Who is Keith McMillen

Hi. I am Keith McMillen and have been designing musical instruments for 35 years. I am responsible for the electric violin (Zeta Music), first programmable audio mixer and router (AKAI MPX820 and MB76), Mirror 6 MIDI Guitar, SoftStep 3D foot controller, K-Bow Bluetooth sensor bow, QuNeo 3D pad controller and the QuNexus & K-Board keyboards, among other things. These were all instruments I wanted. Actually, I needed. I really want to advance us to a 21st century music. This requires new instruments and technology. Most of what we design is hard to do but we keep getting better at it.

We have the opportunity to make the 1st new music of this century. It is amazing how many musical revolutions have happened at the beginning of centuries. My love of electronic music started when I was 11 and got a copy of Switched on Bach. Having heard most worldly sounds by that age, it was shocking – in a good way. After that I started hearing synths everywhere, until they really were everywhere. And then I got bored.

While the sound of synthesis is remarkable, the subtlety and nuance of tight performance control was missing. And traveling with electronic instruments was a real nuisance. What a shame. But we are fixing this.

I also want to have instruments networked so they can influence the players, the score, and each other. Acoustic instruments “network” by blending in the air. Electronic instruments can “blend” at the network control level, live on stage. What can this sound like? I really want to know.

KMI exists because I am lucky enough to have gathered an incredible crew of talented, like minded people. Everyone at KMI is a musician and thinks/ works/ cares about new instruments and how they can influence and help today’s artists make tomorrow’s music.

Please look around this catalog and our site, check out our instruments and videos and hear what artists are doing and saying. You’ll likely discover that no one is innovating like we are.

Thanks – Keith

What is SmartFabric™ Technology

SmartFabric™ Technology is exclusive to Keith McMillen Instruments and is what allows our products to be highly expressive, thin, light, portable, and different from all others. SmartFabric™ begins as a non-woven nylon polyester fabric that receives a coating of carbon nanoparticles giving the fabric conductive properties that change as pressure is applied. We then sandwich this conductive fabric layer between a tough yet smooth silicone outer skin and an internal bed of electronic traces. When voltage is applied and the outer skin is touched, proprietary algorithms interpret the voltage differences received into extremely precise pressure and location data. SmartFabric™ Technology has a much higher dynamic range than traditional types of sensors, and with no moving parts, our instruments are highly durable to the point of being practically indestructible.
K-Board Pro 4
The Expressive Smart Sensor MPE Keyboard Controller for the Future of Music

K-Board Pro 4 is a four-octave, highly expressive MPE keyboard that represents the next generation of keyboard controller from Keith McMillen Instruments. K-Board Pro 4 was designed specifically to take full advantage of the possibilities available within the new MPE MIDI standard while allowing you to play an instrument that does not require you to relearn or change your traditional keyboard technique in any way. Our SmartFabric™ Technology allows each key to independently output 5 dimensions of touch sensitive control - Attack Velocity, Continuous Pressure, X-axis, Y-axis, and Release Velocity. With MPE (MIDI Polyphonic Expression), this per-key data can be mapped to any parameter including vibrato, brightness or timbre, allowing you to play in real-time with the expressiveness you would only expect from an acoustic instrument. The possibilities for K-Board Pro 4 are truly endless. Four touch-sensitive sliders above the keys can be mapped to anything and offer rapid access to parameters like octave, vibrato depth, or preset. K-Board Pro 4 is equally at home with the latest MPE compatible software synth or connected to your favorite classic hardware synth. K-Board Pro 4 is built road-ready and like other KMI products, K-Board Pro 4 is practically unbreakable.

Position Sensitive Key Data
Each key on K-Board Pro 4 sends 5 independent dimensions of control. With MPE MIDI, this data can be mapped to any number of uses like filter changes as your finger glides up a key or true vibrato as you wiggle your finger.

Touch Sensitive Sliders
K-Board Pro 4 features four large slider strips above the key area that can be mapped to any parameter you choose for quick access. Embedded LED’s under each slider provide great visual feedback on the amount or position of the parameter.

Software Editor
Web based software and a standalone MacOS, Windows app allow you to set parameters, presets, and fully control the performance benefits of K-Board Pro 4.

“With K-Board Pro 4, we’ve taken the traditional keyboard format and updated it for the 21st century. With our SmartFabric™ Sensors underneath each key you can tweak any synthesis parameter in real time by moving your finger while you are playing. MIDI MPE is the future for expressive controllers and we have designed the K-Board Pro 4 to be the ultimate MPE Controller.”
- Keith McMillen

“I’m excited that KMI are bringing out the K-Board Pro 4, further expanding the next generation of expressive keyboard instruments! It’s a joy to play and their expertise in the field of sensor technology and delivering great musical products makes this instrument a guaranteed winner!”
- Jordan Rudess
K-Mix is an unbreakable 8-in/10-out audio interface, programmable mixer, and control surface. We've made super clean audio more accessible so you can focus on the music. This is a next-generation audio multi-tool that can meet all your needs as an artist, whether you're in the studio or on the road. K-Mix features 2 ultra-accurate, high-efficiency, low noise µPre preamps, and a precision opto-tactile control surface designed from the ground up for an unprecedented level of control. With no moving parts, K-Mix can be transported in a backpack without the fear of snapping off a fader or knob, while still giving you unrivaled audio quality, mixer functionality and control.

“I needed a very special mixer that did not exist - a fully programmable MIDI controlled ultra high quality portable mixer. To play live in a group without a sound-man, not having a mixer that could do all of this was heart breaking. K-Mix had to be capable of tying all of my needs together, from live inputs to USB interfaces, and operate as a fully programmable stage mixer.”

- Keith McMillen

“It’s an entire console in the smallest, most portable package ever.”

- Joe Chiccarelli

3X Grammy Winning Engineer
The World’s Most Expressive Drum Pad Controller

BopPad is an highly expressive electronic drum pad for drummers, percussionists and producers featuring KMI’s exclusive SmartFabric™ Sensor Technology. A vast departure from the limitations of strike only standard piezo based pads, BopPad provides extremely accurate hit detection (with latency under 3ms!), plus velocity, continuous radius, and pressure detection. BopPad can be as simple or as complex as your needs require. If you need a single zone stick based pad, BopPad is superior to any pad you will find. But the true power of BopPad is in it’s four independently programmable zones, each of which can output up to 6 MIDI notes, velocity, pitch bend, pressure, and location CCs. An included Mac/PC app plus a browser based online configurator allow you to fully control every aspect, option, and parameter. BopPad is super thin, practically indestructible, and constructed with a robust tuned elastomer surface covering a 8.5” circle of our patented SmartFabric™ Sensor Technology. BopPad’s extremely wide dynamic range measures strike velocity from the softest hand drumming to the most brutal stick based percussive assault. This gives BopPad a traditional feel as you explore a completely new dimension of expressivity.

“I started KMI to provide modern musicians with expressive and versatile instruments at a decent price. The BopPad is the ultimate drum pad controller. Whether you play with hands, sticks, or mallets, it provides you with a thrilling amount of control and flexibility.”
- Keith McMillen

“I’ve been wanting a piece of gear like this for the longest time. BopPad does more for me than anything else on the market.”
- Zach Danziger
(multimedia drummer, Edit Bunker)

Expressive
Versatile
Road Proof

Whether you use hands, sticks, or mallets, BopPad is the most expressive and configurable pad you will ever play.

Use a BopPad to practice, perform or compose or add 1 or more BopPad’s into any drum or percussion set-up.

KMI’s exclusive SmartFabric™ Technology allows BopPad to be amazingly thin, portable and virtually indestructible.
QuNexus is the most versatile keyboard we could dream up. Equal parts portable and powerful, QuNexus delivers professional sound and connectivity, while providing enough durability to survive whatever the road may throw your way. Designed for music-makers, by music-makers, QuNexus offers you everything you want out of a keyboard now, and anything you can imagine in the future. Highly programmable and customizable, QuNexus connects to every electronic instrument and software package in your studio, as well as all of your CV controlled analog synthesizers. With 25 LED back-lit keys, each with pressure and tilt sensitivity, a pitch bend pad, octave up/down plus 5 programmable function keys, QuNexus is the toughest, smartest keyboard on the market today.

“For a compact MIDI/CV controller, the QuNexus reaches for superlatives both in build quality and flexibility. Decidedly not your average mini-keyboard, the QuNexus integrates with more gear before 6 a.m. than most MIDI products do all day.”
- Electronic Musician Magazine (Editor’s Choice Award Winner)

25 Smart Sensor Keys
QuNexus features 25 keys powered by KMI’s exclusive SmartFabric™ Technology to easily detect gestures like pressure and tilt.

MIDI, CV Control
USB. MIDI. CV. QuNexus was designed to connect to and from most any gear in your studio. For MIDI to CV our optional cable kit makes this easy.

CV Cable Kit
Finding the right adapters can be a pain, but we’ve assembled an optional kit for QuNexus with all the cables and adapters needed to convert MIDI to CV and vice versa.

MIDI Expander
Need 5-pin DIN MIDI for legacy devices, no problem. The KMI MIDI Expander enables communication between KMI controllers and MIDI hardware devices via 5-pin DIN MIDI. MIDI expander also powers your KMI controller and enables standalone use without a computer. Includes a 2m A to B USB cable, power plug, and a 5 meter A to B mini USB cable. MIDI Expander is not a universal MIDI converter and is designed to only be compatible with KMI products.

*MIDI Expander works with all KMI controllers except K-Board.

“QuNexus is pretty much indestructible, it is tiny and lightweight, and still meets my requirement to never need to be checked as baggage. Making the keyboard was really pretty tricky but we were able to get pressure and tilt into a super fast keyboard style controller. Independent bend per key? You bet.”
- Keith McMillen

QuNexus is plug & play and easily connects to iOS, Android, Mac OS, and Windows based devices.

IOS Compatible

Model #K701

Model #K708

Model #K708CK

Model #K708BCK
The Perfect Portable Keyboard for Making Music Anywhere

K-Board is your key to quick and easy music production, either at home or on the go. This small, lightweight plug and play USB MIDI keyboard is exceptionally affordable, highly durable, and deeply expressive. K-Board has the brains to match its brawn. It is tough enough to take whatever abuse you can throw its way, yet smart enough to sense even the most subtle gestural controls. K-Board can unleash your creativity in so many ways while keeping pace with your on-the-go lifestyle. You can experiment with the touch-sensitive keys to shape expressive sounds like vibrato that are based on the pressure and tilt of your fingers or disable these features all together for a more traditional keyboard experience. When you are finished creating, just throw K-Board in a backpack and take it anywhere. Tested to survive spills and tough falls, K-Board is the smart, creative and road-proof instrument that everyone can afford.

“I’m constantly amazed by the products evolving from the ether. Keith McMillen Instruments are at the top of the pile!”
- Rik Simpson
(Grammy Award-winning producer)

“We wanted to make an expressive, fun keyboard that would delight beginners and experts alike. K-Board is durable, easy to play and works with everything. I think the KMI team has hit it out of the park with K-Board.”
- Keith McMillen

• 25 Smart Sensor Keys
• Pressure, Velocity, and Tilt sensors for gestural control
• Pitch Bend and Octave Buttons
• Toggle and Sustain button modes
• Plug-and-play Class-Compliant MIDI
• USB Powered
• Works with Mac, Windows, iOS, and Android
• Downloadable K-Board Editor
• 12.8”x3.3”x0.43”, 0.76 lbs

K-Board Just Works!
K-Board Editor is a free downloadable application available for Mac, PC, and all iOS devices. K-Board Editor allows you to control of MIDI, sensitivity and range parameters for a variety of K-Board functions enabling you to custom configure K-Board to your exact playing style.

K-Board Editor

Just plug K-Board into any computer, tablet or mobile device, with any music software and start making music right out of the box. It’s that simple. K-Board features 25 LED back-lit keys plus control keys for Tilt, Pressure, Sustain, Toggle and Velocity along with a pitch bend key and octave selectors. All keys are powered by KMI’s exclusive SmartFabric™ Technology. These features give K-Board class-leading performance and creative expression combined with the power to control any music software imaginable, anytime and anywhere.
SoftStep 2

The Expressive Foot Controller for Anything MIDI

Pedalboards used to be the sole domain of guitarists and bassists, but with SoftStep 2, anyone needing to control all things MIDI with their feet is about to experience a generational leap far beyond what any traditional pedalboard can offer. SoftStep 2 features 10 gesture-sensitive pads that can change parameters based upon both the pressure, tilt and position of your foot. These gesture-sensitive pads provide extreme precision and also allow you to enjoy a new level of expression with all your foot controls. SoftStep 2 is capable of sending up to 6 notes, CC, and Program Change messages per pad and can also control 5-pin MIDI hardware without a computer using the KMI MIDI Expander (sold separately). SoftStep 2 provides excellent visual feedback from its back-lit keys, status-indicating LED’s, and a programmable alphanumeric display and the entire unit is powered solely by its USB connection.

“I can’t imagine any modern musician who wouldn’t benefit from KMI SoftStep... SoftStep gets my unreserved highest recommendation.”
- Electronic Musician Magazine

- 10 Smart Sensor Pads plus 1 Nav Pad
- All pads offer expression with pressure and X/Y location sensitivity
- Optional Expression Pedal Input
- USB Powered
- Rugged Carbon Fiber and Silicone Construction
- Plug and Play Class-Compliant MIDI
- Brilliantly Backlit Keys, Indicator LEDs, & Alphanumeric Display
- 5 PIN DIN compatible with optional KMI MIDI Expander
- Companion Editor Software for Mac and Windows
- 17.7” X 4.1” X 0.94”, 1.3lbs

Designed around KMI’s proprietary SmartFabric™ Technology, SoftStep 2 is virtually unbreakable, extremely thin, portable and lightweight. This highly programmable MIDI foot controller gives you unmatched connectivity and control to all parts of your rig. Guitarists, bassists, keyboard players, DJ’s, programmers, techs, and solo performers are just a few of the many artists that can benefit from SoftStep 2. Run tracks and clips from the stage, control hardware, scenes, effects, amp modelers and profilers, transport control, and performance software. There is truly a limitless array of uses for SoftStep 2. If it has MIDI, it’s time to add expression and gain full control using SoftStep 2.

“I came up with the idea of a lightweight, powerful, and highly programmable foot controller that could replace pedals and sliders and give me total control, and it would fit in my pocket. If you need two hands to play your instrument you need a SoftStep.”
- Keith McMillen

With SoftStep 2 you can choose either a Basic or an Advanced editor. The Basic Editor covers the most common functions most will use while the Advanced Editor allows a deep dive into the most complicated set-ups you care to configure.
12 Step

Foot Controlled Chromatic Keyboard for Notes, Chords & More

12 Step is a unique MIDI foot controller designed around a one octave keyboard layout and provides a world of new performance options. 12 Step’s keys can output up to 5 notes each and features KMI’s exclusive SmartFabric™ technology that responds to the velocity, pressure and tilt of your foot. This allows you to not only play notes, but add expression to your performance through pitch bend, polyphonic after-touch or any other MIDI CC value available. 12 Step is perfect for playing bass lines, full chords, triggering clips, backing tracks, synth parts, or any other musical accents that fit your style. Multiple performance modes allow you to choose how the keys react to touch and 12 Step’s back-lit keys, status LED’s and digital readout ensure you maintain full control even on pitch black stages. No matter what instrument you play, when it’s time to take performance to the next level - it’s time to add a 12 Step.

SoftStep 2 or 12 Step, How do they compare

<table>
<thead>
<tr>
<th>Feature</th>
<th>SoftStep 2</th>
<th>12 Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note Messages</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Melodic Note Playability</td>
<td>Limited</td>
<td>Excellent, 5 notes per key</td>
</tr>
<tr>
<td>Octave Shifting</td>
<td>No</td>
<td>Global, per preset, not per key</td>
</tr>
<tr>
<td>Velocity Sensitivity</td>
<td>Yes</td>
<td>Global, per preset, not per key</td>
</tr>
<tr>
<td>Program Change</td>
<td>Available on each key</td>
<td>Available on each key</td>
</tr>
<tr>
<td>Continuous Control</td>
<td>Yes</td>
<td>Global, per preset, not per key</td>
</tr>
<tr>
<td>HUI, MMC, Transport Control</td>
<td>Yes</td>
<td>Available on each key</td>
</tr>
<tr>
<td>OSC</td>
<td>Yes</td>
<td>10</td>
</tr>
<tr>
<td>Playable Keys</td>
<td>Yes</td>
<td>4 Way Nav Pad</td>
</tr>
<tr>
<td>Navigation Keys</td>
<td>Yes</td>
<td>1 Select button</td>
</tr>
<tr>
<td>Key X (Left-Right) sensor</td>
<td>Yes</td>
<td>13, Chromatic Layout</td>
</tr>
<tr>
<td>Key Y (Up-Down) sensor</td>
<td>Yes</td>
<td>1 Select button</td>
</tr>
<tr>
<td>Key Pressure sensor</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Poly Aftertouch</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Customizable LEDs</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Programmable Display</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Standalone Mode</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Hosted Mode</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Editor</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Outputs per key</td>
<td>6 total on any channel</td>
<td>5 notes on 2 channels</td>
</tr>
<tr>
<td>Weight</td>
<td>1.3 lbs</td>
<td>1.3 lbs</td>
</tr>
<tr>
<td>Size</td>
<td>17.5” x 4.2” x 1”</td>
<td>17.5” x 4.2” x 1”</td>
</tr>
<tr>
<td>MIDI Expander Compatible</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Light, thin and extremely portable

Thin, lightweight and durable by design, 12 Step has been tested to survive spills, 2-story falls, and being run over by a van. 12 Step offers a single USB connection that allows it to connect to almost anything including Mac, Windows and is plug and play with your iPad and iOS devices.

MIDI Expander to control 5 pin DIN

If you need to communicate and control legacy 5 pin DIN hardware with 12 Step, the optional MIDI Expander from KMI is the answer. See page 8 for more info.

“If you’re looking for a USB/MIDI foot controller that’s supremely portable, flexible, visible, and reliable, your search is over.”
- Keyboard Magazine

“If 12 Step takes cues from the successful design of SoftStep which uses smart fabric to bring the subtle control of notes to its knees. Actually even lower. You can easily program up to 5 note chords with velocity, pressure, and even bend. Or you could just use the 12 Step to send triggers to make stuff happen.”
- Keith McMillen
QuNeo offers an exciting breakthrough in pad controller design and has become a must-have for musicians looking to get the absolute best performance possible out of a pad controller.

On the surface, QuNeo might seem very familiar with its traditional 4×4 pad array, well-placed sliders, transport buttons, and rotary controls. But just below the surface, our exclusive SmartFabric™ Technology takes the true performance of QuNeo far beyond traditional by adding the power of touch recognition in multiple dimensions. A SmartFabric™ sensor layer under each pad allows QuNeo to precisely interpret even the most subtle shift in velocity, pressure, and finger position. While in drum mode, each pad provides note, pressure, and X-Y data, but a quick change to grid mode allows the four corners of each pad to send different notes and pressure for a total of 64 points of contact on 16 pads. QuNeo is simple to use, yet programmable beyond imagination and will completely liberate your creative experience no matter how you choose to work. To match QuNeo’s next level, dynamic playability, 251 programmable LED’s provide stunning visual feedback. The LED’s can be set to offer local control, where touch determines LED behavior, remote control, where external CC data sent to QuNeo controls the LED’s, or both simultaneously. QuNeo truly brings the creative process off the screen and into your hands.

USB powered and lightweight, yet durable enough to tumble around in your backpack. QuNeo’s portability allows you to capture creativity when and wherever it strikes. You can now create and perform when you want, how you want, and where you want. QuNeo is also supremely road-proof. We’ve spilled drinks on it, dropped it onto cement from two stories up, and even ran it over with a tour van. With no moving parts, QuNeo is practically unbreakable.

Pretsets and the QuNeo Editor
There are a variety of preconfigured QuNeo templates for the most popular software instruments, DAW’s and live performance apps and QuNeo Editor is a free downloadable application available for Mac and PC that also allows you to edit and create your own QuNeo presets.

“I really like the idea of small powerful instruments, so I decided that the iPad format was totally acceptable as a guide. The entire concept and layout was done on a 4th of July weekend. Getting it all to behave flawlessly took another year.”
- Keith McMillen

“I am totally loving the QuNeo controller. Just amazing how versatile and gestural this controller is.”
- Richard Devine

Control software, hardware and anything MIDI
QuNeo works with USB, MIDI or OSC and will communicate with your favorite music software environments and hardware right out of the box.

QuNeo
A Cutting Edge, Uniquely Different Pad Controller for Electronic Musicians, VJs and DIY Hackers

- 16 pads with velocity, pressure, and location (X/Y) sensitivity
- 8 pressure-sensitive touch sliders
- 1 long pressure-sensitive multi-touch slider
- 2 pressure-sensitive rotary encoders
- 17 pressure-sensitive buttons
- 251 programmable LED’s
- USB Powered, micro USB connection
- Plug and Play Class Compliant MIDI
- 5 PIN DIN compatible with optional KMI MIDI Expander
- Works with Mac, Windows, IOS and Android
- Companion Editor Software for Mac and Windows
- 9.5” X 7.3” X 0.3”, 0.85lbs

Model #K707