

Smash Pro

Spectral dynamics and harmonics processor

User manual v1.0.1
June 2009

Contents

1. Description	3
2. Demo limitations.....	3
3. Installation	3
4. Smash Pro overview	4
5. Usage.....	5
5.1 Graphical User Interface (GUI).....	5
6. Quick start.....	6
6.1 Mouse control.....	6
6.2 Parameter display	6
6.3 Processing display	6
7. Disclaimers.....	7
8. Specifications	7
9. Known issues	8
10. Change log	8

1. Description

Smash Pro is a stereo Virtual Studio Technology (VST) plug in that allows real-time, spectral dynamics and harmonics processing.

2. Demo limitations

The DEMO version of this plug in has the following limitations:

- The parameter display is disabled;
- The switch to modify the number of filters is disabled;
- The switch to modify the filter order is disabled;
- The switch to modify the dry/wet ratio is disabled.

These limitations are only reflected in the user interface; all functionality is fully operational and can be tested using a variety of supplied presets. The full version does not have these limitations.

3. Installation

This plug in comes without installation program. The installation can be performed manually by the following two steps:

- Extract the file 'jb_smash_pro.dll' from the corresponding zip file, using an (un)zip program or using the build-in functionality from Microsoft Windows XP or Vista;
- Store the dll file in the directory where your host program stores all VST plugins. This directory depends on the host program. Please refer to the manual of your host program to determine the correct directory.

If you have used the demo version of this plug in (with the word 'demo' in the file name) and would like to install the full version, or if you have earlier beta versions, you are advised to delete all earlier versions of this plug in before installing newer versions.

4. Smash Pro overview

Smash Pro provides extensive control to create a fat and warm sound. Multi-band compression, harmonic excitation and equalization processes can be carefully controlled as a function of frequency by simply drawing (discretized) frequency curves.

Smash Pro is based on an innovative signal decomposition that allows extremely accurate analysis and modification of audio signals. During processing, the input signals are up to 40 times oversampled to allow detailed simulation of non-linear processes. This results in a very distinct and unique sound character.

Due to its flexibility, Smash Pro can be used for a broad range of processing applications, such as dynamic equalization, de-essing, enriching harmonic content within certain frequency ranges, multi-band distortion, New-York style compression, and alike.

Smash Pro supports the following features:

- Up to 127 parameters to allow surgical sound sculpting;
- Support for 64-bits (double-precision) audio data for high-end use;
- Support of sampling frequencies up to 192 kHz;
- Multi-band (up to 20 bands) processing with individual controls for threshold, ratio, attack, release, and make-up gain;
- Unique spectral excitation feature (warmth) as a function of frequency;
- High-order, complex-valued level detectors for high-quality multi-band compressor envelope estimation;
- Support for parallel (New-York style) compression by adjustable dry/wet ratios;
- Clear user interface and display with level detection and real-time level adjustment visualization for each frequency band;
- Output level VU meters with peak hold functionality.

5. Usage

5.1 Graphical User Interface (GUI)

The GUI of Smash Pro is shown in Figure 1. The various GUI elements and their functions are listed in Table I.

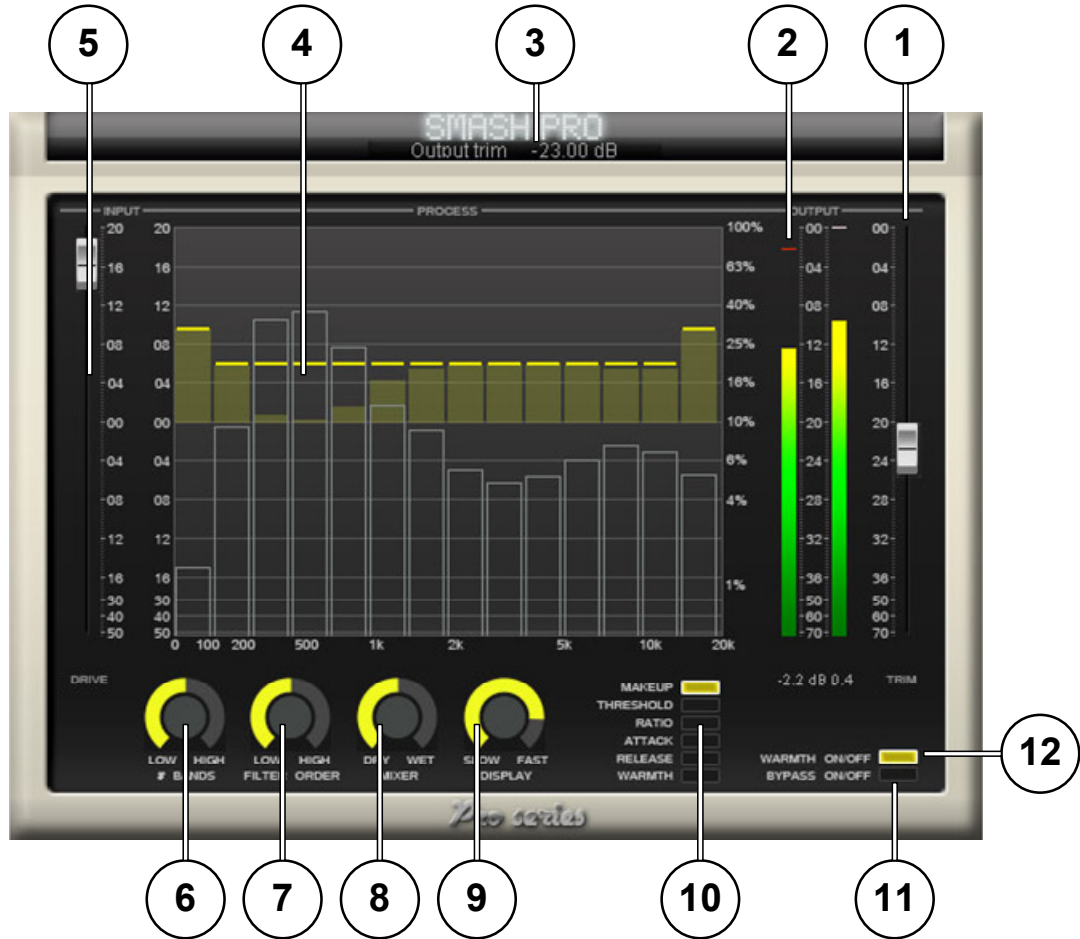


Figure 1 – Graphical User Interface of Smash Pro.

1	Output level trim	Determines attenuation of output level
2	Output level VU	Displays current output levels, including peak hold and numerical peak display
3	Parameter display	Displays current parameter value
4	Processing display	Displays current input levels (gray bars), current gain (dark-yellow bars), and parameter values (light-yellow bars)
5	Input level drive	Determines the gain of the input level
6	Number of bands	Determines number of processing bands (1 to 20)
7	Filter order	Determines the order of the filters (3 to 5)
8	Dry / wet	Determines amount of dry level mixed with output
9	Display speed	Determines release speed of processing display
10	Processing display selector	Allows to select make up gain, threshold, ratio, attack, release, and warmth within processing display
11	Bypass	Toggles between bypass and active state
12	Warmth	Enables or disables harmonic excitation (warmth)

Table 1 – GUI elements and their functions.

6. Quick start

6.1 Mouse control

The various GUI elements can be controlled by left-mouse mouse clicks (on switches) or left-mouse drags (on knobs and sliders). The following key combinations apply that modify the behavior of GUI elements:

- **Control-left-click:** Set the control in its default value;
- **Shift-left-click:** Decrease the sensitivity of the control;
- **Alt-left-click:** Jump to clicked position / draw mode to draw spectral envelopes.

Similar GUI control is provided using the **right** mouse button; only in that case the change will be applied to **all sliders** in the processing display simultaneously.

6.2 Parameter display

The parameter display shows the parameter value of the GUI element that is modified by the user. A left-mouse click only on an element will show the current parameter value in the parameter display.

6.3 Processing display

The parameter display is shown in Figure 2. For each frequency band, it indicates (1) the currently detected signal envelope, (2) the currently applied gain, and (3) the parameter slider, which can comprise any of the following:

- Make up gain (or equalizer curve) (in dB);
- Compressor threshold (in dB);
- Compressor ratio;
- Compressor attack (in ms);
- Compressor release (in ms);
- Harmonic excitation level (warmth) (in percent). Only effective if the warmth on/off switch (12) is 'on'.

The parameter slider function can be switched by the processing display selector (9 in Figure 1).

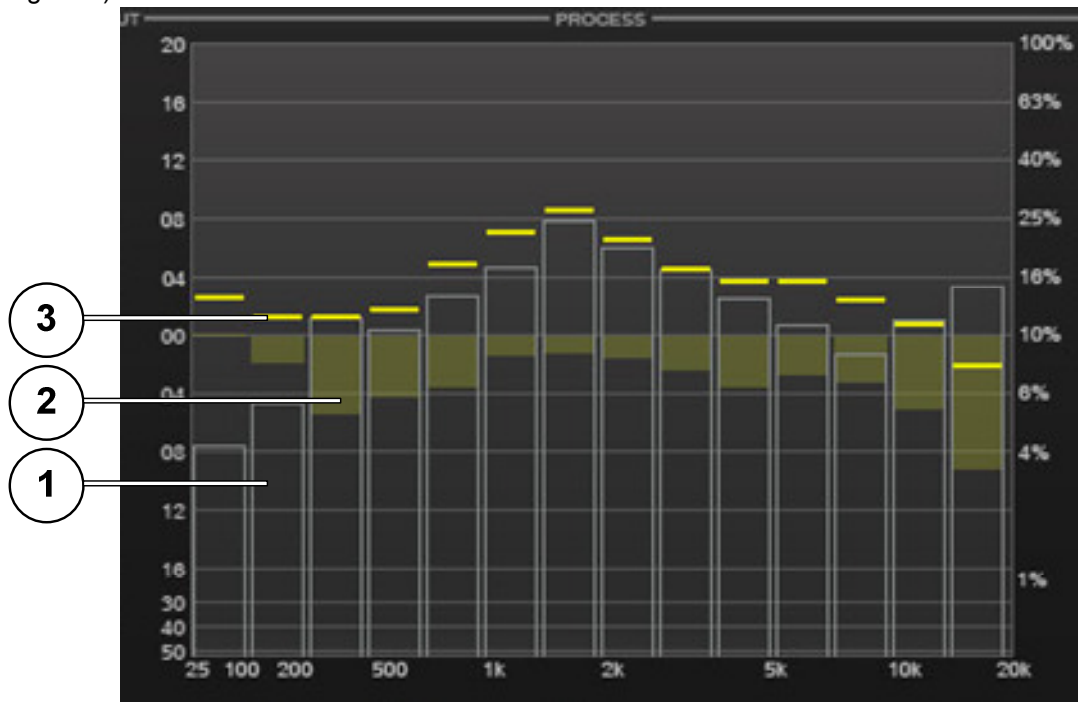


Figure 2 - Processing display indicating (1) detected input level envelope, (2) current gain, and (3) parameter slider.

7. Disclaimers

VST is a trademark of Steinberg Media Technologies GmbH.

8. Specifications

Property	Supported values
Supported input/output formats	Stereo Mono (as dual mono via host)
Plug in delay (latency)	1024 samples
Supported bit depths	32 bit float 64 bit float
Number of parameters	129
Supported sample rates	Up to 192 kHz
VST version	2.4

9. Known issues

- None.

10. Change log

Version 1.0.1

- Incorporated variable release speed of processing display
- New warmth on/off switch

Version 1.0.0

- Initial version.