

Borderlands Granular

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Developer Note:

Thank you for taking the time to share / review Borderlands. If you are unfamiliar with the app, a description is provided in the “General Overview” section of this document. Version 2.1 is compatible with all iPads and is a free update for all existing users. While this is technically a “point” release, it is packed with a myriad of new features, improvements, and bug fixes, the full list of which can be found later in this document. Here are some highlights:

- Tempo synced grains with Ableton Link
- Semitone pitch tuning option per cloud
- New waterfall-style streaming input mode
- Overdub level control for real time inputs
- ADSR mode with automatable trigger pad for each grain cloud
- Automate sound position, size, and rotation
- New ring modulation, vibrato amount, and probability controls per grain cloud
- Proper scaling on new, larger iPads and iPads with different aspect ratios
- Scene contributions from Cristian Vogel, Electric Indigo, King Britt, Mikronesia, and Tom Hall. Presets from Arovane coming soon.

I am thrilled to finally release the work that I have been chipping away at for the past 5 years and am committed to pushing Borderlands forward. I am very excited about where the app it is heading next. AUv3 support, MIDI / OSC I/O, and iPhone / Universal compatibility are some of the next big features I plan to explore, in addition to a number of smaller, more experimental ideas. I am always trying to improve the balance of control and expressiveness as I develop this instrument.

Thank you again for your support. Please feel free to reach out if you have any questions!

Very best,
Chris

Supporting Media

Promo video: <https://www.youtube.com/watch?v=Hc1T4jFFGhA&feature=youtu.be>

Both of these demos attempt to showcase new features in the context of building up a composition from scratch.

Demo 1 - Waterfall input, sound on sound looping, semitone pitch, ADSR control:
<https://www.youtube.com/watch?v=MKS7F2k0MM&feature=youtu.be>

Demo 2 - Tempo Synced Grains

<https://www.youtube.com/watch?v=H10M85NUiiY&feature=youtu.be>

Please use any of the high res photos of the app that are contained in this press kit. If the photo “Carlson-bio-shot.png” is used, please credit to “Marcus Fischer / mapmap.ch.” Credit is not required for the other shots, but if needed please credit to Chris Carlson.

Jakob Haq will be releasing a “Docutorial” video about Borderlands. It contains an interview in which I awkwardly blabber on about various things and some lovely tutorial segments on the main new features: <https://www.youtube.com/watch?v=2IP9W2CnuiY>. He did an amazing job, so please share this video if it fits in your content!

If possible, please note that the Borderlands Granular instagram (@borderlands_granular) is the best place to stay updated on the app’s development. I primarily post updates there.

App Instagram: borderlands_granular

App Twitter: @BorderlandsiPad

App Facebook: BorderlandsGranular

Flock 2 // BG.10.18: Recent live set using 3 instances of Borderlands:

<https://cloudveins.bandcamp.com/album/flock-2-bg-1018>

Live at Frequencies 2016

<https://cloudveins.bandcamp.com/album/frequencies-vi>

Main website

<http://www.borderlands-granular.com/>

V2.1 Changelog - New features, improvements, bugfixes

Tempo synced grains

- Ableton Link support for internal clock and tempo sync with other apps. Clouds may now sync their grain triggers to a global tempo, with or without a connected Link client.
- Sync can be activated on a per-cloud basis, allowing mixing of trigger modes when multiple clouds are present.
- Grain windows are offset so sync aligns with peak window amplitude (i.e. exponential decay window syncs to the start of the window, sinc function and raised cosine function sync the middle of the window, reverse exponential window syncs to the end of the window)
- New sync division (1/256th up to 4 bars), beat offset (triplet, dotted, and other ratios), and sync phase parameters when beat sync is turned on for grain cloud.
- New BPM menu with tap tempo control.

New parameters

- Semitone tuning option for grain clouds with range from -36st and +36 st. This can be activated on a per-cloud basis.
- A new probability control determines the likelihood that grain will play on the next trigger.
- Ring modulation frequency and depth per cloud
- Vibrato amount is now controllable.

New envelope mode

- An additional envelope is now available to shape the output of each grain cloud. This can be activated on a per-cloud basis. A touch trigger pad appears inside the grain cloud when this mode is activated.

- A second parameter page appears when this mode is activated, displaying Attack, Decay, Sustain, and Release parameters.
- The placement of the trigger pad allows simultaneous envelope activation and movement / dragging of each cloud.
- The trigger pad and envelope parameters are fully automatable via the same gesture recording paradigm used throughout the app.

Automation updates

- Sound file position, size, and rotation may now be automated with gesture recording.
- “Ghost clouds” now appear when touching clouds with position automation. The primary cloud remains stationary, making it easier to capture and edit clouds that are actively moving around the screen. The ghost cloud continues moving its grains down the automation path, merging with the primary cloud when editing is complete and/or the cloud is no longer touched.
- New “background touch modes” - touch the screen background to activate ghost clouds for all automated grain clouds, add a second touch to pause all parameter automation, add a third touch to pause all position automation.
- Global automation speed can be increased to 40x original speed. New automation speed is recorded relative to current global automation speed.

Input / Output updates

- New “Waterfall” input mode for real time granulation of input, which streams into the sound quad from the right edge. This mode makes it easier to create real time granular effects.
- Overdub level allows sound on sound realtime input recording
- Files support allows easy access to the Borderlands documents directory.
- New Audiobus record trigger allows quick capture of sounds when Borderlands is in the background.

Other Improvements

- Audiobus 3 support
- Solo one or more clouds by touching clouds while pressing the mute button. Soloed clouds can be returned to mute by pressing the mute button (in its muted state) while holding the clouds, or by touching a new cloud to be soloed while pressing the mute button
- Borderlands Presets section added to scenes browser with example content.
- Artist scenes from Electric Indigo, King Britt, Tom Hall, Cristian Vogel, and Mikronesia.
- 48 and 96 kHz sample rate options
- Longer max grain duration - 6 seconds. Older scenes will still load with 3 second max.
- It is now possible to drop folders of audio into the app's documents directory and see the folder and its contents as a unique header in the recordings browser.
- Pitch, duration, vibrato, and volume now impact grains as they are playing (rather than being queued for the next grain), resulting in more fluid parameter changes.
- Input can be monitored anytime, not just when audio is recording.
- Realtime input buffers now use double buffering to reduce playhead conflicts with grain playback.
- Tempo and automation speed values are now saved / loaded with scenes
- Clouds can be rotated and moved simultaneously by touching and dragging with two fingers.
- Cloud position can now be automated while cloud is in parameter edit mode.
- Parameter automation begins playback on touch release - it is no longer necessary to tap the record button a second time to stop recording (only for parameters).
- Two finger touch of automated cloud pauses automation when cloud is not in edit mode.
- "Open blank" preference in settings to load blank workspace rather than default sounds on launch
- Switched keyboard to dark gray

Bugfixes

- Input recording from line in / mic is working again on iOS 12+.
- IAA loading issues fixed.
- Gravity / cloud edge mode functionality now works when app is in the background
- Fixed crash that could occur when deleting clouds while accelerometer is on.
- Pan automation values now update properly.
- Blank scene can now be saved without freezing the app
- Location services removed from app
- Removed repeated airplane mode notification

General Overview

Borderlands Granular is a new musical instrument for exploring, touching, and transforming sound with granular synthesis, a technique that involves the superposition of small fragments of sound, or grains, to create complex, evolving timbres and textures.

The software enables flexible, real-time improvisation and is designed to support interaction with sonic material on a fundamental level. The user is envisioned as an organizer of sound, simultaneously assuming the roles of curator, performer, and listener. Gestural interaction and visual feedback are emphasized over knobs and sliders to encourage a sculptural approach to making music.

Create, drag, and throw pulsing collections of grains over a landscape of resizable audio files, dynamically and polyphonically sampling the waveforms beneath your fingertips. The iPad's built-in accelerometer may also be employed to shape sound with gravity.

Borderlands comes ready to play with default sample content included, but you may also load and export your own sounds via Audiobus, AudioShare, and real time input from the mic or external audio interfaces. Recordings made within the app may be imported on the fly for layers-upon-layers of granulation.

It is also possible to improvise alongside the app - touches and parameters may be recorded, looped, stored, and duplicated. Entire configurations of clouds, sounds, and automation can be saved into presets, or "scenes," that may be recalled at a later time, allowing Borderlands to seamlessly transition between the studio and the stage.

Reviews of Version 2.0 (2015):

Borderlands has floored us. It is very rare that we find an app that is not only fun to use, but extremely useful. It is truly inspiring. The interface is stunning, the sounds are so evocative: they're a film composer's dream.

Paul Hepker and Mark Kilian, Film Composers (Tsotsi, Rendition, Eye in the Sky)

The best app for exploring sound just got better... This is 'go out and buy an iPad to run it' good stuff.

Peter Kirn, Create Digital Music

It's beautiful, it's absolutely great. It goes in a completely new direction. I wish software companies would make more [programs] like that for the computer and not only for the iPad.
Christian Fennesz, Interview from Tiny Mix Tapes, May 2014

Recognition

2015 - ZKM | Center for Art and Media - App Art Awards - Special Prize for Sound Art

2013 - Prix Ars Electronica - Award of Distinction in Digital Music and Sound Art