bx_refinement V3

Plugin Manual

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1. Welcome to bx_refinement V3

bx_refinement V3 has been an essential plugin in the Brainworx toolkit for many years - helping users to smooth their tracks and give them analog appeal. Brainworx has developed V3 from scratch for the best performance and stability, delivering advanced modulation features, new scalable UI, and a selection of color-skin options.

The origins of bx_refinement

Mastering engineer Gebre Waddell, of Stonebridge Mastering, developed the first version of bx_refinement while writing his book "Complete Audio Mastering: Practical Techniques." This book explained his strategies for taming harshness. Gebre integrated these techniques into the programming of his VST prototype. Critical listening and deep discussions with fellow engineers played a key role in the development process. Gebre brought this prototype to Brainworx, who liked what they heard, developing it further to create the original bx_refinement.

> (i)   Download and install your plugin using our Installation Manager: https://www.plugin-alliance.com/en/installation-manager.html

Thank you for choosing bx_refinement V3. We hope you enjoy it!

2. Key features

The following list gives you an overview of bx_refinement V3's key features:

- New in V3:
    - Scalable UI with color options
    - New code for optimal performance and stability
    - Wide damping mode
    - Side only processing
    - Advanced modulation features:
        - Presence modulation
        - Dynamic modulation with external sidechain option
        - Additional LFO with free or tempo-synced modulation and random setting
- Removes harshness from vocal and instrument recordings
- Applies soft or surgical enhancements
- Applies de-harshing based on peak levels
- Adds tube-style saturation to your audio
- Mid-, side- or stereo-processing (**M+S**)
- Mix control to apply parallel smoothing effects

3. Overview

bx_refinement V3 consists of the following areas and main controls:
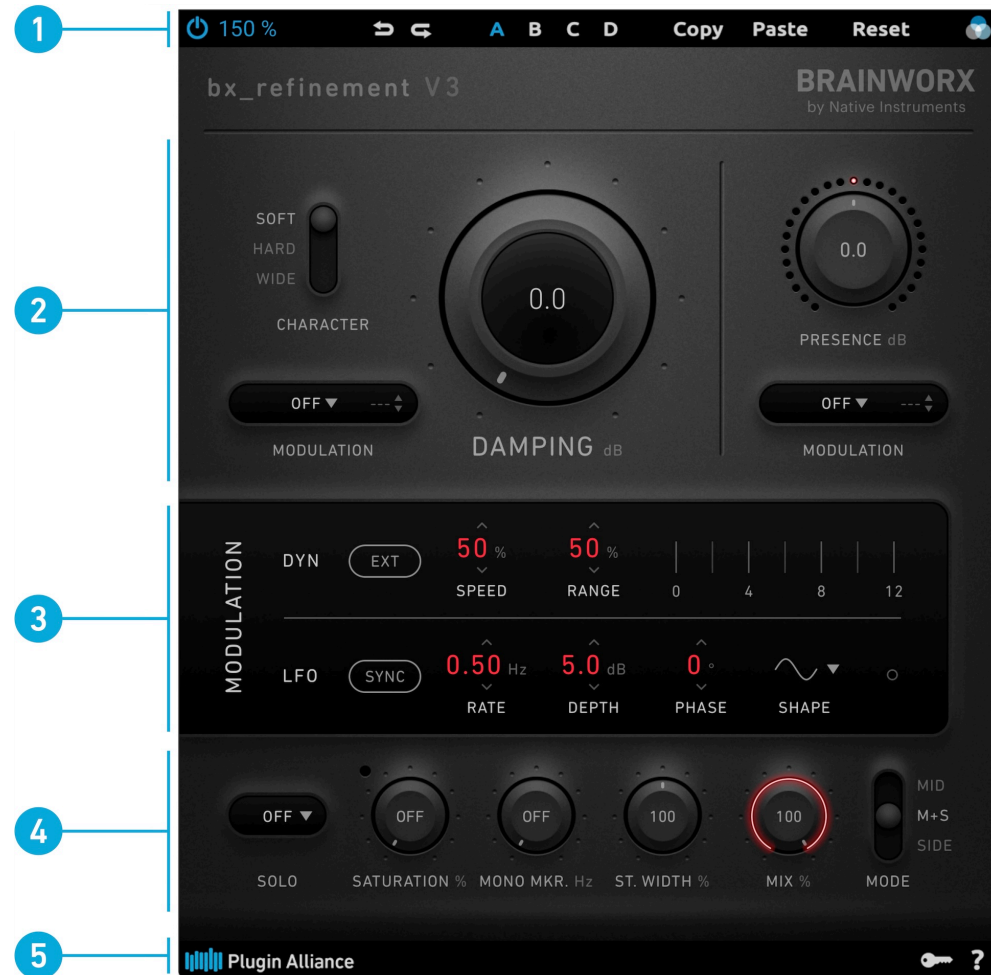
1. **Top toolbar**: Additional global controls relevant to the plugin's processing. For more information, refer to *Top toolbar*.

2. **Main section**: Control damping and presence amount in this section. For more information, refer to *Main section*.

3. **Modulation**: Two modulators adding movement and dynamic interaction. For more information, refer to *Modulation*.

4. **Global controls**: Brainworx tools to control stereo image and level settings. For more information, refer to *Global controls*.

5. **Bottom toolbar**: Preferences, license information, and documentation. For more information, refer to *Bottom toolbar*.

4. Main section

Control the high frequency range with just a few but highly effective controls.

This section consists of the following controls:
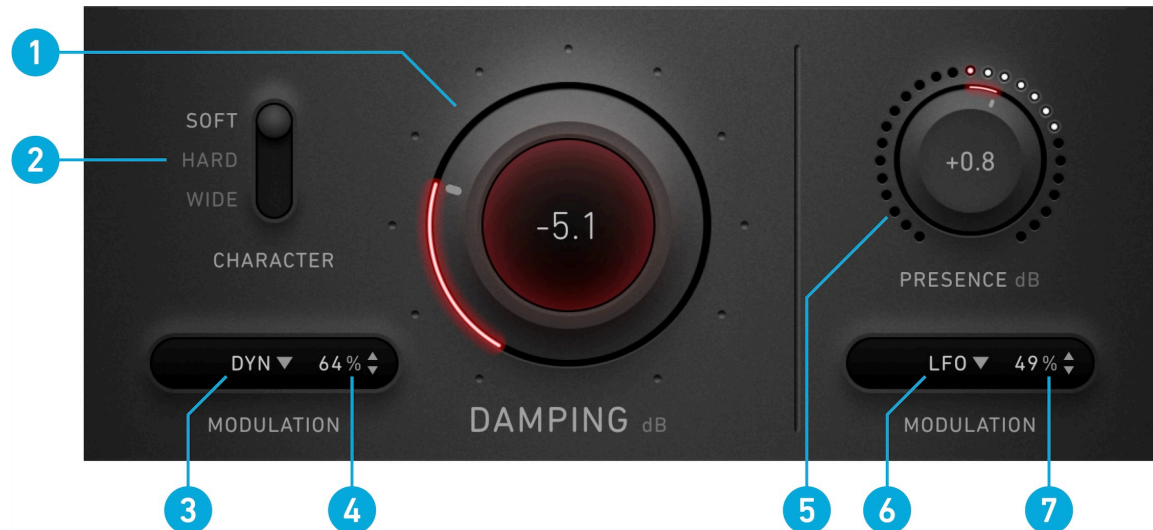
1. **Damping**: Attenuates harshness by applying a peak band EQ. It sets the amount of damping, which can be modulated dynamically or by an LFO.
    The knob's inner glow indicates the overall amount of **Damping** applied.

2. **Character**: Switches between three different filter characteristics.

3. **[Damping Modulation Source]**: Sets the source that modulates the **Damping** filter.

4. **[Damping Modulation Amount]**: Modulation amount applied to the **Damping** filter.

5. **Presence**: Gain parameter of the Presence shelving filter to control treble.
    The knob's LED-ring indicates the overall amount of Presence applied.

6. **[Presence Modulation Source]**: Sets the source that modulates the **Presence** filter.

7. **[Presence Modulation Amount]**: Modulation amount applied to the **Presence** filter.
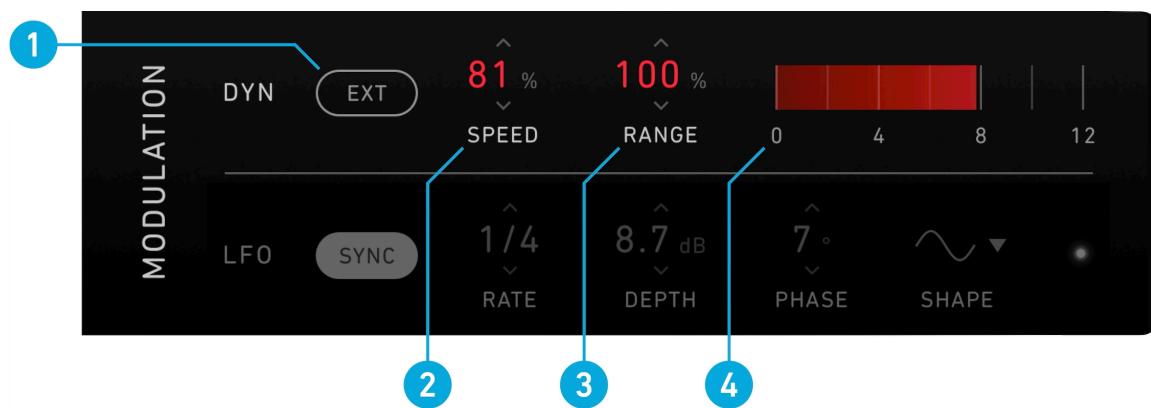
5. Modulation

The modulation section includes a dynamic modulator (**DYN**) and a low frequency oscillator (**LFO**) to influence **Damping** and/or **Presence** gain.

It is divided into two subsections:

DYN - dynamic modulator

The built-in envelope follower enables dynamic applications.

This sub section consists of the following controls:

1. **EXT**: Enables/disables the external sidechain input.
2. **Speed**: Determines how fast the dynamic modulation will react to the incoming signal.
3. **Range**: Controls the maximum amount of dynamic modulation.
4. **[Modulation Level Meter]**: This meter displays the current modulation level.

> 💡 Building a dual band De-Esser with bx_refinement V3
> 1. Insert bx_refinement V3 on a vocal track or bus.
> 2. Set the dynamic modulator to **SPEED** = **75%** and **RANGE** = **50**%.
> 3. Set amount of **PRESENCE** to **-0.1 dB**.
> 4. Set both, **DAMPING** and **PRESENCE** modulator sources to **DYN** and **50%**.
> 5. Vary **SPEED** and **RANGE** to fit in the mix.
> 6. Set **PRESENCE** to **+0.1 dB** if a refreshing of the higher frequencies is wanted while de-essing.

LFO - low frequency oscillator

The built-in **LFO** enables a second modulator source.

This sub section consists of the following controls:
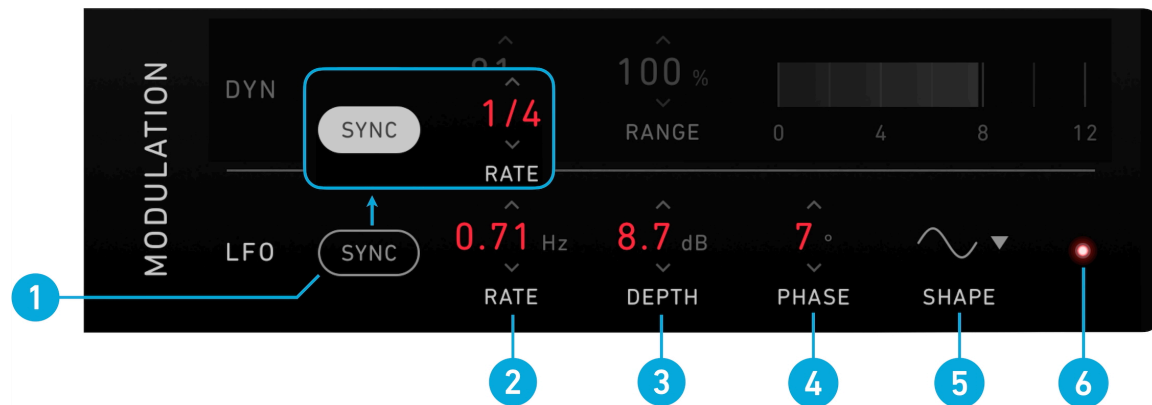
1. **[LFO] SYNC [mode]**: Switches between tempo synced note length or Hz as the timing reference for the **LFO**.

2. **[LFO] Rate**: Sets the rate of the **LFO**. It can either be set freely or synced to the host. Depending on the **SYNC** mode, the parameter has two states:

    a. **Free mode**: By default, a single cycle's duration of the **LFO** is set in Hertz from 0.05 Hz to 10 Hz.

    b. **Synced mode**: If activated, a cycle of the **LFO** is synced to the host's tempo and the selected note length.

3. **[LFO] Depth**: Controls the maximum level of the **LFO**'s amplitude.

4. **[LFO] Phase**: Shifts the starting point of the **LFO**'s cycles.

5. **[LFO] Shape**: Switch between a sine and random waveform **LFO**.

6. **[LFO Level LED]**: The little LED indicator showing the amount and speed of active modulation.

6. Global controls

Additional controls to expand the functionality of bx_refinement V3 with additional Brainworx tools.

This section consists of the following tools:

1. **Solo**: Isolates different components within the bx_refinement V3 by selecting a signal from this drop down menu to listen to critical settings.

2. **Saturation**: Below 80% this control adds color tube like saturation. Above 80%, saturation will increase to distort aggressively.
    The small light indicates active saturation and its amount.

3. **Mono Maker**: Sweepable from 20 to 22.000 Hz, this parameter folds the processed audio to mono below the selected frequency.

4. **Stereo Width**: De- or increases the stereo width of the processed signal.

5. **[Parallel] Mix**: Set to 100% (wet) by default, turning this knob to the left reduces the amount of audible process by blending the dry and the wet (processed) signal.

6. **[Channel] Mode**: Select the channel where the processing is applied.

> 🔆 Processing both, mid- and side-signal (**M + S**) results in equal **Damping** and **Presence** adjustments and is a good solution for use with high volume stereo sources.

7. Top toolbar

Additional global controls related to plugin settings and processing are available in the top toolbar.

1. **Power:** Bypasses the processor when disengaged.
2. **UI Size:** Sets the size of the plugin's user interface.
3. **↩ ↪:** Undo and redo changes made to controls up to 32 steps.
4. **Bank A B C D:** Each preset allows you to switch between four banks (A, B, C, D) of controls.
5. **Copy:** Copy the active settings to memory.
6. **Paste:** Paste the copied settings to the active bank.
7. **Reset:** Reset the current bank.
8. **UI Color:** Changes the primary color of controls and meter indicators.

> 💡 Clicking the company logo or the plugin name will open a splash screen containing team credits and the UI default setting.

8. Bottom toolbar

Preferences, license information, and documentation are available in the bottom toolbar.

1. **Plugin Alliance Logo**: If your computer is online, clicking the Plugin Alliance logo will take you to the Plugin Alliance website via your web browser.

2. **License Info**: The toolbar displays information about the type of license you're running. Trial licenses are displayed along with the number of days until expiration; there is no note for full licenses, as these are unlimited.

3. **Dollar Icon:** If you are using a demo/trial version of a Brainworx product, you can click this icon to open a browser that redirects you to the respective product page in the Plugin Alliance store. Here, you can purchase a product without searching for it on the Plugin Alliance website.

4. **Key Icon:** Clicking on the key icon brings up the activation dialog, allowing you to manually reauthorize a device in the event of a license upgrade or addition. You can also use this feature to activate additional computers or USB flash drives.

5. **Help Icon:** Clicking the help icon opens a context menu that links to the product manual PDF and other helpful links, such as checking for product updates online. You must have a PDF reader installed on your computer to read the manual.

   • **Open Manual...** with your operation system's preferred PDF reader. *You must have a PDF reader installed on your computer to read the manual.*

   • **Product Info...** will take you to the product page of bx_refinement V3 if your computer is online.

   • **Download Updates...** leads you to the product page's Downloads-Section.

   • **Legal Info...** opens a pop-up window declaring legal usage of third party technology.

   • **Plugin Alliance Website...** will take you to the Plugin Alliance website via your web browser.

   • **Usage Data Tracking...** will open a pop-up window to activate or deactivate *Usage Data Tracking*.

9. Additional information

Modifier keys

You can use the following keyboard commands to control bx_refinement V3.

Function	AU	VST / VST3	AAX
Fine Control	[shift]	[shift]	• Mac: [command] • Win: [Ctrl]
Jump between default and last setting	[option]	• Mac: [command] • Win: [Ctrl]	• Mac: [option] • Win: [Alt]

Usage data tracking

Help us improve your experience.

Plugin Alliance by Native Instruments is using data tracking to improve the user experience and usability of our products. Data tracking can be deactivated at any time in the help menu. This data is collected according to our *Privacy Policy*.

Online resources

System requirements & supported platforms:

https://www.plugin-alliance.com/en/systemrequirements.html

Details about your product:

https://www.plugin-alliance.com/en/products/bx_refinement_v3.html

Installation, activation, authorisation and FAQ:

https://www.plugin-alliance.com/en/support.html

Credits

Original Concept: Gebre Waddell - Stonebridge Mastering

Programming and Algorithms: Joscha S. Rieber

UI-Design: Nico Lezim

Product Management and Ideation: David Stoll, Albert Gabriel