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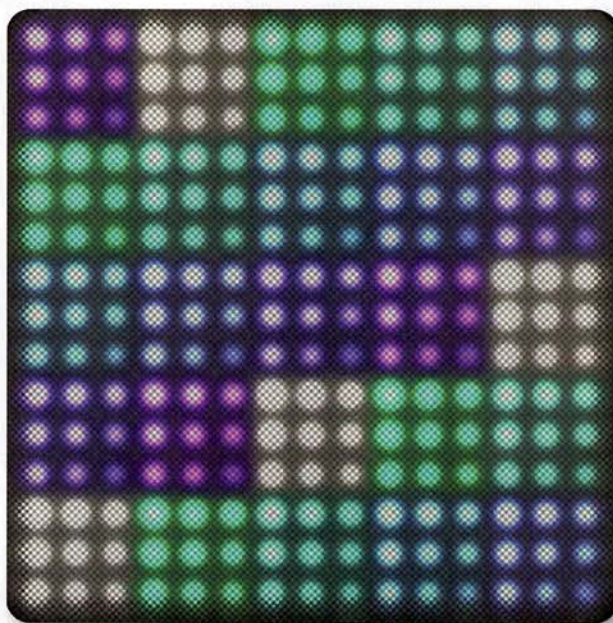


Fig. 1. The Lightpad Block is a polyphonic multidimensional controller that senses five performance gestures.

Blocks

THIS FUTURISTIC INSTRUMENT IS A BLAST TO PLAY AND THE PRICE IS RIGHT

BY GEARY YELTON

One of the most exciting trends in instrument design is the rise of polyphonic multidimensional controllers (PMCs)—performance hardware that supports Multidimensional Polyphonic Expression (MPE) within MIDI. These include the Roli Seaboard, Haken Continuum, and Roger Linn Design LinnStrument, among others. PMCs typically give each finger independent and simultaneous control of expressive parameters using a variety of gestures, as well as the ability to reconfigure how pitches are arranged on their playing surfaces.

Roli Blocks is both a PMC and a mobile music-performance and production system. It is modular in that it comprises different components, including three Blocks and an app that runs on the most iPads and iPhones. The system is extensible in several ways, from adding new components and content to controlling software and hardware outside Roli's ecosystem.

ONCE AROUND THE BLOCK

Currently, Blocks comprises the Lightpad Block, Live Block, Loop Block, and the free iOS synthesizer app Noise. Each Block contains a lithium polymer battery. The Lightpad Block has a USB-C receptacle for MIDI over USB and charging, and it comes with an adapter cable that ensures compatibility with most computers and chargers (see Figure 1). Using a standard 12W iPad charger, it takes about three full hours to charge the Lightpad Block fully, giving you at least four hours of battery life.

Individual Blocks can interconnect using DNA Connectors, unique 6-pin connectors on all sides of each Block. The six pins carry power and data for the entire system, and because they're magnetic,

they stick when you place them close together. DNA Connectors let you arrange the Blocks however you like, but with Bluetooth enabled, they don't need to touch to communicate.

The Lightpad Block is the core of the system, and it's the only essential hardware component. Its firm but flexible touch-surface looks like solid silicone rubber until you switch it on to reveal a 15 x 15 grid of illuminated LEDs. It's cool to power up

an object resembling the black, featureless monolith from *2001: A Space Odyssey* and have it spring to life in your hands with flowing, pulsating lights.

The Lightpad Block responds to the same five finger gestures as the Seaboard: Strike (velocity), Press (aftertouch), Glide (left and right motion), Slide (forward and back motion), and Lift (release velocity). You perform by tapping, pressing, and stroking the surface, much as you would with any PMC. You can do a lot with a single unit, but you may eventually want additional Lightpad Blocks for greater flexibility.

NOISE IN THE ATTIC

Noise is Blocks' sound engine, and it also works with the Seaboard Rise. You don't need Blocks to play Noise directly on your iPad or iPhone display, though, assuming you can live without velocity or aftertouch (see Figure 2). The app has two views you swipe vertically to switch between: Instrument View for recording and playing one loop at a time; and Song View for organizing and playing multiple loops.

In Instrument View, each preset divides the iOS display into a grid of colored squares called pads.

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STRENGTHS

Easily the most affordable, polyphonic multidimensional controller. Very portable. Well-designed sounds. Allows you to start with a minimal system and expand later. Compatible with third-party software.

LIMITATIONS

Synthesis engine is iOS only. Can't customize instrument presets. Can't record loops into songs. Three hours of charging for four hours of use.

Lightpad Block \$180
Live Block \$80
Loop Block \$80
roli.com

With the Lightpad Block connected, that grid is duplicated in the LEDs on its surface. Pressing a pad makes it brighter and triggers a sound. When you move your fingertip horizontally or vertically, an illuminated trail follows your movement.

Instrument View displays Solo Instruments and Multi Instruments. Solo Instruments range from analog and FM synths to acoustic instrument sounds. Multi Instruments comprise Drum Kits containing individual percussion hits and Groove Kits containing looped, tempo-synced patterns. Multi Instruments have either 4 or 16 pads.

Although Noise comes with only a small assortment of presets, you can download additional content for free after installation, bringing the total to more than 100 presets. Regrettably, presets are immutable and can't be edited.

Solo Instruments have five rows of five pads arranged chromatically by default, with the root pitch on the lower-left pad and higher pitches from left to right and continuing on the row above. Colors indicate intervals in relation to the root, with one color for octaves, another for fifths, and so on. The Scale button configures the pads to play one of 19 scales or modes, and the Chord button configures them to play a chord with each pad, with 14 chord values to choose from.

The Arp button enables an arpeggiator with seven patterns and selections for note value, octave, and gate length. Additional buttons let you record and play parts, sustain notes, change tempo

and enable a metronome, and transpose over a six-octave range.

Typically, swiping up or down on a pad bends pitch or plays drum rolls, but the way Noise responds to gestures depends on the preset. When you play Breath Flute, for example, pressing and then swiping up simulates overblowing, and swiping down simulates flutter tonguing. On other patches, swiping up and down may open and close a lowpass filter.

Each preset features a recorded phrase that demonstrates how to play it expressively. When you tap the Learn button, Noise plays the phrase once, and the pads display illuminated trails you can trace with your fingertip. I wish it were possible to change tempo in Learn mode, because some parts play too quickly to see and hear exactly how to duplicate it.

NOISE ORDINANCE

Song View offers a type of live clip sequencing. It displays three 4 x 4 grids of empty squares, or Slots. Each Slot is a container for one loop. Each grid's top four squares are for Multi Instruments, and the remaining squares are for Solo Instruments. Play, Click (metronome), Snap (quantize), and Volume buttons appear at the top.

To record a loop, you select a Slot, return to Instrument View, choose a preset, tap Record to enable loop-style recording, and play. The loop you record will appear in the selected slot in Song View, and you can play it back by tapping on it. It will continue looping until you tap it again. Repeat this process until you've captured as many loops as you need. Once complete, performing a song is a matter of launching loops in whatever order you like. Surprisingly, though, you can't capture your performances in Song View.

You can add content to Noise with in-app purchases. Expansion sounds are bundled into Soundpacks, each with an assortment of presets that fit specific genres. Five optional Soundpacks are currently available, created by sound designers that include electro house musician Steve Aoki, Wu-Tang Clan rapper and producer RZA, and in-house synthesists at Roli.

BONUS BLOCKS

All you need for a basic system is a Lightpad Block and Noise. Two additional Blocks, the Live Block and Loop Block, are optional (see Figure 3). Both are half the size of the Lightpad Block and have ten buttons. The Mode button turns the Block on and off and cycles through Noise's four instrument slots. You change presets with the plus and minus buttons. A strip of 15 LEDs helps you keep track of locations within loops and battery level.

The Live Block lets you easily access functions you'll use most often for performance and includes buttons for switching scales, sustaining notes, playing chords and arpeggios, and transposing by octaves. Another button marks the current



Fig. 3. Loop Block and Live Block attach magnetically to the Lightpad Block.

preset as a favorite.

The Loop Block furnishes buttons for setting tempo and recording, looping, quantizing, and layering sounds. Other controls duplicate buttons in Noise such as Learn, Snap, and Undo. The advantage of both optional blocks is that you can position them however you like and keep your hands off your iOS device.

BEYOND NOISE

Connecting to your computer lets you use Blocks with MPE-compatible software such as Roli Equator, UVI Falcon, and Logic Pro X's native soft synths. In addition, Blocks owners are entitled to a free 3-month license for Cycling '74 Max, and you can download and install Blocks Objects from Max's Package Manager.

Just days after this review goes to press, Roli expects to release Blocks Dashboard, an application that turns the Lightpad Block into an open-source PMC for Mac and Windows software. You can customize its preprogrammed scripts to control DAWs, software instruments, and more using Lightpad's illuminated surface. The initial version will furnish preprogrammed scripts for Ableton Live, Logic Pro X, Bitwig Studio, and Cubase, as well as software instruments such as Native Instruments Kontakt and Spectrasonics Omnisphere. You'll be able to customize your Blocks by editing factory script parameters and writing your own scripts, too.

BE THE FIRST KID ON YOUR BLOCK

Developing Blocks is a stunning achievement, if only because it so radically brings down the price of admission to the world of polyphonic multidimensional controllers. When you consider that a single Lightpad Block is a versatile, 25-note, MPE-compatible controller for less than one-quarter the cost of a 25-note Seaboard Rise, perhaps you'll appreciate just what Roli has achieved.

Like any musical instrument, especially PMCs, Blocks requires practice to master. Roli's online videos make it look easy, but if you're determined to learn, you'll need to do the work. It's obviously a work in progress, but Blocks is an instrument for our times, and I look forward to watching the platform develop further. ■



Fig. 2. The free iOS app Noise serves as Blocks' synthesis engine.