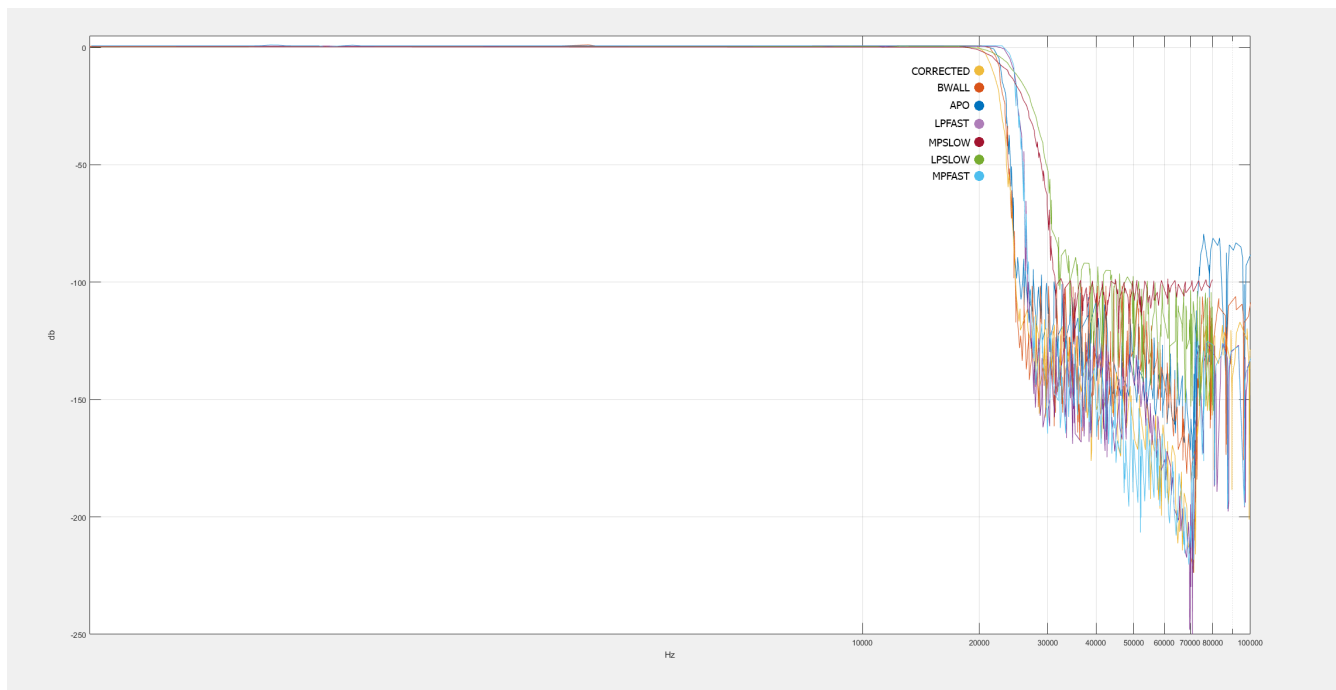# E1DA #9038SG3 firmware pack.

The pack contains 8 FW files:

1) E1DA_9038SG3_PTL_apodizing fast roll-off.hex
2) E1DA_9038SG3_PTL_brick wall filter.hex
3) E1DA_9038SG3_PTL_corrected minimum phase fast roll-off.hex
4) E1DA_9038SG3_PTL_linear phase fast roll-off.hex
5) E1DA_9038SG3_PTL_linear phase slow roll-off.hex(default 9038SG3 filter)
6) E1DA_9038SG3_PTL_linear phase slow roll-off_SE.hex SE mode(2nd harmonic domination, tube-like sound emulation)
7) E1DA_9038SG3_PTL_minimum phase fast roll-off.hex
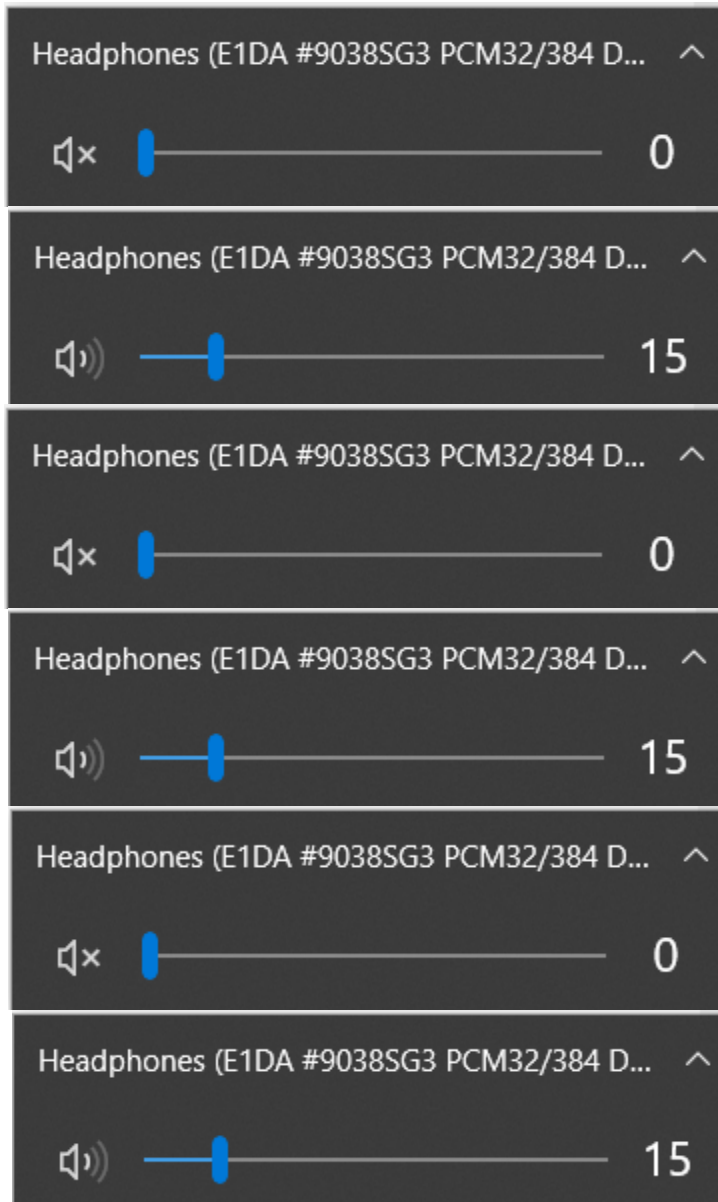8) E1DA_9038SG3_PTL_minimum phase slow roll-off.hex

Different PCM filters has a different frequency and impulse response that's slightly affects the sound signature as well.

All 8 FWs have the new PTL function, which allows you to adjust max volume limit with 3dbfs steps. PTL means Push The Limit, this function uses combinations of UAC2 HW volume commands. To drop the limit for -30dbfs you should set the volume slider at min position next lift it up(not higher than 1/2 of the slider) and drop to the min volume again. If you repeat that voodoo 3 times during 2 seconds, the max volume limit will be set to -30dbfs. To increase the limit set the volume slider to the max position, next pull it down(not lower than 1/2 of the slider), and back again to the max position. After you repeat that at least 3 times, the limit will be increased for 3dbfs(you'll able to hear that), 6 times for 6dbfs, and so on up to 0dfbfs i.e. no limit at all. This way you can limit 9038SG3 power in the range from -30..0dbfs, and avoid loud shock with sensitive EIMs.
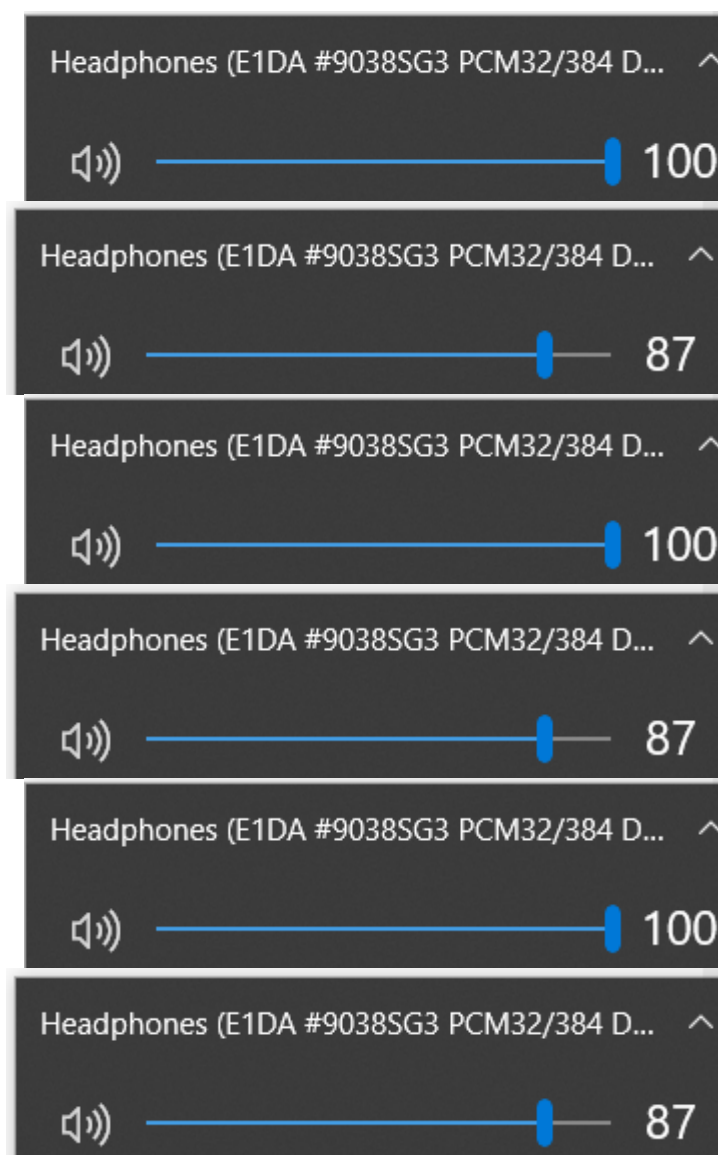
Example:

Your max volume is "unlimited" i.e. equal 0dbfs.

Now your max volume limited at -30dbfs.

If you need to increase the limit, make follows:

Headphones (E1DA #9038SG3 PCM32/384 D...   ⌃
🔊) ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━● 100

Headphones (E1DA #9038SG3 PCM32/384 D...   ⌃
🔊) ━━━━━━━━━━━━━━━━━●━━━ 87

Headphones (E1DA #9038SG3 PCM32/384 D...   ⌃
🔊) ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━● 100

Headphones (E1DA #9038SG3 PCM32/384 D...   ⌃
🔊) ━━━━━━━━━━━━━━━━━●━━━ 87

Headphones (E1DA #9038SG3 PCM32/384 D...   ⌃
🔊) ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━● 100

Headphones (E1DA #9038SG3 PCM32/384 D...   ⌃
🔊) ━━━━━━━━━━━━━━━━━●━━━ 87

Now the max volume limited at -27dbfs.
https://drive.google.com/file/d/1ShtYiQjXYCYBm4KbjDgKJPIWCz7w_GVc/view?usp=sharing
https://drive.google.com/file/d/1ShtYiQjXYCYBm4KbjDgKJPIWCz7w_GVc/view?usp=sharing