big blue limiter
Manual

112dB

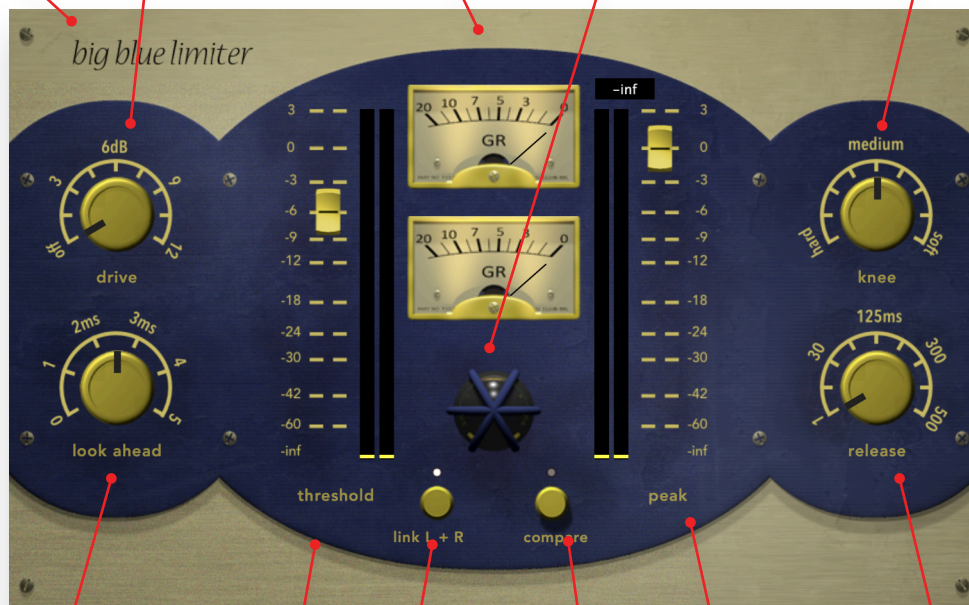# QUICK INDEX

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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!

A. DOWNLOADING THE LATEST INSTALLER

To make sure you are running the latest version of Big Blue Limiter please visit our Product Updates page at www.112db.com/download/bigblue/limiter and download the latest installer for your operating system. (If you already have a demo with the same version number installed you may skip this step and continue to C. Authorizing the plugin below.)

B. PLUGIN INSTALLATION

Big Blue Limiter comes in the form of a single installer for all available plugin formats: VST2, VST3, AAX, and Audio Units.

MAC OSX

1. Double click the Big Blue Limiter Installer.pkg file to start the installer. You will now see the welcome screen shown on the right.

2. You might want to have a quick look at the readme, 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, VST3, AAX, and Audio Units).

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.
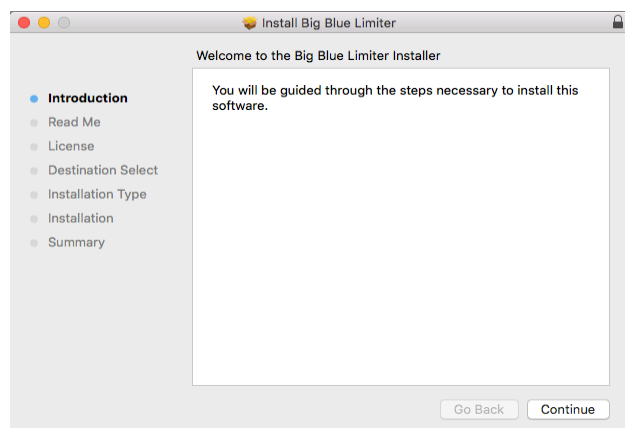
Windows

1. Double click the Big Blue Limiter Installer.exe file to run the setup program.

Windows might give you the following warning: 'Microsoft Defender SmartScreen prevented an unrecognized app from starting. Running this app might put your PC at risk'
No need to worry, this simply means that the installer is too new to be recognized by Microsoft Defender yet. We can assure you that we're not in the habit of putting malware in our plugins, so if you downloaded the installer from our website, you can safely ignore this. Click on 'More info'. Make sure that 112dB is mentioned as Publisher. Then click 'Run Anyway'. Depending on your system settings, you now might get another message: 'Do you want to allow this app to make changes to your device?' Click 'yes' to continue with the installation.
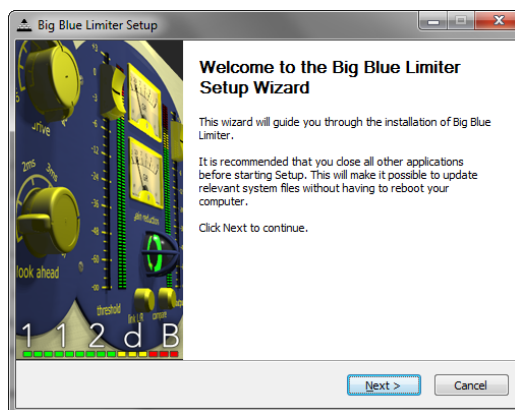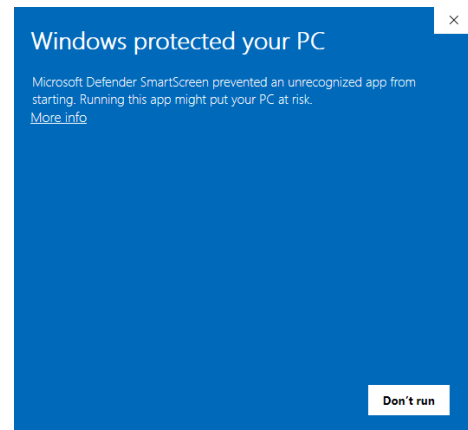
2. You will now see the welcome screen shown on the left.

3. In the next step you will be asked to agree to the terms of the license agreement.

4. 'Choose Components' will give you an overview of the plugin formats that are going to be installed. If you wish, you may override this and deselect components that you won't need.

5. If you opted to install the VST2 plugin, the 'Choose VST2 Plugin Location' step is one you should pay attention to. The setup program will install the VST2 plugin in \Program Files\Common Files\Steinberg\VST2\112dB by default, 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.

6. When Big Blue Limiter has been installed, Setup is complete and you may click the Finish button. By default 'Start the 112dB License Manager' will be selected. Keep it selected if you haven't activated your license yet, and want to activate it now. If you already have a license installed, you can deselect it.

7. You might want to have a quick look at the readme, that was installed in \Program Files\112dB\Big Blue Limiter, as it may contain important last-minute information .

C. Authorizing the plugin

With your purchase or demo download you should have received an email containing a license file (in the form of an XML-document). Save this file to your computer.

The 112dB License Manager will be started automatically after the installation is finished. Drag and drop your license file on the License Manager window. Or alternatively click on 'locate license...', navigate to the folder where you saved the license file, select it, and click 'Open'. You can decide to skip this step, and activate your license later from within the plugin.
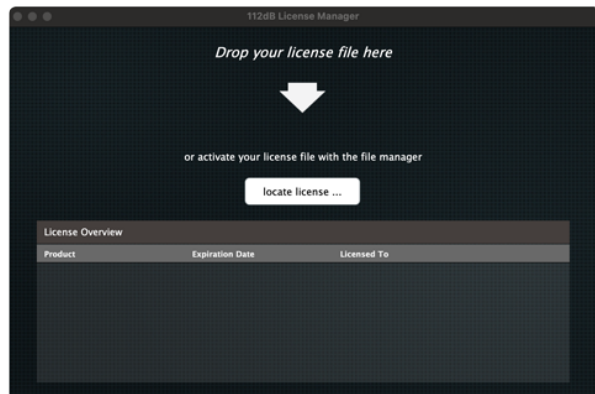
from demo to permanent license

To replace a demo license with a permanent license, first save the permanent XML license from your purchase confirmation email to your computer. Open the 112dB License Manager (see 'Where can I find the License Manager?' below). Drag and drop your license file on the license manager window to activate Big Blue Limiter. Or alternatively, click on 'locate license...', navigate to the folder where you saved the license file, select it, and click 'Open'. In your License Overview you will now see 'perpetual' instead of a specific expiry date for Big Blue Limiter under 'Expiration Date'.

where can i find the license manager?

Windows: \Program Files\112dB

Mac: /Applications/112dB

troubleshooting

Some email clients do not like plain text attachments. For this reason the license is attached in both text (.xml) and zipped (.zip) formats. If you receive an error message saying that the 112dB Big Blue Limiter.xml license is invalid or corrupt, the most likely cause is that it got corrupted during email transfer. In this case please save the 112dB Big Blue Limiter License.zip attachment to your computer instead, unzip the file (this will produce a 112dB Big Blue Limiter License.xml file) and try authorizing again.

If you encounter any problems during the installation or authorization process, please contact us by email at support@112dB.com.

INSTALLING ON MULTIPLE COMPUTERS

The license file you received is not tied to a specific computer, only to a specific person. You can use the same license file to authorize the plugin on any system, as long as it is yours. This way you can install and use the plugin on your studio setup, your home computer, and your travel notebook at the same time.

UNINSTALLING

The uninstaller for Big Blue Limiter can be found here:

Mac: /Applications/112dB/Big Blue Limiter
Windows: \Program Files\112dB\Big Blue Limiter

In addition the uninstaller will be listed on Windows under Control Panel » Add/Remove Programs.

INSTALLATION LOCATIONS

License Manager:

Mac: /Applications/112dB
Windows: \Program Files\112dB

VST3-plugin:

Mac: /Library/Audio/Plug-Ins/VST3
Windows: \Program Files\Common Files\VST3

AAX-plugin:

Mac: /Library/Application Support /Avid/Audio/Plug-Ins
Windows: \Program Files\ Common Files\Avid\Audio\Plug-Ins

AU-plugin:

Mac: /Library/Audio/Plug-Ins/Components

The Big Blue Limiter user interface has been designed to be as intuitive and easy to operate as possible. There are functions that might not be immediately obvious, however, and could use some explanation.:

RESIZE

To change the size of the GUI, you can drag at the corner of the plugin window, but you can also right (cmd)-click anywhere on the plugin interface and select your size of choice in the pop-up window that will appear.

TOOLTIPS

Hovering over any item of the interface brings up a floating tooltip window with a brief description of that control's function. If you want to disable this function, right (cmd)-click anywhere on the plugin interface and deselect 'Show tooltips' in the pop-up window that will appear.
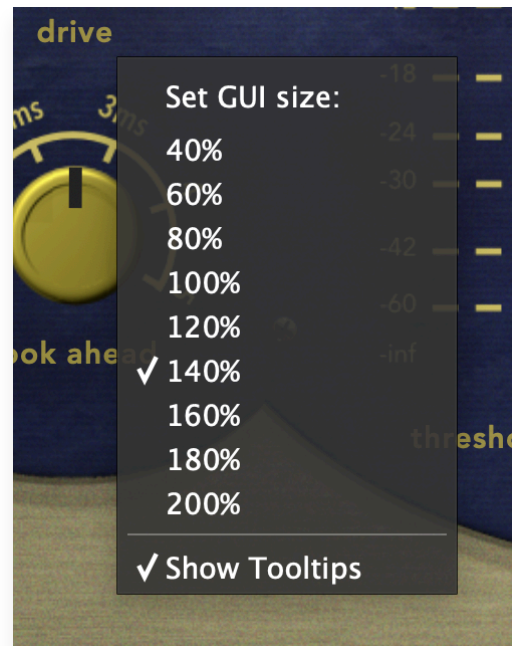
NUMERICAL ENTRY

Turning a knob or hovering over it will change the name below the knob into it's value. Clicking on this number will open a small edit window that allows you to change this value by typing in a new one To dispose of the edit window either hit <Enter> or click anywhere outside it.

RESET TO DEFAULT VALUE

<Ctrl>-clicking knobs and sliders will reset them to their default value.

FINETUNE

Cmnd-click-drag makes very small moves with the knob possible.

Midi Automation

All knobs can be controlled by an external MIDI keyboard or MIDI controller. To assign a MIDI control simply right- (cmd-)click on the knob you want to connect and and a window will pop up: 'Start MIDI learn'.

Click on this window, and move the control on your external MIDI keyboard or controller that you want to assign to this knob. If everything goes as expected, you will now see the knob moving when you move the control on your MIDI keyboard. Right-click (ctrl-click) on the control again and click 'Stop MIDI learn'. Do you want to detach the knob again? Right (ctrl)-click on the knob, and choose: 'Detach from midi automation'

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, THRESHOLD, 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.

PEAK (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 output setting 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

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.

N*ote 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

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 10 or up (64-bit)
- Mac OS X 10.13 (High Sierra) or up

Hosts

Big Blue Limiter is compatible with any host that understands the AAX, VST2, VST3, and/or Audio Units protocol.

Updates and Support

Updates for Big Blue Limiter will be made available at

https://www.112db.com/download/bigblue/limiter

For product support, questions, comments, feature suggestions, and anything you feel is worth sharing, please contact our support staff by email at

support@112dB.com