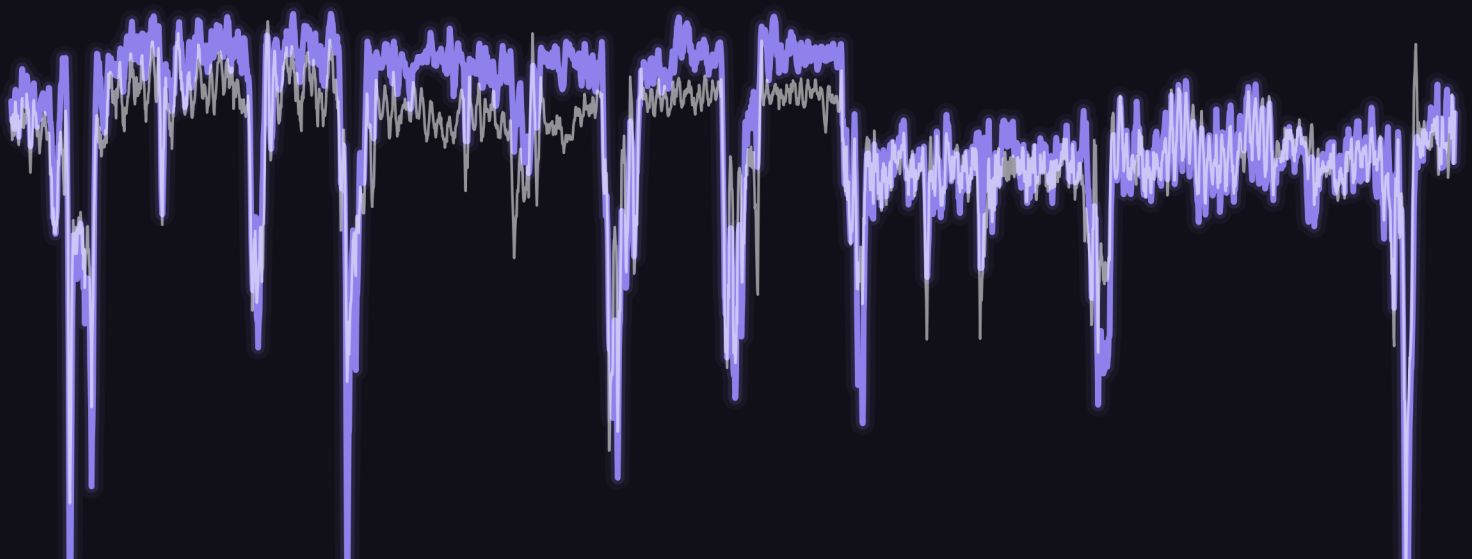


A MEASURED COMPARISON / ONE HOUR OF REAL RADIO

All the sound. None of the rack.



NG Processor and a flagship hardware broadcast processor with a price tag of around EUR 15K, fed the same hour of programme and measured sample by sample against the untouched source.

One hour. Same programme. Here is how it measured.

0

clipped samples in the entire hour. The hardware processor: 149.

-52%

fewer blocks with true peaks above 0 dBTP – cleaner input for every codec.

-9.1

LUFS integrated loudness for both. Same loudness, level for level.

96%

of the hour within 1 dB of the hardware processor, moment by moment.

8 / 9

frequency bands within 0.5 dB of the hardware processor's sonic signature.

+24%

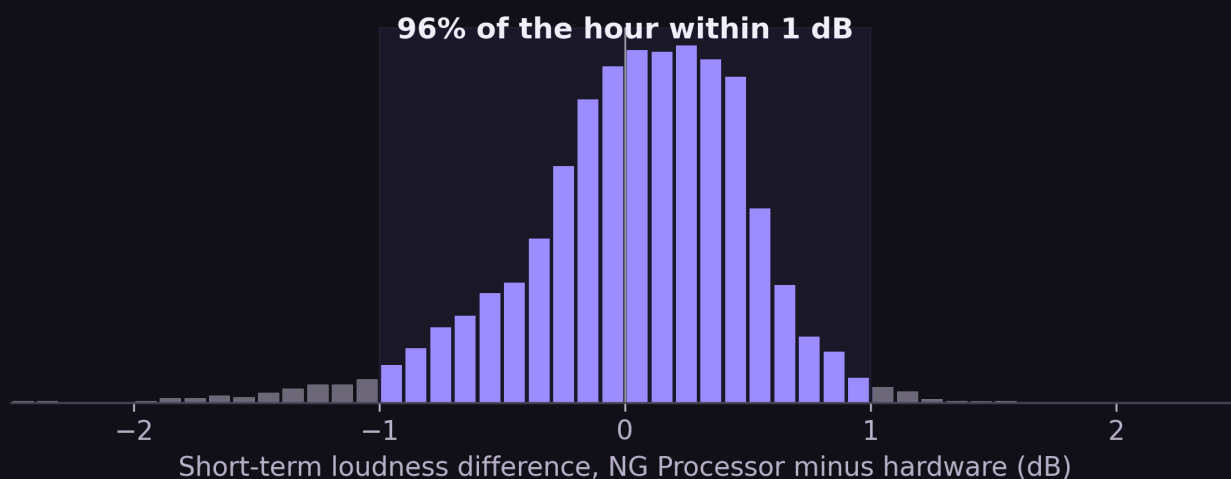
more of each record's own character kept in the 2.5–6 kHz presence region.

All figures are one-hour averages from the same recording chain. Method and definitions on the last page.

LOUDNESS

Level for level.

Both processors lift the source by just over 3 dB and hold it there. Across the hour, NG Processor and the hardware processor land on the same integrated loudness, and moment by moment they stay together: the average difference is 0.03 dB, and for 96% of the hour the two are within 1 dB of each other.



-9.1 LUFS

Integrated loudness, NG Processor (EBU R128).

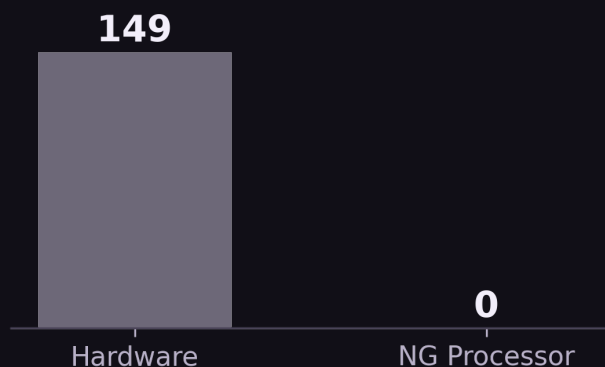
-9.1 LUFS

Integrated loudness, hardware processor (EBU R128).

Loud to the ceiling. Never over it.

At the same loudness, the difference is in what happens at the top. NG Processor ends in a look-ahead true-peak limiter: across the entire hour, not a single sample reached full scale, and the share of measurement blocks with inter-sample peaks above 0 dBTP was roughly half that of the hardware processor. For AAC, MP3 and DAB+ that means less work for the encoder and less risk of audible codec overload.

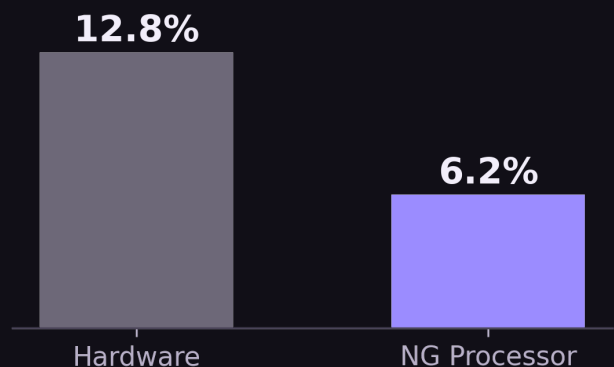
Clipped samples



0

clipped samples. Hardware processor: 149.

Blocks with true peaks above 0 dBTP

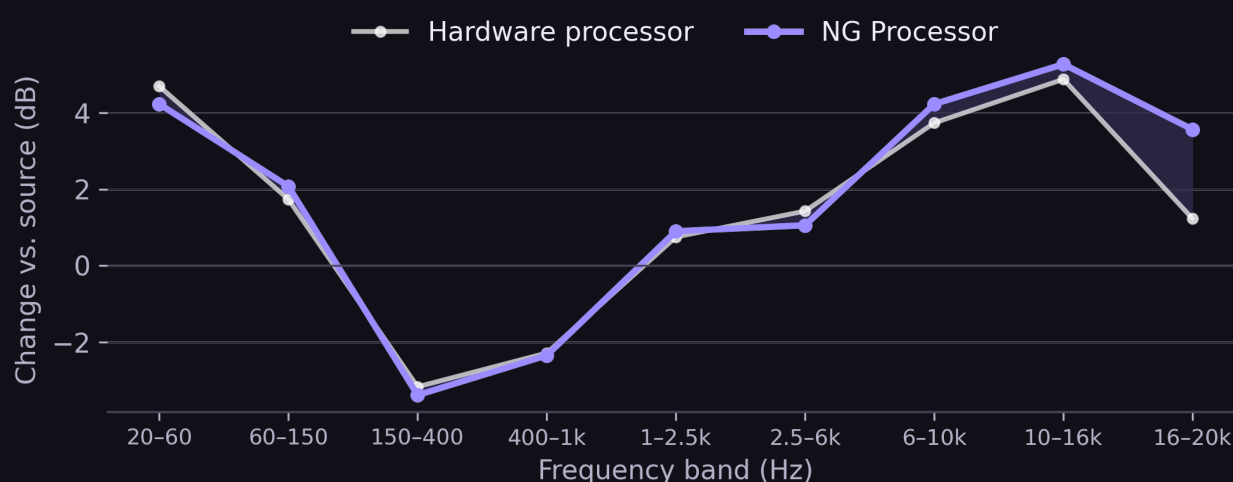


6.2%

of blocks above 0 dBTP. Hardware processor: 12.8%.

The same sonic signature.

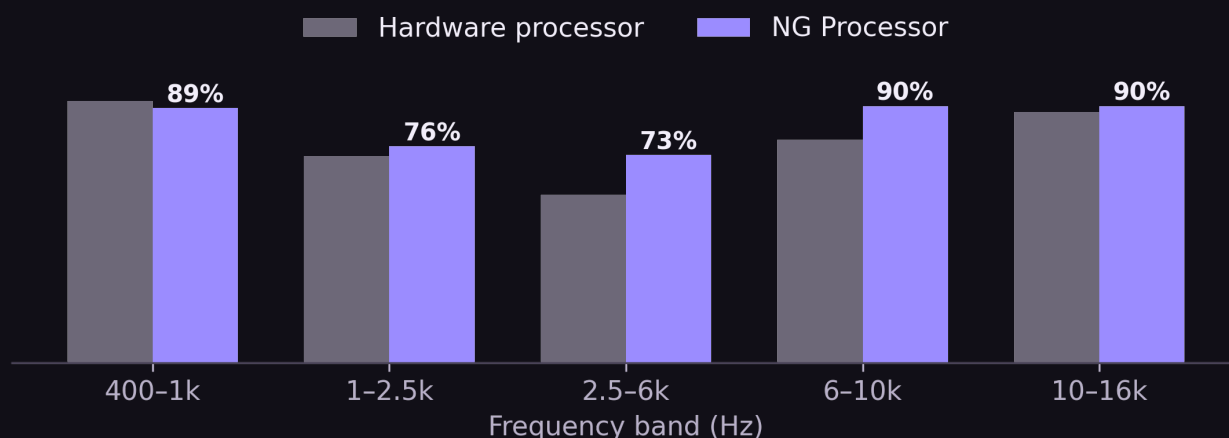
How much each processor adds or takes away per frequency band, relative to the source. The two curves follow the same shape - deep bass up, low-mids tidied, an open top - and in eight of nine bands NG Processor lands within 0.5 dB of the hardware processor. Above 16 kHz it leaves a little more air.



CHARACTER

...and more of every record.

A processor can push every record towards one sound, or let each keep its own colour. In the mid and presence bands, where voices and instruments carry their identity, NG Processor keeps more of what makes a record that record.



Five seconds ahead.

A hardware processor can only react to what just happened. NG Processor's Predictive engine hears the programme five seconds before it goes to air: it knows a fade is a fade and a hard cut is a hard cut, and plans its gain moves to the sample before the audio reaches the processing chain. It runs as software on a Windows PC - no rack, no fan, no service contract.

5 s

of look-ahead in the Predictive engine.

+1.1 dB

stereo widening vs. source (hardware: +0.9 dB).

11.5 dB

average crest factor (hardware: 11.4 dB, source: 12.2 dB).

How we measured

One hour of real radio programme at 44.1 kHz / 16-bit stereo, recorded as FLAC three times: the untouched source, the output of a flagship hardware broadcast processor (price tag of around EUR 15K), and the output of NG Processor 1.0 with its Predictive engine. Both outputs were aligned to the source sample by sample.

Analysis in 400 ms blocks: K-weighted loudness (ITU-R BS.1770), sample peak and 4x-oversampled true peak (block-based; suited to comparing the two processors, not as an absolute count), crest factor, spectral balance in nine bands, stereo correlation and side-channel level. Integrated loudness per EBU R128. "Character kept" is the slope of each record's spectral deviation in the output against the source, per band (100% = fully kept).

Results apply to this programme, these settings and this recording chain. The hardware processor holds short-term loudness somewhat tighter (0.75 against 1.05 LU standard deviation); NG Processor leaves the programme a little more room to breathe. No listening panel was used; all statements are based on measurements.