

Tonochi's Audio Room – Supplemental Info

PC Software



2020/10/04

Here, PC apps Tonochi uses for audio are introduced...

Music Player & Audio File Editing

Recording, Replaying, editing: AudioGate 4 (KORG)

A well-established free music player app. The sound quality is excellent. Recording feature has been added in the version 4.

<http://www.korg.com/jp/>

In addition to PCM (up to 192kHz/24bit), DSD (2.8M, 5.6M) is supported.

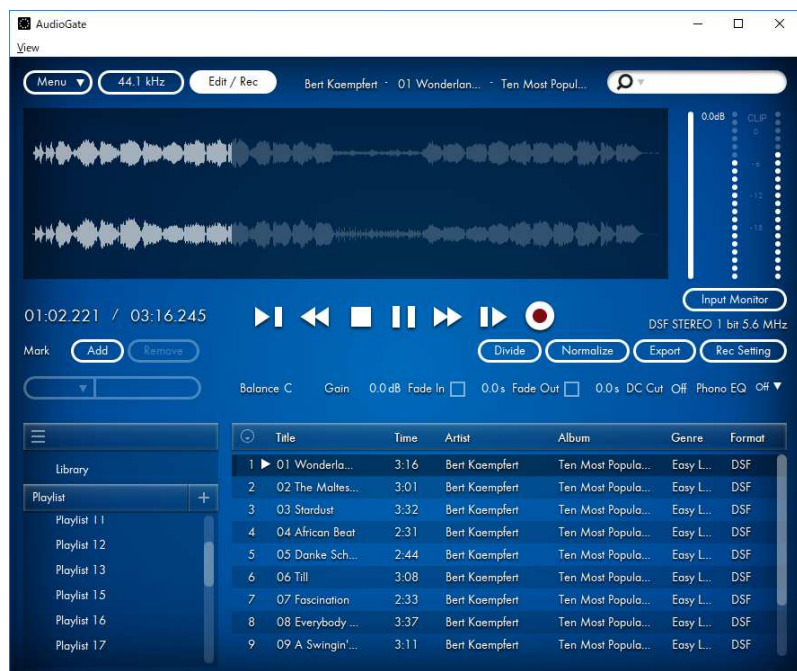
This app also has some simple editing features like normalize, file division/merge, fade in/out, format conversion, etc. It is enough for me, because I don't do complex editing.

I don't explain details, since this app is well known.

I've installed this app on two PCs.

I use AudioGate as an editing tool on the desk top PC. I edit audio files recorded with the digital audio recorder, KORG MR-2000S.

I use AudioGate as an audio player on the laptop PC. I usually use the laptop with the USB DAC, KORG DS-DAC-10, in my study room. The device driver is ASIO.



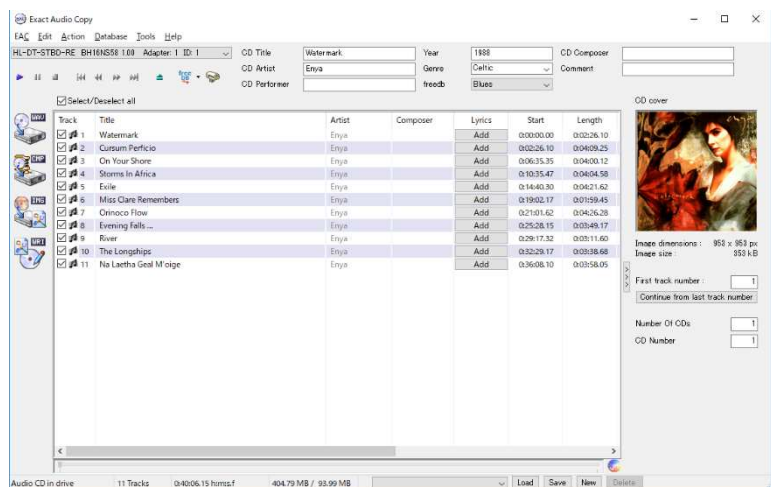
CD Ripping: Exact Audio Copy (Andre Wiethoff)

A well-established ripping app. It's usually called EAC. It has a verify feature that utilizes freeDB, and grants offering error-free data.

<http://www.exactaudiocopy.de/>

I surely feel its sound quality better than other ripping apps without the verify feature like Window Media Player.

EAC has many bugs, though, you can find cures on Internet soon, because so many users are posting cures.



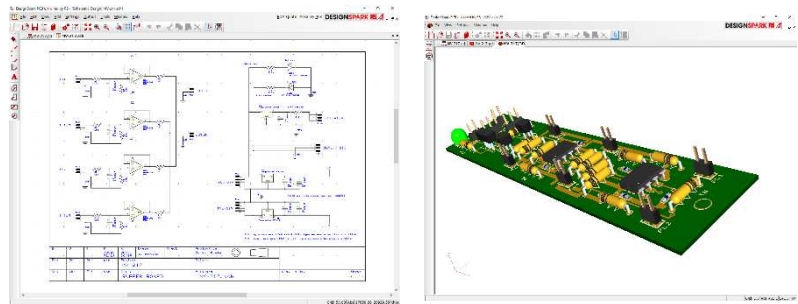
Design Tools

Schematic and PCB CAD: DesignSpark PCB 8.1 (RS Components)

[2020/10/04 update] { updated from Ver.8.1 to Ver.9.0.3 }

A free PCB CAD provided by RS Components, a trading firm of electronic devices and parts (DS PCB, hereafter). It is a combination of a schematic CAD and a PCB CAD, so you can design PCBs without a need of another CAD.

DS PCB links to the website “RS Online”. If you select parts RS Components sells, the prices of the parts are automatically quoted into BOM. You can check the cost at once.



<https://www.rs-online.com/designspark/pcb-software>

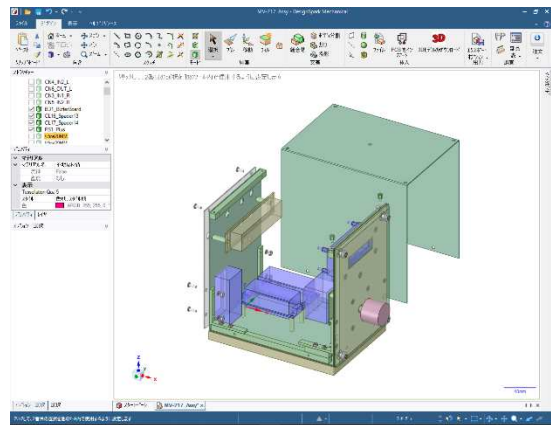
Mechanical CAD: DesignSpark Mechanical 5.0 (RS Components)

[2020/10/04 update] { updated from Ver.4.0 to Ver.5.0 }

A free mechanical CAD provided by RS Components, a trading firm of electronic devices and parts (DS Mech, hereafter). It is compatible with DS PCB, so you can import drawings of PCBs into the mechanical design. It is helpful that DS Mech has data of chassis-mounting parts in its library. DS Mech is exactly what I need for chassis design.

<https://www.rs-online.com/designspark/mechanical-software>

[2020/03/16 added] { DS Mech for free should be called 3D rendering software rather than mechanical CAD. It can be used as a mechanical CAD if you add some pay options. I believe the options are not necessary for amateurs. I myself haven't bought the options }



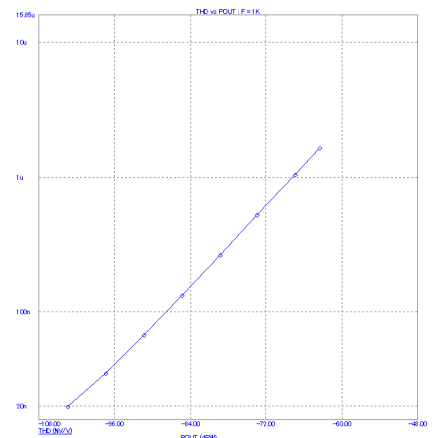
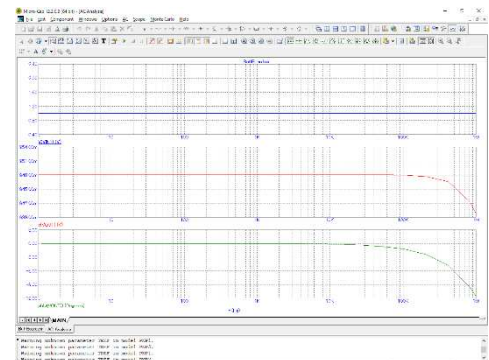
Circuit Simulator: Micro Cap 12 (Spectrum Software) [2020/03/16 added]

I quit using PartSim, and installed Micro Cap 12, instead. It's because PartSim is very poor in computing power and can simulate only simple circuits.

Micro Cap is a high-performance circuit simulator. I think it has all features a circuit simulator should have. It can simulate not only analog circuits but also digital circuits. Of course, it can simulate digital-analog mixed circuits. You can set up complex simulation settings by filling blanks in dialog boxes.

Micro Cap is free for individuals, though it has high functionality and performance.

Micro Cap isn't popular, and I myself didn't know it until recently. I suppose there are many people who are reluctant to use a simulator that no one close to them isn't using. A detailed manual consists of more than 1,000 pages is attached to Micro Cap. It provides all information you need. You don't have to read other books or something. I understood the basics of Micro Cap by reading the manual for one day.



Circuit Simulator: PartSim (ASPENCORE) [2020/03/16 changed]

{ As mentioned above, I quit using PartSim }

~~PartSim isn't a PC app but Web service. I introduce it as the simulator is an important tool. PartSim is offered free of charge by EEWeb, which supports electronics engineers. PSpice models provided by electronic component makers can be used, because PartSim is compatible with PSpice.~~

~~<http://www.partsim.com/>~~

I used to use LTspice offered my Linear Technology (it has been merged by Analog Devices). But I quit using it, because it doesn't accept PSpice models, and LT doesn't offer models of ICs except its own products. A simulator that can't simulate circuits that contain ICs is not useable.

Measurement Tools

Digital Oscilloscope: PicoScope 6 (Pico Technology)

The app for oscilloscope produced by Pico Technology. It functions as digital oscilloscope when combined with Pico Technology's oscilloscope units. PicoScope 6 can be used not only for observing waveforms but also for data analysis like FFT. It is so usable.

I use this app with PicoScope 4262.

For further details, see the "Measuring Instruments" on the page "Misc Info".

Acoustic Measurement: PAA3 (Phonic)

The enclosed software of Phonic PAA3, an acoustic measurement instrument. This app works as the remote control of PAA3. Though PAA3 can be used standalone, you can see measurement data on the large screen of PC and save them as files instantly by using this app.

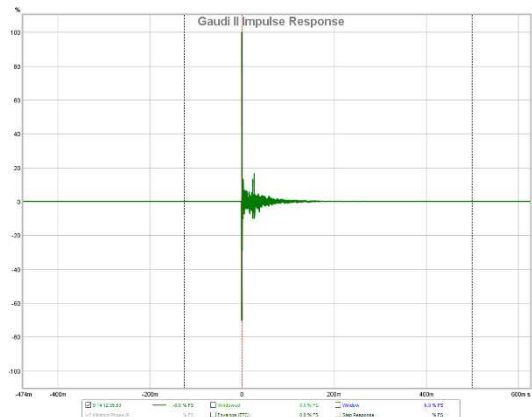
Acoustic Measurement: Room EQ Wizard (John Mulcahy)

A tool for tuning loudspeaker and room acoustics. A free software. It's called REW.

<https://www.roomeqwizard.com/>

You can make a quasi-anechoic measurement with REW and a microphone with its calibration data. I use the microphone, Dayton Audio UMM-6. REW has signal generation feature too. All you need for acoustic measurement is REW and the microphone.

I still don't master how to use some features of REW. I hear it has features where you can calculate the best position of the loudspeakers and the best listening position. I haven't used REW for such purpose. I have experienced measurements of frequency response and impulse response by using the sine wave sweep feature, and confirmed that it is easy and effective.

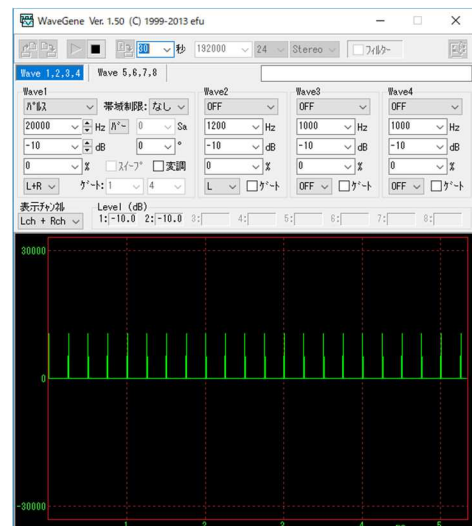


[2020/03/16 added] { See a new supplemental information 'How to Use REW' }

Signal Generation: WaveGene (efu)

A free software Mr. efu offers on Internet. You can generate various kinds of signals like sine wave, square wave, pulse wave, etc., with simple operation. It can generate white noise, pink noise and tone burst waves, too

Not only generating signals in real time, but also it can save the signals in hi-res WAV files. A hi-res digital audio player can be used as a signal generator by using those WAV files.



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NOBODY Audio

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