

Compressors/Limiters

500 SERIES COMPRESSOR LIMITER 522

500 Series Compressor/Limiter with
Dynamic Presence Control

- Compact 500 Series premium compressor/limiter with dynamic presence control
- Fully variable dynamic presence feature preserves high mid-range frequencies for a more natural sound during compression
- Dynamic presence control adds “air” to vocals without introducing noise or pumping effects and reduces the risk of feedback during live performances
- Manual envelope controls with linear peak-sensing compression or easy to use Auto mode with RMS compression
- Soft or hard knee compressor response with selection switch
- Sidechain high pass filter with selection switch eliminates undesirable low frequency compression artefacts
- High performance electronically balanced input stage with high common-mode rejection
- Discrete transistor driven transformer balanced output stage
- Precision gain reduction and signal level metering
- True hardware bypass selection switch removes all circuitry from the signal path when compression is not required



The COMPRESSOR LIMITER 522 brings state of the industry dynamics control to a compact 500 Series format processor that is good enough to wear the MIDAS name. When used in conjunction with the LEGEND L10, L6, or other standard 500 Series rackmount chassis, the 522 provides the ideal solution for users seeking the legendary MIDAS sound in a modular format that boasts upgraded, premium-quality performance. Additionally, the 522's dynamic Presence control enables operators to add “air” to vocals without the unwanted noise or pumping effects found in competing products – and reduces the risk of feedback occurrence during live performance.



Importance of Dynamics

Dynamics play a major role in music; they help to convey emotion, whether it's a sultry blues guitar solo, a vocalist belting out his/her message – or the punchy impact of a bass guitar or kick drum. Those dynamics are the essence of a natural sounding performance; it is what makes music interesting. But out of control dynamics can instantly mar an otherwise perfect performance. That is where compression comes to the rescue – softening loud sounds and boosting low signal levels that can often get lost in the mix. The resulting compressed signal creates a much more dense, impactful sound with richness and room for subtle nuances to come through.

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- Power up mute relays prevent switch on thumps
- Premium quality components throughout for a crystal-clear audiophile signal path
- 10-Year Warranty Program*
- Designed and engineered in the U.K.

Variable Dynamics & “Air”

The range of mid-high audio frequencies (centered around 5 kHz) can be boosted to increase the sense of presence of vocals and solo instruments. As 522's Presence control is adjusted above minimum, those mid-high frequencies are increasingly boosted during compression, allowing a sound or instrument to cut through or seem more present in the mix. This variable presence function enables the 522 to effectively operate with two different ratios, one for low frequencies (LF) and the other for mid-high frequencies (reduced ratio). The primary effects are: heavy compression and dynamic control can be applied without sounding unnatural; and the reduced compression in the human ear's most sensitive range makes the material sound brighter. However, since high frequency (HF) make up gain is not required, unwanted noise, pumping, and howl-round during quiet passages are all greatly reduced.



Manual or Auto Modes

When operating in its default mode (Auto switch not engaged) the 522 functions as a peak-sensing compressor, providing tight peak control via instantaneous changes in gain reduction, which produces more obvious compression. This allows the operator to manually adjust the compressor attack and release times so that the compressor operates in peak mode with linear attack curves. When the Auto switch is engaged, the manual attack and release controls are bypassed and the compressor operates in RMS mode, automatically adjusting the attack and release based on the averaged input signal and

the threshold/ratio settings. This produces a smooth, more relaxed compression that is perceived as more musical and natural sounding.

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Soft or Hard Knee

Another element that affects how natural the output sounds when compressed is how the signal is addressed at and around the knee, or threshold point. By default the 522 is set to Soft knee compression (switch out), which tends to sound more natural as it blurs the distinction between over and under threshold signals, leaving signals below threshold unaffected, while signals just over threshold get compressed at greatly reduced ratios. Only at the point where the signal level rises significantly above the threshold is full-ratio compression applied. This performance is similar to that of many vintage compressors due to non-linearities in gain reduction. When the Hard knee switch is activated, the 522 operates in a more surgical fashion with a more sharply defined transition between under and over threshold, making it ideal for limiting style compression. In this mode a small amount of Soft knee is retained to keep the sound reasonably natural.

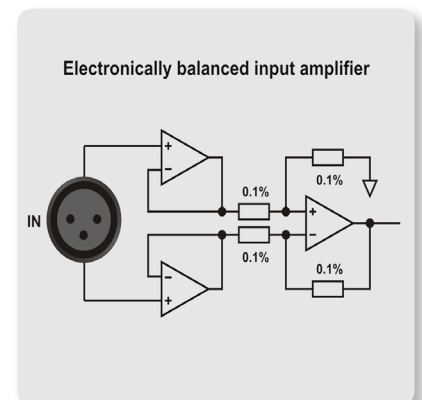


Sidechain HPF

COMPRESSOR LIMITER 522's Sidechain high pass filter (HPF) switch lets you insert a 200 Hz HPF into the compressor side chain, which keeps LF signals from dominating overall signal compression – and effectively eliminates the unwanted artefacts and pumping effects on higher frequencies.

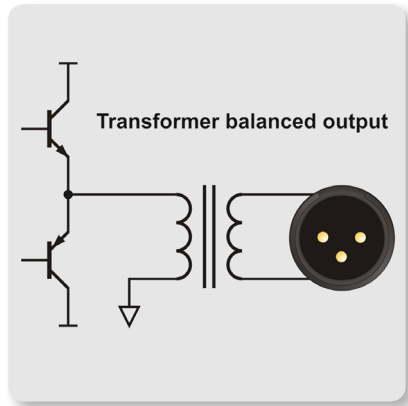
High Performance Balanced Input Stage

Decades of experience, paired with the premium-grade components that make up every input stage we build, ensures the ultimate in signal integrity that is the very foundation of our design process. That warm and organic MIDAS sound has been heard by millions of concert goers – and recorded for posterity on countless live albums. The input stage of the 522 is second to none with its low noise performance, which boasts an enviable Common Mode Rejection Ratio (CMRR) of -70 dB @ 1 kHz.



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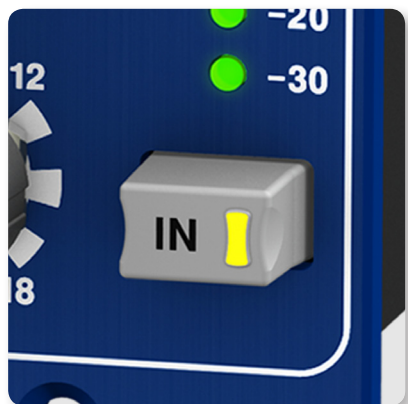


Transistor Driven Transformer Balanced Output

The output stage of any audio processor is the most critical when it comes to maintaining signal integrity, so the 522 utilises discrete bipolar transistors for both their low distortion and noise characteristics. To finalise the balanced output, a premium quality transformer is employed in order to minimize distortion and maximize clean headroom. 522's transformer also provides galvanic isolation and generates a more vintage sound, and becomes saturated at lower frequencies to add colour when driven hard.

Precision Metering

The COMPRESSOR LIMITER 522 provides at-a-glance metering with LED stacks that display Gain Reduction and Level independently of each other. The 6 segment Level meter reads from -30 dBu to +20 dBu in 10 dB steps, while the 10 segment Gain Reduction meter reads from -2 dB to -20 dB in 2 dB steps.



True Hardware Bypass & Power Up Mute

For those occasions when compression is not needed, 522's IN switch can be disengaged to remove all circuitry from the signal path via true hardware relay bypass. Additionally, true bypass mode engages should the chassis become accidentally powered down.

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You Are Covered

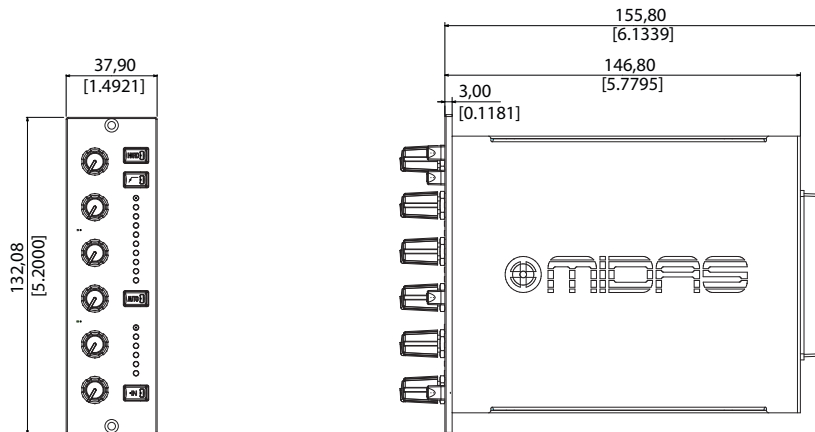
We always strive to provide the best possible Customer Experience. Our products are made in our own [MUSIC Tribe](#) factory using state-of-the-art automation, enhanced production workflows and quality assurance labs with the most sophisticated test equipment available in the world. As a result, we have one of the lowest product failure rates in the industry, and we confidently back it up with a generous [Warranty program](#).



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Dimensions



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Technical Specifications

Controls

Threshold	-50 dBu to +25 dBu knob
Ratio	1:1 to ∞ knob
Attack	0.1 ms to 20 ms knob
Release	50 ms to 2 seconds knob
Presence	Minimum to maximum knob
Makeup gain	0 dB to +18 dB knob
Hard knee/soft knee	Switch
Sidechain high pass filter	Switch
Automatic attack and release	Switch
Compressor in	Switch

Input and Output

Input	Mono, balanced line
Output	Mono, balanced via transformer

System

Noise at unity gain	-95 dBu (22 Hz - 22 kHz)
CMRR, unity gain, 1 kHz	-70 dB (typical)
Input impedance, 1 kHz	20 k Ω
Frequency response, unity gain	20 Hz - 20 kHz, +/- 0.5 dB
Distortion, unity gain, 1 kHz	
0 dBu	<0.01%
+10 dBu	<0.1%
+20 dBu	<0.5%

Maximum input level, 1 kHz	+21 dBu
Maximum output level, 1 kHz	+21 dBu
Output impedance, 1 kHz	50 Ω
Threshold range	-50 dBu to +25 dBu knob
Ratio	1:1 to ∞
Attack	0.1 ms to 20 ms
Release	50 ms to 2 seconds
Presence	Minimum (fl at) to maximum (typically -3 dB below the source signal level, during gain reduction)
Presence centre frequency	5 kHz, bandwidth typically 4 octaves
Make up gain	0 dB to +18 dB
Gain reduction meter	10 segment, 2 dB to 20 dB in 2 dB steps
Output level meter	6 segment, -30 dBu to +20 dBu in 10 dB steps
Side chain high pass filter	200 Hz, 12 dB per octave

Power Requirements

Voltage	+16 V and -16 V
Power consumption	130 mA, 4.2 W

Physical

Dimensions (H x W x D)	132 x 38 x 174 mm (5.2 x 1.5 x 6.9")
Weight	0.7 kg (1.5 lbs)

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Architecture & Engineering Specifications

The Midas 522 module shall provide a single channel compressor/limiter in a standard format 500 series single width module.

The 522 module shall provide a fully variable threshold control with a range of -50 dBu to +25 dBu.

The 522 module shall provide a fully variable ratio control with a range of 1:1 to infinity.

The 522 module shall provide a fully variable attack control with a range of 0.1 ms to 20 ms.

The 522 module shall provide a fully variable release control with a range of 50 ms to 2 s.

The 522 module shall provide a fully variable dynamic presence control with a range from a flat response to a maximum of 3 dB below the current input signal level. The presence control shall only provide boost during gain reduction. The presence control shall have a centre frequency of 5 kHz and a bandwidth of typically 4 octaves.

The 522 module shall provide a fully variable make up gain control with a range of 0 dB to +18 dB.

The 522 module shall provide a hard knee pushbutton switch to select between soft and hard knee compression modes.

The 522 module shall provide a side chain high pass filter in pushbutton switch to enable the 200 Hz, 12 dB per octave side chain filter.

The 522 module shall provide an auto switch to enable automatic program dependant attack and release.

The 522 module shall provide a compressor in pushbutton switch to enable or bypass the compressor/limiter.
In the event of power loss true hardware bypass shall be enabled.

The 522 module shall provide a 10 segment gain reduction meter with a range from 2 dB to 20 dB in 2 dB steps.

The 522 module shall provide a 6 segment output level meter with a range from -30 dB to +20 dB in 10 dB steps.

The 522 module shall not provide a compressor link or external key function.

The 522 module shall provide power up relays to prevent switch on thumps at the output.

The 522 module shall provide an electronically balanced audio input with an impedance of 20 k Ω connected to a standard 500 series rack via the modules 15 pin edge connector.

The 522 module shall provide a transformer balanced audio output with an impedance of 50 Ω connected to a standard 500 series rack via the modules 15 pin edge connector.

The 522 module shall be powered from a standard 500 series rack unit and requires +/- 16 VDC @ 130mA.

The 522 module dimensions shall be 132 mm high x 38 mm wide x 174 mm deep (5.2 x 1.5 x 6.9"). The nominal weight shall be 0.7 kg (1.5 lbs).

The Compressor/limiter shall be the Midas model 522, and no other alternative shall be acceptable.

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