
OT - Signal Flow Headrooms for Gain Structure solutions

Posted by sicijk - 2012/12/04 19:38

Hi guys....im just practising with signals incoming and outgoing ...

It seems a bit hard for me, so far, to find a correct approach in structuring gains (for Inputs) and normal (Flex/Static) tracks.

Since (in normal out configuraton) EVERYTHING is going out from just one out pair....overflow(read: saturation....not really analog... at least at my ears) seems to appear too easy...

So.....anyone intrested in finding the headroom at different stages of the signal flow?

It's a shame that Elektron didn't put out a chart where to check these values.

They speak about recorder buffer automatically boosted by +12dB for headroom compensation...but where are they speaking about?

I would like to set a little test using reference sine and check signal attenuation/boosting at different meauserement paths....when I'll have enough time to set it out.:S

My small complaint hides a question: Does any of you know this Level Stages? Or has already asked to Elektron for this sort of Level Diagram?

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Re:OT - Signal Flow Headrooms for Gain Structure solutions

Posted by fewture - 2012/12/04 20:33

I would be very interested to know too

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Re:OT - Signal Flow Headrooms for Gain Structure solutions

Posted by bauer - 2012/12/04 20:53

somebody suggested a while back that the 3-colour OT trig LEDs could be used to make a signal meter. that would be so good!

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Re:OT - Signal Flow Headrooms for Gain Structure solutions

Posted by bauer - 2012/12/04 20:53

double post

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Re:OT - Signal Flow Headrooms for Gain Structure solutions

Posted by sicijk - 2012/12/04 21:45

First try i did:

sine @ -20dBFS straight from my digital mixer 01V96 (at the D/A stage it corresponds to +4dBu) to INP AB....
....I get back a saturated sine...

So, at my very first impression, OT doesn't handle even a Line level(+4dBu) signal (on the manual says +8dBu...but without any mention to THD)

I'll go in further investigation

P.S.

the 3-colours LED are not exactly a good reference...also i've found that when it's ORANGE i already experience saturation (sinewave speaking) :S

****EDIT****

what i wrote before is FALSE!!! ---sorry :blush:

I got a problem in my patchbay.....actually feeding a +4dBu sine into the INP the signal is ok, i.e. no saturation!

Next I'm gonna check the amount of attenuation for different values (DIR-MAIN etc) through the INP

Re:OT - Signal Flow Headrooms for Gain Structure solutions

Posted by neonleg - 2012/12/04 22:32

:watch:

Re:OT - Signal Flow Headrooms for Gain Structure solutions

Posted by bauer - 2012/12/04 22:56

sicijk wrote:

First try i did:

the 3-colours LED are not exactly a good reference...also i've found that when it's ORANGE i already experience saturation (sinewave speaking) :S

sorry, i was not being very clear. i meant the whole row of 16 pattern-trig LEDs, so a much more accurate VU-style meter.

would be great if that happened (or as an option) when in the record set-up page/s so we can see what the incoming signal is going much better.

Re:OT - Signal Flow Headrooms for Gain Structure solutions

Posted by sicijk - 2012/12/04 23:05

oh yeaah...i remember that post....16 segments would be a deal!

Re:OT - Signal Flow Headrooms for Gain Structure solutions

Posted by Umazeki - 2012/12/05 02:16

i agree 100% !!!!!!!the gain staging on this machine is absurdly unclear (and especially important on a sampler).at least release some charts !!! in the manual~~~ This is just one of the many things elektron WOULD do if they were the super futuristic unequivocal company they like to act like they are. :side: a real software meter with actual decibel numbers would be realllly nice.... and also really standard. : / i hope someone from elektron is reading this, seeing how right i am (we all are), and shaking in some comfortable swedish slippers or something.

Re:OT - Signal Flow Headrooms for Gain Structure solutions

Posted by sicijk - 2012/12/05 22:28

so guys..did some tests yesterdayâ€

Mainly based on:

â€¢ reference sine (-20dBfs - 1 kHz from the mixer's oscillator and signal generator of PT) directly patched to analog line-level input of the soundcard (Motu Traveler), the reading is -20dBfsâ€¢.so this is gonna be the reference level, i.e. Unity Gain (or nominal level, as expected)

By the wayâ€¦all depends on the audio material. And VOL P-Locks are best controlled (IMO) with the one in the AMP page.

Ok,,,that's all -----for now!
Hope it could help a bit.
Throw me garbage also, if you don't give a sh*t of this !!
I'm patient and not that touchy!

BlesS*
GiGi

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Re:OT - Signal Flow Headrooms for Gain Structure solutions

Posted by neonleg - 2012/12/05 22:39

nice detective work
cheers for the post

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Re:OT - Signal Flow Headrooms for Gain Structure solutions

Posted by previewlounge - 2012/12/18 23:25

yes, this is fascinating!

i must admit, i am not sure exactly what to make of it all, as i am only just reading the information now ... and there is a lot of quality information! B)

so ... are there any conclusions that you would make, after all this research?
any quick tips for best signal flow practise, without pushing the internal volume signal path towards digital distortion?

cheers for the share..

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Re:OT - Signal Flow Headrooms for Gain Structure solutions

Posted by Allerian - 2012/12/18 23:30

Been working with Elektron's gain staging from the beginning. So flexible, easy to master, and an audio tool unto itself. What's the problem again?

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Re:OT - Signal Flow Headrooms for Gain Structure solutions

Posted by sicijk - 2013/01/07 20:28

>>No problem at all Allerian! =)
I was just wondering how this machine behaves since it can go to manage audio program that could be already at the headroom limit....
BUT
I've just noticed that if i record the reference sine and using the crossfader volume transition to fade from the sample file to the record buffer i hear a higher volume sine...not +12dB more but higher than the original file been recorded. Wondering why...all controls are the same both tracks...any ideas?

What do you mean with audio tool into itself?

>>Umazeki, i think you have been too rigid in front of it...but agree for a nice 16-segment meter..

>>Previewlounge....this info is not intended to declare something, i was just curious on how the signal goes through stages. IMHO the best signal flow practise is to judge by hear...since we never use JUST sine waves as audio program :silly:
I only mentioned that for THRU machine i find "dangerous" to use the PL VOL to increase the volume of the track since it acts as input gain...otherwise you're actually searching for distortion.
And...as Allerian said: it IS flexible, you can really decide where to boost/attenuate the signal and making complex stuff from a stereo out.

Love day-by-day more this machine!

P.S.
sorry for my late reply :blush:

BleSs
::gg::

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