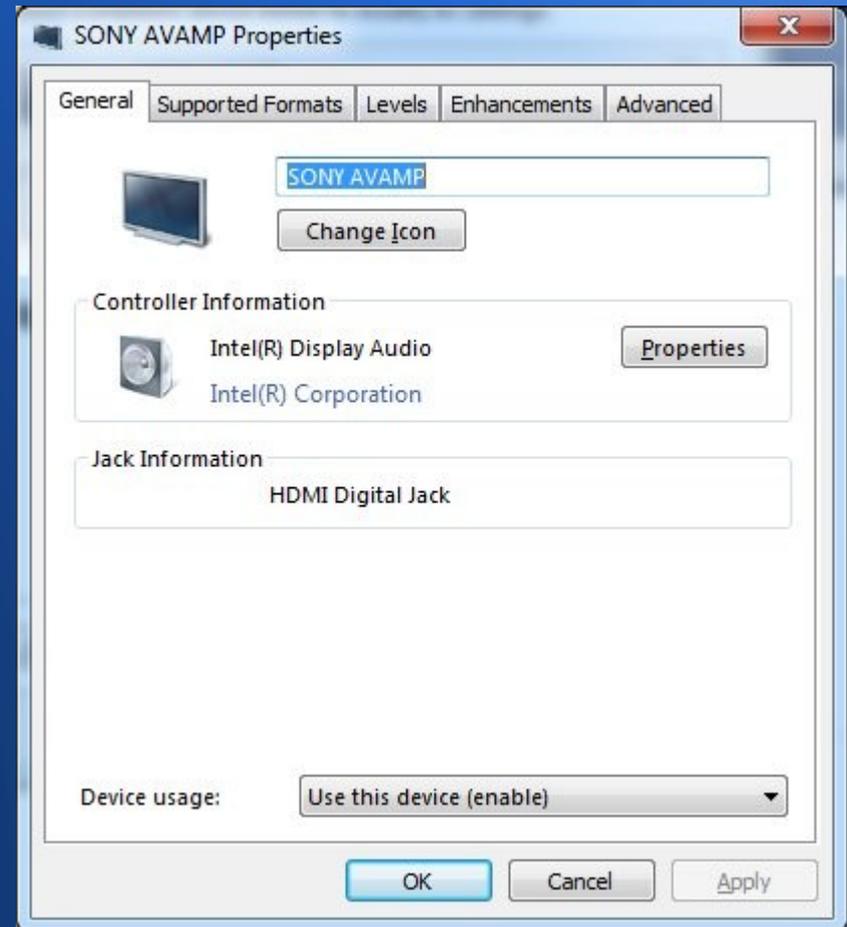
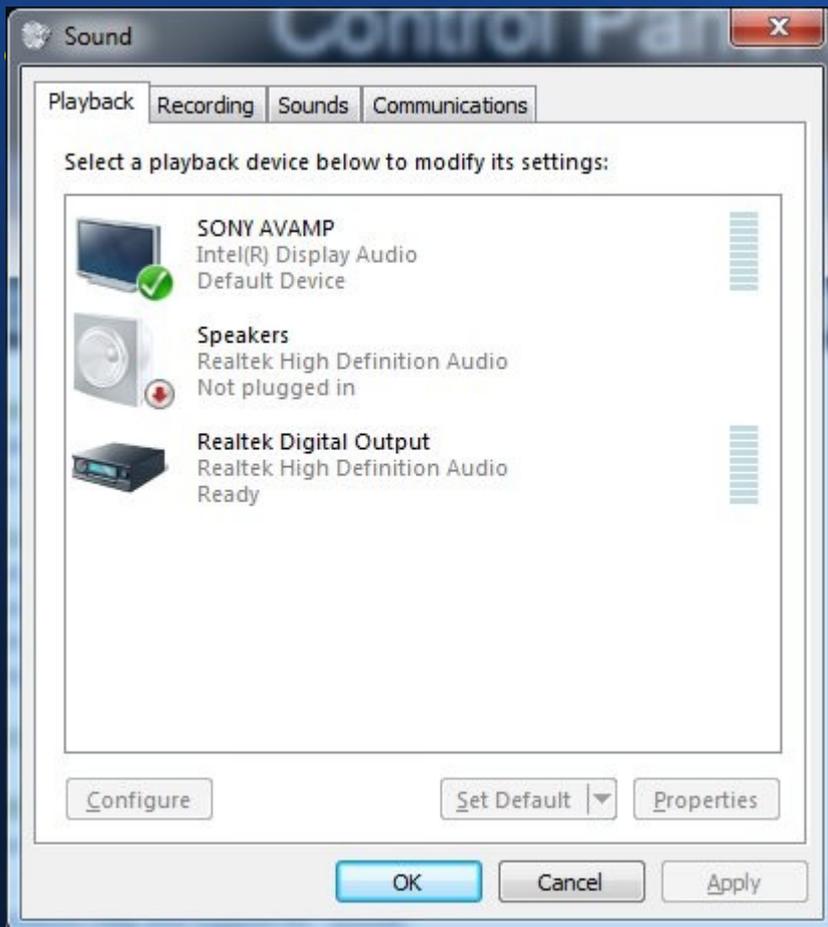
Common Sources of Problems

- Software problems
 - Driver bugs
 - Antivirus programs, pop-up blockers, etc.
 - Hardware issues
- Try another PC
- Try uninstalling recent software
- Reboot, power down

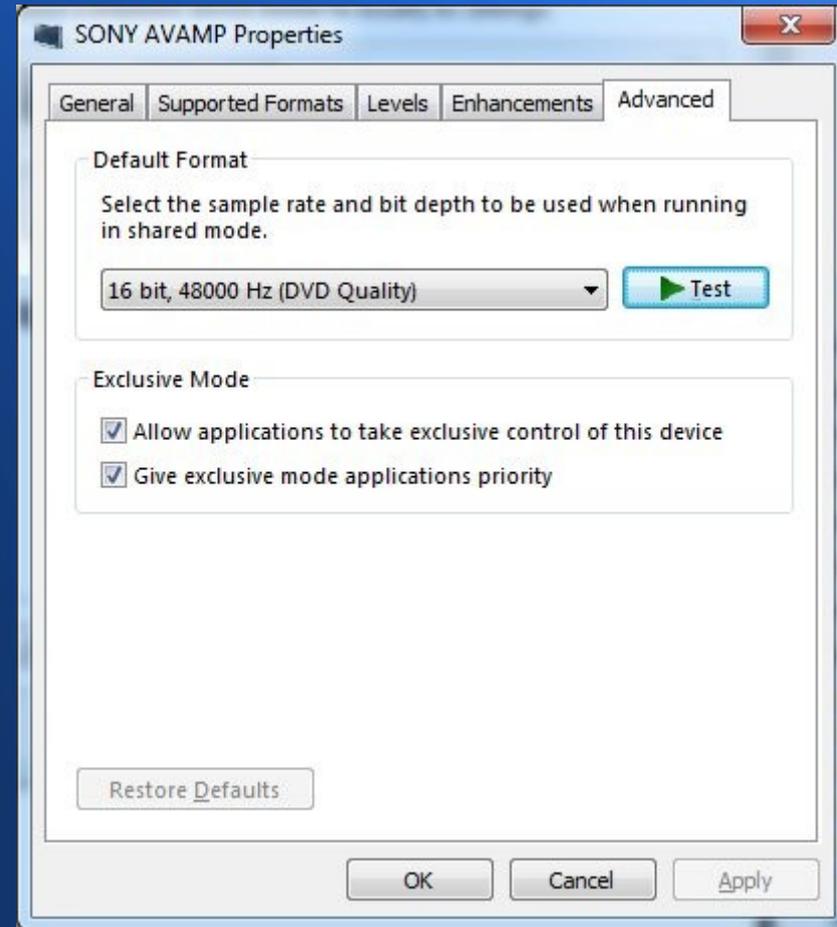
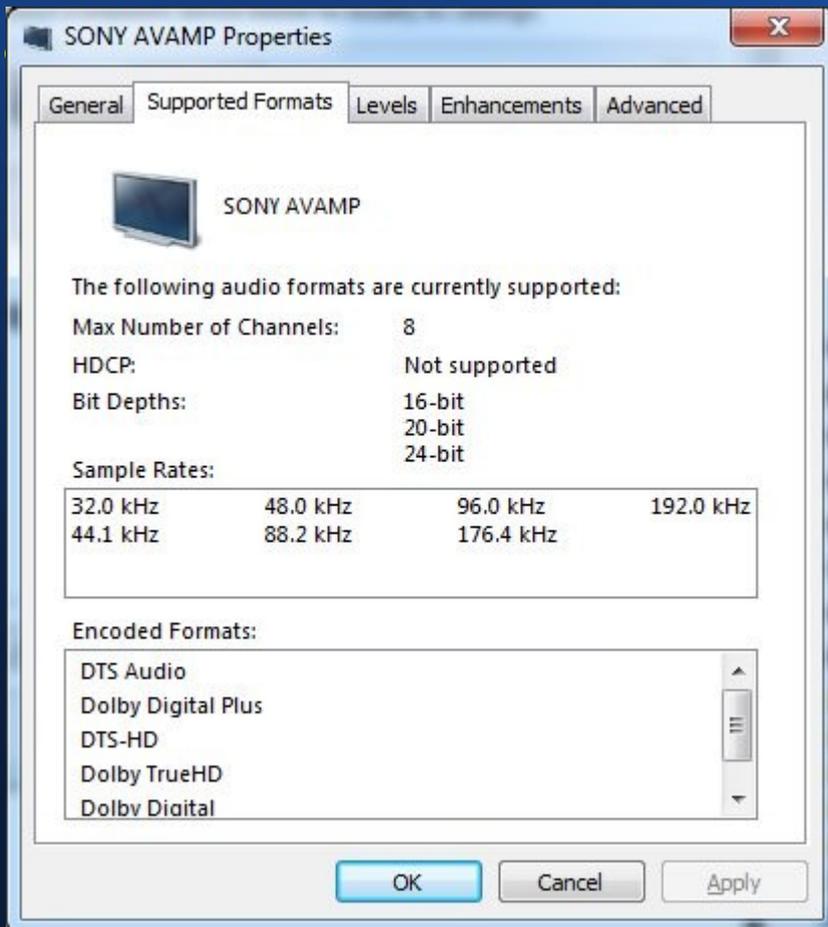
Win7

- Windows 7 Confirmation
 - UAC – User Account Control
- Browser Confirmation
 - May require confirmation in yellow notice bar

Control Panel / Sounds



Test



DAC (Digital Analog Conversion)

- The digital signal is converted to analog
 - In a sound card or mother board chip
 - By an outboard “DAC” (often USB)
 - By a receiver
- Digital doesn't vary
- Conversion quality and analog quality do vary

Digital Connections

- S/PDIF can be optical or coaxial/RCA
- HDMI also has several connectors
- USB

Analog Connections

Speaker jacks

1/8" stereo headphone

RCA can be either

Using a receiver or a USB DAC

- The goal is to deliver an unaltered digital signal to the device (bitstreaming)
- Some Windows methods are good
 - ASIO, WASAPI, Kernel Streaming
- Some are not so good
 - Direct Sound, Wave Out
- Good drivers avoid the Windows Mixer

2 channel vs 5.1, 6.1, 7.1

- Multichannel audio is usually used for video
- Surround Sound – Dolby Digital, DTS, HD
- JRiver MC can convert (DSP Output Format)
- JRiver can decode multichannel
- The receiver may also decode
 - If the Windows sound driver passes an unaltered signal

DSP

- DSP (Digital Signal Processing) can allow high quality sound manipulation
- Convolution (room correction plus)
- Bass management
- Crossover (Low pass / high pass, etc)
- Biamp/Triamp
- Multiple speaker
- VST and other third party processing

Importing files and Database

- Importance of a Good Database
 - Speed
- Itunes vs WMP vs JRiver MC
- Import 100,000 files into an empty library

ITunes: **2 hours, 41 minutes** (no progress, program frozen while working, loss of power causes data loss of all previous work, 330 MB of memory usage)

JRiver Media Center: **14 minutes** (nice progress, program fully usable while working, loss of power causes minimal data loss, 245 MB of memory usage)

– <http://jriver.com/speed.html>

What is a CODEC?

- Compression (Encode)
- Decompression (Decode)

CODECS demystified

- Uncompressed
 - WAV, AIFF
- Lossless
 - APE, FLAC, ALAC, WML
- Lossy
 - MP3, AAC, M4A

Tags demystified

- A tag is a description
- Also called properties or meta-data
 - Album name
 - Artist name
 - Track name
 - Lyrics
 - Cover art
 - Can be anything

More on tags

- Different standards for different filetypes
- Not always compatible between programs
- May be stored internally (in the file)
- May not be
 - Database only
 - Sidecar only (xml file) – used for movies
- Cover art may be internal or not

Where does metadata come from?

- Not usually on a CD
- Internet lookup from Gracenote, FreeDB, YADB, etc.
- Other external sources like Amazon, Wikipedia (sometimes called “scraping”)
- Manual entry

It's all about media

- Don't forget to enjoy your music