Mac OS X • Windows • AAX/Audio Suite/Audio Units/VST • 32/64 bit

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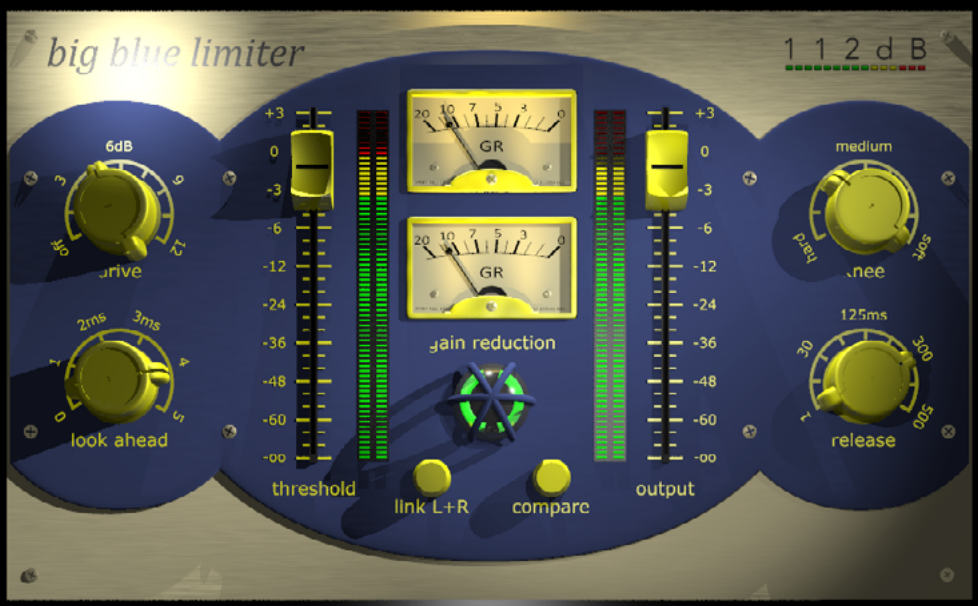

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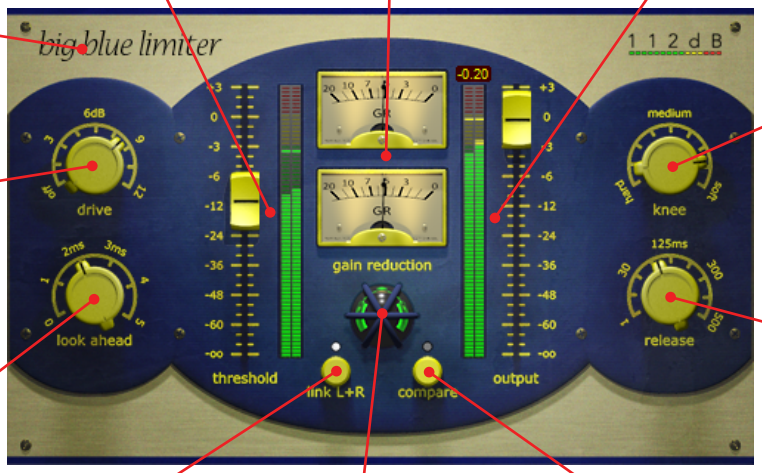

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INTRODUCING...

Big Blue Limiter is a *character limiter*. It is neither transparent nor intended to be. In fact it adds some coloration to everything you run through it, if desired even when no limiting is taking place.

The basic concept of a limiter is simple. In response to changes in the input signal level it automatically adjusts gain such that the entire signal stays below a user-defined level. Despite this seeming simplicity the limiter (and its close relative, the compressor) ranges among the most powerful weapons in the audio arsenal. By altering the dynamic range of an audio signal such that the the loudest peaks are reduced in volume, it can make material sound more coherent and its nuances much easier to hear. When properly set up, a limiter rides gain much like recording engineers raise and lower the faders on a mixing console to make the level more consistent. Used this way it tightens up mixes and makes audio more upfront, punchy, and solid.

Some limiters also make the signal sound warmer and fatter. This too is familiar territory for Big Blue Limiter. Its limiting circuitry contains vintage tube modelling that adds a pleasing amount of coloration to any limited signal. And as if that weren't enough it also features an independent preamp that just loves to be overdriven. Whenever your material needs more body or oomph you will find that Big Blue Limiter is exactly what it takes.

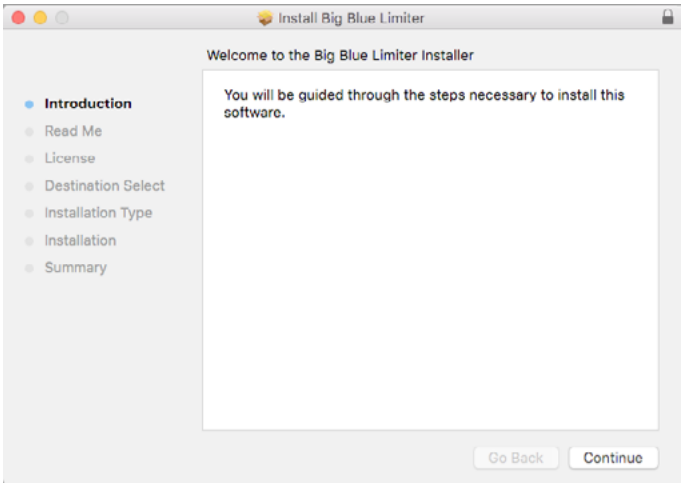
With its versatile sound, intuitive interface, easy operation, adjustable latency (all the way down to 6 samples), and negligible CPU load Big Blue Limiter feels equally at home during a mix session and a mastering session. Hearing is believing!

Installation

Big Blue Limiter comes in the form of a single installer for all available plugin formats: AAX, VST, and Audio Units.

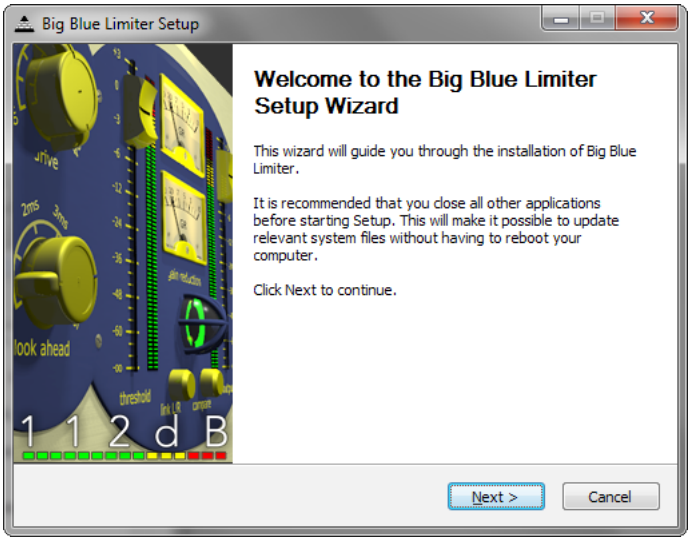
Mac OSX

1. If you have not already done so, please download and run the latest Big Blue Limiter installer from www.112dB.com/download. Double click the Big Blue Limiter Installer.pkg file to start the installer.
2. It is recommended to have a quick look at the readme if this is a new installation or an update, as it may contain important last-minute information that was not available at the time of writing.
3. You will be asked to agree to the terms of the license agreement.
4. The installer installs all plugin formats (VST2, AAX, and Audio Units) by default.
5. You will be prompted for your Mac password to complete the installation.



6. If the installer detects you haven't activated your license yet, the 112dB license manager will be started.

Windows



1. Run the Setup program to launch the installer.
2. The setup program detects whether you already have VST or AAX plugins on your system and selects the plugin formats it installs accordingly. If you wish you may override this choice and manually select your desired plugin formats.
3. By default Big Blue Limiter installs to \Program Files\112dB\ Big Blue Limiter. In general, it is not recommended to change this but if you have a compelling reason to do so, either type in the desired directory in the *Destination Folder* box, or click on the *Browse* button to the right of the *Destination Folder* box and select the directory within which you would like Big Blue Limiter installed.
4. If you opted to install the VST plugin, the ***Choose VST Location*** step is one you should pay attention to. The setup program *should* detect your default plugin folder, but you may prefer another directory for your plugins – particularly if you use multiple hosts – in which case you will need to manually direct the installer to the desired directory. The process for this is identical to that in the previous step.
5. The *Start Menu Folder* step is for convenience and for quick access to troubleshooting files. Currently, it points to the readme, the error log, this manual, and the uninstaller executable. It should be noted that all of these files are directly accessible in the Big Blue Limiter program folder (wherever the installer was directed in Step 6. In addition the uninstaller for Big Blue Limiter will be listed under *Control Panel » Add/Remove Programs*, so if you like to keep your start menu clean, you can safely select ***Do Not Create Shortcuts***.
6. After Big Blue Limiter installs, Setup is complete and you may click the *Finish* button. It is recommended to view the readme if this is a new installation or an update, as it may contain important last-minute information that was not available at the time of writing.

Authorization

Our plugins do not rely on a dongle or challenge/response authorization for copy protection, as these schemes place an unnecessary burden on the customer. Instead we protect our plugins by means of a *keyfile* – a text file that holds your personal authorization. Unlike challenge/response authorization our keyfiles are *not* tied to a specific computer system. Thus you can use the same keyfile for authorizing a copy of our plugins on any system, now and at any point in the future.

Unlike most challenge/response authorization schemes, you do not need our permission to change your hardware, upgrade to a new operating system, or even to install the plugin on your studio setup, your home computer, *and* your travel notebook all at the same time. You will find that this is one of the least intrusive forms of copy protection you are likely to encounter.

Installing a New Authorization

The authorization process itself is equally simple. With your purchase or demo download you should have received an email containing a license (in the form of an XML keyfile). To authorize, save this keyfile to your desktop, fire up your preferred host, and load the plugin. Big Blue Limiter now prompts you to locate a license file. Navigate to the folder where you saved the keyfile and click ***Ok***. That's all there is to it, Big Blue Limiter is now fully functional.

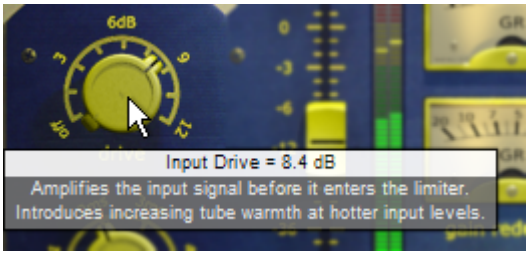
Upgrading an Existing Authorization

To upgrade your authorization from a time-limited demo to a purchased full license, first save the permanent XML license from your purchase confirmation email to your desktop as described above. To replace the demo license with the permanent license, open a Big Blue Limiter plugin window in your favorite host and right click anywhere in the window and select ***Load existing license file...***

Should you encounter any problems during the authorization process please contact our support staff by email at <***support@112dB.com***>. We will accommodate you as soon as humanly possible.

The Big Blue Limiter interface has been designed to be as intuitive and easy to operate as possible. However, in the interest of innovation, some functions operate in ways that may be initially unfamiliar. This section will cover the less obvious aspects of the interface.

Tooltips

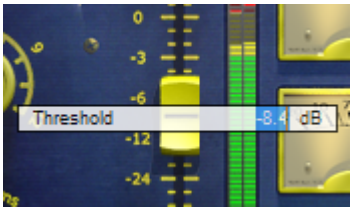


If you're lost, hovering over any item of the interface for approximately one second brings up a floating tooltip window with a brief description of that control's function. These tooltips can be disabled by right-clicking anywhere on the interface and deselecting ***Show Tooltips*** from the popup menu that, well... pops up.

Reset to Default Value

<*Ctrl*>-clicking knobs and sliders will reset them to their default value. This is handy if you would like to undo some programming you have done.

Numerical Value Entry



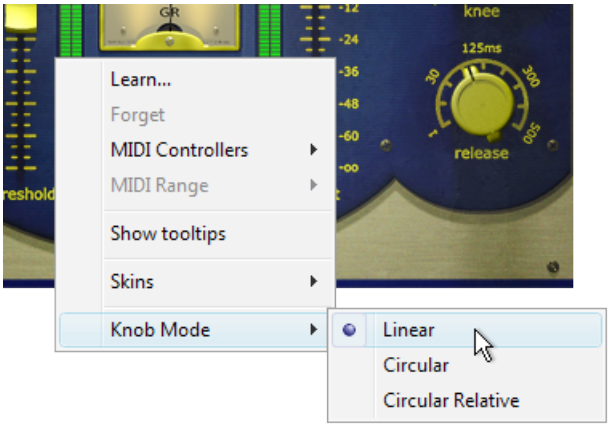
Double-clicking knobs will open a small edit window that allows you to type the desired value from the keyboard for maximal value control. To dispose of the edit window either hit <*Enter*> or click anywhere outside the window.

Mousewheel

All interface controls – knobs, sliders, even buttons – support mousewheel control. If your mouse is equipped with a scrollwheel simply hover the mouse pointer above the control you want to adjust and move the wheel up (to increase its value) or down (to decrease it).

Knob Modes

By default all knobs are in *Linear* mode: clicking and moving the mouse up (or down) turns the knob clockwise (or counterclockwise). Moving either left or right also turns the knob but in a slower fashion for more precise control.



If you prefer you can change the knob control mode to either ***Circular Absolute*** or ***Circular Relative*** mode by right-clicking a knob and opening the ***Knob Mode*** menu. In either of the circular modes knobs function like hardware knobs; click and drag clockwise or counterclockwise to turn the knob accordingly. The difference between the two circular modes is that in circular absolute mode the knob turns to the exact same position of the mouse pointer—for example, moving the mouse pointer to a 3 o'clock position also moves the knob to the same position.

In contrast, in circular relative mode the knob turns from its initial position (from before you clicked it) by the amount that you move the mouse clockwise or counterclockwise. For example, clicking a knob with the mouse pointer at the 12 o'clock position and moving the mouse pointer to the 3 o'clock position – or one quarter turn – will also turn the knob by one quarter turn relative to its initial position. This is more confusing to read than to see it in action!

Detents

Sliders and knobs have a built-in detent that remembers their previous position. For example, assume that a knob is at its 12 o'clock position before you click it. Once you click and move the knob back and forth you will notice that it snaps to its previous (the 12 o'clock) position. This allows you to easily try simple adjustments and still revert to the previous position in case the adjustment turns out not to be an improvement.

MIDI AUTOMATION

In addition to host-based automation, all useful controls can be controlled by an external MIDI keyboard or MIDI controller. To assign a MIDI control simply right-click on the control in question and a menu will pop up. You can either directly choose a MIDI control from the MIDI Controllers submenu, or choose ***Learn...*** and move the control you want to assign on your external MIDI keyboard or controller within ten seconds. Big Blue Limiter will automatically assign the control (and remember it from now on, even for new plugin instances).

To remove a previously established MIDI mapping choose ***Forget*** from the popup menu.

ALTERNATIVE SKINS

Big Blue Limiter supports custom skins that modify the appearance of the plugin. At present it comes with two additional skins. *Modern* by Scott Kane gives the plugin a completely different look & feel. ***XL*** will make the whole plugin larger. Additional skins may be made available as downloads from the 112dB site. To load a skin right (cmd)-click anywhere on the plugin interface and select a skin from the Skins submenu. You will be asked to close en re-open the plugin window for the change to take effect.

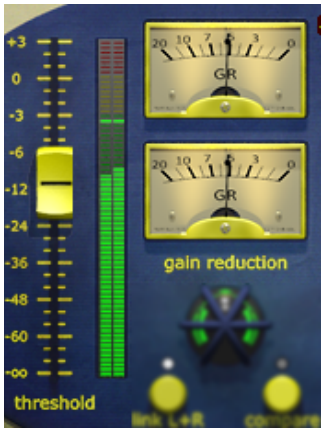
Controls and Setup

This section describes the various interface controls and how to get the most out of Big Blue Limiter. If nothing else we recommended that you at least skim through this section for an idea of what's on offer.

Basic Limiting

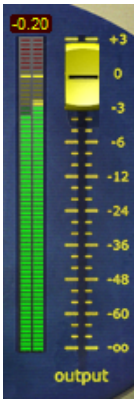
Input level, treshold, and gain reduction

The Threshold slider sets the level at which the limiter starts to work. A signal below the threshold is passed unharmed. If it exceeds the threshold its volume is reduced. (This isn't the entire truth. If the limiter is set to use a knee, audio slightly below the threshold level is limited too – albeit to a smaller extent.) Next to the slider is a meter showing the input level, making it easy to visually set the threshold level.



The two VU meters show the amount of gain reduction (in dB) currently being applied. Note that by their very nature a VU meter displays a running average and not the maximum level of gain reduction, which is more useful for most applications since it closely corresponds to the way our ears perceive the resulting increase in program loudness.

Output level



Sets the maximum level for the outgoing audio signal. After limiting the signal is attenuated or amplified such that program peaks will reach the selected output level. So for an Outputsetting of 0dB the signal leaving the limiter will always peak at (approximately) 0dB regardless of the original signal level – whether it is hot around 0dB, or quiet and stays well below -18dB.

In addition the exact maximal output level is displayed as a numerical readout above the Output slider. If for some reason the audio does surpass this level this readout will light up red to alert you of the fact. During normal operation this should never happen, unless you (accidentally or deliberately) selected a very

short lookahead time – see the Lookahead section below.

Linking Stereo Channels

If this button is enabled Big Blue Limiter will always apply the exact same processing to both stereo channels. This ensures that the stereo image remains intact and avoids center shifting in the stereo image. Disabling this function allows for a slightly hotter average output level, at the cost of a possibly unstable stereo image at times when one stereo channel contains loud peaks where the other does not.

Release Time

Determines the time it takes for the signal to return to its original level once it drops below the threshold level. If the release time is set too short for the current program material too much gain is restored each time the signal falls below the threshold. This results in audible "pumping" and "breathing" artifacts and, at extreme settings, distortion of low-frequency components. Higher settings are often more suited for complex audio sources and allow for more transparent limiting. If the release time is set too long however, the gain reduction caused by loud program peaks may persist through following softer sections.

Finetuning

A/B Comparisons and Bypass

Clicking the Big Blue Limiter logo toggles bypassing of the entire limiter engine, allowing for convenient A/B comparisons. This is important because it allows you to let your ears (and not your eyes) decide whether you are actually improving the signal.

To allow for better comparison of the dry and processed signals the ***Compare*** button adjusts the output level to match the input level. This temporarily disables the ***Output*** level setting, so make sure to reset the button once you're done comparing.

Knee (Hard vs. Soft Limiting)

The ***Knee*** setting determines how quickly the limiter reaches its maximum gain reduction. A soft knee causes a more gradual transition from no to full gain reduction and provides a gentler, more transparent sound. In contrast a hard knee translates to an abrupt transition that slams the signal peaks exceeding the threshold for a much more aggressive sound. For most program material a relatively soft knee

sounds more pleasing, but hard knees are great for that in-your-face sound.

Lookahead

The ***Lookahead*** time determines how far the limiter looks ahead for program peaks. Longer times allow detection of peaks well before they occur, allowing the limiter to take more gradual action. For very short times the limiter may occasionally be unable to reduce sudden signal peaks sufficiently to keep them below the output level – this is called an "overshoot". When this happens the numerical output level readout will light up red for approximately two seconds. Unless you don't care about keeping the output level strictly below the selected output level this is a sign that you should increase the lookahead time a notch or two.

Variable Plugin Latency

Limiter plugins need to "look ahead" at the incoming audio to transparently keep the signal below the desired output level—this is the reason why they introduce latency – and Big Blue Limiter is no exception. But unlike most limiter plugins the latency introduced by Big Blue Limiter is user-adjustable and can be as low as 6 samples.

Depending on the source signal a limiter may need a little or a lot of lookahead to do its job, so most limiters fix the lookahead (and hence the latency introduced) to some general-purpose value. Not so with Big Blue Limiter: simply by adjusting the ***Lookahead*** control you can directly control the plugin latency.

Note that in general hosts cannot adjust to a plugin latency change on the fly, but stopping and restarting transport will cause most hosts to pick up the new latency setting. If that doesn't work for your particular host, disabling and re-enabling the plugin will usually do the trick.

Building Character

Drive

By default Big Blue Limiter already adds a healthy dose of character to any source material. If you desire even stronger coloration Big Blue Limiter features a tube preamp that you can overdrive by means of the ***Drive*** control. This boosts the input signal before it enters the preamp and limiting circuitry, adding a healthy dose of character and harmonics to the signal. (And if that still isn't dirty enough to your taste, try boosting the audio level before it hits the plugin.)

The Cat's Eye

The cat's eye (also often called *magic eye*) is a tube that provides visual feedback on the amount of character – *not* the amount of gain reduction! – that the limiter imparts. The more of the green segments light up, the more grunge the combined preamp and limiting circuitry add to the signal. But your ears will already have told you that!

System Requirements

Operating System

- Windows 7 or up (32 or 64-bit)
- Mac OS X 10.7 (Lion) or up (64 bit)

Hosts

Big Blue Limiter is compatible with any host that understands the AAX, VST, and/or Audio Units protocol.

Updates and Support

Updates for Big Blue Limiter will be made available at

https://112dB.com/download

For product support, questions, comments, feature suggestions, and anything you feel is worth sharing, please visit our forum at

https://112dB.com/userforum

Alternately, for more individual product support you may contact our support staff by email at

support@112dB.com

Concept Martijn Zwartjes */ Design* Jules Vleugels.
112dB team: Anouschka Busch, Klaus Voltmer, Martijn Zwartjes.

Modern skin by Scott Kane <s0nkite@hotmail.com>.

Special shouts to our dedicated beta testers.