

Maag MAGNUM-K

Plugin Manual



Developed by Brainworx Audio in partnership with maag Audio distributed by Plugin Alliance





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Introduction

The Maag Audio MAGNUM-K™ is a Compressor built to complement the audio engineer's craft in a very big and impactful way. The MAGNUM-K is comprised of two compressor sections (**MAGNUM COMP** and **K COMP**), a very musical **Parallel EQ** (with LMF and AIR BAND®), and a **Soft Limit** (soft limiter).

Whether putting the finishing touches on a 2-mix or making a vocal sound bigger than life without taking your head off; the MAGNUM-K will help elevate your craft to a whole new level. Welcome to compression nirvana and sonic bliss. Welcome to the Maag Audio MAGNUM-K Compressor where **BIGGER SOUND**, **QUICKER WORKFLOW**, and **OUTSTANDING CONTROL** were designed to elevate your craft.

BIGGER SOUND

The MAGNUM-K Compressor helps quieter sonic signatures become as big as you want them to be while simultaneously reigning in those louder, more dominant tones.

QUICKER WORKFLOW

Tuning a MAGNUM-K Compressor is quick and easy, reducing your overall workflow time.

OUTSTANDING CONTROL

The MAGNUM-K offers outstanding control from its transparent **INPUT ATTN** (attenuator) and **INPUT GAIN** controls, to its **SIDECHAIN** capabilities and **MAKE UP GAIN**. Controls are stepped (detented) to allow for easy recallable settings and channel matching.



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Cliff's NOTES

The MAGNUM-K is Maag Audio's 8-Function channel that controls gain and shapes tone like no other product on the planet. It is used for Tracking, Mixing, Live Sound, and Mastering.

To accomplish what the MAGNUM-K does in one channel, an engineer would need the following components:

- INPUT ATTN (Input Attenuator)
- INPUT GAIN
- MAGNUM COMP (Fullband Compressor)
- SIDECHAIN Hz (Internal SIDECHAIN filter or External SIDECHAIN)
- K COMP (3 kHz Focused Compressor)
- PARALLEL EQ2 (LMF and AIR BAND)
- MAKE UP GAIN
- SOFT LIMIT (Soft Limiter)

Now multiply these components x2 to accomplish two channels... You would then need to send these connections to multiple Summing Busses in your DAW.

This is an extremely complex insert that would require many units, much thinking and routing to accomplish what the **MAGNUM-K does in ONE simple channel**. The MAGNUM-K does this work for us, giving us more time to perfect our craft and make music. The Maag Audio MAGNUM-K provides **BIGGER SOUND, QUICKER WORKFLOW,** and **OUTSTANDING CONTROL.**

-Cliff Maag Sr.



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Controls (Main Unit)

1 INPUT ATTN

The input signal can be attenuated by up to 12dB.
Reduction of the input level affects the overall response of the compressor and it has a direct impact on the level reduction.

2 PEAK

Red LED illuminates when the input signal reaches 0dBFS.

3 SIGNAL

Green LED indicates audio signal presence. Illumination starts @ -48 dFS (clearly visible @ -30 dBFS).

4 INPUT GAIN

The input signal can be boosted by up to 12dB.
Allows a low level to be boosted, making it more sensitive to compression.

i Reference Level
The internal reference level of this plugin is 18 dBu (18 dBu corresponds to 0 dBFS).

MAGNUM COMP

5 COMP RANGE

This setting allows to adjust the Compression range selection limits (4, 8, 12, or 16 dB). In combination with the RATIO this determines how much your signal is compressed. The COMP RANGE determines the maximum compression range. The higher the COMP RANGE is, the stronger the signal is compressed.

6 RATIO

Adjusts the slope of the compression (1.3:1 to 13:1). Varies with the COMP RANGE setting. While 1.3:1 result in a mild compression, settings greater than 8:1 will produce quite strongly compressed signals.

7 Blue LED

Indicates the level of compression for the MAGNUM COMP. The brighter the LED, the more compression being applied to the signal (simulating a meter).



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1 THRESHOLD

Controls the level where compression occurs. Only signals that exceed the threshold level are compressed. Signals whose level is beneath the threshold value are not processed. Turning the knob to the right adds more compression.

2 SIDECHAIN (Hz)

Internal sidechain frequency filter at 40 Hz, 80 Hz, 120 Hz, 220 Hz or External sidechain.

The sidechain filters can make the response of the compression be influenced by a given frequency range. Some call this frequency-selective compression. For instance, if the low frequencies are reduced, the compressor will not react as promptly to kick drums and bass lines.

This can prove very useful when these elements are very present in the material used. The same applies the other way around. If you increase certain frequencies, the compressor will respond more resolutely to them. The sidechain filters are only in the control signal path.

When set to EXT a sidechain signal must be provided. How this is done differs between the DAWs. Please check your DAW manual in case you are unsure.

3 ATTACK

Adjusts the attack speed of compression (5 ms to 200 ms).

Attack determines the response time of the compressor. Put simply, it is the time that the compressor needs to respond once a signal is above the threshold.

4 RELEASE

Adjusts the release speed of compression (100 ms to 1.2 s)

The counterpart of the Attack is Release. The Release parameter determines how fast the compressor eases processing the signal.

5 FB / FF

Feedback (FB) or Feedforward (FF) to select compression type.

This selects whether the control signal used for compression is taken from the input or the output of the amplification circuit.

In FF mode, compression is more aggressive.



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Tip

Compression during vocal recordings:

The attack time should not be too fast, otherwise plosives could be distorted, resulting in the vocals sounding unnatural. Many sound engineers compensate these level variations by automating the fader. The actual peaks of vocals are not at the beginning of a syllable, but rather later, when long vocals come along, which ought to be limited as well.

That is why the Attack time should be relatively slow and the Release time relatively fast.

K COMP

The K COMP is a second independent compressor located before the MAGNUM COMP in the signal chain. The K COMP is focused around 3kHz and helps you to control harsh and edgy signal components.

1 IN

Engages the K COMP compressor. Green LED indicates when the K COMP is engaged or bypassed.

2 Blue LED

Indicates the level of compression for the K COMP. The brighter the LED, the more compression being applied to the signal (simulating a meter).

3 THRESHOLD

Controls the level where compression occurs. Only signals that exceed the threshold level are compressed. Signals whose level is beneath the threshold value are not processed. Turning the knob to the right adds more compression.



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Parallel EQ2

The PARALLEL EQ2 boosts the original source signal at focused frequencies and then blends it with the MAGNUM COMP and K COMP signals (pre SOFT LIMIT). This boosting/blending also acts as a focused make up gain.

LMF (Low Mid Frequency) EQ

1 GAIN (LMF)

Gain control for the LMF.

The amount of gain depends on the selected Q factor:

- 15 dB max gain (W = wide bell)
- 12 dB max gain (T = tight bell)

2 IN (LMF)

Engages and disengages the LMF. Green LED.

3 Frequency Selector (LMF)

Bell curve boost with W (wide) or T (tight) bell curves:

- W (wide) = Sub, 57 Hz, 88 Hz, 220 Hz, 400 Hz, or 1.4 kHz
- T (tight) = Sub, 40 Hz, 65 Hz, 150Hz, 250 Hz, or 1 kHz

4 Q (LMF)

LMF bell selection. Choose between W (wide) or T (tight) bell curves. Yellow LED indicates selection:

AIR BAND® EQ

Blend some shiny highs to your original signal and hear how almost every signal will open up and benefit from this band. The higher frequency you select the smoother hi-end sound you get.

5 GAIN (AIR BAND)

Gain control for the AIR BAND 20 dB max gain.

6 IN (AIR BAND)

Engages and disengages the AIR BAND. Green LED.





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1 Frequency Selector (AIR BAND)

Boost only shelf at 10 kHz, 15 kHz, 20 kHz, 25 kHz, 30 kHz, or 40 kHz. Frequencies below the shelf peaks are also affected due to the transitional slope.

2 PEAK

Red LED illuminates when the output signal clips @0dBFS.

3 MAKE UP GAIN

The MAKE UP GAIN is used to restore signal level after compression (0-15 dB).

4 SOFT LIMIT

Engages soft limiter. Green LED transitions to Pink then Red (+17 dBu) as soft limiting increases (simulating a meter).

5 THRESH

Allows to set the threshold value for the soft limiter. This function is available with the hardware as an internal jumper setting. The lower the value the more color you add to the sound. (-3 / -7 / -11 / -15 dBFS).

6 ENGAGE

Engage or disengage the complete MAGNUM-K unit (true bypass). Green LED.

Controls (Plugin Specific)

7 PARAM LINK

The MAGNUM-K compressor has been designed as a completely independent two-channel, dual-mono compressor and can be used to process two different mono signals at the same time.

This enables or disables linking of parameters in a stereo instance. When both parameters have different values and link is engaged, both parameter values remain unless one of them is touched.

8 M/S

Engages Mid/Side processing. When this is set to On, the upper channel processes the mid (sum) of both channels and the lower channel processes the side (difference) of both channels.

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1 SC LINK

When using the sidechain input, each unit is fed with a different sidechain signal (in both L/R or M/S mode). However, if you activate the SC LINK (Sidechain Link) function, the sidechain signals are mixed together and then used to control both units. This effectively links the compression activity of both channels.

TMT Section

The Maag MAGNUM-K offers 20 different channels, made possible by TMT. TMT is Brainworx' patent-pending Tolerance Modeling Technology, originally found in the bx_console line of plugins. It takes the real-world tolerances of audio components found in audio circuits into account, and offers various channels of analog audio which have realistic variances in frequency response, time constants in dynamic sections, etc. The result is digital audio that sounds as analog as possible, whereas even the L/R channels of a stereo instance will react slightly different. For more information please check www.brainworx.audio channels.

2 DIGITAL MODE

Toggles between using the same TMT channel for both units (Digital) and using two adjacent, differing TMT channels (Analog).

3 CHANNELS

TMT, switches between 20 different channel strips. In a Stereo instance, two adjacent Channel numbers will be displayed. Each channel has its own, different character!

4 RANDOM CHANNEL

Whenever you instantiate a MAGNUM-K plugin on a channel, it will start with the Default setup, which is Channel 1 in a flat setting. You can now randomize a channel by clicking the Random Channel button.

Only the plugin instance you click on will switch to any unused channel number in that session randomly. The plugin will remember which channel numbers are already used in a session and activate an unused channel number, unless you engage more than 20 channels. At that point the plugin obviously would have to use a channel number that has already been used.

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BX Section

MONO MAKER

This tool is a valuable component to several Brainworx processors, and it is an invaluable tool when mastering or tightening up a mix. Sweepable from 20 Hz to 20 kHz, this parameter folds the processed sound to mono at and below the frequency set. The most common setting is between 100-200 Hz, below which bass frequencies reside, where common practice deems that most sound should be mono. Other uses include folding an entire mix in order to check mono compatibility and avoid phase incoherency.

1 IN

Engages the Mono Maker. Green LED indicates when the MONO MAKER is engaged or bypassed.

2 Frequency Selector

Determines the frequency up to which the signal stays mono.

STEREO WIDTH

Make your mix wider than it originally was by increasing the stereo width without losing the center of your recordings! You will not lose bass drum power or vocals by making your mix wider this way... and it will not sound different played back in mono at all. If you notice the Correlation Meter showing less than ± 1 (or 90°), dial up the Mono Maker a bit to tighten up the low-end until acceptable levels are shown.

3 IN

Engages the STEREO WIDTH processor. Green LED indicates when STEREO WIDTH processing is engaged or bypassed.

4 WIDTH

Dial in the desired stereo width of your signal. Ranging from 0% effectively reducing the stereo width via 100% which retains the original width up to 400%.



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1 MIX

Controls the amount of unprocessed signal being blended with the processed (compressed) signal, effectively providing the option of parallel compression.

Wet = you'll only hear processed signal.

Dry = you'll only hear un-processed signal.

HIGH PASS

The HIGH PASS can be used to add an additional filter with an adjustable frequency either before or after the signal processing of the original MAGNUM-K. This allows to effectively get rid of unwanted low frequencies.

2 Frequency

Select the frequency at which the filter operates. All lower frequencies will be filtered by a 2nd order filter.

3 PRE/POST

Select where you would like to insert the filter:

- PRE: Right after the INPUT GAIN. This way no lower frequencies will even enter the compressors
- POST: Before the SOFT LIMITER. This way your signal is processed in its full bandwidth but lower frequencies are removed before the output

4 Metering Section

The metering section offers level meters for both input and output stage. The input meter shows signal level before all processing and the output meter the level after all processing.

The Gain Reduction meter helps you to see how much your signal is compressed by the MAGNUM-COMP.

All meters show levels in dBFS.

5 ENGAGE

Engage or disengage the lower unit. This allows to disable both TMT Section and BX Section with a single click. PARAM LINK, M/S, and SC LINK buttons are always engaged.





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Top Toolbar

1 Undo / Redo

You can undo and redo changes you made to the controls of the Maag MAGNUM-K plugin at any time. The Undo / Redo will work for as many as 32 steps. This makes experimenting and tweaking knobs easy. If you don't like what you did... just undo it.

2 Settings (A/B/C/D)

The Plugin offers four internal settings (A/B/C/D) which will be stored with every preset. So, one preset can contain up to four settings. You may use similar settings with more or less compression in one setup / preset. Now, the SETTINGS can be automated in your DAW! This way it's possible to use different sounds for your lead vocals or drums in various sections of the song. Automate the A/B/C/D settings, and you can still tweak knobs of the individual settings without overriding multiple parameters in your DAW, which would be time-consuming.

3 Copy / Paste

To set up variations of similar sounds you don't have to dial in the settings

several times. Let's say you like your setting A and want to use the same sound, just with less compression, as setting B.

- Simply press Copy while you are in setting A.
- Switch to setting B by pressing 'B' in the settings section.
- Press PASTE, now setting B is identical to setting A.
- Reduce the compression on the B setting.

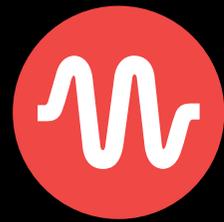
4 Headroom

Adjusts the internal operating level so that the Plugin produces more or less gain reduction. Rotating the control clockwise will allow signals at the input to be pushed higher before they compress, this will result in less compression overall. By rotating counter-clockwise headroom is decreased resulting in a greater amount of gain reduction and more colour and compression being added to the signal. This parameter is perfect for fine tuning the effects produced and also for accurate level matching.

5 M/S Monitoring (for Stereo Channels only)

Solo M: Solos the Mid (Sum) signal being processed by the plugin. Solo S: Solos the Side (Difference) signal processed by the plugin.





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