

## Density v.2.1.9

Sampled/Live Granular Synthesis

[www.densitygs.com](http://www.densitygs.com)

Alessandro Petrolati

[ape@kagi.com](mailto:ape@kagi.com)

© 2011

Density is a new real-time software designed especially for LIVE asynchronous granular synthesis and sound file granulation, a genuine granular playground able to generate a wide range of usual and not so usual effects: time/pitch shifting, time/pitch jittering, intricate textures, grain fountain/pulverizer, recording, and manipulation of buffers, complex scrub pad exploration, dynamic envelope shape drawing and many more. Besides the basic tools, even more advanced tools are available to control the grains!

You have smooth transitions (interpolation) between global presets (snapshots), you can navigate with HyperVectorial pads or/and sequence your snaps using the "snap rhythm improviser" which provides a unique & powerful way to generate incredible sound phrases. The filter (24 band) provides an incredible spectral sculptor, through the Fibonacci/Harmonic/Geometric/Scalar band generation feature.

Like any good live-oriented tool, all widgets are controllable via MIDI and OSC protocol, easy to map and manipulate with your MIDI controller.

All is packed in an optimized visually sharp interface, easy to use and access when fast improvising live or lazy composing in a studio.

ver 1.0.0 (may 2010) official release built with Max/MSP version 5.1.4

- . eight granular streams simultaneously
- . loading up to 12 sound-files (aiff,wav) for each stream (96 tot.)
- . dynamic wave-pad scrub, wrap-around selection, crop, normalize draw, etc...
- . grid quantize: zero-crossing, bpm, phase and samples
- . multi windows (resizable) buffers for fine scanning explorations
- . quick sound files exchange, mouse jumping on the windows (buffers)
- . envelope/windowing manage up to 12 pre-generated shape (prototypes)
- . envelope/windowing loading and manage up to 12 sound-files (aiff,wav)
- . dynamic envelope buffer load/save, normalize, crop, resize length etc...
- . main mixer 8 channels + 1 master, solo/mute and VST supports
- . quick-record export master channel, progressive file auto-name, select directory and re-sampling/quantize out file
- . trigger mode granular streams: foreground, sync, all
- . DSP settings and status bar informations
- . snapshots (presets) memory: up to 24 for each stream and 24 for the main mixer
- . fast buttons snapshots store/recall
- . simultaneously (streams and main) transition (interpolation) between snapshots (in a given time)
- . clients manage: include/exclude widgets from transitions
- . four draw table for transitions curves
- . micro-pad interpolating between four snapshots
- . HV\_pad (i.e. hyper vectorial pad), 9 snapshots pad (4 pad near), and auto-explorer (spiral, dunk, reflects) engine
- . MIDI Input mapping: learn/manual, rescale range and exponential curve
- . MIDI Output sync: enable/disable, continuously or mouse up send
- . voices selection shorts key,
- . windows float/no float mode
- . fully managing the project (as a folder), save/save as and load, ask when exit
- . drag and drop support: streams/windowing wave-pads (audio files) and project folder (main mixer)
- . oscilloscope, spectroscope, sonogram viewers

ver 1.0.6 (june 2010)

- . add LIVE buffer granulation
- . add stereo panning rotation: pan, jitter, lfo (shape/hz)
- . add transitions elapsed time
- . add front-lock in the pitch keyboard (streams)
- . add OSC I/O support
- . add HV\_pad X/Y MIDI/OSC mapping
- . add file multichannel rec
- . add mixer multichannel I/O mapping
- . add pop-up menu transitions: now you can chose between manual or auto-recall snapshot
- . add mixer faders pre/post metering show signals
- . MIDI mapping GUI restyling
- . improved quick record, now renamed in master rec
- . improved HV\_pad pad resolution
- . wave-pad wraparound bug fixed

- . some minor change
- . some bugs fixed

#### ver 1.1.5 (september 2010)

- . add MP3 support
- . add snd-files/LIVE buffers consolidate (copy buffers in the prj folder)
- . add auto-populate sound files folder
- . add global presets, manage all Density widgets together
- . add dynamic snapshots allocation (until over 100 snaps)
- . add panning time sync
- . add project sampling rate saving
- . add snapshots consecutive renumber list
- . add snapshots call/rename/scrub window
- . add global transport time
- . add snapshots sequencer rhythms improviser unit
- . add windowing draw bipolar view
- . add windowing new resolution speed limit for curve/gauss deformation
- . add extra precision MIDI pitch bend values scrub fine control
- . add windowing deformation shape MIDI/OSC
- . add clue windows, report widgets information under the mouse
- . LIVE integrate in stream window
- . LIVE now save own parameters in the project
- . LIVE some other bugs fixed
- . now streams/windowing menùs, shows file name
- . windowing/streams normalize bug fixed
- . defaults\_params/defaults\_all, bug fixed
- . improved project load/save, more fast and flexible
- . un/subscribe clients transitions, now saved in the project
- . removed the useless ones oscilloscope/spectroscope and sonogram

#### ver 2.0 (march 2011)

- . new GUI look
- . new dialog-box windows, does not stop audio
- . new NOTES you can save your notes in the project
- . new tool bar quick functions access
- . new HV\_pad 2D nodes parameters interpolation
- . add HV\_pad jitter exploration
- . add HV\_pad in "reflects", "jitter" and "drunk" now you can interact with the pad
- . HV\_pad on/off monitor bar in main HV\_Pad window
- . MIDI/OSC add 14 bit precise Control Change I/O
- . MIDI removed pitch bend in favor of 14 bit MIDI I/O
- . MIDI/OSC new midi monitor, parse 7 and 14 bit control change and show detailed messages
- . MIDI/OSC new OSC learn function
- . MIDI/OSC you can append a prefix ID on the OSC Output address
- . MIDI/OSC now OSC I/O send and receive automatically in the same address
- . MIDI/OSC improved rescale range (old project are't compatible)
- . MIDI/OSC now MidiRaw sends data for I/O sync
- . MIDI/OSC MidiToggle integrated in MidiRaw
- . MIDI/OSC new MIDI/OSC sync mode: mouse down, up, downup, continuous
- . MIDI/OSC MidiRaw add input data mapping: incr, decr, incr/decr modes
- . MIDI/OSC MIDI I/O disabled when CC = -1 (default)

- . MIDI/OSC toggle switch now show correctly the value
- . MIDI/OSC Osc input can be selected from a list of four elements
- . MIDI/OSC new inverse mapping for MIDI/OSC I/O
- . MIDI/OSC OSC void string bug fixed
- . GSNAPS defaults all turnoff DSP
- . new Parameters rescale, multiply/divide (/4 /2 x2 x3 x4)
- . new GUI faders relative/absolute mousing mode switch
- . panning now update correctly value when you select manual
- . panning removed auto update knob when automatic or random
- . WAVEPAD tools shortcuts (F1, F2, F3, F4) enabled
- . LIVE/Sample button switch
- . snap-seq add global transport enable/disable trigger
- . MIXER native FILTER 24 band equalizer for each channel and Master
- . MIXER native reverb for each channel and Master
- . MIXER native compressor for each channel and Master
- . MIXER rebuild solo/mute system
- . MIXER add solo/mute fade in/out time
- . FILTER add filters types select
- . FILTER add cutoff, gain and Q/S fine controller
- . FILTER dry/wet knob
- . FILTER dynamic filter allocation, until 24
- . FILTER auto generate filter bands: Harmonic, Geometric, Scalar and Fibonacci
- . FILTER frequency zoom in/out
- . new Record Master/Multichannel, now save file/folder patch in project
- . Record Master/Multichannel new GUI lock
- . New detailed user manual online
- . WAVEPADS load files, unsupported files doesn't overwrite path bug fixed
- . WAVEPAD scrub, normalized in the MIDI/OSC params
- . WAVEPAD new scan mode wrap/mirror/once
- . WAVEPAD new out-of-range mode: loop
- . WAVEPAD out-of-range mode: none (now can be disabled)
- . WAVEPAD SR Size Rescale bug fixed, now you can load and play correctly any sound file
- . LIVE input dirty buffer bug fixed when change channel
- . LIVE input channels moved into mixer
- . SNAP-SEQ step jump bug fixed
- . SNAP-SEQ add portamento transition
- . SNAP-SEQ some gui adjustments

ver 2.1.9 (april 2011)

- . WINDOWING additive jump hrm amp select, fixed
- . WAVEPAD one once back read bug fixed
- . WAVEPAD add invert color switch
- . HV\_Pad optimized auto scanning (drunk)
- . HV\_Pad save on the project, the last pointer position
- . clue windows show now the widgets name correctly
- . HV\_Pad drunk/spiral/reflect/jitter cpu improved performance
- . MIDI/OSC correct pan range rescale
- . freeze now update correctly also in rescale mode
- . FILTER improved and refined
- . FILTER enabled for transitions
- . GSNAPS micropad became 2D nodes

- . GSNAPS speedlimit transition update
- . new micropad 2D-nodes
- . scrub presetsave bug fixed
- . wavePad multibuffer jump, now work properly
- . wavePad scrub send Midi/Osc output also in autoscanning mode
- . LIVE zoom selection load bug fixed
- . LIVE buffer init when load project bug fixed
- . LIVE defaults all now reinit buffer correctly
- . defaults all, zoom out all soundfiles and LIVE

Platform Requirements:

Mac OS X (10.4 or higher; G5 or Intel faster recommended);

Windows XP/Vista/7;

QuickTime to enable mpeg support.

[www.densitygs.com](http://www.densitygs.com)