Best Of BOLDER Collection

Granular

Owner's Manual

KRONOS
Music Workstation

BOLDERSounds

Overview

Welcome to the Best Of Bolder Collection: **Granular**

This is a collection of samples created with various software applications on both the Mac and PC with special emphasis on SuperCollider created by the brilliant James McCartney.

Sound categories may be divided as follows -

- Evolving Tonal Textures
- Evolving Atonal Textures
- Evolving Noise
- Lush Pads
- Percussive SFX

Demo Sequence

A demo sequence called *Granulations* is included in the file **Granular.SNG** which can be loaded with your sounds if desired.

Granular Synthesis

With granular synthesis I start with a source sound file of some sort like guitar or a metal sheet etc... From there the sound file is synthesized with a granular software tool of choice (or numerous granular applications might be used on a single sound file). From there the resultant granulated sound file is typically processed with some kind of EQ or compression to even out any wild frequencies or to smooth out volume levels. The final step is the looping of the sound file. Most of the samples in this collection are looped, an exception would be the *Cyways* samples which are all one-shot samples.

There are many sources of excellent documentation available on the Internet today regarding granular synthesis. I would not claim to be an expert on the topic - however it may be interesting to the user to understand some of the techniques and granular parameters used to create the samples in this library. The parameters listed below have frequently been modulated in realtime on the Mac or PC allowing for the creation of highly dynamic samples.

Granular Synthesis parameters frequently used in this library -

Time Elongation
This is used on many of the samples in this library. I might start with a 5 second source sound file and end up with a 25 second resultant sample.

Time Dispersion
If you think of how a normal sample plays from beginning to end or from left to right - Time Dispersion allows control over how much audio material is collected and processed *surrounding* the timeline. Depending on the software tool, audio data can be processed both in front or behind the moving timeline. Using this granular parameter an *audio collage* of sorts may be created.

Pitch Rate
This parameter allows pitch control of sample playback.

Pitch Dispersion
Pitch modulation can range from subtle chorusing to wild undulation to the point of making one feel a bit sea sick.

Grain Duration
Think of an audio spray can in which you can adjust the size of the globs of audio being spit out of the can. From fine spray to large chunks.

Grain Overlap or Density
This parameter determines how close together the grains are spit out of the granular engine. For example - a fine spray could be output with a great deal of space between the audio particles or they could be very thickly overlapped to create a very smooth sounding audio sample.

Programs

The Granular KRONOS volume provides 69 Programs. Programs from the same source sample material tend to be grouped sequentially such as *Rolling Pads 1 - 4*, however there are a few exceptions.

Most of the evolving samples are fairly lengthy. When playing a sample an octave higher than the root key pitch, the sample evolves at double the speed, and conversely an octave lower will evolve at half the speed of the root key pitch. This simple technique can create some very interesting harmonic swirling type effects. It is also very easy to create dissonant results by playing smaller intervals like 2nds, minor 2nds and 3rds.

Program	Name
U-G000	Metalmorph Trounce
U-G001	Metalmorphic
U-G002	Metalmorphic 2
U-G003	Metalmorphic Layer
U-G004	Metalmorphic Vel Sw
U-G005	Rolling Pad
U-G006	Rolling Pad 2
U-G007	Rolling Pad 3
U-G008	Rolling Pad 4
U-G009	BOBular 1
U-G010	BOBular 2
U-G011	BOBular 3
U-G012	BOBular Layer
U-G013	Mutation
U-G014	Mutation Layer
U-G015	Harmonic Pad
U-G016	Opaque
U-G017	Pentatonic
U-G018	Pentatonic Grainy
U-G019	Pentatonic TmeDispersion
U-G020	Pentatonic Split
U-G021	Psalm
U-G022	Random Universe
U-G023	Sea Bed
U-G024	Sea Bed 2
U-G025	Under Water
U-G026	Four Long Gongs
U-G027	Cyways C2 to E4
U-G028	Cyways Reversal C2/E4
U-G029	Opaque Whistler

Program	Name
U-G030	Sea Psalm
U-G031	Calm Seas
U-G032	Conch Pad W-Seq
U-G033	Conch Pad
U-G034	Cyway 00
U-G035	Cyway 01
U-G036	Cyway 02
U-G037	Cyway 03
U-G038	Cyway 04
U-G039	Cyway 05
U-G040	Cyway 06
U-G041	Cyway 07
U-G042	Cyway 08
U-G043	Cyway 09
U-G044	Cyway 10
U-G045	Cyway 11
U-G046	Cyway 12
U-G047	Cyway 13
U-G048	Cyway 14
U-G049	Cyway 15
U-G050	Cyway 16
U-G051	Cyway 17
U-G052	Cyway 18
U-G053	Cyway 19
U-G054	Cyway 20
U-G055	Cyway 21
U-G056	Cyway 22
U-G057	Cyway 23
U-G058	Cyway 24
U-G059	Cyway 25

Program	Name
U-G060	Cyway 26
U-G061	Cyway 27
U-G062	Cyway 28 Patience!
U-G063	Long Gong 1
U-G064	Long Gong 2

Program	Name
U-G065	Long Gong 3
U-G066	Long Gong 4
U-G067	Arctic Bee
U-G068	Arctic Bee octave layer

Programs Notes

Metalmorphic
The source material for this sound came from various wavetable synthesizers which had a particularly bright metallic quality. Time Elongation was used to slow down the playback of the source file coupled with Pitch Dispersion.

Rolling Pads
Created with an electric guitar and multiple tracks - the *Rolling Pad* programs slowly outline a diminished chord.

BOBular
Various source samples were created with a well known analogue synthesizer. A wonderful piece software created by Tom Erbe called Sound Hack was then employed for varying degrees of Convolution and Mutation.

Mutation
This is what I consider to be *evolving noise*. The source sound for this granular adventure was a gong. I used a DSP function from *SoundHack* called *Spectral Extraction*. What this does is it extracts the transient part of a sound and deposits it in a separate sound file, and then in another sound file it extracts just the pitched part of the sound. Then I *mutated* these 2 sound files back together after granulating them.... sort of a pull it apart and then put it back together Frankenstein approach. This is an effective sound for building tension.

Harmonic Pad
This is a mini composition featuring electric guitar harmonics with the attack of each note removed prior to granular processing to create an organ like effect. This sample takes on a very different character depending on the pitch at which it is triggered.

Opaque
This was created with a toy vibraphone for children. Try playing this in wide intervals like 4ths, 5ths and 9ths - the sound swirls about in some very interesting ways!

Pentatonic
Created with electric guitar volume swells while using the pentatonic major scale (C -D - E -G - A). These samples have quite a bit of granular motion printed into the samples.

Psalm
The source sample for this program was extracted from the *Best of Bolder* - Pianos volume. It is from the guitar picked piano bank. This program is very useful for soft-lyrical chords played in the midrange of the keyboard.

Random Universe
This is an example of extreme Pitch Dispersion. The source sample used was a medieval bowed dulcimer called a psaltery. Play it down near C1 or C2, then C4 - quite a different universe.

Sea Bed
This is a beautiful warm and still pad created from a conch shell that I brought back from Mexico. This was originally a very short sample which was elongated with a bit of Pitch and Time Dispersion. This sound is without a doubt one of my favorite pad sounds - very useful for playing behind a slow lead melody.

Under Water
A sample created via FM synthesis and then lengthened and elongated with granular synthesis in SuperCollider.

Long Gongs
Gongs samples with only the sustain portion of the sample elongated. *Long Gong 4* starts with the sustain portion played in reverse, which crescendos into the attack of the gong followed by a elongated decay.

Program U-G026 maps out the *4 Long Gong* samples with 4 split points. Beginning at *program U-G063*, each Long Gong sample is assigned to the entire keyboard.

Cyways
I gave this sound set this name because it reminded me of hearing vehicles passing by on a highway, yet it seemed like a highway in the future, hence the name Cyways. The samples were created with metal sheet samples, brought into Sound Designer II (an ancient 2 track audio editor), scrubbed around a bit with dragging the mouse for the acceleration and pitch effects, recorded from there onto a external DAT machine, recorded back into the Mac, and spit out again through SuperCollider. That was before everything was interconnected as it is today - but it was fun!

I found numerous KARMA GEs to be very effective with these Cyway programs. In the demo .SNG *Granulations* you hear Cyways using Drum Patterns triggered by RPPR.

Program U-G027 presents each Cyway sample at its original pitch in sequential order. Cyway *programs U-G034* thru *U-G062* present each sample mapped across a large

portion of the keyboard. These samples take on a very different quality depending on the pitch they are triggered at. With this wide mapping approach the user has a great deal of sonic variety to create interesting sound effects.

Conch Pads and Calm Seas
These are more conch shell samples which were recorded after the initial recording of the *Sea Bed* sample. These samples have a slightly more nasal quality to them and also served as a good excuse to return to Mexico.

Arctic Bee
Created with a plucked piano string and extreme use of Pitch Dispersion. Jim Aikin from KEYBOARD magazine described this sound as *"a orchestral trill run through a meat grinder"*. In the program Arctic Bee octave layer use the Vector Joystick to control balance between the layered octaves.

Thank you and I hope you enjoy the KRONOS edition of the BOB Granular volume!
Dennis Burns - Bolder Sounds - December 2013

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