

AtomicBob's Immersion Virtualizer settings for JRiver - Sonarworks - Waves NX - EQuick

The following screenshots will provide detailed information to duplicate my Immersion Virtualizer. At this time it works best with Sennheiser HD6x0 and HD800. Note the order of plugins is important to attain highest bit depth utilization without clipping.

1. JRiver output format conversion to support single sample rate for Dante AOIP

The screenshot shows the DSP Studio interface with the 'Output Format' plugin selected. The main window displays the following settings:

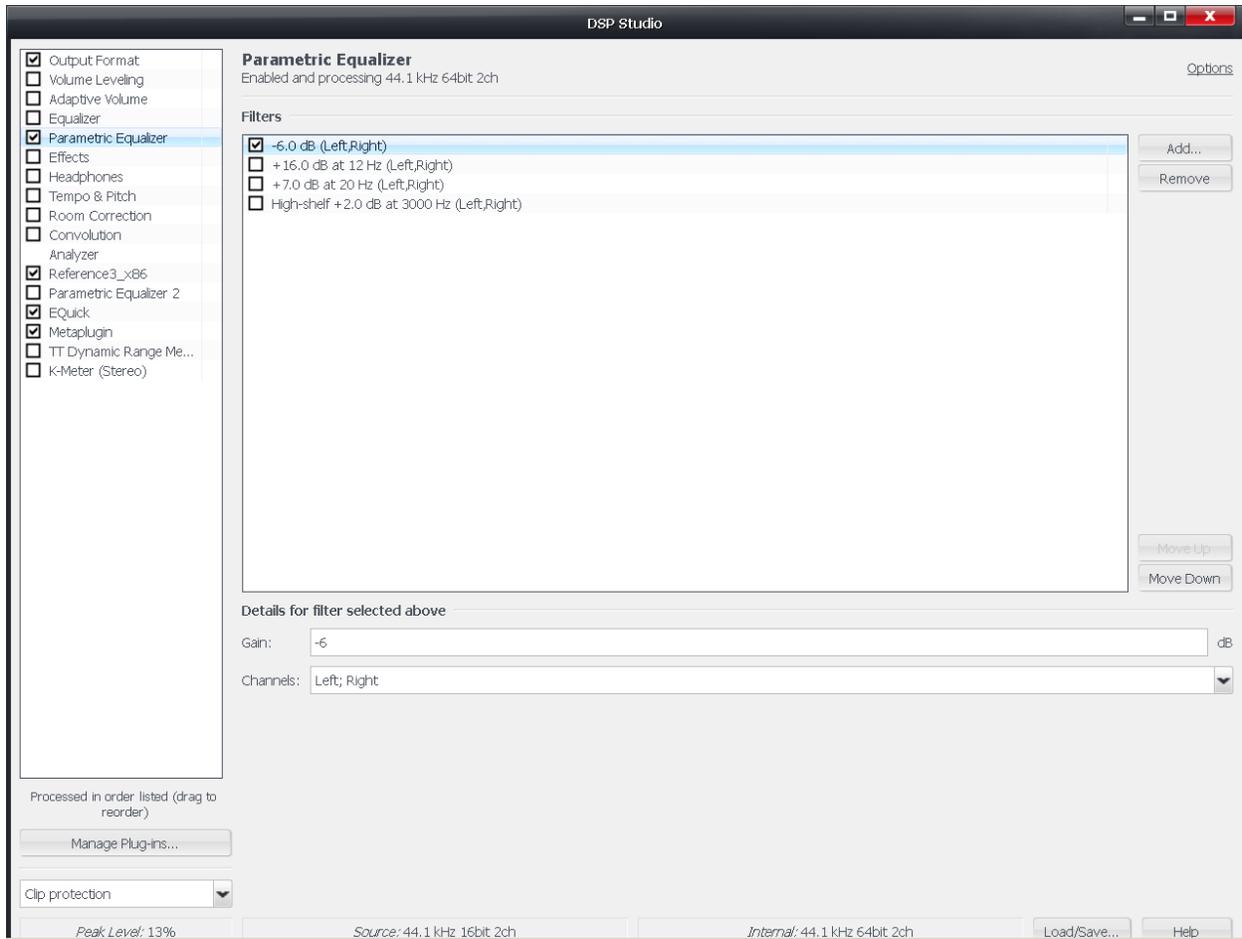
- Output Format:** Enabled and processing 44.1 kHz 64bit 2ch
- Output Encoding:** None
- Sample rate:** A table for selecting sample rates for each input sample rate. Right-click to set all at once.
- Channels:** Source number of channels
- Mixing:** JRSS™ mixing (recommended)
- Subwoofer:** JRSS Subwoofer (120 Hz low-pass)

Input	Output
Less than 44,100 Hz	44,100 Hz
44,100 Hz	No change
48,000 Hz	44,100 Hz
88,200 Hz	44,100 Hz
96,000 Hz	44,100 Hz
176,400 Hz	44,100 Hz
192,000 Hz	44,100 Hz
352,800 Hz	44,100 Hz
384,000 Hz	44,100 Hz

At the bottom of the window, the status bar shows: Peak Level: 10%, Source: 44.1 kHz 16bit 2ch, Internal: 44.1 kHz 64bit 2ch, and buttons for Load/Save... and Help.

AtomicBob's Immersion Virtualizer settings for JRiver - Sonarworks - Waves NX - EQuick

2. 6 dB attenuation to leave necessary headroom in the subsequent stages



AtomicBob's Immersion Virtualizer settings for JRiver - Sonarworks - Waves NX - EQuick

3. Use unlimited Low Frequency version of Sonarworks compensation and attenuate output 6 dB. Dry / Wet set for 75% Wet. Ask Sonarworks to link these extra profiles to your license.
 - a. HD800: AB000B.swhp,
 - b. HD650: Sennheiser HD650 No limits.swhp
 - c. HD600: Sennheiser HD600 No limits.swhp

The screenshot displays the DSP Studio interface for the Reference3_x86 plugin. The main window shows the 'Reference3' plugin settings, including a frequency response graph and various control options.

Reference3_x86
Enabled and processing 44.1 kHz 64bit 2ch

Program: default [Load] [Save]

sonarworks Reference 3 Headphone plugin [INDIVIDUAL] Sennheiser HD650 AB967B Robe... [Mute]

INPUT [L] [R] [dB]

FREQUENCY RESPONSE CURVES

Target [●] After [L] After [R] Add [v]

OUTPUT [L] [R] [dB]

AVOID CLIPPING [●] -6.1

[Calibrate] [Simulate] [Advanced]

SELECT YOUR REFERENCE CURVE: Flat, Custom 2dB Bass -2dB Tilt, Predefined

Sample rate 44100 Hz Latency L 20.41 R 20.41 ms MONO MONITORING [●]

Processed in order listed (drag to reorder)

Manage Plug-ins...

Clip protection [v]

Peak Level: 3% Source: 44.1 kHz 16bit 2ch Internal: 44.1 kHz 64bit 2ch [Load/Save...] [Help]

AtomicBob's Immersion Virtualizer settings for JRiver - Sonarworks - Waves NX - EQuick

d. Use Mixed filter setting.

The screenshot displays the DSP Studio interface for the Reference3_x86 plugin. The left sidebar shows a list of plugins, with Reference3_x86 selected. The main window features a frequency response graph with input and output meters. The filter phase type is set to 'Mixed', and the latency is 20.41ms for both channels. The sample rate is 44100 Hz.

Reference3_x86
Enabled and processing 44.1 kHz 64bit 2ch

Program: default

INPUT: -10.9 (L), -18.7 (R)

FREQUENCY RESPONSE CURVES: Target, After, Phase L, Phase R, Add

OUTPUT: -6.1 (L), -6.1 (R)

Filter Phase Type: Min, Mixed, Linear

Latency: L 20.41ms 900 samples, R 20.41ms 900 samples

Sample rate: 44100 Hz, Latency: L 20.41 R 20.41 ms

MONO MONITORING: OFF

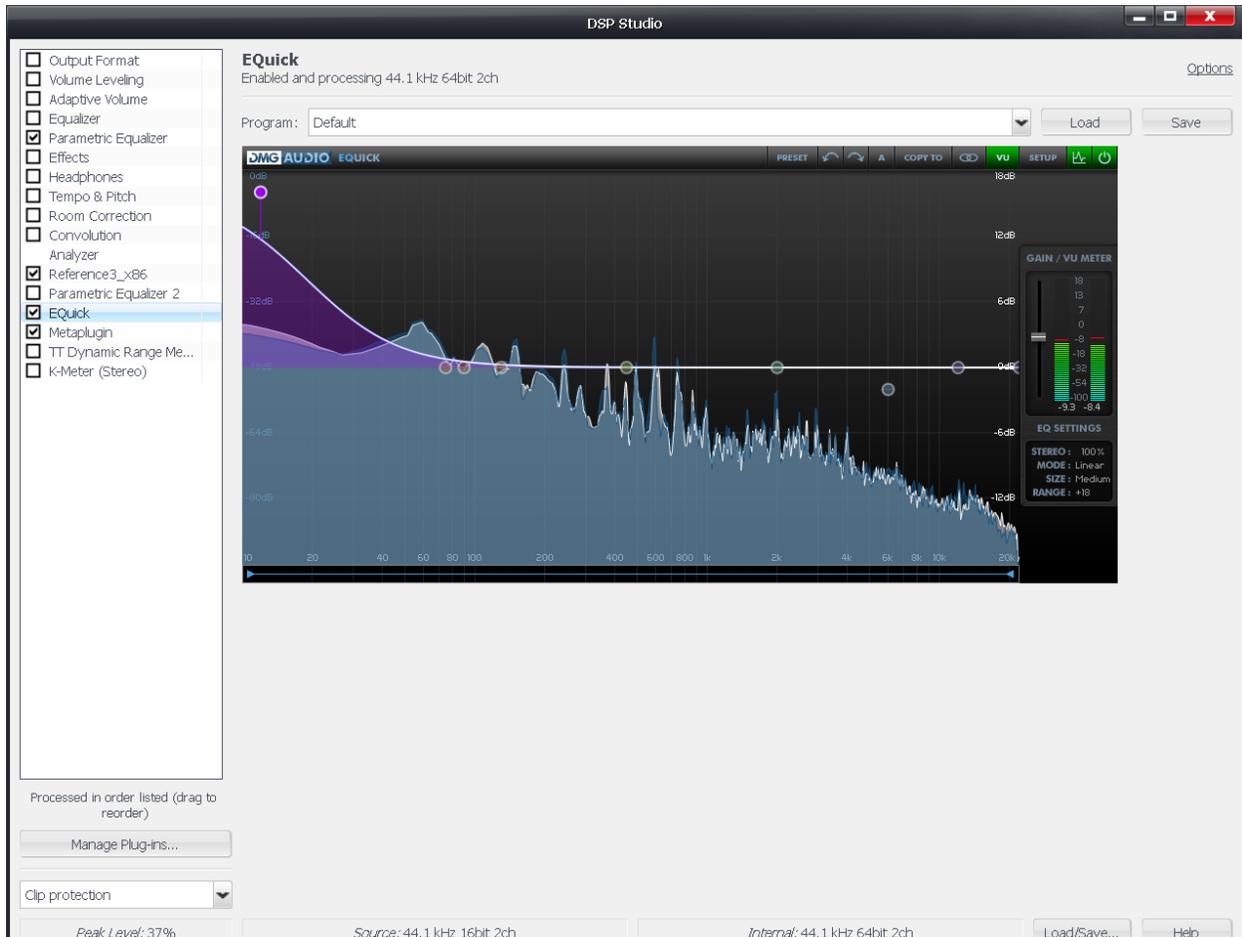
AtomicBob's Immersion Virtualizer settings for JRiver - Sonarworks - Waves NX - EQuick

e. Set Bass boost for +2 and Tilt for -2.

The screenshot displays the DSP Studio interface for the Reference3_x86 plugin. The main window shows a frequency response graph with 'INPUT' and 'OUTPUT' level meters on either side. Below the graph, there are sliders for 'Bass Boost' (set to 2.0) and 'Tilt' (set to -2.0). The left sidebar contains a list of DSP plugins, with 'Reference3_x86' highlighted. The top of the window shows the plugin name 'Reference3_x86' and its status 'Enabled and processing 44.1 kHz 64bit 2ch'. The bottom of the window shows a 'Clp protection' dropdown menu.

AtomicBob's Immersion Virtualizer settings for JRiver - Sonarworks - Waves NX - EQuick

- f. Headphone Sub Frequency Enhancement: DMG Audio EQuick low frequency shelf set for 12 Hz, +16 dB, Q: 0.55, 0%. Alternatively, but doesn't cost anything, a less effective sub enhancement can be achieved by setting a parametric EQ in JRiver for the same parameters. It won't be as focused but it will make kick drums sound like kick drums in high quality recordings.



AtomicBob's Immersion Virtualizer settings for JRiver - Sonarworks - Waves NX - EQuick

g. Waves NX followed by Flipper in DDMF

The screenshot shows the DSP Studio interface with the Metaplugin window open. The window title is "Metaplugin" and it indicates "Enabled and processing 44.1 kHz 64bit 2ch". The program is set to "Unnamed Slot (0)".

The DSP chain is visualized as follows:

- 3: Midi Input (top left)
- 1: Audio Input (top right)
- 11: Waves NX (center)
- 10: Flipper (center)
- 4: Midi Output (bottom left)
- 2: Audio Output (bottom right)

The text "DDMF Metaplugin" is overlaid in red on the chain diagram. The signal flow is from Audio Input to Waves NX, then to Flipper, and finally to Audio Output. Midi Input and Output are also shown.

On the left side, a list of plugins is visible, with "Metaplugin" selected. The list includes:

- Output Format
- Volume Leveling
- Adaptive Volume
- Equalizer
- Parametric Equalizer
- Effects
- Headphones
- Tempo & Pitch
- Room Correction
- Convolution
- Analyzer
- Reference3_xB6
- Parametric Equalizer 2
- EQuick
- Metaplugin
- TT Dynamic Range Me...
- K-Meter (Stereo)

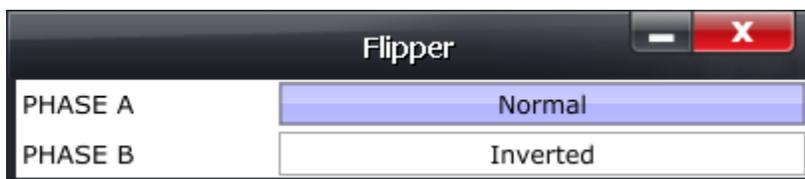
At the bottom, the status bar shows "Peak Level: 14%", "Source: 44.1 kHz 16bit 2ch", and "Internal: 44.1 kHz 64bit 2ch".

AtomicBob's Immersion Virtualizer settings for JRiver - Sonarworks - Waves NX - EQuick

- h. Head modeling adjusted as describe in the NX manual. Start with factory default Room Ambience of 25 and Speaker Position of 60. Head tracker OFF.



- i. If using Polarity Reverse cable then reverse phase for channel B (right). This creates a pseudo balanced utilization of component power supplies and ground. A 4-wire cable with right channel reverse wired and 4 wire all the way to the headphone drivers is required after the headphone output. Do NOT use with 3-wire headphone connection. The result is less smearing of the low frequencies.



AtomicBob's Immersion Virtualizer settings for JRiver - Sonarworks - Waves NX - EQuick

- j. K-meter is useful for gain staging to attain optimum bit depth utilization. Set display for Normal, RMS, and Peak to see absolute peak dBFS.

The screenshot shows the DSP Studio interface with the K-Meter (Stereo) plugin active. The left sidebar lists various processing options, with 'K-Meter (Stereo)' checked. The main window displays the K-Meter's controls and a level meter. The level meter shows a peak level of -5.9 dBFS and a True RMS level of -5.6 dBFS. The 'Normal' mode is selected, and the 'RMS' button is highlighted. The status bar at the bottom indicates a Peak Level of 35%, Source of 44.1 kHz 16bit 2ch, and Internal of 44.1 kHz 64bit 2ch.

K-Meter (Stereo)
Enabled and processing 44.1 kHz 64bit 2ch

Program: [Dropdown] [Load] [Save]

0 Over 0 K-20
-5.6 True -5.0 K-14
-5.9 Peak -6.0 K-12
Normal
0
-4
-8
-12
-16
-20
-24
-28
-32
-36
-40
-44
-48
-52
-56
-60
-64
-68
-72
-76
-80
-84
-88
-92
-96
dB | dB
L R
0 0 +1

Options

Processed in order listed (drag to reorder)

Manage Plugins...

Clip protection [Dropdown]

Peak Level: 35% Source: 44.1 kHz 16bit 2ch Internal: 44.1 kHz 64bit 2ch Load/Save... Help