Signal Noise SN03/SN03-G

Tape Recorder

INSTALLATION

The package should contain the following files:

sn03.dll	– 32bit GUI-less version
sn03g.dll	– 32bit version with GUI
sn03_x64.dll	– 64bit GUI-less version
sn03g_x64.dll	– 64bit version with GUI
sn03_manual.pdf	– manual (this file)

To install the plug-in, copy the DLL files of the version(s) you wish to use to the respective VST plug-in folders. Tested with Cubase 5.1 (32-bit) and Cakewalk 2019 (64-bit).

CREDITS

SN03/SN03-G use biquad algorithms by Robert Bristow-Johnson as found in "*Cookbook formulae for audio EQ biquad filter coefficients*", 2005 [1], and also parts of original code of white noise PRNG by Andrew Simper, 2006, which is based on algorithms by Allan Herriman, James McCartney, Phil Burk, Paul Kellet and Robin Whittle [2].

DISCLAIMER

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[1] https://www.musicdsp.org/en/latest/Filters/197-rbj-audio-eq-cookbook.html

[2] http://www.firstpr.com.au/dsp/pink-noise/

DESCRIPTION

SN03/SN03-G is a tape sound emulation plug-in, designed with a completely new paradigm. Not based on tape speed or tape type (which is quite redundant ITB), it takes the key components of analog tape recorders, and allows the user to create a properly calibrated "custom tape machine" that operates in the range of 7.5/15 to 30 IPS, while conforming to NAB, IEC, and AES equalization standards. The plug-in is designed with ASIO/CPU footprint that allows use of many instances for cumulative effect.
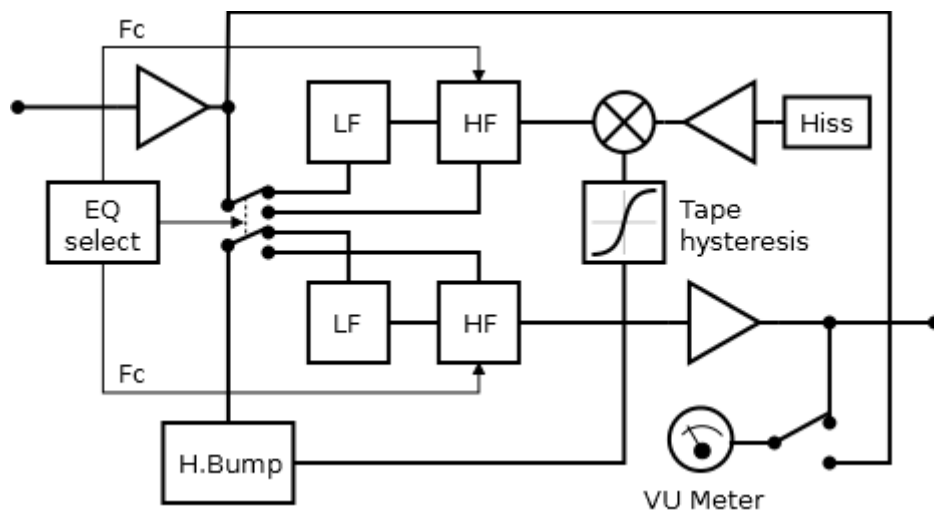

Figure 1.

GENERAL USAGE

GUI version:

- click and drag the knobs vertically to increase or decrease the value
- click and drag the switches horizontally to increase or decrease the value, alternatively, click on the left, right or center of the switch
- ctrl-click any control to reset it to default (hard coded) value

GUI-less version:

- all values are in the range of 0.0 to 1.0 and are inserted as percentages (e.g. Cubase 5.1)
- to set the 3-way switches insert 0, 50, or 100 respectively (each position occupies a third of the range)

CONTROLS

Figure 2. – GUI – default settings

Note: Percentage values in parentheses are default values meant for use with GUI–less version of the plug–in.

1) **Input:** Sets the input trim/gain from –24dB to +24dB. (50%)

2) **Output:** Sets the output make-up gain from –24dB to +24dB. (50%)

3) **LO - Record:** Sets the gain of record EQ's LF filter from –10dB to +10dB. When EQ mode is not set to NAB (see below), this parameter has no effect. (50%)

4) **HI - Record:** Sets the gain of record EQ's HF filter from –14dB to +14dB. (50%)

5) **LO - Repro:** Sets the gain of reproduction EQ's LF filter from –10dB to +10dB. When EQ mode is not set to NAB (see below), this parameter has no effect. (50%)

6) **HI - Repro:** Sets the gain of reproduction EQ's HF filter from –14dB to +14dB. (50%)

7) **EQ:** Sets the standard corner frequencies for HF and where applicable also LF filters for both, record and reproduction, EQs. (50%)

	F_{c-lo} (Hz)	F_{c-hi} (Hz)	Corresponding IPS
NAB	50	3280	7.5 / 15
IEC	N/A	4550	15
AES	N/A	9100	30

8) **Hz – H.Bump:** Allows the tuning of "head bump" location from 65Hz to 105Hz. This control also affects the behavior of the next control. (0%)

9) **dB – H.Bump:** Sets the gain of the "head bump" at the frequency specified by **Hz – H.Bump** (0%). The range and starting point of this control both depend on the value of **Hz – H.Bump** and position of the **Attenuation** switch (see below) as follows

Hz – H.Bump	Attenuation 0dB	Attenuation –1dB	Attenuation –2dB
65Hz	4–8dB	3–7dB	2–6dB
105Hz	3–6dB	2–5dB	1–4dB

10) **Attenuation:** Moves **dB – H.Bump** further down by 0dB, -1dB, or -2dB . (100%)

11) **Hiss:** Adjusts the loudness of tape hiss by +/- 30dB from ca. –76dBFS RMS / –64dBFS peak (50%)

12) **Hiss off/on:** When set to off (0), noise is completely bypassed. (100%)

13) **VU Ref:** Sets the nominal reference level (0 dBvu) of the VU meter. Available values are –12, –14, –18, and –20 dBFS. (N/A in GUI-less version)

14) **Hold:** Toggles the indicator needle of current maximal value on and off. (N/A in GUI-less

version)

15) **VU:** Selects whether VU meters monitors input or output. (N/A in GUI-less version)

16) **VU meter with sample peak led**: A visual representation of dBvu (mono or summed LR – depending on channel) according to the specified settings. Sample peak led has a hold time of 300 ms. (N/A in GUI-less version)