

jünger

COMPRESSOR & EXPANDER

WHITE PAPER



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JÜNGER AUDIO'S COMPRESSOR & EXPANDER

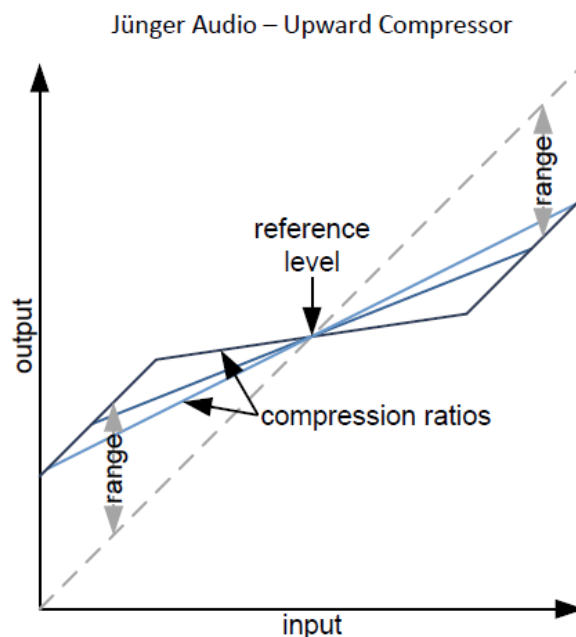
Compression is applied to reduce the dynamic range of an input signal to match the dynamic range of a storage medium, transmission system, and/or listening environment. Typical approaches to this task often result in audible artifacts and lack transparent performance. The Jünger approach on dynamic processing offers an inaudible, transparent and nonetheless effective solution.

In a Jünger system, compression of the program signal can either affect the entire input level range (classic Jünger Upward Compressor design), or only the level range above a certain threshold level (Jünger Downward Compressor).

UPWARD COMPRESSOR

(as used in a wide range of products from Do2 to D*AP)

Compression is achieved by increasing the level of low level signals. The lower the input signal level, the higher the additional gain applied by the compressor. The amount of amplification is depending on the compression ratio. As the level of the input signal rises, the amount of gain applied is reduced. When set to a reference level below 0 dBFS, the compression curve features a 'turning point'. Signal levels below this point are amplified, signals above are attenuated. new module combines powerful, compact processing with an efficiency and flexibility never before seen. Designed for extremely compact multi-stream systems, these modules will add all the processing you need for efficient loudness management with the smallest footprint available today.



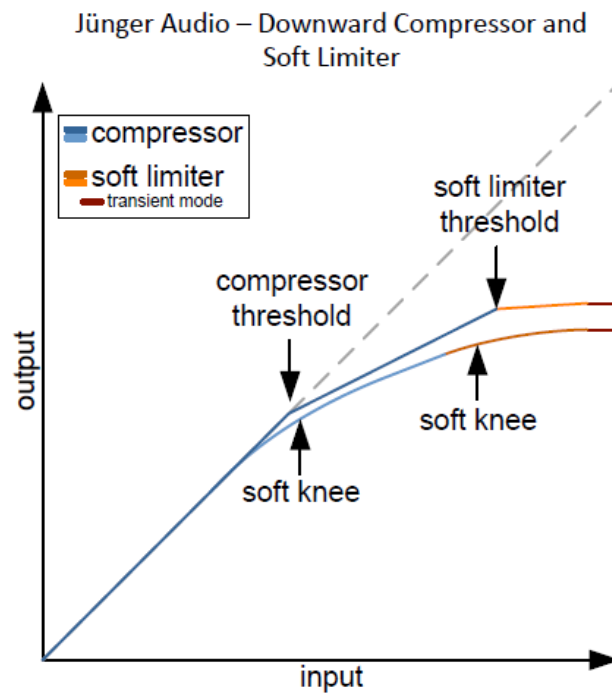
Microdynamic structures are maintained over the entire range of the input signal level. Even after compression the transients remain preserved. Although producing an output signal that is condensed in technical terms, the Jünger compression algorithm leaves a transparent, seemingly uncompressed sound impression.

The maximum gain change of the compressor (called 'range') can be limited from 0 dB to 20 dB. This is especially useful to prevent an unacceptable increase in background noise.

DOWNWARD COMPRESSOR

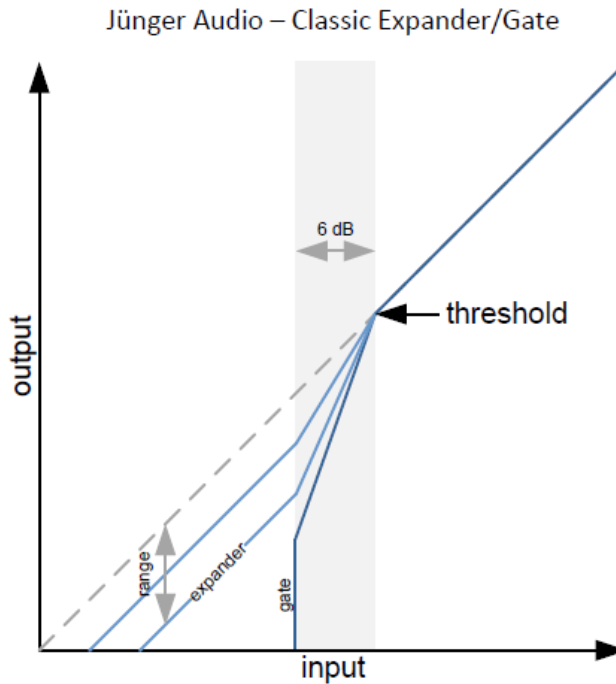
(as used in the D*AP and newer product lines)

With the new D*AP4 VAP EDITION, Jünger introduced an alternative compression scheme, based on a threshold dependent design. Signal levels above threshold are reduced, signals below remain untouched. The amount of gain reduction follows a selectable ratio. Upward and Downward Compressors feature the same adaptive technology, adjusting all timing parameters automatically to the incoming signal.

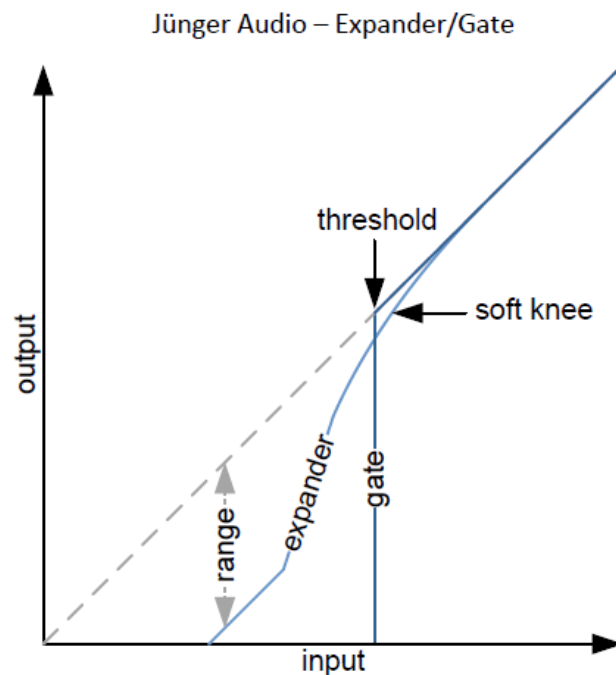


EXPANDER AND GATE

To help eliminating unwanted low level noise (air-conditioning, hum, noise), a Jünger Expander or Gate can be used. The Jünger Expander attenuates the level of the incoming signal below a certain threshold. Maximum attenuation can be limited by a range parameter. Alternatively switching the system to Gate mode will bring down the levels to full reduction (mute). Jünger features two different Expander processors. The newer design is even more flexible, although both systems produce very natural results without disturbing artifacts.



In the older design, downward expansion is increased over a level range of 6 dB. All signals below this range are attenuated by the range value.



With the newer design, attenuation is applied using a configurable ratio.

About Jünger Audio

Established in Berlin in 1990, Jünger Audio specializes in the design and manufacture of highest quality digital audio dynamics processors. Jünger Audio has developed a unique range of digital processors that are designed to meet the precise needs of the professional audio market. All Jünger Audio products are easy to operate and are developed and manufactured in-house, ensuring that the highest standards are maintained throughout. Jünger Audio's customers includes the world's top radio and TV broadcasters, IPTV providers, music recording studios and audio post production facilities.

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