Signal Noise SN03/SN03-G

Tape Recorder

INSTALLATION

The package should contain the following files:

SN03 Tape Recorder.dll	– 32bit GUI-less version
SN03G Tape Recorder.dll	– 32bit version with GUI
SN03 Tape Recorder x64.dll	– 64bit GUI-less version
SN03G Tape Recorder 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 AND GENERAL USAGE

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.

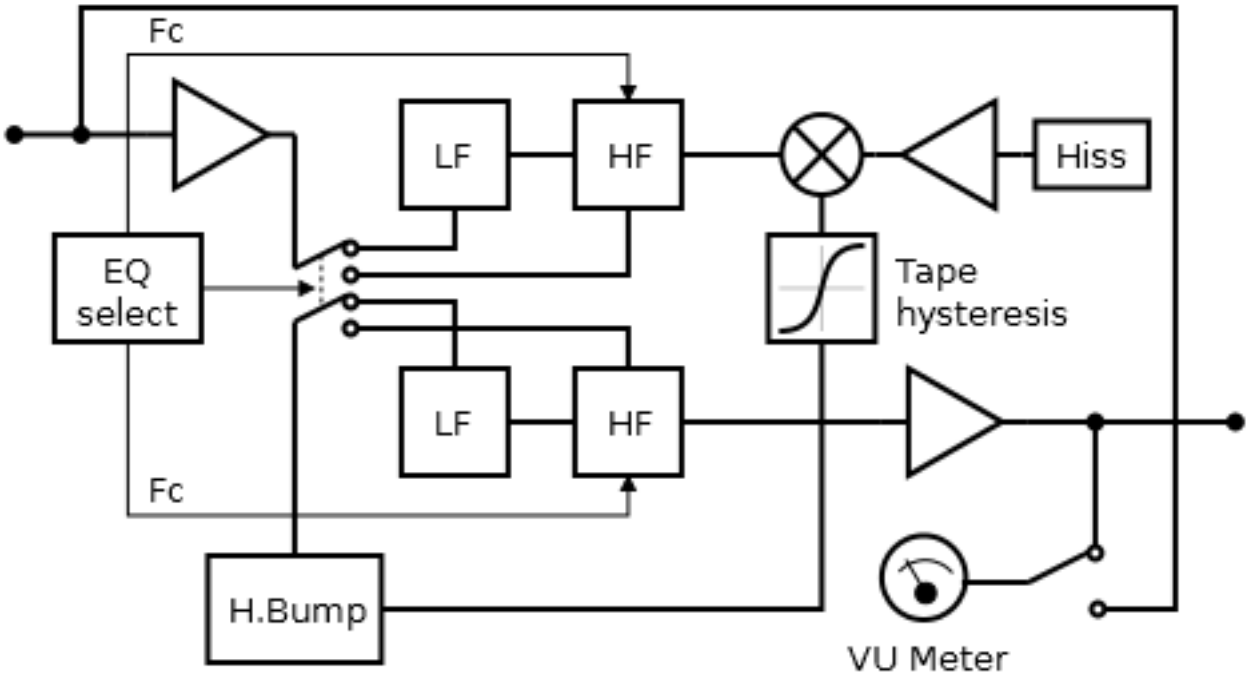

Figure 1.

Click and drag the knobs to increase or decrease the value. Click and drag the switches to increase or decrease the value, alternatively, click on the left/bottom, right/top, or center of the switch. Ctrl-click any control to reset it to default (hard coded) value.

CONTROLS

Figure 2. - GUI – default settings

1) **Input:** Sets the input trim/gain from -24dB to +24dB. During normal operation (left mouse drag) the control increments and decrements the associated parameter by 1dB. Hold the Shift key to change the steps to +/- 0.1 dB. Holding the Alt key turns the *Output* knob in opposite direction by the same amount of units. Alternatively, you can insert the value directly via associated text input field.

2) **Output:** Sets the output make-up gain from -24dB to +24dB. The knob operates in a manner identical to *Input* knob (except for the Alt key).

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

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

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

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

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

	$F_{c\text{-}lo}$ (Hz)	*$F_{c\text{-}hi}$ (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.

9) **dB – H.Bump:** Sets the gain of the "head bump" at the frequency specified by *Hz - H.Bump*. 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 .

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

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

13) **VU Ref:** Sets the nominal reference level (0 dBvu) of the VU meter. Available values are -12, -14, -18, and -20 dBFS.

14) **Hold:** Toggles the indicator needle of current maximal value on and off.

15) **VU:** Selects whether VU meters monitors input (before *Input* control) or output (after *Output* control).

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.

17) **H.Bump off/on:** When set to off (O), head bump filter is bypassed.

18) **"Anarchy":** This button enables LO – Record and LO – Repro (above) even when IEC or AES mode is selected.