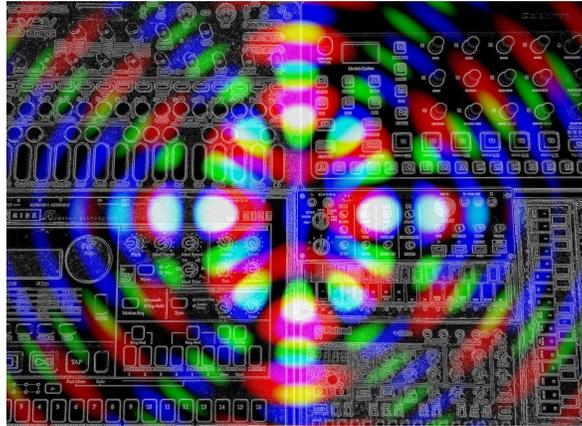


GROOVEBOXES!

The funky machines that get you moving



By Maya "Groovebox Is In The Heart" Bouldry-Morrison

Introduction

I think that grooveboxes rule: They are the first pieces of hardware I normally touch in my studio when I want to start playing around and make music, I bring them on the road with me for my live sets, and I always get excited when a new one comes out (especially a cheap one). Grooveboxes are the machines that have inspired my creativity the most for the past 22 years.

So what is a groovebox? A groovebox is a synthesizer or sampler that features an internal step sequencer to write, record, and loop sequences. A "step sequencer" is a feature where notes are played in a sequence step by step. Each step can be a note or rest or parameter change that when played one after another can create rhythms or melodies. Because grooveboxes feature this internally there is no need to use a computer or different piece of hardware to save the melody you just wrote, it's already there and looping. Some grooveboxes are simple and straight-forward (like the Korg Volca series) while others are more complex and are packed with tons of features (like Elektron's grooveboxes).

For my taste, I especially love the cheapest of the cheap grooveboxes because they're simple and fast. I really connect with hardware that's more "limited". It forces me to be more creative (and honestly "limited" aka "budget" aka "boutique" grooveboxes are plenty versatile despite complaints from synth lovers). Roland's TB-303 is perhaps the most famous "simple" groovebox which created an entire genre of "acid" and became famous for its tone and character. It didn't need a huge range of options to become the force that it is.

When I play live sets I bring a few grooveboxes to improvise over audio tracks and samples. My live sets eventually became heavily improvised because I got to be rather quick using a few grooveboxes and could write very basic parts on the fly and then modulate them with reverb and delay to create a bunch of different songs, sounds and textures. It was a fast way to write a song on the spot!

In this zine I'll talk about a few of the grooveboxes I love to use and why. I'll also show two different ways to sync them, offer an example set-up, and hopefully explain why I think that they're a fun solution to start jamming on the spot with less planning 😊

My favorite groovebox of all time <3



I want to take a moment to talk about my favorite groovebox of all time; the *Korg Volca Keys*, because I believe it can illuminate why I grooveboxes so much. For myself, the Volca Keys is maybe my most beloved piece of hardware in my studio. My partner Eris likes to say it's my "guitar"; it's squelchy, unpredictable, and fun to play. I can quickly press a few spots on its (admittedly difficult) ribbon keyed and start building a quick melody, or bleep lead, or an acid line. Plus it only costs about \$150 like most of the Volca series.

I'm highlighting it because it's a typically maligned instrument, seen mostly as a toy with flat sound and knobs that are tiny and annoying to use. In actuality it is fully analog, has a very resonant filter, different voice settings, an onboard delay that's beautifully grainy, and enough parameters that when tweaked and recorded with the "motion sequence" option can create really wild sounding parts (*"motion sequence" is the sequenced recording of changing parameters, i.e. adjusting the filter cutoff over a sequence and that adjustment playing back in sequence with the notes*). I dubbed mine the "Acid Queen" because of its great tone. I still pick it up all the time to write acid lines despite having other dedicated acid devices like two x0xb0x and a Roland TB-303.

I really love the sound of the Volca Keys and unlike the criticism I typically hear, I would call the sound of it "dry" instead of "flat". The main oscillator is a sawtooth waveform which has an edge to it; a bit "buzzy" so you're not going to be making a lush pad with it on its own. That's when I will start running its audio signal through FX pedals and I can start to open up a world of great sounds, pads, and FX.

And of course, because it is a groovebox, it has an internal sequencer. So I can quickly add and erase notes while it is recording and continually edit what is playing. This also works for the "motion sequence" function for the parameters. I can record a bunch of knob twiddling quickly and also erase the motion sequence quickly and try again. This allows me to nimbly experiment with the sound. I don't have to keep playing notes over and over or keep adjusting a filter over and over, it's just there and looping.

I point all of this out because most grooveboxes don't seem to be taken seriously as a professional musician's instrument of choice (unless it's got a hefty price tag haha). The simplicity and lack of "menu diving" (aka, all or most editable parameters are easily accessible from the same panel) on the grooveboxes I love to use make these instruments very versatile for creativity.

Different Grooveboxes For Different Reasons



There are lots of grooveboxes in the world. I'll be featuring a few that I own, but if you find them interesting please take a long deep look at other ones (there are so many more)! I'll quickly explain the different grooveboxes you'll see in the photos. These four grooveboxes are on the "budget" side of what is available. In this collection I have:

- The Korg Volca Keys which I explained up top.
- The Korg Volca FM is a FM synth that I use for a lot of bass, organ, and mallet sounds (*FM stands for Frequency Modulation which is a digital sound algorithm created by Yamaha in the 80's*). Among a number of tweakable parameters, it also has two sliders; one to transpose the sequence either up or down octaves as you slide it and a velocity slider that kinda works like an envelope/filter. Plus you can SYSEX any Yamaha DX7 sounds to it 😊
- The Roland S-1 is a digital "analog-modeled" groovebox that is set-up like the Volca Keys except it can record up to 64 steps, has many more oscillator options, a built in delay & reverb, and a more robust envelope. It also features "motion sequence" of the parameters like the Volca Keys!
- The Elektron Model:Cycles is a six voice FM synth with six different FM sound engines for kicks, snares, percussion, "metal" aka hi-hats, FM tone, and FM chord. It's pretty tweakable with many tone parameters, has a built-in delay & reverb, and has lots of recording options like "motion sequence" and "parameter locks" (*"parameter locks" are single step parameter changes that only trigger on that step*). It also features 6 tracks of audio (*meaning that you can have 6 different patterns playing at once, i.e. a kick drum pattern, a snare pattern, a bassline, etc.*)

Playing these four grooveboxes together it's easy to make dynamic music and write whole songs just letting each one individually run its sequencer. A big reason I like to point these out is because grooveboxes are a great way to start putting together a studio if you want to get out of your computer and into hardware. Any and all pieces of hardware have their space in this musical world despite synth-lover's opinions about what piece of hardware is better and what has more options. Each piece of budget hardware has its space in my studio and gets to shine because they all have the thing they do so well.

Other Gear For Mixing, Modulating, and Recording



What I basically wanted to point out in this zine is that since grooveboxes have internal sequencers you can play them on their own (or sync them with other hardware to play them all together which I'll be going over in the next section), BUT you'll probably want to mix everything, possibly modulate the sound with other hardware, and maybe record it into a computer. I'm adding this here as considerations in case this is your first time thinking about hardware for your studio:

- Small format mixers like the Mackie 1202 (which I've been using for 15 years), Yamaha MG10, Allen & Heath ZED 14, etc are really good options to get a small mixer into your home to start mixing your hardware into. They all (like everything) have different issues of noise-floor, EQ coloration, build-quality, but don't let some downsides stop you from getting something in your budget range to start working with. I've used the Mackie 1202 for live sets from small clubs to five-thousand person stages and they always held up well. Most mixers are built pretty tough! *(From my experience it's good to get a mixer that offers a couple more channels than what you need at the beginning so that you have flexibility in the future as you add more equipment).*
- FX units are great for modulating whatever groovebox you're using. I typically set-up a delay and a reverb directly in the signal chain of my groovebox or on two send channels on my mixer to give some more flexibility to my set-up. Guitar pedals are such a great option for FX units because they're inexpensive, plentiful, and there's a huge variety of different ones to discover! I have delays, reverbs, phaser/flange, distortion boxes, filters, etc. Tons of fun things! *(Quick tip: "gain staging" is important when using FX pedals; guitars are quieter than synthesizers so it's good to not run your synths at full volume through a guitar pedal because it will likely distort the sound. Just turn the synth down a bit to avoid distortion... unless you want that of course 😊).*
- If you want to record your new groovebox songs and jams into your computer to edit them, or just to have a recording, then you should look into an audio interface to hook-up to your computer and record into a DAW ("DAW" just means "Digital Audio Workstation". Fruity Loops, Ableton Live, Logic, Reaper, etc, are all DAWs). Find one that at least has two inputs so that you can record stereo sound (the left and right channels from the synthesizer or mixer main outs). Audio interface's recording qualities differ quite a bit and higher-end interfaces can start getting really expensive, but there are a bunch of brands that sell inexpensive 2 channel audio interfaces that will work great for your first interface.

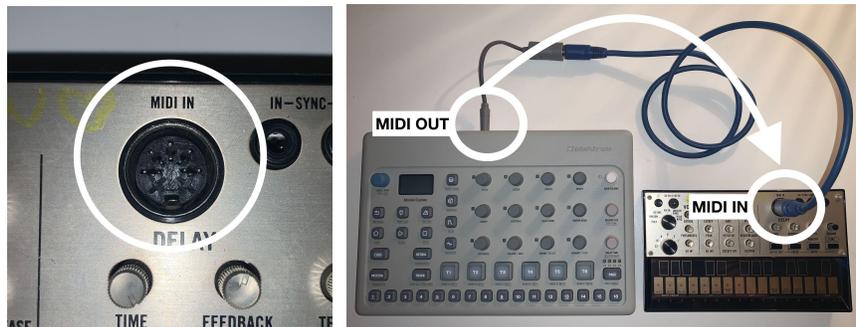
If you want further information then check out the long guide I wrote about "How To Set-Up A Home Studio" on mine and my partner's website <https://www.t4tluvnrg.com>

Syncing Grooveboxes

“Syncing” is the act of synchronizing all of your grooveboxes together so that they all play at the same tempo and keep time. There are two methods to sync: via **CV** or **MIDI**



CV Sync: The Volcas and the Roland S-1 all have CV “sync in” and “sync out” ports on them. To sync them to each other you choose one groovebox to be the master sync (in this example I use the Roland S-1) and plug a minijack cable from the “sync out” port of the Roland S-1 into the “sync in” of a groovebox (in this example I use the Volca Keys). If I want to continue the chain and sync another groovebox I plug another minijack cable from the “sync out” port of the Volca Keys into the “sync in” of the next groovebox (in this example I used the Volca FM). Linking one piece of hardware to another and then to another is an example of “Daisy Chaining”. The Roland S-1 is sending tempo information to the Volca Keys and the Volca Keys is continuing that tempo information down the chain to the Volca FM therefore they can all play in time together. ****NOTE**** when syncing via CV you will have to press each “play” button on each groovebox individually.



MIDI Sync: MIDI is how I typically sync all of my hardware. Unlike the CV sync in & out options on the Volcas and the S-1, many grooveboxes only have a MIDI as their sync option. Some budget grooveboxes only have a “MIDI IN” port so they can receive MIDI data but they can’t send it. To sync them all together I will use the Elektron Model:Cycles because it has a “MIDI OUT” port which means that it can send tempo information to the other grooveboxes. ****NOTE**** MIDI can send all types of information, but for this zine I will just focus on tempo information. To learn more about MIDI check out - <https://musicianshq.com/a-beginners-guide-to-midi/> . To sync my Volca Keys to my Model:Cycles I plug a MIDI cord from the “MIDI OUT” port of the Model:Cycles into the “MIDI IN” port of the Volca Keys. Now the Model:Cycles is sending tempo information to the Volca Keys so they can play in time together. A benefit of MIDI over CV is that I can start playing both pieces of gear just by pressing “play” on the Model:Cycles. Pressing play will send a signal to the Volca Keys to play at the same time.

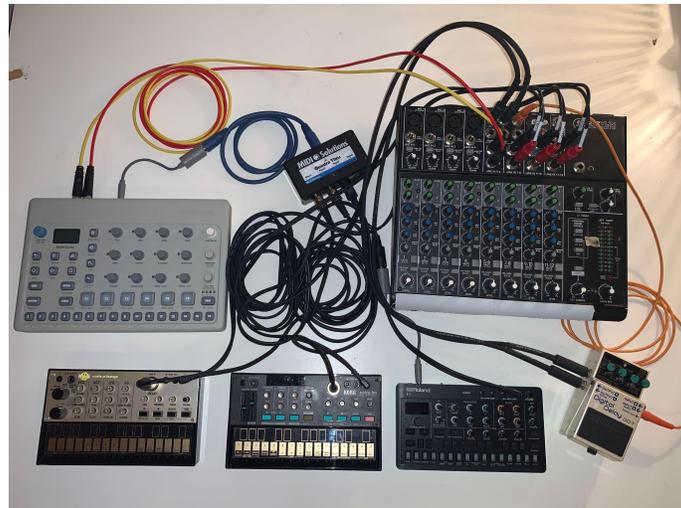


MIDI Thru Box

If I wanted to sync more of these grooveboxes together then I would use something like a “MIDI THRU” box which would allow me to take one MIDI signal and duplicate the signal across 4 ports. For syncing this would mean the MIDI Thru Box would receive the tempo information from the master sync and send the same tempo information through all 4 ports. This is by no means the only MIDI solution to sync more gear together, but it’s what I use the most in my studio.

Example Set-up

For years and years I slowly built-up my studio. Some hardware doesn’t stay long, others I hold onto and never let go. It’s fun to pick up pieces and figure out how to include them in your set-up and ultimately discover their purpose. I figured before my final thoughts I’d show an example of hooking up all the grooveboxes and talk through my choices so you can get an idea of different set-ups.



I am (mostly) a dance producer, so drums are always a core of my set-up. For this I will use my Model:Cycles as my master groovebox. It will set the tempo for everything else and be the master sync. With this set-up I will sync everything with MIDI so that I can press “play” on the master groovebox and everything else will launch at the same time. To link everything together I will use my “MIDI Thru Box” to connect everything. To do that I have a MIDI cord running from the “MIDI OUT” port on the Model:Cycles to the “MIDI IN” port on the MIDI Thru Box, then connect MIDI cords from each “MIDI THRU” into each other box. Each groovebox then has audio running from their audio outputs into different channels on the mixer. And then for extra fun I have a delay pedal connected to one of the “Send / Return” channels on the mixer so that I can “send” audio signals from different channels into the delay and back out to the master mix. With this set-up I could use the Model:Cycles as my drum synth, the Roland S-1 for my lead, the Korg Volca FM for my bass, and my Korg Volca Keys as my acid line!

Final Thoughts

I think I started making electronic music and bought my first piece of hardware around 2001/2002. At the time, myself and my friends were only learning on hardware (a couple years later we started working in DAWs on the computer). My very first piece was my Korg Electribe ER-1, which as it turns out, is a groovebox. It's technically the drum machine from Korg's Electribe line of equipment, but it had 4 analog voices that could shape a number of ways to create more than just percussion sounds. Playing with it taught me a lot about sound synthesis but it also kind of set-up my producer brain to be based around sequencers. I love playing synths, but I am not a classically-trained keyboard player by any means (thank the Goddess for MIDI and sequencers because without it I wouldn't be making music lol). Grooveboxes opened up a world of creation that I wouldn't have had access to with traditional instruments. Letting a sequence play and slowly adjusting different parameters taught me about different waveforms, envelopes, filters, and how to sync FX.

Grooveboxes also offer creative mistakes for me. I find my music production in DAWs to be pretty deliberate at this point (I've been using Ableton Live for 18 years now) and a piece of hardware will let me mess around with a bunch of parameters faster and make things happen to sequences that I didn't expect or plan for. Jamming on these boxes also just lets me quickly start making music for myself. I rarely save and record sequences; a lot of time in my studio is just playing around with hardware to *play* without worrying about capturing everything. Grooveboxes have let me create songs live that disappear into the ether after the set is done which I love. It creates special moments that live only in memory. In a world where so much is recorded and preserved it can be nice to just make something for yourself that will only live in that moment. Ideas come and go and it's ok to not save them all.



I hope this zine gets you excited about playing with these tools. Hardware is only as limited as you make it; so try everything, use hardware for unintended reasons, play with lots of knobs, and have fun.

Xoxo Maya