

KAZROG

AVALON  DESIGN

Avalon VT-747SP

Kazrog / Avalon Design

User guide - version 1.0.0
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<https://kazrog.com>
<http://avalondesign.com/>

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1. Introduction

Avalon VT-747SP was developed by Kazrog in conjunction with Avalon Design, and is meticulously modeled upon their hardware, carefully studying multiple units over the course of 2022 and 2023. We believe it is the most accurate digital representation of Avalon's legendary analog hardware to date, and we are honored to have been selected to model this incredible piece of hardware.

Usage Notes

Avalon VT-747SP is a low CPU footprint plugin by design, and is intended to be usable on every track and/or bus in a mix. With flexible oversampling controls for both online and offline processing, Avalon VT-747SP is customizable to allow for a balance of realtime performance and mixdown quality.



2. Using Avalon VT747SP

The Avalon VT-747SP combines a tube/discrete modeled Class A opto-compressor with a musical six-band program equalizer, as well as output level and gain reduction metering. Ideal for signal conditioning, stereo buss compression and EQ, stereo keyboards and mastering applications.

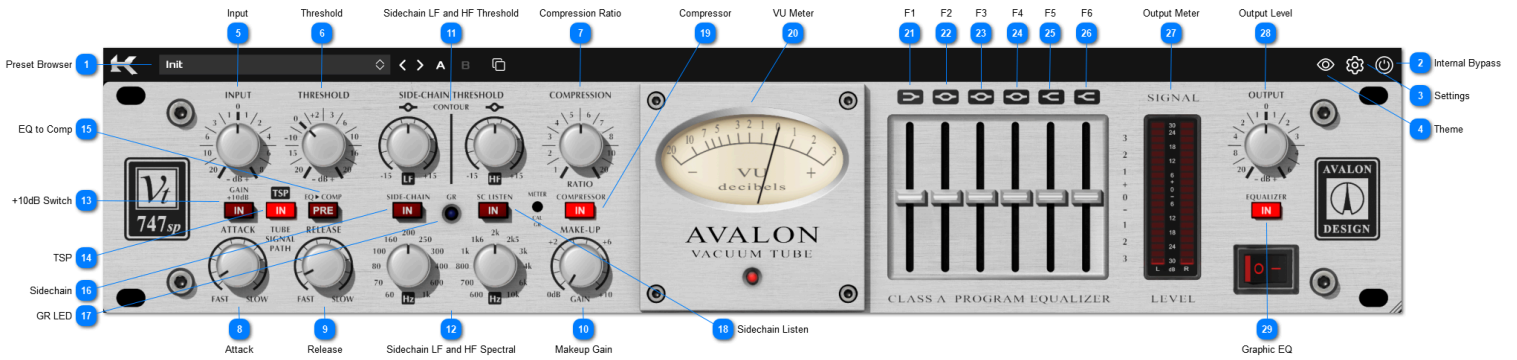
Full dynamic control from soft compression to hard-knee limiting can be achieved with master threshold, compression ratio, attack and release controls. Gain reduction indication is a large analog-style VU meter. Low and High Frequency (LF and HF) contour parametric spectral controls can be routed into the internal side-chain path for enhanced frequency dependent compression with variable frequency and threshold levels. An SC LISTEN switch provides side chain listen mode for easy monitoring, or creative EQ applications.

The six-band program EQ models the smooth characteristics of an all passive design. The frequency turnover, Q and amplitude ranges have been carefully chosen for each band to provide the most natural harmonic balance with lowest phase change while offering simple and effective tone control. The EQ can be placed pre or post compressor for enhanced versatility.

The Avalon VT-747SP features TSP (Tube Signal Path) which gives you the choice of either tube tone (utilizing three virtual high-voltage dual triode tubes), or the classic, Class A discrete transistor sound (utilizing virtual discrete transistor amplifiers) in the primary opto buffers and output stages.



2.1. Main Controls



1 Preset Browser



Browse through plugin presets, and use A/B compare. Every instance of Avalon VT-747SP has an A and B slot for a currently loaded preset. Click on the inactive slot to try different settings out, then compare to the other slot by clicking on its button. Use the copy button (to the right of the A and B buttons) to copy the currently active slot's settings to the inactive slot.

2 Internal Bypass



Internal bypass is provided to quickly A/B your processed and unprocessed audio.

3 Settings



Opens the [Settings](#) panel, where global fine-tuning settings for the plugin are found.

4 Theme



Changes UI theme (silver or black.)

5 Input



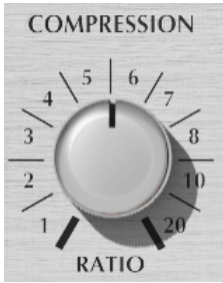
Trims input level -20dB to +8dB

6 Threshold



Sets compressor input threshold from -30dB to +20dB

7 Compression Ratio



Sets ratio of compressor from 1:1 to 20:1.

8 Attack



Variable attack time for the compressor from 2ms to 200ms.

9 Release



Variable release time for the compressor from 10ms to 5S.

10 Makeup Gain



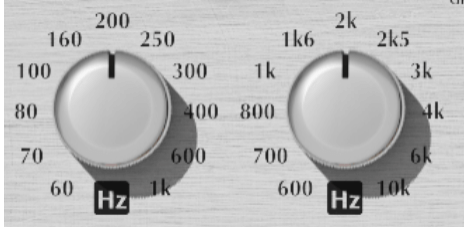
Adjusts from 0 to +10dB variable gain on opto-compressor.

11 Sidechain LF and HF Threshold



Adjusts the sidechain LF and HF threshold from -15dB to +15dB. Clockwise rotation raises the threshold and counter-clockwise lowers the threshold at the frequency set by the corresponding spectral control directly below.

12 Sidechain LF and HF Spectral



Sweeps sidechain filter frequency in Hz.

13 +10dB Switch



Boosts input amp by +10dB for extra tube overdrive.

14 TSP



Twin Signal Path Switch (in) swaps 3 tubes into the audio path from discrete Class A amps.

15 EQ to Comp



Inserts the 6 band graphic EQ before the compressor.

16 Sidechain



Inserts 2 band spectral EQ into compressor sidechain.

17 GR LED



Indicates compressor speed and activation.

18 Sidechain Listen



Switch (in) for 2 band spectral EQ into the audio path to monitor sidechain.

19 Compressor



Switch (in) engages compressor into signal path.

20 VU Meter

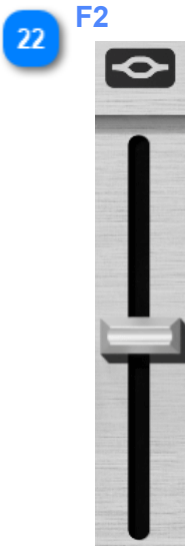


Visually displays the current amount of compressor gain reduction in dB.

21 F1



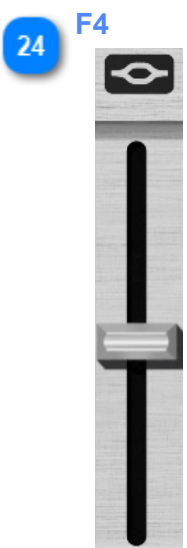
Graphic EQ band 1 - 15 Hz, shelf (-24dB to +24dB)



Graphic EQ band 2 - 125 Hz, peak-dip (-8dB to +8dB)



Graphic EQ band 3 - 500 Hz, peak-dip (-4dB to +4dB)



Graphic EQ band 4 - 2 kHz, peak-dip (-4dB to +4dB)

25 F5



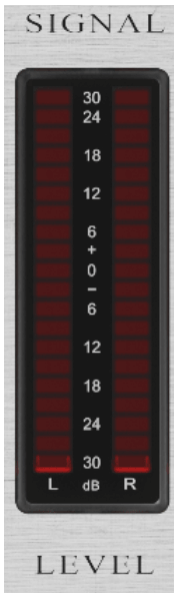
Graphic EQ band 5 - 5 kHz, shelf (-10dB to +10dB)

26 F6



Graphic EQ band 6 - 32 kHz, shelf (-20dB to +20dB)

27 **Output Meter**



Stereo fast LED meter indicates L-R output level -30dB to +30dB.

28 **Output Level**



Output level control -20dB to +6dB, post processing. Great for final level adjustments to user presets.

29 **Graphic EQ**



Switch (in) activates 6 band graphic EQ into audio path.

2.2. Settings



1 Online Oversampling

Online

2x

Adjusts the amount of times oversampling for realtime performance. This is multiplied by the session sample rate, e.g. 2x 44.1 kHz = 88.2 kHz.

IMPORTANT: This setting is global across all instances of the plugin. Upon saving, it will refresh the current plugin instance right away, but you must close and re-open your session for this to take effect across all other instances of the plugin in your session.

2 Offline Oversampling

Offline

32x

Adjusts the amount of times oversampling for rendered plugin output during non-realtime bounce (in supported hosts.) This is multiplied by the session sample rate, e.g. 32x 44.1 kHz = 1.41 MHz.

IMPORTANT: This setting is global across all instances of the plugin. Upon saving, it will refresh the current plugin instance right away, but you must close and re-open your session for this to take effect across all other instances of the plugin in your session.

3 Show/Hide Tooltips

Show Tooltips

Shows or hides the quick help popups when hovering the mouse over the plugin controls. Some people find these helpful, some find them annoying - be happy!

3. Version History

Avalon VT-747SP - Version 1.0.0 - August 15, 2023

- Initial release

4. Troubleshooting

Avalon VT-747SP is designed for efficiency and stability, and shouldn't present you with issues in general, even on older hardware.

General

- Sample rates of 96 kHz or above are more taxing for your CPU. Use lower oversampling settings in the plugin for higher sample rates.
- Buffer sizes lower than 256 samples/buffer are more taxing for your CPU. Consider a higher buffer size, unless you need realtime monitoring of live instruments through plugins in your DAW.

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