

Slapper 3.x

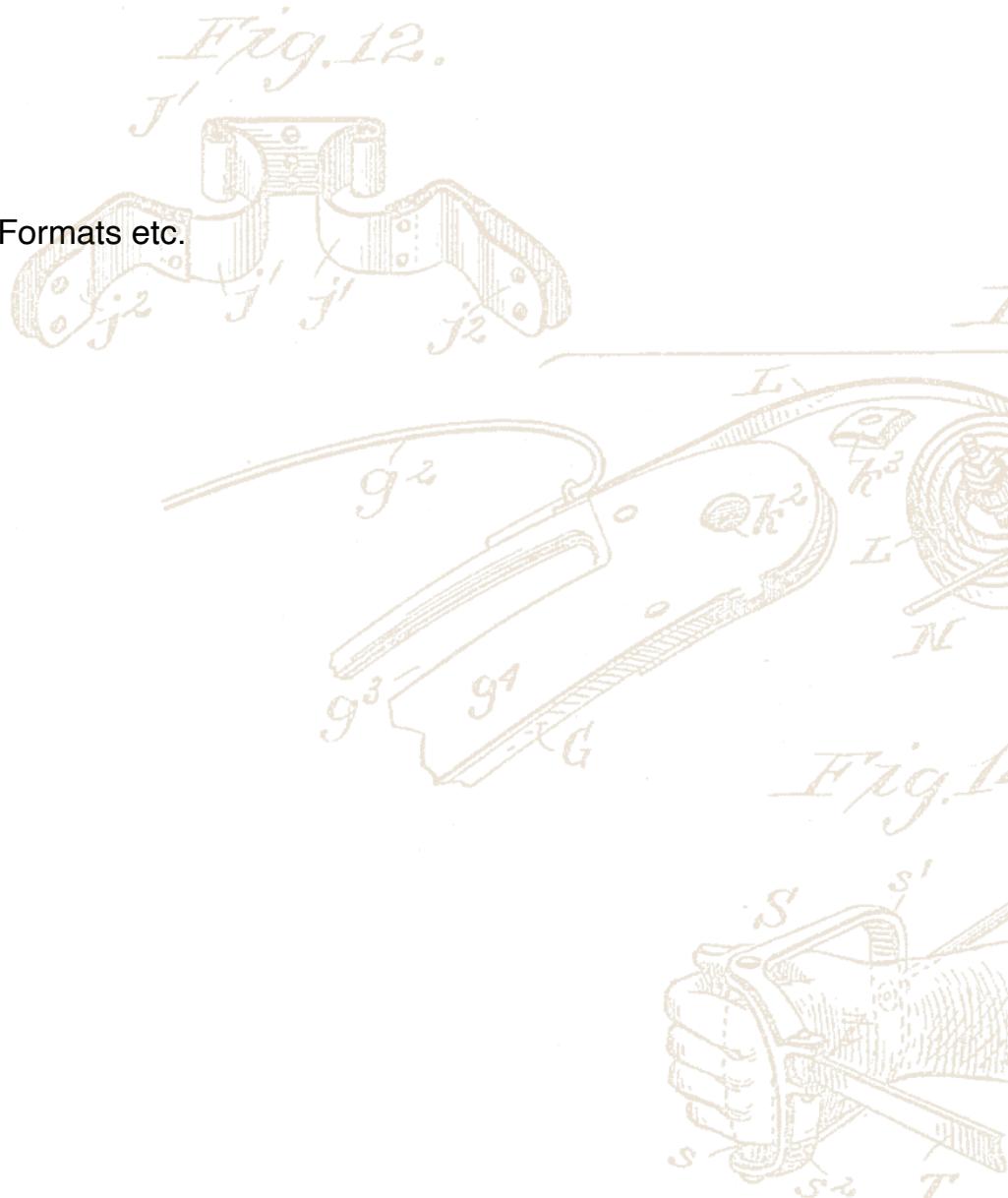
User Guide & Workshop Manual



Slapper 3.0.19
20231024

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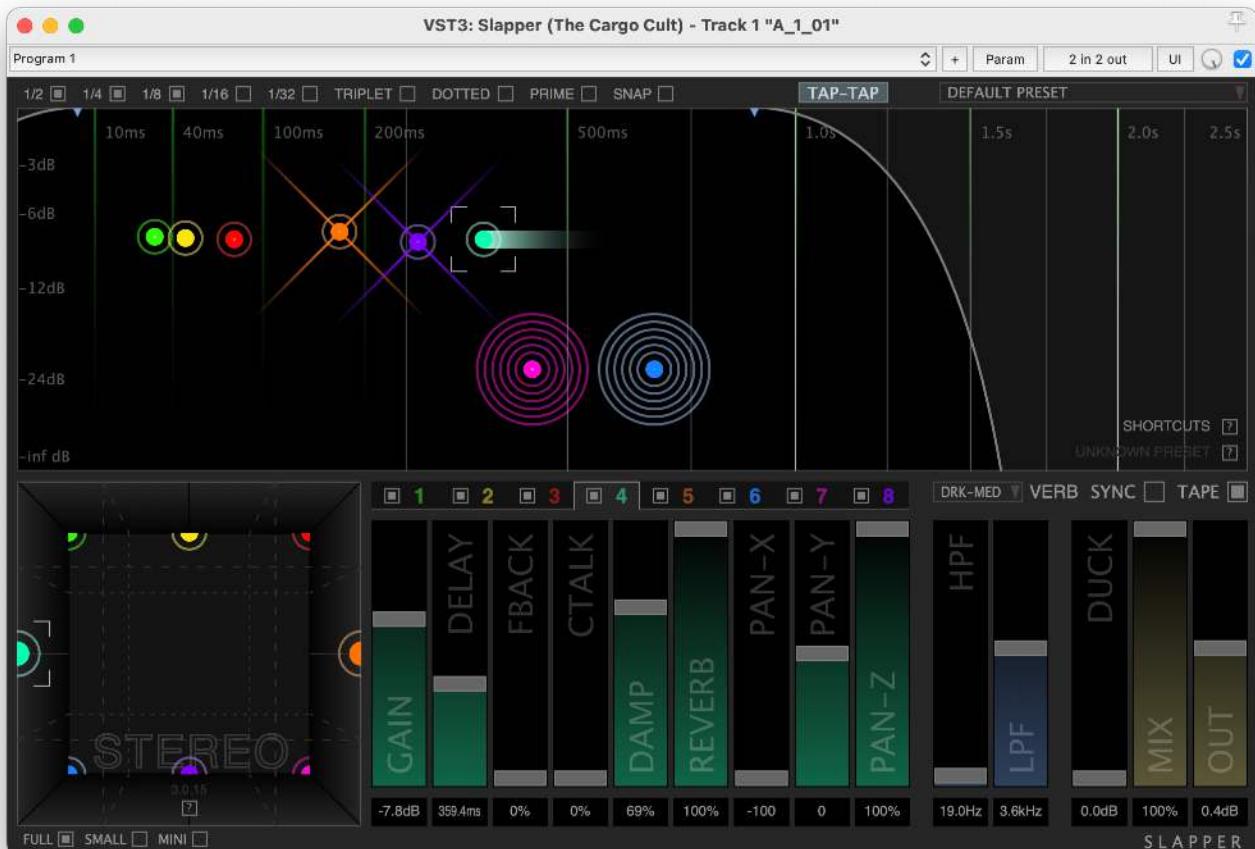


1. An Introduction to Slapper

Slapper is a multi-tap surround (or stereo) delay plugin.

It comes in 2 variants: Slapper (surround) and SlapperST (mono and stereo only). The versions are identical in every way except that ST cannot create any instance larger than stereo. All automation and presets are common and users can freely open a session created with the other variant.

Slapper is essentially 8 delay units in one package, with each delay line (a.k.a "tap") being essentially independent, and having its own rich set of controls for tonal balance, feedback, crosstalk, reverb and position within the surround field.



Each parameter is represented in the GUI with an intuitive visualisation.

Gain is the vertical axis in the tap field

Delay time is the horizontal axis in the tap field.

Feedback is represented by the concentric rings

Crosstalk is represented by the cross

Damping is represented by the colour saturation (Damped = less colour)

Reverb is represented by the tail graphic.

Pan position is shown in the pan field.

Tap level meters are shown by a dynamic ring which expands and contracts with signal strength.

The **HPF & LPF** Filters have graphical elements in the tap field as well.



2. View Modes

Slapper offers 3 GUI view modes.

Full is the largest and presents all parameters as a visualisation and also in the form of sliders



Small mode removes sliders and most of the buttons. This mode is usually quite adequate and gives great feedback about what is happening in the audio side of the plugin.



Mini mode is intended as a very basic “heads-up display”, which at a glance can keep you informed about the activity of your Slapper instances. It’s as small as we can make it so you can keep all your Slappers onscreen while you mix and you’ll always know which one is triggering all those messy echoes in the rear surrounds.

Mini mode also offers “signal presence” LEDs for each of the 8 taps, output meters, and a very helpful “Parameter change warning light” which flashes any time a plugin parameter is being altered. This can be useful as a warning when an automation “ramp” has inadvertently been created in your session.

As of Slapper 3.0 the “signal presence LEDs” and TAPE/SYNC buttons can be clicked as any other toggle button.



3. Controls

The automatable parameters in Slapper are either global or per Tap. In addition there are several non-automatable controls which help you use the plugin, but do not affect the sound of its algorithms at all.

Per Tap parameters (automatable)

Gain is amount of level reduction applied to a given tap.

Range is -INF thru 0dB.

Delay time is actually 2 separate parameters.

In SYNC (tempo sync) mode, delay is measured in beats (1/4 notes) with a range of 0 - 10 beats.

In TIME mode, delay is measured in milliseconds, with a range of 0 - 2500ms.

When switching between TIME and SYNC modes, you will see that the delay values are independent.

To transfer values from one mode to the other hold CTRL-SHIFT when clicking the SYNC checkbox.

On console layouts it's important to remember that there are separate pages for each of these "delay" and "delay beats" parameters.

Feedback is the amount of signal which will be feed back into the delay line for the Tap in question.

Range is 0% - 100%



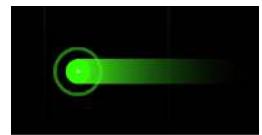
Crosstalk is the amount of signal which will be fed into every other Tap. If other taps also have Crosstalk applied, the signal will be returned and fed back again, ad infinitum. As such it is important to not over-use crosstalk, and better results are usually found by cross talking just a couple of taps. Range is 0%-100%



Damping is a filter which tries to give the sensation of distance. Each time signal enters the delay line, an amount of filtering is applied, so when combined with feedback it can give the impression of an echo being more and more distant. The exact specification of this filter design is a closely guarded secret.



Reverb is the amount of reverb that will be applied to the output of the tap in question, using the reverb style set by the global "REVERB TYPE" parameter. This reverb signal is not included in the feedback or crosstalk signal paths. It is intended as a means of softening echoes which can at times sound a little obvious, especially when transients are present. Range is 0% - 100%



Pan position is set with 3 parameters, X, Y and Z (left/right, front/back, height)

Range is -100 to +100 for X and Y, and 0% - 100% for Z

Global Parameters (automatable)

The **HPF & LPF** Filters are applied over the output signals (post pan) and are standard 12dB/oct IIR filters.

Duck

Controls a dynamics stage which reduces (ducks) the level of the wet signal while dry signal is arriving at the input.

Range is 0db to 12dB (being the maximum amount of reduction that will be applied)

Mix

Controls the wet/dry mix.

Range is 0% - 100%

Out Gain

An overall level adjustment for the entire output of the plugin.

Range is -INF to +6dB



SYNC

Toggles between absolute time mode and tempo-sync mode. Each mode has its own set of delay time values, since one is absolute and the other related to session tempo (BMP). CTRL-SHIFT clicking the SYNC button which transfer the delay values from one mode to the other, putting those parameters into “touch”.

Note that SYNC mode will often offer a longer range of delay times (in absolute time) than TIME mode, so very long delay values may be set to the 2500ms maximum when converting “delay beats” to “delay” values.

Note also that in SYNC mode the horizontal axis of the tap field is a linear scale (0 -10 beats), whereas in TIME mode, the horizontal axis is a logarithmic scale, giving far greater resolution at the short end (to the left). This is important for designing very short reflections in realistic interior spaces. Enable some tempo grids to get a feel for the scaling.



TAPE

toggles the TAPE MODE processing algorithm. When a delay time value is changed, the delay line is made longer or shorter, and if signal is present while this happens, and audible glitch may be heard.

With TAPE MODE enabled, Slapper will stretch and warp the delay line signal so that no glitches are heard, and instead produce a spectacular tape-like varispeeding effect. This mode has great creative potential, but does use a lot of CPU, especially when many taps with long delays are all constantly changing.

Note that in SYNC mode, tempo changes (even slight ones) will cause this warping effect, which may not be desirable. In these cases, transfer the delay values over to TIME mode using CTRL-SHIFT-Click on the SYNC button.

VERB

controls the style of reverb that will be applied to any Taps using this feature.

While this is a global parameter, the reverbs applied to each tap are actually completely independent mono reverbs, which are panned into the surround field along with the rest of the Tap signal.

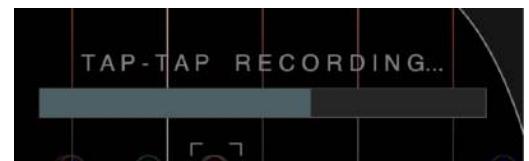
Values are Dark or Short (short, medium and long), plus XXXL which is intended as a washy film-style drench.



Non-Automatable Controls

Tap-Tap

Provides a means of manually tapping in a pattern of echoes using the mouse or console buttons (where available). The first click you make starts the recording process and also represents the dry signal. Each subsequent click sets the delay time of the next Tap. So clicking 3 times will set 2 delay taps. Please don't email us claiming it's broken.



When triggering Tap-tap, Slapper disables all 8 Tap, and then only enables the ones you've set by clicking. Once the maximum time elapses, Tap-Tap mode will exit. A falling gain pattern will be applied.

Please note that in TIME mode (non SYNC), the horizontal scale is logarithmic, so while it may feel like your clicks are arriving late, or don't look like the pattern you clicked, they are. Investigate the times set and listen to the results using a 50% wet setting (or a send/return structure) and you should find everything is in order.



Tempo Grids

Give a visual indication of various tempo-based measures and allow the user to snap delay values to these values. More significant measures will be highlighted using a brighter white.



Preset Interrogation button

Offers a means of discovering the preset which was most likely used to create current the plugin state. In most DAW hosts, it is common to automate plugin parameters by calling up a preset, which puts individual parameters into write mode, and then continuing to manipulate the individual parameters. If at some later time you need to know which preset was responsible you can hit this button and Slapper will attempt to find the closest matching preset from all the standard preset locations in your file system. A "modification %" value will also be given.



This feature is a fantastic way to resolve the question "Oh no, this location again... what did I use last time?"

Presets Menu

The onboard preset menu lists and modifies the ".slapperpreset" files stored on your file system at:

~/Documents/Slapper/Presets

Note that file system directories are displayed here only 1 level deep, beyond which they are displayed in a single collection.

Shortcuts Interrogation button

Reveals a popup tooltip with the relevant keyboard modifier shortcuts for the Pan or Tap field in question.



View size radio buttons

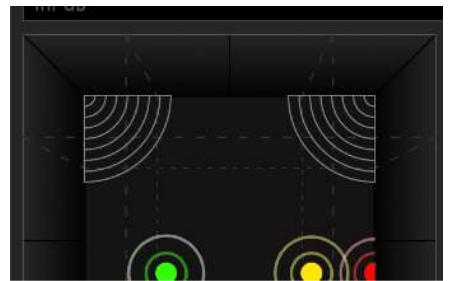
Offers a means of toggling between the 3 view states.

FULL SMALL MINI

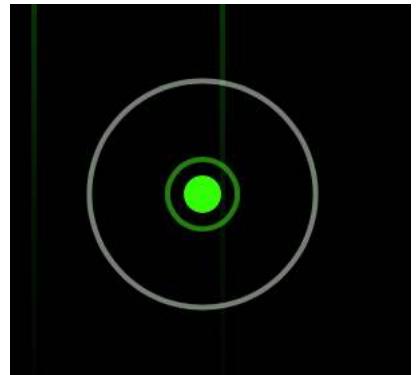


4. Meters

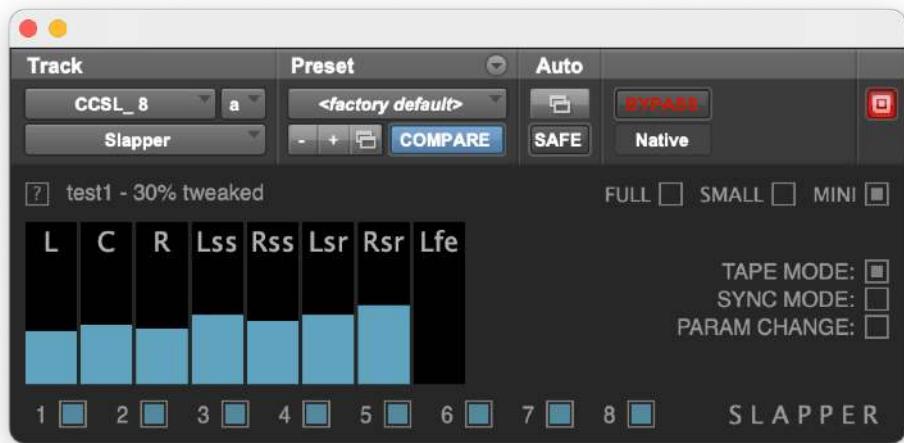
Slapper meters output signals in the destination format, rather than the input channels. At absolute clipping, the entire meter will turn red. The meter uses a "digital peak" approach with reasonably fast ballistics.



Each puck also has a separate level meter showing the signal strength for that delay line. This enable you to quickly understand which tap is firing at any given moment and helps identify problematic or overlay loud echoes.



Mini Mode also offers a complete set of output meters in the more traditional linear style:



5. Panning & downmixing logic

Slapper uses a standard sine-cosine +3dB pan-law.

The Dolby diktat of the 7.1.2 ceiling-channel-inset has been ignored. Yeah, stick it to the man.

Input channel arrangement is actually completely irrelevant to Slapper. All signals arriving at the input are summed to mono, before then being fed into the 8 delay taps. As such it really doesn't matter which input format you use, and the many options are simply provided as a convenience to you, so you never have to worry about which bus is feeding the Slapper.

Downmixing

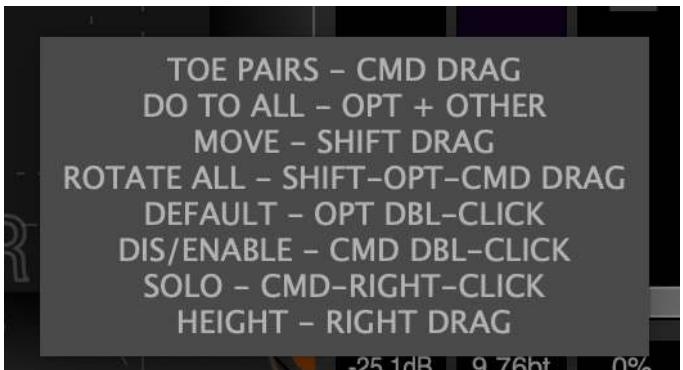
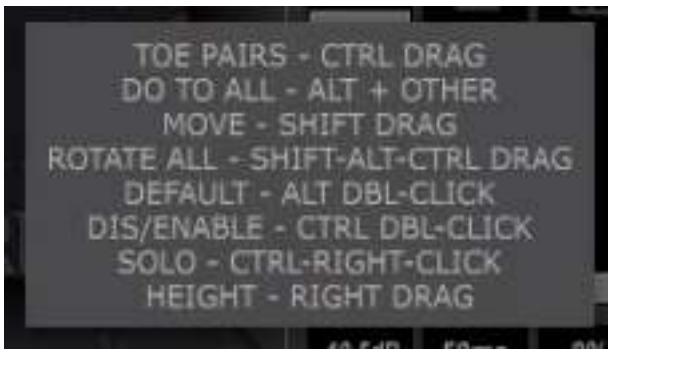
When the input signal format does not match the output format, a conundrum is encountered when the user hits BYPASS or wishes to reduce the MIX parameter to less than 100%. In such cases, a fixed up/downmixing logic is applied so that no signal is lost.



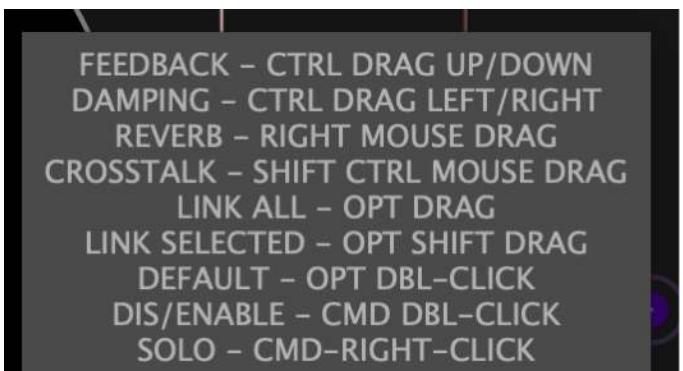
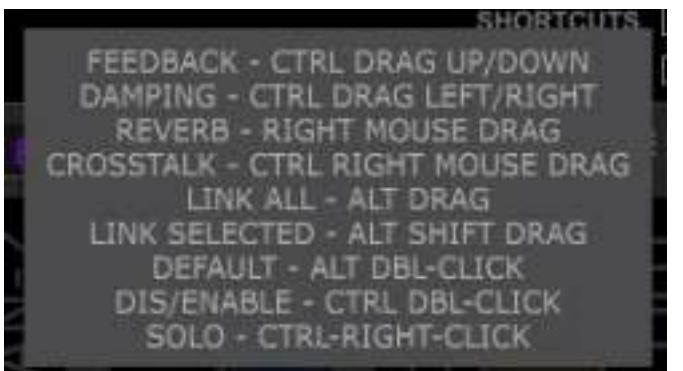
6. Shortcuts Reference

Shortcuts for controlling pucks can be found in the Panfield and Tapfield under the ? button.

Panfield

Mac	Win
 <p>TOE PAIRS - CMD DRAG DO TO ALL - OPT + OTHER MOVE - SHIFT DRAG ROTATE ALL - SHIFT-OPT-CMD DRAG DEFAULT - OPT DBL-CLICK DIS/ENABLE - CMD DBL-CLICK SOLO - CMD-RIGHT-CLICK HEIGHT - RIGHT DRAG</p> <p>-25.1dB 9.76bt 0%</p>	 <p>TOE PAIRS - CTRL DRAG DO TO ALL - ALT + OTHER MOVE - SHIFT DRAG ROTATE ALL - SHIFT-ALT-CTRL DRAG DEFAULT - ALT DBL-CLICK DIS/ENABLE - CTRL DBL-CLICK SOLO - CTRL-RIGHT-CLICK HEIGHT - RIGHT DRAG</p>

Tapfield

Mac	Win
 <p>FEEDBACK - CTRL DRAG UP/DOWN DAMPING - CTRL DRAG LEFT/RIGHT REVERB - RIGHT MOUSE DRAG CROSSTALK - SHIFT CTRL MOUSE DRAG LINK ALL - OPT DRAG LINK SELECTED - OPT SHIFT DRAG DEFAULT - OPT DBL-CLICK DIS/ENABLE - CMD DBL-CLICK SOLO - CMD-RIGHT-CLICK</p> <p>SHORTCUTS [?]</p>	 <p>FEEDBACK - CTRL DRAG UP/DOWN DAMPING - CTRL DRAG LEFT/RIGHT REVERB - RIGHT MOUSE DRAG CROSSTALK - CTRL RIGHT MOUSE DRAG LINK ALL - ALT DRAG LINK SELECTED - ALT SHIFT DRAG DEFAULT - ALT DBL-CLICK DIS/ENABLE - CTRL DBL-CLICK SOLO - CTRL-RIGHT-CLICK</p>

Multiple Pucks can be selected using SHIFT-CLICK and then controlled as above.



7. Specifications, Supported Formats etc

HOST PLATFORMS

Mac OS 10.12 or greater. Universal Apple Silicon & Intel binaries.
Windows 10 or 11

PRO TOOLS

Minimum version = 12.0

PLUGIN FORMATS

VST3, AU, AAX Native & Audiosuite.

SAMPLERATES

44.1kHz thru 192kHz

CHANNEL FORMATS

The following formats are supported as input and output, with every combination offered in Slapper (surround). Slapper ST offers only Mono and stereo.

Note that Slapper mono-sums all input channels so noting is gained by having a 9.1.6 input format.

Mono, Stereo, LCR, Quad

5.0, 5.1, 5.0.2, 5.1.2, 5.0.4, 5.1.4

7.0, 7.1, 7.0.2, 7.1.2, 7.0.4, 7.1.4, 7.0.6, 7.1.6

9.0.4, 9.1.4, 9.0.6, 9.1.6

COPY PROTECTION & AUTHORISATION

Copy protection is provided by PACE Anti-Piracy in the form of the iLok system.

Any use of the Spanner software requires an account with iLok.com though a hardware dongle is not necessary. Authorisation is enabled to the iLok dongle, the host computer, or the iLok Cloud.

