



True Dynamics

Kazrog

User guide - version 1.1.0
February 10, 2021
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<https://kazrog.com>

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True Dynamics was developed to model ultra rare vintage tube compressors, almost never seen on the used market due to the low quantity of units ever produced. These hard-to-find, even harder to maintain beasts are monophonic by nature, and require tubes that are no longer being produced, so we felt it was high time to replicate the sounds of these 100% stock spec units in the digital domain before the original units change their sounds completely due to component failure or modification.

Being able to use these sounds in your DAW, replicated across many instances in a session is an absolute dream come true, and provides much-needed variation in a plugin landscape dominated by endless clones of the same 3 or 4 comparatively ordinary vintage compressors.

Usage Notes

True Dynamics is a low CPU footprint plugin by design, and is intended to be usable on every track and/or bus in a mix. With flexible oversampling controls for both online and offline processing, True Dynamics is customizable to allow for a balance of realtime performance and mixdown quality.

- Shane McFee
CEO/CTO, Kazrog Inc

2. Compressors Modeled

2.1. P41A

About the "P41-A" voicing (based on Presto 41A)



The Presto 41A Limiting Amplifier, released in the late 1940s, was one of the original mono all-tube mastering limiters. With huge input and output transformers, it was used along side the Presto mastering lathes to finalize vinyl records - long before Fairchild was glimmer in Les Paul's eyes. With a wonderful selection of tubes and a remarkable, thick and warm sound, the Presto 41A is a gem among collectors and top mixers around the globe.

- Devin Powers
Powers Music

2.2. LA1B

About the "LA-1B" voicing (based on ITA LA-1B)



The ITA (Industrial Transmitter and Amplifiers) LA-1B Limiting Amplifier has been called "rarer than hens' teeth". Developed and sold as custom piece to radio stations by Bernie Wise (who worked at RCA until the early 1960s) the ITA LA-1B, is among the fastest tube compressors ever made, with an enormous sound stage, built around custom Chicago transformers and the venerable RCA 6386 tube. Incredibly rare, used by some of the top mixers for its remarkable, transparent and lush sound.

- Devin Powers
Powers Music

2.3. 26W

About the "26W" voicing (based on Collins 26W)



The Collins 26W was one of a number of rare tube limiters produced by the Collins Radio Company. It was specifically designed for use in radio broadcast applications in its time, though like the other variable Mu compressor/limiters of its era, has found itself in modern recording studios worldwide for its harmonically rich sound and smooth compression. Its all octal tube design has a unique saturation curve.

This particular unit has the highest THD (total harmonic distortion) of the units modeled in True Dynamics to date, and is particularly good for warming up boring tracks, or slamming drums through. Try it with the [modern bias setting](#) (in the settings panel) for a more subdued version of its sound.

The Collins Radio Company itself has a rich history beyond the scope of this manual. Of note are these Wikipedia articles:

- https://en.wikipedia.org/wiki/Arthur_A._Collins
- https://en.wikipedia.org/wiki/Rockwell_Collins

3. Using True Dynamics

True Dynamics is a tube compressor emulator, designed for use on tracks, buses, and masters. Every effort has been made to make the interface as simple as possible, so you can focus on making music.



3.1. Main Controls



1 Gain Reduction



Adjusts the amount of compression. Higher settings = more compressed.

2 Recovery Time



Adjusts the Recovery Time (also known as release in many other compressors) in seconds.

3 dB Compression Meter



A vintage-style meter showing the current amount of compression. Accurate within +/- 3 dB, this meter is not intended for modern loudness calibration, really just here to give visual feedback (and look cool.)

4

Voicing



Toggles the compressor voicing between the [three different models](#).

5

Mix



The Mix control adjusts the final ratio of wet (processed) to dry (unprocessed) signal.

6

Out Level



Adjusts the final output gain level of the compressor (also known as makeup gain.)

7

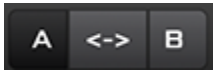
Preset Browser



Browses through plugin presets.

8

A/B Compare



Every instance of True Dynamics has two slots for a currently loaded preset. Click on the inactive slot to try different settings out, then compare to the other slot by clicking on its button. Use the copy button (in between A and B) to copy the currently active slot's settings to the inactive slot.

9

Save



Saves the current preset to the presets folder, using a standard system file requester. All presets are stored as cross platform XML files, so they can be exchanged between users on any platform.

10

Settings



Opens the [Settings](#) panel, where global fine-tuning settings for the plugin are found.

11

Sidechain Controls



Opens the [Sidechain Panel](#), where the user can adjust the keying filters.

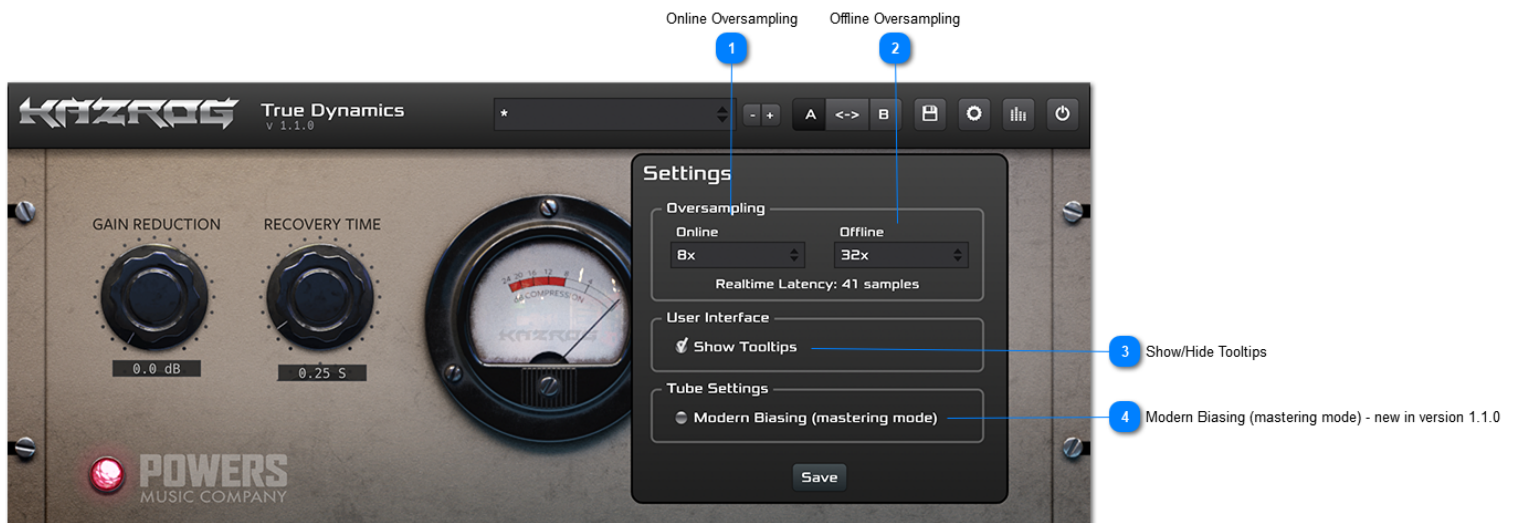
12

Internal Bypass

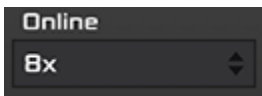


Just in case your DAW lacks a plugin delay compensation (PDC) aware bypass feature, this internal bypass is provided so you can quickly A/B your processed and unprocessed audio.

3.2. Settings



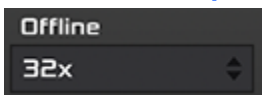
1 Online Oversampling



Adjusts the amount of times oversampling for realtime performance. This is multiplied by the session sample rate, e.g. 2x 44.1 kHz = 88.2 kHz.

IMPORTANT: This setting is global across all instances of the plugin - you must close and re-open your session after saving for this to take effect!

2 Offline Oversampling



Adjusts the amount of times oversampling for rendered plugin output during non-realtime bounce (in supported hosts.) This is multiplied by the session sample rate, e.g. 32x 44.1 kHz = 1.41 MHz.

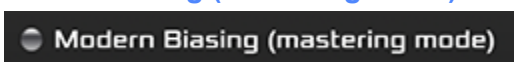
IMPORTANT: This setting is global across all instances of the plugin - you must close and re-open your session after saving for this to take effect!

3 Show/Hide Tooltips



Shows or hides the quick help popups when hovering the mouse over the plugin controls. Some people find these helpful, some find them annoying - be happy!

4 Modern Biasing (mastering mode) - new in version 1.1.0



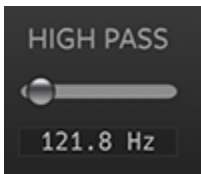
When enabled, sets the tube biasing (on a **per-preset** basis) to an idealized curve for more transparency in mastering applications, or situations where greater clarity and lower THD (total harmonic distortion) is desired (acoustic instruments, etc.) By default (and prior to version 1.1.0), this is disabled, and the tube biasing is set to vintage specifications matching that of the hardware.

3.3. Sidechain Panel



1

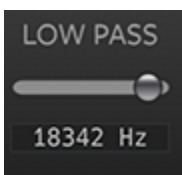
High Pass Filter



Filters the compressor key input with a first order high pass filter - rejecting audio below the selected frequency. This filter is bypassed when the slider is all the way to the left.

2

Low Pass Filter



Filters the compressor key input with a first order low pass filter - rejecting audio above the selected frequency. This filter is bypassed when the slider is all the way to the right.

4. Version History

True Dynamics - Version 1.1.0 - February 10, 2021

Changes

- Added 26W model based on Collins 26W tube compressor.
- Introduced a new modern mastering grade tube bias mode.
- Apple Silicon support (VST, VST3, and AU).
- Gain reduction meter no longer moves when plugin is bypassed.
- Optimized graphics for more responsive user experience.
- Reduced disk space footprint by up to 66%.
- Reduced audible pops when changing modes or instantiating with vintage tube bias, -30dB.
- Updated SDKs and frameworks.

True Dynamics - Version 1.0.4 - August 10, 2020

Changes

- Resolved an edge case issue where the wrong block size could be reported to some code modules, resulting in wrong processing and/or automation
- Updated SDKs and frameworks

True Dynamics - Version 1.0.3 - July 6, 2020

Changes

- New and improved installers on Mac and Windows
- Apple Silicon-ready, cross platform optimized DSP replaces older Intel proprietary DSP. Users on both Mac **and** Windows should experience greater stability and compatibility as a bonus.

True Dynamics - Version 1.0.2 - March 30, 2020

Critical bug fix update - recommended for all users.

Fixes

- Audio stuttering issues on Avid HDX systems have been resolved.
- Bounce related crash in WaveLab has been resolved.
- Bounce related audio glitches in Logic have been resolved.
- Smoothed internal bypass toggling and preset changes.

Known Issues

- None

True Dynamics - Version 1.0.1 - March 24, 2020

Critical bug fix update - recommended for all users.

Fixes

- Addresses buffer stutter during playback issues when using virtual instruments in Logic Pro X, Cubase 10.x, FL Studio 20.

Known Issues

- Pro Tools users with HDX or other PCI-based audio interfaces may experience degraded performance when using the plugin on buses or master faders. This only affects users with PCI-based audio interfaces - **no other Pro Tools users are affected**. This issue is under investigation and is slated for a fix in version 1.0.2, as soon as possible.

True Dynamics - Version 1.0.0 - March 16, 2020

- Initial release

Known Issues

- Pro Tools users with HDX or other PCI-based audio interfaces may experience degraded performance when using the plugin on buses or master faders. This only affects users with PCI-based audio interfaces - **no other Pro Tools users are affected**.

5. Troubleshooting

True Dynamics is designed for efficiency and stability, and shouldn't present you with issues in general, even on older hardware.

General

- Sample rates of 96 kHz or above are more taxing for your CPU. Use lower oversampling settings in the plugin for higher sample rates.
- Buffer sizes lower than 256 samples/buffer are more taxing for your CPU. Consider a higher buffer size, unless you need realtime monitoring of live instruments through plugins in your DAW.

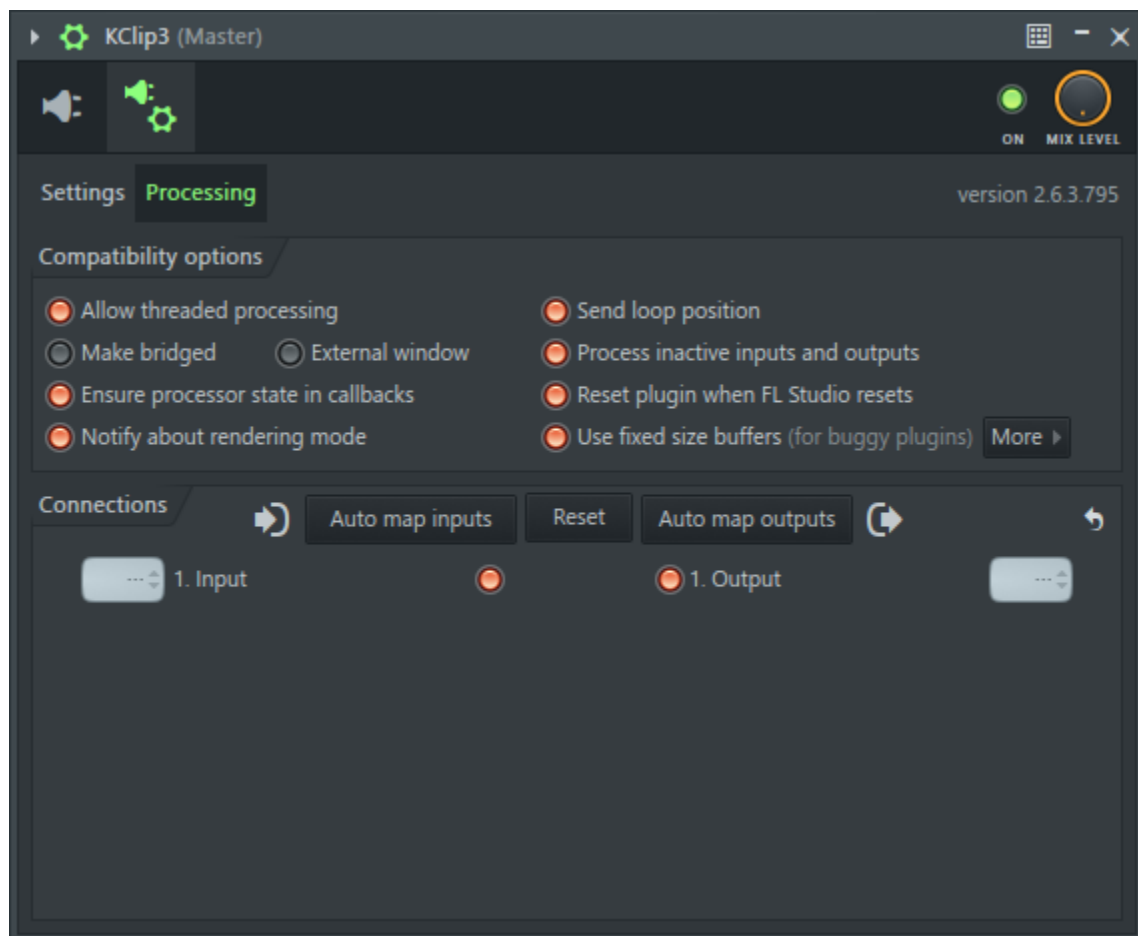
FL Studio Specific

True Dynamics utilizes high resolution internal oversampling, and with some configurations of FL Studio may require a fixed buffer size to avoid stuttering. Contrary to FL Studio's dialog, this is not a bug, but a feature.

Use the following settings:

1. Enable "Use fixed size buffers"
2. Uncheck "Allow threaded processing"
3. For **FL Studio 11** - in "Options" menu
 - Uncheck "Use block size as buffer size"
 - Check "Use host block size"
3. For **FL Studio 12** - in "More" menu
 - Uncheck "Process maximum size buffers"
 - Check "Use maximum buffer size from host"

FL Studio 20: Use the settings shown below in the plugin settings window (enable "Use fixed size buffers"):



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