

# The HAMMOND® XK-5

“The New Original”



**HAMMOND**  
THE SOUND THE SOUL THE ONE

## XK5 Heritage Series Model Options



XK5 Single Manual

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### XK5 Heritage Pro System

- XK5, XLK5 lower manual, new Pro Bench (BK), new Pro Stand (BK)
  - XPK250BK Pedalboard (option, not shown)
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### Model A3 Heritage System

- XK5, A3 lower manual (RW), new A3 Bench (RW), new A3 Stand (RW)
  - XPK250W Pedalboard (option)
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## HAMMOND® XK-5

“THE NEW ORIGINAL”

The HAMMOND B-3™ organ and its siblings such as the C-3™ and A-100™ have been the single most influential keyboard instruments in musical history, perhaps apart from the acoustic piano. When paired with the spinning Leslie® speaker, the HAMMOND’s sonic versatility defined the electrified keyboard sound of genres from rock to soul to Gospel to jazz. This sound is as sought after today as ever.

With the **XK-5** and **Heritage Series**, HAMMOND is proud to announce that we’ve closed the final millimeters of the realism gap—in terms of both sound and feel—in a form factor that’s far more portable and affordable than a vintage Hammond organ. We are very proud of this instrument for providing an absolutely authentic playing experience that will meet the demands of even the most seasoned B-3 purist. Frankly, we feel it has no peer among today’s keyboard offerings.

*“It’s very important to feel comfortable sitting at the organ. Sometimes I play an organ and it doesn’t feel like what I’m used to. First of all, [The XK-5] feels like a B-3, just sitting at it.” – Dr. Lonnie Smith, legendary jazz organist*



*“It’s a Hammond B3! That’s what most of us want in essence. But to be able to go beyond that and have all these incredible adjustments ... I’m in love!” – Chuck Leavell (The Rolling Stones)*

Let’s face it: Moving and maintaining an antique Hammond will only become more difficult as time passes. Of course we have tons of respect for anyone who does, but to get all of the sound with none of the hassle, let’s learn why the XK-5 is destined to become **The New Original™**

### NEW PATENT-PENDING TECHNOLOGIES

The engineering team we’ve dedicated to the Hammond sound for over 30 years went back to the drawing board for nearly everything about the new XK-5, analyzing many classic organs and poring over original diagrams and blueprints that only we possess. Here are some of the biggest new ideas in the new Hammond XK-5.

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**Hybrid Multiple Key Contact System:** On classic Hammonds (and in our current, full-sized New B-3 Mk. II family), pressing a key closes nine mechanical contacts: one for each drawbar. Your ears usually hear the multiple harmonics as one note. Depress a key slowly, however, and you can hear the harmonics come in at slightly different times. Normal playing created a subtle “slop” between otherwise crisp attacks, and the more drawbars you pull out, the more of an almost subliminal but chewy and soulful character it impacts to the sound. One perhaps feels this more than hears it, but seasoned players certainly notice its absence.

You can’t accomplish this with a single MIDI note-on, which is what most of today’s organ and synth key actions use. In the XK-5, we use three mechanical contacts at different points in the keys’ travel. Each of these in turn triggers three virtual contacts, giving you separate “note on” connections for every drawbar frequency in the same manner as the original nine-contact electro-mechanical Hammond® organs. The result is a fingers-to-music connection that perfectly duplicates sitting at a vintage B while saving on weight and cost. Plus, the time-spread between these “note ons” is programmable, as is the order in which you hear the harmonics speak. And since the contacts all receive and transmit MIDI note data, you can capture every harmonic nuance of your performance in your DAW program of choice—to which you can directly connect the XK-5 via USB.



*“The first thing that struck me was the action. I played a big Larry Young chord, and stretching and hitting that top note, it didn’t quite trigger all the way until I really pressed on it. That’s exactly what a B-3 does and what I expect as a B-3 player.” – Jim Alfredson (Organissimo, Janiva Magness)*

(Jim – jamming on the XK5 – ModelA3)

**Completely Redesigned Key-bed:** The XK-5’s keyboard action is built in-house, not sourced from a third-party manufacturer. We designed it to duplicate the heft, bounce, and key dip of a “new old stock” and well-maintained B-3™: No springy synth keys allowed! Master Hammond players who tested early prototypes confirmed that nothing comes closer to the feel and response they expect. Of course it has the “waterfall” key fronts critical to Hammond playing techniques such as palm slides. Play the XK-5 alongside any other modern organ and we’re convinced you’ll find the difference stunning.



*“The feel of the keyboard, it kicks back at you. It’s not dead, and it feels good. See, that’s what we’re looking for!”- Dr. Lonnie Smith*



*“It’s like the feel of what I imagine it must have been like in 1968 when you put your hands on a brand new one. It feels great.”- Chuck Leavell*

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**All-New Sound Engine:** The XK-5 employs new proprietary technology to recreate Hammond’s storied *tone wheel generator* with unprecedented accuracy and flexibility. Tone wheels were spinning discs on shafts, each with its own pickup pointing at the edge. The pattern of “teeth” cut into the edge of the wheel and its rotational speed determined the pitch. Modeling and sampling are combined in an exclusive process to capture the frequencies of all 91 tone wheels found in the original organs, not to mention other important sonic details such as key click, harmonic percussion, vibrato-chorus, and more.

Tone wheel generators have become like rare violins or classic cars: Even though Hammond originally calibrated all instruments that left the factory to sound identical, no two are exactly alike after decades of use. So we’ve extended the programmability of both the overall generator characteristics (such as leakage and cross-talk between pickups) and individual tone wheel behavior (such as the purity of the sine wave) to almost ludicrous depths. In addition to letting you perfectly duplicate different conditions of Hammonds—from showroom-new to road-abused if that’s what you’re going for—there’s the ability to recreate individual organs right down to the model, year, and serial number! Presets will capture the exact tonal qualities of famous artists’ instruments, from jazz great Dr. Lonnie Smith to Chuck Leavell (The Rolling Stones) to Gregg Rolie (Santana, Journey) and more.

**Virtual Matching Transformer:** An often overlooked subtlety of the Hammond sound was that the tone wheels generated tiny voltages that needed to be stepped up, and you could be “drawing on” some of the same wheels at the same time by playing similar notes with similar drawbar settings on both manuals. All signals from the upper, lower, and pedal manuals passed through a *matching transformer* that was intended to even things out before the signal moved on to the preamp and vibrato-chorus scanner. The transformer—a piece of iron with a coil wrapped around it—could “remember” some of its saturation based on how hard it had been working previously, thus affecting new notes played. Physicists call this *hysteresis*. Musically speaking, it affects how much “volume robbing” you hear and adds to what Hammond aficionados think of as the “breathing” quality of the organ. (The phenomenon is similar to why some recording engineers like transformer-equipped microphones and/or preamps for certain sounds.) In the XK-5, the matching transformer and its place in the signal chain is modeled precisely, and the saturation and hysteresis amounts are adjustable from barely-there to over-the-top. Like we said, we’re closing the final few millimeters of the realism gap.

## MORE FEATURES

We didn’t stop there. Just a few of the XK-5’s more than 50 innovations and features include:

- Four full sets of Harmonic Drawbars plus pedal drawbars, just like on original Hammond console organs including the B-3.
- 12 additional virtual tone wheels are devoted to harmonically complex pedal tones (*i.e.* more than just 16’ and 8’ sine waves), as found on Hammonds beginning in 1945.
- Custom tone wheel profiles available via download.
- Our best-ever Digital Leslie effect. Anything else is just a “rotary simulator.”
- Continuously variable Digital Leslie speed if desired.

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- Dedicated octave shift / transpose buttons.
- Improved DSP-based overdrive complemented by vacuum tube preamp.
- Improved vibrato-chorus.
- Dedicated on/off buttons and amount knobs for reverb, overdrive, and assignable multi-FX.
- Lower *B* drawbars can alternately control 9 MIDI CC messages for external gear.
- Left and right ¼" outs can be used at the same time as Leslie output, for running the XK-5 through a real Leslie in parallel to stationary speakers, a subwoofer, or house P.A.
- More key-triggering modes for pedal-to-lower coupler (Manual Bass function).
- Firmware updatable via USB flash drive or directly from computer.
- Crisp new OLED display is more readable under different lighting conditions.

Of course we've retained the things that made working with the XK-3C and our compact SK-series keyboards a joy. Hold any button and the first page of parameters most relevant to it comes up in the display—holding the Leslie speed button for Digital Leslie settings, for example. This saves you a ton of menu-diving when customizing your sounds. New patch-naming and copying features also make your housekeeping even easier.

## HERITAGE SERIES OVERVIEW

The single manual XK-5 forms the basis of our new **Heritage Series**, letting you configure as large or as small a system as your gig requires.

For adding flawless and inspiring Hammond organ sound to your existing multi-keyboard rig, simply purchase the XK-5 single-manual unit. It contains all the tone-generating “brains” in case you want to expand later. From here, two systems offer a choice between contemporary or traditional looks for players who require dual manuals and/or pedals.

### XK-5 Pro System

This system is best for touring musicians who carry their own gear but require a full portable B-3.

The new **XLK-5** lower manual uses the same key-bed and multi-contact system. It features the same high-quality cabinetry as the main unit, with vertically extended side panels designed to cradle your XK-5. Remove the existing side panels from the main unit (a quick and simple operation), slide it into place, and you have an integrated dual-manual rig with a seamless appearance.

Jazz players who kick bass can add the **XPK-250** two-octave radiating pedalboard, which includes our new **EXP-250** expression pedal. Though the XK-5 is compatible with previous XK-3 and XK-3C Pro System expansion products such as the XLK-3 lower manual (though you'll only get the multiple key contacts on the XK-5 itself), all the *new* components interconnect via **H-BUS**, our new connector that simplifies setup by carrying both data and power.

Rounding out the options are the open-footprint aluminum Pro stand, which folds for easy carry, and matching bench.

## **Model A-3™**

So named because it looks very much like Laurens Hammond's first organ, the Model A™ he introduced in 1935, the Model A-3 is ideal for installation in a church or nightclub, or for any application where the appearance of a classic B-series Hammond is desired.

It begins with the XK5 and adds the **A-3 lower manual**, which functions exactly like the XLK-5 but has thicker side panels. The wooden "B-3 look" stand and bench match the cabinetry perfectly, as does the XPK-250 pedalboard with expression pedal.

HAMMOND will offer different bundles of these components through better retailers everywhere.

If you demand no less than perfection from your tone-wheel organ sound, a feel and responsiveness that will make you close your eyes and imagine you're playing a vintage B-3, and programmability that will let you recreate any specific Hammond that may be in your mind's ear, don't settle for a "clone." Insist on **The New Original** ... the HAMMOND XK-5.

*"I'm so glad Hammond is carrying on the tradition, and making it even better than it was in the beginning. Congratulations!" – Chuck Leavell*

**Hammond USA**  
**743 Annoreno Drive**  
**Addison, IL 60101**

**[www.hammondorganco.com](http://www.hammondorganco.com)**

## **SPECIFICATIONS:**

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## Manuals

Upper and Lower 73 notes each (61 playing keys plus 12 Preset Keys)  
Square-front ("waterfall"-style)  
New mechanical key-bed design

## Pedal (optional)

13, 20-note spinet-style  
25-note radiating  
Adjustable Pedal Sustain  
Pedal to Lower coupler  
Custom Pedal Registrations (3 Factory, 3 User)

## Split

SPLIT panel control  
Assignable split point

## Tone Generator

MTW™ (Modeled Tone Wheels)  
61-note polyphony for Manuals  
5-note polyphony for Pedals

## Virtual Multi-Contacts™

Custom Contacts (3 Factory, 3 User)  
3 Physical Contacts, 9 Assignable Virtual Contacts  
Adjustable Attack, Release, Decay

## Harmonic Drawbars®

5 sets (4 Manuals, 1 Pedal)  
Upper 2 X 9 pitches  
Lower 2 X 9 pitches  
Pedal 2 pitches

## Drawbar Voicing

4 choices for Manuals (A-100, B-3, C-3, Mellow)  
4 choices for Pedals (Normal, Muted, Synth 1 & 2)

## Custom Tone Wheel (CTW™)

3 Factory, 3 User for A-100, B-3, C-3 & Mellow Drawbar Voicings  
CTW's identified by model and serial number  
Adjustable parameters for each tone wheel  
12 complex tone wheels for bottom  
12 pedal tones.

## Touch-Response Percussion™

Percussion On, Normal/Soft Volume, Slow/Fast Decay, 2<sup>nd</sup> & 3<sup>rd</sup> Harmonic

Adjustable Normal/Soft Volume settings,  
Slow/Fast Decay rates, Velocity, Key Tracking,  
1' Drawbar Cancel ON/OFF

## Vibrato & Chorus™

Virtual Scanner™ (3 settings)  
Adjustable rate, Vibrato/Chorus Mix  
Vibrato on Pedal ON/OFF

## Overdrive

Tube/Solid State  
Adjustable drive level

## Preset Keys

9 Presets plus Cancel each Manual  
2 Adjust Presets each Manual  
9 programmable Preset Banks

## Patches

100 User, 100 Factory Patches  
Assignable to Preset Keys as Favorites  
Assignable Patch Load: Drawbar registrations, Drawbar parameters, Internal & External Zones, Multi-Effects, Reverb.

## Tube Preamp

12AU7/12AX7 Tubes  
Adjustable Routing & Drive Level

## MT™ Matching Transformer

Adjustable drive level, Hysteresis, upper/lower/percussion levels

## Multi-Effects

Tremolo, Auto Pan, Wah-Wah, Ring Modulator, Phaser, Flanger, Chorus, Delay. Adjustable parameters for each effect.

## Master Equalizer

Bass/Mid/Treble panel controls  
Adjustable gain & center frequency

## Programmable Equalizer

Bass, Mid, Treble  
Adjustable center frequency  
Hammond Preamp Tone Control

## Leslie®

STOP, FAST, BYPASS panel controls.

Custom Cabinets (8 Preset, 8 User)  
Adjustable Slow & Fast Speeds, Rise & Fall Times, Horn/Drum/Subwoofer Volume Balance, Microphone Settings.

## Reverb

ON/OFF panel control  
11 programs  
Leslie On Reverb ON/OFF

## MIDI

5 MIDI Templates  
3 Keyboard Channels (Upper, Lower, Pedals)  
6 External Zones (3 Upper, 2 Lower, 1 Pedals)  
Assignable MIDI channels, key range, Program Change, Pan, Velocity Curve, Min/Max Volume  
IN 1, IN 2, OUT Connections

## Display

OLED, 20 character, 2 line  
7 Control Buttons & VALUE Rotary Knob

## USB

"A" port ("To USB Flash Drive")  
"B" port ("To Host")

## Tune/Transpose

Transpose +- 6 semitones  
Fine Tune +- 10 cents  
Octave Up/Down +- 2 octaves

## H-BUS® Connector

To Pedals/Expression Pedal

## Audio Connections

LINE OUT L/MONO / R  
Headphone Jack

## 11-pin Leslie® Connector

## Other Connections

CONTROL 1, CONTROL 2,  
8-pin DIN (EXP-100F Expression Pedal)  
AC Input

## Dimensions

46.8" (W) 15.8" (D) 4.7" (H)  
Weight 34.6 lbs.