
MD: GND-SN pitch info?

Posted by dubathonic - 2011/10/29 00:13

So the GND-SN machine isn't easily tunable to standard pitches...but has anyone ever compiled a list of its approximate pitches anywhere, or at least those PTCH values that actually *do* land precisely on a standard pitch?

...Been hunting around and not finding this info if it does in fact exist.

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Re:MD: GND-SN pitch info?

Posted by Wouter Etc. - 2011/10/29 03:12

Not the GND-SN machine unfortunately, but on there's pitch to frequency conversion tables for a lot of the TRX and EFM machines on Shifty's Elektron Machinedrum page:

www.gweep.net/~shifty/machinedrum/

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Re:MD: GND-SN pitch info?

Posted by stiiiiive - 2011/10/29 03:27

Just out of curiosity: are you the Wout I spoke to lately through another Swedish instruments manufacturer forum?...

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Re:MD: GND-SN pitch info?

Posted by dubathonic - 2011/10/29 04:18

Wouter Etc. wrote:

there's pitch to frequency conversion tables for a lot of the TRX and EFM machines on Shifty's Elektron Machinedrum page

One of my favorite resources...I carry a printout of it around in my MD case :) I'm sure he blew off GND-SN because so few of its PTCH values correspond exactly.

I'm curious mainly because of GND-SN's ability to make basslines...for me at least, low notes are difficult to tune by ear. I'm hoping at least a few values below 32 are standard notes. :unsure: Anyone?

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Re:MD: GND-SN pitch info?

Posted by Wouter Etc. - 2011/10/29 05:09

@Stiiiiive: No I'm not. This is the only Swedish instruments manufacturer forum I have posted on.

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Re:MD: GND-SN pitch info?

Posted by Psykisk - 2011/10/29 07:12

dubathonic wrote:

Wouter Etc. wrote:

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I'm curious mainly because of GND-SN's ability to make basslines...for me at least, low notes are difficult to tune by ear. I'm hoping at least a few values below 32 are standard notes. :unsure: Anyone?

Not sure about GND-SN values corresponding with notes, but one way I tune low notes on the MD is by turning the

distortion to max, which makes the harmonics more apparent.

Re:MD: GND-SN pitch info?

Posted by stiiiiive - 2011/10/29 19:02

Brilliant.

Re:MD: GND-SN pitch info?

Posted by previewlounge - 2011/10/29 20:09

awesome advice Psykisk.

the GND SN machine makes some really great bass sounds, big dancefloor bass..

re/ pitch values..

there is always the 'static lfo' technique to fine-tune the PTCH parameter, although admittedly that does require some detailed LFO work for each trig, and i don't know exactly what pitches are being played.

Re:MD: GND-SN pitch info?

Posted by tjebbe - 2011/10/29 21:18

tarekith.com/assets/machinedrum_tipsandtricks.htm#Reference

maybe there is some info here

I thought i had some doc around telling each pitch for each machine on the md but i got it from this forum so it should be around here some where did you look at the file section?

I think even tarekith made this one

hope it helps :)

Re:MD: GND-SN pitch info?

Posted by previewlounge - 2011/10/29 21:32

after making a bassline with the GND SN, found that the note B is exactly these PTCH parameters: (when PTCH ramp is set to be 0)

8

24

40 ... that is about the limit of bassline frequency territory

the pitch goes on in multiples of 16:

56 = B

72 = B

that is fairly accurate pitch, although add another 16 (that seems to be the pattern) and the pitch of B is in-between 88 and 89

add 16 to 89 = 105 and the pitch of B is found again.

Re:MD: GND-SN pitch info?

Posted by dubathonic - 2011/10/30 02:28

Thanks so much everyone! :beer:

@Psykick

+1 to what Stiiliiiiive said, that's useful for any MD machine! May be the best I can do with my limited gear. Haven't had a chance to try it yet...though I wonder if because GND-SN is a fundamental sine it won't produce any overtones?? Just a guess :blink:

@Previewlounge

Extra thanks for checking the numbers. I remember that LFO technique you mention from the Tips & Tricks and figured I'd explore it once I actually knew the ball-park pitch values...now I've got something to start with :)

Re:MD: GND-SN pitch info?

Posted by Veets - 2011/10/30 05:50

dubathonic wrote:

I'm curious mainly because of GND-SN's ability to make basslines...for me at least, low notes are difficult to tune by ear.

It's difficult for most people but my tip is to try a few pairs of headphones for better results. I have some ATH-M50s and it is dramatically easier to hear whether something very low is tuned right. You can also use distortion as mentioned but the headphones trick works for me.

PS: then take them right off because mixing on headphones is a bit tricky;)

Re:MD: GND-SN pitch info?

Posted by previewlounge - 2011/10/30 11:40

interesting that the GND SN octave is found by incrementing 16 steps ...

q: what do 16 and 12 have in common?

both are divisible by 4.

so, divide a "usual" octave (12 semitones) division by 4, the result is 3 (semitones);

divide the Elektron Machinedrum octave division of 16 by 4, = 4 (increments).

in theory, this would mean that every 4 increments of the PTCH parameter will increase by a minor 3rd = 3 semitones.

:woohoo: the theory seems to work:

"true" notes are also found every four steps:

PTCH parameter of 8 = B

PTCH parameter of 12 = D

PTCH parameter of 16 = F

PTCH parameter of 20 = Ab

and then the octave at PTCH 24 (8 + 16) = B

to continue:

PTCH 28 = D

PTCH 32 = F

PTCH 36 = Ab

PTCH 40 (octave; 24 + 16 = 40) = B

just to mention: PTCH 36 (Ab) and PTCH 40 (B) are sounding a few cents lower than the actual "true" pitch. these could

be candidates for the "static LFO" trick to raise them slightly.

something else interesting to mention about notes higher in the octave - the ear's natural perception of higher octave notes is to perceive them (very slightly) higher than their true pitch.

So... the notes of B, D, F, and Ab are immediately available.
if they were notes of a B scale:
B (tonic). b3, b5, 6th

or notes of a D scale: 6th, D (tonic), b3, b5
essentially the same degrees found on different notes, like a four-note diminished scale.

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Re:MD: GND-SN pitch info?

Posted by digital_steve - 2011/10/30 17:44

I missed the memo...
What's the static LFO trick?

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Re:MD: GND-SN pitch info?

Posted by Toni - 2011/10/30 18:29

previewlounge wrote:
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:know:

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Re:MD: GND-SN pitch info?

Posted by Toni - 2011/10/30 18:32

digital_steve wrote:

I missed the memo...

What's the static LFO trick?

I think Previewlounge means that you can achieve greater than one knob-step resolution by using LFO-depth to affect Pitch of the GND-SIN machine. By using just a little bit of LFO-depth you can access pitches between the knob-steps and therefore 'finetune' the GND-SIN machine. I think...

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Re:MD: GND-SN pitch info?

Posted by andreasr - 2011/10/30 21:35

I've made my own "midi notes to MD pitch CC converter" in max for live if anyone is interested? It will play the last 4 tracks on the MD as a four voice synth, using the pitch-table mentioned earlier in this thread. Most pitch friendly MD synth are in there.

I also made monophonic version.

It doesn't use the LFO trick though.

Want?

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Re:MD: GND-SN pitch info?

Posted by dubathonic - 2011/10/30 22:42

@Previewlounge

AWESOME. Muchas muchas gracias. This should be a page in anyone's tricks collection.

Toni wrote:

digital_steve wrote:

I missed the memo...

What's the static LFO trick?

I think Previewlounge means that you can achieve greater than one knob-step resolution by using LFO-depth to affect Pitch of the GND-SIN machine. By using just a little bit of LFO-depth you can access pitches between the knob-steps and therefore 'finetune' the GND-SIN machine. I think...

@Digital_Steve

Toni's got it. It wasn't from a Tips document, my mistake. I was remembering what Previewlounge laid out in this thread more than a year ago, here's what he wrote then (though he was talking about tuning ROM samples, not the GND-SN):

previewlounge wrote:

how about the Static Lfo Fine Tune technique ...

use the Rom track's Lfo

speed set to zero

'type' set to 'free'

left wave shape: Triangle

right wave shape: Exponential Tweak

use deepness and waveshape Mix parameters to achieve fine tuning upwards.

or, conversely make the left wave shape to be Exponential Tweak, and the right wave shape to be Triangle.

works a treat! :)

gives about 36 precise articulations of fine-tuning between each semitone for the Rom machines.

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Re:MD: GND-SN pitch info?

Posted by Veets - 2011/10/30 23:47

dubathonic wrote:This should be a page in anyone's tricks collection.

Hear, hear, :lvl: all the way!

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Re:MD: GND-SN pitch info?

Posted by digital_steve - 2011/10/31 05:57

:know:

Thanks for all that info people.

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Re:MD: GND-SN pitch info?

Posted by Nils - 2011/10/31 13:59

I'm sure I posted something in this thread yesterday, but now it's gone...

Great discovery PreviewL!

Psykisk wrote:

one way I tune low notes on the MD is by turning the distortion to max, which makes the harmonics more apparent.

That's what I do as well, makes it a lot easier to tune correctly.

The EFM-BD and TRX-B2 can also do pure sines. They have a narrower range than the GND-SIN, meaning they have better resolution within that range. Combined with the static LFO trick it's possible to tune each note quite accurately. I find them more suitable than GND-SIN for bass layering/suboctaving.

The TRX-B2 also has the advantage of the HOLD parameter, which makes VOL=0 trigs unnecessary when you want to achieve full-sustain notes with programmed duration.

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Re:MD: GND-SN pitch info?

Posted by previewlounge - 2011/11/01 09:22

cheers for mentioning the trig-Vol=0 .. p-lock technique, i didn't think of this.

also the LFO .. i am guessing this means use a silent machine to Trig an LFO targeting the bass trig machine's volume?

hmm, interesting, what is sub-octaving?

well, cheers to the original poster for starting all this research. :)

i found the notes after trying to make a bassline with the GND Sn machine..

<http://soundcloud.com/bboymixers-1/tal>

did not use the static LFO to adjust the 'in-between'-ness of some notes at the time..

something to mention - the "Blues Scale" learned by many guitarists is said to be derived from an african scale with micro-toning - there is a note in that is somewhere between major and minor third. so, with that in mind, i was able to accept the tuning of the machinedrum being between-notes, although some notes do require some further eq work.

Re:MD: GND-SN pitch info?

Posted by Nils - 2011/11/01 15:02

previewlounge wrote:

cheers for mentioning the trig-Vol=0 .. p-lock technique, i didn't think of this.

also the LFO .. i am guessing this means use a silent machine to Trig an LFO targeting the bass trig machine's volume?

The VOL=0 technique often introduces clicking, but sometimes it's the only way to stop a note from sounding.

Not sure what you mean by the "LFO silent machine".. If you refer to my original post that disappeared for some reason, I was talking about a trick that Toni mentioned once about applying a square LFO to DECAY to sustain notes. I've hardly tried this technique so I can't really give any decent examples. Toni, do you have any idea what I'm talking about? :)

The trick you mention will work, but unless you've already used the LFO for the track in question for other duties, you might as well use that.

Another idea is to use a CTR-8P machine to control the envelope of a track. With slides etc yo can chieve a lot of cool stuff, notes fading in and out etc.

Hmm... sorry for the messy explanation :unsure:

hmm, interesting, what is sub-octaving?

Simply adding a note N octaves below the original. A common trick in simple monosynths to achieve a deeper, bass-heavier sound. Usually a sine or square wave is employed. You'll find several suboctaves it in the Superwave saw machine in the MNM.

Re:MD: GND-SN pitch info?

Posted by Toni - 2011/11/01 16:22

Nils wrote:

Not sure what you mean by the "LFO silent machine".. If you refer to my original post that disappeared for some reason, I was talking about a trick that Toni mentioned once about applying a square LFO to DECAY to sustain notes. I've hardly tried this technique so I can't really give any decent examples. Toni, do you have any idea what I'm talking about? :)

There are two LFO-tricks and I've lost track which one we are talking about. But here they are:

1. Using LFO to finetune pitch of the machine

Appying a square LFO to pitch and setting LFOs level depth carefully, one can achieve greater resolution than what Pitch knob of the machne usually gives. One can raise pitch a little by using normal square LFO and lower it by using inverted square.

2. Using LFO to make sustained sounds

All machines in MD have Decay-parameter. Sometimes you would want to have a 'Hold' type envelope to make sustained sounds, but MD doesn't have this. Once again you can do it with square LFO which is mapped to Decay. For example, set Decay to 64 and then assign square LFO to it. Set LFO Depth to max and lower the Speed. Now you should have sound that starts with max decay and will stay that way until the LFO suddenly lowers it minimum, which effectively cuts the sound. Good part of this trick is that it doesnt create a click sound when sound is cut off (using vol=0 does that). So it works nicely with BDs and other low frequency material. Using LFO speed you also achieve accurate 1/4, 1/8, 1/16 -notes (speed being 2,4,8,16 and so on for example).

Re:MD: GND-SN pitch info?

Posted by previewlounge - 2011/11/01 22:37

very cool!

the thing is, i would like to use different bass notes, and so although using a square wave LFO as a rhythmic gate is a cool idea (and would sound fantastic ... must try this very soon)...
i would like to have different notes playing..

currently working with the ENS-Sine machine.. yes, as mentioned there is no 'hold' parameter, only a decay parameter.

using the LFO of the Sine machine track doesn't quite work... it cuts in to the note too soon or not quite the right time (in my studio experiments that is)...

so, found a workaround: load a blank "GND --" machine in to a slot next to the Sine machine, and set a trig exactly two sixteenths after each GND Sine note in the sequence.

the LFO of "GND --" has the following attributes and is assigned to the DEC parameter of the GND Sine track...

Update: Free
Speed: 47
Depth: 28

Shape Mix all the way right and the Second wave shape is Inverse exponential tweak.

Essentially this allows for the GND Sine note to have a long decay assigned to it, and this then becomes the "Hold" part of the sound.

The "GND--" trig track is there to send an LFO curved tweak-off to the decay.

made a quick example here:
<http://soundcloud.com/bboymixers-1/march-1>

to start with, the "GND--" track is muted, so the long decay notes sound, and then the bassline notes are tightened up by the "GND--".

there is a click sound happening, but that is because i didn't keep the bassline to being straight crotchets, and so the 8th note got in the way, should have placed on a separate track.

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Re:MD: GND-SN pitch info?

Posted by previewlounge - 2011/11/01 22:38

apologies for wall of text! :)

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Re:MD: GND-SN pitch info?

Posted by Nils - 2011/11/01 22:47

^^ Yes that's what I'm talking about Toni, thanks!

^^ This sounds great - no clicking. However I don't understand why it would work with an LFO on a separate track, and not with the LFO on the GND-SIN track? In the latter case it would basically be the technique that Toni describes, only you're using a different LFO waveform?

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Re:MD: GND-SN pitch info?

Posted by previewlounge - 2011/11/01 23:12

oh! thanks for mentioning this. :)

just realized why things were not working for me.. i was assigning the GND Sine track's LFO to volume... instead assigning the LFO to the decay parameter. Setting the (GND-Sine's) LFO to adjust the decay does work very well, thanks Toni! :)

:know:

well i am glad that the workaround of GND-- extra track is not required. much more economical.

:word:

the great thing is that the LFO speed and depth work to create different subtleties of ramping down the decay.

also experimenting with square wave for Shape 1, and Inverse exponential tweak on wave shape 2 ..

then adjusting the Shape-Mix parameter.. creating fine differences in the character of the bass sound.:woohoo:

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Re:MD: GND-SN pitch info?

Posted by Nils - 2011/11/02 03:39

Complex envelopes! Nice!

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