HydOS vs stock: measured

Fosi DAP Neo · HydOS 0.56.0 vs stock V1.6.1 · measured 19 November 2026 on the same player, same output, same level

> HydOS is written from scratch, down to the code that feeds the DAC, so we measured it against Fosi's stock firmware on the same player, with the same files, output and level, instead of asking you to take its sound on trust. The results are published in full, including where the hardware falls short.

Gapless playback by format

TEST ALBUM	HYDOS 0.56.0	STOCK V1.6.1
FLAC 44.1k/16, 96k/24, 192k/24	Gapless	Partly 6 of 10 joins exact, the rest off by 0.4–12 ms
WAV 44.1k/16, 96k/24	Gapless	Gaps 0.28–0.55 s silence at each join
AIFF 44.1k/24	Gapless	Not shown files aren't listed
ALAC 44.1k/16, 96k/24, 192k/24	Gapless	Gaps 0.28–0.55 s
MP3 (VBR, CBR 320)	Gapless delay and padding trimmed	Gaps 0.28–0.55 s
AAC (M4A)	Gapless delay and padding trimmed	Gaps 0.28–0.55 s
Ogg Vorbis	Gapless	Unsupported player says "not supported"
Opus	Gapless	Not shown files aren't listed
DSD64/128, DSF and DFF	Gapless	Gaps 0.28–0.55 s
Mixed-format albums, 44.1k–192k	Gapless across every format change	Gaps 0.28–0.55 s
One file + CUE sheet	Gapless	No CUE support
Sample-rate change mid-album	Your choice **Convert**: no gap. **Switch**: bit-perfect, brief pause	Not measured

Audio quality: HydOS vs stock

44.1 KHZ, HEADPHONE OUT, HIGH GAIN	HYDOS	STOCK
Noise, A-weighted (L/R)	–92.4 / –92.6 dBFS	–92.4 / –92.6 dBFS
Dynamic range, A-weighted	84.6 dB	84.6 dB
THD+N, 1 kHz at –6 dBFS	–50.4 dB	–50.4 dB
THD+N, 100 Hz to 10 kHz	–50.7 to –50.8 dB	–50.7 to –50.8 dB
IMD, SMPTE 60 Hz + 7 kHz	–43.6 dB	–43.6 dB
Crosstalk L→R / R→L, 1 kHz	–80.7 / –98.9 dB	–80.7 / –98.2 dB
Response, 20 Hz to 20 kHz	0.21 dB spread	0.21 dB spread

Levels matched within 0.03 dB. Figures include the audio interface: a comparison, not an absolute spec. The distortion (mostly 2nd harmonic) is identical on both, so it is the hardware. HydOS measures the same at 96k and 192k.

Also verified on HydOS

Long playback	No dropouts: 5 min at 44.1k, 2 min at 192k, browsing menus	**ReplayGain**	Track and album gain within 0.01 dB
Track start	First note plays in full, even right after 192k	**DAC filters**	Five filters measured, fast/slow, min/linear phase, NOS

How it was measured

Every gapless test album plays one continuous 997 Hz tone cut into tracks at arbitrary points. The player's headphone output was recorded with a Behringer UMC202HD at 192 kHz/24-bit. At each join the tone's phase just before and just after was compared, giving the time slip in samples. A join passes when it slips less than ¼ sample, the level steps less than 0.1 dB, and there's no click or burst. Every HydOS album's total length also matched the files within 0.06 ms. Stock played the same files, reordered on the card because it plays in write order, not by name.

HydOS is independent firmware for the Fosi DAP Neo and is not affiliated with Fosi Audio. Results are for one unit and one test rig. MP2 is left out of the gapless test: the format records no encoder delay, so no player can make it gapless.