

Slick HDR

MANUAL

revision 1.0

Content

Chapter 1: Introduction	5
1.1. LICENSE	5
1.2. DISCLAIMER	5
1.3. INSTALLATION	6
1.4. CREDITS	6
1.5. OVERARCHING TOPICS	6
1.6. AT A GLANCE	6
1.7. BACKGROUND	7
Chapter 2: Reference	9
2.1. JUMP START & WORKFLOW	9
2.2. ADJUSTING TIMING	9
2.3. TONE CONTROL	10
2.4. FURTHER TIPS	10
Operating the plug-in across large volume ranges	10
Placing the plug-in in a typical mixing chain	10
P1, P2 and P3 – a deeper understanding	10
Chapter 3: Addendum	11
3.1. GETTING THE MOST OUT OF IT	11
3.2. KNOWN ISSUES	11
3.3. UPDATES AND FURTHER INFORMATION	11

1 Introduction

1.1. LICENSE

Copyright (C) 2014 by H. L. Goldberg.

The contained software is given to use under a freeware license.
This software is provided free of charge but the author retains copyright.

You are not allowed to make any copies or redistribute this software including but not limited to making the software available for download or making this software part of a software CD/DVD/Blue-ray compilation.

You are not allowed to sell or to rent this software. You are not allowed to reverse engineer this software.

You are allowed to use this software for any artistic application including commercial music production.

This software is provided 'as-is', without any express or implied warranty. In no event will the author be held liable for any damages arising from the use of this software.

1.2. DISCLAIMER

'VST' is a Technology and Trademark by Steinberg.
All other mentioned trademarks and brands belong to their respective owners.

1.3. INSTALLATION

Requirements:

- Win32 compatible system with SSE2 (or higher) instruction set support.
- The software is tested and known to work in many VST compatible hosts.

Installation on Windows 32bit systems:

Put the DLL files contained in this archive in the VST plug-in folder of your host.

Installation on Win7 64bit systems:

Put the DLL files in the VST plug-in folder in the *Program Files (x86)* part of the file system. If you would like to use it in a 64bit host just use a wrapper, e.g. jBridge.

1.4. CREDITS

Algorithms, made in Germany - H. L. Goldberg, varietyofsound.wordpress.com

Interface, made in Switzerland - Patrick Barca, www.subpixel.ch

1.5. OVERARCHING TOPICS

Warning: Lower your listening volume while operating the plug-in to avoid hearing damage or damage of speakers or any other equipment.

Usage tips:

- Use the power switch on the lower right side for handy A/B comparisons.
- Use the TRIM knob to adjust the output volume for A/B comparisons.
- Use *<ctrl> + mouse left click* on a knob or switch, to restore default position.
- Use *<shift> + mouse left click* on a knob to fine adjust values.
- Use this plug-in as an insert effect in any mono or stereo channel of your VST host.

1.6. AT A GLANCE

SlickHDR is a “Psychoacoustic Dynamic Processor” which:

- balances the perceived global vs. local micro dynamics of any incoming audio.
- creates a rich in contrast, detailed and clearly perceived image which translates way better across different listening environments.
- provides a convenient workflow by simply adjusting three dynamic processors to show a roughly same load.
- offers further and detailed control about overall tone and release time behavior.

Technically speaking, *SlickHDR* contains a coupled network of three dynamic processors with two of them running in a “stateful saturation” configuration and one based on look-ahead processing.

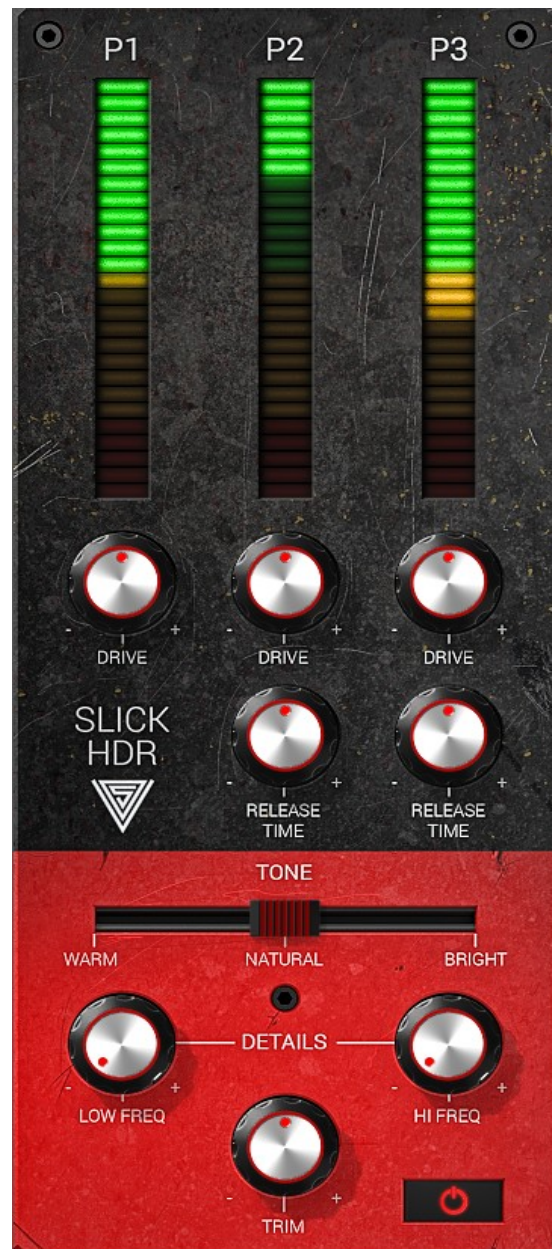
Fixed amounts of the unprocessed signal are then injected into the network at several specific points and also mixed back into the networks output. Being networked, all processors are highly interacting with each other and this is utilized to cope with a wide variety of sound (sic!) to balance the perceived audio dynamic range.

1.7. BACKGROUND

SlickHDR resembles the notion of High Dynamic Range as used in image processing which is about balancing the local vs. global contrast of an image by utilizing special processing. As a result, such processed images might appear much more natural (as seen by human eye in the real world) even if the output format is inferior and/or the environment just offers poor lightning conditions.

In the audio domain, the way how dynamics are perceived heavily determine on psychoacoustic phenomenons which is about how we actually perceive transient vs. steady state signals, how things are frequency dependent in our hearing, why ear fatiguing and masking effects are occurring or how our hearing copes and takes advantage of overtones – just to name some of the dimensions.

Some further readings on HDR imaging and its application to audio can be found in my Blog, VarietyOfSound.wordpress.com.



2 Reference

2.1. JUMP START & WORKFLOW

SlickHDR performs best when all three processors are indicating roughly the same processor load which should be somewhere in the green range as indicated by the level meters. Some occasional peaking in the yellow range is Ok but sustained yellow levels should be avoided. The red range must be avoided in any case.

To achieve this, adjust each processor with its corresponding DRIVE knob from left to right. **Always start with P1 because this also sets the common input level for a proper overall gain-staging in your mixing chain.** After P1 adjust P2 and revise P1 afterwards because they are highly interactive. Finally, P3 should be dialed in as needed.

The final output level of the processed signal can be adjusted by the TRIM knob. Use the power switch for A/B comparisons between the processed and unprocessed signal.

2.2. ADJUSTING TIMING

All dynamic processing within *SlickHDR* is based upon automatic program dependent time computation. On top, P2 and P3 are offering manual fine control for the actual RELEASE TIME. This is primarily provided to manage artifacts like pumping if ever that occur.

To fix such artifacts, identify if they occur in P2 or P3 (or both) and adjust the according RELEASE TIME slider to increase/decrease the basis for the internal automatic release time computation.

2.3. TONE CONTROL

SlickHDR can significantly change the perceived tonal spectrum. This is due to the frequency dependent dynamic processing but also due to harmonic overtone generation. To have a better control over this TONE effect, three different tonal impression preset settings are offered: WARM, NATURAL and BRIGHT.

Further on, the perceived dynamic DETAILS can be increased in the LOW FREQ or HI FREQ department individually, which might be a rather subtle effect. Note that this can also restore perceived ambience if the audio contains such information.

Be aware that changing any tone control also affects the behavior of the dynamic processors and therefore the DRIVE setting of each processor should be revisited afterwards.

2.4. FURTHER TIPS

Operating the plug-in across large volume ranges

If one can't manage to get *SlickHDR* consistently to perform in the green range as indicated by the level meters, there are several scenarios/solutions but first: Don't panic! One just might:

1. Just let the effect work on the louder passages if that makes sense in the actual context.
2. Separate the louder and quieter passages (e. g. chorus and verse sections) into different tracks and apply two individual instances of the plug-in.
3. Automate volume in the host software to have an already more balanced input to the plug-in.

Placing the plug-in in a typical mixing chain

Its recommended to place *SlickHDR* into the top most inserts of any actually chosen mix channel or stereo bus. Though, if any technical EQ correction plug-ins are used, it might be better to place *SlickHDR* behind them.

P1, P2 and P3 - a deeper understanding

P1 is the fastest processor, increases clarity and is also used to set the overall input level to all further processing. On the opposite, P2 is the slowest processor and is typically used for overall signal leveling and to recover P1 from too much load. P3 is finally utilized to round the signal off. Such polishing/finishing always occurs within *SlickHDR* but is handed over to look-ahead processing the more load P3 actually shows. If too much load is induced, clarity decreases and also the volume drops slightly as a tradeoff.

If too much overall distortion occurs then simply lower the load of P1 either by decreasing its DRIVE or by backing it off with P2.

3 Addendum

3.1. GETTING THE MOST OUT OF IT

Using the device across a whole mix is a very good idea. For example, applying it on a mono bass track to make it appear more consistent and then the keys and the rhythms section in the very same fashion delivers sub-mixes with a great overall translation. Then apply it on the vocal group and the drum bus to manage all the micro dynamics there. This already makes mastering a lot easier.

Inserting it on the master bus upfront the final limiter is also not only possible but beneficial. In this case, increasing loudness of the whole mix is partly delivered by psychoacoustic processing and so the final limiter has less work to do and can operate much more relaxed. However, this plug-in is not intended to be part of any loudness race.

3.2. KNOWN ISSUES

Known issues in version 1.0.0:

- none

3.3. UPDATES AND FURTHER INFORMATION

Refer to my Blog at <http://varietyofsound.wordpress.com> for some additional information and updates on this plug-in, or leave a note there if any issues did occur.

Peace,
Herbert