Computer-Based Solutions for the Recording Guitarist

You're ready to take you music to the next level—and the computer is the tool to help you get there. The bottom line is that you can do a lot more creative things with today's computer-based hardware and software than with dedicated hardware—and you can amortize your investment by using it for other things and upgrading occasionally. Whether you're just starting to use the computer with your guitar or you have experience with the technology, M-Audio has a range of products designed to hone your creative edge.

Audio Interfaces and Preamplification

One of the questions we're asked the most is "how do I connect my guitar to my computer?" The answer is an audio interface that has built-in preamplification. An audio interface connects to your computer via USB or FireWire. Simply connect your gear to the interface and it routes your audio to and from your computer music application(s). All M-Audio interfaces are built to accommodate the demanding needs of today's recording professionals. So, in addition to giving you a preamp, an M-Audio interface also serves as an overall audio upgrade for your computer.

Note that not all audio interfaces provide the preamplification you need. Most audio gear—including garden-variety sound cards—operate at line level, while guitars and microphones need preamplification in order to boost their signals to line level. The M-Audio interfaces recommended here for guitarists all have preamplification, in addition to serving the primary function of getting audio in and out of your computer. Of course, all of our interfaces also provide high-quality audio outputs suitable for connection to your stereo receiver, mixer or powered monitors.

Monitoring and Latency. There are other benefits to having a professional audio interface. For starters, older computer audio circuits and audio cards lack the capability of letting you hear what you are recording while you're listening to something else. All M-Audio interfaces provide this critical monitoring feature while delivering professional-quality audio.

Also, all digital audio circuitry has an inherent processing delay between when a sound goes into a computer and when it comes out—a phenomenon known as latency. In older computers especially, this latency can create an audible delay that can take the fun out of recording. Even on the latest computers, these topics become much more of an issue when you are working with multiple tracks and lots of software effects processing. Not only does the computer have to keep up with a lot more data, but you typically need to be able to monitor the new input you're recording while listening to multiple tracks

you've been building up.

All M-Audio interfaces feature extremely low latency so that you can monitor your performances complete with software effects. (The more tracks and software effects you use, the more CPU power you'll need—and an M-Audio interface can handle whatever your CPU can throw at it.) Our interfaces also have hardware direct monitoring that let you hear your unprocessed input at the output along with the rest of your tracks with virtually no latency.

Transmission Speed. While our Delta line of PCI cards is very popular, most of the interfaces we recommend for guitarists are based on either USB or FireWire (IEEE 1394) connectivity. The primary difference for musical purposes is throughput—how fast information can be sent and received. USB usually suffices if you're just dealing with a stereo pair in and out at CD-audio quality. If you want additional inputs and outputs and/or even higher fidelity (such as 24-bit/96kHz) you'll need a FireWire interface.

I/O Configuration. One of the biggest deciding factor in choosing an interface is the number and type of inputs and outputs. While you can build up complete compositions one track at a time, you'll need more inputs if you plan on tracking two or more performers at the same time. More analog outputs are necessary if you want to mix with an outboard mixer rather than in software. Multiple pairs of ins and outs are also handy for things like routing to and from external effects such as reverb and digital delay. All M-Audio interfaces come with our software drivers that allow you to choose what sounds or instruments you want to hear out of each output or headphone.

Digital I/O is something to look at if you want to transfer audio without any degradation to and/or from another digital device without going through analog circuitry. Digital I/O is also great for creating an outboard effect loop with a processor that supports S/PDIF digital connectivity. All of our digital outputs also provide pass-through of surround-encoded AC-3/DTS signals that can be processed by a surround receiver.

Options. M-Audio makes a complete line of professional audio interfaces. If you're just starting out, check out our JamLab. For way under $100, you get a dedicated guitar-computer interface no bigger than a deck of playing cards. Plug in your guitar and either headphones or speakers and you're ready to rock. JamLab includes GT Player Express software that provides amp models, virtual stomp box effects and a file player that lets you slow down your favorite music for practice and learning.

The next step up is our Fast Track USB. Its single input features built-in preamplification for both instrument and dynamic microphones. This allows you
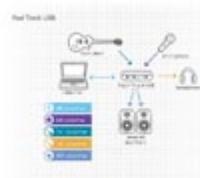
to record electric guitar, acoustic guitar with internal pickup, bass and similar instruments—as well as a microphone for vocals or acoustic instruments—into applications such as Ableton Live and GarageBand. (Fast Track USB also includes the GT Player Express software guitar effects software mentioned earlier.)

▶Closeup View

▶Connectivity
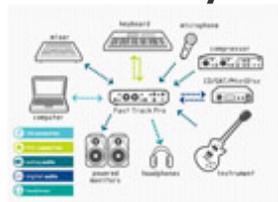

M-Audio's Fast Track Pro ups the ante on the basic Fast Track in several ways. First, dual channels each accept microphone or instrument inputs—including phantom power for studio condenser mics. You also get S/PDIF digital and MIDI I/O, 4 outputs for more flexible monitoring and effects routing and more.

▶Closeup View　　**▶Connectivity**

　　

Our FireWire Solo includes most of the same features as the Fast Track Pro. It features a pair of microphone/instrument preamps—including phantom power for condenser mics—that can be used simultaneously. There's also a pair of ¼" balanced outs and ¼" unbalanced outs, along with two channels of S/PDIF digital I/O for a total of 4 x 6 operation. The biggest advantage is that the bandwidth of FireWire facilitates recording and playback at up to 24-bit/96kHz on all ports simultaneously. And, as with all of our FireWire products, the FireWire Solo is compatible with Pro Tools M-Powered.
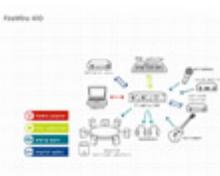
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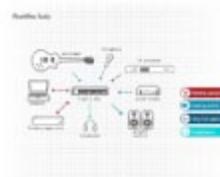
While the JamLab, Fast Track USB and FireWire Solo are great for personal use and one-man bands, you'll likely want even more I/O If you want to create a computer-based project studio. Our FireWire 410 provides 4 x 10 I/O, great for driving an outboard mixer and surround sound monitors. And the FireWire 1814 delivers 18 x 14 I/O including eight channels of ADAT Lightpipe I/O. Both have dual headphone outputs with independent volume controls (handy when working with a friend), as well as Pro Tools M-Powered compatibility.

▸**Closeup View** ▸**Connectivity**

▶Closeup View   **▶Connectivity**

Beyond Interfaces—The Black Box. There's a ton of stuff you can do with an audio interface and software like Pro Tools M-Powered and Ableton Live. And… there's just something about gear that's made specifically for guitarists. That's where the Black Box comes in. First off, it is a USB recording interface complete with guitar preamp. It also delivers killer amp models and effects so you don't need amps, stomp boxes and other gear. Black Box gives you emulations of 12 of the most popular guitar amps of all time, including Fender Bassman, Marshall Plexi, Mesa Boogie Maverick and more. Many of the effects are also automatically beat-synced to your master session tempo to bring that perpetual motion sound to your tracks.

▶Closeup View   **▶Connectivity**

Black Box doesn't stop there either—it also features 100 great drum patterns to fire your inspiration and jam along with. Like the effects, the drums beat-sync to the master tempo in your software. If you're looking for something to fuel your creative fire, Black Box's combination of recording interface, amp modeling, beat-synced effects and drum patterns is a total blast. The Black Box is also compatible with Pro Tools M-Powered, giving you session-compatibility with the industry standard. Listen to it now.

Software. Once you have your interface, the other half of the equation is software. M-Audio offers two world-class choices that work individually or together—Pro Tools M-Powered and Ableton Live.

Pro Tools is the de facto standard of music production software found in studios all over the world. Pro Tools M-Powered brings you the same basic software optimized for use exclusively with all M-Audio FireWire and current Delta PCI hardware. And the files are session-compatible with Pro Tools and Pro Tools LE.

Where Pro Tools is based primarily on the familiar model of linear tracks, Ableton Live has won multiple awards by pioneering a unique model of real-time production where you never have to hit the Stop button. While it certainly works with linear tracks, it also has a revolutionary loop-based production interface that will quickly get you thinking outside of the box. It's super-intuitive to use and includes built-in effects and virtual instruments. And Live talks to Pro Tools M-Powered via ReWire, giving you the best of both worlds.

Note that many M-Audio hardware products come with special editions of the

software discussed here. See the individual product page for more details.

Microphones. If you want to record vocals, guitar amps, acoustic instruments or real-world sounds, you'll obviously need a microphone. There are two popular classes of microphones: dynamic and condenser. Dynamic microphones are primarily designed for stage use, and are typically less expensive. Condenser microphones are more sensitive, are designed primarily for studio use and need power (called phantom power) from an interface, preamp or mixer in order to function.

M-Audio does make a variety of high-quality studio condenser microphones, starting with the Nova. In particular, guitarists love the Luna for miking guitar cabinets and acoustic guitars. If you want totally flexibility in polar patterns and recording applications—such as stereo room miking—check out the Solaris.

▶**Closeup View**   ▶**Connectivity**

Reference Monitors. Professionals use audio reference monitors that reproduce the entire sonic spectrum accurately to help predict what mixes will sound like on other systems. M-Audio's Studiophile line of reference monitors are used in recording studios around the world—and they're self-powered so you can plug them directly into your audio interface without needing a mixer. Your only real decision is your room size, available space and how much you

want to spend. This is a case where bigger is better. Choose from our DX4 with 4" woofer, BX5a with 5" woofer and BX8a with 8" woofer. If you want more bass, you can add our SBX subwoofer to any of these models.

Conclusion. Now you know how to get started with computer-based recording as a guitarist. For more information on any of these products, simply visit the corresponding product page to get the full story. Of course, there's plenty more you can do with the computer as the core of your recording rig. Many guitarists also use a MIDI keyboard controller and/or Trigger Finger drum pad controller to add additional parts. We also offer a variety of great software instruments, effects and signal processors that truly turn the computer into a complete virtual studio.

Enjoy!