Disto::Fx
Version 1.8 PRO
User Manual

DistoCore Audio Tools
https://distocore.online

April 6, 2026

Contents

List of Figures

1

Introduction

Welcome, and thank you for choosing the DistoCore Disto::Fx PRO audio plug-in.

Disto::Fx (Dirty Sound Destructor) is a versatile multi-effects processor featuring dedicated units for filtering, modulation, distortion/wave-shaping, hardcore bass enhancement, and equalization.

It is specifically designed for hard electronic music genres such as hardcore, gabber, drum and bass, and dubstep.
At the same time, it can be effectively applied to guitars, synthesizers, and drum material to add character, edge, and aggressive tonal coloration.

1.1 System Requirements

 macOS:
Operating System: macOS 10.9 or later
Processor: Intel-based CPU (Sandy Bridge or newer recommended) or Apple Silicon (via Rosetta/native support)
Architecture: 64-bit only
Formats: Audio Unit (AU), VST3, and standalone application

 Windows:
Operating System: Windows 10 or 11 (latest updates recommended)
Processor: Intel or AMD CPU with SSE2 support or higher
Architecture: 32-bit and 64-bit (VST2), 64-bit (VST3 and standalone)
Formats: VST2, VST3, and standalone application

Disto::Fx is a plug-in and requires a compatible host application supporting VST2, VST3, or AU formats.
It is compatible with most modern Digital Audio Workstations (DAWs).

1.2 Installation

Disto::Fx PRO is delivered as a password-protected ZIP archive. The password required to extract the archive is provided in your purchase confirmation email.

Please extract the contents of the ZIP file using the provided password. Follow the included platform-specific instructions (if applicable) to complete the installation.

After installation, launch your Digital Audio Workstation (DAW) and perform a plug-in scan or refresh to ensure that Disto::Fx is correctly detected and available for use.

1.2.1 macOS

The macOS package is provided as a password-protected ZIP archive containing bundles of 64-bit Audio Unit (AU), VST and VST3 plug-ins, a standalone application, and a PKG installer for automated installation.

PKG Installer:
Right-click the PKG installer and select "Open", then follow the installation wizard. The installer places the plug-ins into the default system directories on your Macintosh HD.

Manual Installation (AU/VST/VST3):
Alternatively, the plug-ins can be installed manually by copying the bundles to the appropriate directories:

- VST (`*.vst`):
  `/Library/Audio/Plug-Ins/VST` (recommended)
  or `/Library/Audio/Plug-Ins/VST`
- Audio Unit (`*.component`):
  `/Library/Audio/Plug-Ins/Components` (recommended)
  or `/Library/Audio/Plug-Ins/Components`
- VST3 (`*.vst3`):
  `/Library/Audio/Plug-Ins/VST3` (recommended)
  or `/Library/Audio/Plug-Ins/VST3`

1.2.2 Windows

The Windows package is provided as a ZIP archive containing 32-bit and 64-bit VST plug-ins, 64-bit VST3 plug-ins and a standalone application, as well as a setup executable for automated installation.

Installer (Recommended):
Run the setup executable and follow the installation wizard. The installer automatically

places the plug-ins into the appropriate system directories.

Manual Installation:
Alternatively, the plug-ins can be installed manually:

- VST2 (`*.dll`):
  Copy the files to your DAW's VST plug-in directory (e.g. `C:\Program Files\VSTPlugins`)
- VST3 (`*.vst3`):
  Copy the files to:
  `C:\Program Files\Common Files\VST3` (recommended)

After installation, launch your DAW and perform a plug-in rescan if required.

1.3 Updates

The PRO version is valid up to (and including) next minor version. All updates are free of charge and the corresponding download link is sent via email.
DistoCore does not guarantee that this product will be maintained indefinitely.

For example:
If you buy Disto::Fx PRO version 1.8, you will get free updates for all versions up to and including Disto::Fx PRO 1.9.

1.4 FREE version

A FREE version of the plug-in is available for download under the following link:

`https://distocore.online/shop.html`

It offers limited functionality/features.
If you have used the FREE version before, you do not need to uninstall it.
FREE and PRO versions are independent audio plug-ins and can be used in parallel.

For example:
One instance of Disto::Fx FREE is applied as distortion effect to first track in your DAW and Disto::Fx PRO is applied as distortion effect to second track in your DAW.

2

User Interface

The user interface of Disto::Fx, shown in Figure 2.1, is organized into three main tabs, each providing access to a specific set of functionality:

- **Plug-In** tab provides access to all processing units and their corresponding controls for shaping and modifying the audio signal
- **Scope** tab displays a real-time visualization of the input and output waveforms for analysis and comparison
- **About** tab presents information about the plug-in, including version details, licensing, host application, and system configuration

Detailed descriptions of all processing units and their parameters can be found in Chapter Units.
Waveform visualization and analysis features are described in Chapter Scope.
Additional plug-in and system information is provided in Chapter About Tab.

The tab-based layout allows for efficient navigation between sound design, analysis, and system information.

Figure 2.1: *DistoCore Disto::Fx PRO 1.8 User Interface (GUI)*

3

Signal Flow

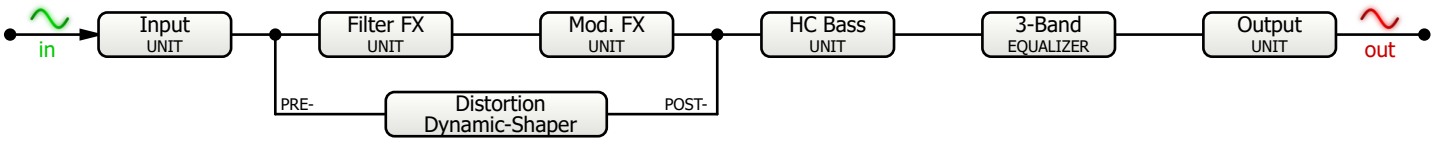

Figure 3.1: *Disto::Fx Audio Signal Flow*

This chapter provides an overview of the internal audio processing pipeline of Disto::Fx. The signal flow diagram shown in Figure 3.1 illustrates how the audio signal is routed through the individual processing units.

The signal path proceeds from left to right. The incoming audio signal is first processed by the Input Unit 4.1.1, where it is conditioned and prepared for further processing. It is then passed through the subsequent effect units in sequence, each applying its respective processing stage. Finally, the processed signal is routed to the Output Unit 4.1.2, where final adjustments are applied before the signal is sent back to the host application (DAW).

Understanding the signal flow is essential for effective sound design, as the order of processing stages directly influences the final sound.

4

Units

This chapter provides an overview of the individual processing units that make up the Disto::Fx signal chain. Each unit is responsible for a specific stage of sound shaping, allowing precise control over the audio signal from input conditioning to final output processing.

4.1 Input/Output Unit

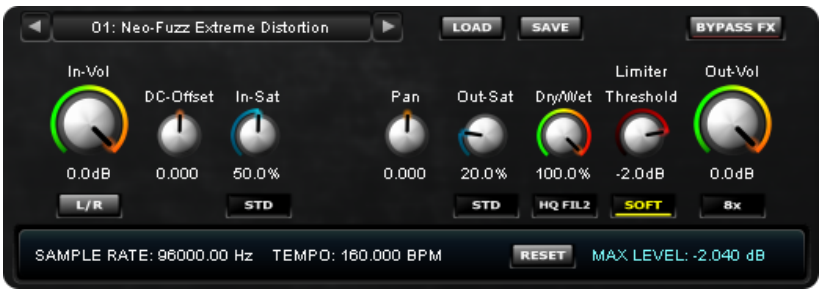

Figure 4.1: *Input/Output Unit*

The Input/Output Unit defines the entry and exit points of the signal chain and is responsible for preparing the incoming signal as well as controlling the final output level. Proper gain staging and signal conditioning at this stage are essential for achieving optimal processing results in subsequent units.

4.1.1 Input Unit

The Input Unit is the first stage in the signal flow 3.1. It is used to condition and prepare the incoming audio signal before it is processed by the downstream effect units. This includes gain adjustment, stereo channel configuration, DC offset correction, and optional input saturation.

- **In-Vol** controls the input signal level before any processing is applied (range: $-\infty$ to 0.0 dB)
- **L/R** stereo mode switch selects the input channel configuration:
  - ⋆ L/R: stereo (default, preserves the original signal)
  - ⋆ R/L: swapped stereo channels (left/right are inverted)
  - ⋆ M: mono sum (left and right channels are mixed to mono)
  - ⋆ L/L: mono (left channel duplicated to both outputs)
  - ⋆ R/R: mono (right channel duplicated to both outputs)
- **DC-Offset** adjusts the DC offset of the input signal; double-click resets the value to zero
- **In-Sat** controls the amount of input saturation applied to the signal
- Input saturation mode switch selects the saturation characteristic:
  - ⋆ SOFT: gentle, subtle saturation
  - ⋆ STD: standard saturation response
  - ⋆ HARD: aggressive saturation with stronger harmonic distortion

4.1.2 Output Unit

The Output Unit represents the final stage in the signal flow 3.1. It is responsible for shaping and controlling the processed signal before it is sent to the host application. This includes stereo positioning, final saturation, dry/wet mixing, filtering, dynamics control, and overall output level adjustment. Proper configuration of this stage ensures optimal loudness, prevents clipping, and preserves signal integrity.

- **RESET** resets the peak level meter, which displays the maximum detected output level (e.g. -0.1 dB)
- **Pan** controls the stereo panorama of the output signal (left/right balance)
- **Out-Sat** controls the amount of saturation applied to the output signal
- Output saturation mode switch selects the saturation characteristic:
  - ⋆ SOFT: gentle, subtle saturation
  - ⋆ STD: standard saturation response
  - ⋆ HARD: aggressive saturation with increased harmonic content
- **Dry/Wet** blends the unprocessed input signal (dry) with the processed signal (wet)
- **HQ-FIL** enables a high-quality output filter based on a Bessel response for final signal conditioning and DC offset suppression:
  - ⋆ OFF: filter disabled

  - ⋆ HQ-FIL1: 20 Hz – 20 kHz passband
  - ⋆ HQ-FIL2: 40 Hz – 20 kHz passband
- **Limiter Threshold** sets the threshold level for the output limiter/clipper
- Limiter/clipper mode switch selects the limiting characteristic:
  - ⋆ SOFT: soft clipping behaviour
  - ⋆ STD: standard limiter response
  - ⋆ HARD: aggressive hard limiting
- **Out-Vol** adjusts the final output level (range: $-\infty$ to 0.0 dB, depending on processing)
- **OFF/8x** enables or disables 8x oversampling for distortion and saturation stages, reducing aliasing artifacts
- **BYPASS** disables all processing stages of Disto::Fx, allowing direct comparison between processed and unprocessed signal

4.1.3 Program/Preset Browser

The Program/Preset Browser enables file-based handling of parameter data, allowing users to store and retrieve programs via *.DC and *.FXP files. It also provides access to factory presets for quick loading and comparison of different configurations.

- **SAVE** opens a file dialog and stores the current parameter configuration as a program file (*.DC or *.FXP)
- **LOAD** opens a file dialog and loads a previously saved program file (*.DC or *.FXP)
- The preset browser displays the currently loaded program name and allows navigation through the available factory presets

4.2 Filter Unit

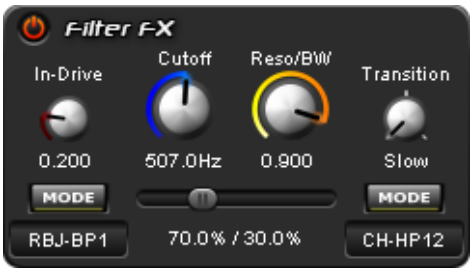

Figure 4.2: *Filter Unit*

The Filter Unit is designed for tonal shaping and spectral processing of the audio signal. It combines pre-filter drive with two parallel filter stages, allowing flexible routing, blending,

and precise control over frequency content. This unit can be used for subtle equalization, creative sound design, or aggressive filtering effects typical for electronic music production.

- Filter unit on/off switch activates or bypasses the entire filter stage
- **In-Drive** applies gain to the input signal before filtering, allowing for pre-filter saturation and enhanced harmonic content
- **MODE 1** selects the filter type for the left filter stage from 31 available modes: RBJ, State-Variable, Bessel, Elliptic, Chebyshev, Butterworth → HP (High-Pass), LP (Low-Pass), BP (Band-Pass), BS (Band-Stop)
- Filter 1/2 crossfader blends the outputs of the left (Filter 1) and right (Filter 2) filter stages
- **MODE 2** selects the filter type for the right filter stage from the same set of 31 modes: RBJ, State-Variable, Bessel, Elliptic, Chebyshev, Butterworth → HP (High-Pass), LP (Low-Pass), BP (Band-Pass), BS (Band-Stop)
- **Transition** controls the smoothing behavior of the cutoff and resonance parameters, affecting how quickly parameter changes are applied
- **Resonance** controls the resonance (LP/HP) or Q factor (BP/BS) of both filter stages
- **Cutoff** controls the cutoff frequency (LP/HP) or center frequency (BP/BS) of both filter stages

4.3 Modulation FX Unit

Figure 4.3: *Modulation FX Unit*

The Modulation FX Unit adds time-varying transformations to the audio signal, enabling dynamic movement, spectral complexity, and spatial modulation. It combines ring/amplitude modulation for metallic and inharmonic textures with a phaser effect for sweeping, phase-shifted coloration. This unit is particularly useful for creating evolving, aggressive, and character-rich sounds.

- Modulation FX on/off switch activates or bypasses the entire modulation stage

- **Rate** (Ring Modulator) sets the modulation frequency for ring/amplitude modulation (range: 0–4000 Hz)
- **Amount** (Ring Modulator) controls the intensity of the modulation applied to the signal
- **Waveform** selects the modulation waveform used by the ring modulator
- **Rate** (Phaser) sets the modulation frequency of the phaser (range: 0–20 Hz)
- **Sync.** synchronizes the phaser modulation rate to the host tempo using selectable note divisions
- **Feedb.** controls the feedback amount of the phaser, influencing resonance and intensity of the effect
- **Amount** (Phaser) controls the depth/mix of the phaser effect applied to the signal

4.4 Distortion and Dynamic Shaper Unit

Figure 4.4: *Distortion and Dynamic-Shaper Unit*

The Distortion and Dynamic Shaper Unit is the core sound-shaping stage of Disto::Fx. It provides a wide range of non-linear processing techniques, from subtle saturation to extreme distortion and digital degradation. By combining waveshaping, bit reduction, sample rate manipulation, and dynamic shaping, this unit enables precise control over harmonic content, transient behavior, and overall signal character.

4.4.1 Distortion Unit

The Distortion Unit applies static waveshaping and digital degradation to the signal. It allows detailed control over distortion characteristics, signal routing, and curve-based shaping, making it suitable for both subtle enhancement and aggressive sound design.

- Distortion FX on/off switch activates or bypasses the distortion stage
- **PRE** routes the distortion stage before the Filter Unit (see signal flow 3.1)

- **POST** routes the distortion stage after the Filter Unit
- Distortion curve preview display visualizes the effect of the selected curve on a reference sine wave
- **BitCrash** reduces amplitude resolution (bit depth), introducing quantization distortion
- **SmpFreq** reduces the effective sampling rate, producing downsampling artifacts
- **Gate** sets the threshold for the integrated noise gate
- **Amount** controls the intensity of the distortion applied to the signal
- Distortion curve display shows the currently active shaping curve
- Distortion mode switch selects the processing mode:
  - ⋆ SHAPE: applies the selected waveshaping curve
  - ⋆ BOOST: increases input gain before applying the shaping curve
  - ⋆ LOUD: applies strong gain boost with aggressive shaping
- **INTERP** selects the curve interpolation quality:
  - ⋆ none (low resolution, 8-bit curve)
  - ⋆ linear
  - ⋆ cosine
  - ⋆ cubic
  - ⋆ hermite (highest quality)
- Polarization switch defines which signal polarity is processed:
  - ⋆ BOTH: processes the full signal
  - ⋆ POS: processes only positive signal values
  - ⋆ NEG: processes only negative signal values
- **RESTORE** restores the previously stored curve from memory
- Preset browser buttons allow navigation through built-in distortion curves
- Curve name display shows the name of the selected distortion curve

4.4.2 Distortion Curve Editor

The Distortion Curve Editor allows direct graphical editing of the waveshaping function, providing precise control over the non-linear transfer characteristic applied to the signal.

The curve can be modified using the left mouse button (LMB) directly on the display 4.5. Changes are applied in real time and can be stored by saving the current program (*.DC or

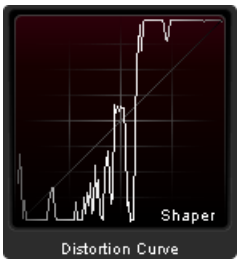

Figure 4.5: *Distortion Curve Display*

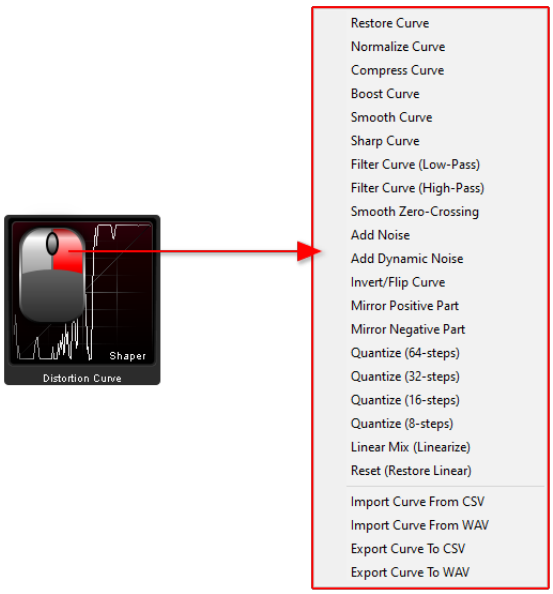

Figure 4.6: *Distortion Curve Display Context Menu*

*.FXP, see 4.1.3).

Additional processing functions are available via the context menu (right mouse button, RMB) 4.6. These tools allow procedural modification and refinement of the distortion curve:

- Restore Curve: restores the previous curve state
- Normalize: scales the curve to maximum peak amplitude (0.0 dB)
- Compress: reduces dynamic range of the curve
- Boost: amplifies the curve by a gain factor
- Smooth Curve: reduces sharp transitions
- Sharp Curve: enhances edges and transitions
- Filter Curve (Low-Pass): smooths high-frequency components (reduces aliasing)
- Filter Curve (High-Pass): emphasizes high-frequency components
- Smooth Zero-Crossing: forces smooth transition through zero
- Add Noise: adds static white noise
- Add Dynamic Noise: adds signal-dependent noise
- Invert/Flip Curve: inverts curve polarity
- Mirror Positive Part: mirrors positive half to negative
- Mirror Negative Part: mirrors negative half to positive
- Quantize (64/32/16/8 steps): discretizes curve into stepped levels
- Linear Mix: blends curve with linear response (50%)
- Reset (Restore Linear): restores a linear transfer function

Distortion curves can also be imported from CSV or WAVE files and exported for external processing via the corresponding context menu actions.

4.4.3 Dynamic Shaper Unit

The Dynamic Shaper Unit extends the distortion stage by applying time-varying or signal-dependent shaping functions. Unlike static waveshaping, this stage introduces dynamic modulation of the transfer function, enabling more complex and evolving distortion characteristics.

- Dynamic Shaper on/off switch activates or bypasses the unit

- Curve preview display visualizes the active shaping function
- Curve display shows the current shaping curve
- **Amount** controls the intensity of the dynamic shaping
- **Width** adjusts the spatial or amplitude spread of the shaping function
- **Shape** selects the modulation waveform:
  Sine, Triangle, Pulse, Saw, Sine2, Pulse2, Noise1, Noise2, DynNoise
- Polarization switch defines signal polarity processing:
  - ⋆ BOTH: processes full signal
  - ⋆ POS: positive values only
  - ⋆ NEG: negative values only
- **MODE** selects the processing algorithm:
  - ⋆ Shaper: pure shaping
  - ⋆ SatShaper: saturation combined with shaping
  - ⋆ BoostShaper: input gain boost with shaping
  - ⋆ BoostSatShaper: combined boost, saturation, and shaping

4.5 Hardcore Bass Unit

Figure 4.7: *Hardcore Bass Unit*

The Hardcore Bass Unit is designed for low-frequency enhancement and aggressive bass shaping. It combines controlled low-end reinforcement with distortion-based processing to create powerful, punchy, and harmonically rich bass content. This unit is particularly suited for kick drum design and bass-heavy electronic music styles.

- HC Bass unit on/off switch activates or bypasses the unit
- **Amount** (Old Bass) controls the level of the original low-frequency content
- **Cut Freq.** (Old Bass) sets the high-pass filter cutoff frequency applied to the original bass signal (range: 20–80 Hz)
- **Amount** (HC Bass) controls the level of the generated hardcore bass component

- **Freq.** (HC Bass) sets the center frequency of the enhanced bass region (range: 100–200 Hz)
- **Drive** (HC Bass) applies distortion to the generated bass signal, adding harmonic content and increasing perceived loudness before it is mixed into the output

4.6 Equalizer Unit

Figure 4.8: *3-Band Equalizer Unit*

The Equalizer Unit provides final tonal shaping of the audio signal by allowing targeted adjustment of low, mid, and high frequency ranges. In addition to the three-band EQ, it includes flexible high-pass and low-pass filtering for controlling spectral balance, removing unwanted frequencies, and refining the overall mix.

- Equalizer unit on/off switch activates or bypasses the entire EQ stage
- **Bass** controls the gain of the low-frequency band (low-shelf filter centered around 150 Hz); double-click resets to neutral
- **Mid** controls the gain of the mid-frequency band (bell filter with a center frequency of 800 Hz); double-click resets to neutral
- **High** controls the gain of the high-frequency band (high-shelf filter centered around 4000 Hz); double-click resets to neutral
- **Damp/Expand** applies a variable cutoff filter to the output signal:
  - ⋆ 0.0–0.5: Low-Pass filter (20–20000 Hz), decreasing cutoff from center to left
  - ⋆ 0.5–1.0: High-Pass filter (20–20000 Hz), increasing cutoff from center to right
  - ⋆ Double-click resets to center position (0.5, no filtering)
- **12dB/24dB** selects the filter slope for the high-pass/low-pass filter (12 dB/oct or 24 dB/oct)

5

Scope

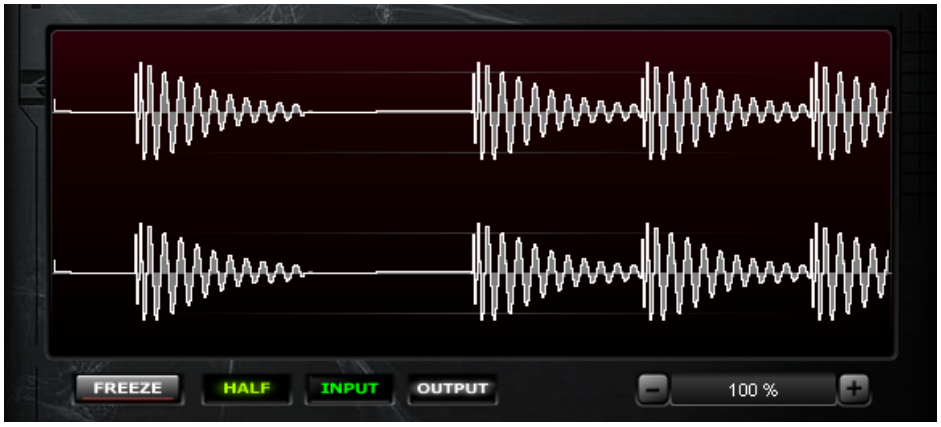

Figure 5.1: *Disto::Fx Scope*

The Scope tab provides a real-time visualization of the input and output waveforms, allowing users to analyze signal amplitude, dynamics, and the effect of processing stages. It is particularly useful for comparing the original and processed signals, identifying clipping, and evaluating the impact of distortion and dynamic shaping.

- **FREEZE** holds the current waveform display for detailed inspection
- Waveform mode switch selects the display style:
  - ⋆ HOLLOW: displays only the waveform outline (envelope)
  - ⋆ HALF: displays the waveform outline with partially filled amplitude region
  - ⋆ FILLED: displays fully filled waveforms (input in gray, output in white)
- **INPUT** enables visualization of the input signal
- **OUTPUT** enables visualization of the processed output signal
- **ZOOM** adjusts the time/amplitude scaling of the waveform display (e.g. via mouse scroll wheel)

6

About Tab

The About Tab provides general information about the plug-in, including version details, licensing, and system configuration. It serves as a reference point for verifying installation status and user registration.

The tab displays the registered artist name, license information, host application, and operating system currently in use.

Additionally, the lower section of the tab shows the logo of the underlying plug-in technology.

Note: The eyes of the DistoCore logo function as VU meters, providing a visual indication of the signal level.

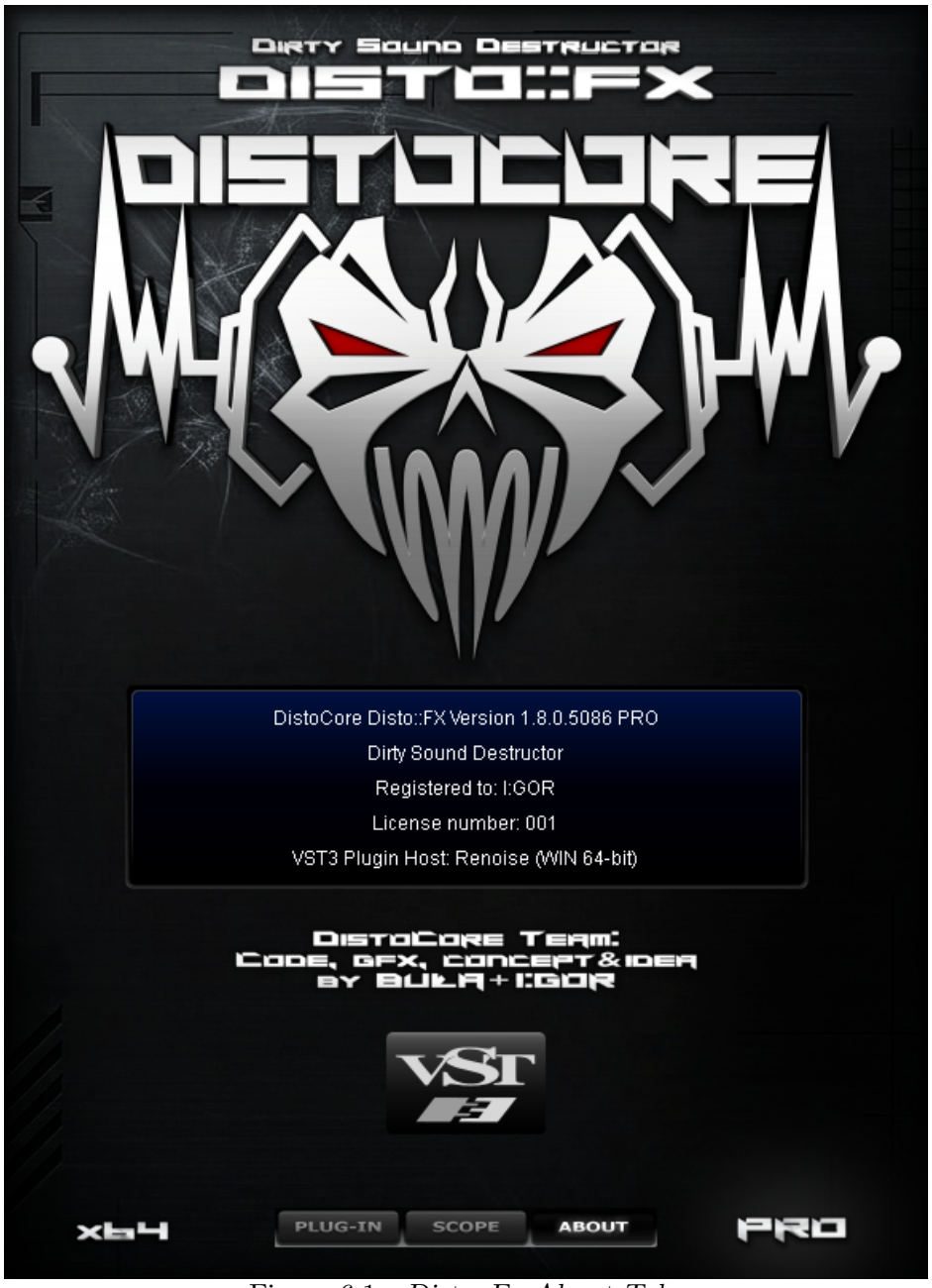

Figure 6.1: *Disto::Fx About Tab*

7

License Agreement

Please read this chapter carefully before installing or using the software.

7.1 End User License Agreement

The use and distribution of the "DistoCore Disto::Fx audio plug-ins" (hereinafter referred to as the "Software") are subject to the following terms and conditions:

1. All intellectual property rights, including copyrights, in and to the Software are exclusively owned by the DistoCore team.
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7. For any questions regarding this License Agreement, please contact the DistoCore team.

7.2 Copyrights and Trademarks

VST and VST3 are trademarks of Steinberg Media Technologies GmbH.
Audio Unit is a trademark of Apple Inc.

Disto::Fx utilizes DSP filter components based on the C++ DSP filter library developed by Vinnie Falco:
`https://github.com/vinniefalco/DSPFilters`

7.3 Credits

Disto::Fx concept and audio processing design by Igor Wilkoński and Wojtek Przystaś.
The plug-in is designed and developed by Wojtek Przystaś.

Special thanks to:
Dj Stinger (CSR), The Reaper (AAR), Koney Industrial, Dj Akira, Dj Waxweazle, Dj R.Shock, Splatter (KTS), Tim SplinterCell, Egodiscordia, Doctor Terror, Smash,
and all DistoCore users who have contributed valuable feedback and support.

This project would not have been possible without the continuous support of the hardcore community.

8

Contact/Support

For any kind of issue or improvement suggestion feel free to contact us through our website:
`https://distocore.online`

E-mail: distocore [at] gmail.com

KVR Audio - DistoCore developer:
`https://www.kvraudio.com/developer/distocore`

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