SV-719 Gate

Operation Guide

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Sonalksis SV-719 Gate

Introduction

This guide describes the features, operation and applications of the SV-719 Gate. For detailed installation instructions, please refer to the Sonalksis *Plug-in Manager* User Guide. You can read more about general features common to all Sonalksis plug-ins in the *Universal Plug-in User Guide*.

The Sonalksis SV-719 Gate

The Sonalksis SV-719 is an multi-function expander processor modelled on vintage expander circuits. Whether you want a classic gated drum effect, or are trying to tame a dynamic bass line, the 'true analogue' SV-719 will give noticeably more traditional results. Typical 'digital' gates sound very different to analogue units due to the subtleties of the way the gate opens and closes, so to achieve certain sounds - like a tight classic 'disco' drumbeat or a traditional gated drum effect - an analogue style gate is the only way forward.

The SV-719 is among the most extensively featured gate/expanders available. With external side-chain inputs, multiple band side-chain filtering, midi triggering capability, and independent left/right channel triggering possibilities, you are unlikely to ever require more from a gate. In addition there is also a Ducking mode, and a hybrid analogue/digital signal path allows look-ahead processing for extra flexibility.

With control over not only the 'hold' time, but also the more traditional 'hystersis' found on vintage gates, you can fine tune the gate with absolute precision, and avoid 'chattering' artefacts.

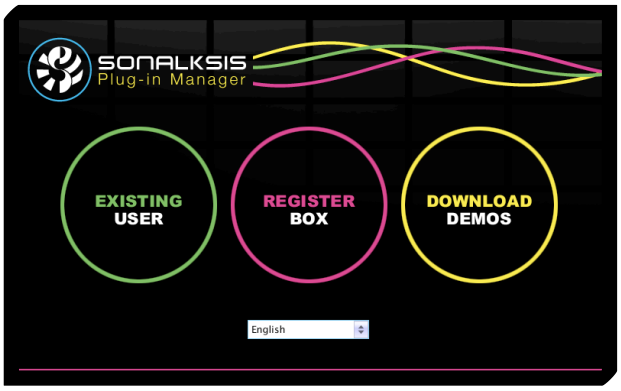
This plug-in is also capable of more than just classic gating: the 'Expansion' mode allows for more subtle noise reduction, or de-emphasis of background disturbances, while 'Ducking' mode - normally a feature for voiceover work - can also be used creatively to de-emphasise audio which might cloud a mix when there's too much going on: The external side-chain can be set up to listen to critical sections of the mix, and the SV-719 can then automatically gently trim portions of a track to create space for the mix to breathe.

Installation

...with the *Plug-in Manager*

All Sonaksis plug-ins are installed using the 'Plug-in Manager'. The Plug-in Manager simplifies the task of managing multiple Sonalksis plug-ins, and takes care of downloading, installing, authorising and updating your Sonalksis plug-ins.

Detailed instructions can be found in the *Plug-in Manger User Guide*.



Authorisation

If your computer is internet enabled, all license authorisation takes place automatically. When you install Sonalksis plug-ins, any plug-ins for which you have licenses will be authorised by the Plug-in Manager.

If your audio computer is not internet enabled, you must go to the 'Product Activation' section on the Sonalksis website in order to obtain an authorisation file. You will need the 'Activation Code' that is displayed when you run the Plug-in Manager on your offline system. You can then download your authorisation file which you simply need to drag-and-drop onto the Plug-In Manager window.

Unlicensed Sonalksis plug-ins will function for 14 days after installation without authorisation, after which the plug-ins will no longer process audio. After this period, you can still reactivate a plug-in by obtaining a valid license.

Operation

This section describes the functions of the SV-719 Gate. You can read more about general features common to all Sonalksis plug-ins in the *Universal Plug-in User Guide*.

The Standard Controls

The standard controls are applicable to all three modes of the SV-719, and will typically be found on other processors of this type. They are as follows:

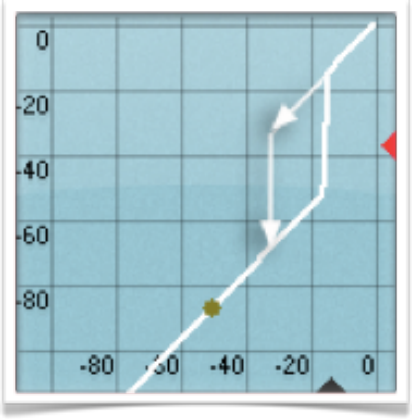
•**Threshold** – *sets the level above which any processing is applied*

•**Range** – *controls the maximum amount of gain reduction that is applied*

•**Hyst** – *controls the hysteresis (see below)*

The Hysteresis effectively sets a 'lower threshold' which is active only when the side-chain signal is falling. The greater the value of the ***Hyst*** parameter, the greater the difference between the signal rising threshold and signal falling threshold.

Creating a difference between the threshold at which processing takes place for rising and falling signals helps to prevent 'chatter', particularly in ***Gate*** mode where signals that do not exceed the threshold by a great amount may otherwise open and close the gate too quickly.



•**Attack** – *sets the attack time*

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•**Release** – *set the release time*

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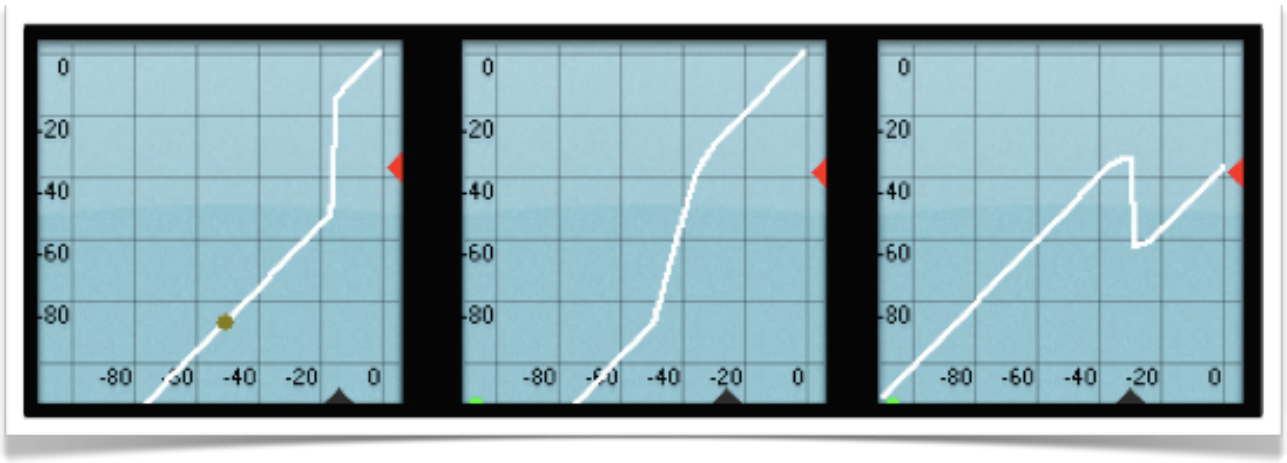
•**Hold** – *sets the time for which the processor 'holds off' any gain reduction after attacking, before the gain reduction is 'released'*

The Mode Section

The SV-719 has three modes of operation: *Gate*, *Duck*, or *Expand*. These modes are mutually exclusive – the 719 either gates, ducks or expands audio.



Gate Mode *Expand Mode* *Duck Mode*

The SV-719 is primarily a Gate processor - a very common standard audio process which should not require explanation. While audio gates are typically used for example to isolate drums for separate processing treatment when multi-mic'ing a drum kit, a fully featured gate such as the SV-719 can be used much more creatively, by making use of the external side-chain or midi triggering capability.

The *Expand* mode (marked '*Exp*' on the mode selector switch) should require no explanation either, other than to say that the expander is capable of variable ratio expansion, using a soft or hard knee. The *Ratio* and *Knee* parameters are only available when Expand mode is active.

Ducking is a process is used extensively in 'voice over' production: essentially the level of one audio channel controls the attenuation of another, so it is a good mechanism to automatically reduce the level of music while someone speaks – typically a radio DJ talking over the top of a background track.

However ducking can also be used creatively to give extra prominence to a particular track in a mix, or to de-emphasize effects which might cloud a mix when there's too much going on. For example, within a busy mix a vocal track may control the subtle ducking of a guitar track to gently aid the distinction of the voice. Or a vocal track with heavy reverb can be used to control the ducking of the reverb effect on a guitar track, so that the two reverb effects do not clash within the mix.

The Side-Chain Section

The *Side-chain* section allows users to set up, filter and listen to the side-chain input.

The side-chain signal is the control signal that essentially dictates the amount of processing that takes place. Usually a copy of the input signal is fed into the side-chain section, however the SV-719 is capable of using an 'external' sidechain too, meaning that potentially one audio track can effectively control the way a separate audio track is processed.

In order to route audio signals from one audio channel into the external side-chain input of the SV-719, you should refer to your audio-host documentation. Note that separate 'multiple-input' versions of the plug-in are provided for the VST format.

The switches in the side-chain section are as follows:

- **Ext** – *switch to 'ext' mode to route the external sidechain signal to the plug-in. Note that audio must be connected to the external input through your host: the 'ext' switch simply routes this audio to the side-chain.*
- **Listen** – *switch this in to hear the audio signal in the side-chain. This is useful when applying filtering to the side-chain audio.*
- **Filters** – *switches the side-chain equalisation filters on.*
- **Unlink** – *when 'unlinked', the left and right side-chain channels act independently on the left and right audio channels (available in stereo versions only).*
- **Midi/Vel** – *when Midi is active, this control can be used to scale the incoming velocity, so the velocity curve of the Midi data can be recalibrated to some extent (see Midi Options for more details about the Midi setup).*

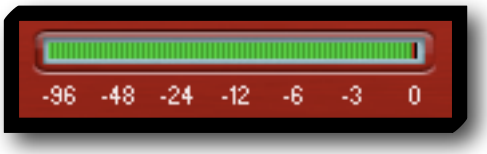
A 3-band EQ below these switches can be activated to fine-tune the frequencies that affect the gate/expander/duck processing. The **Listen** mode can be activated to hear the EQ being applied to the side-chain signal.

The Display / Monitor Section

The main purpose of the graphical display is to provide a clear indication of the processor gain-characteristic. The side-chain input level is superimposed on the gain-characteristic graph (seen as the red dot here), aiding in determination of the appropriate threshold settings. The side-chain level is monitored post side-chain-filter, and is thus an accurate indication of the signal level applied to the gain element.

The graphical display is not only used for monitoring - two parameters may be adjusted via 'handles' on the display.

- ***Black handle*** *– drag this left or right to adjust the 'threshold'*
- ***Red handle*** *– drag this up or down to adjust the 'range'*



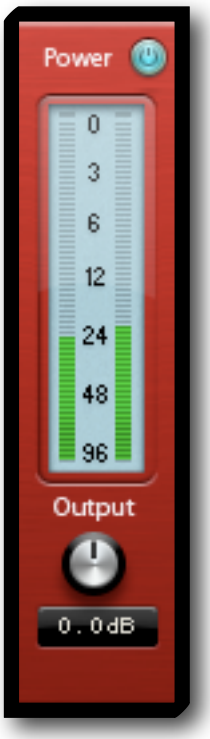
The meter below the graphical display monitors the total amount of gain reduction applied by the plug-in. The meter indicates the reduction applied by the gain reduction elements, and not simply the differential between input and output signals - in other words, the meter may display a gain reduction even when no input signal is applied.

When the stereo version of the SV-719 is being used in unlinked side-chain mode, the meter will split into upper and lower parts – the upper part representing gain reduction for the Left audio channel and the lower part representing gain reduction for the Right audio channel.

Perhaps unusually for a gate, the SV-719 features an ***Input*** gain control. While this is not strictly necessary (the internal 64-bit resolution of the plug-in can more than cope with any overloading) it is included primarily to help in situations where prior channel inserts may for example have boosted the signal to levels approaching (or exceeding) 0dBFS. Since the threshold of the SV-719 stops at 0dBFS, it could be difficult in these circumstances to obtain effective control over the signal without reducing it first.

The signal indicator above the graphical display indicates when there is an input to the plug-in: this is irrespective of the side-chain input, so for example when the processor is being used with an external side-chain, the side-chain input signal will be displayed on the graphical display, and the main audio input will illuminate the *Signal* indicator. Separate indications for main audio and side-chain levels are helpful in checking that the signals are routed correctly to the plug-in.

The Output Section



The Output Section consists of a master *Power* (on/off) switch, a meter that monitors the signal level at the output of the processor, and a control to change the gain of this output level.

The Output Meter monitors the signal post-processing. The meter defaults to a PPM ballistic, with a range from –96dBFS to 0dBFS. An 'Over' indicator LED illuminates when the output signal reaches 0dBFS. The output signal should not exceed this level, hence the *Output* control should be used to attenuate the signal if this occurs.

> The master *Power* button is an effective 'bypass' control that may be used for simple 'In/Out' comparisons. When the gate is switched off, the numerical parameter displays will disappear and the meters and graphical display will darken, giving a clear visual indication of the bypassed status of the plug-in. Using the bypass on the SV-719 can provide superior results to the bypass of your audio host, as it guarantees a glitch-free on/off transition.

The Global Programme Controls

The *A/B*, *A->B* and *Reset* buttons relate to the plug-in parameters as a whole. The collection of all parameter settings is known as a 'programme'. The SV-719 is equipped with two programme buffers ['A' and 'B'] that can store an entire set of control parameter values at the touch of a button. The active parameter buffer is highlighted on the *A/B* button and can be copied to or swapped with the inactive one using the *A->B* button. This can be useful for auditioning comparisons of different plug-in setups, or automating a complete change of parameters.

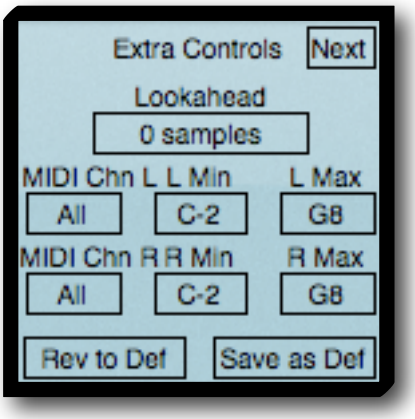
Clicking the *Reset* button will set all plug-in parameters to their default values. Setup preferences will remain unaffected however.

Preferences

There are a number of setup options and preferences for the SV-719 that are user-definable.

The preferences are accessed with the **Setup** button below the graphical display. Click the button first to access the preferences, and again to exit the setup screen once the preferences are set.

Pages within the Setup screen may be accessed by selecting **Next** or **Prev**.



Global preferences are stored and recalled according to the user logged in to the host system. However the Midi preferences and Lookahead settings are 'instance specific', so they will be stored with each session just like standard plug-in parameters.

Midi Options

The SV-719 can react to Midi messages, which effectively control the side-chain level. This can be useful for example to produce a 'digital' stereo trigger for the gate, enabling a multitude of effects.

Note that in order to feed Midi into the plug-in, you should refer to your audio host software documentation. [It may be necessary to instantiate the plug-in as a software instrument, and then select the audio input to gate].

The Midi specification for the plug-in is configurable, but it only reacts to note-on/off messages. A range of notes can be set up to trigger the plug-in. The following options are available (note that mono versions of the SV-719 will not have separate Left and Right channel options):

- **L Midi** – *the midi channel processing the left audio channel [1-16 or omni]*
- **R Midi** - *the midi channel processing the right audio channel [1-16 or omni]*
- **L Min** - *the lowest note that will trigger the plug-in on the Left channel*
- **L Max** - *the highest note that will trigger the plug-in on the Left channel*
- **R Min** - *the lowest note that will trigger the plug-in on the Right channel*
- **R Max** - *the highest note that will trigger the plug-in on the Right channel*

The Midi Velocity dial on the front panel can be used to scale the incoming velocity, so the velocity curve of the Midi data can be recalibrated to some extent.

The Midi setup is saved independently for each instance of the plug-in, and the default user values can be stored by clicking **Save as Def**.

Look-ahead Option

This inserts a digital delay-line into the main audio path, meaning there is time to analyse the side-chain signal before processing the audio. Adjusting the *Lookahead* will affect the way the plug-in 'attacks' the audio, and can be used to soften the aggressiveness of the sound, particularly for example when using the *Duck* or *Gate* mode with large range settings. Users will find that a lookahead of up to a few hundred samples is sufficient in most circumstances.

Note that setting this parameter to any value greater than zero will introduce latency into the plug-in, so this should only be used with hosts that support an automatic 'delay compensation' feature. Note also that after altering the Lookahead option, you may need to stop and restart the audio in your host in order for the automatic delay compensation to activate.

Global Preferences

- **Velocity Sensitive Mode** – Selecting this preference enables the size of any knob/slider control adjustments to be relative to the speed of mouse movement. Thus when enabled, a very slow mouse movement will induce a very small change in the respective parameter value, while a fast movement will induce a large change.

- **Knob Mode** - sets the default knob mode. When 'as host' is selected, the knob mode is requested from the host software (assuming the host supports this feature). Otherwise the knob mode defaults to the selected setting.

- **Mousewheel Sense** - controls the sensitivity of the mouse wheel. When set to 'very fine', a large move of the mouse wheel will introduce a very small change in the respective parameter. When set to 'coarse', a small movement will introduce a relatively large change in the parameter.

- **Meter Type** - allows the user to set the ballistic of the output meter. The PPM meter type gives a fairly accurate indication of peaks while preserving a visual signal dynamic that reasonably resembles the audible dynamic. The 'True Peak' setting will ensure that the meter displays an entirely accurate depiction of the signal peaks, however this meter type may appear visually less coupled with the audio.

- **Clip Led** - When set to 'instant', the clip LED will illuminate only when the output signal exceeds 0dBFS, switching off the instant the signal falls below this level. When set to '5 Sec', the clip LED will stay illuminated for a minimum of 5 seconds, regardless of how briefly the signal exceeds 0dB. When set to 'clicked', the clip LED will remain illuminated once the signal exceeds 0dBFS, and will only switch off when the user clicks on it.

Support

You can visit the Sonalksis website to find the latest product information. If you are a registered user you will automatically receive relevant information about new releases and updates, unless you unsubscribe from this service.

All Sonalksis plug-ins are installed, authorised and updated using the 'Plug-in Manager' application. You can download this application from the Sonalksis website.

If you encounter any difficulties when installing or using our products, please ensure that you have read all appropriate documentation, including the relevant user guides and FAQ on our website before contacting us.

If you are unable to resolve your issue after reading all appropriate documentation, you can log in to your Sonalksis user account on our website, and access the 'Support' section where you can request direct assistance.

www.sonalksis.com/support

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Appendix: Technical Specifications

SV-719 Supported Sample Rates:

- 44.1 kHz
- 48 kHz
- 88.2 kHz
- 96 kHz
- 176.4 kHz
- 192 kHz

SV-719 Control Ranges:

Control type	Min Value	Max Value
Threshold	-72dBFS	0dBFS
Range	0dB	80dB
Hysteresis	0dB	24dB
Ratio (expander)	1.2:1	3.5:1
Knee (expander)	Hard (0dB)	Soft (9dB)
Attack Time	0.01ms	100ms
Hold Time	15ms	1.0s
Release Time	80ms	5.0s
SC High Pass Filter Freq.	20Hz	20kHz
SC Mid Band Gain	-24dB	24dB
SC Mid Band Freq.	20Hz	20kHz
SC Mid Band ‘Q’	0.5	16
SC Low Pass Filter Freq.	20Hz	20kHz
Output Gain	-24dB	24dB

NOTICE

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