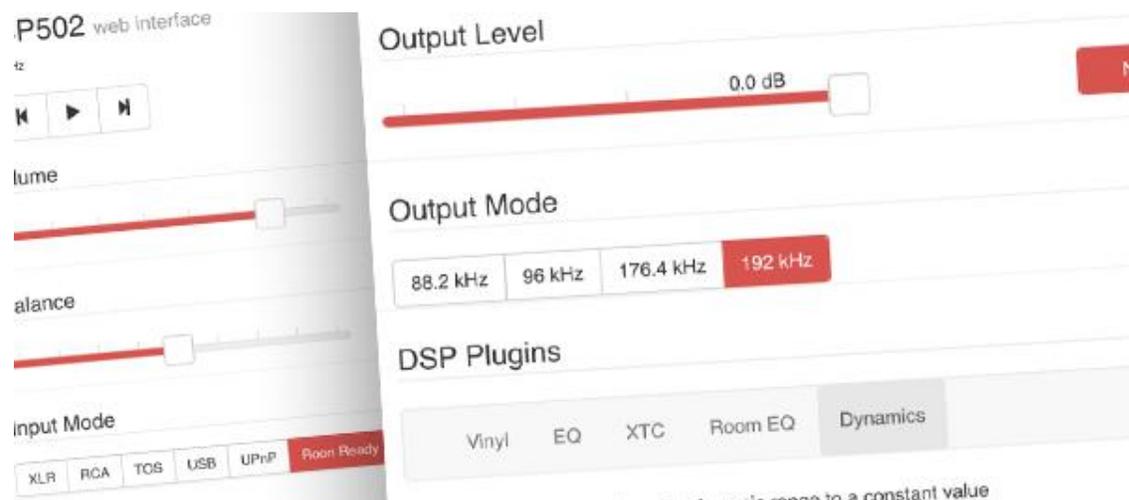# The DSP501 / DSP502 units – a new kind of audio equipment

Let's call them the DSP50x unit. The DSP50x has the same features as the D/A Converter counterpart, the DAC50x. Only, the DSP50x has a digital output instead of an analog one. This allows to connect a separate D/A Converter to the DSP50x or to use it to feed active speakers with digital inputs.

More and more highend speaker models are active, i.e. have built-in amplifiers and some of them even sport digital inputs in order to keep the number of A/D and D/A conversions in the signal chain at a minimum. For such a speaker the DSP50x is the ideal front-end. It is Roon Ready and thus supports playback directly from a NAS or via Internet streaming (Tidal, Qobuz, radio) or from a computer etc. USB and S/PDIF and AES/EBU inputs are there as well. The DSP50x plus an active speaker makes for a minimalistic system with a great sound and all the features needed.

The Digital Signal Processing (DSP) features include a room equalizer to get rid of room modes, a creative equalizer (tone control), a Vinyl emulator for that nice vintage sound, an algorithm to keep the playback volume at a constant level for night time listening, a crosstalk cancelling program for a new live-like listening experience. More algorithms are in development, including some exclusively for headphone based playback.

Speaking of headphones - the DSP50x sports two outputs with two separate DSP signal chains. This allows to select output #1 for speaker based playback and switch over to output #2 for headphone based playback. Both outputs using different DSP algorithms.

https://www.weiss.ch/products/dsp501-dsp502-processors

Here is a short list of quality speaker brands which offer speakers with digital inputs:

- **Dutch & Dutch**
- **Kii**
- **Dynaudio**
- **Grimm Audio**
- **B&W**
- **Geithain**
- **Meridian**
- **Neumann**