



# DIAMOND TRANSIENT



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# 1.INTRO

Thank you for purchasing the Diamond Transient. To get the most out of your new plugin suite, please read this user manual carefully.

## 1.1 OVERVIEW

The Diamond Transient suite is the fifth plugin suite in the Diamond series, carefully designed to be the most versatile transient shaping tool in the pro audio industry. It consists of two different plugins providing the most accurate representation of Studio DMI's signature sound.

# 2.DIAMOND TRANSIENT

## 2.1 ABOUT THE SUITE

Diamond Transient is a two-plugin suite that includes a Compander called Transient LP-3X and a Dynamic filter called Transient DYN-F. Both plugins are extremely easy to use and have been designed to give you amazing sound quality.



## 2.2 PLUGIN DETAILS

### DIAMOND TRANSIENT LP-3X

The LP-3X features a three-band compander for low, mid and high frequencies.

It consists of:

- a preamp stage;
- a dynamic section (enabled by default) that you can use both to expand and compress the input signal;
- a high-pass filter with a frequency control;
- an output Clipping stage comprising three different models, controllable through the “Clip Set” trimmer;
- a global Volume Output control;
- a general bypass control;

In addition, the ‘Fine Tune’ button lets you ‘refine’ the sound even further by revealing a set of additional controls that will help you easily ‘sculpt’ the sound the way you like. In the ‘Operation’ chapter below we will go into the details of the functionality of each control.



Diamond Transient LP-3X plugin interface

## DIAMOND TRANSIENT DYN-F

This plugin packs an amazingly simple and effective dynamic filter you can use to dynamically emphasize or de-emphasize the low frequencies.

It works wonders on any source, especially those that need some help in the bass region.

It consists of:

- general bypass;
- preamp stage;
- low-cut filter;
- low band equalizer;

and finally a dynamic section that transforms the static filter and equalizer into a dynamic powerhouse. Here as well, the 'Fine Tune' button lets you toggle more parameters to experiment and have fun with.

Please refer to the 'Operation' chapter for more details about the functionality of each control.



Diamond Transient LP-3X plugin interface

## 2.3 SYSTEM REQUIREMENTS

Modern computers are powerful enough to run many plug-ins at once. However our technology requires more resources than algorithm-based software so we recommend optimizing your system to work with high CPU loads and low audio latency.

	PC Windows		Apple macOS	
	MINIMUM	RECOMMENDED	MINIMUM	RECOMMENDED
<b>OPERATING SYSTEM</b>	Windows 10 64 bits	Windows 10 64 bits	macOS 10.9	macOS 10.14
<b>CPU</b>	Intel i5 Broadwell 3.1 GHz*	Intel i9 Coffee Lake 3.5 GHz*	Intel i5 Broadwell 3.1 GHz*	Intel i9 Coffee Lake 3.5 GHz*
<b>RAM</b>	4 GB of RAM <sup>(1)</sup>	64 GB of RAM <sup>(1)</sup>	4 GB of RAM <sup>(1)</sup>	64 GB of RAM <sup>(1)</sup>
<b>SSD</b>	1000 MB	1000 MB	1000 MB	1000 MB
<b>SCREEN RESOLUTION</b>	FHD (1920x1080)	UHD (3840x2160)	FHD (1920x1080)	UHD (3840x2160)
<b>PLUG-IN FORMAT</b>	VST & AAX <sup>(2)</sup>	VST & AAX <sup>(2)</sup>	VST, AAX & AU <sup>(2)</sup>	VST, AAX & AU <sup>(2)</sup>
<b>AQUARIUS</b>	Mandatory	Mandatory	Mandatory	Mandatory
<b>INTERNET CONNECTION</b>	Mandatory	Mandatory	Mandatory	Mandatory

All technical specifications of Acustica Audio products provided are intended to be estimates or approximations. Due to numerous variables, no guarantees of compatibility or performance can be made. The end-user is solely responsible for, prior to purchase, ensuring that the end-user's devices are compatible and meet the system requirements for Acustica Audio products.

\* AMD or Intel Xeon CPUs are not recommendable and the CPU speed is more important than the number of CPU cores.

<sup>(1)</sup> In order to run more plug-ins instances it is always necessary to increase the amount of RAM.

<sup>(2)</sup> 64-bits supported only.

## 2.4 PRODUCT DOWNLOAD AND AUTHORIZATION

When you purchase a product from our web shop, the registration is automatic. Your newly purchased product can be downloaded via Aquarius, our dedicated free app for macOS and Windows. For more information please visit our website.

Make sure Aquarius is always updated to the latest version available. If you experience any issues during the authorization of your products uninstall the plugin(s) and then re-install them using the latest version of Aquarius.

## 2.5 WHAT IS A “ZL” PLUGIN?

Acustica plugins come in two versions: ZL (zero latency) and a regular version. While the ZL version does not introduce any latency to your system, the standard version does.

This buffer varies in size for each plugin and helps reduce the CPU and system load of your computer significantly.

For this reason we recommend that you use a ZL instance when tracking.

Basically both plug-in instances are identical but the current Acqua engine can work either with or without an audio buffer. The idea behind a ZL instance is to give you the option to run an Acqua Effect with minimal latency, which is useful for tracking or direct monitoring.



# 3.ABOUT STUDIO DMI

The Studio of Digital Music Innovation (Studio DMI) is the embodiment of GRAMMY® nominated Mixing & Mastering engineer Luca Pretolesi.



Logging more than 30,000 hours of studio time and over 25 years of experience, Luca has established himself, the Studio DMI brand and the world class Studio DMI facility in Las Vegas, NV USA as an unrivaled movement in sound engineering with a signature style that is coveted by some of the biggest names in music.



# 4. OPERATION

## 4.1 DIAMOND TRANSIENT LP-3X

The Transient LP-3X is inspired by a vintage three-band dynamic range enhancer designed in the late '80s with the aim of improving the dynamic range of formats that, because of their inherent limitations, were normally compressed. Analog tape anyone? When engaged, the LP-3X exhibits a limited number of controls. Pressing the 'Fine Tune' button will show the extra parameters you can tweak to further shape your sound.

Here is a schematic view of what the various controls on the LP-3X do:



Transient LP-3X – Fine Tune not engaged



Transient LP-3X – Fine Tune engaged

For ease of understanding, we will highlight the controls in Fine Tune mode in red.

## Controls:

1 – **Filt:** High Pass Filter (Hz) from 30 to 500; BY (the first knob step bypasses the HP filter).

2 – **Expansion:** sets the compression ratio, ranging from 1:1.1 to 1:1.5

3-4-5 – **Trn:** Single Transition controls for the three bands LF, MF, HF. It lets you refine the 'Transition control' for the three bands; each TRN control sets the threshold for each band independently from the others.

6 – **Mix:** This controls the proportion between the original (dry) and 'effected' (wet) signals.

7 – **Input Trim:** A one-knob internal gain structure control linking the input and output gain stages with an inverse law. The control sets the input level from -20dB to +20dB, and it is used to adjust the internal level of the plug-in. Note that this is different from a standard input gain control and always ensures that whatever gain change is introduced at the input, the output level is automatically compensated so that there is no perceived change in volume. Note: when the preamp stage is bypassed, the 'Input Trim' mode has no effect.

8 – **Transition:** the amount of expansion and compression is controlled by the "Transition" slider (upward for expansion and downward for compression); it sets the threshold of the compander.

9 – **Attack:** the attack time control (slider) is global for the three bands. Attack times change depending on the chosen model. For more information please refer to the 'Dynamic model' control explanation (19).

10 – **Release:** the release times control (slider) is global for the three bands. Release times change depending on the model chosen. For more information please refer to the 'Dynamic model' control explanation (19).

11 – **Pre:** activates the preamp.

12 – **Fine Tune:** The Fine Tune button reveals/hides additional controls of the plugin. Please note that even when Fine Tune is set to off, its controls still work.

13 – 14 -15 **Meters (LF, MF, HF):** they show the amount of compression/expansion for each band.

Tip: You can mute the three bands independently by clicking on the lower half of the meters. Likewise, you can bypass each band independently by clicking on the upper half of the meters.

16 – **Output:** controls the output level of the plugin (range: -20/+20 dB)

17 – **Attack Shape:** alters the shape of the attack envelope, allowing you to fine tune the attack behavior in order to adapt it to any audio source. Position 2 gives the original attack time of the modeled unit. Position 1 gives the fastest setting. Going from 1 down to 0, an extra look-ahead function is enabled. The global range of the look-ahead zone goes from 0 to 4 milliseconds. Values above 2 will slow down the attack time.

18 – **Bypass:** click on the Studio DMI logo to bypass the plugin.

19 – **Dynamic Model:** this stepped knob allows you to choose between five (5) different sets of Attack and Release times;

**Details:**

	<b>MOD.1</b>	<b>MOD.2</b>	<b>MOD.3</b>	<b>MOD.4</b>	<b>MOD.5</b>
<b>ATTACK TIMES</b>	0.5mS 5mS 20mS 60mS 180mS 300mS	20mS 40mS 80mS 130mS 170mS 200mS 230mS 310mS 540mS 620mS 690mS	0.7mS 1.3mS 2.7mS 4.3mS 5.7mS 6.7mS 7.7mS 10.3mS 18mS 20,7mS 23mS	1.7mS 2mS 3.2mS 6mS 88mS 117mS 133mS	1mS 3mS 5mS 7mS 9mS 11mS
<b>RELEASE TIMES</b>	163 mS 293mS 660mS 1S 365mS 3S 110mS 7S 440mS 9S 406mS	0.1S 0.2S 0.5S 0.6S 0.8S 0.9S 1.3S 1.6S 2.6S 3.2S 3.5S	3mS 6mS 16mS 20mS 27mS 30mS 43mS 53mS 87mS 106mS 117mS	0.056S 0.175S 0.211S 0.6S 1.6S 3.8S 7.7S	1mS 3mS 5mS 7mS 9mS 11mS 13mS 15mS 17mS 19mS 21mS

NOTE: LP-3X Attack and Release sliders are continuous, so intermediate times, compared to those shown in the table ( Attack and Release times actually sampled from different units) are the result of interpolation by our engine.

20 – 21- 22 – **LF-MF-HF:** Make-up Gain for LF,MF,HF; Independent compression/expansion stage output gain control for the three bands.

23 – **Clip Set:** this is an output Clipping stage, controlled by the “Clip Set” trimmer: OFF, model 1, model 2, model 3.

24 - **Clipper LED:** indicates the activity of the clipper when the ‘Clip Set’ (23) is enabled in mode 1/2/3. When the clipper stage is deactivated (Clip Set set to OFF) this LED does not light up.

## 4.2 DIAMOND TRANSIENT DYN-F

The Transient Dynamic Filter, as the name implies, is a filter which dynamically emphasizes or de-emphasizes low frequencies in the range of 30–500 Hz, following the amplitude of the audio source. As with the LP-3X, engaging the Fine Tune mode, will give you access to a total of 19 controls, for ultimate shaping possibilities. The Dyn-F consists of the following sections:

- A preamp
- A low-cut filter with either 12 or 24dB/octave roll-off providing up to 12 dB of attenuation.
- A low frequency band (labeled Lo Band) with variable Q (Slope)
- When the dynamic Mode (Dynamic) is enabled it allows you to dynamically change the behavior of the filters as well as the general response of the plugin.

Basically, it turns the static filter and the equalizer into dynamic ones. It features several specific controls, which will be explained in the following pages.

Here is a schematic view of what the various controls on the DYN-F do:



Transient DYN-F – Fine Tune not engaged



Transient DYN-F – Fine Tune engaged

For ease of understanding the additional controls found in the Fine Tune mode are highlighted in red.

Controls:

1 - **(Input) Trim**: one-knob internal gain structure control linking the input and output gain stages with an inverse law. The control sets the input level from -24dB to +24dB, and it is used to adjust the internal level of the plug-in. Note that this is different from a standard input gain control and always ensures that whatever gain change is introduced at the input, the output level is automatically compensated so that there is no perceived change in volume. Note: when the preamp stage is bypassed, the 'Input Trim' mode has no effect.

2 - **Model**: this stepped knob lets you to choose between five (5) different sets of Attack and Release times;

Details:

	<b>MOD.1</b>	<b>MOD.2</b>	<b>MOD.3</b>	<b>MOD.4</b>	<b>MOD.5</b>
<b>ATTACK TIMES</b>	0.5mS 5mS 20mS 60mS 180mS 300mS	20mS 40mS 80mS 130mS 170mS 200mS 230mS 310mS 540mS 620mS 690mS	0.7mS 1.3mS 2.7mS 4.3mS 5.7mS 6.7mS 7.7mS 10.3mS 18mS 20,7mS 23mS	1.7mS 2mS 3.2mS 6mS 88mS 117mS 133mS	1mS 3mS 5mS 7mS 9mS 11mS
<b>RELEASE TIMES</b>	163 mS 293mS 660mS 1S 365mS 3S 110mS 7S 440mS 9S 406mS	0.1S 0.2S 0.5S 0.6S 0.8S 0.9S 1.3S 1.6S 2.6S 3.2S 3.5S	3mS 6mS 16mS 20mS 27mS 30mS 43mS 53mS 87mS 106mS 117mS	0.056S 0.175S 0.211S 0.6S 1.6S 3.8S 7.7S	1mS 3mS 5mS 7mS 9mS 11mS 13mS 15mS 17mS 19mS 21mS

NOTE: Dyn-F Attack and Release knobs are continuous, so intermediate times, compared to those shown in the table ( Attack and Release times actually sampled from different units) are the result of interpolation by our engine.

- 3 - **(Lo Cut Filter) On**: activates the low-cut filter;
- 4 - **Pre**: activates the preamp;
- 5 - **Fine Tune**: The Fine Tune button reveals/hides additional controls of the plugin, like the 'trim' control for the dynamics.  
Please note that even when Fine Tune is set to off, its controls still work;
- 6 - **(Lo Band Eq) On**: activates the low frequency band;
- 7 - **Ratio**: sets the compression ratio, ranging from 1:1 to 1:10;
- 8 - **Transition**: sets the threshold. (from -40 dB to 0 dB).
- 9 - **(Lo Cut Filter) Res**: low cut gain control (from 0 dB to +8 dB).
- 10 - **(Lo Band Eq) Slope**: this button changes and sets a fixed (wide) bell shape. The Bell shape is narrow when the Slope is not engaged (default).
- 11 - **(Lo Band Eq) Freq**: low band frequency control from 40 Hz to 300 Hz.
- 12 - **Input meters**: these peak meters measure the Left/Right input signal level.
- 13 - **Output meters**: these peak meters measure the Left/Right output signal level.
- 14 - **Attack**: the attack times knob is global for the three bands. Attack times change depending on the model chosen, more info in the 'Model' control explanation (2).
- 15 - **Release**: the release times knob is global for the three bands; Release times change depending on the model chosen, more info in the 'Model' control (2) explanation.
- 16 - **(Lo Cut Filter) Freq**: Lo Cut Frequency control from 30 to 500 Hz.
- 17 - **Dynamic**: when this button is enabled (DYNAMIC=LED ON), the dynamic mode is automatically activated. It transforms the static filter and the Equalizer into dynamic ones. In particular, it is a dynamic processor with the settings of a common compressor but in combination with the Eq, emphasizing or de-emphasizing the Low frequencies.
- 18 - **(Lo Band Eq) Gain**: Lo Band gain control; from approx -6.5 dB to +6.5 dB.
- 19 - **Output**: controls the output level of the plugin.
- 20 - **Amount**: sets the amount of effect applied to the signal.
- 21 - **Bypass**: click on the Studio DMI logo to bypass the plugin
- 22 - **Dynamic meter**: this is the Gain Reduction meter, it measures the gain reduction level applied by the compressors. The meters indicate '0' in the absence of an input signal or gain reduction. If the signal exceeds the compression threshold or limit level, the amount of gain reduction is displayed.

# 5. CONTENTS

## 5.1 TECHNICAL SUPPORT

Technical support is exclusively provided via our dedicated Freshdesk platform. Please consult our website to learn more.

## 5.2 TROUBLESHOOTING AND BUG REPORT

Acustica Audio is constantly improving its products and adding new features. Ongoing issues, bugs and rare crashes can still be possible. If you are experiencing issues with your product, please head over to our website and visit the dedicated knowledge base section. Many answers have already been answered and ready-to-use solutions can be found there.

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