ICAVE Audio Configuration

Last Updated: 12-23-2020

Summary: This is a technical overview of the current audio setup for the ICAVE including related resources to the equipment used.

Hardware Listing:

Speakers: Each is wired via raw wire to ground (-) and signal (+). They are placed behind each screen near the center (horizontally) and slightly above the vertical center.

Model: Tannoy DVS 6
Product Page: https://www.tannoy.com/product.html?modelCode=P0BV7
Count: 5

Audio Receiver: Integra DTR-30.7
Product Page: http://stereobarn.com/integra/dtr-30-7/

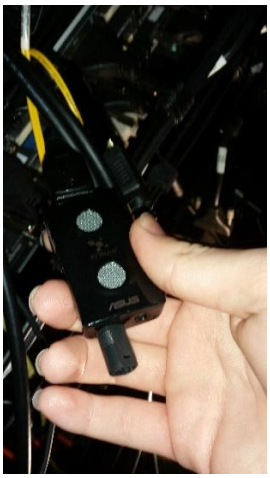
Communication: Speaker<->Receiver <-> Asus Soundcard / USB Soundcard
Server Rack Position: First visible interface (has label: Audio Receiver).

All the speakers are wired to the output jacks via banana plugs:

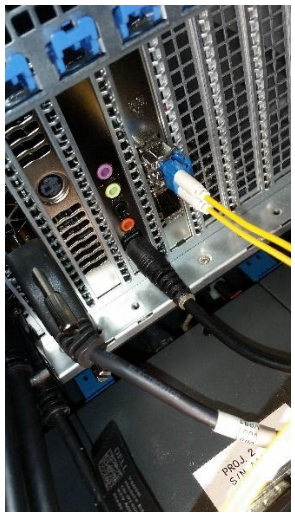
Audio is received from via optical input (using CD input). Note: TV optical input could be used to receive audio from Render Node:

Head Node Audio Outs:

Via USB: Used if Asus soundcard is not working, uses virtual 5.1 surround (converts stereo to 5.1)



Via Asus Soundcard:



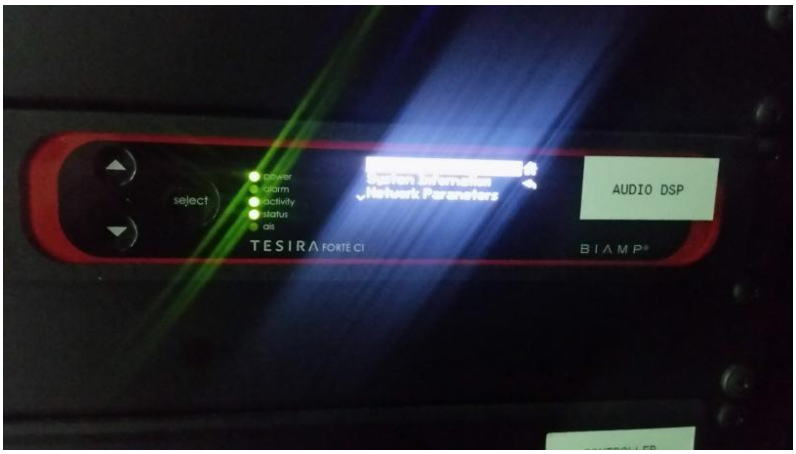
Note: The following hardware has unknown explicit purpose by the student maintainers.

AV Bridge: Vaddio AV Bridge Conference 999-8215-000 **ICAVE Model No:** 998-0215-000

Product Page:
https://www.legrandav.com/en/products/vaddio/av_to_usb_bridges_and_encoders/av_bridge_conference

PDF: https://www.fullcompass.com/common/files/21838-VaddioAVBridgeCONFERENCETechSpecs.pdf

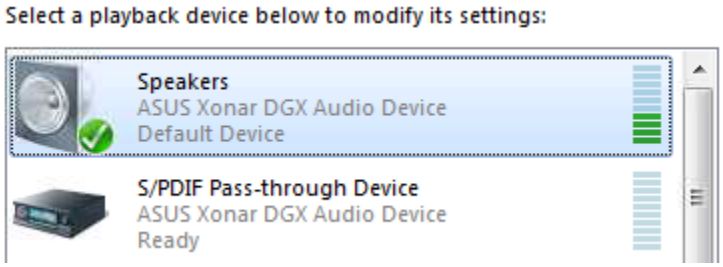
Audio DSP: BIAMP TESIRA FORTE CI



Product Page: https://www.biamp.com/products/tesira-fixed-audio-dsp

Head Node Software Configuration:

Asus Xonar DGX: Sound card device.



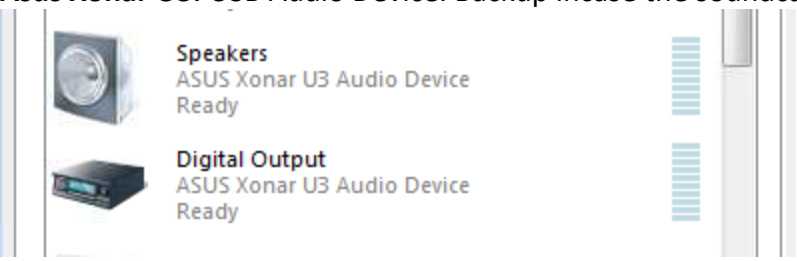
Product Page: https://www.asus.com/Motherboards-Components/Sound-Cards/All-series/Xonar_DGX/

Menu Panel:

Equalizer: Audio was calibrated using an XLR mic and a spectral analyzer with pink noise set to near 80db.

Note: Originally the sound card driver that is officially provided by asus was not working properly. So a custom driver was installed. Found at: http://maxedtech.com/asus-xonar-unified-drivers/

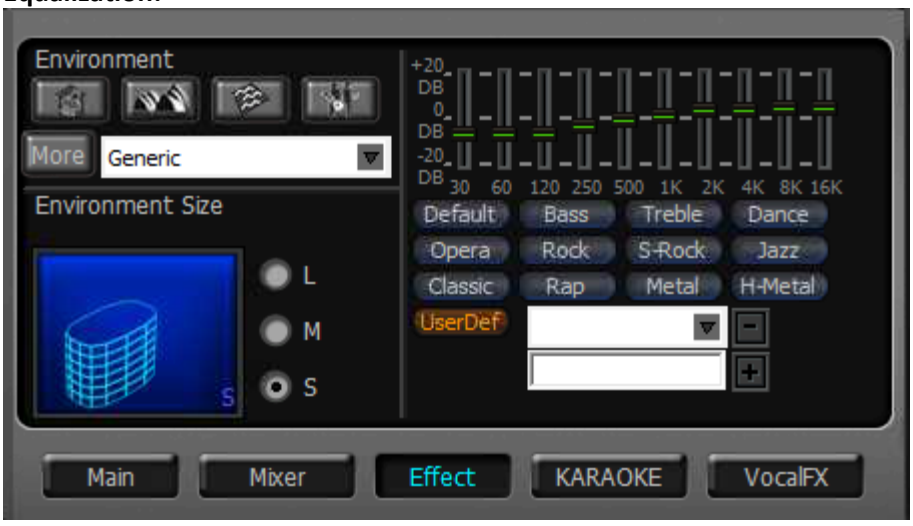
Asus Xonar U3: USB Audio Device. Backup incase the soundcard fails to work.



Product Page: https://www.asus.com/us/Sound-Cards/Xonar_U3/

Menu Panel:

Equalization:



On use of 5.1 Surround:

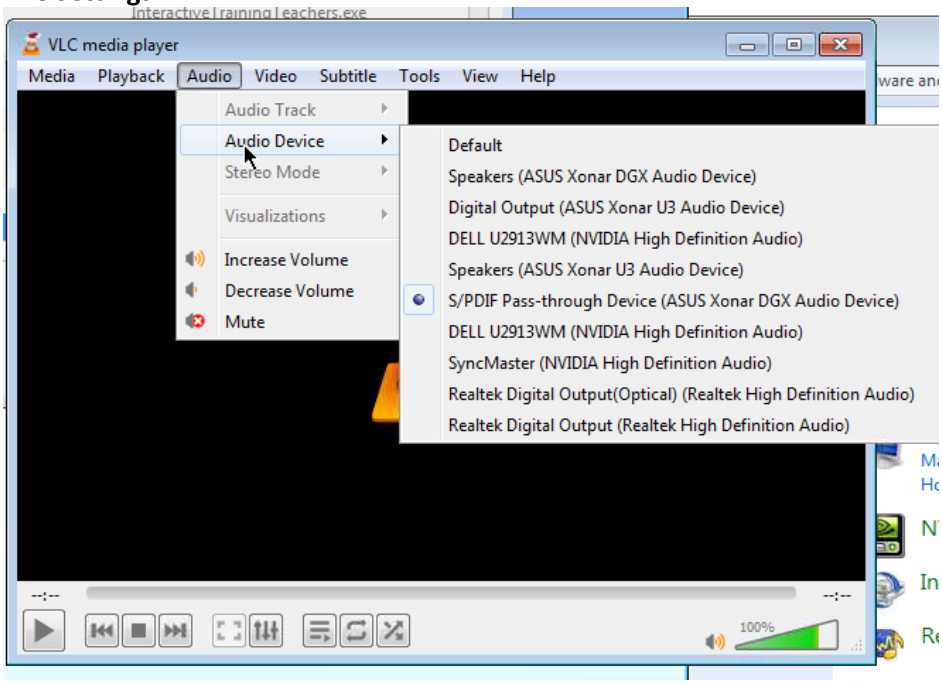
By default, Windows 7 Uses stereo output to the optical out. The receiver is setup to automatically direct the stereo as 5.1 virtual surround.

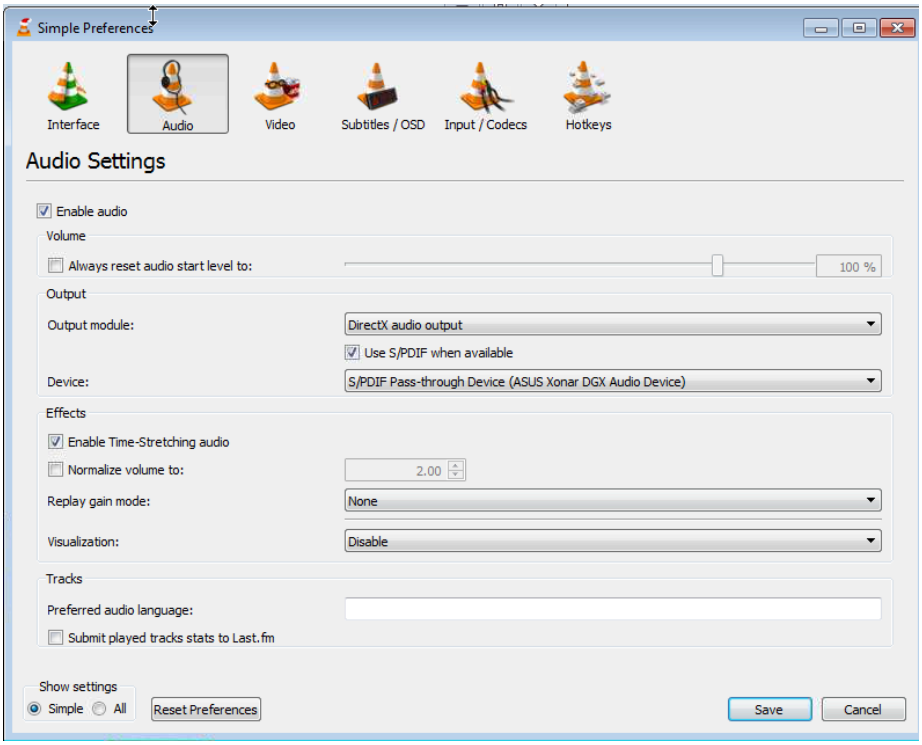
5.1 can be output from windows with a supported audio stream using DTS surround. When DTS is outputted the receiver will automatically switch its output to send the speakers native 5.1.

DTS format can be sent only when using supported media playback formats on a supported media player. Such as VLC media player, or a unity project setup to use DTS surround.

For Unity Audio 5.1 Configuration See: https://docs.unity3d.com/ScriptReference/AudioSpeakerMode.html

VLC Settings:




Simple Preferences
Interface
Audio
Video
Subtitles / OSD
Input / Codecs
Hotkeys
Audio Settings
Enable audio
Volume
Always reset audio start level to:
100 %
Output
Output module:
DirectX audio output
Use S/PDIF when available
Device:
S/PDIF Pass-through Device (ASUS Xonar DGX Audio Device)
Effects
Enable Time-Stretching audio
Normalize volume to:
2.00
Replay gain mode:
None
Visualization:
Disable
Tracks
Preferred audio language:
Submit played tracks stats to Last.fm
Show settings
Simple
All
Reset Preferences
Save
Cancel