



Every once in a while a program comes along that totally blindsides you and leaves you blinking. That's Liquid Rhythm, the new beat creation software from WaveDNA. It's utterly unlike any beat creation software on the market that I know of, fusing some familiar tools like drum kit creation/editing and piano-roll-style beat sequencing with a whole palette of new and fascinating options.

What is Liquid Rhythm?

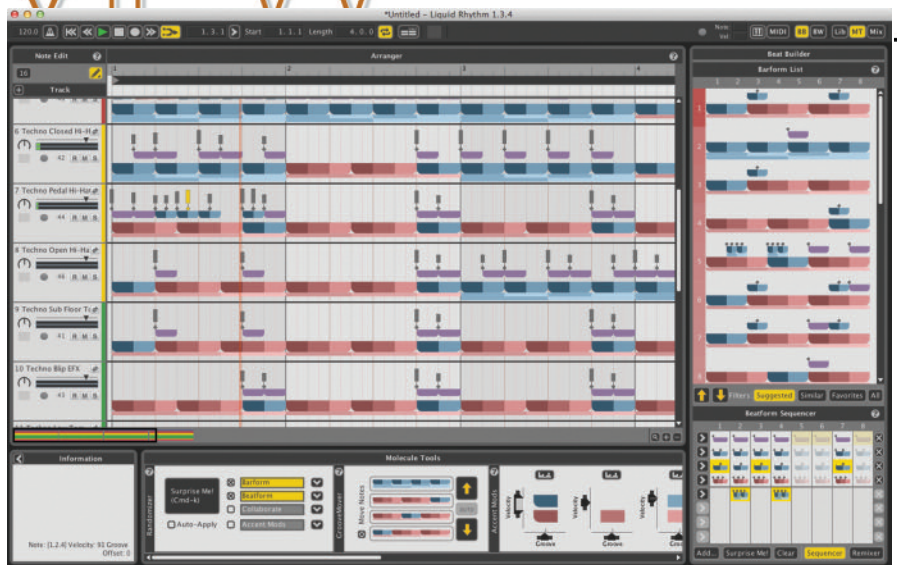
Liquid Rhythm ("LR") can operate as a standalone program for Mac OS X or Windows, or as a VST, AU, or RTAS plug-in within a DAW. It's available in two versions: the full version and the very affordable Liquid Rhythm Intro, which lacks several of the most powerful and esoteric features of the full version but still offers a lot of power.

LR can work in both the MIDI and audio realms. In MIDI terms, it can create full arrangements of MIDI drums and export them to a DAW for playback, or you can input MIDI files, rearrange and modify them, and re-export the results to your DAW. The arrangements can also be used inside LR to play back its built-in sounds (or sounds you import—see below) and create exportable audio files, either full mixes or individual instrument tracks. It can accept and remap MIDI controller data for live playing and tweaking, and its built-in sounds are mapped by default to the MIDI Notes of the General MIDI drum map standard.

Okay—so it generates MIDI or audio rhythm files and gives you the results. That's easy enough to understand... but it's *how* Liquid Rhythm does this that is so mind-bending.

Starting simple

As you can see from the screenshots, LR has a neatly paneled interface with individual parts that can be quickly hidden and recalled as needed. The center of the program is the Arranger, a piano-roll sequencer that contains the actual note data. Each instrument in a drum kit has its own sequencer track, broken up into conventional musical bars (4/4 time only... well, technically 8/8), and a built-in mixer lets you tweak panning, level, mute/solo/record, and so on. You can load entire kits, specific instruments, or loops in various styles, and swap instruments easily.



WaveDNA Liquid Rhythm

A rhythm creation tool like no other

Messing with Molecules

LR comes with 3 kits plus some extra sounds when you first download it; you'll want to immediately go to the Help menu and download the remaining library content, offering many more samples spread out over 9 more kits in a variety of genres. A built-in Kit Editor lets you build custom kits from existing sounds, and an Instrument Editor lets you import your own WAV or AIFF samples and map them to MIDI notes for use in a kit. There are no built-in audio effects; audio generated this way will be dry until you process it in your DAW.

Clicking on Loops in the library will bring up nearly 800 loops, sorted by genre, which you can audition and drag into your Arrangement. They load with a default kit selected, but it's easy enough to cut and paste the relevant data into your chosen kit's tracks. Each track is color-coded and each instrument is tied to a particular role in a drum kit—kick, snare, toms, hi-hat, etc.. This is important because when you start manipulating your tracks in LR, it will attempt to narrow down the many choices available to you by suggesting tweaks that are relevant to the instrument at hand, as I'll explain below.

There are the usual transport controls; you can start, stop, rewind, and loop your arrangement easily enough, and there are various levels of zoom available to help you see what you're doing, many assisted by keyboard shortcuts.

Now it's time to dive down the rabbit hole! The basic chunk of data in LR is the BeatForm—all the notes that can appear in one beat of the arrangement for one instrument. This can be as simple as a single eighth-note hit, or two 16th-notes, or the second of two 16ths but not the first... all the way down to combinations like "the first half of the beat is a set of two 32nd-notes with a hit on the first but not on the second, and the second half of the beat is a triplet with the second hit missing". There are 99 possible combinations of hits just within a single beat!

A bar of music contains eight BeatForms in a row, with any of them being a rest rather than a hit or hits. This is organized as something called a BarForm: a set of groupings of beats in a way that makes rhythmic sense. For example, a bar of kick drum might encourage you to count, "ONE two three four FIVE six seven eight," or a more syncopated rhythm might be "ONE two three FOUR five six SEVEN eight." These placements of accents, grouped into twos and threes, make up a BarForm, and they're color-coded—blue for a two-count, red for a three-count, with an accent followed by one or two "weaker" beats. (You can see this grouping of blue chunks of two and red chunks of three along the bottom of every bar in the screenshot.) This becomes important when we get into manipulating BarForms using LR's built-in tools.

So each bar for each instrument in an arrangement has a single BarForm of eight steps, and each step has its own BeatForm, with one or more actual hits shown as diamonds topped by bars to indicate velocity—the longer the bar, the harder the hit. This can be as simple as four-on-the-floor kick and snare on the two and four, or as complex as multiple triplet fills, fast crush rolls, and stutters. You can quickly change these patterns and come up with new ideas by drawing or deleting hits with the pencil tool, or more commonly by using the various “Molecule Tools” that LR provides to change up BeatForms and BarForms.

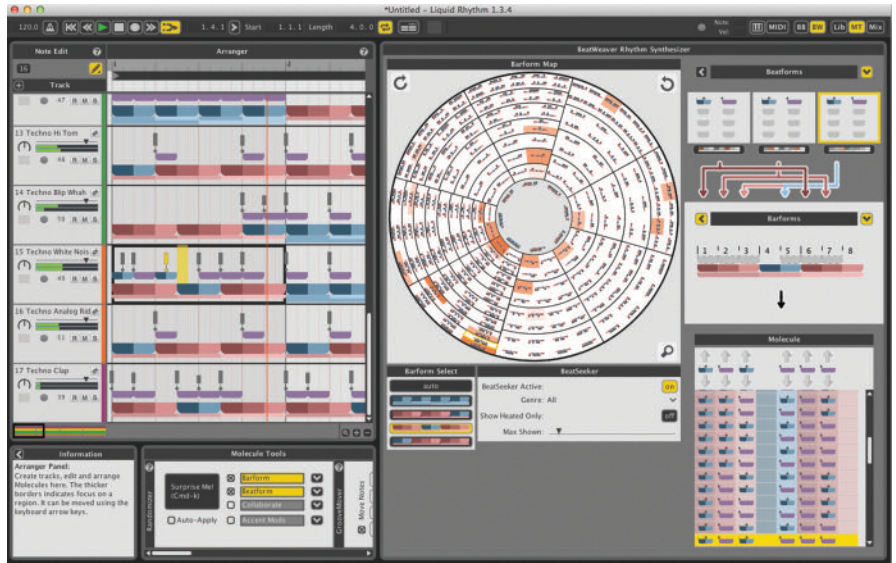
The basic tool for altering rhythms is the Beat Builder. It comes with both Liquid Rhythm Intro and the full version, and it gives you a solid set of options for changing up your rhythms, bar by bar. You can select any bar or bars, then use the Beat Builder to rebuild that bar; if you like what you’ve done, you can quickly duplicate the bar to fill up your arrangement, and go in by hand later to subtly tweak later bars so they’re not overly repetitive.

In Beat Builder, you can scroll down a list of BarForms to change the rhythmic feel. LR will suggest proper BarForms for your instrument type (some work better for kick and others for hi-hat, for example), or you can have a list of favorites, or

choose from the whole darned list if you wish. Once you’ve done that, then you can go to each individual beat and select what BeatForm appears there, adding triplets, off-time hits, rolls, and so on. You can click the “Surprise Me!” button at the BeatForm level to randomize your choices and generate something entirely new.

Once you’ve created a bar of music, you can then use Molecule Tools to tweak it. The most powerful and musical of these, and the only one that’s available in both Liquid

Rhythm and Liquid Rhythm Intro, is Accent Modifiers. You can set, move, or randomize velocities and/or groove timing (ahead of or behind the beat) for hits that occur at certain points or after them, what LR calls “Strong,” “Medium,” and “Weak” points. A two-count (shown in blue) will have a Strong (accent) hit followed by a Weak hit, and a three-count (shown in red) will have a Strong, then a Medium, then a Weak. This lets you add variation in ways that are musically sensible rather than creating a mess...





WaveDNA Liquid Rhythm

LR via the Ableton Push control surface (reviewed June 2013); we weren't able to test it in time for our deadline, but we did get to try LR with a Livid Base control surface (see the mini-review in the sidebar) and found it a worthwhile improvement to the LR workflow. MIDI mapping can make a lot of LR's features easier and more fun to use, and I recommend exploiting it to the full extent of what your controllers can offer.

If you're interested in just getting to realistic and highly usable rhythm tracks for your songs in a hurry with as little fuss as possible, there are better choices out there. But if you're interested in disassembling and reassembling rhythms and tweaking them to the nth degree, turning simple sounds into amazingly intricate rhythmic statements... if you're the sort of composer who's always looking for that magical key to the ultimate beat for the ultimate mix... you really need to try the Liquid Rhythm demo.

Go slow and be patient at the beginning, read the manual and watch the tutorial videos, and you'll gradually get a sense for what this program can do for your beats. And then dive in—and don't be too surprised if you don't come up again for a long, long time... ➔

Prices: Liquid Rhythm, \$129; Liquid Rhythm Intro, \$49

More from: WaveDNA, www.wavedna.com

for example, a simple tweak to one velocity/groove graph lets you affect all the accents and leave everything else alone. Hard to explain, hard to visualize at first, but in a few minutes of playing around, you'll quickly see how it works.

BeatWeaver and more

Okay so far? Now the going gets even weirder; with the full version of LR, you get many more Molecule Tools, including an intelligent and controllable Randomizer, tools for shuffling BarForms and BeatForms and moving bar lines around, and the BeatForm Tumbler, where a set of nine MIDI-assignable knobs lets you dial in new BeatForms for each beat of a bar on the fly in real time. And then there's BeatWeaver...

BeatWeaver is an ambitious attempt to show you the whole scope of what LR can do in one place. It offers two large circular graphic displays, one displaying all the possible BeatForms and another displaying all the possible BarForms; you can click on various positions in the graphs to populate sequences of BeatForms and create variations on your existing rhythms, with LR

suggesting appropriate choices by shading different parts of the maps to guide your choices. It gets really complex really fast, and I admit that even after several weeks of working with LR, it's the one part of the program I have yet to fully grasp.

Final thoughts

It's hard for me to suggest whether you should buy the full version of LR or just Intro. The vast majority of the really useful tools are in Intro, and it takes a long time to wrap your head around how BeatWeaver does what it does. On the other hand, some of the Molecule Tools in the full version are too much fun to do without, specifically the BeatForm Tumbler and Randomizer. I recommend trying the advanced features in the 30-day demo version available from WaveDNA so you can make an informed decision.

If you work in Ableton Live 9, a bidirectional communication protocol linking Live with Liquid Rhythm, called Liquid Clips, exists as a tool for any Live user who also has Max For Live. As we went to press, version 1.3.4 of LR added support for mouse-free control of

Livid Instruments Base



Livid Instruments (lividinstruments.com) is in the business of controllers. The firm offers a number of controllers in all shapes and sizes, plus a set of build-your-own tools for assembling custom controllers block by block: some buttons here, some faders there, and so on. They're all beautifully designed and solidly built; I remember drooling with envy over the Livid Ohm in Darwin Grosse's studio on a visit some years ago, and being interested in the firm's designs ever since. With the announcement of a \$449 bundle that combines Liquid Rhythm with the new Livid Base controller, I've finally gotten my chance to tell our readers about this wonderful band of controller artisans and their most accessible offering yet.

Unlike the other Livid controllers to date, which combine traditional faders, knobs, encoders, pushbuttons and the like, the Base has no moving parts. This tabletop controller measures around 285 x 260 mm (a bit over 11" x 10"); its sexy aluminum casing with rubberized surface sports nine touch-sensitive ribbon strips, eight touch-sensitive square "buttons", eight traditional pushbuttons, 32 velocity and pressure sensitive drumpads in a 4 x 8 array, and a 2-digit LED display for programming feedback. Every control is backed by multiple LEDs to produce full-color illumination; the square buttons have two LEDs for dual-state display, the touchstrips can display where they were last set, and even the traditional pushbuttons have dual LEDs for multiple colors at once. It's a very beautiful box, and as someone who constantly worries about snapping off fader caps and knobs when hauling boxes in and out of laptop bags, I love its sleek design.

There's a web-based configuration editor for the Base; it takes some real searching on the Livid site to find a link to it, and even more searching to find any sort of instructions, but once you set it up (it requires a free web plug-in called Jazz that lets you transmit MIDI back and forth to the browser), you can use any web browser to edit what each surface or pad does, set LED colors, etc.. The Base has a

basic default set of MIDI instructions that you can teach your DAW to follow, or you can roll your own if you're feeling ambitious.

You can see the Base in use with Liquid Rhythm in a video on the WaveDNA site; its scripting, which loads automatically when LR sees the Base, lets you navigate, change Accent Modifier settings, switch BeatForms, and so forth, with very little need for a mouse. If there's a downside, it's very obvious in the video, where a camera view of the Base reveals tiny taped sticky-notes all over the controller to help the user remember what each control does! This is a downside of any generic controller that doesn't have a built-in "scribble strip" option; you need to learn your way around by feel and memory once you have the controller set up to taste, and the layout might change as you move from application to application.

But we can't fault the Base for being so customizable! It's rugged, beautiful, plays like a dream (the pads feel great), and adding "scribble strips" would have significantly increased its price. As it is, it's \$429 direct from Livid for a controller whose elegance and flexibility are hard to match at any price... and the WaveDNA bundle throws in a full copy of Liquid Rhythm for a mere \$20. How can you lose?—MM