Blue Cat's MB-5 Dynamix User Manual

"Multiband dynamics processing revisited."

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Note: *An html version of this user manual is available online here.*

Introduction

Description

Blue Cat's MB-5 Dynamix is an extremely powerful all- in- one multiband dynamics processor: it can be used as a multiband compressor, limiter, gate, expander, waveshaper or all combined at once, on any part of the spectrum. The unique dynamics processing section of the Blue Cat's Dynamics plug- in has been streamlined and integrated in this plug- in to process each one of the 5 bands separately.

The plug- in provides unique envelope detection capabilities that let one band trigger the dynamics response on others (internal side- chain). Combined with the advanced stereo features including mid/ side processing and independent channels activation, it gives you full control over the dynamics of the signal for a wide range of effects.

An additional brick wall limiter/ clipper protects the output for complete control over the dynamics response.

The plug- in provides comprehensive visual feedback to let you know what's exactly going on at every step of the dynamics processor: for each channel, monitor the spectrum, the in/ out levels, dynamics response, compression ratio and in/ out level of each band...

The user interface has been designed to streamline the workflow, and despite the wide range of functionalities offered by the plug-in, it is extremely easy to use. Inter- bands controls (copy/ paste, link...) lets you create complex treatments with a few clicks.

Thanks to its advanced MIDI and automation output capabilities, Blue Cat's MB-5 Dynamix is capable of advanced side- chaining features: you can control other plug- ins with the output of the dynamics processing stage for simple side chain dynamics effects or more advanced signal- dependent effects. Check out our MB-5 Dynamix Tutorials for more details.

If you are looking for a broadband dynamics processor, check out the Blue Cat's Dynamics plug- in.

***Typical applications:** Multiband dynamics correction and modeling, mastering, loudness maximizing, dynamic equalization, de-essing, pop removal, multiband wave shaping, spectrum- based side chain effects.*

Features

Main Features:

- Full featured multiband dynamics processor: compressor, gate, limiter, expander, waveshaper.
- Up to 5 bands, with crossover filters from 6 to 60 dB/ Oct for optimal separation.
- Unique envelope routing capability for cross- band dynamics effects (one band may trigger another).
- Dry/ wet control for parallel processing ("New York Compression").
- Stereo or mid- side processing with multiple channels linking options.
- Post brickwall limiter or waveshaper.
- Complete Visual feedback with real time response curves and levels display.
- Easy copy/ paste settings between bands.
- Side chaining made easy: a unique way to perform multi- band side chain compression, ducking, gating and much more.
- Plug- in window transparency management.
- No latency.

Blue Cat Audio Standards:

- Available as: Mac- AU, Mac- RTAS, Mac- VST, Win- DX, Win-RTAS, Win- VST, Win x64- DX, Win x64- VST.
- Native DSP code for optimal performance.
- Skinnable user interface.
- Smooth Update: silent, zipper- free parameters update.
- Full automation support.
- No CPU load on idle: when the plug- in is fed with silence, the processing smoothly shuts down, to optimize the CPU usage of your Digital Audio Workstation.
- Real time MIDI control with advanced settings and MIDI learn.
- Automation and MIDI output: record output parameters as automation curves or send MIDI CC messages to other plug- ins for powerful side chain effects.
- Smooth Bypass: activate/ deactivate the plug- in with absolutely no noise.
- Undo/ Redo.
- Import/ Export presets in a host independent format.
- Any sample rate supported.

System Requirements

Windows

- SSE2- enabled processor (Pentium 4 or later).
- Microsoft Windows XP, Vista or Windows 7.
- Any DirectX / VST / RTAS compatible host software (32 or 64 bit).

Mac OS X

- An Intel or PowerPC processor.
- Mac OS X Leopard (10.5) or Snow Leopard (10.6).
- Any VST / Audio Unit (32/64- bit) / RTAS compatible application.

For more information about supported platforms, see our FAQ

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Installation

Blue Cat Audio plug- ins cannot be run standalone, they require a host application (see the System Requirements chapter for more information). Depending on which host application you use, you might need to install the plug- ins in different locations.

Windows

Install

All versions of the plug- in provide an install program. Follow the steps of the wizard to install the plug- in on your machine. During the installation you will be asked where you want the plug- in(s) to be installed. For the VST version you should install the plug- in inside the VST plug- ins folder used by your host application(s). The default path set in the installer should work for most applications, but you should check your host software documentation to know where it looks for VST plug- ins.

Some applications will not automatically rescan the new plug- ins, so you might have to force a refresh of the plug- ins list.

Upgrade

When a new version of the plug- in is released, just launch the new installer: it will update the current installation.

Uninstall

To uninstall the plug- in, simply launch the "Uninstall" program that is available in the start menu or in the configuration panel.

Mac

Install

On Mac the plug- ins are available as drive images. After download, double click on the file to open it. You can then drag and drop the plug- in file(s) to the shortcut that is provided within the image. It will install the plug- in(s) for all users on the machine.

In case you do not have admin rights on your Mac or if you want to install the plug- in(s) to another directory, just copy the files to the appropriate location. If required, more information is available in the README.txt file that is included in the package.

Upgrade

When a new version of the plug- in is released, open the new image and copy the files over the previous ones. The new version will replace the older one.

Uninstall

To uninstall the plug- in, simply remove the plug- in components from the folder where you have copied them during install (move them to the trash).

Introduction

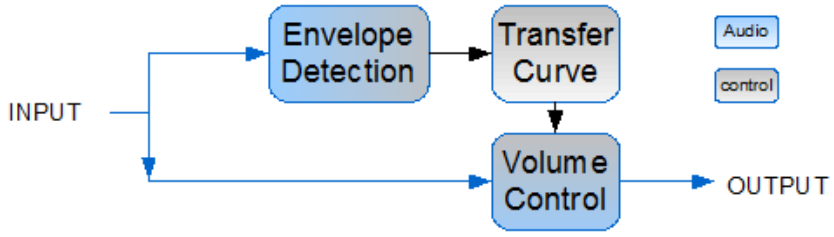
Blue Cat's MB-5 Dynamix is an all- in- one multi- band dynamics processor. It may act as a multi- band compressor, limiter, gate, expander, waveshaper or all at once. All bands can interact with each other or be processed separately.

Dynamics?

The dynamics of a sound refers to the variations of its amplitude. A track is said to have more dynamics than another if the volume difference between the louder and quieter sections of the track is higher. For example classical music is known to have a larger dynamic range than most modern commercial pop music: it usually alternates between very quiet sections with very few instruments and much louder sections when the entire orchestra plays at the same time.

The aim of Blue Cat's MB-5 Dynamix is to let you alter and precisely control this characteristic in many different ways: you can either increase or reduce the amount of dynamics in your signal, depending on its content. The plug- in offers up to 5 independent bands to process the dynamics of several parts of the spectrum separately.

For each selected band, the principle is to detect the volume of the incoming signal thanks to an envelope follower, and then apply a gain reduction or increase on the input signal, depending on the transfer curve set by the user:



Types of Dynamics Processing

This leads us to quickly explain the various kinds of dynamics processing that you can produce with Blue Cat's MB-5 Dynamix.

Compression

A signal is said to be compressed when its dynamic range is reduced: it consists in lowering the volume of the louder sections and increase the volume of quieter sections. The main interest is to increase the overal loudness of a track, but if overused, it may also cause the track to sound flat, lacking dynamics.

Limiting

Limiting is the exact same as compression, except that it refers to much higher compression ratios. A typical example is "brickwall limiting", where the compression ratio is such that the volume cannot exceed a given threshold.

Expansion

Expansion is the exact opposite from compression: it is the fact of expanding the dynamic range of a sound, making louder the already loud passages and quieter the already quiet ones.

Gating

When applying a gate effect, the idea is to decrease the gain for the sounds with lower volume, with a specified ratio. A typical application is the "noise gate", to get rid of background noise during silence. The content below a given threshold will be silenced by the gate, making sure no noise can be heard alone. When the music comes back with sufficient volume, the gate will open and let the music go thru.

Wave shaping

The previous examples use the volume (envelope) of the sound to trigger an effect. If the volume control is based on the waveform instead of the shape of its envelope, you transform the effect into a "waveshaper", which produces a great amount of distortion.

Technically speaking, the idea here is to reduce the integration time of the envelope followers of the dynamics processing software to reach values that are close to the period of audible sounds (10 ms or below).

This allows you to shape the incoming waveform and completely transform its sound: the gain reduction will depend on the shape of the waveform (locally, or at a "microscopic scale") instead of the volume of the sound (globally, or at a "macroscopic scale").

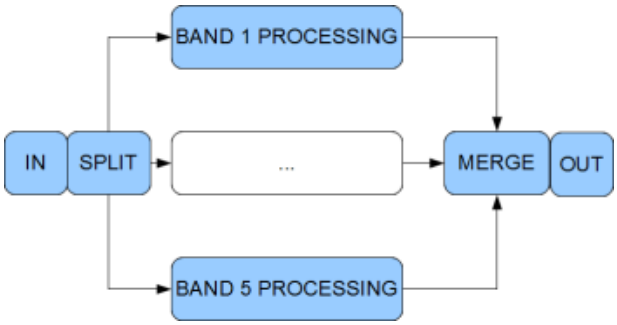
The Effect of Time

As described earlier, the gain control is triggered by volume changes of the incoming signal, based on parameters entered by the user. Appart from determining the type of effect (limiter, gate, compressor etc.) by choosing the shape of the response curve, it is possible to choose how fast the dynamics processor reacts to volume changes (up: attack time, down: release time). This also has a major influence on the sound and the perceived volume of the output waveform.

The shorter the attack and release time, the closer to waveshaping and the more distortion. The longer the time constants, the smoother gain control, but also the less efficient and precise control over the volume.

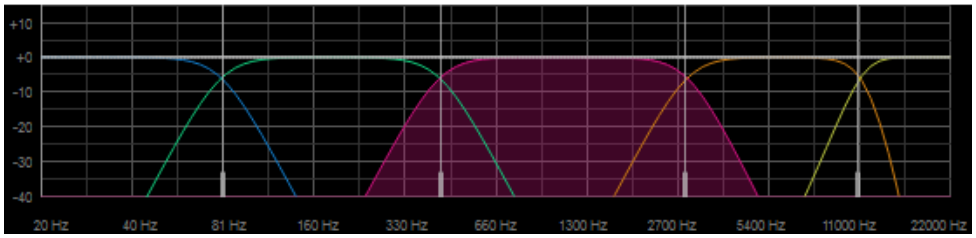
Multi Band?

Blue Cat's MB-5 Dynamix is called a multi- band processor, because it splits the incoming signal into several frequency bands before processing them separately:



It means that the dynamics of each band can be affected differently, depending on the chosen settings. You can for example compress the low- end of the spectrum while expanding the mids and keep the highs unchanged.

The separation between bands is realized with crossover filters which let you control the separation between bands (the higher the slope of the filter, the sharper the separation):



Crossovers filters frequency response (24 dB/ Octave slope)

One of the particularities of this plug- in is that it lets you create cross- band effects, using the detected envelope of one band to trigger the dynamics effect on another.

Mid/ Side Processing

Blue Cat's Blue Cat's MB-5 Dynamix offers mid/ side processing capability. With this feature you can process the mid (center) and side (sides) channels instead of the usual left and right channels.

Concept Origin: Mid/ Side Recording

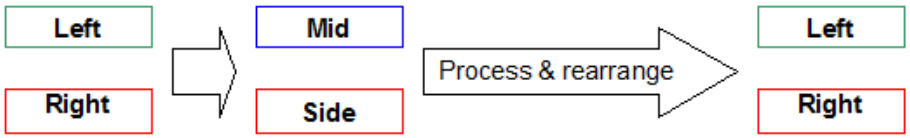
Mid/ Side recording is a famous recording technique that is preferred in some cases to the traditional left/ right recording. Looking for “mid side recording” in an internet search engine will give you many tutorials about this technique.

The result of such a recording is a pair of mid/ side (M/ S) channels instead of classic left/ right (L/ R) channels in an audio stream. The mid channel is also often called “Mono” and side “Stereo”: the mid channel contains the signal that is in the center of the stereo mix, and the side channel contains the rest (everything that is on the sides of the mix):

(The triangles above represent the listener’s head)

From Mid/ Side Recording to Processing

The relationship between L/ R and M/ S channel can be computed so that you can transform any Mid/ Side recording to standard listenable left/ right stereo stream. The reverse operation is also possible, which means that you can artificially separate mid/ side information from your usual L/ R stereo tracks. That's what is done by our mid/ side processing plug- ins.



Processing separately the mid/ side channels instead of left/ right channels offers more control over the stereo character of a sound. Reducing the volume of the side channel makes it sound more "mono" and vice versa.

Mid/ Side and Dynamics

Applied to dynamics processing, this lets you dynamically control how "stereo" a track may sound, depending on the content of this track. It offers a much more flexible and intuitive way of managing stereo dynamics processing than the usual left/ right technique: processing separately both channels does not alter the L/ R balance of the output signal but changes the ratio between the stereo and mono signals instead. The result sounds much more natural and is easier to control.

Side Chaining

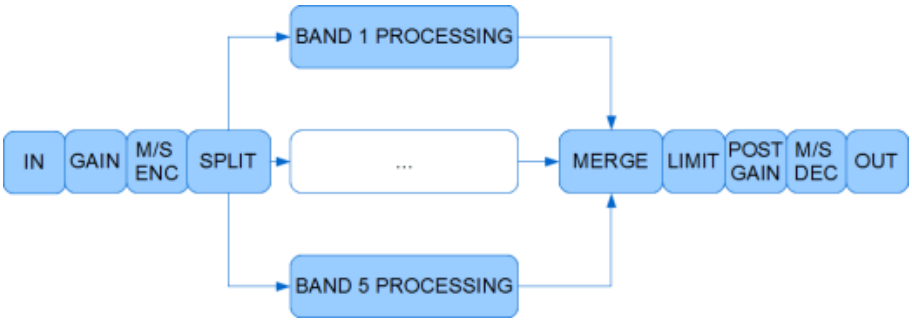
A common practice is to use a different signal than the processed signal in order to trigger the dynamics processor. For example use the signal of the kick drums to control the dynamics of the bass or vice versa. This practice is known as "side chaining".

Blue Cat's MB-5 Dynamix provides this capability thanks to its advanced MIDI and automation communication features. It also provides a way for "internal side chaining": you can choose any band to trigger the effect on any other band. It is for example possible on a drums track to use the low end of the spectrum (to detect kick hits) to increase the volume of the high frequencies, so that transients are louder for the kick drum only.

Signal Flow

Blue Cat's MB-5 Dynamix includes components to perform all the techniques exposed above and more. The complete signal flow in the Blue Cat's MB-5 Dynamix plug- in is summarized below:

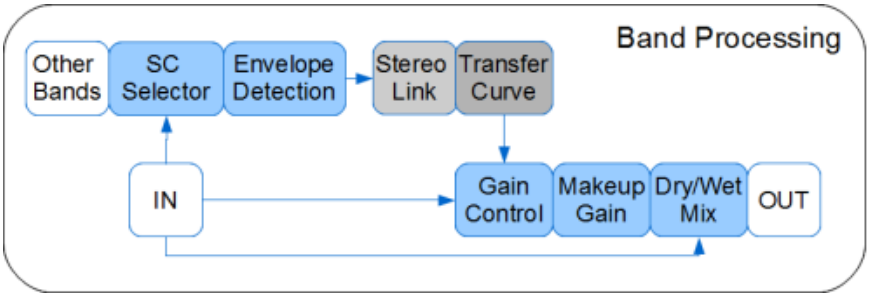
General Flow



1. Gain: amplify the input signal.
2. M/ S Encoding: for the stereo version, rearranges the signal from left/ right to mid/ side; if mid/ side option is selected. Input metering is provided just after this initial stage.
3. Bands Split: splits the signal into selected frequency bands, applying the crossover filters.
4. Band 1 to band 5 processing: applies dynamics processing to frequency ranges. This section is detailed below.
5. Bands merge: merges the signals from each band into a broadband signal.
6. Limit: brick wall limiter.
7. Post Gain: amplification stage right before the output meter.
8. M/ S Decoding: the mid/ side to left/ right conversion for the stereo version, when the plug- in runs in mid/ side mode.

Band Processing

The main processing occurs for each band as described below:



1. Side Chain Selector: selects the signal to compute the envelopes. You can choose the current band or any other band to control the dynamics processor for cross- band effects.
2. Envelope Detection: detects the envelope of the chosen incoming signal.
3. Stereo Link (for the stereo version): controls how both channels envelopes should be linked together. Lets you define the relationship between the effect applied on the left/ right or mid/ side channels.
4. Transfer Curve: determines the gain to apply to the signal, depending on the incoming envelope(s) and the ratios/ gains set by the user.
5. Gain Control: this module applies the gain determined by the transfer curve on the incoming signal.
6. Makeup Gain: gain applied to the signal to compensate the perceived changed in volume due to the dynamics processing stage.
7. Dry/ Wet Mix: mix the dry and wet signals to perform parallel compression. The Dry/ Wet control is common to all bands (it can't be set separately).

Note that for the stereo version, mid/ side splitting and re- arranging is performed at the input and output of the plug- in so that the entire chain processes mid/ side signals instead of left/ right when mid/ side mode is on. This also applies to level meters and response graphs.

The User Interface

The dynamics processor is bundled with a single skin for each version (Mono and Stereo), and you may create your own and download new ones on www.bluecataudio.com. Only the specific features of the included skins are discussed here. The next section describes the other features that are common to all Blue Cat Audio plug- ins.

Overview

Default skin for the stereo version of the plug- in.

Master Section (1)

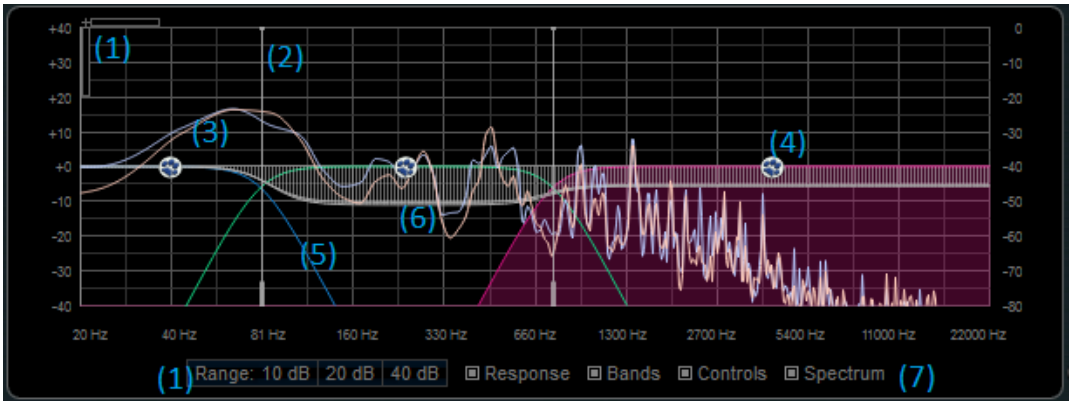
The master section lets you manage the main in and out levels as well as the main modes of operation (left/ right versus mid/ side for the stereo version). It offers large input and output peak level meters and controls for the output brickwall limiter.

The bypass button deactivates any processing performed by the plug- in so that you can compare to the dry signal.

Above the master section you can select the number of bands for the plug- in. It ranges from one (broadband) - to five.

Main Graph Display (2)

The main graph display occupies a central spot at the top of the user interface. It shows a lot of information about what is happening inside the plug- in:



1. Zoom: there are three ways to zoom. You can either select a part of the display with the mouse, or use the sliders which are available at the top left of the display, or click on one of the three shortcuts below. Please note that the vertical zoom does not apply to the spectrum analyzer.
2. Crossover frequencies: the vertical lines can be dragged left and right to modify the crossover points.
3. Spectrum: the built- in spectrum analyzer shows the spectrum of the signal at the output of the plug- in. For the stereo version, the left (or mid) channel is represented with a blue curve, and the right (or side) channel with a pink curve.
4. Makeup gain control: you can drag the blue cat logos vertically to change the makeup gain for each band. Clicking on this control also modifies the current band.
5. The frequency response of the crossover filters is displayed with a different color for each band. The curve displayed is the actual curve of the filter, not a theoretical or simplified representation of it. The response curve of the selected band is filled with the associated color (band 3 in the screen shot above).
6. Global Response: this curve represents the global dynamics response of the dynamics processing stage.
7. Show/ Hide selector: you can use the controls at the bottom of the screen to hide most of the components described above. It can be helpful to reduce the amount of information simultaneously displayed, or to reduce the cpu consumption of the user interface (spectrum and response display are typically more cpu intensive).

Crossovers (3)

The crossovers area displays controls for each band to modify either the frequency or the slope of the crossover filters:

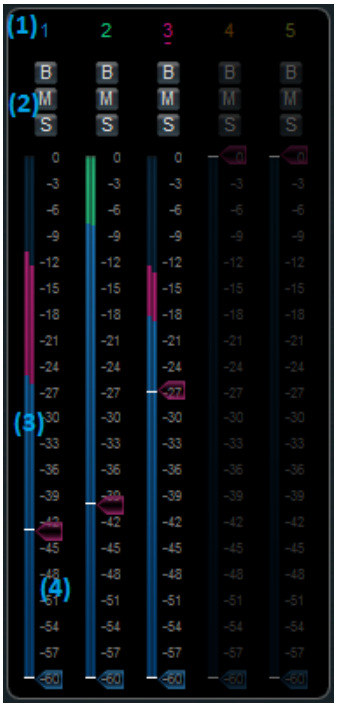
The slopes of the crossovers range from 6 to 60 dB/ Octave. They can be controlled independently thanks to the black drop- down boxes.

Current Band and Links (4)

The center of the user interface is dedicated to the current band:

1. You can change the band that is currently selected by clicking on the arrows on the left or right of the current band number, or using other controls in the main display or the monitoring section. The reset below the band number resets all parameters of the current band to default values.
2. On the stereo version, several additional controls are available:
    - The L and R (or M and S in mid/ side mode) buttons let you deactivate any processing applied to any of the channels.
    - Choose the type of link between channels for the dynamics response.
3. The the upper curve and lower curve sub- sections control the shape of the dynamics response.
4. The graph displays the dynamics response of all bands, and shows as an overlay below this response the computed envelope for the current band (computed after the side chain source signal, which is by default the current band). This lets you see exactly how the gain of the dynamics stage is computed.
5. The envelope and mode sub- section let you control the time response of the dynamics processor.
6. Makeup gain to compensate volume changes.
7. Copy to and copy from links: you can copy the settings for the current band to any other (copy to), or on the contrary import the settings from another band (copy from). Note that the side chain source setting is not copied during these operations.
8. Side chain source: select the source band for envelope computation. This setting lets you trigger the effect on the current band using another band as a source for envelope computation.
9. Bands link: link the controls of all bands together.

Monitoring Section (5)



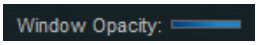
The Monitoring section gives an overview of the dynamics processing stage, with a set of controls and level meters for each band:

1. Click on the band number at the top to select the corresponding band. This control is underlined for the selected band.
2. Bypass / Mute / Solo: each band can be bypassed (no processing), muted (silent), or soloed (other non soloed bands are muted).
3. Level meters: the level meters display both the input and output levels (and the amount of compression or expansion) of the dynamics processing stage. The levels shown do not take the makeup gain into account, so that the actual dynamics treatment applied to the band is clearly visible. The meter that shows the difference between the output and input becomes red for gain reduction and green for gain increase.
4. You can respectively adjust the lower and upper thresholds with the appropriate blue and pink sliders.

The controls for inactive bands are grayed out (disabled).

Additional Features

The “opacity” feature lets you change the opacity of the window containing the plug- in so that it becomes transparent: you can modify the processing parameters while having a look at what's happening behind the plug- in.



The various elements of the user interface (knobs, sliders, buttons...) are simple and intuitive to operate, but more information about how to interact with them is available in the "Plug- ins Basics" chapter of this manual.

Operation

This section will progressively dive deeper into the details of the plug- in, explaining the specificity of each module. A complete list of the parameters exposed by the plug- in is available in the next section.

Setting up the Bands and Crossover Frequencies

How many bands?

The first step is to choose the number of bands. This choice depends on the type of material and the kind of effect you are looking for. If you are not very familiar with multiband dynamics processing, we advise you to start with 3 bands and increase the number of bands later if necessary. Thanks to the available copy/ paste commands you can easily transfer your settings to another band.

Setting up the Crossover Points

Be it on a full mix or a single track, at this step your aim is to isolate particular frequencies to apply a specific treatment to it. The best way to adjust the frequency ranges is to use the "Solo" button of the monitoring section to hear the signal processed by each band.

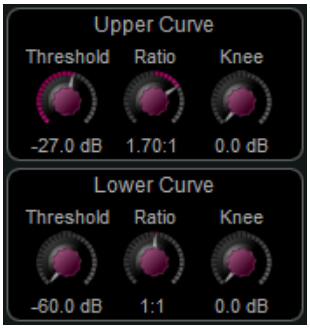
This method also applies to selecting the appropriate filters slopes. You will usually avoid very steep filters (artifacts at the crossover points may be more prominent), but they can be useful to isolate very particular frequencies.

Tranfer Curve Parameters

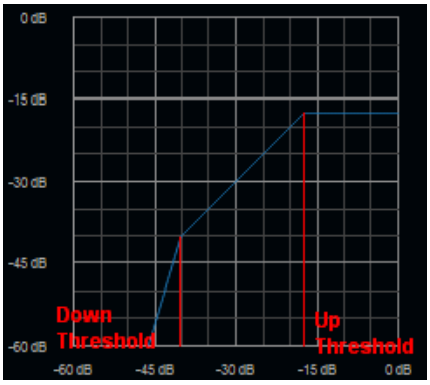
Changing the shape of the curve: thresholds, ratios and knees

At the heart of the dynamics processor is the transfer curve which shape can be controlled by the usual threshold, ratio and knee parameters. This curve describes the relationship (ratio) between the desired output level and the detected input level. This is where you choose what kind of effect (compression, limiting, gating...) you want to create.

The graph displayed in the Blue Cat's MB-5 Dynamix user interface shows the output level as a function of the input level in dB scale. The controls offered to modify the shape of the dynamics response are explained below.

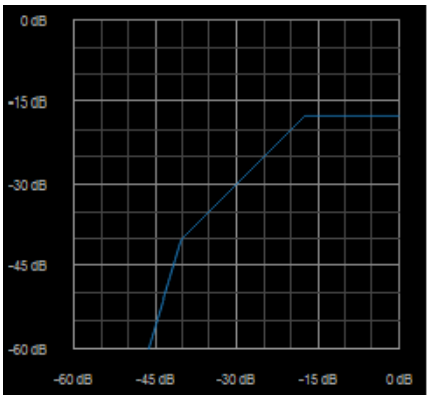


The **up threshold** and **down threshold** correspond to the upper part and lower part of the dynamics response curve. They let you specify the upper part (usually for compression) and lower part (usually for gating) of the curve independently:

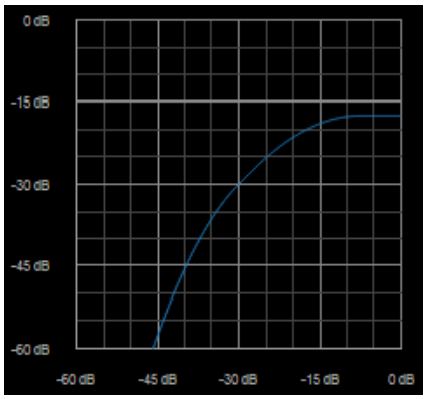


For each part of the curve (above the up threshold and below the down threshold), you can choose the **ratio**, which corresponds to the ratio between the output and input levels. In the example above, an infinite to one ratio will be applied to the input signal as soon as it reaches -18 dB (hard limiting), and a 3 to 1 ratio will be applied as soon as it is below 40 dB (gate).

Once you have chosen the ratio, the **knee** parameter lets you soften the dynamics response. The difference between the left and right graphs below is *10 dB up and down knees*:



Default response (no knee)



Response with large knee values

The effect is applied progressively, whereas with no knee the ratio changes as soon as the threshold is reached.

Makeup gain

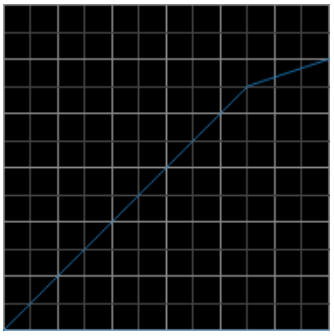
When the shape of the dynamics response curve is changed, the maximum peak level might increase or decrease. That's the reason why the plug- in offers a makeup gain, right after the main dynamics processor. This lets you compensate this difference.

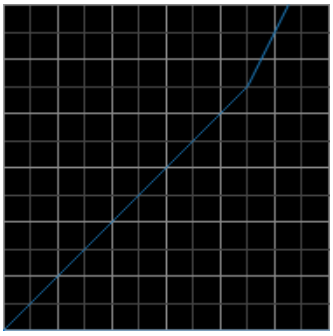
Transfer Curve Shapes

We exposed various dynamics processing techniques in the previous chapter. Here are example of dynamics response curves for these techniques.

Upper Curve

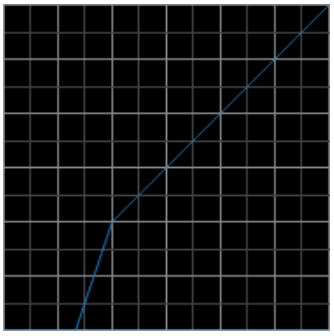
Changing the upper curve ratio and threshold lets you create a compressor (limiter) or an expander:

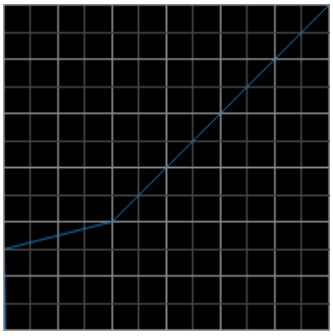

Compressor


Expander

Lower Curve

With the lower curve controls, it is possible to create a gate or an upward compressor.

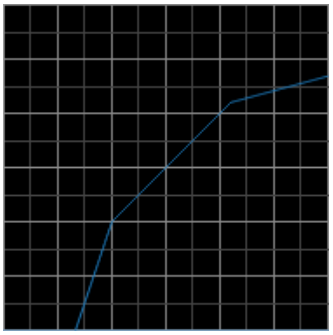

Gate


Upward Compressor

The upward compressor can create interesting effects but can be problematic in the case of noisy input signals because it will magnify background noise. In this case you should first apply a gate in your signal chain to get rid of this noise before.

Custom Shapes

One of the interests of Blue Cat's MB-5 Dynamix is to create your own shapes that mix these usual behaviors to create custom dynamics effects. For example a combination of a gate and a compressor (that can be used to increase the loudness of a noisy signal):



Combined upper and lower curve settings

Envelope Parameters

Now that you have chosen the shape of the transfer curve, you can adjust the parameters that drive the envelope follower (the component that computes the input level).

Blue Cat's MB-5 Dynamix offers several envelope detection modes. Unlike most dynamics processors, it lets you choose to work in intermediate modes: it is possible to use half RMS / half peak envelope computation for example.

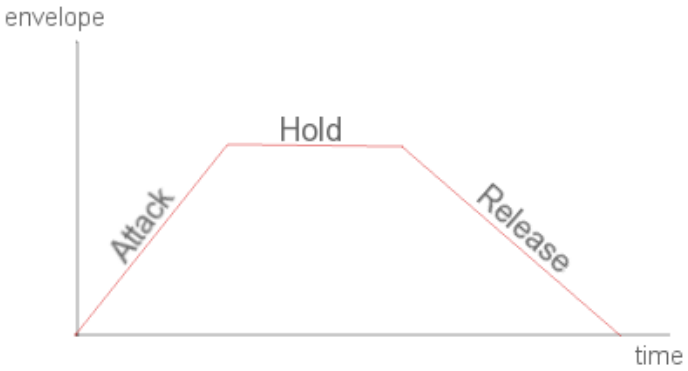
Peak versus RMS

The Peak mode will detect transients (spikes) in the signal, whereas the RMS mode will measure the loudness of the incoming signal.

Time Parameters

The peak envelope detection has the usual **attack** and **release** parameters plus an additional "**hold**" time that lets you specify how long the detector waits before it starts decreasing. The RMS envelope offers a single parameter corresponding to the time used to run the RMS average.

If you set all these parameters to 0, you obtain a wave shaper/ distortion unit.



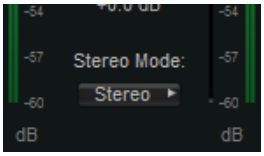
example of peak envelope response for a step input

Stereo Control

With the stereo plug- in, you can choose the way you want the stereo signal to be affected by the dynamics processing. It offers several parameters to fine tune the stereo behavior of the plug- in.

Stereo Mode

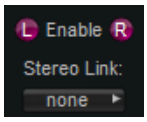
Choose between mid/ side and left/ right processing for the entire plug- in. In the default stereo mode (left/ right) left and right channels are processed separately, and in mid/ side mode, the plug- in processes the mid and side channels instead. Mid/ side processing is described in the introduction section.



Later in this manual we will refer to channel 1 and channel 2 (respectively left and right or mid and side channels depending on the chosen mode).

Stereo Link

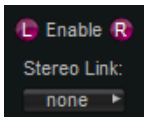
In order to keep the stereo balance coherent or on the contrary to modify the stereo perception of a track, you can choose to link the effect applied to each channel in several ways, for each band:



- **none:** no link. Each channel is independent.
- **average:** mix the left and right (or mid and side) envelopes to compute the dynamics response. The same gain is applied to both channels.
- **min:** use the minimum of both envelopes to compute the dynamics response. The same gain is applied to both channels.
- **max:** use the maximum envelope to compute the dynamics response. The same gain is applied to both channels.
- **flip:** apply the computed gain of the opposite channel. This enhances the stereo dynamics of the audio signal.
- **ch 1 (left or mid):** compute the gain only with the envelope from the first channel. The same gain is applied to both channels.
- **ch 2 (right or side):** compute the gain only with the envelope from the second channel. The same gain is applied to both channels.

Channels Activation

In addition you can choose to activate or deactivate the entire dynamics processing chain for each channel. See the little buttons on top of the band section:



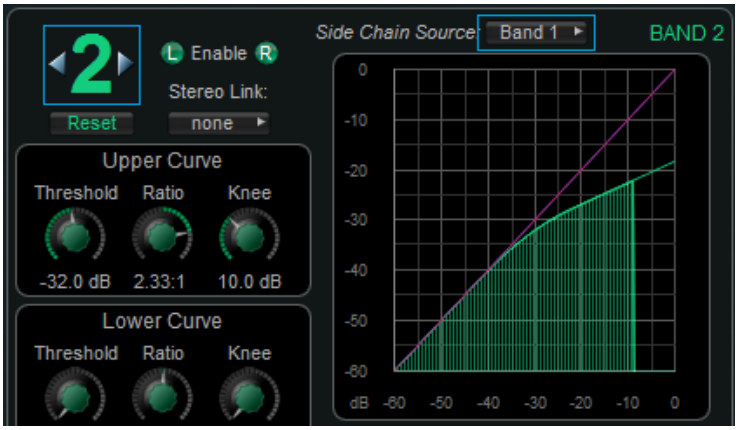
It is possible for example to apply the effect only to the mid channel, and use the side channel as a side chain source (the source that triggers the effect). Several presets use this technique to modify the stereo image.

Parallel Processing

Thanks to the "Dry/ Wet" ratio available in the master section, you can adjust the amount of wet signal available at the output of the plug- in. This can be particularly useful to create smooth effects with yet radical settings.

Cross- band Side Chaining

You can select a different band from the current one for envelope detection. This lets you use another band to control the selected dynamics response on another frequency range. It is also possible to use the broadband (unfiltered) input signal for the envelope computation (choose "input").



This unique feature of the plug- in goes beyond traditional multiband dynamics processing and adds a lot of flexibility to the type of effects you can achieve.

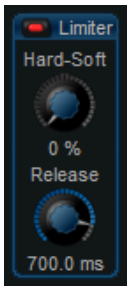
Controlling Bands Together

The "bands link" section offers several ways of controlling the settings of all bands together:

To use this feature, click on the "enable" button: if you change a parameter in the current band, all other bands will be affected as well:

- In relative mode, the changes made to the value of the current band are applied to all other bands. With this mode, you can for example increase the makeup gain of all bands by the same amount with a single mouse move.
- In absolute mode, the value for the current band is copied to all other bands. With this mode, you can for example reset the makeup gain of all bands to the same value with a single mouse move.

Brickwall Limiter



The final stage of this plug- in is a brick wall limiter / soft clipper to avoid hard clipping at the output of your host software. A common practice is to use a slow- attack compression stage and then apply the brick wall limiter for harder limiting on remaining transients.

The pink meter on the left of the output level meter shows the amount of limiting applied. The range of this meter is 60 dB.

You can also set the release time to zero. In this case the limiter produces saturation. You can adjust the saturation softness using the Hard- Soft knob.

Tip: it is strongly recommended to activate the brickwall limiter while experimenting with the parameters of the Blue Cat's MB-5 Dynamix plug- in. The plug- in gives you great power to modify the dynamics of the incoming signal, which may result in huge audio spikes in some rare cases. The brickwall limiter protects your monitors and your ears against such mistakes!

Side Chaining

Blue Cat's MB-5 Dynamix lets you use the signal from a track to control the volume (or any other parameter) of another. This technique is called "side chaining" as explained in the introduction.

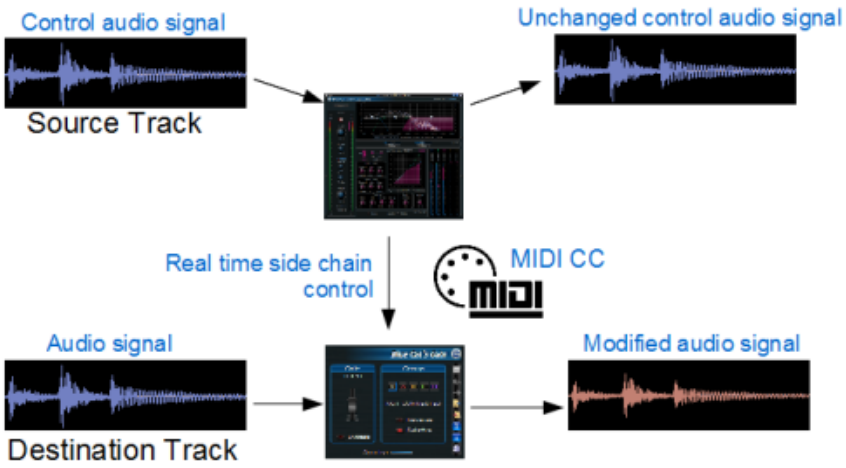
You can either use this side chaining feature to control the global volume of the destination track as shown below, or perform full multi- band side chaining as explained in this tutorial. The methodology is the same, only the target plug- in and the number of parameters to connect differ.

There are two ways of performing this. You can choose the appropriate method depending on the capabilities of your host application and your needs.

Real Time Side Chaining Mode

Blue Cat's MB-5 Dynamix uses MIDI CC to perform real time side chaining. In order to use this feature, your host application has to support MIDI CC for the plug- ins. You will also need to download Blue Cat's Gain Suite free plug- ins at the following address: http:// www.bluecataudio.com/ Products/ Product_GainSuite. (for full multiband side chaining, see the Blue Cat's MB-7 Mixer plug- in).

The idea is that the Blue Cat's MB-5 Dynamix plug- in is used to perform the envelope detection on the source track, and sends the volume control change messages to the gain plug- in that is instantiated on the destination track:



In order to use the real time side chaining functionality of Blue Cat's MB-5 Dynamix, the procedure is the following:

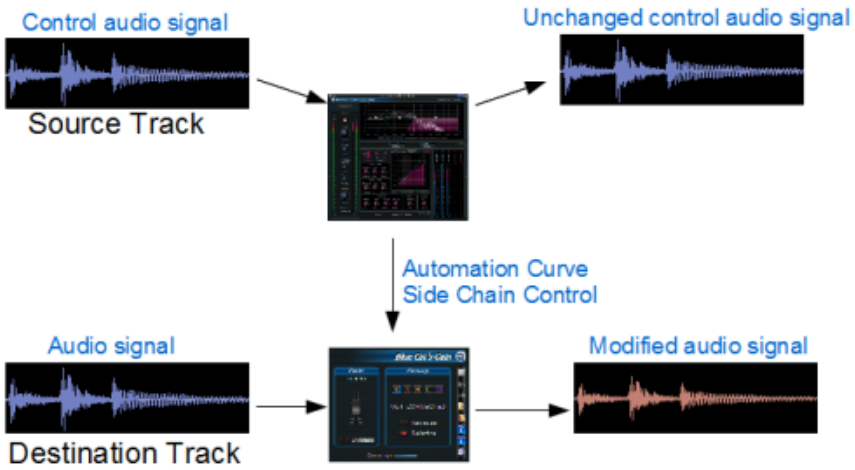
- Insert Blue Cat's MB-5 Dynamix on the audio source track (the audio track used as control signal for the side chain) (mono or stereo).
- Setup the dry/ wet parameter to 0% (all dry) so that the signal on the source track is not affected by the plug- in.
- Insert Blue Cat's Gain plug- in on the destination track (mono or stereo).
- Assign the Total Gain for the selected band (or Bi Total gain(1) and Bi Total Gain(2), where i is the band index) output parameter(s) to a given MIDI channel and CC number.
- Assign the Gain parameter of the Gain plug- in to the same MIDI channel & CC number as the Total Gain parameter.
- Route Blue Cat's MB-5 Dynamix MIDI output to Blue Cat's Gain (usually using a MIDI track, but this step depends on your host application).
- Setup the Blue Cat's MB-5 Dynamix plug- in response curve and time constants for the chosen band. The selected band of the source track controls the effect applied to the destination track.

If you have issues performing the above tasks in your host application, please visit our website and check our step by step tutorials: http:// www.bluecataudio.com/ Tutorials/

Note: in this mode, the output limiter is not in use.

Offline Side Chaining Mode

If your host does not support MIDI CC, you can still use the side chaining capabilities of the plug- in offline, thanks to its automation support. You will need to record the gain information as an automation curve and apply it to the other track. You can either use Blue Cat's Gain Suite freeware plug- ins or use your host gain automation feature.



The procedure if the following:

- Insert Blue Cat's MB-5 Dynamix on the audio source track (the audio track used as control signal for the side chain) (mono or stereo).
- Setup the dry/ wet parameter to 0% (all dry) so that the signal on the source track is not affected by the plug- in.
- Setup the Blue Cat's MB-5 Dynamix plug- in response curve and time constants to obtain the desired effect.
- Insert Blue Cat's Gain on the destination track (mono or stereo).
- Arm the Total Gain (or Bi Total gain(1) and Bi Total Gain(2), where i is the band index) output parameter(s) to record it as automation curves.

- Play the track and record the automation envelope(s) on the source track.
- Copy/ paste the envelopes to the destination track.
- Assign the envelope(s) to Blue Cat's Gain plug- in gain parameter(s) or to the destination track volume if provided by the host application.
- Play!

If you have issues performing the above tasks in your host application, please visit our website and check our step by step tutorials: http:// www.bluecataudio.com/ Tutorials/

Note: in this mode, the output limiter is not in use.

Extending to Advanced Side Chaining Techniques

The usage of MIDI or automation for side chaining in Blue Cat's MB-5 Dynamix lets you extend the traditional usage of side chaining: you can control any parameter of any automatable or MIDI controllable effect. As a result, you can use the dynamics response of a frequency range in a track to control any kind of effect on any other track.

You can for example link the Blue Cat's MB-5 Dynamix output with the gain of an EQ plug- in to instantly create a side chain dynamic EQ, as shown in this tutorial with the Blue Cat's Dynamics plug- in. Possibilities are endless, so we encourage you to experiment with your own effects.

If your host supports it, it is also possible to control MIDI hardware with the plug- in: for example you can control the dynamics of an external synth with a track in your digital audio workstation.

Tips & Tricks

Bypass Unused Bands

In order to minimize the amount of CPU spent by the plug- in, you can bypass the bands that you do not use.

Use Solo and Mute to Tweak the Effect

The Mute and Solo buttons are your friend: they will help you find the hot spots in your signal and choose your frequency bands to apply the effect to the right part of the spectrum.

Protect your Ears with the Brickwall Limiter

While tweaking the parameters of the plug- in and learning to use the software, you should always activate the output brickwall limiter. It will prevent you from damaging your speakers or your ears. You can always deactivate it afterwards, when you are happy with the sound and you can see the limiter does not reduce the output volume.

Stereo Effects

In order to create interesting stereo effects, use the stereo link and mid/ side features. They will let you create custom interactions between channels that produce interesting stereo field effects.

Cross- Band Effects

Use the side internal side- chaining capability ("SC Input" parameter) to use different parts of the spectrum for envelope detection and gain changes. For example if you want to add treble to the kick drum only, you can use the low end of the spectrum to detect kick hits and send the envelope to a band set as an expander for the high end of the spectrum.

Blue Cat Audio Plug- ins Basics

This chapter describes the basic features that are common to all our plug- ins. If you are already familiar with our products, you can skip this part.

User Interface Basics

About Skins

Like all Blue Cat Audio plug- ins, Blue Cat's MB-5 Dynamix uses a skinnable user interface. It means that the appearance and behavior of the user interface can be entirely customized.

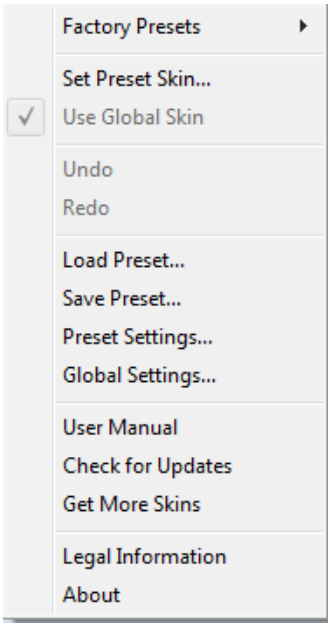
Especially with third party skins, the experience may be very different from the one offered by the default skins that we provide and which are described later in this manual. Our plug- ins and our skinning engine however have several standard features that will be available whatever your favorite skin. This is what this chapter will describe.

More information about custom skins can be found in the skins section.

Main Toolbar and Menu

Menu

If you right click on the background of the plug- in, the following pop- up menu appears:



The description of the commands associated to each menu item are available below.

Toolbar

In some skins, an optional toolbar gives you access to the some of the functionalities of the main menu.

Icon	Name	Function
	Menu	Open the main menu
	Undo	Undo
	Redo	Redo
	Load	Load Preset
	Save	Save Preset
	Manual	User Manual
	About	About
	Website	Opens our website

Commands

The Commands available from the main menu or the toolbar are:

- **Factory Presets**: browse factory presets (if any).
- **Set Preset Skin**: change the skin for the current preset.
- **Use Global Skin:** use the skin defined in the global settings for the current preset. This item is enabled only if a skin has been defined for the current preset.
- **Undo/ Redo:** undo or redo the latest modifications. This includes all changes made to the current preset settings.
- **Load Preset:** load preset from file.
- **Save Preset:** save current preset to file.
- **Presets Settings:** open the presets settings window. It enables you to change the skin and MIDI settings for the current preset.
- **Global Settings:** open the global settings window. It enables you to change the skin and MIDI settings that are used by default in all instances of the plug- in.
- **User Manual:** open this user manual.
- **Check Updates:** check the updates for this software on our website.
- **Get More Skins:** get more skins for this software.
- **Legal Information**: browse licensing and misc legal documents.
- **About:** displays the “about” dialog box.

MIDI control

Blue Cat's MB-5 Dynamix can also be remotely controlled via MIDI using MIDI CC ("Control Change") messages if your host application supports it. It is possible to customize the channel, control numbers and range used for each parameter in the MIDI settings panel available from the main menu (see the Plug- in Settings chapter for more details).

Controls

Examples

Here are a few examples of typical controls you will encounter in the user interface of our plug- ins:

slider	slider	knob	button	Text control
				

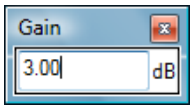
Interacting with Controls

You can interact with the controls of the plug- in interface either with the mouse or the keyboard.

Setting the keyboard focus on a control (so that it responds to key strokes) may be automatic (when you pass the mouse over it it gets focus) or manual (you have to click on the control to set the focus on it). Note that all host applications behave differently regarding keyboard handling. In some applications you may not be able to use all keys described later in this manual to interact with our plug- ins. It is usually made obvious to you to know the active surfaces of the skin (the places where you can click with the mouse): the mouse cursor usually changes when you can do something on a control. In the default skins delivered with the plug- in, the cursor changes to a small hand or an arrow to tell you when your mouse is over an active control.

Mouse

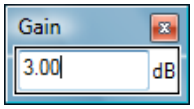
Various mouse movements will let you interact with the controls:

Mouse Interaction	Action
Left Click	Acquire focus and start dragging or push (button)
Left Click + Alt Key	Set the value to default
Left Double Click	Acquire focus and launch the “fine tuning” edit box (except button): 
Right Click	Set the value to default
Mouse Wheel	Increment or decrement the position (focus required)
Mouse Drag	Change the control position depending on mouse movement (except button)

Keyboard

All control widgets support the following keys (note that some of them are caught by the host and thus never forwarded to the control. For example in Steinberg Cubase SX you cannot use the arrow keys to control the plug- in):

Keys Common to All Controls

Key	Action
Up Arrow	Small increment of the position (up or right)
Down Arrow	Small increment of the position (down or left)
Left Arrow	Same as Down Arrow
Right Arrow	Same as Up Arrow
Page Up	Large increment of the position (up or right)
Page Down	Large decrement of the position (down or left)
+	Small increment of the value of the control
-	Small decrement of the value of the control
d	Set to default value (same as mouse right click)
e	Opens the 'fine tuning' window to precisely set the parameter: 
SHIFT	When the key is down, the fine tuning mode is on, and you can modify the value with better precision when moving the mouse, the mouse wheel or using the keyboard. Just release the key to get back to the normal mode.

Keys Specific to Buttons

Key	Action
Enter	Pushes the button

More

Check our online tutorial for more screenshots and more examples of our plug- ins user interfaces.

Blue Cat's MB-5 Dynamix Parameters

All parameters described below can be automated and controlled via MIDI if your host application supports it. You can precisely define this behavior in the settings panels described later in this manual.

Input

The input parameters of this plug- in are the following:

Name	Unit	Description	Comment
General			
Bypass		Bypass the effect.	
Stereo Mode		Choose between stereo (left/ right) and mid/ side modes.	*(stereo version only)*
Pre Gain	dB	Input gain, before the dynamics processing stage.	
Bands		Number of Bands.	
For each band (band index: i)			
Bi Bypass		Bypass the effect for this band.	
Bi Mute		Mute this band.	
Bi Solo		Solo this band (listen to the band).	
Bi SC Input		Internal side chain input for the current band: choose the signal used for envelope detection (any band or broadband input signal).	
Bi Stereo Link		Defines the link between the left/ right or mid/ side channels. 0:none, 1:average, 2:min, 3:max, 4:flip, 5:channel 1, 6: channel 2.	*(stereo version only)*
Bi Enable Ch1		Enable dynamics processing for channel 1.	*(stereo version only)*
Bi Enable Ch2		Enable dynamics processing for channel 2.	*(stereo version only)*
Bi Peak- RMS	%	Proportion of peak and RMS envelope detection modes. 0% is full Peak, and 100% is full RMS.	
Bi Attack	ms	Attack time for the peak detection.	
Bi Hold	ms	Hold time for the peak detection.	
Bi Release	ms	Release time for the peak detection.	
Bi RMS average	ms	Time for the RMS average computation.	
Bi Up Threshold	dB	Threshold for the upper part of the dynamics response curve.	
Bi Up Ratio		Compression ratio for the upper part of the dynamics response curve.	
Bi Up Knee	dB	Knee for the upper part of the dynamics response curve.	

Bi Down Threshold	dB	Threshold for the lower part of the dynamics response curve.
Bi Down Ratio		Compression ratio for the lower part of the dynamics response curve.
Bi Down Knee	dB	Knee for the lower part of the dynamics response curve.
Bi Makeup Gain	dB	Gain Compensation at the output of the dynamics stage for this band.
Freq i - i +1	Hz	Center frequency for the crossover between this band and the next one.
Slope i - i +1	dB/ Octave	Slope for the crossover between this band and the next one. Controls the separation between bands (the higher the sharper the separation).
Output Stage		
Dry- Wet	%	Mix between dry and wet signals (global for all bands).
Limiter On		Enable or disable the output limiter.
Hard- Soft	%	Control the softness of the output limiter (0% is hard, 100% soft)
Release	ms	Release time for the output limiter.
Post Gain	dB	Output Gain (after the brick wall limiter).
Analysis		Enable or disable the spectrum analysis.
Reset Max In		Reset the maximum input value displayed in the master section (value changes for this parameter trigger reset).
Reset Max In		Reset the maximum output value displayed in the master section (value changes for this parameter trigger reset).

Output

Mono and stereo versions of the plug- in offer almost the same outputs. The main difference is that the stereo version exposes the same value twice (one of each channel), except if not specified.

Name	Unit	Description	Comment
General			
In Level	dB	Audio input Level.	*(1) and (2) for the stereo version*
For each band (band index: i)			
Bi In Level	dB	Audio level at the input of the processing stage for this band.	*(1) and (2) for the stereo version*
Bi Out Level	dB	Audio level at the output of the processing stage for this band.	*(1) and (2) for the stereo version*

Bi Comp	dB	Gain reduction or increase produced by the dynamics processing stage for this band. This value does not include the makeup gain.	*(1) and (2) for the stereo version*
Bi Total Gain	dB	Total Gain reduction or increase produced by the dynamics processing stage for this band, including the makeup gain.	*(1) and (2) for the stereo version*
Output Stage			
Limiter Gain	dB	Gain reduction applied by the output brickwall limiter.	
Out Level	dB	Audio level at the output of the plug- in.	*(1) and (2) for the stereo version*
Max In Level	dB	Maximum value of the Audio level over time at the input of the plug- in (can be reset by "Min Reset" parameter changes) for both channels.	
In Peak Hold	dB	Local Maximum value of the Audio level over time at the input of the plug- in. This value is automatically reset by the plug- in on a regular basis.	*(1) and (2) for the stereo version*
Max Out Level	dB	Maximum value of the Audio level over time at the output of the plug- in (can be reset by "Min Reset" parameter changes) for both channels.	
Out Peak Hold	dB	Local Maximum value of the Audio level over time at the output of the plug- in. This value is automatically reset by the plug- in on a regular basis.	*(1) and (2) for the stereo version*

Plug- in Settings

In addition to the controls offered in the main user interface, Blue Cat's MB-5 Dynamix has various settings that let you fine tune the behavior of the plug- in. You can choose to change these settings either for the current preset or globally for all instances of the plug- in.

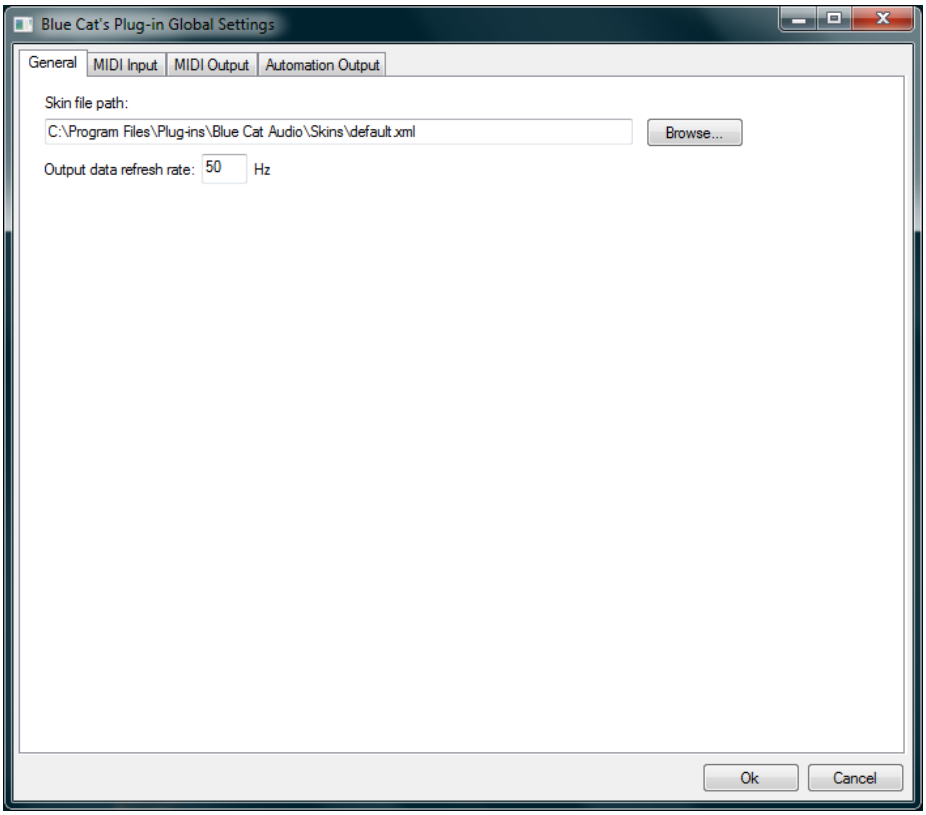
The Global Settings Window

The settings available in this window apply to all instances of the plug- in, for all presets. Consider these settings as “default” settings.

General

You can change the default skin for all instances of the plug- in: write the skin file path in the text edit box or click on the button to open a file chooser dialog. If you have several instances of the plug- in opened in your session, you will have to re- open the user interfaces of these plug- ins to see the skin change.

The output data refresh rate can also be customized for all instances of the plug- in. It controls the refresh rate of non- audio data produced by the plug- in (parameters, curves...). It also controls the refresh rate of output MIDI CC messages or output automation data. The higher the refresh rate, the better precision, but also the higher cpu usage (some host applications may also have trouble recording MIDI data at high refresh rates). The default value is 50 Hz.

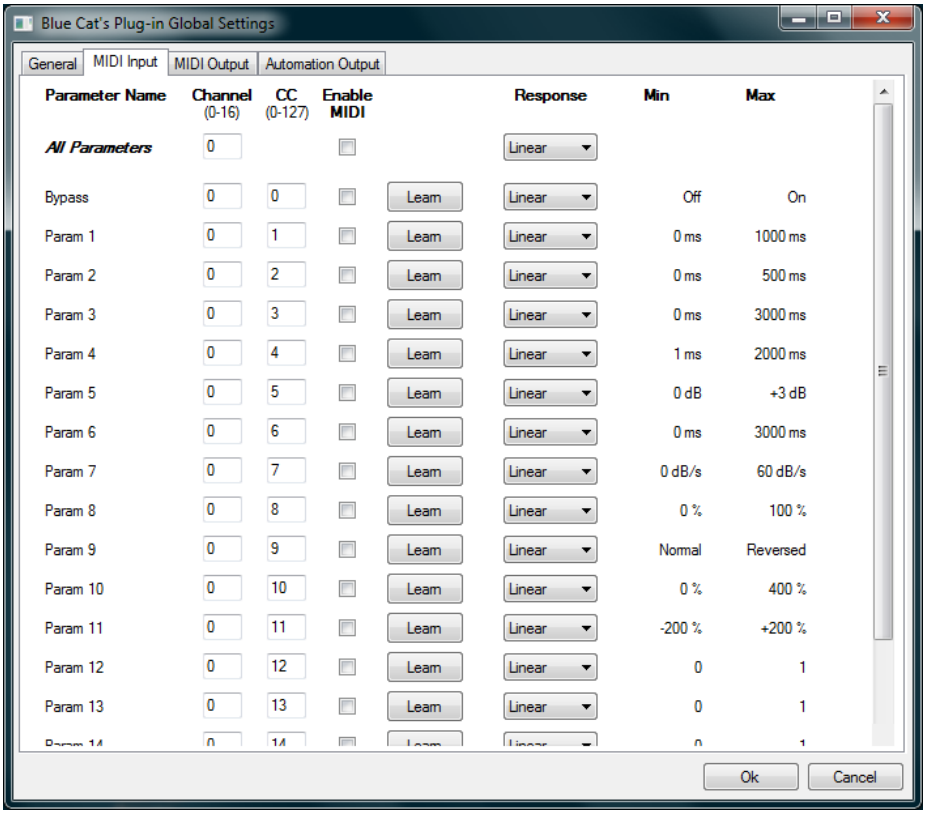


Global MIDI Input Settings

For each parameter you can define a default MIDI channel and CC number. You can then control the plug- in with an external MIDI controller or one of our plug- ins that generate MIDI messages.

The following settings are available for each plug- in parameter:

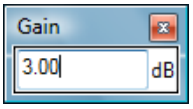
- Channel: MIDI Channel for the parameter control. If set to 0, the plug- ins will accept Control Change Messages from all MIDI Channels (MIDI Omni mode).
- CC: Control Change Number.
- Learn: click on this button to activate the MIDI learn functionality. When it is activated, you can move your MIDI controller, and the plug- in will automatically set the MIDI Channel and CC Number.
- Enable MIDI: enable/ disable the MIDI control of the parameter.
- Response: response curve of the MIDI control: from very fast to slow control.
- Min: minimal value of the parameter when MIDI controlled.
- Max: Maximum value of the parameter when MIDI controlled.



(generic screen shot, does not correspond to the actual plug- in parameters)

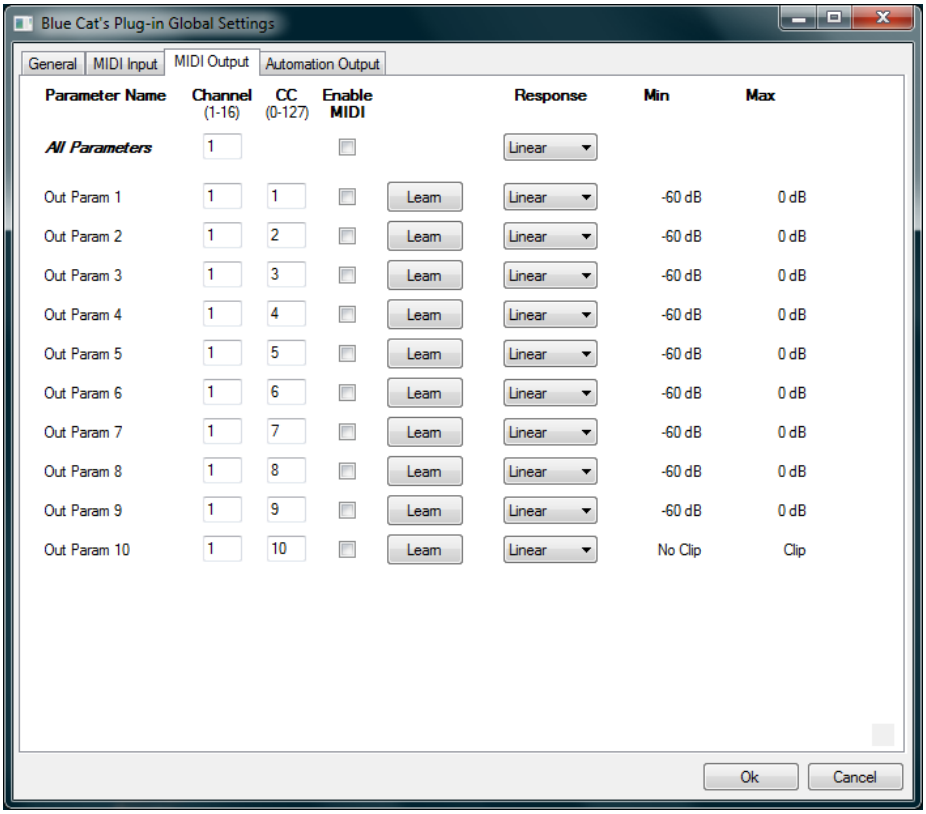
Note:if the Min value is higher than the Max value, the response curve will be reversed: increasing the MIDI controller value will decrease the parameter value.

Note:if you double click on the parameter text control boxes for the max and min values, a “fine tuning” edit box will appear and let you change the min and max values with more precision:



Global MIDI Output Settings

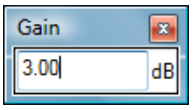
You can set the same properties for the output parameters: they may trigger MIDI CC messages when modified. Since it's output, you cannot set the channel to MIDI Omni, you must choose a channel:



(generic screen shot, does not correspond to the actual plug- in parameters)

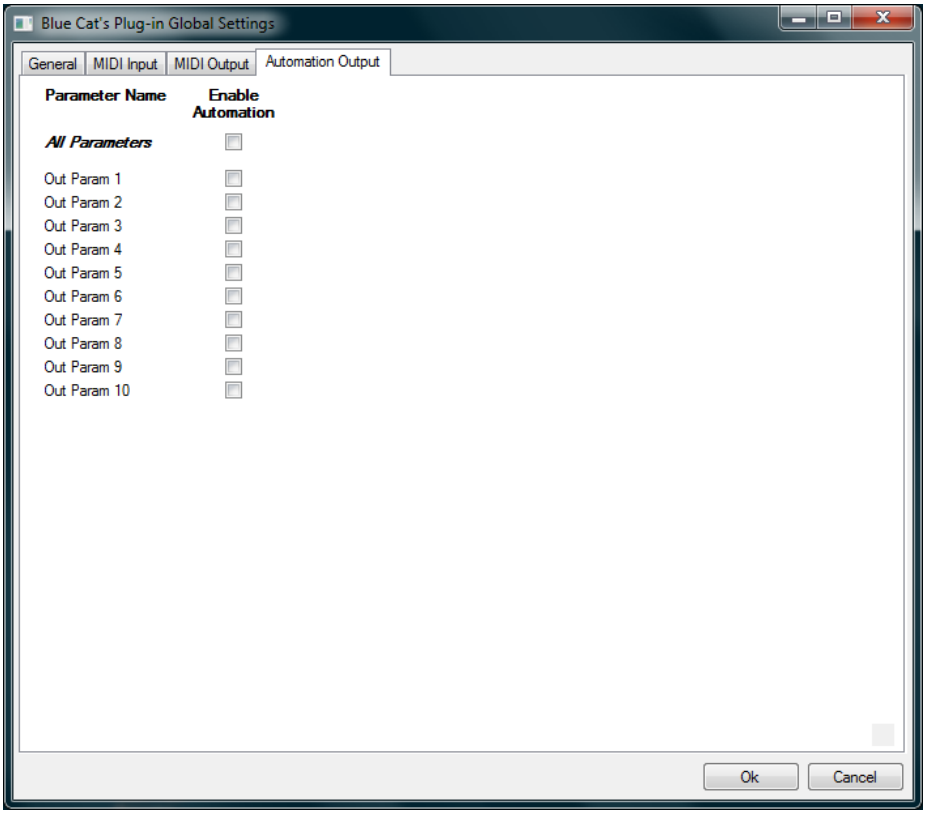
Note:if the Min value is higher than the Max value, the response curve will be reversed: increasing the MIDI controller value will decrease the parameter value.

Note:if you double click on the parameter text control boxes for the max and min values, a “fine tuning” edit box will appear and let you change the min and max values with more precision:



Global Automation Output Settings

If your host application does not let you choose which parameters to record as automation curves, you may need to choose the automation enabled parameters in the plug- in itself. In this pane you can decide which output parameters of the plug- in will record automation, for all instances of the plug- in:



(generic screen shot, does not correspond to the actual plug- in parameters)

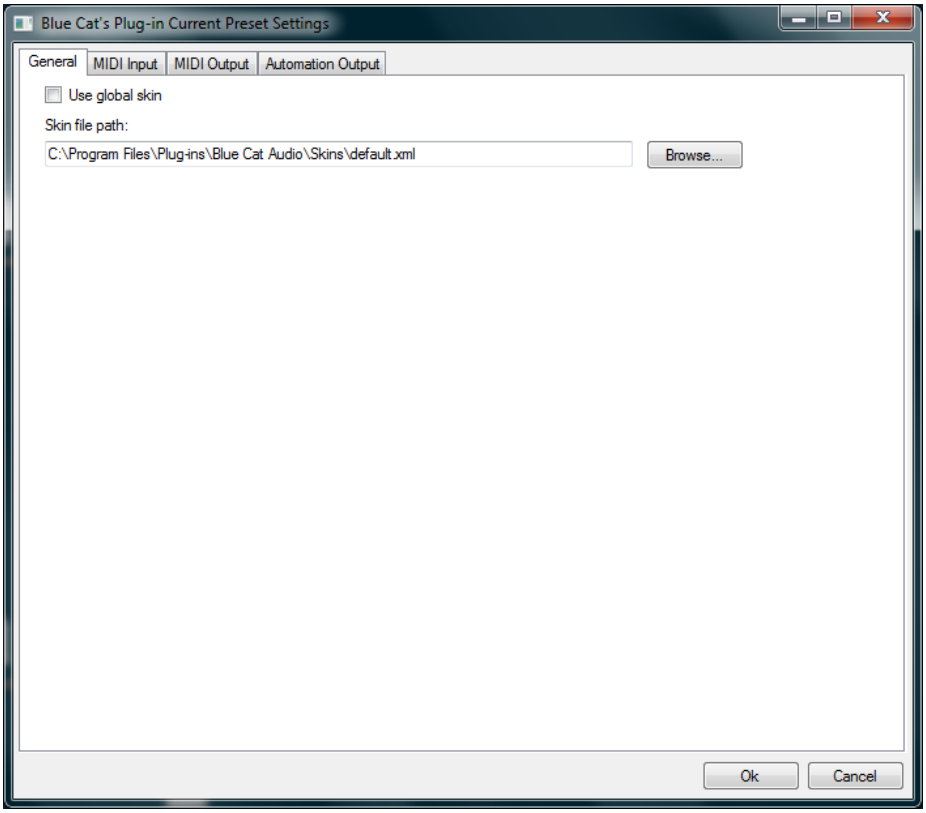
All parameters are disabled by default. Click on the check box to enable/ disable automation for a parameter.

The Current Preset Settings Window

This window lets you change the settings for the current preset of the current plug- in only.

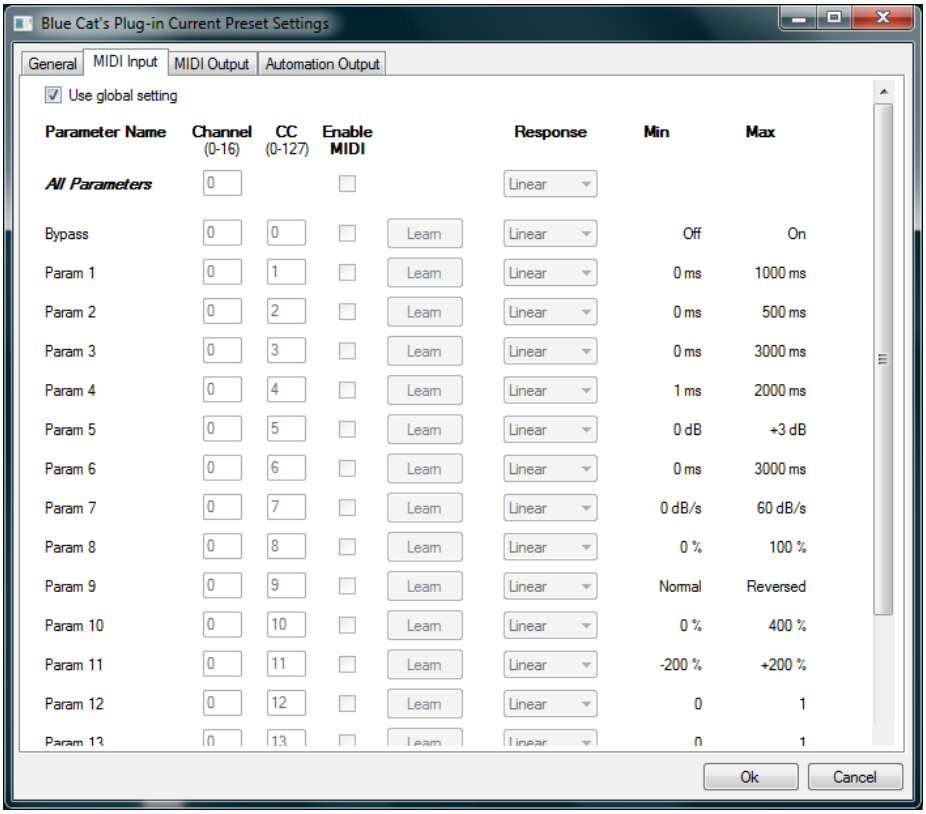
Preset Skin

You can choose to use the global skin setting or to change the skin for the current preset. This way you can have different skins for different instances of the plug- in in the same session in order to differentiate them.



Preset MIDI Input Settings

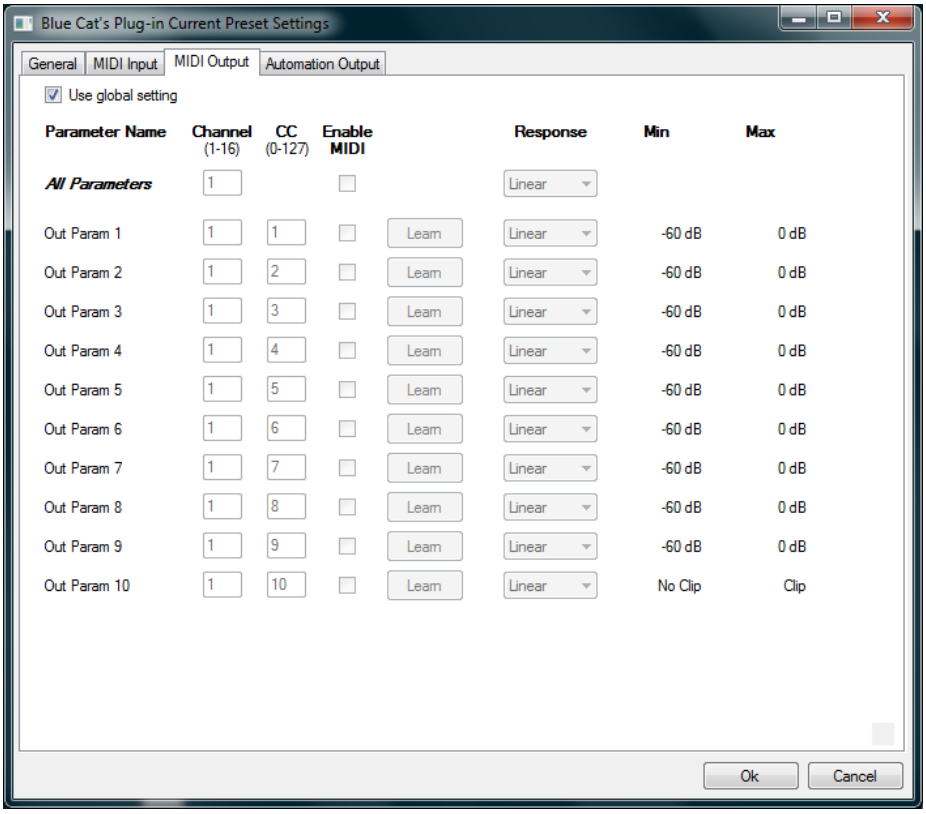
Use the global settings or override them for the current preset. The parameters are the same as for the global MIDI input settings.



(generic screen shot, does not correspond to the actual plug- in parameters)

Preset MIDI Output Settings

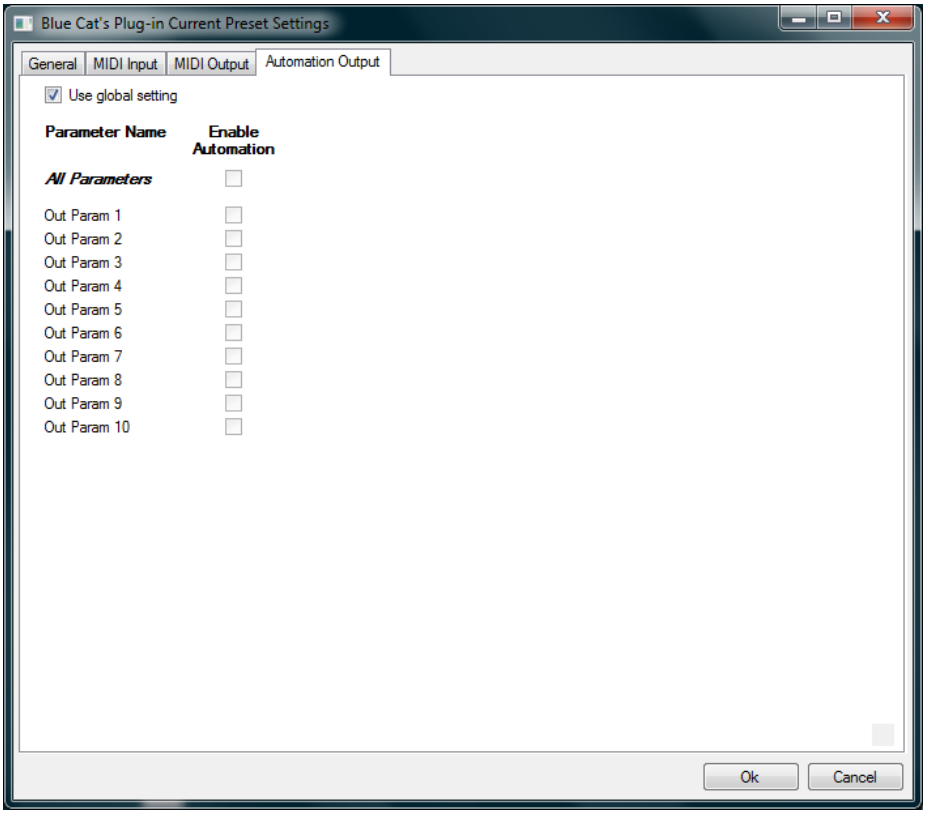
Use the global settings or override them for the current preset. The parameters are the same as for the global MIDI output settings.



(generic screen shot, does not correspond to the actual plug- in parameters)

Preset Automation Output Settings

Use the global settings or override them for the current preset. The parameters are the same as for the global automation output settings:



(generic screen shot, does not correspond to the actual plug- in parameters)

About Skins

Blue Cat's MB-5 Dynamix integrates Blue Cat's skinning engine that allows you to customize the user interface. You can download new skins for your plug- in at the following address:

http:// www.bluecataudio.com/ Skins/ Product_MB5Dynamix

If you don't find a skin that fits your need or if you want a really custom one, you can choose to create your own skin.

Changing the Skin

You have two ways to change the skin of your plug- in: you can change the default (or 'global') skin in the global settings, or change the skin for the current preset only (either in the preset settings page or from the main menu). The global skin applies to all plug- in instances, whereas the current preset skin only applies to the current preset of the current plug- in instance.

See the main menu for more information about how to access these options.

On some hosts the plug- in window won't resize automatically when you choose a skin with a different size. In this case, just close the window and re- open it: it will be displayed with the right size.

Create a Custom Skin

You can create custom skins for your plug- in in order to adapt it to your exact needs. You can change its look and feel and make it completely integrated in your virtual studio!

Just read the Blue Cat's Skinning Language manual and download the samples for the tutorial on http:// www.bluecataudio.com/ Skins. You can get ready to create your own skins in a few minutes.

You can then share your skins on our website.

Automation Output

When I use the plug- in, my host application is slowed down and I get audio drop- outs. How can I solve this problem?

If your host application does not let you select the parameters for which you want to record automation, it might be doing some extra work for handling the output parameters generated by the plug- in. A solution is to disable the output parameters you do not use in the Preset or Global settings/ Automation Output pane.

When I use the plug- in, my host application draws many automation curves on the current track and yet I have not touched any control on the plug- in. How can I avoid that?

If your host application does not let you select the parameters for which you want to record automation, it will record automation for all the output parameters generated by the plug- in. You can disable the output parameters you do not use in the Preset or Global settings/ Automation Output pane.

I am trying to record automation curves as shown in the tutorials but it does not work. What do I have to do?

If your host application lets you select the parameters for which you want to record automation, check that the parameters you want to record are enabled. You also need to check that the plug- in automation output is enabled for these parameters. Check the Preset or Global settings/ Automation Output pane and select the parameters you want to record.

When I use the plug- in in a project, every time I save the project, my application shows it as unsaved right away. How can I solve this issue?

This plug- in produces automation output, and some host applications consier that any change to one of the output parameters is a change for the project. In order to solve this problem, and if you do not use the automation output capability of this plug- in, you can disable automation output from the plug- in settings panel (Global or Preset Settings/ Automation Output pane: uncheck all parameters).

MIDI Output

How can I enable the MIDI output of the plug- in?

If your host application supports it, you can choose to send MIDI CC messages based on the output parameters computed by the plug- in. The feature is not enabled by default, so you need to go to the current preset settings (of the global settings if you want to enbale this for all instances - not recommended) and open the "MIDI output" pane. For each parameter you are interested in, enable MIDI output and select the appropriate channel and CC number. The plug- in will then send MIDI messages to the host application. Check our tutorials for a detailed explanation of MIDI output routing in your favorite host.

Plug- ins Formats

What are DirectX (DX), Audio Unit (AU), RTAS and VST plug- ins?

VST, Audio Unit, RTAS and DirectX plug- ins are software components than can be used in "Host" Software (such as Cakewalk Sonar, Steinberg Cubase or Wavelab, Sony Vegas, Logic Pro, Garage Band, Ableton Live, Pro Tools...) in order to perform some MIDI and/ Or Audio real- time Processing tasks. To be more precise what we usually call directX plug- ins is actually a "DirectShow Filter". VST is owned by Steinberg, DirectX by Microsoft while Audio Units is the property of Apple Computers and RTAS is owned by Digidesign.

How can I use your plug- ins?

Download and install a host software, then download and install the plug- ins from our page. They will appear in the host "effects" menu. If you are using a DirectX host with our MIDI controllable plug- ins and they do not show up in you host list, you might need to use our freeware DXi Manager. Note that our plug- ins are sometimes shown in the "MIDI controllable audio effects" or "soft synths" sections in some host applications.

Where can I find a host?

There are many commercial or freeware hosts that will suit your needs. You can find a long list of applications here. You can also use demos of Cubase, Wavelab, Ableton Live, Tracktion, or Sonar software, which are usually available on the companies websites. On the Mac, Garage Band is part of the system and can be also used to host our Audio Unit plug- ins.

What are the main differences between DX, VST, RTAS and Audio Units?

VST is a protocol that works on several platforms (Mainly Windows, MacOS, BeOS, and some Linux platforms use it as well) whereas DirectX is Microsoft Windows only, and Audio Units are available only on the Mac. RTAS is available on Mac and PC, but

only for Pro Tools products (Digidesign). VST, RTAS and Audio Units are dedicated to Audio processing whereas DirectX (DirectShow) enables you to manage any kind of streamed media (audio video, compressed data...).

What is the difference between DXi and DX effects?

DXi effects are MIDI controllable DirectX plug- ins. It's the same as DX effects plus MIDI control.

Which version (VST, Audio Unit, RTAS or DX) should I use in my host application?

Here is a list of host software and the version we recommend you to use. Many other applications are supported, check your application user manual to choose the best version (AU stands for "Audio Unit" and DX for "DirectX"):

Host Application	Plug- in Version
Cakewalk Products (Sonar, Project5...)	DX
Sony Products (Vegas, ACID, Soundforge)	DX for old versions, VST for new
Steinberg Products (Cubase, Nuendo, Wavelab)	VST (Mac or PC)
Ableton Live	VST (Mac or PC)
Adobe Audition	any
EnergyXT	VST
Magix Samplitude	VST
Avid (Digidesign) Pro Tools	RTAS
Apple applications (Logic Pro, Logic Express, Garage Band...)	AU
Cockos Reaper	VST (Mac or PC)
...	

In general, we recommend using VST over Audio Unit on Mac (when both are supported), particularly for the plug- ins that can output automation or MIDI CC messages.

Where can I find more information about this topic?

- www.steinberg.net
- www.microsoft.com
- www.kvraudio.com
- www.apple.com
- www.digidesign.com

Installation

I have installed my software and it is not listed as an application. Why? What can I do? How can I launch it?

Most software you can purchase on this website is plug- ins for host applications. It means you need another application to use it. See the "Plug- ins Formats" section in this FAQ for more information.

I have installed my plug- in and it does not show up in my host application. What can I do?

First check that you application supports DirectX, Audio Unit or VST plug- ins.

If you are using the DirectX version, check that your host application supports DXi plug- ins (MIDI enabled DirectX plug- ins). If it does not, it may remove it from the DirectX plug- ins list (some applications such as Sony Vegas 5 and Cool Edit Pro are known to do this). In this case, use our DXi Manager free utility and disable the MIDI capabilities of the plug- in. You may need to reinstall the software again before it shows up into your host application. For more information about this topic please read our DXi in Sony Vegas tutorial (it is applicable to other applications than Sony Vegas).

If you are using the Direct X version and your host application supports DXi, check that the plug- in does not appear in the 'virtual synth' or 'synthesizers' category. If you wish not to use the MIDI capabilities of the plug- in and use it as a regular Direct X plug- in, you can download the freeware DXi Manager and disable the MIDI capabilities of the plug- in.

I have installed my plug- in on windows 64- bit, checked the items above, and it still does not show up in my host application. What can I do?

You are probably running a 32- bit application. If that's the case, you need to install the 32- bit version of the plug- in: the choice for 32 or 64- bit is not determined by the operating system (64- bit windows can run both 32 and 64- bit applications), but by the host application that you are using.

Why are there two plug- ins called xxxx(Mono) and xxxx(Stereo) installed ?

"Mono effects" (which are effects that do not make any difference between left and right channels) are bundled this way for performance reasons. Some developers just deliver a stereo Version which also processes (twice) mono streams. The "(Mono)" plug- in is to be used with mono streams, and the (Stereo) one with stereo streams. The effect itself is the same in both cases but the number of processed channels is different: this may drastically improve performance for CPU intensive plug- ins.

How do I uninstall my plug- ins?

Open the Windows configuration panel/ Add Remove Programs, and choose 'Remove' on the corresponding plug- in. If you have installed the VST plug- in zip file version, just delete the corresponding dlls.

Why do your plug- ins need an installer on Windows? Do they modify the registry or system settings? Why not providing just a dll?

Our plug- ins require several additional files for default settings, skins and miscellaneous data. We provide an installer for our customers' convenience. Our installers do not modify the system settings or the Windows registry, except for the DirectX versions registration. Our installers won't harm your system.

Software Version

How do I know the version of the plug- in I am using?

You can see the version information in the about box: right click on the background of the plug- in user interface and select "About". The product version is also available in the Windows Add/ Remove Programs Window.

Why do newer versions of a plug- in override older ones (they have exact same name and IDs)?

Because newer versions improve previous ones. When a new version is released, older versions are not supported anymore. In some cases the new versions may be installed as new products (compatibility reasons, major changes...), but it is explicitly documented on the product page.

A new minor version of a product I purchased some time ago is available. Where can I download the update?

The new version can be downloaded from the same place where you downloaded the original version. All information is contained in the email you received when you purchased the product. Your registration number has not changed either.

Upgrade

A new minor version of my plug- in has been released. Where can I download it?

When you purchased the plug- in, an email containing the information to download and register your software has been sent to you. You can download the new version from the exact same location as the first time.

I have downloaded a new version, do I need to uninstall the previous version?

No, you don't, except if it's specified on the product page, in the "history" section. Just run the installer and it will upgrade your software.

Automation

What is "Parameters Automation"?

The parameters of an effect can be automated in most host software. It means that you can record the changes you do during playback or recording so that it's replayed when playing back again. It's a way of sequencing parameters changes the same way you do with Audio or MIDI data.

What is "Smooth Update"?

When changing parameter values in real time or replaying a song where parameters have been automated, our plug- ins compute intermediate values between parameter changes in order to avoid "clicks" and "pops" that may occur otherwise. It results in a non audible smooth parameters update and lets you freely use automation or MIDI control to change the effects in a song.

Do your plug- ins support MIDI Control?

Yes they do. They offer precise control over the mapping of MIDI Control Change (CC) messages to parameter values: you can adjust both the channel and CC number as well as the response curve of the control. Since some of our plug- ins are also capable of creating MIDI CC from the audio signal, they can all be connected for real time signal- dependent audio effects. See our MIDI Control in Sonar tutorial for an example.

More...

This manual only covers the basics of Blue Cat's MB-5 Dynamix. Our website offers many additional resources for your Blue Cat's MB-5 Dynamix plug- in and is constantly updated, so keep an eye on it! You will find below a few examples of available resources.

Extra Skins

We encourage our customers to propose their own skins for our products and we often propose alternative skins to let you choose the one that best suits your needs. You can check Blue Cat's MB-5 Dynamix skins page to get the latest skins.

There were no extra skins for Blue Cat's MB-5 Dynamix when initially released. Please check the skins page to see if new skins are now available.

Tutorials

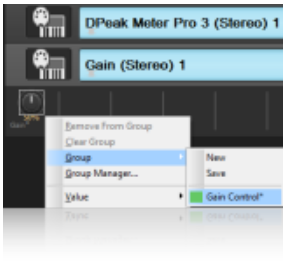
Many Tutorials are available on our website. They cover a wide range of topics and host applications. You will find below a list of tutorials that are related to the Blue Cat's MB-5 Dynamix plug- in. An updated list is also available online.

Tutorial - Automation Envelopes Generation in MOTU's Digital Performer 7

This tutorial shows how to reuse the envelopes generated by our plugins with output parameters in MOTU's Digital Performer 7 host software. As of today Digital Performer does not receive MIDI events f...

[Read More...]

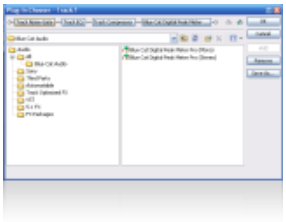
Tutorial - Connecting Plug- ins with Groups in Cakewalk Sonar



This tutorial shows how to reuse the envelopes generated by our plugins with output parameters in Cakewalk Sonar using groups. Other techniques exist (using MIDI or Automation curves), but this one ha...

[Read More...]

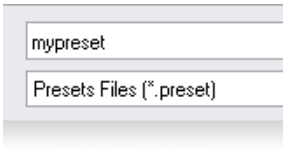
Tutorial - Using DXi plug- ins in Sony Vegas



This tutorial will teach you how to use any DXi plug- in in Sony Vegas: Sony Vegas does not support MIDI automation, so if your plug- in supports the MIDI Dxi protocol, it is removed from the plug- ins l...

[Read More...]

Tutorial - Export Plugin Presets to Share them with the Community



This tutorial shows you how to export your presets in order to share them with the community on the Blue Cat Audio website. This tutorial uses Blue Cat's Stereo Triple EQ for the demonstration bu...

[Read More...]

Tutorial - Getting Started with Plugins User Interface

Get used to the user interface features of Blue Cat Audio products! They have been designed for an optimal workflow, so here are the tips and tricks to save time. All these functionalities are explain...

[Read More...]

Tutorial - Using MIDI Control in Sonar

This tutorial will help you understand how to use parameters MIDI control in Cakewalk Sonar. It is applicable to any DXi plug- in (MIDI enabled DirectX plug- in)....

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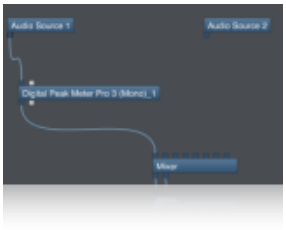
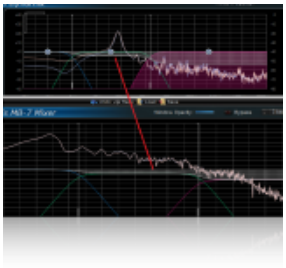
Tutorial - Using MIDI Connectivity in a Modular Host (Plogue Bidule)



This tutorial shows you how to use the MIDI connectivity of our plugins in a modular host such as Plogue Bidule. We are using the Mac version of Bidule in this tutorial. The scenario here is very sim...

[Read More...]

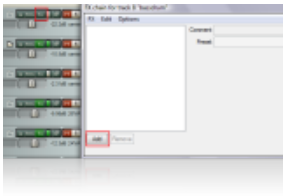
Tutorial - Real Time Side Chain Multiband Dynamics



This tutorial shows how to perform multi band side chain compression, ducking or gating with Blue Cat's MB-5 Dynamix and Blue Cat's MB-7 Mixer. "Side chaining" consists in using the si...

[Read More...]

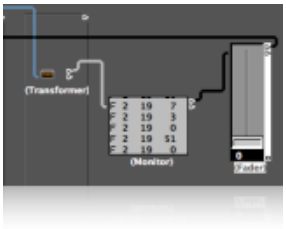
Tutorial - Using Blue Cat Audio plugins connectivity in Reaper



This tutorial shows how to use our plugins MIDI connectivity within Reaper. We use Blue Cat's Dynamics plugin as an example, but you can use any other audio plugin which provides output parameters, su...

[Read More...]

Tutorial - Connecting plug- ins together in Logic for advanced side chain effects



This tutorial shows how to use the connectivity capabilities of our plugins within Logic. We use Blue Cat's Peak Meter Pro plugin (DPMP) as an example, but you can use any other audio plugin which pro...

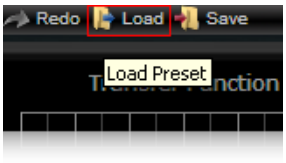
[Read More...]

Tutorial - Using Blue Cat Audio plug- ins connectivity in Pro Tools

This tutorial shows how to use the MIDI connectivity of our plugins within Pro Tools. We use Blue Cat's Peak Meter Pro plugin as an example, but you can use any other audio plugin which provides outpu...

[Read More...]

Tutorial - How to Use the Free Presets Available on this Website



This tutorial shows you how to get and load free presets for your favorite Blue Cat Audio plugin. This tutorial uses Blue Cat's Dynamics for the demonstration but is applicable to all our plugins...
[Read More...]

Updates

As you can see in the history log below, we care about constantly updating our products in order to provide you with the latest technology available. Please visit often our website to check if Blue Cat's MB-5 Dynamix has been updated, or subscribe to our Newsletter to keep you informed with the latest news about our products.

Versions History

V1.2 (2011/08/31)

- Output data rate (MIDI CC or automation) can now be customized, from 20 to 500 Hz.
- Increased the default output data rate (from 20 to 50 Hz) for smoother side chaining and more precise spectrum display.
- Windows: improved settings dialog loading time.
- Mac: user interface performance improvement (up to 20% lighter on cpu).

V1.11 (2011/02/10)

- Fixed keyboard focus stealing issue in Pro Tools and several other host applications.

V1.1 (2010/12/14)

- Improved the precision of the crossover filters, especially in the low end of the spectrum.
- Zoom animation is no longer triggered when opening the user interface of the plug- in.

V1.0 (2010/09/06)

First release.

Thanks again for choosing our solutions!

See you soon on www.bluecataudio.com!