
MDUW granular synthesis endeavour

Posted by stiiiiiiive - 2011/09/20 19:22

Hey Elektronauts.

I was asking in another thread whether there were any hardware synths performing granular synthesis as the Elektron User TOS suggested to use Elektron gear:

TOS wrote:

If you're after granular synthesis (i.e., creating a sonic cloud using very short sinewaves) you might as well use the Monomachine.

If you're after granulation (i.e., having a sample as your main source and you repeat short fragments of it), make a Machinedrum kit with plenty of Ram machines.

I had certainly not thought about that and it's definitely worth the try. Soâ€¦!

I wrote:

I'm after one or the other. Anyway, using sine audiosamples should do granular basic synthesis from a "granulation" method.

Starting thinkingâ€¦!

Double resolution patterns.

CTRL-ALL for playback options.

Rapid random LFOs wired to START parameter for time dispersion -or jitter.

Possibly some extern MIDI control design for more convenient/relevant controls.

â€¦there is one thing I'm not sure about: how to obtain a cloud starting from a step sequencer pattern. Maybe every RAMP track could use different SWING patterns and values, notvery handy yet.

Well, we'll see that.

I'm going to try some tricks with a MDUW to achieve that. Any interesting discovery will be put here and maybe one day I'll have the honnour to be referenced in a Tips&Trick document :)

If some MonoMachinist wants to give a try, I'd be glad to see a dedicated topic bloom next to this one.

Re:MDUW granular synthesis endeavour

Posted by ipassenger - 2011/09/20 19:29

Cunning plan.

1 RAMR record and load or RAMP's, with a CTRLAL sounds like a winning combination.. you could make one machine (RAMP) and then duplicate it 14 times, leaving you 1 machine for the CTRLAL.

Interesting to see/hear how it pans out. :)

I've done the old lfo to the end parameter to make the sample shuffle back n forth trick.. using another lfo to control pitch it starts sounds granular.

Maybe you need to use less RAMP machines and more blank machines for the extra lfos?

Re:MDUW granular synthesis endeavour

Posted by stiiiiiiive - 2011/09/20 21:03

The infinite loop trick, yes I sometimes got to some sort of granular sounding.

I'll first try what's possible with one RAMP in terms of modulation. Indeed other tracks can be useful for multiple LFOs per track. I think that the superslow LFO trick could be useful in case high tempi are the only solution to obtain dense clouds.

IPassenger, I know you tried the Tim's G2 patches dealing with granular stuff. Remember: most of the time, very good timestretching results were achieved with only 2 or 4 grains.

Re:MDUW granular synthesis endeavour

Posted by TOS - 2011/09/21 05:40

Definitely use many RAM-Px machines. Even use the same RAM-Px in different tracks, so that you can get interesting overlaps between the same sample, or to enhance the stereo image.

Use a CTRL-8P to target specific key-parameters.

Don't add too many note triggers at first. Just add one trigger, and increase the RTRG parameter, so that the sound is sustained. Then start tweaking the STRT, END and apply LFOs to randomize things a bit.

Glue everything with reverb.

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Re:MDUW granular synthesis endeavour

Posted by stiiiiive - 2011/09/21 06:40

TOS, your piece of advice led to something nice.

With only one RAMPLAY, I could achieve some timestretching and random rearrangement of grains. This is not a cloud yet, but it gives some hope after the first 30 minutes of lame sound ;)

I'm going to post some SYSEX and/or audio example but for now, here are some settings -obviously tempo dependant. However, only the RAMPLAY track (and the optional low-attack-LFO track) need to be triggered.

Track 2: just for LFO purpose; LFO is modulating Tr10 START parameter.

Shapes: RAMP DOWN and RAMP UP.

Update: Free

Speed: 1*

Depth: 64**

Mix: 127=normal pla, 0=reverse normal speed (if speed=1; else, plays faster)

Track 6: optional, just for LFO purpose; used to get a softer attack, LFO modulates Tr10 volume.

Track 10: RAM PLAY machine.

PITCH: to taste!

HOLD: enough to allow re-triggering.

START: 64**

END: 128

RETRIG: 127

RETRIG TIME: to taste, determines the grain size*

LFO modulates START parameter with a random shape.

SPEED: 127 so that it's faster than RETRIG TIME

UPDATE: free

DEPTH:to taste*

MIX: full random

Track 14: CTRL-8P machine for control convenience

P1: Tr2 LFOM --> timestretch

P2: Tr2 LFOS --> speed factor for timestretch

P3: Tr10 LFOD --> time jitter

P4: Tr10 RTRIG TIME -->grain duration

* These parameters are referenced by the CTRL-8P machine.

** These values shall stay constant.

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Re:MDUW granular synthesis endeavour

Posted by stiiiiive - 2011/09/21 07:42

Re:MDUW granular synthesis endeavour

Posted by Nils - 2011/09/22 03:01

Nice work Stiiiiiiiive and TOS. A similar technique detailing time stretch and pitch shifting to ROM samples is described in this thread:

http://elektron-users.com/index.php?option=com_fireboard&Itemid=28&func=view&id=114818&catid=15&limit=10&limitstart=10

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Re:MDUW granular synthesis endeavour

Posted by stiiiiiiiive - 2011/09/22 03:08

Yes Nils, this one is in mt favs ;)

I must admit I wondered at one point whether I was going to land somewhere near that technique. Eventually I dug and dug and just shared this first step.

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Re:MDUW granular synthesis endeavour

Posted by TOS - 2011/09/22 07:32

Niiiiiiiice one Stiiiiiiiive!

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Re:MDUW granular synthesis endeavour

Posted by EmTeX - 2011/09/25 05:03

wow this is amazing. i was looking for something like this. thanks for sharing!!

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Re:MDUW granular synthesis endeavour

Posted by kirlan - 2011/09/25 06:32

great share! this will be getting some use for sure when i go on a planned MDUW binge coming soon. thank you guys

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Re:MDUW granular synthesis endeavour

Posted by p_ACHE - 2011/09/25 19:30

Yeah that's very good thanks !

Unfortunately, I don't think it would be possible to make the grains overlap. At least not with one r-machine ! But with multiple machines the difficulty would be to control them.

I was looking for a vst doing that, and I found this : http://newsonicarts.com/granite_overview.html

I think it's really good and consider buying it. However I would love to see my MD doing the same ! (this is close !)

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Re:MDUW granular synthesis endeavour

Posted by TOS - 2011/09/25 19:44

^^ For grain overlapping, use two (or more) RAM-Play machines. Set one trigger for each track, but offset one of them using swing (or place the trigger one step later).

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Re:MDUW granular synthesis endeavour

Posted by EmTeX - 2011/09/25 21:45

p_ACHE wrote:

Yeah that's very good thanks !

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I was looking for a vst doing that, and I found this : http://newsonicarts.com/granite_overview.html

I think it's really good and consider buying it. However I would love to see my MD doing the same ! (this is close !)

wow this plugin is amazing. thank you for sharing. i just bought it.

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Re:MDUW granular synthesis endeavour

Posted by stiiiiiiive - 2011/09/26 07:18

exuviae wrote:

Why are we using RAM machines rather than existing samples in a Rom machine? Are we resampling the main outs in realtime? I tried these steps using a Rom machine and it works great, but I was wondering if I am missing even cooler things.

Anyone?

Thanks!

Brooks

Well yes, I'm more in the "sample and mangle your music mates" thing. But same principle except one thing: RAM machines START and END parameters are linear, so are the START and END parameter of certain ROM machines, but not all! The others are logarithmic. cf the UW addendum in the MDUW user's guide.

On Mkl, RAM PLAY machines 26 to 32 have linear parameters.

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Re:MDUW granular synthesis endeavour

Posted by exuviae - 2012/09/25 07:55

Forgive me if I am being dense here, but I still have some basic questions about this MD granulaire effect:

I can follow the posted setup easily enough, but what I don't understand is the use of a Ram Play machine. What exactly are we sampling? Don't you need a Ram Rec machine going in order to feed the buffer of a Ram Play machine?

Are we copying a ROM sample over to a RAM Play? Is that even possible?

Or is this a "just throw some shit into a Ram Play machine and use that" kind of deal...?

I'm simply needing to know these supposed steps that set up the audio source before the steps that are given in the exercise.

Can someone please help?

Thanks!

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Re:MDUW granular synthesis endeavour

Posted by teacherofstalker - 2012/09/25 08:55

It depends on whether you want to perform granulation on an incoming signal (you must use RAM Rec/Play pairs), or on a prerecorded sample (you then use the ROM machines). Of course you can use both RAM Rec/Play and ROM machines simultaneously, to create a more complex sounding texture.

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Re:MDUW granular synthesis endeavour

Posted by exuvia - 2012/09/25 20:16

Thanks!

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Re:MDUW granular synthesis endeavour

Posted by stiiiiiiive - 2012/09/25 22:16

Just to be sure:

You need to RAM play some filled buffer, indeed. For that matters you can use a RAM Rec machine. Of course, you can also do so with a ROM machine.

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