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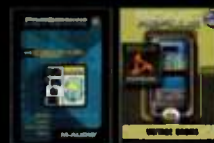
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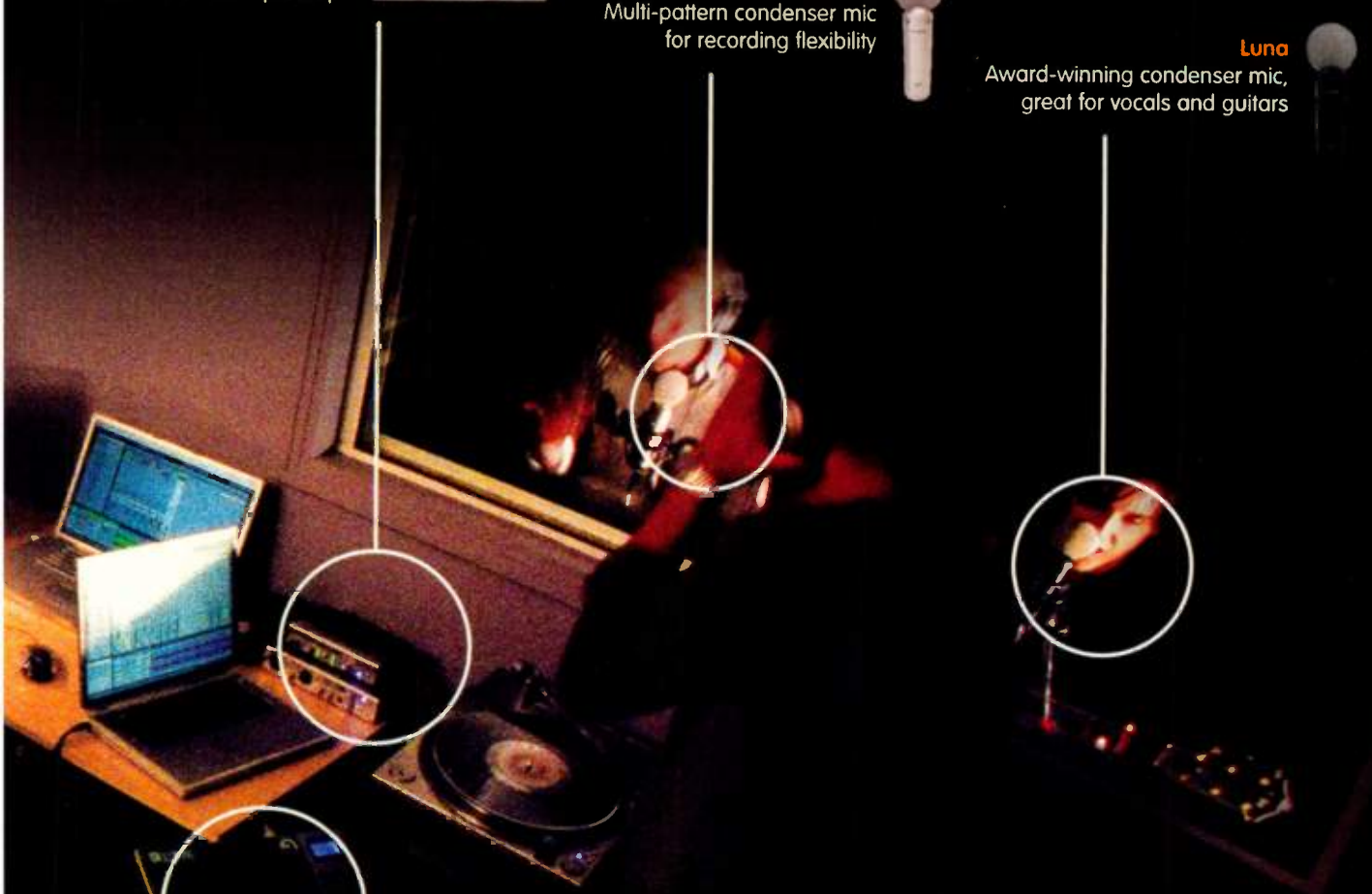
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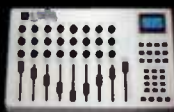
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TABLE OF CONTENTS

COMPUTER MUSIC PRODUCT GUIDE

A SUPPLEMENT TO ELECTRONIC MUSICIAN MAGAZINE

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features

- 10 Not Just for Dance Music Anymore**
Find out how three top-notch pop producers spice up their productions with loops.
By Erik Hawkins
- 18 Panning the MIDI Orchestra**
Make your MIDI orchestrations come to life with proper stereo placement.
By Paul Gilreath
- 20 Vocal Editing Techniques**
Use digital editing and processing to tighten, tune, and comp vocal tracks.
By David Franz
- 22 Creating Great MIDI Drum Tracks**
Learn to program MIDI drum tracks that really groove.
By David Franz
- 24 Mastering the Waves Masters Bundle**
Get the most from these potent plug-ins with this expert advice.
By Michael Cooper
- 26 Tap the Power of BIAS Peak 4**
Explore the awesome new features of this industry-standard 2-track editor for the Mac.
By Laura Pallanck
- 30 Drum Editing: A Case Study**
Discover how to cut up drum parts, extend cymbal crashes, and avoid clicks and pops.
By David Franz

departments

- 6 Editor's Note** **85 Classifieds**
84 Ad Index **89 Contact Sheet**

charts

- 28 Algorithmic Composition Software**
- 30 Audio Editors**
- 32 Computer Music Systems**
- 34 Computer-Assisted Music-Education Software**
- 38 Computer-Based Digital Audio Workstations**
- 50 Editor/Librarian Software**
- 50 Interactive Music-Composition/Auto-Accompaniment Software**
- 52 Loop Sequencers**
- 52 MIDI Control Surfaces**
- 54 MIDI Interfaces, Patch Bays, and Processors**
- 58 MIDI Keyboard Controllers**
- 60 Miscellaneous Software**
- 64 Notation Software**
- 64 Sequencers**
- 68 Signal-Processing Software**
- 76 Software Instruments**

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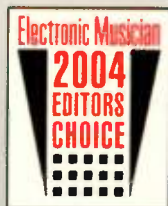
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Editor's Note

BY MIKE LEVINE



If you're into recording and making music with your computer, it's vital to keep up with the changes in the fast-moving world of music technology. With each passing year—as processing speeds increase, chips get smaller, and software engineering improves—the gear available for the personal studio gets better and better.

The trend over the past several years has moved away from hardware as recorders, synths, samplers, and processors have been supplanted by software equivalents.

Whereas the home studio of the past had racks of gear, snakes of cables, and multiple keyboards, today's version is less likely to be cluttered with hardware and more apt to be centered around the CPU.

The gear market reflects these changes. Most of the hottest items are software products or computer-related hardware such as audio interfaces, keyboard controllers, and control surfaces.

To help you stay up to date, we publish the *Computer Music Product Guide* on an annual basis, as a supplement to the regular monthly issues of *Electronic Musician*. CMPG is designed to help you stay up-to-date on the latest gear, and assist you in making informed buying decisions.

The core of CMPG is its extensive collection of buyer's guide charts that show features, specs, prices, and other pertinent information for everything from digital audio sequencers to software instruments to notation software to MIDI keyboard controllers and more. I'd like to acknowledge associate editor Tom Fulton, who spent many long hours putting the charts together.

But the charts are only part of what you get. Also included are seven articles from computer-recording experts that offer how-to information on a range of related topics.

Want to learn about contemporary techniques for incorporating loops into your music? Read "Not Just for Dance Music Anymore," in which three top producers—Mike Bradford, David Frank, and Joe Solo—talk about how they select, make, and use loops in their recordings. If you've been trying to get your orchestral MIDI sequences to sound realistic, you'll want to check out "Panning the MIDI Orchestra." In it, MIDI-orchestration guru Paul Gilreath explains how to achieve the most realistic stereo placement of the MIDI instruments that make up your virtual orchestra.

We'll give you tips on using some of today's hottest music-production software including BIAS Peak and the Waves Mastering Bundle. You'll also find informative articles on audio editing—for both drums and vocals—as well as advice on creating cool MIDI-drum parts.

So enjoy the 2005 CMPG. I'm confident you'll find it to be informative and entertaining. Although it's tough to guess what the future might bring, I can confidently predict that by the time the 2006 CMPG rolls around, there will be plenty of new and exciting software and computer-music-related products to talk about. Until then, enjoy recording, make lots of great music, and don't forget to back up your data.

Mike Levine

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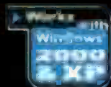
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Not Just for Dance

Music

Anymore

BY ERIK HAWKINS

When you think of loop-based production, you often imagine techno and dance music or remixed pop hits or, in any case, music that's been assembled loop by loop. But listen closely to some of the R&B, hip-hop, and rock that's on the radio today, and you'll notice the use of loops in the mix.

It used to be that "loop" was a dirty word, and for good reason: the material available to build a loop was weak, technology was limited, and many loops sounded cheesy. But the popularity of electronic music has helped usher in a new generation of technology that allows for more creative flexibility in any music production environment. That, combined with the loop-heavy state of modern pop music, results in more music across the board that brings together loops and live audio tracks.

To gain a clear understanding of both the technical and creative sides of combining loops and audio tracks, I spoke

with several well-known music producers and asked them to share some of their tricks. Producer, engineer, and songwriter Michael Bradford (Kid Rock, Uncle Kracker, New Radicals) had just finished producing the latest Deep Purple album, *Bananas* (Sanctuary Records, 2003) and was about to begin production on Uncle Kracker's next album when we spoke.

Veteran producer and songwriter David Frank, who has churned out hits for more than three decades—from Chaka Khan's "I Feel for You" to Christina Aguilera's "Genie in a Bottle" (which he co-wrote with Steve Kipner and Pam Sheyne)—had recently worked with European pop star Ronan Keatings, *American Idol* runner-up Justin Guarini, and the *American Juniors*. Joe Solo, who is a producer and songwriter with Famous Music, the music publishing division of Paramount, has worked with Macy Gray, and co-writes with John Ingoldsby

(Madonna and Elton John) and Arnie Roman (Celine Dion).

THE BIRTH OF A LOOP

Bradford explains that a well-chosen loop adds "spice" to a production that may be difficult to achieve with only an artist's studio performance. "The right loop will introduce a certain ambience to a track, creating a mental picture of where you want to take the listener—whether it's a busy city street, a dark alley, or some place more exotic. A good loop can do a lot psychologically for the listener and help you to tell a story with the song. It's like the lighting in a visual setting—it helps set the mood."

A loop's repetitive nature can function as a production's rhythmic, and sometimes harmonic, glue. "The basis for all contemporary groove-based music is one- or two-bar loops of repeating rhythmic or harmonic patterns," says Frank. "A loop can give

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Not Just for Dance Music Anymore

a track a hypnotic feel, which can be used to a producer's or songwriter's advantage," adds Solo, who often loops a vocal line during the final chorus to underscore a song's hook. Bradford adds, "The good thing about loops is that they have a steady time, while the bad thing is that they're the human part of the equation; spontaneous element of a performance. What makes a song that is heavily loop based sound human is to have real fills and percussion played over the loop—something to break up the loop's repetitiveness."

A loop can be added midway through a track, but it can also ignite the creative process from the get-go. "There was a song I did recently where I just keep repeating an organ riff; the whole composition was built up from this loop," says Frank. Gen-

erally, a looped element, such as a rhythm track or obscure melody from an old funk recording used during the songwriting process, will remain part of the final production even if the loop itself does not. As Solo puts it, "The loop may or may not end up in the final mix, but since the production was initially built using it as a starting point, the loop's 'feel' stays with the song to its end."

During the course of a production, a loop may make its first appearance at any time. Loops may be incorporated during the songwriting process and remain through to the final mix or added after a song has been recorded and carefully synchronized to these performances. Bradford says, "If I'm using a loop during the recording, it probably has a beat or a character that I want musicians to key into as they're performing the song. Otherwise, I'll record using a click so that I can edit and fly sections around without worrying about tempo changes. That also gives me a tempo that I can rely on when I want to use my loops."



David Frank

HOMEGROWN & READY-MADE

While there are numerous sample libraries on the market that offer quality loops, for the most part, these producers sample loops of their own creation. "I'll come up with a sequence that I like," says Frank. "That could be a rhythmic loop assembled from analog noise samples or a harmonic loop—like I might play a four-bar chord progression on a

PRESCRIPTION REX

With Propellerhead's ReCycle application, loops can be chopped up into component "hits," where each hit becomes one sample (see Fig. A). An associated MIDI file plays back all of the samples in order, recreating the performance heard in the original audio file. These are called ReCycled loops. Such loops are often referred to by their extension, .rex, for REX files. (There are actually two types of REX files: .rex, the original mono format, and .rx2, the more recent stereo format.) REX loops provide a high degree of tempo control without any of the nasty artifacts normally associated with traditional time compression and expansion. Moreover, because of their unique architecture, ReCycled loops can be easily quantized, regrooved, and even rearranged.

Many of today's top digital audio sequencers can read REX files, including Digital Performer, Logic, and

[Steinberg] Cubase SX. A handful of other popular programs also work with REX files, including Propellerhead's Reason (the Dr. REX module) and Emagic's EXS24 sampler. There are a lot of cool REX libraries available, but it's also possible to write your own REX files with the ReCycle application. With this program in your loop-making toolbox, you can recycle your own loops to create the ultimate and totally flexible custom loop library.

Locking a ReCycled loop with the groove of a live performance is a piece of cake: by altering its MIDI performance file or the placement of each individual sample (as is the case when importing a REX file directly to

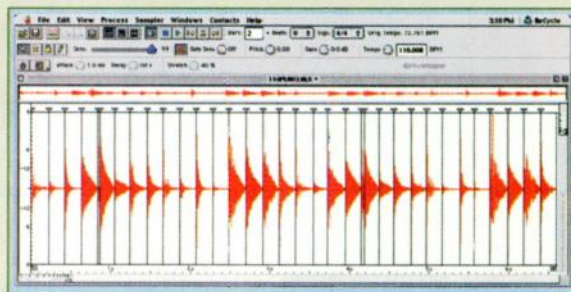
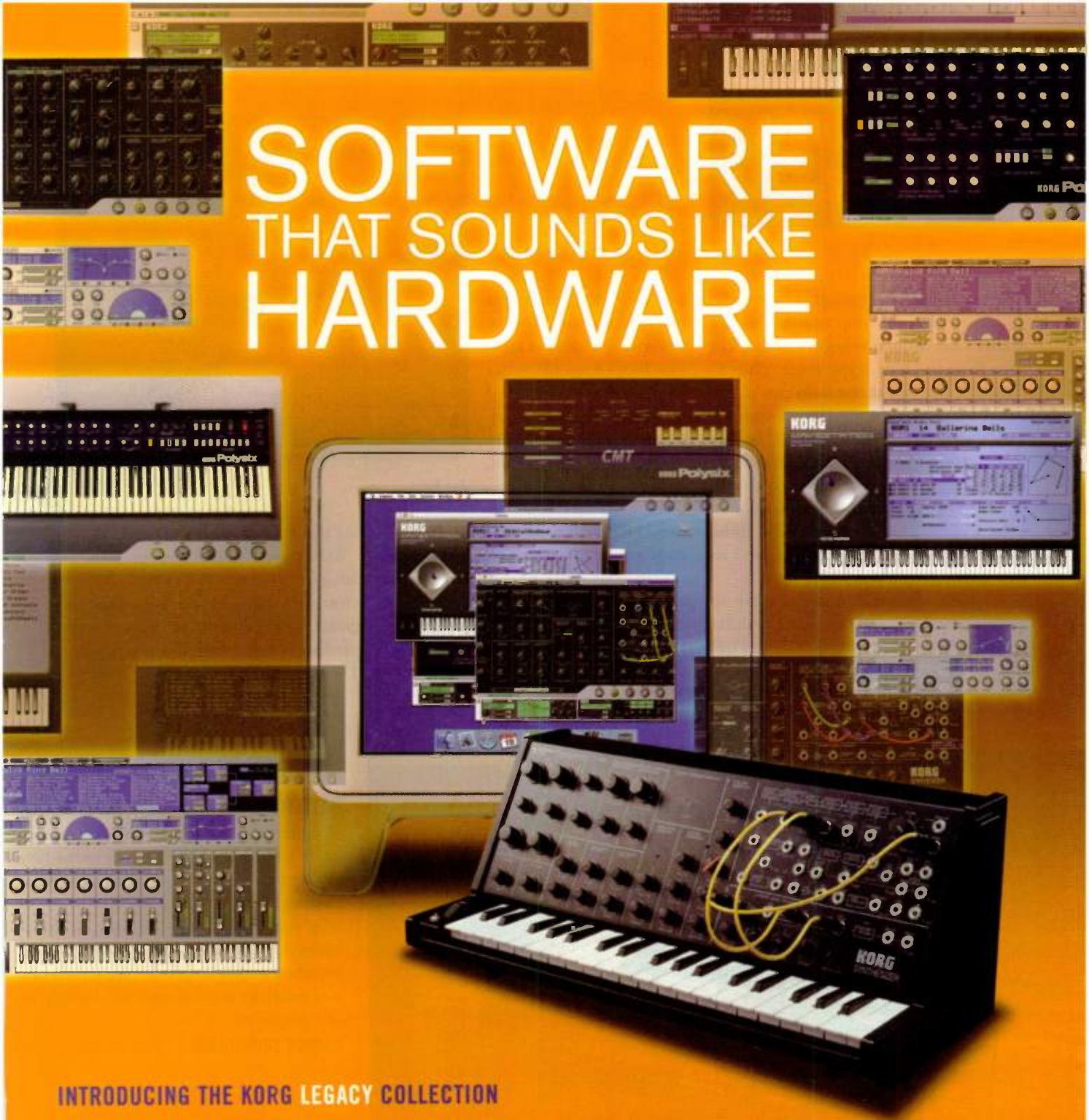


FIG. A: Propellerhead's Recycle chops up loops into "hit" samples.

an audio track), you can change the actual "feel" of the loop as easily as you can change its tempo. For example, you can create a groove template based on the drummer's performance and then quantize all of the REX files' samples to that groove. This allows many loops that wouldn't normally sound good on top of each other to be layered together because they are all locked to the same groove engine.

—Erik Hawkins

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Not Just for Dance Music Anymore

Clavinet or a Rhodes. Then I record the performance into [Emagic] Logic Audio so that I have the loop as an audio file. That's when the fun begins. In Logic, I work on the loop some more: filter it, chop it up, and throw away the pieces that I don't like. I used this technique on a song called 'Heartbreaker' on Justin Guarini's debut album. I recorded a four-bar pattern of arpeggiated chords using Emagic's virtual Fender Rhodes, the EVP88. Then I changed the audio around in Logic. That loop is the harmonic underpinning of the song."

"I have a great drum kit, a ton of snares, and a bunch of percussion instruments," says Bradford. "Often, I just go into my studio, have a click running,

and record myself playing. Then I process the performances, do various things with ambience and echo, and burn loops out of them. I also record individual drum hits, and then put everything together to build my own pattern libraries." Bradford fashions loops from his guitar playing, as well. "A lot of the loops I make are guitar that's been heavily processed, repetitive, sonic patterns. I have TC Electronic's G-Force, a guitar processor with nine built-in effects—such as compression, delay, distortion, reverb, and some filters—that can be chained together in any sequence. And there are all sorts of modulation choices. It's an incredible sound-design tool that I've used to make loops from guitar play-



Joe Solo

ing that sound nothing like guitars."

Solo takes a similar approach to creating loops. "In order to have my own custom building blocks, I'll sample my guitar playing and extract parts from my productions that haven't been released. Then I spend time mangling these ele-

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Michael Bradford

ments with plug-ins, effects units, and even stompboxes, like wah-wah and whammy pedals, to invent unusual-sounding loops.”

Solo says that he has two “special weapons” for processing loops: Antares’s Kantos and Roger Linn Designs’ AdrenaLinn II. “I love the Kantos plug-in. It can twist an audio file in really unconventional ways, and the results are always original. AdrenaLinn is a groove-filter stompbox, which can impart that classic, dirty loop feel to any instrument. I run instruments through it that aren’t usually associated with loops, from guitar to vocals and acoustic piano. It can even synchronize to MIDI Beat Clock for some amazing rhythmic effects. I once spent six hours straight running a couple of looped vocal lines through AdrenaLinn and exploring all the various possibilities.”

LOOP LOCKED

But there are times when these producers use loops from a commercially available library. For example, both Frank and Solo name Spectrasonics’ Stylus as a drum-loop source. Bradford also names a few of his preferred CD-ROM releases: “One of my favorites is Zero-G’s *Chemical Beats*,” he says. “And E-Lab’s *Vinylistic Series* is always great to have on hand. I’ve used that one on everyone from Terence Trent D’Arby to Uncle Kracker. One other library is Big Fish Audio’s *Alien Guitars*. It’s really good for sounds that you don’t necessarily recognize as guitars; the loops just become ambience.”

“I recently did a production for Amer-

ican Juniors, where I used a loop from Stylus,” says Frank. “The track needed more of a swing feel, so I found a loop in Stylus that had the right type of feel. It was almost the right tempo as well, so rather than time-stretch it, I tuned it to match the song’s tempo. The song’s original drums had an eighth-note feel, while the loop from Stylus featured a swinging 16th-note feel. In this case, tuning the loop to lock it up with the original groove worked fine,

because there were no conflicts between any of the parts. The loop added the perfect feel for the final production.”

For those times when more drastic measures must be taken to synchronize a loop, Solo uses MOTU Digital Performer’s built-in time compression/expansion tool. “To change the tempo of one of my homemade drum loops, I use Digital Performer’s graphic time-stretching tool. Initially, you need to truncate the loop meticulously so that

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it starts and ends perfectly in time. After that, though, you can just grab the end of the loop and snap it to your sequence's tempo grid. The loop is then automatically stretched or compressed to match the tempo of your song. I have the whole process down to about 20 seconds."

Bradford depends on Serato's Pitch 'n Time plug-in for his time-stretching tasks. "If it's a matter of speeding up or slowing down the entire loop significantly, Pitch 'n Time is great. A lot of percussion has pitches, and if you speed them up or down, you don't necessarily want the pitch to change—just the tempo. You can do that with Pitch 'n Time." When even more detailed editing is required, Bradford uses Digidesign's

Pro Tools' Beat Detective. "The Beat Detective feature lets me take any loop and chop it up into smaller sections, which can then be quantized. Between Pitch 'n Time and Beat Detective, I can line up anything with anything."

Most loops are in 4/4 meter, but with a tool like Beat Detective and some imaginative editing, it's possible to lock a 4/4-meter loop into a song of a different meter. "On the *Deep Purple* album, there was one song in which the verses were in 7 and the choruses in 5," says Bradford. "I found a very cool Latin percussion loop in 4/4, then chopped it up to make it in 7. A lot of people think of loops in terms of 4/4 time, but there's no reason you can't do other time signatures. You just need to get the loop to blend in so that you feel it but don't necessarily hear it."

IN THE MIX

"The remake of Dobie Gray's song 'Drift Away' on Uncle Kracker's *No Stranger to*

Shame album is a good example of how I work," says Bradford. "I cut the rhythm section with drummer Russ Kunkel, one of the best drummers in the world. He played on Jackson Brown's 'Running on Empty,' Bob Seger's 'Like a Rock,' and Carly Simon's 'Anticipation.' At that point, the song sounded very retro—too similar to the original. So to give it a more contemporary sound, I tried using some loops, which really brought it into this century. The loops alone would have been too youthful, too hip-hop, and wouldn't have paid respect to the original version, which is one of the most popular songs of the past 30 years. It was really the combination that made everything work. And it paid off. 'Drift Away' was No. 1 on *Billboard's* AC chart for a record 24 weeks, and the album went Gold largely on the strength of that single."

All three producers often use filtering to help a loop sit in the mix. As Solo explains, "I'll filter out all the frequen-

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cies below 5 kHz, leaving just the high end. That way, the loop's kick and snare won't interfere with the real drummer's performance. This technique was used in Macy Gray's 'Sweet Baby,' the first single from *The Id* album, which was co-produced with Daryl Swann and Rick Rubin." According to Bradford, "I occasionally drop a loop out during the mix, but I'm more likely to filter it. The downside with loops is that they take up so much room; if you take them out completely, you feel like the bottom has dropped out of the song. So rather than having a loop go away completely, filtering changes its tone." Frank also uses bit reduction. "The effect is to remove some of the loop's bottom end so that it sits behind the main drum groove."

Processing the same loop in different ways, for different sections of a song, can also help to keep things interesting. For example, you could lightly filter the loop during the verses, then

put a phasing effect on the loop for the choruses. Bradford says, "Another thing I do is use different kinds of loops: one for the verse, another for the chorus, and a different one for the bridge. To do this, select loops that are similar but not exact, so switching between them doesn't sound abrupt. It's the same idea as a live drummer who might play one beat during the verse and, for more energy, a slightly different beat during the chorus."

Bradford offers some advice to integrate loops and live percussion: "If you're going to use loops against live percussion, it's important to have a drummer who has good time. Loops are so steady, they can show any flaws in the drummer's timing. But when you have a drummer who can really play in the pocket right along with the loop, it's a magnificent sound."

The right loop can add flavor to your production, and using a loop of your

own creation will ensure that the flavor is not canned. As Solo puts it, "If you just stick with factory loops, you're using the same musical building blocks that everyone else in the world has access to." Don't be afraid to experiment, because as Frank points out, "Playing with a loop in a digital audio sequencer is like working with another musician: you can get different ideas from your interplay with the program." Loops have become a staple in popular music production. If you need proof, just look at the charts. So throw out any preconceived notions about which type of music loops belong in, and dig in. ☺

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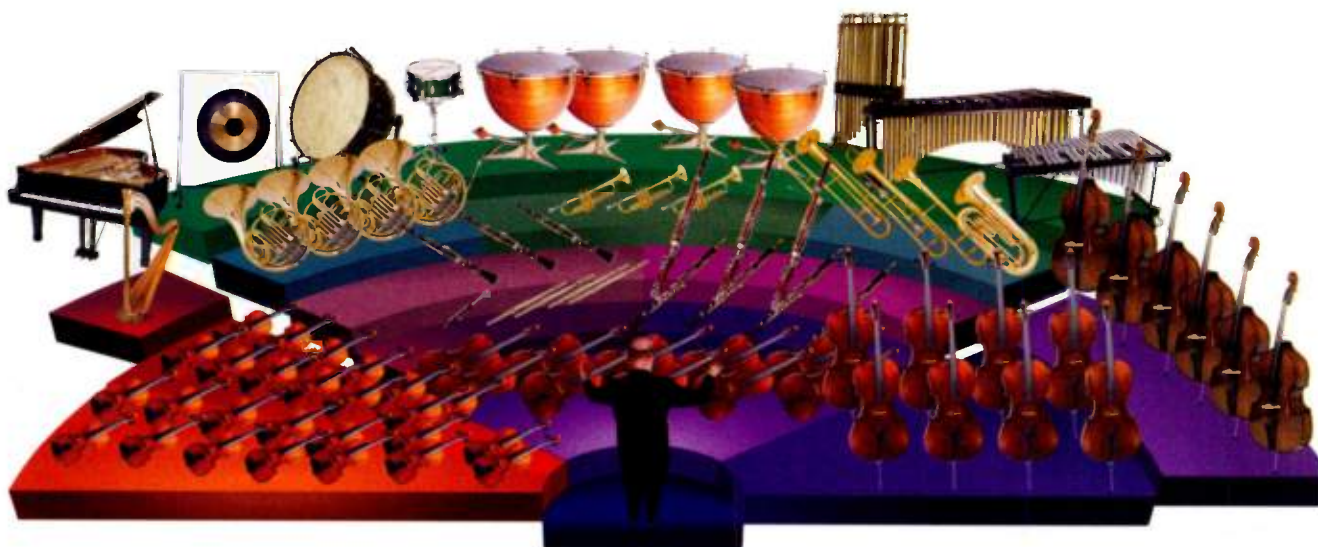
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COURTESY MUSIC WORKS ATLANTA

Panning the MIDI Orchestra

BY PAUL GILREATH

→ **Mixing is one of the most important** aspects of producing a high-quality MIDI orchestration. Achieving a realistic result requires that each instrument be heard at the level at which it would be heard within a real orchestra. In a real orchestra, there is no mixing, and there is no mixer console (unless the orchestra is being recorded); you listen to the acoustic vibrations of the instruments emanating throughout the concert hall. It's crucial that when you mix your project you maintain this level of realism and accuracy.

INSTRUMENT PLACEMENT

In a live orchestral setting, musicians are positioned on the stage in their appropriate locations. There are several ways of setting up an orchestra, depending on the style of music, the stage dimensions, the number of musicians, and the conductor's preferences. The seating chart above shows one of the common setups of a large-size modern orchestra. To re-create these positions with virtual instruments, you must either rely on the developers of orchestral sample libraries to build in the appropriate position into the samples, or you must pan the instruments to the appropriate positions yourself.

There are two ways to do that, and both can work very well. The first approach is to do all panning within the sampler. By building orchestral templates, you can load the appropriate sounds and modify the panning (and other settings) just one time. You then save those patches and settings as a template so that they appear each time you load the template. The other approach is to pan the instruments within your DAW. Like the sampler approach, if you use project templates that include tracks corresponding to each instrument (with no MIDI information in them) so that they correspond to the appropriate sampler sounds, you have to do the panning setup only once. To achieve accurate panning settings, it is important to understand the differences between mono and stereo samples.

MONO VS. STEREO SAMPLES

When a library is recorded in a studio, there is often no attempt to simulate the position of the various instruments on the virtual stage. Most often, each instrument is recorded in stereo with miking that places it fully across the stereo field from left to right. This usually causes difficulties when you attempt to pan the instruments into specific positions. When using a library with that type of miking approach, first try to reposition the instruments using the pan pots by moving them toward the center and into other positions. You can, for instance, keep the right channel panned full right and move the left channel toward the center, which will make the perceived panning of the instrument about 50 percent right.

Using headphones can be beneficial in fine-tuning the exact placement when using this technique. This procedure works in many cases, but as mentioned before, it can be difficult to gain complete control of the exact position you are striving for. When that is the case, you can resort to mono samples in lieu of stereo versions since mono samples can easily be panned into a specific position.

If a mono sample is included, use it in place of the stereo preset. If no

mono instruments are included, you will need to reduce the stereo presets to mono versions. In most cases, it is very effective to just use one side of the stereo sample. Attempting to use both sides of a stereo sample and mixing them to mono could result in phase cancellation problems, which you want to avoid.

To check which side of the stereo sample is preferable, pan both sides to the middle and listen to one side at a time to see if one side sounds better to you. If so, use that side as your "new" mono instrument. Once this is done, it is helpful to save this setup as a new

continued on page 66

Orchestra Pan Positions

To get you started, I have included the following liberal attempt at describing the image positions of the various instruments. These do not necessarily relate to the exact pan pot settings, but rather than to the desired instrument placement that should be experienced by the listener.

INSTRUMENTS	PAN POSITION
Full Orchestra	10:00–2:00 (o'clock)
Flutes (positioned left to right as third chair/piccolo, second chair, and first chair)	11:15–12:00
Oboes (positioned left to right as first chair, second chair, and third chair/English horn)	12:00–1:15
Clarinets (positioned left to right as third chair/bass clarinet, second chair, and first chair)	11:00–12:00
Bassoons (positioned left to right as first chair, second chair, and third chair/contrabassoon)	12:00–2:00
French Horns (seating dependent on number of players and conductor)	11:00–12:15
Trumpets	12:15–1:00
Trombones	1:00–1:45
Tuba*	11:00–2:00
Timpani	1:00–2:00
Percussion	10:30–1:00
Piano (nonsolo)	10:45 or 1:15
Piano (concerto soloist)	11:45–12:15
Harp	10:30
First Violins	10:00–12:00
Second Violins	10:30–12:30
Violas	11:30–1:30
Cellos*	11:00–2:00
Basses*	10:30–2:00

*You will find that in most symphonic recordings the tuba, cellos, and basses occupy a much wider position across the stereo field. That is because the instruments' nondirectional sound, which causes them to be heard at a greater width on the stage than other instruments. You will, however, get the best results from centering each instrument's focus energy in the location of the actual instruments while the remaining sound flows into the wider spacing.

Vocal Editing Techniques

Comping the lead vocal—editing together the best parts of multiple vocal tracks into one master take—frequently requires more time than any other edit. Often, the goal in creating a vocal comp is to obtain the most emotive performance possible—to capture the appropriate emotion that the artist intends for the song. That idea must be kept in mind while editing. Think of the song first and choose performances that are best for the song. The best vocal performances are not always technically perfect. There might be slight pitch problems, mispronunciations, mic-level issues, or even noise and distortion on the track. Yet, as a whole, the performance is perfect in delivering the emotion of the song. So, don't get caught up in finding the best technical performance by sacrificing the emotion in the editing process.

If you used a take sheet, follow the notes you made on the take sheets to steer your vocal edits. Without the take sheets or other comments on your recorded tracks, you'll probably need to listen to each take and make notes now during the editing process. This makes the editing process much more time-consuming.

For vocal tracks, I analyze the delivery of every phrase, word, and syllable. Although you probably didn't get that detailed when recording the vocal tracks, it's good to get that detailed now. Write

down additional notes on the take sheet or lyric sheet about edit points. Pick and choose each part of the vocal performance carefully when creating your master comp. Professional producers go to this level of detail. You should, too.

TUNING VOCAL TRACKS

After you've comped your vocal tracks, it's common to tune them using an auto-tuning program. These programs can automatically tune the track for you, but often result in decent, yet imperfect tuning performances. I recommend taking control of the tuning process and tuning the vocal track manually. To perfect the tuning of your vocal track, you should analyze and tune each vocal phrase separately.

The program enables you to see the pitches of each vocal note plotted against the notes in the song's key (the scale). You can then manually alter the pitch of each note by drawing new pitch lines and curves. Finally, you can re-record each newly tuned vocal phrase onto a new track, eventually making a completely tuned vocal track.

Some artists make it a point *not* to use auto-tuning. This is noteworthy. If the singer on your project can sing totally in tune (or in tune enough), don't bother with auto-tuning and leave the raw performances. Often, the "realness" of these raw performances creates a better overall feel on the recording than processed vocals.

ALIGNING MELODIES AND HARMONIES

After comping the lead vocal track, it's a good idea to

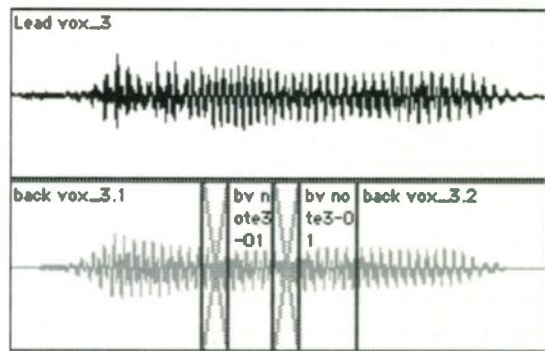


FIG. 2: Insert a copied piece of the harmony note to match the length of the lead line.

tighten up the rhythms of the harmony-vocal tracks to match the lead vocals. The point is to get the start and end point of each harmony note tightly aligned with the lead vocal. If the harmony note is too long, shorten it by cutting some of the middle of the note out, and creating crossfades between the remaining regions (see Fig. 1). You may need to use equal power crossfades here, and the crossfades may have to be a little longer than usual to make this sound natural.

If the harmony note is too short, then you should copy a part of the middle of the harmony note, and paste it into the middle of the note to make it longer. Then apply crossfades to smooth it out (see Fig. 2). In this case, too, you may need to use equal power crossfades, and the crossfades may have to be a little longer than usual to make this sound natural.

Also, trim the starts and ends of the notes so that they are rhythmically tight. 🎧

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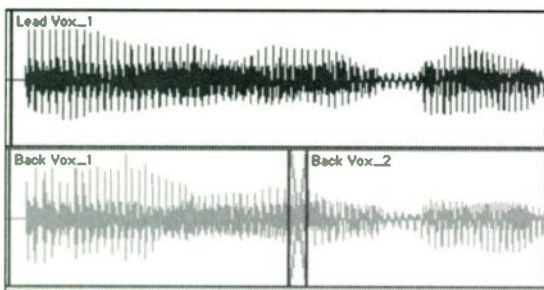


FIG. 1: Cut down the size of a harmony note to match the length of the lead line.

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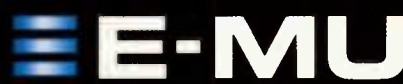
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Mastering the Waves Masters Bundle

Anyone who has worked with Waves Masters Bundle knows that the included plug-ins present a depth of functionality beyond that which is offered by similar plug-ins. This breadth of control, along with superb sonics, is what why this suite is a favorite of engineers. This article will explain some of the least-understood features of the bundle and provide some tips to get the most out of the plug-ins.

LET'S MAKE UP

Part of any diligent mastering routine involves optimizing the gain at the output of each stage of processing. The Linear Phase Multiband (LinMB) plug-in includes an Auto Makeup gain function that compensates for any gain reduction applied by the plug. Auto Makeup is not clip proof, however, and should always be applied before using the Trim function.

The Trim function is available in LinMB, and in both flavors of the Lin-

ear Phase Equalizer plug-in: LinEQ Broadband and LinEQ Lowband. Trim automatically adjusts the plug-in's output fader for 0.1 dB headroom. That said, Trim cannot provide boost beyond unity makeup gain; it can only deliver overall attenuation.

It is always best to let a mix play through from start to finish before clicking on the Trim readout to initiate a headroom adjustment. Because Trim makes its adjustment based on the last instantaneous peak level it sees, inappropriate output levels can sometimes be produced if you click the Trim readout during follow-on soft passages or while working offline (that is, with playback stopped).

When two or more Masters Bundle plug-ins are instantiated, play the mix through from start to finish, click on the Trim readout in the first Masters Bundle plug-in in the processing

chain, and then repeat the entire play-through-and-then-click process for the second plug-in and so on. Don't simply click on all of the Trim readouts at the end of each pass—adjusting the Trim on an upstream plug may preclude the

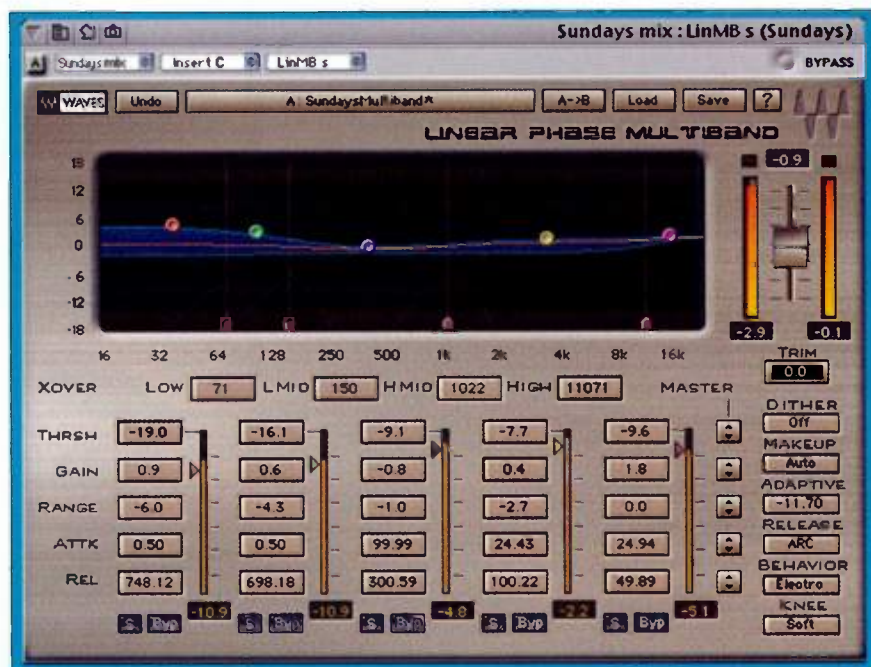
It never hurts to call up a factory preset or two for fresh ideas.

need to do so on plugs further downstream in the process.

PLEASE RELEASE ME

It's always a good idea to manually set release times in LinMB in the early stage of the game, with the ARC (Auto-Release Control) function initially turned off. ARC does not set program-dependent release times but does set program-sensitive release times for all bands: ARC does not disable your manual settings, but rather it modifies them to better handle the program material and prevent pumping or distortion. For the best results, set your release times for each band as best you can with ARC disabled, and then switch on ARC for the final touch.

If you find yourself spinning your wheels down a blind alley and still not getting the mileage you want out of LinMB, call up a factory preset or two for fresh ideas. Your current threshold settings for every band will be left intact when you load a factory preset, allowing you to audition alternative release curves and such without having to adjust all controls from scratch.



Linear Phase Multiband's Auto Makeup function should always be applied before using its Trim function. Never click on the Trim readout before a mix has played all the way through to its end, or while working offline.

continued on page 52



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Creating Great MIDI Drum Tracks

Just like a live band is only as good as the feel of its drums and percussion, a MIDI sequence is only as good as the feel of its drum and percussion tracks. If your drum and percussion tracks lack a solid groove and feel, all of your other tracks are forced to follow the nongrooving rhythm tracks, and the entire sequence suffers.

Most of you are probably not drummers, and most of you probably haven't had extensive lessons on all of the wide variety of grooves and musical styles that you may find yourself producing someday. There are an infinite number of drumbeat possibilities, and every genre of music has its own set of stylistic attributes. Thus, to create realistic-sounding MIDI drum tracks, you should study music from the genre that you're trying to write in. Listen closely to musical examples and take notes.

A key aspect of making realistic-sounding drum parts is being sure that a real drummer can actually play them. For instance, a real drummer wouldn't be able to play a beat that has five or six parts going on at once. Of course, it's to-

tally cool to do this if you're not looking for realism, or if you're trying to model multiple percussion players.

To write realistic parts, it's important to pay attention to nuances, such as the time it takes a drummer to hit a crash cymbal and return to the hi-hat rhythm. Often, this may take as long as a 16th note or an eighth note, so the hi-hat rhythm will not pick up immediately after the crash cymbal. The more you understand what it's like to play drums, the better your MIDI drum parts will become.

CREATING LOOPS

MIDI makes it easy to create a drum loop as a foundation for your musical ideas. Even if you want to use real drums for your final recordings, creating a MIDI drum part for the demo can help get your ideas across to other people and establish a feel to the song.

Many tools are available today that enable you to create great drum tracks without using any real miked drum tracks. And

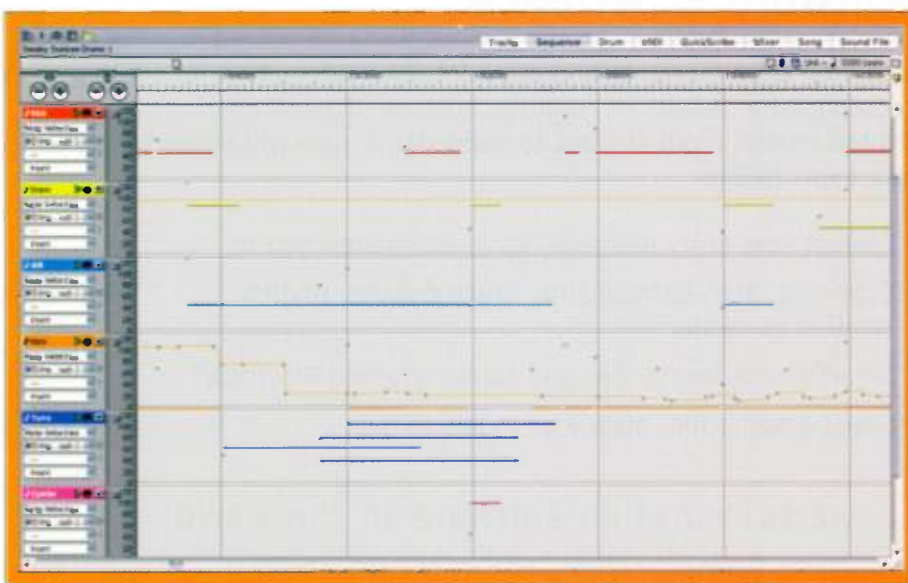
while sampling beats is a common practice, there's a more creative (and legal) way to model beats and rhythmic feels in your sequencer. Let's take beat sampling several steps further, and use a cool beat as a stepping stone to new ideas.

Sampling vs. modeling with MIDI. A technique at is to rework a beat from an old funk or R&B song and transfer

I start by tweaking the velocities of almost every note.

some elements of its feel into a hip-hop or electronica groove. The process of modeling a beat goes like this:

1. Listen carefully to the original track. Then transcribe the beat. Note where specific snares, kicks, or other elements are played, and their relationships to the other notes.
2. Find the sounds. Create several MIDI tracks and assign them to drum sounds that are like the original beat.
3. Find the tempo—that is, estimate the original beat's tempo.
4. Input the MIDI notes. You can either play the beat on a MIDI controller and record your performance or enter the MIDI notes to a grid.
5. Alter the MIDI notes to create a feel. Anybody can plop notes down on a grid and make a drum track. Without some manipulation, those beats can often sound sterile and mechanical. There are places for those types of beats: \$50 toy keyboards. If you want to give your beats a more interesting feel, you've got to tweak some of the



A portion of a multitrack MIDI drum part, as displayed in the Sequence Editor in MOTU's Digital Performer 4.5.

continued on page 56

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Peak 4, the 2-channel, Mac-only audio editor from BIAS, includes a number of useful features such as multiprocessor support, the ability to loop QuickTime movies and record audio while a movie is playing, and the ability to perform disk-at-once CD burning directly from the playlist or any audio document window.

IMPULSIVE PROCESSING

One of the most exciting new features in Peak 4 is ImpulseVerb, a convolution-based reverb that allows you to load impulse responses sampled from real 3-D spaces. Convolution is not new to Peak, but for use as a reverb, BIAS optimized the process to take advantage of the G4 and G5's AltiVec velocity engine.

Consequently, you can use ImpulseVerb as an expanded convolution algorithm (rather than just as a reverb plug-in) by loading in files other than impulse responses. For example, you can select a small portion of a steady-state sound such as a drone or a gong roll.

To do this, copy a portion of the audio that you want to use as the "impulse response" into the clipboard (short clips work best). Make sure

to select the document that you wish to apply the impulse to. Choose ImpulseVerb from the DSP menu. Then, press the Preview button and adjust the Wet/Dry slider while it's playing. Whether you're modifying a drum loop or a vocal part, the results can be surprising.

You can tweak things further by modifying ImpulseVerb's shape characteristics using the Space Envelope. Simply click on the line to create handles and mold it into any shape that you want.

If you have the time to troll for sounds, then take your unusual impulse file and convolve it against a large number of target files using the program's batch processor. Many of the processing chores in Peak 4 can be done in batches, and this is a great way to look for new and unusual sounds en masse. New life for libraries!

MARKER TEMPLATES

Let's say that you have a project, such as a radio spot or a news feature, with markers in specific places, and you want to use the file as a template for future projects. Peak 4 allows you to copy the

names and positions of the markers from one file to another.

Select the area in the file that has the markers located where you want them, and then select Copy. Go to the document in which you want to place the markers and do a Select All command. Then, hold down Option and choose Paste from the Edit menu. That will paste the markers onto the second file without overwriting the audio portion.

VERTICAL LOCK

Another feature new to Peak 4 is a Vertical Lock button. It is a time-saver when you have, for example, a live recording that has no gap times and you want to adjust where the IDs will appear when it's time to burn a CD.

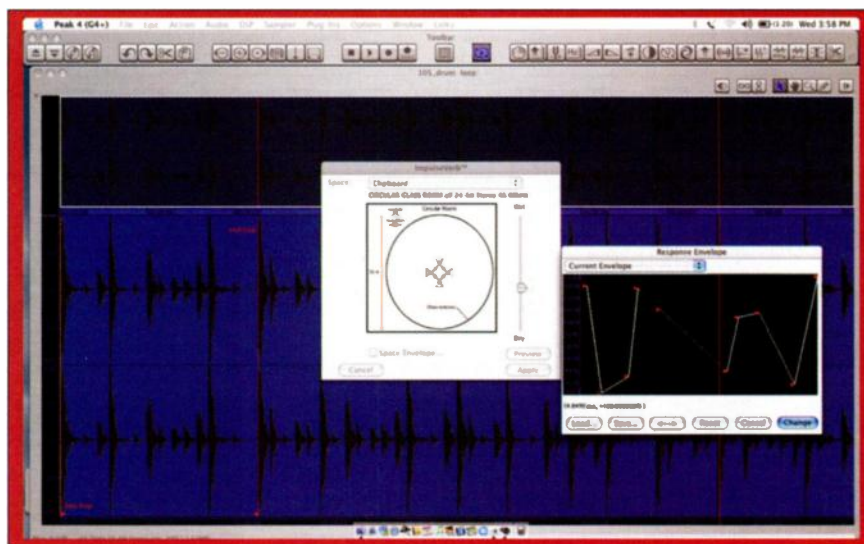
Begin by dropping standard reference markers where the index markers should be. Then, add beginning and end markers. Now press Select All and choose Markers to Regions from the Action menu. That will substitute region markers for the standard reference markers.

Where regions are back-to-back, click over the two markers that butt up against each other. Next, click on Vertical Lock. The two region markers will now move in sync, allowing you to simultaneously adjust where one region ends and the next one begins.

OVERLOOKED KEY SHORTCUTS

There's nothing like having a few dozen key shortcuts under your fingertips to save time. Remarkably, all of the key commands in Peak 4 are completely customizable. Go to Preferences, select Shortcuts and Toolbar, and you'll see a list of the functions that can be assigned new keystrokes. You can also adjust the size of toolbar icons or save your shortcuts as text for later reference.

If you've worked with Peak often



BIAS Peak 4 includes a number of useful enhancements such as ImpulseVerb, a convolution-based reverb that offers more than just spatial effects.

continued on page 51

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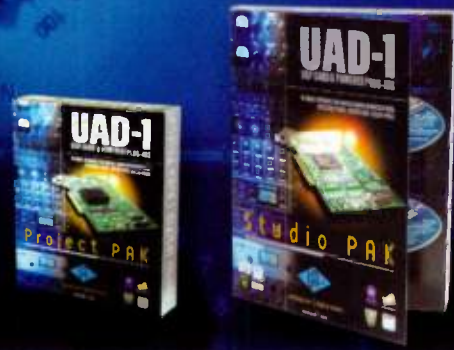


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DM-1/L Delay Modulator	•	•
DreamVerb Reverb Tool	•	•
Echo	•	•
EX-1 EQ & Compressor	•	•
Fairchild 670 Compressor	•	•
Gate/Comp	•	•
LA-2A Leveling Amplifier	•	•
Mud Delay	•	•
Mud Filter	•	•
Nigel	•	•
Phaser	•	•
Plate 140	•	•
Precision Limiter	•	•
PreTlex - Amp/Cab Simulator	•	•
Pultec EQP-1A	•	•
Pultec Pro	•	•
RealVerb Pro	•	•
RS-1 Reflection Engine	•	•
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Fairchild 670 Vintage Mastering Compressor

DreamVerb Reverb Design Toolkit



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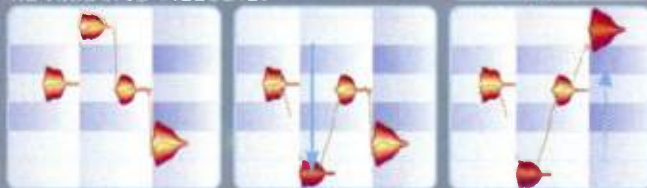
Manufacturer	Product	Version	Minimum System Requirements	Standalone or Plug-in	Architecture	Number of Modules	Supports User-created Modules	Audio Support	Polyphony	Random or Deterministic	Reads Bitmaps	Special Features	List Price
Cycling '74	M	2.6	Mac OS X, 32 MB RAM	Standalone	Predefined	24	No	No	128	Random	No		\$74
Karma Lab	KARMA MW (for Korg Karma)	1.3	Win 98/ME/NT/2000/XP, PIII, Mac OS 9/X, G3, 64 MB RAM, MIDI	Standalone	Predefined	N/A	No	No	N/A	Random	No	Generates phrases, grooves, effects. Editor/Expander for the KARMA algorithmic function	\$149
Karma Lab	KARMA Triton (for Korg Triton)	1.3	Win 98/ME/NT/2000/XP, PIII, Mac OS 9/X, G3, 64 MB RAM, MIDI	Standalone	Predefined	N/A	No	No	N/A	Random	No	Generates phrases, grooves, effects. Includes 768 progs/combis, 1192 GEs from Korg Karma	\$199
Pirkle & Associates, Inc.	Pirkle's Music Composition Studio	4.0.2	Win 95/98/NT/XP, 8 MB RAM	Standalone	Predefined	N/A	No	Yes	32	Deterministic	No	Generates classical (symphony, concerto, piano), jazz, blues, reggae. User involvement optional.	\$99
SoundTrek	JAMMER Live	1.0	Win 95/98/2000/XP	Standalone	Predefined	N/A	No	No	N/A	Random	No	Real-time interactive back-up band software	\$60
SoundTrek	JAMMER Professional	5.0	Win 95/98/ME/2000/XP	Standalone	Predefined	N/A	No	No	N/A	Random	No	Song-creation software	\$129

An Awesome Tool . . .

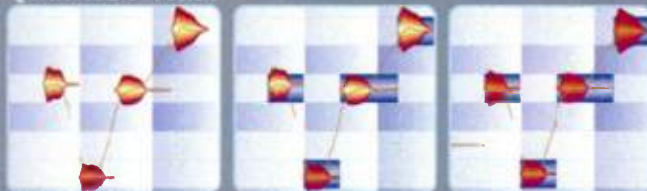
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Audio Editors

Manufacturer	Product	Minimum System Requirements	Number of Audio Tracks	Record Resolution (word length in bits)	Sampling Rates (kHz)	Audio File Formats Supported	Plug-in Formats Supported
Adobe	Audition 1.5	Win 2000, XP, 400 MHz, 64 MB RAM	128	32-bit	192+ kHz	WAV, AIFF, MP3, MP3PRO, WMA, CEL, AU, VOX, PCM	DirectX, VST
BIAS Inc.	Peak 4.1	Mac OS X 10.2/10.3, 256 MB RAM	2	32-bit	192 kHz	AIFF, SDII, WAV, MP3, MPEG-4, SND, AU, JAM image, SONIC AIFF, PARIS (.PAF)	VST, AU
BIAS Inc.	Peak 4.1 Mastering & Restoration Edition	Mac OS X 10.2/10.3, 256 MB RAM	2	32-bit	192 kHz	AIFF, SDII, WAV, MP3, MPEG-4, SND, AU, JAM image, SONIC AIFF, PARIS (.PAF)	VST, AU
Blaze Audio	RipEditBurn 2.2	Win 9x, ME, 2000, XP	2	24-bit	Unlimited	WAV, MP3, RA, WMA	BAE
Celemony Software GmbH	Melodyne cre8 2.0	Mac OS 9, Mac OS X, Win 98, ME, 2000, XP, 256 MB RAM	8	24-bit	48 kHz	WAV, AIFF, SDII, SND	VST, AU
Celemony Software GmbH	Melodyne Studio Edition 2.0	Mac OS 9, Mac OS X, Win 98, ME, 2000, XP, 256 MB RAM	32	32-bit	192 kHz	WAV, AIFF, SDII, SND	VST, AU
Emergys	MavenXP	Win 98, 166 MHz CPU, 128 MB RAM	8	16-bit	48 kHz	WAV, MP3	DMO
Emergys	Maven3D	Win 98, 500 MHz CPU, 128 MB RAM	16	16-bit	48 kHz	WAV, MP3	DMO
Emergys	Maven3D Professional	Win 98SE, 500 MHz CPU, 128 MB RAM	64	24-bit	96 kHz	WAV, AIFF, WMA, MP3, AC3, AAC, PCM, DAT, COA, AVI, ASE, MPG, MPEG, MOV, WMV	VST, DirectX, DMO
FASoft	n-Track Studio 4.0	Win 98, ME, NT, 2000, XP	Unlimited	24-bit	192 kHz	WAV, MP3, WMA, OGG	DirectX, VST, DirectX, VSTi, ReWire
Magix Entertainment Corporation	Magix Music Maker 2005 Deluxe	Win 98/98SE/ME/NT/2000/XP, 400 MHz CPU, 64 MB RAM, 250 MB free, 16-bit full duplex soundcard	96	16-bit	Up to 48 kHz	WAV, WMA, REAL, MP3 (w/ optional encoder)	DirectX, VST
Magix Entertainment Corporation	Magix Music Studio 2005 Deluxe	Win 98/98SE/ME/NT/2000/XP, 400 MHz, 64 MB RAM, 100 MB free	64	16-bit	Up to 48 kHz	WAV, WMA, REAL, AIFF, MP3, MID, SF2, EXS, MPEG	DirectX, VST 2.0
Magix Entertainment Corporation	Samplitude 7.0	Win 98SE/2000/ME/XP	Unlimited	32-bit float	Up to 96 kHz	WAV, AIFF, MP3	DirectX, VST
Next Generation Software	NGWave 2.0	Win 98/ME/2000/XP, PIII or greater, 128 MB RAM	2	24-bit	192 kHz	WAV, MP3	N/A
Propellerhead Software	ReCycle 2.1	Win 2000/XP, PIII 300, 128 MB RAM, Mac OS X 10.2.8, G3, G4, G5, 128 MB RAM	2	8, 16, 24-bit	Up to 1 MHz	WAV, AIFF, SDII, REX2, REX2, RCY	N/A
SoftLab-NSK	DDClip Pro 3.51	Pentium 200 MHz, 32 MB RAM	32	24-bit	96 kHz	WAV, AIFF, MP3, AVI, ADPCM/IMAAD-PCM, aLaw/uLaw	DirectX
Sony	Sound Forge	200 MHz, 32 MB RAM, Win 98SE, ME, 2000, XP	2	24-bit, 32-bit	192 kHz	WAV, MP3, AIFF, AVI, MOV, WMV, RM, OGG, PCA, WMA, AU/SND, DIG/SD, RAW, MPEG-1&2, VOX	DirectX
Steinberg	WaveLab 5	Pentium/AMD III 500 MHz, 256 MB RAM, Win XP/2000	2	32-bit	384 kHz	WAV, AIFF, AU, RAW, SDII, Paris 24-bit, uLaw, MP3, Sun/Java, more	VST, DirectX, WaveLab
TC Works	Spark XL 2.8	Mac OS X, 128 MB RAM	2	32-bit	192 kHz	WAV, AIFF, SDII, W64, MP3 and all QuickTime formats	VST, AU

Drum Editing: A Case Study

BY DAVID FRANZ

Editing, in my opinion, is an art form, particularly when it comes to drums. Without good edits, drum tracks can inadvertently lose power and feel, and can end up with some nasty digital pops and clicks that you definitely don't want in your final mix.

This article focuses on digitally editing drums, but you can use the same techniques that are mentioned here on all types of audio tracks.

In most situations, the best place to

make an edit to a drum track is right before a large transient. What's a transient? In this case, it's the initial attack in the sound wave when the drummer strikes the drum. Transients in drum tracks are easy to find. In Fig. 1, you'll see an edit placed right before a transient.

The reason that it's best to put the edit there is twofold. First, the decay from the last drumbeat on that track is usually as small as it's going to get. With so little digital information at that

point, you might not even need to create a crossfade between the two regions.

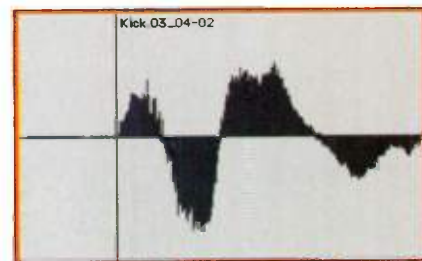


FIG. 1: A kick drum track with an edit placed right before the attack transient.

Number of Bundled Plugins	Sampler Support	Supports Quicktime and/or AVI Movies	Mixer	Automation	CD Burning	Control via MIDI	Pitch-shift Type	Time Compression/Expansion	Levels of Undo	View and Edit at Single-sample Level	Special Features	List Price
50+	Yes	Yes	Yes	Yes	Yes	Yes	Traditional & Formant-preserving	Y/Y	Unlimited	Yes	Stereo and multitrack editor, real-time effects and EQ, looping, data analysis, mastering, batch process	\$299
25	Yes	Yes	No	No	Yes	No	Traditional	Y/Y	Unlimited	Yes	ImpulseVerb sample-based reverb, Direct Red Book CD burning, includes JAM 6 and Sound FX Machine LT	\$499
25	Yes	Yes	No	No	Yes	No	Traditional	Y/Y	Unlimited	Yes	Includes Sound Soap Pro, SuperFreq, JAM 6, and Sound FX Machine LT	\$900
10	No	No	Yes	No	Yes	No	Traditional	Y/Y	1+	Yes	Plugins for converting LP/tape to CD, removing vocals	\$40
N/A	No	No	Yes	No	No	Yes	Traditional & Formant-preserving	Y/Y	500	No	Detects notes in audio files and allows user to edit pitch, time, formats of each note individually	\$395
N/A	No	No	Yes	No	No	Yes	Traditional & Formant-preserving	Y/Y	500	No	Detects notes in audio files and allows user to edit pitch, time, formats of each note individually	\$695
7	No	No	No	No	No	No	Formant-preserving	N/N	Unlimited	No	Fast and easy editing, effects editable in layers	\$54
9	No	No	No	No	No	No	Formant-preserving	N/N	Unlimited	No	Positional 3D audio effects, fast and easy to use, effects editable in layers	\$160
6	No	Yes	No	No	No	No	Formant-preserving	N/N	Unlimited	Yes	Positional 3D audio effects, Dolby Digital AC-3, 5.1 channels, MPEG-2 AAC	\$400
7	Yes	Yes	Yes	Yes	Yes	Yes	Formant-preserving	Y/Y	Unlimited	Yes	Live input processing, MIDI and audio editing, supports WDM, Asio, MME and DirectSound, ReWire	\$49
14	Yes	Yes	Yes	Yes	Yes	Yes	Traditional & Formant-preserving	Y/Y	Multiple	No	Analog drum machine, 14 instruments, vocal tuner, MIDI editor, live mode, video creation, 4,000 loops	\$59
9	Yes	Yes	Yes	Yes	Yes	Yes	Traditional & Formant-preserving	Y/Y	Multiple	Yes	Unlimited MIDI sequencer, FM Synth, analog drum computer, Hyperdraw, 14 instruments	\$80
N/A	Yes	Yes	Yes	Yes	Yes	Yes	Traditional & Formant-preserving	Y/Y	Unlimited	Yes	Object oriented editing, supports surround sound formats through 5.1, 3rd party controller support	\$1,099
N/A	No	No	Yes	No	No	No	Traditional & Formant-preserving	Y/Y	Unlimited	No	Extremely fast editing, unique recording features	\$40
N/A	No	No	No	No	No	No	Traditional & Formant-preserving	Y/Y	10	Yes	Slices audio loops, saves RX2, Soundfont, SampleCell, \$6000 files. Reason Adapted included.	\$249
N/A	Yes	Yes	Yes	No	No	No	Traditional	Y/Y	99	Yes	Up to two video tracks, fast editing, support of large AVI files, video recompression	\$199
18+	Yes	Yes	Yes	No	Yes	Yes	Traditional & Formant-preserving	Y/Y	Unlimited	Yes	Real-time nondestructive editing, multitask background rendering, modeless audio plug-in chain	\$500
10+	No	Yes	Yes	Yes	Yes	Yes	Traditional & Formant-preserving	Y/Y	Unlimited	Yes	DVD authoring, surround support, Audio Montage multi-track editing, video thumbnail, audio analysis	\$699
29	No	Yes	Yes	No	Yes	No	Traditional	Y/Y	Unlimited	Yes	Audio restoration analyzers, realtime effects matrix, synthesis, batch converter, direct CD burning	\$599

If you do need to use one, try using an equal-gain crossfade.

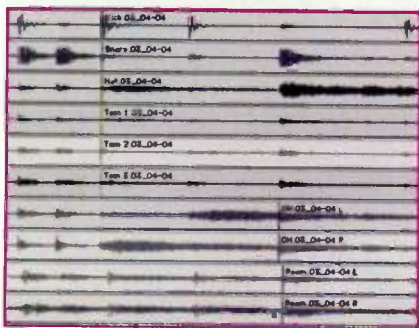


FIG. 2: All the drum tracks are edited right before a big downbeat, but the overhead mic tracks are extended into the next measure to allow the cymbal crash to decay.

Second, when editing multiple drum tracks, placing edits across all tracks at one spot before a transient will often make the entire drum-kit edit less obvious. I often put an edit right before the downbeat of a measure or at a place where the kick drum or the snare has an accented note. Even better, place your edit right before a big cymbal crash.

Speaking of cymbal crashes, sometimes you'll want to place an edit on a downbeat, but sounds between the two edited regions don't quite match up. This happens, for instance, if the drummer played a different cymbal, or if a different tom is resonating from the previous region. When editing across all

drum tracks at once, listen closely for these nuances. To avoid problems such as these, you can extend the cymbal tracks (usually the overhead mic tracks) or tom tracks into the next measure to allow the previous sound to fully decay. An example of this is shown in Fig. 2. ☹

This article was previously published in the book Recording and Producing in the Home Studio (ISBN 0-87639-048-3), a product of Berklee Press (www.berkleepress.com), and is reprinted by permission of the publisher. It has been lightly edited for content.

Computer Music Systems

Manufacturer	Product	CPU Range Offered	Case Types	Tech Support Period	Tech Support Type	Warranty	Special Features	List Price
Alternate Mode, Inc.	HyperCube	Pentium 4/3.2 GHz	Small cube	3 years	Phone, email	2 years	4 GB drum samples, part of Digital Percussion Workstation with DrumKat MIDI controller, QuietX Power	\$1,500-\$2,000
Alternate Mode, Inc.	PoweRack PC	Pentium 4/3.2 GHz	2 rack space, standard depth	Unlimited	Phone, email	1 year	Built-in MIDI, audio and sound library	\$2,095
Carillon Audio Systems	Carillon Music Computers	Pentium 4 3.0 to 3.6 GHz	Rackmount, tower, laptop	3 years	Phone, email	1 year	7,000 included audio samples, remote tech support, ultra-quiet	\$999 and up
CM Labs	Sixtyfour	N/A	2U rackmount	1 Year	Phone	1 year	32x32 analog router with level control	\$2,499
Hercules	16/12 FW	Pentium III and up	Rackmount	Unlimited	Phone, email	1 year	16-in/12-out, 24-bit/96 KHz, 2 MIDI in/2 MIDI out, Mac and PC software Live Special Edition-Cubase LE	\$899
MultipointUSA	Super Xeon Workstation	Xeon 3.0 GHz/1 MB/533 MHz FSB	Rackmount, standard, portable	3 years	Phone, email, onsite	3-5 years	Continuous duty, quiet, real-time editing onsite	\$4,599 and up
MusicXPC	Professional C1, C2, S2	Pentium 4	Cube, tower	2 years	Phone, email	N/A	800 MHz FSB, Serial ATA-150, GigaBit LAN, DVD-RW, quiet operation, recovery utility	\$1,399 and up
SonicBlade	SonicHammer	P4 - 3.0 to 3.4GHz	4U aluminum rackmount	3 years	Phone, email	3 years	RAID, SuperQuiet, Pro Tools compatible, lightweight, 9 drive bays	\$1,500-\$2,000
SonicBlade	SonicBlade	P4 2.8 - 3.4GHz	2U rackmount-short chassis	3 years	Phone, email	3 years	Only 14" deep (fits in SKB case), road worthy, SuperQuiet, SATA, 3 PCI slots	\$1,800
ST Audio	DSP2000 C-Port	Pentium II and up	Rackmount	Unlimited	Phone, email	1 year	2x balanced (XLR) inputs with built in preamps and switchable phantom power	\$699
ST Audio	DSP3000 M-Port	Pentium II and up	Rackmount	1 year	Phone, email	1 year	Level meter display for each input channel (switchable to display output signal)	\$1,195
ST Audio	DSP24 Media 7.1	Pentium II and up	Rackmount	Unlimited	Phone, email	1 year	Onboard hardware synthesizer (Dream/Roland GS soundset)	\$499
ST Audio	ADAM 24	Pentium II and up	Rackmount	Unlimited	Phone, email	1 year	8 analog mono inputs unbalanced, 8 analog mono outputs unbalanced	\$449
Symbolic Sound Corporation	Kyma X (v 6.1)	Mac OS9, OSX, Win ME, 2000, XP	Racktop, desktop	Unlimited	Phone, email, forum	1 year	Open-ended software for real-time sound design with hardware accelerator	\$3,470
Wave Digital Systems	StudioG5, StudioPowerBook	Apple G4 to Dual G5	Desktop, tower, laptop	90 days	Phone, email	1 year	Preconfigured Macs for Pro Tools, Digital Performer, Nuendo, Logic Audio	\$999-\$4,899
YRS MIDI Systems	YRS Custom Systems	Intel P4 2.5 GHz-3.4 GHz	All Types	Unlimited	Phone, email	3 years	Guaranteed compatibility, custom design and configuration	\$1,000-\$5,000

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Manufacturer	Product	Version	Type	Level	Minimum System Requirements	Special Features	List Price
Charanga Ltd	Electric Guitar Coach	N/A	Electric guitar lessons	Beginner	Win 3.1, 95, 98, 2000, ME, NT, XP, 16 MB RAM	200 video clips, 150 lessons covering lead, rhythm, technique and chords, 9 famous songs	\$40
Charanga Ltd	Keyboard Coach	N/A	Electronic keyboard lessons	Beginner	Win 98, ME, 2000, XP, 64 MB RAM, Pentium PC 233 MHz or faster	Keyboard Roll shows you how to play, Music Coach checks your playing, Video Coach with over 50 clips	\$50
Charanga Ltd	Guitar Coach	N/A	Guitar lessons	Beginner	Win 3.1, 95, 98, 2000, ME, NT, XP, 16 MB RAM	133 lessons, 200 video clips, 50 studies and songs, real audio, tuner, metronome	\$40
ChordWizard Software Pty Ltd	How Music Works	3.0a	Theory	All levels	Win 95/98/ME/2000/XP	100 topics, 250 diagrams, 600 sounds	\$20
ChordWizard Software Pty Ltd	ChordWizard Silver	2.0f	Interactive guitar theory	All levels	Win 95/98/ME/2000/XP	Find and identify chords, practice scales, songwriting tools	\$26
ChordWizard Software Pty Ltd	ChordWizard Gold	2.0	Guitar chord/scale reference	All levels	Win 95, 98, ME, NT4, 2000, XP, Pentium 60 MHz, 16 MB RAM, MIDI sound card	Workshop for all fretted instruments, includes multimedia music theory tutorials	\$45
Datasonics	Mastering Music Prelude	5.0	Music lessons for ages 10-18	All levels	Win, IE 5.5, Pentium 500 MHz, 96 MB RAM	Covers the school curriculum across all levels and aspects of music	\$446
Datasonics	Mastering Music Lab Pack	5.0	Music lessons for ages 10-18	All levels	Win, IE 5.5, Pentium 500 MHz, 96 MB RAM	Unlimited site license covering music curriculum for all aspects of music	\$2,079
Datasonics	Mastering Music Komposa	2.0	Lesson generator	All levels	Win, IE 5.5, Pentium 500 MHz, 96 MB RAM	Generates lessons for Mastering Music	\$743
Datasonics	Music Master Professional	5.6	Sequencing, notation & audio	All levels	Win, IE 5.5, Pentium 500 MHz, 96 MB RAM	Integrated MIDI sequencing, notation and digital audio	\$396
Datasonics	Music Master Publisher	5.6	Notation with MIDI sequencing	All levels	Win, IE 5.5, Pentium 500 MHz, 96 MB RAM	Plays all the notation symbols, eg. repeats, codas, dynamics, mordents, trills	\$198
Datasonics	Music Master Performa	5.6	Sequencing, audio, notation	All levels	Win, IE 5.5, Pentium 500 MHz, 96 MB RAM	Integrated MIDI and audio on one screen, Win XP-compatible	\$186
Datasonics	Mastering Music 5 Multi-User License	5.0	Music lessons for ages 10-18	All levels	Win, IE 5.5, Pentium 500 MHz, 96 MB RAM	5-user license covering music curriculum with all aspects of music	\$1,500
Electronic Courseware Systems, Inc.	ECS Digital Metro-Tuner	N/A	Listening analysis/performance	All levels	Win 98/2000/XP	Software tuner and metronome in one program	\$50
Electronic Courseware Systems, Inc.	Cloud 9 Music	2.2	Music fundamentals	Beginner	Win 98/2000/XP, Mac OS 8, 9 and 10	Audio directions. Program is exploratory for ages 3-9	\$40
Electronic Courseware Systems, Inc.	Mozart Requiem Sketch	N/A	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10	See thematic analysis of the Requiem as you listen to this masterpiece	\$40
Electronic Courseware Systems, Inc.	Keyboard Tutor	2.0	Piano skill development	Beginner	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode), MIDI optional	Introduction to basic piano skills. Unlimited practice of skills offered	\$40
Electronic Courseware Systems, Inc.	Keyboard Blues	3.0/3.5	Instrumental performance	Intermediate	Win 98/2000/XP, Mac OS 8, 9, MIDI required	Introduces simple blues chords, user can practice improvising with background chords	\$80
Electronic Courseware Systems, Inc.	Keyboard Chords	3.0/3.4	Theory	Intermediate	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode), MIDI optional	Drill and practice program which teaches major, minor, diminished, and augmented chords. Keeps records	\$80
Electronic Courseware Systems, Inc.	Keyboard Jazz Harmonies	3.1/2.1	Theory	Advanced	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode), MIDI optional	Study chord symbols and 7th chords. Keeps records	\$80
Electronic Courseware Systems, Inc.	Keyboard Extended Jazz Harmonies	3.0/2.1	Theory, ear training	Advanced	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode), MIDI optional	Learn 9th, 11th, and 13th chords both aurally and visually. Keeps records	\$80
Electronic Courseware Systems, Inc.	Keyboard Intervals	3.0/2.3	Theory	Intermediate	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode), MIDI optional	Learn major, minor, diminished, and augmented intervals. Keeps student records	\$80
Electronic Courseware Systems, Inc.	Keyboard Speed Reading	4.0/3.3	Instrumental performance	Intermediate	Win 95/98/2000/XP, Mac OS 7, 8, 9, MIDI optional	Timed drills help develop quicker note reading skills. Keeps student records	\$40
Electronic Courseware Systems, Inc.	Keyboard Kapers	5.5	Ear training/note reading	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10, MIDI optional	Note reading, ear training, piano skill development games. Hall of Fame displays high scores	\$40
Electronic Courseware Systems, Inc.	KIDS (Keyboard Introductory Development Series)	2.1/1.5	Note reading and piano skills	Beginner	Win 98/2000/XP, Mac OS 8, 9, MIDI optional	Includes studies in softage, note reading, and finger numbers for piano playing, many activities	\$50
Electronic Courseware Systems, Inc.	Musicus	5.1	Rhythm comprehension	Beginner	Win 98/2000/XP, Mac OS 8, 9 and 10	May be used in Spanish or English. Fun and colorful games teaching note values and musical meter	\$30
Electronic Courseware Systems, Inc.	Challenge Musicus	5.2	Rhythm skills development	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10	Beginners-Advanced colorful games, learn about notes, rhythms and meter	\$30
Electronic Courseware Systems, Inc.	Note Detective	2.1/2.7	Piano skill development	Beginner	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode), MIDI optional	Discover basic piano skills with the help of Sherlock	\$80
Electronic Courseware Systems, Inc.	Note Speller	5.0	Note reading	Beginner	Win 98/2000/XP, Mac OS 8, 9 and 10, MIDI optional	Timed games which develop note reading skills. Treble, Bass or Alto Clef.	\$40
Electronic Courseware Systems, Inc.	Ricochet	1.4	Piano skills, ear training	Beginner	Win 98/2000/XP, MIDI optional	Learn to play popular tunes by playing the piano key that a colored ball has highlighted	\$30
Electronic Courseware Systems, Inc.	Rhythm Performance Test-Revised	2.4	Skill assessment	Beginner	Win 98/2000/XP	Assess rhythmic performance skills or overall music skills	\$100
Electronic Courseware Systems, Inc.	Smack a Note	2.1	Note reading, piano keys	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10	Click on the "critters" that match the note names presented. Variety of skills included	\$20
Electronic Courseware Systems, Inc.	Symbol Simon	1.92	Music symbols and terminology	Intermediate	Win 98/2000/XP	Team up with musical symbol sleuth, Simon, to learn music symbols and their definitions	\$40

Computer-Assisted Music-Education Software

Manufacturer	Product	Version	Type	Level	Minimum System Requirements	Special Features	List Price
Electronic Courseware Systems, Inc.	Tap It	5.0	Rhythm skills	Beginner	Win 98/2000/XP, Mac OS 7, 8, 9 and 10. MIDI optional	Learn to keep a steady beat by listening or reading random rhythms. Full record keeping.	\$40
Electronic Courseware Systems, Inc.	Tap It II	5.0	Rhythm skills development	Intermediate	Win 98/2000/XP, Mac OS 7, 8, 9 and 10. MIDI optional	Tapping drills include syncopation, eighth and sixteenth note values. Varying tempos available.	\$40
Electronic Courseware Systems, Inc.	Tap It III	1.0	Rhythmic studies	Advanced	Win 98/2000/XP, Mac OS 9, 10	Rhythm tapping drills in 5/8, 7/8 and 10/8 meters	\$40
Electronic Courseware Systems, Inc.	Toon Up	1.2.2	Ear training	Beginner	Win 98/2000/XP	Develops listening skills and intonation.	\$40
Electronic Courseware Systems, Inc.	Tune It II	3.6	Ear training	Beginner	Mac OS 8, 9 and 10 (in classic mode)	Practice in matching pitches and getting two pitches 'in tune.'	\$40
Electronic Courseware Systems, Inc.	Audio Mirror	3.1	Vocal/pitch matching	Intermediate	Win 98/2000/XP	Sing or play into a mic attached to computer to match the sound presented. See if flat or sharp.	\$80
Electronic Courseware Systems, Inc.	MIDI Jazz Improvisation I	N/A	Instrumental performance	Intermediate	Win 98/2000/XP, Mac OS 7, 8, 9 and 10. MIDI required.	Develop improvisational skills. Requires software sequencer which can read standard MIDI files.	\$60
Electronic Courseware Systems, Inc.	MIDI Jazz Improvisation II	N/A	Instrumental performance	Advanced	Win 98/2000/XP, Mac OS 8, 9 and 10. MIDI required.	Develop improvisational skills. Requires software sequencer which reads standard MIDI file.	\$60
Electronic Courseware Systems, Inc.	Music Composer Quiz	3.0/2.1	Music appreciation	Advanced	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	Over 100 quiz questions are randomly chosen for testing knowledge. Student records retained.	\$40
Electronic Courseware Systems, Inc.	Music Flash Cards	3.0/2.8	Theory	Intermediate	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	Includes drills on note naming, scales, key signatures, intervals and basic chords.	\$100
Electronic Courseware Systems, Inc.	Music Terminology	3.0/3.1	Music fundamentals	Intermediate	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	Glossary of terms included along with five different types of testing.	\$40
Electronic Courseware Systems, Inc.	Clef Notes	4.0	Note reading	Beginner	Win 98/2000/XP, Mac OS 8, 9 and 10	Includes note reading on treble, bass, alto, or tenor clef.	\$40
Electronic Courseware Systems, Inc.	Ear Challenger	4.1	Ear training and tonal memory	All levels	Win 98/2000/XP*	Designed to assist you in increasing your ability to remember a series of pitches.	\$40
Electronic Courseware Systems, Inc.	Super Ear Challenger	2.3	Ear training and tonal memory	All levels	Mac OS 8, 9 and 10 (in classic mode)	Designed to develop ear training skills through memory and color.	\$40
Electronic Courseware Systems, Inc.	Early Keyboard Skills	5.4	Piano skill development	Beginner	Win 98/2000/XP, Mac OS 9, 9 and 10	Introduction to basic piano skills such as note reading and piano key names.	\$40
Electronic Courseware Systems, Inc.	Early Music Skills	5.2	Music fundamentals	Beginner	Win 98/2000/XP, Mac OS 8, 9 and 10	Introduces pre-note reading concepts to young children.	\$40
Electronic Courseware Systems, Inc.	Echos	3.1	Sight-reading piano skills	Beginner	Win 98/2000/XP*	Implements concepts of sight-reading using MIDI keyboard.	\$80
Electronic Courseware Systems, Inc.	Elements of Music	3.1/4.1	Theory, note reading	Beginner	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	May be used by children or adults for entry-level studies in music.	\$80
Electronic Courseware Systems, Inc.	Keyboard Arpeggios	2.42/2.2	Piano skill development	Beginner	Win 98/2000/XP, Mac OS 8, 9. Requires MIDI	Review piano arpeggio performance and fingerings to increase performance skills.	\$40
Electronic Courseware Systems, Inc.	Keyboard Fingerings	2.4	Piano skill development	Beginner	Win 98/2000/XP. Requires MIDI	Review standard and special fingerings for major, natural minor and harmonic minor scales.	\$40
Electronic Courseware Systems, Inc.	Keyboard Note Drill	3.0/2.2	Note reading	Beginner	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode). MIDI optional	Varying levels of difficulty, helps develop note reading skills. May be used with or without MIDI.	\$40
Electronic Courseware Systems, Inc.	Music Terminology for Bands, Orchestras & Choirs	2.0/2.3	Music fundamentals	Intermediate	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	Quizzes on terms specific to each ensemble, general musical terms: with definition.	\$40
Electronic Courseware Systems, Inc.	Aural Skills Trainer	3.0/3.7	Ear training	Advanced	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode). MIDI required.	Choose intervals, basic chords or seventh chords for studies and quizzing. Keeps records.	\$100
Electronic Courseware Systems, Inc.	Functional Harmony	3.0/4.1	Theory	Advanced	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode). MIDI required.	Choose studies: basic chords, diatonic 7ths, secondary dominants, or borrowed/alterd chords.	\$150
Electronic Courseware Systems, Inc.	Harmonic Progressions	3.0/3.9	Theory/ear training	Advanced	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode). MIDI required.	Analyze chords, harmonic dictation and aural identification. Keeps records.	\$200
Electronic Courseware Systems, Inc.	Music History Review: Composers	3.0/2.0	Music appreciation	Advanced	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	Test knowledge of composers from the Renaissance through the Twentieth Century. Keeps records.	\$40
Electronic Courseware Systems, Inc.	Musique	3.1	Theory, ear training	Advanced	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode). MIDI optional.	Collection of software with self-paced exercises for theory instruction.	\$595
Electronic Courseware Systems, Inc.	TimeSketch Editor	5.1	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10.	Create thematic analysis of audio CD, MP3, MIDI, WAV and AIF files.	\$100
Electronic Courseware Systems, Inc.	Bach Magnificat/Vivaldi Gloria Sketches	N/A	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	See the form analysis of each piece as you listen to the performance.	\$40
Electronic Courseware Systems, Inc.	Bach Toccata & Fugue Sketch	5.0	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10	See the form analysis of this work as you listen to the performance.	\$40
Electronic Courseware Systems, Inc.	Beethoven Piano Concerto No. 3 Sketch	5.0	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10	See the form analysis of this piece as you listen to the performance.	\$40
Electronic Courseware Systems, Inc.	Beethoven Pathétique Sonata Sketch	4.5	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	See the form analysis of this piece as you listen to the performance.	\$40
Electronic Courseware Systems, Inc.	Beethoven Symphony No. 5 Sketch	1.95/1.7	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	See the form analysis of this work as you listen to the performance.	\$40

Computer-Assisted Music-Education Software

Manufacturer	Product	Version	Type	Level	Minimum System Requirements	Special Features	List Price
Electronic Courseware Systems, Inc.	Berlioz Symphony Fantastique Sketch	4.3/1.9	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	See the form analysis of this piece as you listen to the performance	\$40
Electronic Courseware Systems, Inc.	Brahms Symphony No. 3 Sketch	5.0	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10	See the form analysis of this piece as you listen to the performance	\$40
Electronic Courseware Systems, Inc.	Brubeck Music Analyzed!	1.96/1.9	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	See the form analysis of each piece as you listen to the performances from the Time Out album	\$40
Electronic Courseware Systems, Inc.	Dvorak New World Symphony Sketch	5.0	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10	See the form analysis of this piece as you listen to the performance	\$40
Electronic Courseware Systems, Inc.	Miles Davis Music Analyzed!	5.0	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10	See the form analysis of each piece as you listen to the performances from the Kind of Blue album	\$40
Electronic Courseware Systems, Inc.	Granger Lincolnish ra Pinsky Sketch	5.0	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10	See the form analysis of this piece as you listen to the performance	\$40
Electronic Courseware Systems, Inc.	Moussorgsky Pictures at an Exhibition Sketch	4.3/2.1	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	See the form analysis of this piece as you listen to the performance	\$40
Electronic Courseware Systems, Inc.	Morant Symphony No. 40 Sketch	5.0	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10	See the form analysis of this piece as you listen to the performance	\$40
Electronic Courseware Systems, Inc.	Schubert Unfinished Symphony Sketch	4.5	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	See the form analysis of this piece as you listen to the performance	\$40
Electronic Courseware Systems, Inc.	Vaughan Williams/Bartok Sketches	5.0	Listening analysis	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10	See the form analysis of each piece as you listen to the performances	\$40
Electronic Courseware Systems, Inc.	Adventures in Musicland	3.1	Note reading, ear training	Beginner	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	Features characters from <i>Alice in Wonderland</i> by Lewis Carroll. For ages 4 through 12	\$50
Electronic Courseware Systems, Inc.	Digital Music Mentor	1.0/1.11	Instrument/vocal performance	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	Record exercises which others can study and then record their performance, portfolio builder	\$40
Electronic Courseware Systems, Inc.	Spell and Define	3.0/1.2	Terminology/music fundamentals	All levels	Win 98/2000/XP, Mac OS 8, 9 and 10 (in classic mode)	Teachers can create and customize vocabularies for student studies	\$25
Electronic Courseware Systems, Inc.	Rhythm Divide	1.0	Rhythmic performance	All levels	Win 98/2000/XP, Mac OS 9, 10	Music game with electronic composition exploration	\$30
Electronic Courseware Systems, Inc.	Music Theory Builder	1.0	Theory	Advanced	Win 98/2000/XP, Mac OS 10	Customize drills including major, minor, diminished, augmented chords and intervals	\$100
Electronic Courseware Systems, Inc.	Music Skill Builder	1.1	Theory	All levels	Win 98/2000/XP, Mac OS 10	Teachers may customize the drills in this program. Note reading, scales, key signatures & chords	\$100
Electronic Courseware Systems, Inc.	Musical Stairs	3.0/2.2	Theory	Beginner	Win 95/98/2000/XP, Mac OS 7, 8, 9 and 10 (in classic mode), MIDI optional	Aural-visual game introduces intervallic relationships to young students	\$40
eMedia Music Corporation	eMedia Guitar Method	3.0	Beginner guitar instructional	Beginner	Win 95 and higher, Mac OS 7.5 and higher	Animated fretboard, digital metronome, chord dictionary, automatic tuner, video instruction, looping	\$60
eMedia Music Corporation	eMedia Rock Guitar Method	N/A	Instructional	Beginner	Win 95 and higher, Mac OS 7.5 and higher	Over 100 audio and video enhanced lessons. Includes a built-in tuner, metronome, recorder	\$40
eMedia Music Corporation	eMedia Intermediate Guitar Method	N/A	Guitar instruction	Intermediate	Win 95 and higher, Mac OS 7.5 and higher	155 lessons, includes: Animated Fretboard, Automatic Tuner, Digital Metronome, Scale Dictionary	\$60
eMedia Music Corporation	eMedia Guitar Songs	N/A	Guitar instruction	Intermediate	Win 95 and higher, Mac OS 7.5 and higher	Over 20 Hit Songs by The Who, Peter Dinklage, Heart, Stevie Nicks, Eric Clapton, Grateful Dead	\$30
eMedia Music Corporation	eMedia Piano & Keyboard Method	N/A	Instructional performance	Beginner	Win 95 and higher, Mac OS 7.5 and higher	Animated Keyboard displays correct fingering as music plays, features 70 full motion videos	\$60
eMedia Music Corporation	eMedia Bass Method	N/A	Bass instruction	Beginner	Win 95 and higher, Mac OS 7.5 and higher	114 lessons, includes: Animated Fretboard, Video instruction, Audio with Tracking, Digital Metronome	\$60
eMedia Music Corporation	eMedia Blues Guitar Legends	N/A	Guitar instruction	Intermediate	Win 95 and higher, Mac OS 7.5 and higher	10 original artist recordings including The Allman Bros., Robert Cray, Stevie Ray Vaughan, B.B. King	\$30
FMJ Software	Chromatic Tuner	3.0	Chromatic multi-temperament	All levels	Win 9X, ME, NT, 2000, XP	Instrument tuning software. Many temperaments & tunings, from historic to modern. Advanced options	\$20
JustEnough Learning Co.	JustEnough Guitar Learning Kit	N/A	Instrumental performance	Beginner	Win 95, 98, ME, XP, 2000. 64 MB RAM, 120 MHz Power PC, 166 MHz Pentium or compatible	Video game, DVD player compatible. Four ways to learn. Interactive Virtual Jam Session	\$20
JustEnough Learning Co.	JustEnough Drums Learning Kit	N/A	Instrumental performance	Beginner	Win 95, 98, ME, XP, 2000. 64 MB RAM, 120 MHz Power PC, 166 MHz Pentium or compatible	Video game, DVD player compatible. Four ways to learn. Interactive Virtual Jam Session	\$20
JustEnough Learning Co.	JustEnough Vocals Learning Kit	N/A	Instrumental performance	Beginner	Win 95, 98, ME, XP, 2000. 64 MB RAM, 120 MHz Power PC, 166 MHz Pentium or compatible	Video game, DVD player compatible. Four ways to learn. Interactive Virtual Jam Session	\$20
JustEnough Learning Co.	JustEnough Bass Learning Kit	N/A	Instrumental performance	Beginner	Win 95, 98, ME, XP, 2000. 64 MB RAM, 120 MHz Power PC, 166 MHz Pentium or compatible	Video game, DVD player compatible. Four ways to learn. Interactive Virtual Jam Session	\$20
Line 6	GuitarPort	2.5	Artist and Berklee lessons	All levels	USB-equipped PCs that run Win XP, 2000, ME, 98SE	Virta-based amp modeling and effects, 24-bit USB I/O, online tablature, Berklee and artist lessons	\$140
MIBAC Music Software, Inc.	Music Lessons 1 Fundamentals (Windows)	N/A	Theory ear-training	All levels	Win 98, ME, NT4, 2000, XP, Sound Blaster and MIDI compatible	Flexible skill levels, on-screen help, scorekeeping, built-in theory reference	\$119
MIBAC Music Software, Inc.	Music Lessons 1 Fundamentals (Mac)	N/A	Theory ear-training	All levels	Mac OS X (10.2 or later), Mac OS 9, Mac OS 8, MIDI optional	Flexible skill levels, on-screen help, built-in music theory reference, scorekeeping	\$149

Computer-Assisted Music-Education Software

Manufacturer	Product	Version	Type	Level	Minimum System Requirements	Special Features	List Price
MIBAC Music Software, Inc.	Music Lessons II Chords and Harmony	N/A	Theory, ear-training	Advanced	Win/Mac Hybrid WinXP 1000, ME, 38, 95, Mac OS X, OS 9, OS 8 MIDI optional.	Every drill, including ear training, can be done in naming, writing, and play/r study activities	\$149
MIDIsoft	Quickstart Music Suite	1.0	Music theory, Instrumental	All levels	Win 9x	A full 4-CD music suite teaching music theory, piano, composition	\$60
MIDIworks Interactive	Composer Notes	2002	Composition & instrumentation	Advanced	Win 95, Mac OS 8.1	Interactive electronic book	\$250
MIDIworks Interactive	Junior Music Toolkit	N/A	Elementary creative music	Beginner	Win 95, Mac OS 8.2	Interactive electronic book	\$90
MIDIworks Interactive	Composer Notes Vol. 1	N/A	Performance/writing	All levels	Win 95 or higher, 64 MB application iRAM, Mac OS 8 or higher, 64 MB application RAM	Electronic book contains learning framework addressing composition for acoustic instruments and MIDI	\$250
MIDIworks Interactive	Composer Notes Jr. Music Toolkit	N/A	Creativity	Beginner	Win 95 or higher, Mac OS 8 or higher	Offers music activities for the elementary classroom	\$90
MIDIworks Interactive	Composer Notes Student Edition	N/A	Composition	All levels	Win 95 or higher, Mac OS 8 or higher	Program designed for single student use in studying composing and arranging music	\$50
miniMusic	BugBand	1.0.5	Sight reading	Beginner	Palm OS 3.0	Piano and guitar interfaces. Treble and bass clef	\$12
miniMusic	EarTrain	1.0	Ear-training	Beginner	Palm OS 3.0		\$12
MJ and Associates	Global Voices in Song: Four Swazi Songs	N/A	Vocal performance	All levels	Win 95 or higher, 32 MB RAM, Mac OS 7.5.3 or higher, 32 MB RAM	Presents vocal music of another culture using video materials and multimedia	\$200
MJ and Associates	Global Voices in Song: Folk Songs of Hungary	N/A	Vocal performance/multicultural	All levels	Win 95 or higher, 32 MB RAM, Mac OS 7.5.3 or higher, 32 MB RAM	See a model performance, pronounced text, voice parts, choreography, written text & translation.	\$200
Optek Music Systems, Inc.	The Fretlight Guitar	400	Guitar education	All levels	Win 98, 2000, XP	Lights in the fretboard show chords, scales, riffs, songs	\$599
Optek Music Systems, Inc.	The Fretlight Retrofit Neck	400	Guitar education	All levels	Win 98, 2000, XP	Add-on Fretlight neck for any standard start body	\$350
PG Music, Inc.	Band-in-a-Box	2004	Instrumental performance, sight	All levels	Win, 32 MB RAM	Automatic accompaniment	\$88
Pianomouse.com	Music Theory Fundamentals	N/A	Theory	Beginner	Win 95 or higher, 32 MB RAM, soundcard; Mac OS 8.1-9.1, 32 MB RAM	16 lessons and games introducing basics of keyboard, pitch, music alphabet, notes and other areas.	\$20
Pianomouse.com	Pianomouse Meets the Great Composers	N/A	Music appreciation	Intermediate	Win 95-ME, 32 MB RAM, soundcard; Mac OS 8.1-9.1, 32 MB RAM	Includes narrated composer biographies, puzzles, and games about 8 composers	\$20
Play Music Inc.	Play Guitar	2.0	Instrumental performance	Beginner	Win	Taught by GIT Instructor Pass Bolten, MIDI animated fretboard w/ voice syncing	\$40
Play Music Inc.	Play Blues Guitar	2.0	Instrumental performance	All levels	Win	MIDI-animated fretboard, 90 min video & animation, taught by GIT Instructor Keith Wyatt	\$40
Play Music Inc.	Play Rock Guitar	2.0	Instrumental performance	Intermediate	Win	MIDI-animated fretboard, Taught by GIT Instructor Keith Wyatt	\$40
Propellerhead	Teaching Music with Reason	N/A	Theory, performance, composing	All levels	PII 450 MHz or better, Win 98/ME/2000/XP, Mac OS 9 or 10.1 or greater	Ten copies of Reason Adapted included, lesson plans, record sheets, worksheets, project sheets	\$900
Pygraphics	3D Java	1.2.9	Drill design software	All levels	Win 95 or higher or Mac OS X, 400 MHz, 128 MB of RAM	Drill design software for marching bands	\$799
Pygraphics	Online Amadeus	3.1.0	Pitch and rhythm training	Beginner	Win 95 or higher, 64 MB of RAM	Used with Standard of Excellence software	\$295
Rising Software	Musition	2.0	Theory	All levels	Win 95, 98, ME, NT, 2000, XP	25 Topics, student tracking, customizable content	\$149
Rising Software	Auralia	2.1	Ear training	All levels	Win 95, 98, ME, NT, 2000, XP, Mac OS X	26 Topics, student tracking, customizable content	\$149
Sibelius Software	Educational Suite	N/A	Music fundamentals, theory	All levels	Win 95/98/ME/2000/XP/NT4, 32 MB RAM; Mac G4, G3, iMac OS 8.6, 15 MB RAM	Guide to instruments, composition, ear-training	\$TBA
Sibelius Software	Teaching Tools	N/A	Music fundamentals, theory	All levels	Win 95, 98, ME, 2000, XP, NT4 or higher, 32 MB RAM; Mac G4, G3, iMac OS 8.6 to 10.1 or later, 15 MB+	Exercise, worksheets, and other educational resources which help teach music with Sibelius software	\$69
Spring of Knowledge, Inc.	Guitar Magic	III	Instrumental - guitar	All levels	PC Pentium 233, CD-ROM/DVD	University-level guitar education	\$289
Spring of Knowledge, Inc.	Bass Magic	I	Instrumental - bass guitar	All levels	PC Pentium 233, CD-ROM/DVD	University-level bass guitar education	\$199
Ssoni Software	Music Admin Pro	4.8	Administration software	All levels	Win 98-XP, NT, Mac OS 8 OS C	Handles all aspects of running a music dept, music school or band program	\$1,095
Trail Creek Systems	Ear Training Expedition Part 1	N/A	Ear training	Intermediate	Win 95 or higher	Unique visual approach covering pitch register, dictation, intervals and scales	\$60
Trail Creek Systems	Ear Training Expedition Part 2	N/A	Ear training	Intermediate	Win 95 or higher	Unique approach covering inverted triads, augmented & diminished, rhythm, and circle of 5ths	\$60
Virtual Virtuoso	Practice Assistant	1.31	Studies and etudes for strings	All levels	Win	Plays at any tempo. Helps with intonation and rhythm	\$59
Virtual Virtuoso	Performance Assistant	2.0	Concertos & pieces for strings	All levels	Win	Plays accompaniment and/or solo, at any tempo.	\$20
Virtual Virtuoso	Scale Master with MIDI Metronome	1.2	Scales & arpeggios for strings	All levels	Win	Plays all scales, any tempo. Displays notation on screen.	\$25
World Wide Woodshed	SlowBlast!	N/A	Slow down/transcribe/practice	All levels	Win 95, 98, NT, 2000, ME, XP, sound card or chip, 300 MHz Pentium	Quick and easy, slow down or speed up, wave file support, real time	\$20
World Wide Woodshed	SlowGold	7	Slow down/transcribe/practice	All levels	Win 95, 98, NT, 2000, ME, XP, 300 MHz Pentium, 32 MB RAM	Sound quality, transposition, easy to use, many helpful features	\$50

Computer-Based Digital Audio Workstations

Manufacturer	Product	Analog I/O	Digital I/O	Platform Version	Bus Type	Plug-in Formats Supported	Sample Rate	A/D/A Converter/Bit Rate
Aardvark	Direct Pro LX6	(4/6) 1/4"	(2/2) S/PDIF (RCA)	Win	PCI	GSIF, ASIO 2, A*WDM, VST	32, 44.1, 48, 96 kHz	24-bit
Aardvark	Direct Pro 24/96	(4/6), (4) XLR/mic-1/4"	(2/2) S/PDIF (RCA)	Win	PCI	GSIF, ASIO 2, A*WDM, VST	32, 44.1, 48, 96 kHz	24-bit
Aardvark	Direct Pro Q10	(8) XLR mic or 1/4"	(2/2) S/PDIF (RCA)	Win, Mac OS X	PCI	GSIF, ASIO 2, A*WDM, VST	32, 44.1, 48, 96 kHz	24-bit
Aardvark	Direct Mix IUSB3	2 line I/O, 1 mic/guitar in, headphones out	N/A	Win, Mac	USB	USB audio standard	44.1, 48 kHz	24-bit
Aardvark	Aark 24	(8/8) 1/4"	(2/2) S/PDIF (RCA optional), (8/8) ADAT (optional)	Win	PCI	GSIF, ASIO 2, A*WDM, VST	32, 44.1, 48 kHz	24-bit
Alesis	ADAT/EDI™ 2.0	ADAT Optical	ADAT optical	Win 95/98/NT/2000/XP, Mac	PCI	N/A	44.1, 48 kHz	N/A
Alternate Mode/E-MU	HyperCube Digital Percussion Workstation	2 in/2 out 24 bit/192kHz	ADAT in/out 192kHz or optical S/PDIF	Win	30C MHz PC Dual Channel	VST	44-192 kHz	24-bit
Antex	SC22	(2/2)	N/A	Win 95/98/NT/2000/XP and WMD	PCI	DirectX	6.25-50 kHz	20-bit
Antex	SC2000	(4/4) XLF	(1/1) XLR AES/EBU, S/PDIF	Win 95/98/NT/2000/XP and WMD	PCI	DirectX	6.25-50 kHz	20-bit
Audiotrak	OptoPlay	(2/2) 1/8"	(0/2) optical	Win, MAC OS X	USB	N/A	96 kHz	24bit
Audiotrak	Prodigy192	(2/6) 1/8"	(0/2) coaxial and optical out	Win 98SE/ME/2000/XP	PCI	N/A	96 kHz in, 192 kHz out	24-bit
Audiotrak	Maya EX5	(2/6) 1/8"	(2/2) S/PDIF coaxial I/O, optical out	Win 98SE, ME, 2000, XP	USB	N/A	44.1, 48 kHz	16-bit
Audiotrak	Maya EX7	(4/8) RCA	(0/2) out optical	Win 98SE, ME, 2000, XP	USB	N/A	44.1, 48 kHz	16-bit, 24-bit
Audiotrak	Maya 44 mk II	(4/4) 1/4"	(0/2) S/PDIF coaxial/optical out	Win 98SE/ME/2000/XP	PCI	N/A	96 kHz	24-bit
Audiotrak	Maya 44 IUSB	(4/4) RCA	(0/2) stereo S/PDIF optical	Win 98SE/ME/2000/XP, Mac OS 10.x	USB	N/A	44.1, 48 kHz	18-bit, 20-bit
Audiotrak	Maya 100	(8/8) 1/4"	(2/2) S/PDIF optical/coaxial	Win	PCI	N/A	96 kHz	24-bit
Audiotrak	MI/ODI/O (add-on card)	N/A	(2) optical in, (2) coaxial in/out	Win, Mac	N/A	N/A	192 kHz	N/A
BIAS	Deck 3.5	64 - interface dependent	64 - interface dependent	Mac OS 8.6/9.x/10.x	N/A	VST	60 kHz	N/A
CreamWare	Scope Home	Stereo 1/4"	Coaxial	Win, Mac 9.2.2	PCI/DSP	N/A	N/A	24-bit
CreamWare	Scope Professional (24ADAT I/O)	N/A	(24) ADAT	Win, Mac 9.2.2	PCI/DSP	Proprietary	32, 44.1, 48, 96 kHz	24-bit
CreamWare	Scope Professional (Plus I/O)	XLR in/out	AES/EBU	Win, Mac 9.2.2	PCI/DSP	Proprietary	32, 44.1, 48, 96 kHz	24-bit
CreamWare	Scope Professional (Classic I/O)	(2) RCA	RCA unbalanced	Win, Mac 9.2.2	PCI/DSP	Proprietary	32, 44.1, 48, 96 kHz	24-bit
CreamWare	Scope Professional (2-Link)	RCA in/out	(16) Z-Link, (8) ADAT, S/PDIF	Win, Mac 9.2.2	PCI/DSP	Proprietary	32, 44.1, 48, 96 kHz	24-bit
CreamWare	Scope Project (Classic I/O)	(2) RCA	N/A	Win, Mac 9.2.2	PCI/DSP	Proprietary	32, 44.1, 48, 96 kHz	24-bit
CreamWare	Scope Project (24ADAT I/O)	N/A	(24) ADAT	Win, Mac 9.2.2	PCI/DSP	Proprietary	32, 44.1, 48, 96 kHz	24-bit
CreamWare	Scope Project (Plus I/O)	XLR in/out	AES/EBU	Win, Mac no OS X	PCI/DSP	Proprietary	32, 44.1, 48, 96 kHz	24-bit
CreamWare	Scope Project (2-Link I/O)	RCA in/out	(16) Z-Link, (8) ADAT, S/PDIF in/out	Win, Mac 9.2.2	PCI/DSP	Proprietary	32, 44.1, 48, 96 kHz	24-bit
Creative Labs	Sound Blaster Audigy 2 ZS	1/8" mic/line	S/PDIF	Win 95/98/NT/XP	PCI	EAX	8-96 kHz	24-bit
Creative Labs	Sound Blaster Audigy 2 ZS Platinum	In: (1) MIDI, (2) 1/4", (2) RCA, out: (1) 1/4", (1) MIDI	S/PDIF (coax and optical)	Win 98SE/ME/2000/XP	PCI	DirectX, EAX, EAX advanced HD, ASIO2, VST	8-192 kHz	24-bit
Creative Labs	Sound Blaster Audigy 2 ZS Platinum Pro	In: (1) MIDI, (2) 1/4", (2) RCA, out: (1) 1/4", (1) MIDI	S/PDIF (coax and optical)	Win 98SE/ME/2000/XP	PCI	DirectX, EAX, EAX advanced HD, ASIO2, VST	8-192 kHz	24-bit
Digidesign	Digi 002	(8/8) XLR 1/4"	(8) ADAT optical, (2) S/PDIF	Win, Mac	FireWire	RTAS, AudioSuite	44.1-96 kHz	24-bit
Digidesign	Digi 002 Rack	(8/8) XLR 1/4"	(8) ADAT optical, (2) S/PDIF	Win, Mac	FireWire	RTAS, AudioSuite	44.1-96 kHz	24-bit
Digidesign	Mbox	(2) XLR 1/4"	(2) S/PDIF	Win, Mac	USB	RTAS, AudioSuite	44.1-96 kHz	24-bit
Digidesign	Pro Tools HD 1, 2 Accel & 3 Accel	(Up to 96 channels)	Up to 96 channels	Win, Mac	PCI	IBM, HDAM, RTAS, AudioSuite	44.1-192 kHz	24-bit
Digigram	VX222x2	(2/2) XLR	(2/2) S/PDIF, AES/EBU	Win, Mac, Linux	PCI	N/A	8-48 kHz	24-bit
Digigram	VX442	(4/4) XLR	(2/2) S/PDIF, AES/EBU	Win, Mac, Linux	PCI	N/A	8-96 kHz	24-bit
Digigram	VXpocket v2	(2/2) XLF	(2/2) S/PDIF (coax)	Win, Mac, Linux	PC card	N/A	8-48 kHz	24-bit
Digigram	VXpocket 440	(4/4) XLF	(2/2) S/PDIF (coax)	Win, Mac, Linux	PC card	N/A	8-48 kHz	24-bit

Digital Recorder Resolutions (max)	Sync Types	MIDI Control	Tracks/Virtual Tracks	# of Locate Points	Effects/Dynamic Processing	Special Features	List Price
24 bit	MTC, S/PDIF	Yes	4/unlimited	N/A	Y/Y	Premium A/D, DSP compressor, EQ, reverb, full duplex, shielded PCI card	\$499
24 bit	MTC, S/PDIF	Yes	4/unlimited	N/A	Y/Y	Four class A mic pres, DSP compressor, EQ, reverb, full duplex, shielded PCI card	\$639
24-bit/96 kHz	MTC, S/PDIF, Word clock	Yes	10/unlimited	N/A	Y/Y	Eight class A mic preamps, two IFR guitar inputs, shielded PCI card, no mixer required, easy monitoring	\$1,099
24 bit	N/A	No	2/8	N/A	N/N	Solid steel unit, 24-bit A/D, guitar in, self-powered USB, record LEDs	\$299
24 bit	Word clock, S/PDIF, MTC, ADAT	Yes	10/unlimited	N/A	N/N	Low jitter clock, DSP, digital peak metering premium NI, full duplex, shielded PCI card	\$899
24 bit	ADAT sync in/out	Yes	16/8	16 (ADAT/connect)	Y/Y	Sample-accurate transfer, zero-latency monitoring, ASIO 2.0 support	\$399
32-bit	ADAT, MIDI clock, MTC	Yes	Unlimited	Unlimited	Y/Y	4 GB internal samples, hardware accelerated plugins, PC Cube, total Drum Solution, all sample types	\$1,500-\$2,200
N/A	LTC, SMPTE, Word clock	No	4 stereo	N/A	N/N	Multicard capability, Wintel & Alpha processor compatible	\$595
N/A	SMPTE read/write, video, VITC and LTC, word clock	Yes	8 stereo	N/A	N/N	Multicard capability, Wintel & Alpha processor compatible, LTC/VITC SMPTE read and generate sample	\$895
N/A	N/A	No	N/A	N/A	N/A	Tiny design, mobile sound upgrade, headphone amp	\$69
24-bit	N/A	No	N/A	N/A	N/N	Optional MIDI/digital I/O, mic, headphone, ASIO 2.0, E-WDM, DirectWIRE, advanced NSP	\$149
16-bit	N/A	No	N/A	N/A	N/N	Mobile, headphone out, mic in/line in, headset	\$89
N/A	N/A	No	N/A	N/A	N/N	Headphone out, 24-bit 96kHz DAC quality, mobile, EAX, DirectSound 3D	\$129
24-bit	N/A	No	N/A	N/A	N/N	Mic(+12V), headphone, ASIO2.0, E-WDM, DirectWIRE, digital mixer, optional MIDI/digital I/O	\$139
18-bit	N/A	No	N/A	N/A	N/N	Mobile, headphone out, direct input monitoring, ASIO 2.0 support	\$149
24-bit	N/A	Yes	N/A	N/A	N/A	Two mic ins, two headphone outs, E-WDM, DirectWIRE, ASIO2.0, breakout box	\$349
24-bit	N/A	Yes	N/A	N/A	N/A	Optional board for Maya44 mkII and Prodigy 192, 16-channel MIDI I/O, digital I/O	\$59
16-bit	N/A	Yes	64/999	Unlimited	N/Y	DMF import, 5.1 surround mixing, automated mixdown, QuickTime movie sync	\$399
N/A	N/A	Yes	N/A	N/A	Y/Y	ASIO, ASIO 2, Wave GSIF, Direct Sound, Wave, MME	\$425
N/A	ADAT/MTC	Yes	N/A	N/A	Y/Y	ASIO, ASIO 2, GSIF, WAVE, Direct Sound drivers, MME incl. software	\$1,995
N/A	ADAT/MTC	Yes	N/A	N/A	Y/Y	ASIO, ASIO 2, GSIF, WAVE, Direct Sound drivers, MME	\$1,995
N/A	ADAT/MTC	Yes	N/A	N/A	Y/Y	ASIO, ASIO 2, GSIF, WAVE, Direct Sound, MME incl. software	\$1,995
N/A	ADAT/MTC	Yes	N/A	N/A	Y/Y	ASIO, ASIO 2, GSIF, WAVE, Direct Sound, MME incl. software	\$1,995
N/A	ADAT/MTC	Yes	N/A	N/A	Y/Y	ASIO, ASIO 2, GSIF, WAVE, Direct Sound, MME incl. software	\$995
N/A	ADAT/MTC	Yes	N/A	N/A	Y/Y	ASIO, ASIO 2, GSIF, WAVE, Direct Sound drivers, MME incl. software	\$995
N/A	ADAT/MTC	Yes	N/A	N/A	Y/Y	ASIO, ASIO 2, GSIF, WAVE, Direct Sound drivers, MME	\$995
N/A	ADAT/MTC	Yes	N/A	N/A	Y/Y	ASIO, ASIO 2, GSIF, WAVE, Direct Sound, MME incl. software	\$995
24-bit	MIDI	No	N/A	N/A	Y/Y	Includes Cakewalk, Sound Forge, Mixman software and digital I/O card	\$129
24-bit	MIDI	Yes	64	N/A	Y/Y	106 dB SNR	\$199
24-bit	MIDI	Yes	64	N/A	Y/Y	108 dB SNR	\$250
24-bit	ADAT, S/PDIF	Yes	32/128	Unlimited	Y/Y	Pro Tools LE software, control surface, 4 mic pres, MIDI I/C, 48V, standalone mode, plug-ins	\$2,495
24-bit	ADAT, S/PDIF	Yes	32/128	Unlimited	Y/Y	Pro Tools LE software, four mic pres, MIDI I/O, 48V phantom power, plug-ins	\$1,295
24-bit	N/A	Yes	32/128	Unlimited	Y/Y	Pro Tools LE software, Focusrite pres, 48V, headphone jacks, low-latency monitoring, plug-ins	\$495
24-bit	LTC, VITC, MTC, BiPhase, Pilot Tone, AES/EBU, S/PDIF, ADAT	Yes	192/256	Unlimited	Y/Y	Pro Tools TDM software, HD interfaces and peripherals, control surfaces, Digi & Dev Partner plug-ins	\$7,995 and up
24-bit	N/A	No	N/A	N/A	N/Y	Headphone output, two GPIOs, 3.3V-PCI bus compatible	\$549
24-bit	N/A	No	N/A	N/A	N/Y	On-board routing and console, 3.3V-PCI bus compatible	\$789
24-bit	SMPTE, LTC	No	N/A	N/A	N/Y	Headphones connector	\$509
24-bit	SMPTE, LTC	No	N/A	N/A	N/N	Headphones connector	\$659

Computer-Based Digital Audio Workstations

Manufacturer	Product	Analog I/O	Digital I/O	Platform Version	Bus Type	Plug-in Formats Supported	Sample Rate	AD/DA Converter Bit Rate
Digital Audio Labs	CardDeluxe	(2/2) 1/4" TRS	S/PDIF	Win	PCI	Active Movie, DirectX	8-96 kHz	24-bit/128k/64x
Digital Audio Labs	TDIF 2496 Pro	N/A	(16) I/O	Win	PCI	N/A	96 kHz	N/A
Digital Audio Labs	CDX-DB, 8 Channel AES/EBU IF	0/2	(8) I/O	Win	PCI	N/A	44.1-96 kHz	24-bit
DigiTech	GNX4	XLR, 1/4"	N/A	Win, Mac	USB	VST	44.1 kHz	24-bit
Echo Digital Audio	Indigo	(0/2) stereo 1/8"	N/A	Win ME/2000/XP, Mac OS X	Type II Cardbus	N/A	96 kHz	24-bit
Echo Digital Audio	Indigo dj	(0/4) stereo 1/8"	N/A	Win ME/2000/XP, Mac OS X	Type II Cardbus	N/A	96 kHz	24-bit
Echo Digital Audio	Indigo io	(2/2) stereo 1/8"	N/A	Win ME/2000/XP, Mac OS X	Type II Cardbus	N/A	96 kHz	24-bit
Echo Digital Audio	MiaMIDI	(2/2) balanced 1/4"	(2/2) S/PDIF (coaxial)	Win 95/98/ME/2000/XP, Mac OS 8/9/X	PCI	N/A	96 kHz	24-bit
Echo Digital Audio	Gina3G	(2/6): 2 mic pre in, 2 1/4" in, 6 1/4" out	(8/4) ADAT, (2/2) S/PDIF	Windows ME/2000/XP, Mac OS X	PCI	N/A	96 kHz	24-bit
Echo Digital Audio	Layla3G	(8/8): 2 mic pre in, 8 1/4" in, 8 1/4" out	(8/4) ADAT, (2/2) S/PDIF	Windows ME/2000/XP, Mac OS X	PCI	N/A	96 kHz	24-bit
Echo Digital Audio	EchoFire 8	(8/8): 2 mic pre in, 8 1/4" in, 8 1/4" out	(2/2) S/PDIF	Windows ME/2000/XP, Mac OS X	FireWire	N/A	96 kHz	24-bit
Edirol	UA-1X USB Audio Interface	Stereo RCA I/O, headphone out	Optical S/PDIF	Win, Mac	USB	N/A	32, 44.1, 48 kHz	16-bit
Edirol	UA-20 USB Audio Interface	(2) 1/4" in, stereo RCA out	S/PDIF (optical out)	Win, Mac	USB	N/A	44.1 kHz	24-bit
Edirol	UA-25 USB Audio Interface	In: (2) XLR/TRS combo, RCA out; RCA, (2)+4dBu balanced TRS	S/PDIF (optical)	Win, Mac	USB	N/A	44.1, 48, 96 kHz	24-bit
Edirol	UA-3FX USB Audio Interface	Stereo RCA I/O, 1/4" mic/guitar in, 1/8" mic in	S/PDIF (optical)	Win, Mac	USB	N/A	32, 44.1, 48 kHz	24-bit
Edirol	UA-700 USB Audio Interface	(2) XLR/TRS, (1) 1/4"	S/PDIF (optical, coaxial)	Win, Mac	USB	N/A	32, 44.1, 48 kHz	24-bit
Edirol	UA-1000 USB 2.0 10 ch. Audio Interface	(4) XLR/TRS combo in, 8 TRS balanced in, 8 TRS balanced out, headphone out	ADAT, S/PDIF	Win XP	USB	N/A	up to 96 kHz	24-bit
Edirol	UR-80 USB Studio	XLR/TRS combo in, RCA out, headphone	S/PDIF (optical, coaxial)	Win, Mac	USB	N/A	up to 96 kHz	24-bit
Edirol	PCR-1 USB MIDI Controller & Audio Interface	Stereo RCA I/O, headphone out	Optical out	Win, Mac	USB	N/A	up to 96 kHz	24-bit
Edirol	PCR-A30 USB MIDI Controller & Audio Interface	(2) 1/4"	Optical out	Win, Mac	USB	N/A	96 kHz	24-bit
Edirol	M-100 FX 10 ch. Mixer with USB	(16/2) (2) XLR, (4) 1/4", (4) RCA	S/PDIF out, USB out	Win, Mac	USB	DirectX, VST	44.1 kHz	24-bit
Edirol	FA-101 10x10 FireWire Audio Interface	(8/8): 2 XLR/TRS combo in, 6 TRS 1/4" in, 8 TRS 1/4" out	(2/2) S/PDIF (optical)	Win, Mac	FireWire	N/A	192 kHz	24-bit
Emagic	A26	(2/6) RCA	(2/2) S/PDIF (coaxial)	Win, Mac	USB	DirectX, VST	44.1, 48 kHz	24-bit
Emagic	A62 m	(6/2) RCA	S/PDIF	Win 98SE/ME/XP, Mac OS X	USB	DirectX, VST, AU	44.1, 48, 88.2, 96 kHz	24-bit
E-MU Systems	0404 Digital Audio System	(2) 1/4" inputs, (2) 1/4" outputs	S/PDIF (coaxial/optical), MIDI I/O	Win 2000/XP	PCI	ASIO, WDM, Direct Sound drivers	44.1-96	24-bit
E-MU Systems	1212M Digital Audio System	(2) 1/4" balanced inputs, (2) 1/4" balanced outputs	ACAT I/O, coaxial S/PDIF I/O, MIDI I/O, FireWire	Win 2000/XP	PCI	ASIO, WDM, Direct Sound drivers	44.1-192 kHz	24-bit
E-MU Systems	1820 Digital Audio System	(2) XLR 1/4" preamp ins, (6) 1/4" bal ins, (8) 1/4" bal outs, (4) stereo 1/8" out, turntable ins	ADAT I/O, coaxial S/PDIF I/O, optical S/PDIF out, 2 MIDI I/O, FireWire	Win 2000/XP	PCI	ASIO, WDM, Direct Sound drivers	44.1-192 kHz	24-bit
E-MU Systems	1820M Digital Audio System	(2) XLR 1/4" preamp ins, (6) 1/4" bal ins, (8) 1/4" bal outs, (4) stereo 1/8" out, turntable ins	ACAT I/O, coaxial S/PDIF I/O, optical S/PDIF out, 2 MIDI I/O, FireWire	Win 2000/XP	PCI	ASIO, WDM, Direct Sound drivers	44.1-192 kHz	24-bit
ESI	GIGAPort AG	(0/8) RCA	(0/2) optical	Win 98SE/ME/2000/XP, Mac OS 9.x/10.x	USB	N/A	16 kHz	N/A
ESI	Juic@	(2/2) RCA and 1/4" swappable	(2/2) coaxial, optical out	Win 98SE/ME/2000/XP	PCI	N/A	192 kHz	24-bit

Digital Recorder Resolutions (max)	Sync Types	MIDI Control	Tracks/Virtual Tracks	# of Locate Points	Effects/Dynamic Processing	Special Features	List Price
24-bit	Internal, ext. digital	No	N/A	N/A	N/N	Multiple card support	\$399
24-bit	Word clock, internal	No	N/A	2	Y/Y	Dual TDIF, DTRS sync port, multicard support	\$699
24-bit	Word clock, A/E/S/EBU, internal	No	N/A	N/A	N/A		\$799
16-bit	MIDI clock	Yes	64/999	Unlimited	Y/Y	Guitar workstation, includes ProTracks Plus, BIAS Deck SE3.5, Lexicon plug-in	\$800
24-bit	N/A	No	N/A	N/A	N/N	Eight virtual outputs, headphone out, low-latency, full support for OS X, WDM, ASIO, and GSIF	\$169
24-bit	N/A	No	N/A	N/A	N/N	Eight virtual outputs, headphone and line out, low-latency, full support for OS X, WDM, ASIO, and GSIF	\$199
24-bit	N/A	No	N/A	N/A	N/N	Eight virtual outputs, headphone out, low-latency, full support for OS X, WDM, ASIO, and GSIF	\$199
24-bit	S/PDIF	No	N/A	N/A	N/N	MIDI I/O, eight virtual outputs, low-latency drivers with full support for OS X, WDM, GSIF	\$179
24-bit	ADAT, S/PDIF, MIDI	No	N/A	N/A	N/A	MIDI I/O, phantom power, headphone out, low-latency, full support for Mac OS X, WDM, ASIO, and GSIF	\$349
24-bit	ADAT, S/PDIF, word, MIDI	Yes	N/A	N/A	N/A	MIDI I/O, phantom power, headphone out, low latency, full support for Mac OS X, WDM, ASIO & GSIF	\$499
24-bit	S/PDIF, Word clock, MIDI, FireWire	No	N/A	N/A	N/A	MIDI I/O, headphone out, low-latency, full support for OS X, WDM, ASIO, and GSIF	\$599
16-bit	N/A	No	2	N/A	N/N	USB powered, gain switch, volume control	\$95
24-bit	N/A	No	2 mono/1 stereo	N/A	N/N	ASIO, WDM support, direct monitoring, MIDI I/O, FPT technology	\$215
24-bit	N/A	No	2	N/A	N/N	Phantom power, in/out gain controls, peak indicators, WDM & ASIO drivers, MIDI I/O, built-in limiter	\$295
24-bit	N/A	No	2 mono/1 stereo	N/A	Y/Y	Full set of effects	\$215
24-bit	N/A	Yes	2 mono/1 stereo	N/A	Y/Y	Line/mic/guitar input, COSM guitar amp and microphone modeling, phono preamp	\$595
24-bit	ADAT, word clock, MTC	Yes	10	N/A	N/N	Inserts on channels 1-4	\$945
24-bit	MTC	Yes	2/dynamic	Dynamic	N/N	Includes Control Assignment software & HD HyperCanvas Software synth	\$545
N/A	N/A	Yes	2	N/A	N/N	MIDI controller with built-in audio interface, bus powered, extremely thin	\$370
N/A	N/A	Yes	2	N/A	N/N	USB-powered MIDI controller and audio interface with built-in speakers and low-latency audio drivers	\$395
24-bit	N/A	No	N/A	N/A	Y/Y	Aux send, return	\$495
N/A	N/A	No	10	N/A	N/N	FireWire-powered	\$695
24-bit	Word clock	No	Software dependent	N/A	N/N	N/A	\$399
24-bit	Word clock	No	Software dependent	N/A	N/N	Zero-latency monitoring, integrated MIDI interface, low-latency OSX driver	\$399
Software	S/PDIF, MIDI	No	Software dependent	N/A	Y/Y	Hardware-accelerated VST plug-in effects and mixing, zero-latency monitoring, 111 dB /116 dB SNR I/O	\$100
Software dependent	ADAT, S/PDIF, MIDI	No	Software dependent	N/A	Y/Y	Hardware-accelerated VST plug-in effects and mixing, zero-latency monitoring, 120 dB SNR converters	\$200
Software dependent	ADAT, S/PDIF, MIDI	No	Software dependent	N/A	Y/Y	Hardware-accelerated VST plug-in effects and mixing, zero-latency monitoring, two TFPPro preamps	\$400
Software dependent	SMPTE, ADAT, word clock, S/PDIF, MTC, MIDI	No	Software dependent	N/A	Y/Y	Hardware-accelerated VST plug-in effects and mixing, zero-latency monitoring, two TFPPro preamps	\$500
N/A	N/A	No	N/A	N/A	N/N	24-bit DAC, headphone out, supports ASIO 2.0 driver	\$189
24-bit	N/A	Yes	N/A	N/A	N/N	DirectWire 3.0, E-WDM driver, compatible with 5V PCI slots, MIDI I/O	\$179

Computer-Based Digital Audio Workstations

Manufacturer	Product	Analog I/O	Digital I/O	Platform Version	Bus Type	Plug-in Formats Supported	Sample Rate	A/D/A Converter/Bit Rate
ESI	M/ODI/O	N/A	(2) optical in, (2/2) coaxial I/O (192kHz)	N/A	N/A	N/A	192 kHz	N/A
ESI	QuataFire 610	(4/4) RCA	(2/2) coaxial	Win XP	FireWire	N/A	192 kHz	24-bit
ESI	WaMi Rack 192L	(4) XLR in/(8) 1/4" out	(2/2) S/PDIF	Win 98SE/ME/2000/XP, Mac OS X	PCI	N/A	96 kHz in, 192 kHz out	24-bit
ESI	WaMi Rack 192X	(4) XLR in/(8) 1/4" out	(2/2) S/PDIF	Win 98SE/ME/2000/XP, Mac OS X	PCI	N/A	192 kHz	24-bit
ESI	Waveterminal 192L	(2/6) 1/4"	(0/2) S/PDIF	Win 98SE/ME/2000/XP, Mac OS X	PCI	N/A	96 kHz in, 192 kHz out	24-bit
ESI	Waveterminal 192M	(4/8) 1/4"	S/PDIF (optical, coaxial)	Win 98SE/ME/2000/XP, Mac OS X	PCI	N/A	96 kHz in, 192 kHz out	24-bit
ESI	Waveterminal 192X	(2/6) 1/4"	(0/2) S/PDIF	Win 98SE/ME/2000/XP, Mac OS X	PCI	N/A	192 kHz	24-bit
ESI	Waveterminal U24	(2/2) 1/4"	S/PDIF (optical, coaxial)	Win 98SE/ME/2000/XP, Mac OS 9.x/10.x	USB	N/A	32, 44.1, 48 kHz	24-bit
Frontier Design Group	WaveCenter/PCI	N/A	(8/8) ADAT, (2/2) S/PDIF (coax, optical), (2/2) MIDI	Win 95/98/ME/2000/XP, Mac	PCI	N/A	44.1, 48 kHz	N/A
Frontier Design Group	Dakota	N/A	(16/16) ADAT (expandable to 32/32), (2/2) S/PDIF (optical, coax), (2/2) MIDI I/O	Win 95/98/ME/2000/XP, Mac	PC	N/A	44.1, 48 kHz	N/A
Hercules	16/12 FW	In 10 1/4 + 2 combo XLR/1/4, out 8 1/4	In 4 Ch. Optical/Coaxial, out 4 Ch. Optical/Coaxial	Win & Mac	Firewire	VST	96 kHz	24-bit
Hercules	Hercules 16/12 FW	12 jacks (2 Neutrik combo XLR/TRS)	(4) stereo optical/coaxial	Win, Mac	FireWire	VST	96 kHz	24-bit
Lexicon Professional	Omega Studio	(2) XLR, (8) 1/4"	S/PDIF	Win, Mac	USB	VST	44.1, 48 kHz	24-bit
Lynx Studio Technology	AES16-XLR	N/A	(16/16) AES/EBU	Win 2000/XP, Mac OS 9/X	PCI	N/A	up to 192 kHz	24-bit
Lynx Studio Technology	AES16-SRC	N/A	(16/16) AES/EBU	Win 2000/XP, Mac OS 9/X	PCI	N/A	up to 192 kHz	24-bit
Lynx Studio Technology	LynxONE	(2/2) XLR	(2/2) S/PDIF, AES/EBU	Win 95/98/NT/2000, Mac OS 9, Linux	PCI	N/A	8-48 kHz (analog), 32-96 kHz (digital)	24-bit
Lynx Studio Technology	LynxTWO	(4/4), (2/6), (6/2) XLR	(2/2) S/PDIF, AES/EBU	Win 95/98/NT/2000, Mac OS 9, Linux	PCI	N/A	8-192 kHz (analog), 32-96 kHz (digital)	24-bit
Lynx Studio Technology	Lynx L22	(2/2) XLR	(2/2) S/PDIF, AES/EBU	Win 98/ME/NT/2000/XP, Mac OS 9/X	PCI	N/A	8-200 kHz (analog), 32-96 kHz (digital)	24-bit
Mackie	Spike Powered Recording System	2 mic/inst in	S/PDIF, MIDI	Win, Mac	USB	VST	96 kHz	24-bit
Marian	Marc 2	Stereo	Stereo S/PDIF	Win, Mac	PCI	N/A	96 kHz	24-bit
Marian	Marc 2 Pro	Stereo balanced XLR	AES/EBU on XLR, S/PDIF coax and Toslink	Win, Mac	PCI	N/A	96 kHz	24-bit
Marian	Marc 4 Digi	(4) 1/4" TRS	Stereo S/PDIF	Win, Mac	PCI	N/A	96 kHz	24-bit
Marian	Marc 4 MIDI	(4/4)	N/A	Win, Mac	PCI	N/A	96 kHz	24-bit
Marian	Marc 8 MIDI	(8) RCA	N/A	Win, Mac	PCI	N/A	96 kHz	24-bit
Marian	Marc A	N/A	ADAT	Win, Mac	PCI	N/A	48 kHz	24-bit
Marian	Marc-X	Stereo	ADAT and S/PDIF	Win, Mac	PCI	N/A	96 kHz	24-bit
M-Audio	Audiophile 192	2 x 4 TRS 1/4" on breakout cable	2 x 2 S/PDIF (coaxial RCA)	WinXP, Win2K (SP3), OS X 10.2.8 or 10.3.4	PCI	N/A	192kHz	24
M-Audio	Audiophile 2496	(2/2) RCA	S/PDIF (coaxial)	Win 95/98/2000, Mac, Linux	PCI	Direct X, VST	8-96 kHz	24-bit/128x
M-Audio	Audiophile USB	(2/2) RCA out, RCA, 1/4" in	(2/2) S/PDIF (coax)	Win 98SE/ME/2000/XP, Mac OS 9.x-X	USB	VST, DXi, ASIO, EASI, WDM	44.1, 48, 96 kHz	24-bit
M-Audio	Delta 1010	(8/8) 1/4" TRS	(2/2) S/PDIF (coax)	Win 95/98/SE/NT/2000/ME/XP, Mac OS 8.6-X	PCI	VST, GSIF, DXi, ASIO, EASI, WDM	8-96 kHz	24-bit
M-Audio	Delta 1010 LT	(8/8)	(2) S/PDIF	Win 95/98/SE/NT/2000/ME/XP, Mac OS 8.6-X	PCI	VST, DXi, GSIF, ASIO, WDM, RA	8-96 kHz	24-bit
M-Audio	Delta Audiophile 2496	(2/2) RCA	(2/2) S/PDIF (coax)	Win 95/98/SE/NT/2000/ME/XP, Mac OS 8.6-X	PC	VST, GSIF, DXi, ASIO, EASI, WDM	8-96 kHz	24-bit
M-Audio	Fast Track USB	1 XLR, switchable instrument/line input (1/4"), Stereo-RCA	N/A	WinXP (SP1), OS X 10.2.8 or greater	USB	N/A	48kHz	24
M-Audio	MobilePre USB	2x2 1/4"	N/A	Windows Me, 2K, XP, Mac OS 9 & X	USB	N/A	48kHz	16

Digital Recorder Resolutions (max)	Sync Types	MIDI Control	Tracks/Virtual Tracks	# of Locate Points	Effects/Dynamic Processing	Special Features	List Price
24-bit	N/A	Yes	N/A	N/A	N/N	Optional board for WT192 series (X.L.M.), 16-channel MIDI	\$59
24-bit	N/A	Yes	N/A	N/A	N/N	2 mic preamps with +48V phantom power, Hi-Z input for guitar	\$499
24-bit	N/A	Yes	N/A	N/A	N/N	ADC 100dB, DAC 104dB, 4 mic preamps with phantom power	\$469
24-bit	N/A	Yes	N/A	N/A	N/N	ADC 123dB, DAC 106dB, 4 mic preamps with phantom power	\$599
24-bit	N/A	No	N/A	N/A	N/N	24/96 digital out, optional add-on card MI/ODI/O	\$189
24-bit	N/A	No	N/A	N/A	N/N	Two mic inputs, optional add-on card MI/ODI/O	\$249
24-bit	N/A	No	N/A	N/A	N/N	24/96 kHz digital out, optional add-on card MI/ODI/O	\$289
24-bit	S/PDIF	No	N/A	N/A	N/N	4-ch full duplex in and out (analog and digital), ASIO 2.0	\$199
24-bit	MTC	No	N/A	N/A	N/N	2x2 MIDI I/O, ASIO 2.0 and GigaSampler drivers	\$329
24-bit	9-pin ADAT sync, MTC, SoDA (SMPTE on digital audio)	No	N/A	N/A	N/N	ASIO 2.0, GigaStudio drivers, MIDI I/O (4x8 optional), expandable to 32 ADAT channels	\$449
24-bit	Word clock	Yes	10/64	Unlimited	Y/Y	2 Hi-Z inputs, 48V phantom power	\$900
24-bit	Word clock	Yes	16/64	Unlimited	Y/Y	28 simultaneous I/O, Steinberg and Ableton Live software	\$899
24-bit	MIDI	Yes	64/999	Unlimited	Y/Y	dbx mic pres, Hi-Z in, monitor mix control, -20dB pad, +48V phantom power, software and Pantheon plug-ins	\$530
24-bit	Word clock, multiscard	No	N/A	N/A	N/N	6 ft. XLR cables with AES16-XLR and -SRC modules, sample rate conversion on AES16-SRC (\$995 SRP)	\$795
24-bit	Word clock, multiscard	No	N/A	N/A	N/N	Sample Rate Conversion, two 6 ft. XLR cables	\$995
24-bit	AES/EBU, word clock, super clock	Yes	N/A	N/A	N/N	XLR audio and MIDI/clock I/O cables included	\$499
24-bit	AES/EBU, word clock, super clock, SMPTE, composite video	No	N/A	N/A	N/N	4 ft. XLR audio cable, 2 ft. sync cable, multichannel ADAT and AES/EBU expansion cards	\$395-\$1,195
24-bit	AES/EBU, word clock, super clock	No	32/unlimited	N/A	N/N	L-Stream modules, 6 ft. XLR audio cable, 2 ft. sync cable, multichannel ADAT and AES/EBU expansion	\$749
24-bit	N/A	Yes	Unlimited	Unlimited	Y/Y	Compact recording system including all software necessary to track, mix, and record	\$495
N/A	N/A	No	N/A	N/A	N/N	Samplitude Bundle software	\$299
N/A	MIDI, word clock	No	N/A	N/A	N/N	Samplitude Bundle software	\$699
N/A	N/A	No	N/A	N/A	N/N	Samplitude Bundle software	\$369
24-bit	MIDI	No	N/A	N/A	N/N	2 x MIDI in/out, Samplitude software	\$369
N/A	MIDI	No	N/A	N/A	N/N	3 x MIDI in/out, Samplitude software	\$499
N/A	N/A	No	N/A	N/A	N/N	Samplitude Bundle software	\$249
N/A	MIDI, word clock	No	N/A	N/A	Y/Y	Full digital DSP mixer	\$499
24-bit	S/PDIF, MIDI clock	No	N/A	N/A	N/N	Extremely low latency ASIO II and WDM drivers, and GSIF II and Mac CoreAudio drivers	200
24-bit	Multiscard sync	Yes	N/A	N/A	N/N	On-board digital mixing, routing and monitor controls, SCMS, ASIO 1/2, EASI, GSIF, DirectX	\$230
24-bit/128x	N/A	Yes	N/A	N/A	N/N	Headphone output (1/4" TRS) w/volume control	\$250
24-bit	Word clock, S/PDIF, internal	Yes	N/A	N/A	N/N	MIDI	\$600
24-bit	S/PDIF, internal	Yes	N/A	N/A	N/N	MIDI, two built-in mic preamps	\$300
24-bit	S/PDIF, internal	Yes	N/A	N/A	N/N	MIDI	\$230
24-bit	N/A	No	N/A	N/A	N/N	Compatible with GarageBand, USB class compliant (OS X 10.3.5 and higher)	\$130
16-bit	N/A	No	N/A	N/A	N/N	Preamp, 48V phantom power, stereo line out	\$180

Computer-Based Digital Audio Workstations

Manufacturer	Product	Analog I/O	Digital I/O	Platform Version	Bus Type	Plug-in Formats Supported	Sample Rate	A/D/A Converter/Bit Rate
M-Audio	FireWire Audiophile	2x4 RCA	2 x2 S/PDIF (coaxial RCA)	WinXP, Win2K(SP3), Mac OS 9.2.2, OS X 10.1.5 or 10.2.6 or greater	FireWire	N/A	96kHz	24-bit
M-Audio	FireWire 410	(8/8)	(2/2)	Win 2000/XP, Mac OS 9 and OS X	FireWire	ASIO, GSIF, WDM	96 kHz	24-bit
M-Audio	FireWire 814	8x4 Analog (2xTRS bal)	8x8 ADAT optical, 2x2 S/PDIF coax/optical	Win XP, Mac OS X	FireWire	N/A	Up to 192 kHz	24-bit
M-Audio	Omni Studio	(4/4) 1/4" TRS	(2/2) S/PDIF (coaxial)	Win 95/98/2000/NT/XP, Mac, Linux	PCI	DirectX, VST	8-96 kHz	24-bit/128x
M-Audio	Omni Studio USB	(4/4) XLR, 1/4" TRS in, 1/4" TRS out	N/A	Win 98SE/ME/2000/XP, Mac OS 9.x-X	USB	VST, Dxi, ASIO, EASI, WDM	44.1, 48, 96 kHz	24-bit
Merging Technologies	PyraMix Virtual Studio 4.2	Optional external daughtercard	ADAT, S/PDIF, MAD, AES/EBU, TDIF, SDIF	Win XP Pro	PCI	Native, DirectX, VST	32 kHz, DSD 384	24-bit, 1-bit
Micro Technology	MicroSound/Krystal	2/1	AES/EBU, S/PDIF	Win	PCI	DirectX	8-48 kHz	16-bit
MOTU	828mkII	(8/10) 1/4" TRS, 2 mic in, headphone out	(2/2) S/PDIF, (2/2) Toslink or (8/8) ADAT	Win ME/2000/XP, Mac OS 9/X, ASIO, GSIF	FireWire	All native	44.1-96 kHz	24-bit
MOTU	896HD	8 mic-line in (Neutrik XLR/TRS), 8-out XLR	(2/2) AES/EBU, (8/8) ADAT	Win ME/2000/XP, Mac OS 9/X, ASIO, GSIF	FireWire	All native	44.1-192 kHz	24-bit
MOTU	2408mk3	(8/10) 1/4" TRS	S/PDIF, (3) ADAT Lightpipe, (3) TDIF	Win ME/2000/XP, Mac OS 9/X, ASIO, GSIF	PCI	All native	44.1-96 kHz	24-bit
MOTU	24I/O	(24/24) 1/4" TRS	N/A	Win ME/2000/XP, Mac OS 9/X, ASIO, GSIF	PCI	All native	96 kHz	24-bit
MOTU	HD192	(12) XLR	AES/EBU	Win ME/2000/XP, Mac OS 9/X, ASIO, GSIF	PCI	All native	44.1-192 kHz	24-bit
MultipointUSA	Super Xeon	up to 128	N/A	Win	PCI	Mcst	96 kHz	24-bit
Mytek Digital	DAW 9624	(8/8) XLR (expandable)	(4) AES/EBU (optional ADAT, TDIF)	Win, Mac, Linux	PCI	VST, DirectX	44.1, 48, 88.2, 96 kHz	24-bit
PreSonus	FirePod	(8) mic/inst/line inputs, (8) outputs	(2) S/PDIF	Win, Mac	FireWire	VST, RTAS, MAS	96 kHz	24-bit
RME	Digi 96/8 Pad	(2) stereo I/O 24/96	ADAT, S/PDIF, AES/EBU	Win 98/ME/2000/XP, Mac OS 9 and OS X	PCI	N/A	32, 44.1, 48, 64, 88.2, 96 kHz	24-bit
RME	Digiface	(1/4" TRS stereo line out, headphone out	(3) ADAT, S/PDIF, (2) MIDI I/O	Win 98/ME/2000/XP, Mac	PCI/PCMCIA	N/A	32, 44.1, 48, 64, 88.2, 96 kHz	24-bit
RME	Multiface	(8) 1/4" TRS I/O, Stereo Headphone/Line Out	ADAT, S/PDIF, MIDI	Win 98/ME/2000/XP, Mac OS 9 and X	PCI/PCMCIA	N/A	32, 44.1, 48, 64, 88.2, 96 kHz	24-bit
RME	Fireface 800	(8) TRS Outs (4) XLR (4) Line in, (1) Hi-Z, (4) 1/4" insert/line in, (1) stereo headphone/line out	(2) ADAT, S/PDIF, AES/EBU, (1) MIDI	Win XP, Mac OS X	FireWire 400 and 800	VST, DirectX	192 kHz	24-bit
RME	Hammerfall 96/36	N/A	(2) ADAT, S/PDIF, AES/EBU	Win 98x/ME/2000/XP, Mac OS 9 and OS X	PCI	N/A	32, 44.1, 48, 64, 88.2, 96 kHz	24-bit
RME	HDSP 96/32	Bal stereo XLR in/headphone out	S/PDIF, AES/EBU, ADAT, MIDI	Win, Mac	PCI	VST, DirectX	N/A	24-bit
RME	HDSP 96/52	N/A	(3) ADAT, S/PDIF, AES/EBU, (1) MIDI	Win 98/ME/2000/XP, Mac	PCI	Host dependent	32, 44.1, 48, 64, 88.2, 96 kHz	24-bit
RME	HDSP MADI	Stereo Headphone/Line Out	MADI (optical, coax) MIDI	Win/Mac	PCI	N/A	96 kHz	24-bit
Roland	RPC-SI-24W (Sonar)	(8) XLR/TRS	(2) S/PDIF	Win	PCI	VST	96 kHz	24-bit
Roland	Studio Package Pro (RPC-SI24)	(8) XLR/line in, gtr in, (6) analog out, headphone out	Coax, 8 ch 24/96	Win, Mac	PCI	VST	96 kHz	24-bit
Roland	Boss BR-1600	(8) XLR mic/line inputs/ (4) outputs	Coax digital I/O	Standalone	24-bit	N/A	48 kHz	24-bit
Roland	VS-2006CD	(8) mic/line with XLRs, (8) outputs	Coax digital I/O	Standalone	56-bit	Roland 3rd-party format	44.1 kHz	24-bit
Roland	VS-2406CD	(8) XLR/TRS	(2) coax, (2) optical, (8) R-Bus	Standalone	N/A	Roland 3rd-party format	96 kHz	24-bit
Roland	VS-2480CD or DVD	(16) mic/line (8 XLR) in, (12) out	16 channels R-Bus I/O, stereo coax I/O	Standalone	56-bit	Roland 3rd-party format	96 kHz	24-bit

Digital Recorder Resolutions (max)	Sync Types	MIDI Control	Tracks/Virtual Tracks	# of Locate Points	Effects/Dynamic Processing	Special Features	List Price
24-bit	S/PDIF, MIDI clock	No	N/A	N/A	N/N	Digital out supports AC-3/DTS surround sound, aux sends on all channels and aux output assign	\$350
24-bit	S/PDIF (coaxial/optical), MTC, MIDI clock	Yes	N/A	N/A	N/N		\$500
24 bit	ADAT, S/PDIF, word clock	Yes	N/A	N/A	N/N	Two headphone outs, dual mic preamps, assignable rotary control	\$750
24-bit	Multicard sync	No	N/A	N/A	N/N	Split console design, two mic pres have inserts, two line inputs, four stereo aux inputs, effects send	\$600
24-bit/128x	N/A	Yes	N/A	N/A	N/N		\$599
PCM 32-bit, DSD 1-bit	SMPTE, VITC, MTC, word clock, RS422, PAL, NTSC, HDV	Yes	Unlimited	Unlimited	Y/Y	Cross-fade editor, multipoint source/master editing, DSD, supports PMF, SDII, AIFF, AVI, MPS, WAV	\$3,495 and up
24-bit	None	No	Unlimited	32,767	Y/Y	Can edit and mix CD-ROM master files	\$3,995
24-bit	ADAT (sample-accurate), SMPTE, word	Yes	Host dependent	Host dependent	Host dependent	CueMix DSP no-latency monitoring, front-panel LCD programming	\$795
24-bit	ADAT, word clock, optical	No	Host dependent	Host dependent	Host dependent	Eight mic inputs w/preamps, CueMix DSP no-latency monitoring, programmable meters	\$995
24-bit	Word clock, SMPTE, ADAT, lightpipe, DTP	No	Host dependent	Host dependent	Host dependent	Works as standalone format converter, sample-accurate ADAT/Tascam transfers	\$995 core
24-bit	Internal, word clock (in/out)	No	Host dependent	Host dependent	Host dependent	114 dB S/N A-weighted, +4/-10dB switchable inputs	\$1,495 core
24-bit	Internal, word clock, AES/EBU	No	Host dependent	Host dependent	Host dependent	120+ dB S/N A-weighted, supports 5.1 surround I/O, AES/EBU I/O rate converters	\$1,895 core
24 bit	ADAT, SMPTE, MIDI clock	Yes	Unlimited	Host dependent	Y/Y	Self contained	\$4,999
32-bit	Word clock, video, (SMPTE w/extra hardware)	No	8 (expandable)/64	N/A	Optional	Various format DIO cards for 8x96	\$5,995
24-bit	MIDI I/O	No	N/A	N/A	N/N	Eight PreSonus mic preamps, Cubase LE Included	\$799
24-bit	N/A	No	8-channel	N/A	N/N	Digicheck software	\$399
24-bit	ADAT, word clock	Yes	26-channel	N/A	N/N	Digicheck software, TotalMix	\$699
24-bit	ADAT, word clock	Yes	18-channel	N/A	N/N	Digicheck software, TotalMix	\$749
32 bit	Word clock I/O, optional LTC I/O and VITC in	No	N/A	N/A	N/N	Digicheck software, TotalMix	\$1,799
24-bit	ADAT	No	18-channel	N/A	N/N	Digicheck software	\$499
32-bit	N/A	No	N/A	N/A	N/N	Includes Digicheck spectrum analyzer, 16-ch. meter bridge, vectorscope-bit statistics	\$749
24-bit	ADAT, word clock	No	26-channel	N/A	N/N	Digicheck software, TotalMix	\$749
24-bit	MIDI, word clock	Yes	N/A	N/A	N/N	Digicheck analysis software, TotalMix	\$1,749
24-bit	MTC, MMC	Yes	N/A	N/A	Y/Y	Comes with Sonar 2.2 Software	\$1,495
24-bit	MTC/MMC	Yes	24/unlimited	Unlimited	Y/Y	Also MIDI interface, motorized faders, joystick, surround, templates for Steinberg, HUI, User modes	\$1,495
16-bit	MTC, MIDI	Yes	16/128	9	Y/Y	PCM Drums & Bass w/seq, harmony seq, pitch correction	\$1,595
24-bit	MTC, MIDI	Yes	18+2/320	999	Y/Y	VGA output option, harmony sequencer, PCM drums and seq, amp modeling	\$2,395
24-bit	MTC	Yes	24/384	1,000	Y/Y	VGA output and mouse-based editing, moving faders w/automation, vocoder, real-time analyzer	\$3,295
24-bit	SMPTE, MIDI, MTC, word clock	Yes	24/384	999	Y/Y	VGA output and mouse-based editing, moving faders, vocoder, real-time analyzer, amp mod, pad seq	\$4,695/\$5,195

Computer-Based Digital Audio Workstations

Manufacturer	Product	Analog I/O	Digital I/O	Platform Version	Bus Type	Plug-in Formats Supported	Sample Rate	A/D/A Converter/Bit Rate
SADiE	PCM4	4/4		Win XP	PCI	DirectX, proprietary Cedar Restoration	96 kHz	24-bit
SADiE	PCM8	8, scalable to 32	8, scalable to 32	Win XP	Full turnkey system	DirectX, proprietary Cedar Restoration	Up to 192 kHz	24-bit
SEK'D	Profil-T	N/A	(16) TDIF	Win	PCI	N/A	97 kHz	24-bit
SEK'D	Profil 88	Stereo balanced out	(8/8) AES/EBU	Win	PCI	N/A	96 kHz	24-bit
Sonic Studio	Sonic Studio HD 1.9	Optional	Optional	Mac	PCI	N/A	192 kHz	N/A
Sonus	StudiOC	Stereo monitor output	(16) via 2x8 ADAT optical interfaces	Win 98/NT/2000, Mac, BeOS, Linux	PCI	N/A	44.1, 48, 88.2, 96 kHz	N/A
Sonus	USB Studio D	(2) mic, (2) instrument, (2) phono, (4) line in, (2) line out	(2) S/PDIF I/O	Win, Mac	USB	N/A	44.1, 48 kHz	20-bit/128x
Sound Devices	USBPre 1.5	(2) mic/line	S/PDIF	Win 98SE/ME/2000/XP, Mac OS 9/X	USB	N/A	48 kHz	24-bit
ST Audio	DSP2000 C-Port	(8/8) 1/4" (2 XLR in, 2 XLR out)	(2) optical/coaxial S/PDIF, AES/EBU	Win, Mac	44 pin H-Bus	DirectX, VST	96 kHz	24-bit
ST Audio	DSP3000 M-Port	(8) balanced XLR in (+8 TRS), (8) balanced XLR out	S/PDIF optical, AES/EBU I/O	Win, Mac	44 pin H-Bus	Direct X, VST	96 kHz	24-bit
Steinberg	Nuendo 3	Open	Open	Win XP Home/Pro, Max OS X 10.3 or higher	Open	VST, DirectX	up to 384 kHz	24-bit
Steinberg	VSL2020 PCI Audio Card	Stereo Inbal RCA	(32) ADAT, S/PDIF, AES/EBU	Win 2000/XP, Mac OS X (beta)	PCI	VST	96 kHz	24-bit
Sydec Audio Engineering	Mixpander 5/9	Broad Range of TDIF Converters	Up to 64 via Soundscape Expansior Port	Win 2000/XP	PCI audio card with 5 or 9 DSP	VST, VSTi, X-Pro	Up to 96Khz	24-bit
Sydec Audio Engineering	Mixtreme 192	Selection of TDIF Converters Available	16 In and 16 Out via 2x TDIF Ports and 2Channel SPDIF	Win 2000/XP	PCI	VST, VSTi, X-Pro	Up to 192Khz	20- to 24-bit
Sydec Audio Engineering	Soundscape 16	2x XLR Line In and 4x XLR Line Out	1x XLR AES/EBU In and 2x XLR AES/EBU Out PLUS 8 Channel Digital I/O via 1x TDIF Port	Win 95/98/ME/NT4/2000/XP	PCI (for GUI only) Dedicated 2RU Rack Chassis System	X-Pro, VST, VSTi	22.05 to 96khz	20- to 24-bit
Sydec Audio Engineering	Soundscape 32	2x XLR Line In and 4x XLR Line Out	1x XLR AES/EBU In and 2x XLR AES/EBU Out PLUS 24 Channel Digital I/O via 2x TDIF Port	Win 95/98/ME/NT4/2000/XP	PCI (for GUI only) Dedicated 2RU Rack Chassis System	X-Pro, VST, VSTi	22.05 to 96khz	20- to 24-bit
Tascam	US-122	(2) XLR, 1/4" / (2) 1/4"	N/A	Win, Mac	USB	N/A	44.1 kHz	24-bit
Tascam	US-224	(2) XLR, 1/4" / (2) 1/4"	S/PDIF	Win, Mac	USB	N/A	44.1 kHz	24-bit
Tascam	US-428	(2) XLR, (4) 1/4" out	S/PDIF	Win, Mac	USB	N/A	44.1 kHz	24-bit A/D/A
Tascam	FE-6	N/A	N/A	Win, Mac	FireWire	N/A	N/A	N/A
Tascam	FW-1884	(8) balanced mic/line in, (8) balanced out	(8/8) ADAT, S/PDIF	Win, Mac	FireWire	N/A	44.1-96 kHz	24-bit
TC Electronic	PowerCore Compact	N/A	N/A	Win XP, Mac 10.2 or higher	FireWire	VST, AU	96 kHz	24-bit
TC Electronic	PowerCore Element	N/A	N/A	Win XP, Mac OS X	PCI	VST, AU	96 kHz	N/A
TC Electronic	PowerCore FireWire	N/A	N/A	Win XP, Mac 10.2 or higher	FireWire	VST, AU	96 kHz	24-bit
TerraTec	Aureon 5.1 USB	(2) line in, (1) mic in, (6) line out	Optical	Win, Mac	USB	N/A	96 kHz	24-bit
TerraTec	Aureon 7.1 Universe	Stereo line in/out, phono in, mic in	S/PDIF (optical, coaxial)	Win, Mac	PCI	All	96 kHz	24-bit
TerraTec	Aureon 7.1 FireWire	(2) line in, (8) line out, phono in	S/PDIF (optical)	Win, Mac	FireWire	All	192 kHz	24-bit
TerraTec	DMX 6818a	(2) line in/out, (2) phono, (1) mic	(4/4) S/PDIF coaxial, S/PDIF optical	Win, Mac	PCI	All	96 kHz	24-bit
TerraTec	EWS-EB0	Stereo monitor out	(8) ADAT, (2) S/PDIF coax, (2) S/PDIF optical	Win, Mac	PCI	N/A	96 kHz	24-bit
TerraTec	MIC 2	(8/8) XLR, 1/4"	ADAT, S/PDIF, AES/EBU	Win 98/2000/NT/XP, Mac	PCI/FireWire	N/A	32-96 kHz	24-bit
TerraTec	MIC 8	(8/8) XLR, 1/4"	ADAT, S/PDIF, AES/EBU	Win 98/2000/NT/XP, Mac	PCI/FireWire	N/A	32-96 kHz	24-bit
TerraTec	Phase 22	(2) balanced TRS I/O	(2/2) S/PDIF coaxial	Win 98SE, ME, 2000, XP, Mac OS X	PCI 2.3	N/A	96 kHz	24-bit

Digital Recorder Resolutions (max)	Sync Types	MIDI Control	Tracks/Virtual Tracks	# of Locate Points	Effects/Dynamic Processing	Special Features	List Price
32 float	SMPTE, AES reference, video ref	No	32	Unlimited	Y/Y	Complete turnkey with computer	\$6,950
32 float	AES reference, LTC, video ref	No	32	Unlimited	Y/Y	Full Redbook authoring, complete turnkey system	\$9,950 for 8 I/O
N/A	DTRS	No	N/A	N/A	N/N	DTRS control software	\$599
24 bit	Word clock	No	N/A	N/A	N/N	Digital Mixer	\$799
24-bit	SMPTE, word clock	No	N/A	Unlimited	Y/N	Professional mastering, NoNOISE restoration system	\$12,000
24-bit	MTC	No	N/A	N/A	N/N		\$849
N/A	N/A	No	N/A	N/A	N/N	Stereo input VU meter, phantom powered, insert jacks	\$849
24-bit	N/A	No	2	N/A	N/N	Bus powered, portable	\$695
24-bit	ADAT option, external or internal sync supported	Yes	10/64	Unlimited	Y/Y	Up to 4 systems can be combined for up to 40 channels I/O	\$699
24-bit	ADAT option, external or internal sync supported	Yes	10/64	Unlimited	Y/Y	Up to 4 systems can be combined for up to 40 channels I/O	\$1,299
32-bit	Nuendo Timebase	Yes	Unlimited	Unlimited	Y/Y	AAF support, Warp to Picture, external effects plug-ins, Mix Convert, Surround, Video Thumbnail Track	\$1,999
N/A	Super clock/word clock	Yes	N/A	N/A	N/N	V-stack VST shell software included	\$399
24-bit	Word clock, super clock	Yes	32 / 128	N/A	Y/Y		\$125 and up
24-bit	Word clock, SMPTE	Yes	16 / 128	N/A	Y/Y		\$395
24-bit	MTC, MIDI clock, SMPTE (VITC/LTC), super clock, word clock, MIDI Song Position Pointer	Yes	16 / 256	N/A	Y/Y		\$3,750
24-bit	MTC, MIDI clock, SMPTE (VITC/LTC), super clock, word clock, MIDI Song Position Pointer	Yes	32 / 256	N/A	Y/Y		\$4,995
24-bit	N/A	Yes	N/A	N/A	N/N	Self-powered, bundled w/Tascam's GigaStudio 24, Steinberg's Cubasis recording/sequencing software	\$269
24-bit	N/A	Yes	N/A	N/A	N/N	Self-powered via USB cable, ships w/ Cubasis VST for Tascam US-224	\$375
24-bit	N/A	Yes	N/A	N/A	N/N	Bundled w/Cubasis VST for the Tascam US-428	\$625
N/A	N/A	No	N/A	N/A	N/N	Adds 8 channel strips with 100mm moving faders to the FW-18E4	\$1,249
24-bit	Word clock, MIDI timecode	Yes	18	DAW locate controls	Y/Y	Editing and mixing controls, 4 MIDI I/O, (9) 100mm touch-sensitive faders, FE-8 fader expansion	\$1,599
24-bit	N/A	No	N/A	N/A	Y/Y	Users can continually update with new plug-ins	\$995
N/A	N/A	Yes	N/A	N/A	Y/Y		\$645
24-bit	N/A	No	N/A	N/A	Y/Y	Users can continually update with new plug-ins	\$1,795
24-bit	N/A	No	N/A	N/A	N/N	AC3/DTS playback, 5.1 outputs	\$199
24-bit	S/PDIF	Yes	N/A	N/A	N/N	Phono input, mic input	\$349
24-bit	S/PDIF	No	N/A	N/A	N/N	Phono input, mic input	\$399
24-bit	MTC, S/PDIF	Yes	N/A	N/A	N/N	16 channels of MIDI, front module, gain and headphone knobs, 5.1 playback	\$399
24-bit	MTC, ADAT, S/PDIF	Yes	N/A	N/A	N/N	32 channels of MIDI (4 MIDI ports)	\$349
24-bit	LTC, MTC	Yes	N/A	N/A	N/N	32-ch MIDI	\$1,099
24-bit	LTC, MTC	Yes	N/A	N/A	N/N	32-ch MIDI	\$1,349
24-bit	MTC, S/PDIF	Yes	N/A	N/A	N/N	16 channels of MIDI	\$99

Computer-Based Digital Audio Workstations

Manufacturer	Product	Analog I/O	Digital I/O	Platform Version	Bus Type	Plug-in Format(s) Supported	Sample Rate	A/D A Converter/Bit Rate
TerraTec	Phase 24 FW	(2) balanced I/O, 1/4" TRS	(1/1) digital, stereo, RCA cinch	Win XP, Mac OS X 10.3.5	FireWire	N/A	192 kHz	24-bit
TerraTec	Phase 26 USB	(2/6) line I/O, phono, mic	S/PDIF (optical, coaxial), Toslink	Win 98SE, ME, 2000, XP, Mac OS 9, OS X	USB 1.1	All	96 kHz	24-bit
TerraTec	Phase 28	(2) balanced in, (8) balanced out (TRS)	S/PDIF	Win 98SE, ME, 2000, XP, Mac OS X	PCI	All	96 kHz in/192 kHz out	24-bit
TerraTec	Phase 88	(8/8) RCA cinch	Stereo S/PDIF	Win 98SE, ME, 2000, XP, Mac OS X	PCI 2.3	All	96 kHz	24-bit
TerraTec	Phono Preamp USB	Stereo line in, phono in	None	Win	USB	N/A	96 kHz	24-bit
Xyatar Digital Systems	IDMS232CDR Indigo Series	(2/2) TRS 3.5 mm	S/PDIF	Proprietary	PCI	DirectX, VST proprietary	11-48 kHz	20-bit
Xyatar Digital Systems	IDMS232CDRHD Indigo Series	(2/2) 3.5 mm TRS jacks	S/PDIF	Proprietary	PCI	DirectX, VST proprietary	11-96 kHz	24-bit
Xyatar Digital Systems	IDMS432CDR Indigo Series	(4/4) TRS 3.5 mm	S/PDIF	Proprietary	PCI	DirectX, VST proprietary	11-48 kHz	20-bit
Xyatar Digital Systems	IDMS432CDRHD Indigo Series	(4/4) 3.5 mm TRS jacks	S/PDIF	Proprietary	PCI	DirectX, VST proprietary	11-96 kHz	24-bit
Xyatar Digital Systems	IDMS832CDR Indigo Series	(8/8) supplied cables	S/PDIF	Proprietary	PCI	DirectX, VST proprietary	11-48 kHz	20-bit
Xyatar Digital Systems	IDMS832CDRHD Indigo Series	(8/8) supplied cables	S/PDIF	Proprietary	PCI	DirectX, VST proprietary	11-96 kHz	24-bit
Xyatar Digital Systems	IDMS1632CDR Indigo Series	(16/16) supplied cables	S/PDIF	Proprietary	PCI	DirectX, VST proprietary	11-48 kHz	20-bit
Xyatar Digital Systems	IDMS1632CDRHD Indigo Series	(16/16) supplied cables	S/PDIF	Proprietary	PCI	DirectX, VST proprietary	11-96 kHz	24-bit
Xyatar Digital Systems	IDMS2432CDR Indigo Series	(24/24) supplied cables	S/PDIF	Proprietary	PCI	DirectX, VST proprietary	11-48 kHz	20-bit
Xyatar Digital Systems	IDMS2432CDRHD Indigo Series	(24/24) supplied cables	S/PDIF	Proprietary	PCI	DirectX, VST proprietary	11-96 kHz	24-bit
Xyatar Digital Systems	TDMS232CDR Traveler Series	(2/2) 3.5 mm TRS jacks	S/PDIF, proprietary	Proprietary	Proprietary	DirectX, VST proprietary	11-48 kHz	20-bit
Xyatar Digital Systems	TDMS232CDRHD Traveler Series	(2/2) 3.5 mm TRS jacks	S/PDIF, proprietary	Proprietary	Proprietary	DirectX, VST proprietary	11-96 kHz	24-bit
Xyatar Digital Systems	TDMS432CDR Traveler Series	(4/4) 3.5 mm TRS jacks	S/PDIF, proprietary	Proprietary	PCI	DirectX, VST proprietary	11-48 kHz	20-bit
Xyatar Digital Systems	TDMS432CDRHD Traveler Series	(4/4) 3.5 mm TRS jacks	S/PDIF, proprietary	Proprietary	Proprietary	DirectX, VST proprietary	11-96 kHz	24-bit
Xyatar Digital Systems	TDMS832CDR Traveler Series	(8/8) supplied cables	S/PDIF, proprietary	Proprietary	Proprietary	DirectX, VST proprietary	11-48 kHz	20-bit
Xyatar Digital Systems	TDMS832CDRHD Traveler Series	(8/8) supplied cables	S/PDIF, proprietary	Proprietary	Proprietary	DirectX, VST proprietary	11-96 kHz	24-bit
Xyatar Digital Systems	TDMS1632CDR Traveler Series	(16/16) supplied cables	S/PDIF, proprietary	Proprietary	Proprietary	DirectX, VST proprietary	11-48 kHz	20-bit
Xyatar Digital Systems	TDMS1632CDRHD Traveler Series	(16/16) supplied cables	S/PDIF, proprietary	Proprietary	Proprietary	DirectX, VST proprietary	11-96 kHz	24-bit
Yamaha	UW10	(2/2) RCA	(1/1) optical (S/PDIF)	Win XP	USB	ASIO	48 kHz	16-bit
Yamaha	i88X	(8/8) 1/4", 2 XLR	(8) ADAT, (1) stereo S/PDIF	Win XP, Mac OS 9/X	mLAN - FireWire	N/A	Up to 96 kHz	24-bit
Yamaha	01X	(8/4) 1/4", 2 XLR	Coaxial	Win XP, Mac OS 9/X	mLAN	VST, AU	Up to 96 kHz	24-bit
YRS MIDI Systems	YRS Custom Digital Audio Workstation	2-24/2-24 XLR, 1/4" bal., RCA	2/2, 8/8 TDIF, S/PDIF, AES/EBU,	Win XP	PCI, USB, FireWire	VST, DXi	8-192 kHz	24-bit
Zoom	802B	(2) XLR combo, (1) 1/4"	(1) S/PDIF optical out, USB I/O	Proprietary	N/A	N/A	44.1 kHz	24-bit
Zoom	802B-CD	(2) XLR combo, (1) 1/4" Hi-z, stereo RCA, 1/4" headphone	(1) S/PDIF optical out, USB I/O	Proprietary	N/A	N/A	44.1 kHz	24-bit
Zoom	1608	(8) XLR combo, (2) 1/4" Hi-z, RCA in, RCA main out	S/PDIF optical out	Proprietary	N/A	N/A	44.1 kHz	24-bit
Zoom	1608-CD	(8) XLR combo, (2) 1/4" Hi-z, RCA in, RCA main out	(1) S/PDIF optical out, USB I/O	Proprietary	N/A	N/A	16 kHz	24-bit

Digital Recorder Resolutions (max)	Sync Types	MIDI Control	Tracks/Virtual Tracks	# of Locate Points	Effects/Dynamic Processing	Special Features	List Price
24-bit	N/A	Yes	N/A	N/A	N/N		\$249
24-bit	S/PDIF, MTC	Yes	N/A	N/A	N/N		\$249
24-bit	S/PDIF, MTC	Yes	N/A	N/A	N/N	16 channels of MIDI	\$179
24-bit	S/PDIF	Yes	N/A	N/A	N/N	Includes internal/external breakout box, fully routable I/O	\$359
24-bit	N/A	No	N/A	N/A	N/N	Comes with de-clicking/de-popping software	\$199
20-bit	SMPT-E, MTC	No	32/unlimited	Unlimited	Y/Y	Removable Sound Tray (6 to 100 hours record time per tray), Redbook CD mastering, mix console, more	\$2,249
24-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Unlimited record time w/ removable sound tray, ORB, mic mixing console, CD mastering	\$3,499
20-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Unlimited record time w/ removable sound tray, ORB, mic mixing console, CD mastering	\$2,949
24-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Unlimited record time w/ removable sound tray, ORB, mic mixing console, CD mastering	\$3,999
20-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Unlimited record time w/ removable sound tray, ORB, mic mixing console, CD mastering	\$6,499
24-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Unlimited record time w/ removable sound tray, ORB, mic mixing console, CD mastering	\$7,999
20-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Unlimited record time w/ removable sound tray, ORB, mic mixing console, CD mastering	\$8,499
24-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Unlimited record time w/ removable sound tray, ORB, mic mixing console, CD mastering	\$9,999
20-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Unlimited record time w/ removable sound tray, ORB, mic mixing console, CD mastering	\$10,499
24-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Unlimited record time w/sound tray, ORB, mon, 48-ch. mic mixer, FFT noise removal, 32-48 analog I/O	\$12,999
20-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Line and 12 volt operation, mic mixer, 125 hours non-compressed record time, CD mastering	\$1,999
24-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Line and 12 volt operation, mic mixer, 125 hours non-compressed record time, CD mastering	\$2,199
20-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Line and 12 volt operation, mic mixer, 125 hours non-compressed record time, CD mastering	\$2,299
24-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Line and 12 volt operation, mic mixer, 125 hours non-compressed record time, CD mastering	\$2,599
20-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Line and 12 volt operation, mic mixer, 125 hours non-compressed record time, CD mastering	\$3,999
24-bit	SMPT-E, MTC	Optional	Unlimited	Unlimited	Y/Y	Line and 12 volt operation, mic mixer, 125 hours non-compressed record time, CD mastering	\$4,499
20-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Line and 12 volt operation, mic mixer, 125 hours non-compressed record time, CD mastering	\$4,999
24-bit	SMPT-E, MTC	Optional	32/unlimited	Unlimited	Y/Y	Line and 12 volt operation, mic mixer, 125 hours non-compressed record time, CD mastering	\$5,999
N/A	N/A	No	N/A	N/A	N/N	Track-down mode allows bouncing of virtual instrument and audio tracks	\$159
N/A	mLAN (word clock), ADAT, SPDIF	No	N/A	N/A	N/N	2 DM2000 quality mic preamps with insert points, total of 18 simultaneous inputs and outputs	\$1,299
24-bit	mLAN (word clock), S/PDIF	Yes	N/A	N/A	Y/Y	Standalone digital mixer, remote control surface for DAW, motorized faders, bundled VST plug-ins	\$1,699
32-bit	All	Yes	Unlimited	Unlimited	Y/Y	Customized to your specifications	\$1,000-\$5,000
24-bit	MIDI	Yes	8/10	N/A	Y/Y	Optional CDR-RW drive	\$980
24-bit	MIDI	Yes	8/10	N/A	Y/Y	CDR-RW drive included	\$1,250
24-bit	MIDI	Yes	16/10	100	Y/Y	Optional CDR-RW drive	\$1,450
24-bit	MIDI	Yes	10/16	100	Y/Y	Built-In CDR-RW drive	\$1,800

Editor/Librarian Software

Manufacturer	Product	Type	Minimum System Requirements	Category, Search Features
Chicken Systems, Inc.	SampleBase	Librarian	Win 98, Mac OS 9, 128 MB RAM	N/A
Chicken Systems, Inc.	Constructor	Editor/Librarian	Win 98, Mac OS 8.6, 128 MB RAM	N/A
Emagic	SoundDiver	Editor/Librarian	Win 95, 98, NT, 2000, Mac OS 7.5.3	N/A
FMJ-Software	Awave Studio 9.0	Editor/Librarian	Win 9X, ME, NT, 2000, XP	N/A
jambiant Software	PowerMid/Verb4	Editor/Librarian	Win 98, XP, 32 MB RAM	Mid/Verb4
Magix Entertainment Corporation	Magix MP3 Maker 2005 Deluxe	Editor	Win 98/98SE/ME/2000/NT/XP, 400 MHz, 64 MB RAM, 250 MB free, 16 bit full-duplex soundcard	CDDB, Supertagging, ID3, Jukebox, MP3
MOTU	Unisyn	Editor/Librarian	Win 98SE or higher, MAC OS 8.5 or higher	Name, comment, date, type, keyword, wildcard
Riden Consulting, Inc.	The Recording Music Library 5.1	Librarian	Win 95, system 7.1	Search by any and all categories
Riden Consulting, Inc.	The Band Music Library 5.1	Librarian	Win 95, system 7.1	Search by any and all fields
Riden Consulting, Inc.	The Choral Music Library 5.1	Librarian	Win 95, System 7.1	Search by any and all fields
Riden Consulting, Inc.	The Orchestra Music Library 5.1	Librarian	Win 95, system 7.1	Search by any and all fields
Riden Consulting, Inc.	The Keyboard Music Library 5.1	Librarian	Win 95, system 7.1	Search by any or all fields
Riden Consulting, Inc.	The Church Music Library 5.1	Librarian	Win 95, system 7.1	Search by any or all fields
Riden Consulting, Inc.	The Organist Music Library Plus 5.1	Librarian	Win 95, system 7.1	Search by any or all categories
Riden Consulting, Inc.	The Singer Music Library 5.1	Librarian	Win 95, system 7.1	Search by any or all categories
Roland Corporation	Fantom-S patch editing software	Editor/Librarian	Win XP/2000/ME, Mac OS 9	N/A
SmartSound Software, Inc.	SmartSound Sonicfire Pro 3.2	Editor/Librarian	Win 2000, XP, System 9.1 - 9.2.2 and OS X 10.2 or higher, 128 MB available RAM and 25 MB Hard Disk	N/A
SmartSound Software, Inc.	Movie Maestro 1.0	Editor/Librarian	Win 98 or higher, Mac OS 9 or higher	N/A
Sound Quest Inc.	MIDI Quest XL	Editor/Librarian	Mac OS 9/X, 128 MB RAM	Search by name, comment, 16 assignable keys, duplicates, similar sounds
Sound Quest Inc.	MIDI Quest Universal Editor/Librarian 9	Editor/Librarian	Win 98, ME, NT, 2000, XP, 64 MB RAM	Search by name, comment, 16 assignable keys, duplicates, similar sounds
Sound Quest Inc.	UniQuest Editor/Librarian 9	Editor/Librarian	Win 98, ME, NT, 2000, XP	Search by name, comment, 16 assignable keys, duplicates, similar sounds
Soundminer Inc.	Soundminer 3.1	Editor/Librarian	Mac Classic and OS X	Multiple category search
Soundminer Inc.	Ripper 3.1	Editor/Librarian	Mac OS X	Digitizes CD
Terzoid Software	NoiZe.Lib 3.2	Librarian	Win 95, 98SE, ME, 2000, XP	Keyword, name, description, notes
Terzoid Software	NoiZe 3.2	Editor/Librarian	Win 95, 98SE, ME, 2000, XP	Keyword, name, description, notes

Interactive Music-Composition/Auto-Accompaniment Software

Manufacturer	Product	Minimum System Requirements	Audio Support	# of Chords per Measure	# of Styles	# Editable/User-Created Styles	Max. # of Generated Parts	Generates Chord Progression	Generates Solo Part	Melody Harmonizing	Odd Meters	Prints Chart/Notation/Palature	Records User Performance	Records MIDI Control Change Messages	Resolution (ppqn)	Replaces Individual Parts	Style Changes Within Song	Support for nonGM/XG Instruments	Special Features	List Price
MakeMusic! Inc.	SmartMusic 8.4	Mac 10.2.8, Win 98, 128 MB RAM	Yes	N/A	Unlimited	Unlimited	N/A	No	Yes	No	Yes	N/N/N	Audio	No	N/A	No	No	No	Intelligent Accompaniment, 30,000 titles, 50,000 exercises, band & string methods	\$120
MiBAC Music Software, Inc.	MiBAC Jazz	Win 95/98/ME/NT4/2000/XP, Mac OS 8/9, Serial, USB MIDI interface	Yes	2	12	None	3	No	No	No	No	Y/N	N/A	No	125	No	Yes	Yes	Realistic-sounding jazz accompaniments, 12 styles, flexible song forms & playback, lg. chord vocab	\$125
QRS Music Technologies, Inc.	Gulbransen Digital Hymnal	None	Yes	N/A	127	None	3	No	Yes	Yes	Yes	N/N/N	N/A	No	N/A	No	Yes	No	Memory contains thousands of popular hymns	\$1,175

Import/Export File Types	Number of Supported Devices	Number of Included Templates	Patch Randomize	Software Link to Sequencer	Test-sequence Playback	User-programmable Editors	Special Features	List Price
N/A	N/A	N/A	No	No	No	No	Organizes, sorts, makes available computer sound files for auditioning/loading into software sampler	\$50
N/A	N/A	N/A	No	No	No	No	Load, edit, and save any Sampler Instrument file (with the samples) in a format-independent environment	\$200
SMF, SYX, Galaxy	N/A	N/A	Yes	Yes	Yes	Yes	Patch overview, screen sets	\$199
More than 240 audio and synth formats	240+	N/A	No	No	Yes	Yes	Multi-purpose audio and synth file format converter, editor, performer and librarian	\$140
SYX	1	N/A	No	No	No	No	Specially-designed for the Mid/Verb4	\$20
WAV, MP3, MP3PRO, WMA, OGG, CDDA, Play: ASF, WMA, REAL	Multiple	N/A	No	No	Yes	Yes	Music Editor, ID3 Super Tagging, MP3 DVD & CD Burn, Mastering & FX, Play/Record Web Radio	\$39
SYX, X-OR, Galaxy	300	N/A	Yes	Yes	Yes	Yes	Unlimited undo/redo, studio snapshots, window sets, compare patch/bank, auto keyword assignment	\$195
FM*, S.K, TAB, TXT, WK1, WKS, DIF	1	Many	No	No	No	No	Designed for the home collector	\$49
FM*, S.K, TAB, TXT, WK1, WKS, DIF	1	Many	No	No	No	No	Manages all aspects of the school band program	\$129
FM*, S.K, TAB, TXT, WK1, WKS, DIF	1	Many	No	No	No	No	Manages all aspects of the school choral program	\$129
FM*, SLK, TAB, TXT, WK1, WKS, DIF	1	Many	No	No	No	No	Manages all aspects of the orchestra program	\$129
FM*, SLK, TAB, TXT, WK1, WKS, DIF	1	Many	No	No	No	No	Manages all aspects of the piano/keyboard teacher	\$129
FM*, SLK, TAB, TXT, WK1, WKS, DIF	1	Many	No	No	No	No	Manages all aspects of the church-music program	\$129
FM*, SLK, TAB, TXT, WK1, WKS, DIF	1	Many	No	No	No	No	18,000 hymns cross-referenced with 3000 hymn tunes	\$199
FM*, SLK, TAB, TXT, WK1, WKS, DIF	1	Many	No	No	No	No	Designed for the classical singer/teacher	\$129
N/A	1	N/A	No	No	No	No	Links via USB to Fantom-S/S88	Ships w/ unit
AIFF, WAV, MP3 import, CD Audio, QuickTime	N/A	N/A	No	No	No	No	Audio-editing software, music library, soundtrack creation software, auto editing of library music	\$299
WAV, AIFF, QuickTime, AVI	N/A	N/A	No	No	No	No	Music library, soundtrack creation	\$50
SYX, SMF, customizable import filters	600+	1,150	Yes	Yes	Yes	No	VST, MFX & OPT plug-ins, parent/child editing, SONAR/Cubase/XML Name support	\$299
SYX, SMF, customizable import filters	600+	1,155	Yes	No	Yes	No	Parent/child editing, Sonar Name support, skins, 70,000 patches	\$199
SYX, SMF, customizable import filters	600	1,100	Yes	No	Yes	No	Parent/child editing, Sonar Name support, skins, 60,000 patches, automation	\$99
SD2F, AIFF, BWAV, AIFC, MP3, MP4, Sample-cell	N/A	N/A	No	Yes	No	No		\$995
AIFF, MP4, SD2F, BWAV	N/A	N/A	No	No	No	No	Converts commercial SFX CDs to format with embedded metadata	\$349
SYX	50	N/A	No	No	Yes	Yes	Project oriented, multiple windows, interactive librarian module creator	\$40
SYX	50	33	Yes	No	Yes	No	Project oriented, multiple windows, customizable layouts, variable size banks, virtual keyboard	\$100

Tap the Power of BIAS Peak 4 *continued from page 26*

enough, then you probably already know that the Greater Than, or ">", key (Shift + comma) and the Less Than, or "<", key (Shift + period) allow you to shuttle the cursor point backward and forward through a file. If, however,

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you want to move the cursor in smaller increments, then hold down the Option key while shuttling. If you zoom in as far as possible, you can move the cursor at the sample level.

The Tab key moves you forward through a file to each marker and selects the space between it and the subsequent marker. Hold down Shift + Tab to select the audio between the next two markers while maintaining the previous selection. To back out of your audio selections incrementally, press Option + Tab.

Command + Shift + minus sign places loop points around anything that you have selected in the audio waveform. To create a new region based on the loop, hold down Command + Shift + R. If you're doing a remix and you want to create a playlist behind the scenes at the same time, then press Command + K. That creates a region from your selection and drops it into the playlist automatically. Now you're ready to burn a CD of your work when you're done. And, you can do it from within Peak 4. ☺

Loop Sequencers

Manufacturer	Product	Version	Minimum System Requirements	Audio Recording/ File Editing	Bit Resolution	Sampling Rate (kHz)	Audio Volume Automation	File Formats Supported
Ableton	Live	4	Mac OS 9, OS X, Win 98/2000/XP, 600 MHz, 256 MB RAM	Y/Y	24-bit	192 kHz	Yes	WAV, AIFF, SDII, MID
Adobe	Audition	1.5	Windows 2000, XP, 400 MHz, 64 MB RAM	Y/Y	32-bit	192+ kHz	Yes	WAV, AIFF, MP3, MP3PRO, WMA, DEL, AU, VOX, PCM, more
Cakewalk	Kinetic		Windows 2000/XP, 256 MB RAM, 800 MHz processor	Y/Y	N/A	N/A	Yes	WAV, MP3
Cakewalk	Project5	1.0.1	Win 2000, XP, 800 MHz, 256 MB RAM	N/N	24-bit	96 kHz	Yes	WAV, AIFF, LM2, Akai SE000/6000, Kurzweil K2000, SF2
Cycling '74	radialL	1.2	Mac OS X, 128 MB RAM	Y/N	32-bit	N/A	Yes	WAV, AIFF, SDI, MP3
IK Multimedia	GrooveMaker	2.5	Mac OS 8.5, OS X, Win 95, 98, ME, NT, 2000, XP, 128 MB RAM	Y/Y	16-bit	44 kHz	No	WAV, AIFF, MP3
Sony	Acid Pro	4.0	Win 98SE, ME, 2000, XP, 300 MHz CPU, 64 MB RAM (128 MB recomm.)	Y/Y	16, 24-bit	192 kHz	Yes	WAV, AIFF, AVI, MOV, MP3 MFG, OGG, MID, PCA, RM, WMV, WMA
Sony	Acid Music Studio	5	Win 2000, XP, 500 MHz, 128 MB RAM	Y/Y	16-bit	48 kHz	Yes	AIFF, MP3, OGG, PCA, MIDI, SFA, W64, WAV, WMA, AVI, BMP, GIF, JPG, SWF, TGA, TIF, and Win Media 9
yowstar	Girl	2.1	G3 266 OS 8.5 or OS X, 64 MB RAM	Y/Y	Any	Any	Yes	All

MIDI Control Surfaces

Manufacturer	Product	Minimum System Requirements	Computer Interface	Displays	Number of Faders	Number of Knobs	Footpedal Inputs	Software-assignable Switches
CM Labs	MotorMate	N/A	MIDI	40x2 LCD; 8-character time code display	8	8	N/A	N/A
CM Labs	MotorMix 2	N/A	MIDI	40x2 LCD and rotary display	8	8	N/A	N/A
Doepfer	R2M Midi/CV Ribbon Controller	MIDI	MIDI	2x16 LCD	N/A	N/A	N/A	N/A
Doepfer	Pocket Dial	Any	MIDI	N/A	N/A	16	N/A	N/A
Doepfer	Drehbank	Any	MIDI	N/A	N/A	2x64	8	N/A
Doepfer	Regelwerk	Any	MIDI	2x16	24	N/A	N/A	48
Doepfer	Pocket Control	N/A	MIDI	N/A	N/A	16	N/A	N/A
Doepfer	MAQ16/3	N/A	MIDI	3-digit LED display, 48 LEDs	N/A	48	N/A	N/A
Emagic	Logic Control	Logic Platinum 5 or higher, 1 free MIDI in & 1 MIDI out port	MIDI	Multifunction, channel assign, song position	9	8	2	N/A
eowave	eobody Sensor System	N/A	MIDI	N/A	N/A	3	16	4
Evolution	X-Session	Win 98/ME/2000/XP, Pentium II/300, 128 MB RAM; iMac, G3 with USB, OS 9/OS X	USB	Backlit LCD	1	16	N/A	27
Evolution	UC-16	Win 98/ME/2000/XP, 128 MB RAM; Mac OS 9/X /Jaguar	USB, MIDI	3-digit blue LED display	N/A	16	N/A	N/A
Evolution	UC-33e	Win 98/ME/2000/XP, Pentium II/300, 128 MB RAM; iMac, G3 with USB, OS 9/OS X	USB	Backlit LCD	3	24	N/A	47

Mastering the Waves MastersBundle *continued from page 22*

LET'S RUMBLE!

Although LinEQ Lowband's sole focus is to treat bass and low-mid bands, it is not always the best choice for rolling off rumble or shaping the bottom two octaves of a mix. True, LinEQ Lowband offers resonant filters and corner frequencies down to 10 Hz in its lowest band, but the plug-in's wide-band cousin, LinEQ Broadband, offers

far greater precision for sculpting the "weight" of a mix in most situations. Although it accords only V-Slope filters, LinEQ Broadband's special low-frequency band allows you to tweak the corner frequency of a filter in surgical 1 Hz increments from 20 Hz to well over 100 Hz versus LinEQ Lowband's 10 to 11 Hz increments in the same range. That said, if you need to

fashion very mild or extraordinarily steep filter slopes, LinEQ Lowband's

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Plug-in Formats Supported	Includes DSP Effects	Effects Parameter Automation	Live-input Effects (Input Monitoring)	Event List	MIDI Controller Support	MIDI Recording/Editing/Playback	Step Sequencer	Multiple Loops per Track	Multitrack Audio Editing	Special Features	List Price
VST, AU, VSTi	Yes	Yes	Yes	No	Yes	Y/Y/Y	No	Yes	Yes	Virtual Instrument Hosting/Resampling/Time-Warping/ReWire/unlimited undo/ASIO	\$500
DirectX, VST	Yes	No	No	No	Yes	N/N/Y	No	Yes	Yes	Stereo and multitrack editor, 50+ effects, real-time effects & EQ, multi-I/O, mastering, batching	\$299
N/A	Yes	No	Yes	Yes	Yes	Y/Y/Y	Yes	Yes	Yes	100% genuine Roland sounds	\$119
DX, DXi, MFX, VST, VSTi, ReWire	Yes	Yes	Yes	Yes	Yes	Y/Y/Y	Yes	Yes	Yes	Pattern-based sequencers, looping tools, open-studio environment	\$429
VST	Yes	Yes	Yes	No	Yes	Y/N/N	Yes	No	No		\$199
N/A	No	No	No	No	Yes	N/N/N	No	Yes	Yes	Patented random groove generator, include up to 1,000 loops	\$129
DirectX, VSTi, DLS	Yes	Yes	Yes	Yes	Yes	Y/Y/Y	Yes	No	Yes	5.1 surround mixing, ASIO, MIDI piano-roll editing, alternate time signatures, Yamaha OPT support	\$500
DLS	Yes	No	No	Yes	No	Y/Y/Y	Yes	No	Yes	1,000 music loops, D.S.R.-at-once CD burning, Chopper editing tool	\$70
VST	Yes	No	Yes	No	Yes	N/N/N	Yes	Yes	Yes	Scratch files with MpPinky vinyl, interactive loop controls and sound design	\$99

Serials/Sysex Strings	Transport Controls	Track Switches	Automation Type	Dimensions (Inches)	Weight (lbs.)	Special Features	List Price
No	Yes	Mute, solo, burn, multi, select	MIDI	14x13x5	12	Precision touch-sensitive motorized faders, rotaries, jog wheel and zoom stick	\$1,699
No	Yes	Mute, solo, burn, multi, select	MIDI	10x13x5	9	Precision touch-sensitive motorized faders, analog rotary pots	\$1,199
No	No	N/A	MIDI	23.6x1.2x0.7	0.9	Ribbon controller 50 cm in length with additional pressure sensor, MIDI and CV/Gate outputs	\$290
No	No	N/A	N/A	9.5x3.5x2.5	4	16 endless encoders, 128 user-definable presets, free editor, silver-gray metal case, blue LEDs	\$239
Yes	No	N/A	N/A	17.25x5x2	8	Two bank buttons, CC and Sysex programmable, free editor software (Sounddiver OEM version)	\$400
Yes	No	48 programmable buttons	N/A	19x9x3.5	8	ALPS faders, all faders and buttons are fully programmable	\$750
No	No	N/A	N/A	6.7x2.8x1.6	0.7	128 user-definable presets, free editor software (PC version)	\$150
No	No	N/A	N/A	169x69.7x43.3	6.6	MIDI and CV/gate analog sequencer, 3 rows with 16 controls each	\$750
Yes	Yes	4 buttons with LED for record, solo, other	MIDI	17.6x3.8x17.8	N/A		\$1,299
Yes	No	N/A	N/A	N/A	N/A	Sensor system with 16 inputs for analog sensors	\$399
Yes	Yes	Snapshot mode, controller mute, global ch. assign	MIDI, internal	14x7x3.5	2.43	Assignable 60mm crossfader for mixing and scratching; class compliant—requires no drivers (Windows)	\$150
No	No	None	MIDI	12x2x1.8	2	25 non-volatile memories to store 25 sets	\$139
Yes	Yes	Controller mute, snapshot mode, drawbar mode	MIDI, internal	13x8.3x8x3	N/A	Sysex librarian software loads; saves any combination of setups, global channel assign	\$330

wider-ranging Q control makes it the superior tool.

For all of Waves' pervasive genius, preset management for the Linear Phase Equalizer is a bit peculiar and unwieldy. LinEQ Broadband and LinEQ Lowband share the same presets menu, yet they cannot invoke each other's preset settings. The latter condition is understandable, considering the two

equalizers offer a different number of bands and filter types. But if you mistakenly try to load a preset into LinEQ Broadband that was created in LinEQ Lowband, or vice versa, all of your settings will be nulled, leaving you with a flat equalization curve. Because there is no undo for preset recall, your only recourse at that point is to start over from scratch.

To avoid that unpleasant surprise, I always append the characters "LB" (for Lowband) to titles when naming custom LinEQ Lowband presets. Similarly, my custom LinEQ Broadband presets get "BB" tags appended to their titles when saving. That way, I know which Linear Phase Equalizer each custom preset is meant for at a glance. 🎧

MIDI Control Surfaces

Manufacturer	Product	Minimum System Requirements	Computer Interface	Displays	Number of Faders	Number of Knobs	Footpedal Inputs	Software-assignable Switches
Infusion Systems Ltd	I-CubeX D git zer	Win 98SE, Mac OS 9	USB, Serial, FireWire	Computer monitor	32	32	32	32
Infusion Systems Ltd	I-CubeX miniDig	Win 98SE, Mac OS 9	USB, Serial, FireWire	Computer monitor	8	8	8	8
Infusion Systems Ltd	I-CubeX Wi-miniDig	Win 98SE, Mac OS 9	USB, Serial, FireWire	Computer monitor	8	8	8	8
JLCooper Electronics	CS-32 Mini Desk	Win XP, Mac OS X/Jaguar, Panther	USB, MIDI	LED readout and activity LEDs	32	6	1	116
JLCooper Electronics	FaderMaster Pro	N/A	MIDI	LED	8	N/A	2	12
JLCooper Electronics	CS-10/2	All Platforms	MIDI	1	8	6	1	24
JLCooper Electronics	MCS-2 MIDI	N/A	MMC	N/A	N/A	N/A	N/A	N/A
JLCooper Electronics	MCS-3800 USB Software Option	Win, Mac OS 9.2, OS X	USB	N/A	N/A	N/A	N/A	N/A
JLCooper Electronics	MCS3-USB with Software Editor	Win, XP, Mac Jaguar, Panther	USB	N/A	N/A	N/A	N/A	24
JLCooper Electronics	MCS-Bridge, Channel display and partition 1.05	Cross-platform	Telephone connection to MCS-3000 series	8 multicolor switches/display	N/A	16	N/A	8
JLCooper Electronics	MCS-3000X	MIDI	MIDI	LED track status	8	N/A	N/A	32
JLCooper Electronics	MCS-Panther	N/A	MIDI	LED	N/A	5	N/A	9
JLCooper Electronics	MCS-Clipshot	N/A	USB, RS-422, RS-232 and Ethernet	On every switch, LED	N/A	N/A	N/A	60
JLCooper Electronics	FM-4/100	Win, Mac	USB, Serial RS-422, RS-232, MIDI	LED indicators	4	N/A	N/A	10
JLCooper Electronics	ES-4/100	Win XP, Mac OS X	USB	LED for channel functions	4	N/A	N/A	18
JLCooper Electronics	ES-8/100	Win XP, Mac OS X	USB, RS-422, RS-232 and MIDI	LED track status	8	N/A	N/A	32
Mackie	Mackie Control Universal	N/A	MIDI	N/A	3	8	N/A	N/A
Mixed Logic	M24	Win 98/2000/ME/XP, Mac OS 9, OS X	USB, MIDIx3	40 character x 4-line LCD	24	54	N/A	155
Mixed Logic	Mixed Logic M24 1.7	Win, Mac	USB, MIDI	LCD	24	54	N/A	147
TASCAM	US-2400	Win XP, Mac OS X 10.2.8	USB	Channel meters	25	24	1	6

MIDI Interfaces, Patch Bays, and Processors

Manufacturer	Product	Computer Interface	# of MIDI Ins/Outs	Merging	Filtrating	Rechannelizing	Controller Remapping	Keyboard Split/Zones	# of Patches	Synchronization Type	Special Features	List Price
Audiotrak	MIDIMate	USB	1/1	No	No	No	No	No	N/A	N/A	Win, Mac OS 10 x, tiny cable type	\$49
Cycling '74	Kroonde Gamma	MIDI or Ethernet	1/1	No	No	No	No	No	N/A	N/A	8- or 16-channel wireless sensor interface for use with Max/MSP/Jitter	\$1,495
DACS	MIDI Patch Bay	N/A	10/10	No	No	No	No	No	N/A	N/A	Uses 1/4" patch cords, operates like audio patchbay	\$316
Digidesign	MIDI I/O	USB	10/10	No	Yes	Yes	No	No	N/A	N/A	USB-powered, full OMS/WDM compatibility, hardware thru, MIDI time stamping	\$595
Doepfer	Dial Electronics	MIDI	1/1	Yes	No	No	No	No	N/A	N/A	OEM product, up to 16 rotary encoders can be connected, generates 16 absolute or relative MIDI CC	\$100
Doepfer	Pocket Electronic	MIDI	1/1	No	No	No	No	No	N/A	N/A	16 controls (potentiometers, faders, buttons, switches) can be connected, transmit 16 MIDI CC	\$100
Doepfer	MSYII	MIDI	1/2	No	No	No	No	No	N/A	MIDI, Sync24, clock out	MIDI to Sync24, clock output	\$100
Doepfer	CTM64	MIDI	1/1	No	No	No	No	No	N/A	N/A	Contact-to-MIDI interface for up to 64 contacts for DIY switchboards, keyboards, prg-change boards	\$120
Doepfer	MTC64	MIDI	1/1	No	No	No	No	No	N/A	N/A	Interface with 0-5V outputs to control up to 64 relays, lamps, motors, magnets via MIDI note on/off	\$120
Doepfer	MCV4	MIDI	1/1	No	No	No	No	No	N/A	CV/Gate interface for analog synths	4 CV outputs, one gate output (even S-Trig possible)	\$130
Doepfer	MCV24	MIDI	1/1	No	No	No	No	No	N/A	MIDI, CV, Gate	Four high-res. CV outs for pitch and 20 outs for gate or CV	\$595
Edrol	UM-1SX 1x1 USB MIDI Interface	Win, Mac	1/1	No	No	No	No	No	N/A	MTC	MIDI indicators, OS driver switch	\$45
Edrol	UM-1X 1x1 Cable-style USB MIDI Interface	USB	1/1	No	No	No	No	No	N/A	MTC	Complete connection between computer and MIDI device, MIDI indicators, OS driver switchable	\$50

Sends Sysex Strings	Transport Controls	Track Switches	Automation Type	Dimensions (inches)	Weight (lbs.)	Special Features	List Price
Yes	Yes	Mute	MIDI	4.8x3.7x1.3	0.4	MIDI Sensor Development Environment, for use with I-CubeX Sensors to create alternate MIDI controllers	\$649
Yes	Yes	Mute	MIDI	3.15x1.57x0.79	0.25	MIDI Sensor Development Environment, for use with I-CubeX Sensors to create alternate MIDI controllers	\$399
Yes	Yes	Mute	MIDI	3.15x1.57x0.79	0.125	Wireless MIDI Sensor Dev. Environment, for use with I-CubeX Sensors & create alternate MIDI controllers	\$795
No	Yes	Mute, solo, select, memory location, target channel strip	MIDI	8.75x1.5x6.5	2.5	Logic support, Digital Performer, Pro Tools, Steinberg, Sonar	\$399
Yes	No	8	MIDI	12.25x6.75x1.5	N/A	Programmable buttons and faders, internal memory	\$450
No	Yes	Mute, solo, rec	MIDI	18x8x1.4	13	Pro Tools, DP and Steinberg direct support	\$600
No	Yes	N/A	MIDI	N/A	3	MMC control of software and hardware DAW	\$200
No	No	Mute, solo, select, insert	MIDI	N/A	N/A	Allows MCS-3000 series controllers to control any application via USB with custom editor software	\$299
No	Yes	User-assignable	N/A	6.5x7x1.25	5	Jog/shuttle custom software can create keysets to control any DAW or NLE video application	\$500
No	No	Record, meter, pan, scribble strip track names	MIDI	9.25x6.25x2.0	N/A	Pro Tools Support added to new revision 1.05 using HUI personality	\$999
No	No	Mute, solo, aux record	MIDI	11x11.25x2	9	64-channel Pro Tools mode, Avid support and MIDI	\$1,750
No	No	Select, software dependent	MIDI	6.25x11.25x2.5	3	3-axis joystick mechanism for surround panning	\$999
No	Yes	N/A	MIDI, internal	13x10x2.5	20	Instant access to audio clips, LCD buttons and Qwerty keyboard	\$4,999
No	No	Mute, solo, select, aux	MIDI	6.5x8.5x3	5	Professional, motorized, touch-sensitive faders, compact design	\$900
No	No	Bank select, mute, solo, record	MIDI	6x10x2.5	5	USB, RS-422, RS-232	\$899
No	No	Mute, solo, record, aux, bank select	MIDI	10.75x10.5x3	6	8 touch sensitive faders	\$1,499
No	Yes	Mute, solo, channel select, record arming, V-Pot	MIDI	N/A	N/A	Software support includes Logic Audio, Pro Tools, Digital Performer, SONAR, Cubase, Nuendo, more	\$1,299
Yes	Yes	Select, solo, mute, record enable, automation arm, more	MIDI, internal	N/A	37	Dedicated EQ and Dynamics sections, extensive unique multiple plug-in control and automation	\$2,880
Yes	Yes	Mute, solo, select, pre/post, rec. enable, automation, more	MIDI, internal	37.5x5x17 before options	38	Extensive control of multiple plug-ins, custom control assignment, full EQ and dynamics section	\$3,499
No	Yes	Select, mute, solo	MIDI	13.75x3.25x15.25	19.8	Jog/shuttle wheel, surround joystick controller, aux flip control	\$1,999

MIDI Interfaces, Patch Bays, and Processors

Manufacturer	Product	Computer Interface	# of MIDI In/Outs	Merging	Filtering	Rechannelizing	Controller Remapping	Keyboard Split/Zones	# of Patches	Synchronization Type	Special Features	List Price
Edirol	UM-2C 2x2 USB MIDI Interface	USB	2/2	No	No	No	No	No	N/A	MTC	Power supplied by USB	\$75
Edirol	UM-550 5x5 USB MIDI Interface	USB, Win, Mac	5/5	Yes	Yes	No	No	No	N/A	MTC	Fast Processing Technology provides low-latency, low-jitter MIDI transmission	\$240
Edirol	UM-880 8x8 USB MIDI Interface	USB, Win, Mac	8/8	Yes	Yes	No	No	No	N/A	MTC	FPT and HDMR for low-latency, low-jitter MIDI transmission	\$375
Emagic	MT4	USB	2/4	Yes	Yes	No	No	No	N/A	N/A	Software included for patch-bay programming, Mac/PC	\$199
Emagic	AMT 8	USB, serial	8/8	Yes	Yes	No	No	No	N/A	N/A	Expandable to 192 MIDI I/O, Mac/PC	\$499
Emagic	Unitor 8 MkII	USB, serial	8/8	Yes	Yes	No	No	No	N/A	SMPTE, VITC	VTC burn-in, click in, OMS, Mac/PC	\$799
Encore Electronics	Expressionist 2 MIDI/CV interface	Win, Mac	1/1	Yes	Yes	No	No	Yes/6	N/A	MIDI clock	16-bit D/A all channels	\$499
ESI	RoM/I/O	USB	1/2	No	No	No	No	No	N/A	N/A	Connects via USB, Win XP/2000/ME, Mac OS X	\$49
ESI	MIDTerminal M4U	USB	4/4	No	No	No	No	No	N/A	N/A	Connects via USB, Win XP/2000/ME, Mac OS X	\$99
ESI	MIDTerminal M8U	USB	8/8	No	No	No	No	No	N/A	N/A	Various MIDI Thru functions, connects via USB, Win XP/2000/ME, Mac OS X	\$249
Friend Chip	DMX 12/12	Win, Mac	1/1	No	No	No	No	No	N/A	N/A	6 optical in/out, 6 coaxial in/out, S/PDIF, and ADAT	\$749
Friend Chip	DMX 16	MIDI	1/1	No	No	No	No	No	50	N/A	16 stereo channel digital patch bay for AES/EBU, S/PDIF, 16xADAT	\$798-\$1,545
Friend Chip	DMX 32	MIDI	1/1	No	No	No	No	No	50	N/A	32 stereo channel digital patch bay for AES/EBU, S/PDIF	\$1,048-\$2,791
Frontier Design Group	Sierra MIDI/SMPTE	PCI	8/8	No	No	No	No	No	N/A	MTC, SMPTE (LTC)	Dedicated SMPTE I/O	\$299

MIDI Interfaces, Patch Bays, and Processors

Manufacturer	Product	Computer Interface	# of MIDI In's/Outs	Merging	Filtering	Rechannelizing	Controller Remapping	Keyboard Split/Zones	# of Patches	Synchronization Type	Special Features	List Price
JL Cooper Electronics	PPS-2 Plus	Win, Mac, MIDI	1/1	Yes	No	No	No	No	N/A	SMPTe, MTC, MIDI oct, Smart FSK	Allows MIDI clock sequencers/workstations like Triton and Kurzweil to sync to recorders/tape/HD	\$170
JL Cooper Electronics	MLA-XLR	N/A	1/1	No	No	No	No	No	N/A	MIDI	Extends the range of MIDI cables to over 1,000'	\$199
JL Cooper Electronics	MLA-1	MIDI	4/4	No	No	No	No	No	N/A	MIDI	MIDI line amplifier, panel mount version	\$350
JL Cooper Electronics	MLA-10	MIDI	4/4	No	No	No	No	No	N/A	MIDI	Extends the range of MIDI cables to over 1,000'	\$499
JL Cooper Electronics	9 Pin/MMC	MIDI RS-422	1/1	No	No	No	No	No	N/A	GVG, ESAM2, MIDI, MMC, RS-422	Control MMC via VTR 9-pin control	\$499
JL Cooper Electronics	MMC/9 Pin +	MIDI, RS-422	1/1	No	No	No	No	No	N/A	Video, SMPTe	VTR 9-pin RS-422 control from MMC	\$499
JL Cooper Electronics	DataSync 2	MIDI	1/1	Yes	No	No	No	No	N/A	ADAT, MTC, MIDI clock, SMPTe	MMC, ADAT time-based sync	\$200
M-Audio	USB Uno	USB	1/1	No	No	No	No	No	N/A	MIDI clock	Compact and portable, bus-powered, with built-in cable connections	\$50
M-Audio	Thru 1x4	N/A	1/4	No	No	No	No	No	N/A	N/A		\$60
M-Audio	Thru 3x8	N/A	3/8	No	No	No	No	No	N/A	N/A		\$100
M-Audio	Merge 2x2	N/A	2/2	Yes	No	No	No	No	N/A	N/A		\$100
M-Audio	USB MIDISport 1x1	USB	1/1	No	No	No	No	No	N/A	N/A	USB cable included, Mac/PC	\$70
M-Audio	USB MIDISport 2x2	USB	2/2	No	No	No	No	No	N/A	N/A	USB cable included, Mac/PC	\$90
M-Audio	USB MIDISport 4x4	USB	4/4	No	No	No	No	No	N/A	N/A	USB cable included, Mac/PC	\$200
M-Audio	USB MIDISport 8x8	USB	8/8	Yes	No	No	No	No	N/A	SMPTe, MTC	USB and serial cable included, Mac/PC	\$399
MIDI Solutions	Event Processor	N/A	1/1	No	Yes	Yes	Yes	Yes/16	N/A	N/A	Processes MIDI events in a variety of ways	\$149
MIDI Solutions	Thru/Quadra Thru/T8	N/A	1/2, 1/4, 1/8	No	No	No	No	No	N/A	N/A	Provides additional MIDI outputs from a single MIDI input	\$49/\$59/\$199
MIDI Solutions	Merger/Quadra Merge/M8	N/A	2/1, 4/1, 8/1	Yes	No	No	No	No	N/A	N/A	Merges all messages received at the MIDI inputs to the MIDI output	\$79/\$129/\$279
MIDI Solutions	Mapper	N/A	1/1	No	No	No	Yes	No	N/A	N/A	Maps MIDI messages (ex. Control Change) from one type to another	\$149
MIDI Solutions	Router	N/A	1/2	No	Yes	Yes	No	Yes/10	N/A	N/A	Routes/filters/rechannelizes MIDI data to either of two MIDI outputs	\$149
MIDI Solutions	Velocity Converter	N/A	1/1	No	No	No	No	No	N/A	N/A	Applies velocity curves to MIDI data	\$149
MIDI Solutions	Pedal Controller	N/A	1/1	Yes	No	No	No	No	N/A	N/A	Generates MIDI messages from an external expression pedal	\$149
MIDI Solutions	Footswitch Controller/F8	N/A	1/1, 1/1	Yes	No	Yes	No	No	N/A	N/A	Contact closure to MIDI products	\$149/\$329
MIDI Solutions	Breath Controller	N/A	1/1	Yes	No	No	No	No	N/A	N/A	Generates MIDI messages from the Yamaha BC3A	\$199
MIDI Solutions	Relay/R8	N/A	1/1, 1/1	No	No	No	No	No	N/A	N/A	MIDI to contact closure products	\$149/\$479

Creating Great MIDI Drum Tracks *continued from page 24*

TAKE NOTE!

Ghost notes often fall between accented beats, and fill the spaces while giving the groove continuous motion. In this case, ghost notes occur when the drummer hits the snare drum very softly, creating a sound similar in level to an unaccented hi-hat beat.

MIDI parameters and move the notes around.

I start by tweaking the velocities of almost every note in the groove, adding accents and *ghost-* or *grace* notes to liven up the track. Then I mess with some of the quantization parameters—the ones I use most often are Swing and Randomize. At the same time, I'll move individual notes forward or back in time, offsetting

them to adjust the feel. (Don't trust your sequencer to do all this work for you.)

Creating a new beat from the modeled beat. Okay, we've got a cool beat modeled in MIDI. Now the real fun begins. Let's mess with it!

1. Adjust the tempo. For example, transform the modeled beat from old-school funk into hip-hop. Funk is often faster than hip-hop so

MIDI Interfaces, Patch Bays, and Processors

Manufacturer	Product	Computer Interface	# of MIDI In/Outs	Merging	Filtering	Rechanneling	Controller Renaming	Keyboard Split/Zones	# of Patches	Synchronization Type	Special Features	List Price
MIDIator	LD1	N/A	1/1	No	No	No	No	No	N/A	N/A	MIDI long cable driver, up to 1,000 ft.	\$82
MIDIator	MP-128EP	Parallel	1/2	No	No	No	No	No	N/A	N/A		\$80
MIDIator	MP-128NP	Parallel	2/4	No	No	No	No	No	N/A	N/A		\$110
MIDIator	MP-129SP	Parallel	2/8	No	No	No	No	No	N/A	SMPTÉ	SMPTÉ in and out	\$180
MIDIator	MS-101	Serial	1/1	No	No	No	No	No	N/A	N/A		\$70
MIDIator	MS-124	Serial	1/4	No	No	No	No	No	N/A	N/A		\$100
MIDIator	MS-124W	UNIX, serial	1/4	No	No	No	No	No	N/A	N/A		\$160
MIDIator	UM0	N/A	1/1	No	No	No	No	No	N/A	N/A	Solenoid low-side driver, up to 128 lines, no case	\$177
MIDIator	UM1	N/A	1/1	No	No	No	No	No	N/A	N/A	Keyboard encoder, solenoid low-side driver up to 128 lines	\$215-\$345
MIDIator	UM2	N/A	1/1	No	No	No	No	No	N/A	N/A	Solenoid high-side driver up to 128 lines	\$195-\$330
MIDItemp	Multiplayer MP88-CDW 4.30	SCSI	8/8	Yes	Yes	Yes	Yes	Yes/16	N/A	MIDI clock	MIDI file player, wave player, CD-ROM, hard disk, remote controller	\$1,500
MIDItemp	Multistation 2.0	USB	8/8	Yes	Yes	Yes	Yes	Yes/16	N/A	MIDI clock, MTC	MIDI file player, MP3 player, 8 tracks Wave player, remote controller with touch	\$2,600
MOTU	FastLane Serial	Mac serial	1/3	No	No	No	No	No	N/A	N/A	Powers off computer, bypass for use when computer is off	\$59
MOTU	FastLane JSB	USB	2/2	No	No	No	No	No	N/A	N/A	5 colors and charcoal, Thru button passes MIDI in to out w/computer off	\$79
MOTU	PC MIDI Flyer	Parallel	2/2	No	No	No	No	No	N/A	N/A	Powers off computer, bypass for use when computer is off	\$89
MOTU	micro lite	USB	5/5	No	No	No	No	No	N/A	N/A	Compatible w/all Windows and Mac MIDI software	\$149
MOTU	MIDI Express 128	USB	8/8	No	No	No	No	No	N/A	N/A	Compatible w/all Windows and Mac MIDI software	\$249
MOTU	MIDI Express XT-USB	USB	8/8	Yes	Yes	Yes	No	No	16	SMPTÉ, MTC, MIDI clock	Operates w/o computer, supps MMC, converts click to MIDI, 2 pedal ins	\$395
MOTU	Pocket Express	Serial, parallel	2/4	No	No	No	No	No	N/A	SMPTÉ, MTC	Operates w/o computer, SMPTÉ free-wheeling over drop-outs	\$165
MOTU	Micro Express-USB	USB	4/6	Yes	Yes	Yes	No	No	16	SMPTÉ, MTC, MIDI clock	Operates w/o computer, supps MMC, converts click to MIDI, 2 pedal ins	\$295
MOTU	MIDI Timepiece AV-USB	USB, serial	8/8	Yes	Yes	Yes	No	No	N/A	SMPTÉ, MTC, video, word clock	Operates w/o computer, MIDI time stamping, many A/V sync features	\$595
Roland	GI-20 USB	USB Win, Mac	1/1	Yes	Yes	Yes	Yes	Yes/8	N/A	MIDI	Guitar-MIDI, 13-pin div pickup, USB, tuner, transposer, direct guitar out, 1/2 U	\$395
Steinberg	Midex 3	Win, Mac	1/3	Yes	Yes	No	No	No	N/A	LTB linear	Time-base technology	\$150
Steinberg	Midex 8	Win, Mac	8/8	Yes	Yes	No	No	No	N/A	LTB	USB, cable checker, MIDI Thru	\$499
Steinberg	Time Base Synchronizer	USB	N/A	No	No	No	No	No	N/A	LTC, VITC, MTC, VST System Link	4 x Word clock, blackburst, AES-EBU, 9-pin / RS422, 15-pin GPI I/O	\$2,499
Yamaha	UX 16	Win, Mac	1/1	No	No	No	No	No	N/A	N/A	(2) status LED	\$50
Yamaha	UX 96	Win, Mac	1/1	No	No	No	No	No	N/A	MIDI	USB-powered, hosts serial port	\$90
Yamaha	UW 500	Win, Mac	1/1	No	No	No	No	No	N/A	MIDI	20-bit A/D stereo record and playback, optical I/O, software suite	\$400

you'll want to slow the beat down to match the genre.

2. Change the sounds. Choose sounds that are more current. Consider layering sounds, like having two different samples playing the kick track to thicken the kick sound.
3. Alter the beat. Tweak the velocities, timing, or the quantization. Consider turning the beat around or

starting the loop in a different place.

You're done! You have a cool new beat modeled on an old beat. If you like a drum groove on an old CD, now you know how to mimic it with MIDI and take it further by adding different sounds, changing its tempo, and altering the feel. Or just make your own from scratch. However you like to create, the techniques presented here can improve any MIDI drum track. 🎧

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MIDI Keyboard Controllers

Manufacturer	Product	Number of Keys	Full-Size Keys	Type of Action	Aftertouch	Number of Zones/Overlapping	Computer Interface	Displays	Footswitchable Patch Changes	Independent MIDI Ins/Outs
Alternate Mode, Inc.	malletKAT 5.0	39	No	Unweighted	Poly	Unlimited	None	4, 16	Chains	1/2
Creative Labs	Creative Prodikeys DM	37	No	Unweighted	None	N/A	PS/2	On computer monitor	None	0/1
Doepfer	PK88	88	Yes	Weighted	None	0/No	MIDI	None	None	0/2
Doepfer	LMK2+	88	Yes	Weighted	Channel	4/Yes	None	3-digit LED	None	0/1
Doepfer	LMK4+	88	Yes	Weighted	Channel	8/Yes	MIDI	2x16	Chains	2/2
Edirol	PCR-M30	32	Yes	Unweighted	None	N/A	USB	LED	None	1/1
Edirol	PCR-M50	49	Yes	Unweighted	None	N/A	USB	LED	None	1/1
Edirol	PCR-M80	61	Yes	Unweighted	None	N/A	USB	LED	None	1/1
Edirol	PCR-M1	25	Yes	Unweighted	None	1/No	USB, MIDI	3-digit LED	None	3/2
Edirol	PCR-A30	32	Yes	Unweighted	None	1/No	USB	LED	None	1/1
Evolution	MK-225C	25	Yes	Unweighted	None	0/No	USB, MIDI, Gameport	LED (3-digit blue)	None	0/1
Evolution	MK-249	49	Yes	Unweighted	None	0/No	USB, MIDI, Gameport	LED (3-digit blue)	None	0/1
Evolution	MK-249C	49	Yes	Unweighted	None	0/No	USB, MIDI, Gameport	LED (3-digit blue)	None	0/1
Evolution	MK-361	61	Yes	Unweighted	None	0/No	USB, MIDI, Gameport	LED (3-digit blue)	None	0/1
Evolution	MK-361C	61	Yes	Unweighted	None	0/No	USB, MIDI, Gameport	LED (3-digit blue)	None	0/1
Evolution	MK-425C	25	Yes	Unweighted	Channel	0/No	USB	Backlit LCD	None	0/1
Evolution	MK-449C	49	Yes	Semi-weighted	Channel	0/No	USB, class compliant—no drivers required using Win	Backlit LCD	None	0/1
Evolution	MK-461C	61	Yes	Semi-weighted	Channel	0/No	USB, class compliant—no drivers required using Win	Backlit LCD	None	0/1
Korg USA	microKONTROL	37	No	Unweighted	None	1/No	USB	9 multicolor backlit LCDs	None	1/1
M-Audio	Keystation Pro88	88	Yes	Weighted	Channel	4/Yes	USB	Large custom LCD displays controller number, assigned controller, edit icons and edit values	None	1/1
M-Audio	Oxygen8	24	Yes	Unweighted	None	0/No	USB	LED (3-digit)	None	0/1
M-Audio	Ozone	25	Yes	Semi-weighted	Channel	4/Yes	USB	Large 3-digit LED	None	0/2
M-Audio	Radium49	49	Yes	Semi-weighted	Channel	N/A	USB	Large 3-digit LED	None	0/2
M-Audio	Radium61	61	Yes	Semi-weighted	Channel	N/A	USB	Large 3-digit LED	None	0/2
M-Audio	Keystation 49e	49	Yes	Semi-weighted	Channel	N/A	USB, class compliant with OS X and Win XP	None	None	0/1
M-Audio	Keystation 61es	61	Yes	Semi-weighted	Channel	N/A	USB, Mac OS X/Win XP class-compliant	None	None	0/1
M-Audio	O2	25	Yes	Unweighted	Channel	N/A	USB, class-compliant in Windows XP and Mac OS X	Large 3-digit LED	None	0/1
M-Audio	Ozonic	37	Yes	Semi-weighted	Channel	3/No	FireWire (IEEE 1394)	Backlit LCD	Increment	1/1
MIDItech	MIDIstudio 2	49	Yes	Unweighted	None	1/No	USB	LED (3-digit)	Increment	1/1
MIDItech	MIDIcontrol 2	49	Yes	Unweighted	None	1/No	USB	LED (3-digit)	Increment	1/1
TerraTec	MIDImaster USB	49	Yes	Unweighted	Poly	0/No	USB	LED (3-digit)	Chains	0/1
Yamaha	CBX-K1	37	No	Unweighted	None	1/No	Serial	N/A	None	1/1
Yamaha	CBX-K1XG	37	No	Unweighted	None	1/No	Serial	7-segment LEDx3	None	1/1
Yamaha	CBX-K2	49	Yes	Unweighted	None	1/No	Serial	7-segment LEDx3	Increment	1/1

Programmable Continuous Footpedals	Programmable Footswitches	Programmable Controllers	System Real-time Controls	Velocity Curves: # of Preset/Programmable	Dimensions (WxHxD)	Weight (lbs.)	Special Features	List Price
2	2	Keyboard acts as slider/wheel	Yes	8/0	47x11x2.5	28	Latch modes per pad, keyboard acts as multiple CC# controller	\$2,095
0	0	N/A	N/A	N/A	N/A	7.28	PC/music keyboard in one. 104-key keyboard w/ 37 touch-sensitive music keys. Play/Learn/Create/Record	\$99
0	0	N/A	N/A	N/A	53.1x10.6x4.3	40	Built into flight case with handle, pop the lid, plug and play	\$850
1	2	2	Start, stop, continue	8/0	57x10.2x4	44	Hammer-action keyboard, built into a black flight case with removable lid	\$1,100
2	2	2 wheels, 2 sliders, 1 rotary control	Start, stop, continue, clock	32/0	61x10.2x4	53	Built into a flight case with removable lid, hammer action keys	\$1,400
1	1	8 faders, 8 knobs, 8 buttons	Dynamically assignable	N/A	N/A	N/A	Faders, knobs, and buttons can be assigned to Note, Timing clock, Control Change, RPN, NRPN, SysEx	\$225
1	1	8 faders, 8 knobs, 9 buttons	Dynamically assignable	N/A	N/A	N/A	Faders, knobs, buttons assignable to Note, Timing clock, Control Change, RPN, NRPN, SysEx	\$295
1	1	1 pitch-mod X/Y stick, 8 sliders, 8 knobs, 9 buttons (assignable)	Dynamically assignable	N/A	N/A	N/A	27 assignable controls, 16 memory points, assignment software, USB powered	\$395
1	1	8 knobs, 6 buttons	N/A	N/A	18x9x1	2.7	14 assignable controls for 27 parameters, Ultra-Slim design	\$310
1	1	Assignable controls: 8 sliders, 8 knobs, 9 buttons, 1 sustain & 1 expression pedal	Dynamically assignable real-time controls	N/A	N/A	N/A	Built-in 24-bit/96kHz audio interface, USB powered	\$395
0	0	1 wheel, 8 rotary	N/A	12/0	18.9x3.9x8.3	4.4	Fully class compliant	\$159
0	0	1 slider, 1 wheel	N/A	12/0	31.5x3.2x8.3	7	Provides USB/MIDI interface	\$189
0	0	1 slider, 1 wheel, 12 rotary	N/A	12/0	31.5x3.9x8.3	7	Provides USB/MIDI interface	\$210
0	0	1 slider, 1 wheel	N/A	12/0	38.2x3.2x8.3	9	Provides USB/MIDI interface	\$239
0	0	1 slider, 1 wheel, 16 rotary	N/A	12/0	38.2x3.9x8.3	9	Provides USB/MIDI interface	\$285
0	0	8 rotary knobs, 10 buttons, pitch and mod wheels, sustain pedal		Touch-sensitive	39x8.5x4	N/A	Controller mute, snapshot mode, drawbar mode, 10 memory locations, global assign	\$190
0	0	9 Alps sliders, 8 rotary knobs, 10 buttons, pitch and mod wheels, sustain pedal	Controller mute, snapshot mode, drawbar mode, 10 memory locations, global ch. assign	Touch-sensitive	32x8.5x4	N/A	RPN/NRPN and pre-programmed SysEx messages for SoundBlaster, XG and GM-compatible soundcards	\$260
0	0	9 Alps faders, 12 rotary knobs, 10 buttons, pitch and mod wheels, sustain pedal	Controller mute, snapshot mode, drawbar mode, 10 memory locations, global ch. assign	Touch-sensitive	39x8.5x4	N/A	RPN/NRPN and pre-programmed SysEx messages for SoundBlaster, XG and GM-compatible soundcards	\$330
0	1	8 sliders, 8 rotary, joystick (with switch), 16 pads	Song position pointer, song select, tune request, tap, start, continue, stop, active sensing	9/0	20.6x2.8x9.1	5.7	Incl. Ableton 4 Live lite Korg Ed., Sampletank 2 Korg Ed. (w/150 MB), MDE-X effects, and Editor	\$375
2	2	24 rotary, 22 buttons, 9 Alps faders, pitch and mod wheels, footswitches	Program, bank change, Control Mute, Snap Shot, Fader Drawbar mode	Multiple	57x13x6	47	General MIDI 1 & 2 compatible, independent MIDI channel assign for all controllers	\$600
0	0	8 knobs, 5 banks of knobs, any CC#, each on any MIDI channel	1 programmable slider	1/1	16x9.5x3	N/A	USB powered/battery/power supply, 5 banks of 8 programmable knobs, OS X support	\$180
0	0	8 knobs, 1 slider, pitch and mod wheels	Input gain, inc/dec buttons, headphone gain	N/A	16.5x9x3.5	3.6	Built-in mic and inst preamps, zero-latency direct monitoring	\$300
0	0	8 knobs, 8 sliders, pitch and mod wheels	Data-entry slider	N/A	29.5x9x3.5	7	Powered via USB, batteries or AC, sustain pedal jack (pedal optional)	\$200
0	0	8 sliders, 8 controller knobs, pitch and mod wheels	Data-entry slider	N/A	36x8x3.5	7.1	±3 octave transposition, powered via USB or AC, sustain pedal jack (pedal optional)	\$260
0	0	Pitch and mod wheels, advanced function button	Octave +/- buttons, volume/control slider	N/A	32x8.5x3	6.6	Powered via USB or 9VDC power adapter (sold separately), sustain foot pedal jack	\$130
0	0	Pitch and mod wheels, advanced function button	Octave +/- buttons, volume/control slider	N/A	41x11.5x5	11	Powered via USB or 9VDC power adapter (sold separately), sustain foot pedal jack	\$200
0	0	8 knobs, 8 buttons, pitch and mod wheels, volume slider	Octave +/- buttons, sustain pedal input	N/A	Ultra-thin	N/A	Powered via USB or 9VDC adapter, integrates with Enigma editor/librarian	\$180
1	2	37 total, incl. 8 knobs, 9 sliders, 9 buttons, pitch and mod wheels	Transport controls, octave +/-, transpose +/-	Multiple	N/A	N/A	Built-in audio interface with mic/instrument preamps and headphone monitoring	\$600
0	1	1 pitch wheel, 1 mod wheel	N/A	N/A	33x8x3	7.5	Splitpoint	\$199
0	1	1 pitch wheel, 1 mod wheel	14 assignable controllers	1/0	30x9x3	7	Splitpoint	\$299
1	1	1 pitch wheel, 1 mod wheel	N/A	N/A	33.5x9.8x4.3	10	10 programmable preset memories, nonvolatile. Acts as a MIDI interface via USB, MAC & PC drivers.	\$399
0	0	1 wheel	Start, stop, continue	1/off	20x2x6	3	GM/XG control set, battery powered, MIDI merge	\$200
0	1	1 wheel	Start, stop, continue	1/off	20x2x6	3.3	32 poly XG tone generator, stereo speakers w/input	\$500
0	1	1 wheel, 1 slider	Start, stop, continue	1/off	32x3x8	5.75	Battery power, XG function set	\$350

Miscellaneous Software

Manufacturer	Product	Version	Minimum System Requirements	Type	Special Features	List Price
AcousticX Software Corporation	AcousticX	N/A	Win 95, 98, 20 MB disk free space, 486 or higher	Room acoustics software	Speaker boundary interference, ray tracing, reverb time, modal response modules	\$400
Ahead Software	Feurio!	N/A	Win 95, 98, NT, 2000, ME, XP, Pentium 90, 16 MB RAM, hard-disk space: 8 MB	Audio CD recording software	Digital ripping of CDs, managing and editing of song files, burning the final CD, music databases	\$29
Ahead Software	Nero 6 Ultra Edition	N/A	Win 95B, 98, 98SE, NT4, 2000, XP, ME, 300 MHz, 64 MB RAM	Digital Media Solution - CD/DVD Burning Software	Complete set of media tools for audio, data, photo, video, backup	\$99
AIPL	AIPL Singulator	1.4	Win 95 or higher, Pentium 90 CPU, 16 MB RAM (32 for NT), 16 colors, 1 MB disk space	Audio recording software, make CDs, rip MP3s	Records albums, tapes, and DATs onto PC with auto-separating songs in real-time, stopping when done	\$29
APB Tools	TH-S v3.0	3.01	Win XP, Mac OS X 10.3.4, 512 MB RAM	Performance software	Supports any CoreAudio/ASIO-compatible platform	\$2,390
Audio Ease	BarbaBatch	4.0	Mac OS X	Batch sound file conversion	Sample rate converter	\$395
Automation Services Company, Inc.	SendKeys	1.0	See requirements for Cakewalk and Sonar	Utility for Cakewalk/Sonar	Enables custom keyboard macros for Cakewalk and Sonar	\$15
Blaze Audio	MID Master Karaoke	3.5	Win 9X, ME, 2000, XP	Karaoke and music education	Sing with MIDI karaoke files, record your voice, record duets	\$30
Blaze Audio	LP & Tape to CD Conversion Suite	1	Win 98, ME, 2000, XP	CD recording software	Convert records and tapes to CD	\$90
Cycling '74	Cyclops	1.1	Mac OS X, QuickTime, 128 MB RAM	Video tracking		\$99
Cycling '74	Max	4.5	Mac OS X or Win XP, 256 MB RAM	Programming environment		\$250
Cycling '74	Jitter	1.2	Mac OS X or Win XP, 256 MB RAM	Video-processing software		\$395
Datasonics	VS Pro ToolBox	5.6	Win 98, ME, 2000, XP, 500 MHz, 96 MB RAM	Roland VS Workstation control	Audio Editor, Mix Editor, and FX Editor	\$199
Datasonics	VS Pro Studio	5.6	Win 98, ME, 2000, XP, 500 MHz, 96 MB RAM	Roland VS Workstation control	Includes MIDI sequencer and digital audio	\$299
Datasonics	VS Pro Score	5.6	Win 98, ME, 2000, XP, 500 MHz, 96 MB RAM	Roland VS Workstation control	Includes MIDI sequencer, notation, and digital audio	\$399
Electronic Courseware Systems, Inc.	Notepad to Finale	2004	Win XP, Mac OS 10	E-book	Electronic step-by-step guide to learn to use Notepad and Finale software formats	\$10
Electronic Courseware Systems, Inc.	TimeSketch Editor PRO	2.1	Win 98/2000/XP, Mac OS 9, 10	Thematic Analysis	Analyze MP3, WAV, audio CDs, and create thematic bubble charts. Send over the Internet.	\$500
Energys	Maven Player	1.0	Win 9x/ME/NT/2000/XP, 166 MHz CPU, 16 MB RAM, 250 KB disk space	Multichannel Player	Free WAV and WAV extensible format player for up to 5.1 channels	Free
FNJ Software	Awave Audio	9.0	Win 9X, ME, NT, 2000, XP	Audio-file format batch converter	Convert from 85+ into 60+ audio file formats - pro resampling, cithering, normalization, more	\$50
Gallery	VirtualVTR	4.0	Mac OS 9.1 QT 6, or OS X 10.2 QT 6	QuickTime-based VTR	Standalone video deck based on QuickTime	\$799
Gallery	VirtualVTR Pro	4.0	Mac OS X 10.2 QT 6	Nonlinear video system	VirtualVTR, plus Video Streamer, Foley Control	\$1,495
Gallery	mTools	4.0	Mac OS 9.1, OS X 10.2 QT6	Sound effects/music management system	Networked large-scale sound effects library system	\$995
Gallery	VoicePro	3.0	Mac OS 9.2, OS X 10.2	Dialog recording system for multimedia	Batch, scripted Dialog recording system for large-scale multimedia, video games projects	\$895
Gallery	ADRStudio	2.0	Mac OS 9.1, OS X 10.2 (v 3.0)	ADR system for Pro Tools/Nuendo	Complete Dialog replacement system for Pro Tools and Nuendo (Nuendo support in v 3.0)	\$1,695
Gallery	SessionBrowser	3.0	Mac OS 9.2, OS X 10.2	Pro Tools session manipulation tool	Session contents browsing, media linking, session manipulation tools	\$549
Gallery	LibraryLoader	1.1	Mac OS X 10.2.4 QT6	Sound effects CD-ripping system	Batch ripping of all commercial SFX and production music CDs, with automatic names and descriptions	\$299
Gallery	MetaFlow	4.0	Mac OS 9.2, OS X 10.2	Film sound workflow management system	Automatic 24-bit reforming, integration with location sound recorders, Avid Bins	\$1,995
Gig Logic, Inc.	Gigorama SoloFlight	1.0	Win 95, 98, ME, XP, 64 MB RAM	Gig management	Book gigs, print contracts, song and set lists, financial summaries	\$70
Gig Logic, Inc.	Gigorama Virtual Network	1.0	Win, 95, 98, ME, XP	Band management	Track gigs, create a virtual network that allow users to transfer gig stats to band mates	\$90
Gig Logic, Inc.	Gigorama Virtual Network Reader	1.0	Win, 95, 98, ME, 64 MB RAM	Gig data transfer portal	Allows band members and musicians to receive personal gig data from Gigorama Virtual Network users	Free
Gig Logic, Inc.	Gigorama Gig Importer	1.0	Win, 95, 98, ME, 64 MB RAM	Bonus plug-in	Imports hundreds of clubs and venues into Gigorama software Clubs and Venues database	Free
Innovative Music Systems, Inc.	intelliScore Standard	6.1	Win XP/NT/ME/98/95/2000, 64 MB RAM	WAV to MIDI, MP3 to MIDI converter	Helps transcribe monophonic audio files, compose MIDI in real time by playing any instrument	\$59
Innovative Music Systems, Inc.	intelliScore Polyphonic	6.1	Win XP/NT/ME/98/95/2000, 64 MB RAM	WAV to MIDI, MP3 to MIDI converter	Helps transcribe polyphonic audio files, compose MIDI in real time by playing any instrument	\$79

Miscellaneous Software

Manufacturer	Product	Version	Minimum System Requirements	Type	Special Features	List Price
Korg USA	Karma MW (for Korg Karma Music Workstation)	1.0	Win 98, ME, NT, XP 64 MB RAM, Pentium III/233 MHz, Power Mac OS 8.6-9.X, 604/166 MHz	Editor for the Karma algorithmic music function	Turn phrases and Triton arps into GEs, edit all 400+ GE parameters	Free w/new KARMA
Line 6	Variax Workbench	N/A	USB-equipped PC (Win XP, 2000, ME, 98SE) or Mac (OS X 10.2 or higher)	Utility	Allows you to completely customize any of the guitar models in a Line 6 Variax 500 or 700 guitar.	\$140
Magix Entertainment Corporation	Magix Piano & Keyboard Workshop 2nd Edition	N/A	Win 98/98SE/2000/ME/XP, 350 MHz, 64MB RAM, 150 MB free	Interactive training/education	Music composing/arranging, assessment, sheet music printing, song recording, progressive instruction	\$19
Magix Entertainment Corporation	Magix Guitar Workshop 2nd Edition	N/A	Win 98/98SE/2000/ME/XP, 350 MHz, 64MB RAM, 150 MB free	Interactive education/training	16 tracks, virtual instruments, mixer, effects, loops, virt. metronome, beg-adv. video lessons	\$19
Magix Entertainment Corporation	Soundpool DVD Collection 2005	N/A	Win or Mac (any system that supports WAV format)	Samples and sound loops	10,000 exclusive royalty-free samples, professional 16-bit CD quality in 44.1 kHz	\$29
Metric Halo	SpectraFoc Complete	N/A	Mac OS	Metering and analysis software	Comprehensive suite of spectrum, phase, and power analysis tools for live, studio, or broadcast	\$400-\$800
Mezzo Technologies	Mezzo Mirror	4.5	Mac (G3 min. recommended), OS 9 and higher (OS X required for CD/DVD-R support)	Backup, disk mirroring	Project-based disk mirroring supports Pro Tools, Digital Performer, background data transfer	\$299
Mezzo Technologies	Mezzo for Digital Performer	4.5	Mac (G3 min. recommended), OS 9 and higher	Backup, archiving, asset management	Custom support of Digital Performer file format, background data transfers, online database	\$399
Mezzo Technologies	Mezzo for Pro Tools	4.5	Mac (G3 min. recommended), OS 9 and higher	Backup, archiving, asset management	Custom support of Pro Tools Session file format, background data transfers, online database	\$499
Micro Technology Unlimited	Microstudio	2.6	Win 98, 2000, XP, 128MB RAM, CD-RW, 350 MHz	Karaoke duplication software	Back up your karaoke CD+G discs, make custom compilations, and play them on your PC	\$40
Micro Technology Unlimited	Keyrite	1.400	Win 98, 2000, XP, 128 MB RAM, 700 MHz	Key/pitch changing software	Change the pitch of WAV or Karaoke CDG files and preserve the lyrics sync	\$40
Micro Technology Unlimited	Vogone	2.210	Win 98, 2000, XP, 128 MB RAM, 700 MHz	Vocal elimination software	Remove/reduce vocals from WAV files	\$55
Micro Technology Unlimited	Karaoke Home Producer	4.103	Win 98, 2000, XP, 128 MB RAM, 500 MHz	Karaoke authoring software	Create professional karaoke CDG	\$90
Micro Technology Unlimited	Hoster	2	Win 2000, XP, 256 MB RAM, 1 GHz	Karaoke hosting software for PC computers	Host your Karaoke show from your computer or an MTU-built system. Store your CDG's on hard drive.	\$179
Micromat Inc.	SoundMaker	1.0.3	Mac 7 - 9.2.2, 3 MB RAM	Sound editing	Create custom effects. Open, edit, save almost any sound format	\$70
Micromat Inc.	Drive 10	1.1.5	Mac OS X, 128 MB RAM, CD or DVD drive	Utilities	Utility program for Mac OS X, includes bootable OS X CD. Optimizes OS X drive.	\$70
Micromat Inc.	TechTool Pro	3.0.9	Mac 7 - 9.2.2, 5 MB RAM, CD or DVD drive	Utilities	Recovers lost data, repairs drive problems, recovers deleted files, over 300 tests. Bootable OS CD.	\$100
Micromat Inc.	TechTool Pro 4	4.0.3	Mac OS 10.2 or greater, 28 MB RAM, CD or DVD drive	Utilities	Recovers lost data and deleted files, repairs drive problems, over 300 tests. Bootable OS X CD.	\$100
MicroSound International Ltd.	Wow! Bach	N/A	Win 95, 98, 2000, ME, XP, 64 MB RAM	Interactive, reorchestration	6 Brandenburg Concertos with scores, includes 2 audio CDs	\$40
MicroSound International Ltd.	SuperConductor	N/A	Win 95, 98, 2000, ME, XP, Mac	Stand alone software, synth, sequencer, sampler	Create, interpret, perform new and classical works	\$295
MicroSound International Ltd.	SuperConductor II	N/A	Win 98, 2000, ME, XP	Combined sequencer, synth, sampler	24-bit performance, expressive intonation tuning (EIT)	\$595
MIDIsoft	Worship Studio	2003XP	Win 98, XP	N/A	Prints sheet music as you play, drag & drop editing, 10,000 hymns included, identifies guitar chords	\$49
Molto Music	Musicians Online Practice Planner	N/A	Internet connection with Mac or Win	Performance management software	Database program available on web site, keep practice logs and rosters online	\$3 per student
mSoft Inc.	MusicCue/ServerSound	3.0	Mac, Win	Digital asset management server	Server for SFX and music library with interface to any DAW. Over 12,000 CDs available - replaces CDs	\$4,995 and up
mSoft Inc.	MusicCue / ServerSound	3.5	Mac, Win	Digital Asset Management	Management server system for music and SFX	\$11,995 and up
Music Manager Software	Master Music Manager	5.0	Mac, Win	Music library, administration	Comprehensive music library, membership, inventory, calendar, directory, recordings	\$400
Music Manager Software	WorshipManager	5.0	Mac, Win	Worship planning	References hymnals & song books - over 30 available	\$200
Ninelocks	MiniMIDI	3	Palm OS 3.1	Palm PDA	Normal MIDI and DMIDI network protocol support	\$10
Propellerheads Software	Reload	1.0	Win XP, Mac OS X	Program and sample conversion	Converts AKAI S1000 and S3000 formatted media to into WAV/MIFF sample files and NN-XT patches	\$49
Propellerheads Software	Reason Drum Kits	N/A	Win98/ME/2000/XP, PIII 1 GHz, 512 MB, OS X 10.1, OS 9.0.4, G4 550MHz, 512 MB	Ref II (Reason add-on)	Hypersampled drums for Reason	\$129
QSound Labs	QTools/AX	2.04.001	Win 95 or higher	DirectX plug-in	Three separate direct plug-ins at www.qsound.com/products	\$80
reFuse Software	reFuse	1.1	Mac OS 8.1 - 9.2	Utility	Audio and transport linking between Pro Tools and Reason or Ableton Live	\$29
reFuse Software	The Ugly VSTI Interface	0.3	Mac OS 10.2	VSTI wrapper	CoreAudio or ReWire output; ugly aesthetics	Free

Miscellaneous Software

Manufacturer	Product	Version	Minimum System Requirements	Type	Special Features	List Price
Rogue Amoeba Software	Detour	1.5	Mac OS X 10.2.8 and up	Utilities	Detour allows audio to be re-routed to different audio output devices	\$12
Rogue Amoeba Software	Audio Hijack	2.1.4	Mac OS X 10.2.8 and up	Utilities	Record and enhance any audio on your computer.	\$16
Rogue Amoeba Software	Audio Hijack Pro	2.0	Mac OS X 10.2.8 and up	Utilities	Record and enhance any audio to MP3/AAC/AIF, with VST and AU support	\$32
Rogue Amoeba Software	Nicecast	1.6	Mac OS X 10.2.8 and up	Utilities	Broadcast any audio on your computer, with VST and AU support.	\$40
SeerMusic Systems	ReMixer/WaveMaker	1.10	Win 9x, ME	SeerMusic and MIDIfile playback, mixing application	Rendering to WAV or MP3, Web audio, normalization, synth/sampler engines as flexibility	Free ware/\$19
Shubb Software	Gigmaster	5.0	Win 95 and up; Power Mac, 18 MB RAM	Organizational database software for musicians	Gigbook performance list, financial reports, songbook database, contacts and contracts	\$80
Sound Quest Inc.	SQ MIDI Tools	1	Win 95, 98, ME, NT, 2000, XP	MIDI Utilities	11 Programs, 30, 000 patches, Drvm Pattern Sequencer, MIDI Quest Jr. 6, MIDIxer, MIDI Mapper	\$89
Sound Quest Inc.	Infinity	2.05	Win 95, 98, ME, NT, 2000, XP, 64 MB RAM	Audio and MIDI development tool	Create custom audio, MIDI and multimedia tools using 370+ different objects (standalone, VST, DX)	\$399
Sounds Logical	ReSample	1.1	Win 98, ME, NT, 2000	Batch WAV file sample rate conversion		\$30
SSoM Software	Music Admin Pro	4.8	Win 98 to XP, NT; Mac OS 8 to OS X	Administration software for music departments & schools	Handles all aspects of running a music dept., music school, or band program	\$1,095

Notation Software

Manufacturer	Product	Minimum System Requirements	Imported File Formats	Includes Fonts	Supports Alternative Fonts	Alternate Note Heads	Chord Symbols/Transposition/Auto-frets	Cross-staff/Cross-measure Beaming	Max. # Staves/Voices per Staff/MIDI Channel per Staff	MIDI File Import/Export	MIDI Step Time Entry/Real-time Entry	Music Input via Mouse/Computer Keyboard	Non-standard Key Signatures
Adept Music Notation Solutions, Inc.	Nightingale Music Notation Software	Mac OS 7.0-9.2	MIDI, NoteScan, Notelist, Finale ETF (v.3, 3.5 only)	Yes	Yes	Yes	Y/Y/N	Y/Y	64/10/1/16	Y/Y	Y/Y	Y/Y	No
Adept Music Notation Solutions, Inc.	Nightingale X	Mac OS X	MIDI, NoteScan, Notelist, Finale ETF (v.3, 3.5 only)	Yes	Yes	Yes	Y/Y/N	Y/Y	64/10/1/16	Y/Y	Y/Y	Y/Y	No
Adept Music Notation Solutions, Inc.	NightLight 2002 Music Notation Software	Mac OS 7.0, 5 MB RAM	MIDI, Notelist	Yes	Yes	Yes	Y/Y/N	Y/Y	9/10/1/15	Y/Y	Y/Y	Y/Y	No
GenieSoft Music Software	Overture 3	Win or Mac (including OS X)	MIDI, Encore, and MusicTime	Yes	Yes	Yes	Y/Y/Y	Y/Y	64/8/8	Y/Y	N/Y	Y/Y	No
GenieSoft Music Software	Score Writer 2	Win or Mac (including OS X)	MIDI, Encore, and MusicTime	Yes	No	Yes	Y/Y/N	N/N	16/4/4	Y/Y	N/Y	Y/Y	No
Graphire Corporation	Music Press	Mac CS 7, 16 MB RAM, Win 95, 32 MB RAM	N/A	Yes	No	Yes	Y/Y/Y	Y/Y	Unlimited/4/1	N/Y	Y/N	Y/Y	No
Gvox	Music Time Deluxe	Mac OS 9.x, OS 10.2 or higher; Win 98 or higher, 32 MB RAM	MIDI, Encore, MUS, RHP	Yes	Yes	No	Y/Y/N	Y/N	16/8/32	Y/Y	Y/Y	Y/Y	No
Gvox	Encore	Mac OS 9.x, OS 10.2 or higher; Win 98 or higher, 32 MB RAM	MIDI, Encore, MUS, RHP	Yes	Yes	No	Y/Y/N	Y/N	64/8/32	Y/Y	Y/Y	Y/Y	No
MakeMusic! Inc.	Finale 2005	Mac 13.2, Win 98, 256 MB RAM	MIDI, Encore, TIFF, EPS, SCORE, Rhapsody, SharpEye, SmartScore, MIDIScan, MusicXML, Finale Family	Yes	Yes	Yes	Y/Y/Y	Y/Y	Unlimited/8/16	Y/Y	Y/Y	Y/Y	Yes
MakeMusic! Inc.	Finale Guitar	Mac 8.6, Win 98, 64 MB RAM	MIDI, SmartScore, Encore, Rhapsody, MIDIScan, Finale Family Files	Yes	Yes	Yes	Y/Y/Y	N/N	32/8/15	Y/Y	Y/Y	Y/Y	No
MakeMusic! Inc.	PrintMusic!	Mac 9.0.4 or 10.2, Win 98, 128 MB RAM	MIDI, SmartScore, Encore, Rhapsody, MIDIScan, Finale Family Files	Yes	No	No	Y/Y/Y	N/N	24/8/15	Y/Y	Y/Y	Y/Y	No
MakeMusic! Inc.	Finale NotePad	Mac 10.2, Win 98, 128 MB RAM	All same or earlier version Finale Family Files	Yes	No	No	N/Y/N	N/N	8/4/8	N/N	N/N	Y/N	No
MakeMusic! Inc.	NotePad Plus	Mac 10.2, Win 98, 128 MB RAM	MIDI, all same or earlier version Finale Family Files	Yes	No	No	N/Y/N	N/N	8/8/8	Y/Y	N/N	Y/N	No
MIDIsoft	iMake SheetMusic Deluxe 3.0	Win 98	N/A	Yes	Yes	Yes	Y/Y/Y	Y/Y	N/A	Y/Y	Y/Y	Y/Y	Yes
miniMusic	NotePad	Palm OS 3.0 and higher, 100 K free	N/A	No	No	No	N/Y/N	N/N	2/4/4	N/Y	Y/N	N/Y	No
Musitek	SmartScore Piano Edition	Win 98, NT, ME, 2000, XP; Mac: OS 9, OS 10.2+, 24 MB RAM	TIFF, MIDI, ENF, NIFF	Yes	No	No	N/Y/N	Y/Y	2/4/4	Y/Y	Y/Y	Y/Y	Yes
Musitek	SmartScore Guitar Edition	Win 98, NT, ME, 2000, XP; Mac: OS 9, OS 10.2+, 24 MB RAM	TIFF, MIDI, ENF, NIFF	Yes	No	No	Y/Y/N	Y/Y	1/4/4	Y/Y	Y/Y	Y/N	Yes
Musitek	SmartScore MIDI Edition	Win 98, NT, ME, 2000, XP; Mac: OS 9, OS 10.2+, 24 MB RAM	TIFF, MIDI, ENF, NIFF	Yes	No	No	N/Y/N	Y/Y	4/4/4	Y/Y	Y/Y	Y/Y	Yes

Miscellaneous Software

Manufacturer	Product	Version	Minimum System Requirements	Type	Special Features	List Price
Synchro Arts Ltd.	Titan	3.0	Mac OS	Sync and conform tools	Essential functions to assist and carry out Auto Conforming	\$1,995
Synrise	Synrise Database	2004	Simple HTML-compatible	Database	Catalogue of synth, sampler and more until 1999	\$15
Trillium Lane Labs	TL Metro	1.1	Mac	Digidesign Pro Tools utility	Metronome, 50 to 250 bpm, vols: 1/4, 1/8 1/16 notes, triplets/tap tempo, samples included	\$149
Trillium Lane Labs	TL InTune	1.2	Mac	Digidesign Pro Tools utility	Digital tuner, TDM plug-in, tuning fork, ships w/20 guitar type presets, add'l presets avail	\$149
Waldorf Music	Soundcorrier	1.0	Win or Mac with internet access	Data bank	Intelligent sound data bank for Waldorf synthesizer	Free
WaveAccess-MindPeak	WaveRider Pro	2.5	Win	Brainwave-to-MIDI converter	Plays two channels of biological signals in the voices, keys, and scales of your choice	\$1,700
WaveAccess-MindPeak	WaveRider Jr.	2.5	Win	Brainwave-to-MIDI converter	Plays two channels of biological signals in the voices, keys, and scales of your choice	\$950
Yeah! Solutions Ltd.	Music Publisher +	2.65	Win	Content administration	Publishing/record company/film company/etc. administration	\$1,750/sgl user
zplane.development	compact!	1.2	Windows 95, 98, 2000, NT4, ME, XP, Pentium II, 500 MHz	MPEG-4 AAC Music Encoder	Multichannel encoding in MPEG-4 AAC (Advanced Audio Coding)	\$24

Complex Meters/ Non-metric Music	Parts Dynamically Linked to Score	Rhythmic Range	Tuplet Range	Scanning/OCR	Single-line Percussion Staff	Tablature/ User-definable	Tablature Converts To/ From Standard Notation	Text, Lyric/Headers & Footers/Annotative	Transposition	Special Features	List Price
Y/Y	No	128th note to double whole note	Unlimited	Y/N	Yes	Y/Y	N/N	Y/Y/Y	Chromatic, diatonic, enharmonic	QuickChange and Get Info interfaces, Threader Tool, NoteScan Program (\$29)	\$195/\$55 Stud
Y/Y	No	128th note to double whole note	Unlimited	Y/N	Yes	Y/Y	N/N	Y/Y/Y	Chromatic, diatonic, enharmonic	QuickChange and Get Info interfaces, Threader Tool, NoteScan Program (\$29)	\$270, St. \$110
Y/Y	No	128th note to double whole note	Unlimited	N/N	Yes	W/Y	N/N	Y/Y/Y	Chromatic, diatonic, enharmonic	QuickChange and Get Info interfaces, Threader Tool, four page maximum	Free
Y/Y	No	128th note to double whole note	(2-99) including nested triplets	N/N	Yes	Y/Y	N/Y	Y/Y/Y	Chromatic, diatonic, enharmonic	Full graphical editing of all MIDI data in Graphic Window	\$349
N/N	No	128th note to double whole note	(2-99)	N/N	No	N/N	N/N	Y/Y/Y	Chromatic, diatonic, enharmonic	Opens Overture 3 files. Scores are cross-platform compatible.	\$59
Y/Y	No	128th note to double whole note	Unlimited	N/N	Yes	N/Y	N/Y	Y/Y/Y	Chromatic, diatonic, enharmonic	High-end printing features	\$600
N/N	No	128th note to double whole note	2-7	N/N	No	N/N	N/N	Y/Y/Y	Chromatic, diatonic, enharmonic	Easy to use	\$120
N/N	No	130th note to double whole note	2-7	N/N	No	Y/Y	Y/Y	Y/Y/Y	Chromatic, diatonic, enharmonic	Easy to use	\$400
Y/Y	No	128th note to double whole note	Unlimited	Y/N	Yes	Y/Y	Y/Y	Y/Y/Y	All	Save as audio file, exercise wizard, auto-harmonize, instant orchestration, rhythm section generation	\$300/\$600
N/Y	No	128th note to double whole note	128th note to double whole note	Y/N	Yes	Y/Y	Y/Y	Y/Y/Y	All	Exports as TIFF, MicNotator, Rhyming Dictionary, SmartMusic Accompaniment	\$100
N/N	No	128th note to double whole note	128th note to double whole note unlimited nesting	Y/N	Yes	N/N	N/N	Y/Y/Y	All	Engraver plus, MicNotator (realtime entry from acoustic inst.), exports as SmartMusic Accompaniment	\$70
N/N	No	32nd note to whole note	33rd note to whole note 3 nested layers	N/N	Yes	N/N	N/N	Y/Y/Y	Key signature only	Opens any same or earlier version Finale Family File, exports as SmartMusic Accompaniment	Free
N/N	No	32nd note to whole note	32nd note to whole note 3 nested layers	N/N	Yes	N/N	N/N	Y/Y/Y	Key signature only	Exports as SmartMusic Accompaniment	\$25
N/N	Yes	8th note, quarter note, more	N/A	N/N	Yes	Y/Y	Y/Y	Y/Y/Y	Chromatic, diatonic, enharmonic, modal	Use any MIDI instrument, export to MP3, WAV, mix and burn to CD	\$59
N/N	No	16th triplet note to whole note	Triplet only	N/N	No	N/N	N/N	N/N/N	Chromatic	Pen-based input, integrated soft synth	\$30
N/N	Yes	128th note to double whole note	6 presets plus user-defined	Y/N	Yes	N/N	N/N	N/Y/N	Chromatic, diatonic, enharmonic	Limited to reading music with no more than two staves per system. No lyric recognition	\$99
N/N	Yes	128th note to double whole note	6 presets plus user-defined	Y/N	Yes	N/N	N/N	N/Y/N	Chromatic, diatonic, enharmonic	Processes only one staff line (solo/single part)	\$99
N/N	Yes	128th note to double whole note	6 presets plus user-defined	Y/N	Yes	N/N	N/N	N/Y/N	Chromatic, diatonic, enharmonic	Limited to reading music with up to four staves. No lyric/chord symbol recognition. MIDI export only.	\$99

Notation Software

Manufacturer	Product	Minimum System Requirements	Imported File Formats	Includes Fonts	Supports Alternative Fonts	Alternate Note Heads	Chord Symbols/Transposition/Auto-frets	Cross-staff/Cross-measure Beaming	Max. # Slaves/Voices per Staff/MIDI Channel per Staff	MIDI File Import/Export	MIDI Step Time Entry	Real-time Entry	Music Input via Mouse/Keyboard	Non-standard Key Signatures
Musitel	SmartScore Songbook Edition	Win 98, NT, ME, 2000, XP, Mac OS 9, OS 10.2+, 24 MB RAM	TIFF, MIDI, ENF, NIFF	Yes	No	No	Y/Y/N	Y/Y	3/4/4	Y/Y	Y/Y	Y/Y	Yes	
Musitek	SmartScore Pro Edition	Win 98, NT, ME, 2000, XP, Mac OS 9, OS 10.2+, 24 MB RAM	TIFF, MIDI, ENF, NIFF	Yes	No	No	Y/Y/N	Y/Y	32/4/4	Y/Y	Y/Y	Y/Y	Yes	
Notation Software, Inc.	MIDINotate Composer	Win 98, ME, NT4, 2000, XP 256 MB RAM	MIDI	Yes	No	Yes	Y/Y/N	N/N	Unlimited/2/ auto	Y/Y	Y/Y	Y/Y	No	
Notation Technologies	Play Music	Win 95, 98, 2000, ME, XP, 16 MB RAM	MIDI, MusicTime, Rhapsody, Encore	Yes	Yes	Yes	Y/Y/Y	Y/Y	24/8/8	Y/Y	Y/Y	Y/Y	Yes	
Personal Composer, Inc.	Personal Composer 44	Win 95 - XP, 64 MB RAM	MIDI, NIFF, XML	Yes	Yes	Yes	Y/Y/Y	Y/N	44/4/16	Y/Y	Y/Y	Y/Y	No	
Personal Composer, Inc.	PC-16	Win 95 - XP, 64 MB RAM	MIDI, NIFF	Yes	Yes	Yes	Y/Y/Y	Y/N	16/4/16	Y/Y	Y/Y	Y/Y	No	
Personal Composer, Inc.	PC-8	Win 95 - XP, 64 MB RAM	MIDI	Yes	Yes	Yes	Y/Y/Y	Y/N	8/4/16	Y/Y	Y/Y	Y/Y	No	
Sibelius Software	Sibelius	Win 95, 98, ME, 2000, XP, NT4, Mac G4/G3/Mac OS 8.6	Finale, Score, Allegro, Printmusic, MIDI, TIFF	Yes	Yes	Yes	Y/Y/Y	Y/Y	Unlimited/4/1	Y/N	N/Y	Y/Y	Yes	
Sibelius Software	G7	Win 95, 98, ME, 2000, XP, NT4, Mac G4/G3/Mac OS 8.6	Finale, Score, Allegro, Printmusic, MIDI, TIFF	Yes	Yes	Yes	Y/Y/Y	Y/Y	Unlimited/4/1	Y/N	N/Y	Y/Y	Yes	
Yowza Software	MusEdit Music Notation Software	Win 95, 98, ME, NT, 2000, XP, 32 MB RAM	MusEdit, text, MIDI, ABC	Yes	No	Yes	Y/Y/Y	N/N	20/4/20	Y/Y	Y/Y	Y/Y	Yes	

Sequencers

Manufacturer	Program	Platform	Simultaneous MIDI Tracks	Maximum Clock Resolution (ppq)	Quantization Types	Sequencing Method	Editing Views	Graphic Editors	Step Editing	Looping
Ableton	Live #	Win 98, 2000, XP, Mac OS 9.2+ OS X 10.1.5+	Unlimited	Unlimited	Adjustable swing (0.99), swing 1/8, 1/16, and 1/32	Linear, matrix (special, pattern)	Arranger, session grid, piano roll, clip/waveform view	Unlimited	No	Yes
Analogue Solutions	Obertron MKI	Hardware	8	N/A	N/A	Step	Real	No	No	Yes
Cakewalk	Home Studio Version 2	Win 98/SE/ME/2000/XP	Unlimited	960	Groove, swing by %, tick offset	Linear, pattern	Piano roll, SysEx, event, notation, console, studioware tempo markers	Unlimited	Yes	Yes
Cakewalk	Home Studio XL Version 2	Win 98/SE/ME/2000/XP	Unlimited	960	Groove, swing by %, tick offset	Linear, pattern	Piano roll, SysEx, event, notation, console, studioware tempo markers	Unlimited	Yes	Yes
Cakewalk	Guitar Tracks Live Version 3	Win 98/SE/ME/2000/XP	N/A	N/A	N/A	Linear audio recording	Audio edit, ruler	Up to #2	No	Yes
Cakewalk	Sonar 4 Studio Edition	Win 2000/XP	Unlimited	960	N/A	Linear	Track and piano roll, console view, navigator view	Unlimited	No	Yes
Cakewalk	Sonar 4 Producer Edition	Win XP/2000	unlimited	Unlimited	Nudge, roll out groove clips, slip edit, and add/edit finds	Linear	Track layers and piano roll	No	No	Yes
Emagic	Logic Pro 6	Mac OS 9, OS X	Unlimited	960	Groove templates, swing by %, extended quantize parameters	Linear	Event list, score, matrix, hyper, transform	Unlimited	Yes	Yes
Emagic	Logic Express 6	Mac OS 9, OS X	Unlimited	960	Swing by %	Linear	Event list, matrix, hyper, score	Unlimited	No	Yes
FASoX	n-Track Studio 4.0	Win 98/NT/ME/2000/XP	Unlimited	1,920	Grid, swing, randomize	Linear	Timeline, piano roll, events list	Yes	Yes	Yes
Future Retro	Notes	Hardware	1	24	Up to 16th note	Loop-based step sequencer	Drum machine-style step editing	No	Yes	Yes
Hawling Dog Systems	Power Chords Pro	Win 3.1/9x/NT/2000/XP	N/A	96	Strum, humanize, roll/pick, quantize	Pattern, loop	Piano roll	No	No	Yes
Image Line Software	FL Studio	Win 9X, 2000, XP	999	768	Swing	Linear, step, pattern	Piano roll, track, envelopes and events	68	No	Yes
Innovative Music Systems	IntelliScore Polyphonic	Win 95/98/NT/ME/2000/XP	16	N/A	N/A	N/A	N/A	No	No	No
Maple	Tracktion Audio/MIDI Production Software	Mac, Win	Unlimited	Fixed	Grid, swing, groove	Linear	Piano roll, timeline, events, track, controllers, filters	Configurable	Yes	Yes

Complex Meters/ Non-metric Music	Parts Dynamically Linked to Score	Rhythmic Range	Tuplet Range	Scanning/OCR	Single-line Percussion Staff	Tablature/ User-definable	Tablature Converts To/ From Standard Notation	Text Lyrics/Headers & Footers/Annotative	Transposition	Special Features	List Price
N/N	Yes	128th note to double whole note	6 presets plus user-defined	Y/Y	Yes	N/N	N/N	Y/Y	Chromatic, diatonic, enharmonic	Identical to SmartScore Pro, just limited to processing music with no more than three staves per system	\$199
N/N	Yes	128th note to double whole note	6 presets plus user-defined	Y/Y	Yes	N/N	N/N	Y/Y	Chromatic, diatonic, enharmonic	Processes up to 32 staff lines per system. Exports finished music pages into Finale and Sibelius	\$399/\$299
Y/Y	Yes	128th	Triplets and quintuplets	N/N	Yes	N/N	N/N	Y/Y	Chromatic, enharmonic	Integrated MIDI sequencing and graphical editing	\$100
Y/Y	Yes	128th note	Yes	N/N	Yes	Y/Y	N/N	Y/Y	All		\$50
N/N	No	128th note to double whole note	15 X	N/N	Yes	Y/N	N/N	Y/Y	Chromatic, enharmonic, diatonic, modal	Imports/exports graphics, import: MIF, XML	\$200
N/N	No	128th note to double whole note	15 X	N/N	Yes	Y/N	N/N	Y/Y	Chromatic, diatonic, enharmonic		\$140
N/N	No	128th note to double whole note	N/A	N/N	Yes	Y/N	N/N	Y/Y	Chromatic, diatonic, enharmonic		\$70
Y/Y	No	512th note to 'Longa'	Unlimited	Y/Y	Yes	Y/Y	Y/Y	Y/Y	All	Internet publishing, enhanced playback, OS X carbonized, auto-arrange, FlexTime note entry	\$299/\$599
Y/N	No	128th note	Unlimited	Y/Y	Yes	Y/Y	Y/Y	Y/Y	All	Internet publishing; sample library included	\$149
Y/Y	No	128th note to double whole note	Unlimited	N/N	Yes	Y/Y	Y/Y	Y/Y	Chromatic	Image export, custom chord diagrams, alternate tunings, 284 pg. printed manual	\$79

# of Audio Tracks	Integrated MIDI/ Audio Edit Screen	Audio Effects	Dynamics Processing	Time Compression and Expansion	Pitch-Shift Type	Sample-Rate Conversion	DSP Plug-in Formats	Audio-to-MIDI Conversion	Extract Timing from Audio	Special Features	Generates Time Code	Syncs to Incoming Time Code	List Price
Unlimited	No	Reverb, delay, filtering, bit reduction	Yes	Yes	FFT and granular (4 modes: Beats, Tones, Texture, Repitch)	Yes	VST, AU	No	No	Realtime time stretching, virtual instrument hosting, flexible routing, drag and drop sampling	Yes	Yes	\$499
0	No	N/A	No	No	N/A	No	N/A	No	No	True analog-style step sequencer for modulars	No	No	\$399
Unlimited	Yes	Reverb, chorus, flange, delay, parametric EQ	Yes	Yes	Formant preserving, traditional	No	DirectX, DXi 2.0	No	No	24-bit/96 kHz support, ReWire 2.0, ASIO hardware support, multipoint drum grid editing	No	No	\$129
Unlimited	Yes	Reverb, chorus, flange, delay	Yes	Yes	Formant preserving, traditional	Yes	DirectX, DXi 2.0	No	No	Home Studio plus add'l audio FX, DXi sampler CD of ACID-format cakewalk loops	No	No	\$219
32	Yes	Amp sim, chorus, delay, flanger, dyn proc, lim, EQ, pitch shifter, reverb	Yes	No	Formant preserving	Yes	DirectX	No	No	Amplitude LE, GT FX multi-effects suite, support for VST and DirectX effects	No	No	\$209
Unlimited	Yes	TTS-1 DXG with authentic Roland sounds	Yes	Yes	Formant preserving, traditional	Yes	TTS-1	No	Yes	Universal Bus Architecture, VST support pow-R dithering	Yes	Yes	\$479
Unlimited	Yes	31 audio effects 4 DXi soft synths, 14 MFX	Yes	Yes	N/A	Yes	DirectX VST audio, DXi and VSTi soft synths, and ReWire 1.0 & 2.0	Yes	Yes	POW-R dithering, MPEX time stretching, multiformat surround mixing	Yes	Yes	\$959
255 stereo	Yes	Virtual instruments, 50+ real-time effects	Yes	Yes	Formant preserving, traditional	Yes	TDM, VST (OS 9), AU (OS X)	Yes	Yes	Unlimited undo/redo, freeze tracks, advanced automation, open TL, OMF support	Yes	Yes	\$999
48 stereo	Yes	28 real-time effects	Yes	Yes	Traditional	Yes	VST (OS 9), AU (OS X)	No	No	3-step undo/redo, track-based automation, eight stereo busses, integrated stereo sample editor	Yes	Yes	\$299
Unlimited	Yes	Reverb, compression, echo, pitch shifter, chorus, EQ	Yes	Yes	Formant preserving	Yes	DirectX, VST, DXi, VSTi	No	No	Works with WDM and ASIO drivers, spectrum analyzer	Yes	Yes	\$49
0	No	N/A	No	No	N/A	No	N/A	No	No	Controls all MIDI, CV/Gate, Din Sync devices, realtime pattern editing, MIDI to CV conversion	No	No	\$325
20	No	N/A	No	No	N/A	No	N/A	No	No	Configurable stringed instrument interface, chord+plucking/strumming pattern	No	No	\$60
999	Yes	VST(i), DX(i), Buzz & FL	Yes	Yes	ZPlane Elastique	Yes	VST(i), DX(i), Buzz & FL	No	Yes	Speech synth, drum machine	No	Yes	\$149
2	No	N/A	No	Yes	N/A	No	N/A	Yes	Yes	Converts polyphonic MP3, WAV, and CD files to MIDI	No	No	\$79
Unlimited	Yes	Reverb, EQ, delay, chorus, phaser, comp/lim, and pitch-shifter, filters	Yes	Yes	Normal	Yes	VST, VSTi	Yes	No	Track freeze MIDI and audio, multiple VST directory support, ReWire host	No	No	\$80

Sequencers

Manufacturer	Program	Platform	Simultaneous MIDI Tracks	Maximum Clock Resolution (ppqn)	Quantization Types	Sequencing Method	Editing Views	Graphic Faders	SysEx Editing	Looping
MIDIsoft	Studio Recording Session	Win 95-XP	Unlimited	1,000	Percentage	Linear	Notation, MIDI list	Yes	Yes	Yes
Mil Productions	Modular-ring network sequencer	Mac OS X, Win XP	Unlimited	999	Real-time steps shifting	All	Ana.og. matrix, pad, controllers	Unlimited	Yes	Yes
miniMusic	BeatPad	Palm OS 3.0 and higher	12	24	N/A	Pattern	Melodic drum	16	No	Yes
MOTU	FreeStyle 2.3	Mac, Win	Trackless	960	Straight, offset	Linear, loop	Piano roll, notation, event list	No	Yes	Yes
MOTU	Digital Performer 4.5	Mac OS X	Unlimited	Configurable	MIDI and audio, input, output, swing, groove, humanize	Linear, step, pattern, loop	Track overview, graphic, drum editor, event list, notation	Unlimited	Yes	Yes
Musicatec	Delta (5)	Win	255	N/A	Swing, percentage, end, start	Realtime, step/time	All in one	127	Yes	No
Personal Composer	Personal Composer	Win	8, 16, 44	1,024	Note-on, note-off	Linear	Page, scroll, split-screen	Yes	No	No
PG Music, Inc.	PowerTracks Pro Audio	Win 9x/NT/2000/2002/XP	48	960	Swing, percentage, randomize	Linear, step	Tracks, audio, mixer, events, bars, roll notation, SysEx editor	Yes	Yes	Yes
Roland	MC 50mkII	Roland S MRC	8 (32 ch)	96	Grid	Linear, step	Track, event	No	Yes	Yes
Roland	MV-8000 Production Studio	1.2	128	480	Shuffle, grid, template	Linear, step	Piano roll, event, track, sample	24	Yes	Yes
Steinberg	Cubase SL 2	Win 2000, XP, Mac OS X	Unlimited	Sample-level	N/A	Linear, loop	Key, drum, list, SysEx, score, logical, loop	Unlimited	Yes	Yes
Steinberg	Cubase SX 3	Win XP, Mac OS X	Unlimited	Sample-level	Auto, custom, swing, groove	Linear, loop	Key, piano roll, list, drum, logical, sample, part, loop, score	Unlimited	Yes	Yes
Steinberg	Cubase SE (Studio Case)	Win 2000, XP, Mac OS X 10.2	Unlimited	Sub-sample	Groove, soft	Linear, loop, overdub, step, punch	Key, list, drum, score	Unlimited	No	Yes
Synapse Audio	Orion Platinum	Win 98/ME/2000/XP	128	768	Shuffle, groove, humanize	Pattern, step	Piano roll, song arrangement, pattern events, song events	128	No	Yes
Technosaurus	Cyclotron	Hardware 16-step sequencer	N/A	N/A	N/A	16-step	N/A	No	No	Yes
WinJammer	WinJammer Pro 5.0	Win 3.1/95/NT	256	960	Swing, groove, input, variable strength	Linear	Piano roll, event list, score, drum view	Yes	Yes	Yes
Yamaha	XGworks 3.0	Win	100	480	Strength, sensitivity, swing, gate, velocity	Step, real, pattern, linear	Track view, piano roll, staff, drum, event list	Yes	Yes	Yes
Yamaha	OY 100	Hardware	24	480	Percentage, swing	Linear, pattern	Event list	16	Yes	Yes
Yamaha	OY 700	Hardware	48	480	Percentage, swing, groove templates	Linear, pattern	Piano roll, event list	48	Yes	Yes
Yamaha	RM1x	Hardware	16	480	Grid, percentage, groove templates	Step, real, pattern, linear	Event, track, pattern chain	Yes	Yes	Yes

Panning the MIDI Orchestra *continued from page 19*

preset so that you don't have to repeat the process each time you want to use the preset.

These concepts only apply to solo instruments, since their focal width should be very narrow on the virtual stage. Because of the large size of string sections, their focal width is large, often encompassing two-thirds or more of the stereo field. Consequently, pan pots

should be used to position the string sections into the correct placements on the virtual stage, and the stereo samples should be used instead of mono samples, which typically lack much depth and character.

PAN SETTINGS

Regardless of whether you are panning inside a DAW or a sampler, the

procedure is basically the same. Use the seating chart to approximate the position of each instrument. In most situations, you will be listening to close-field monitors. You should be seated in such a way that you are equidistant from each speaker and at a distance that puts you in the sweet spot. This will typically mean that you are not actually experiencing a 180-

# of Audio Tracks	Integrated MIDI/ Audio Edit Screen	Audio Effects	Dynamics Processing	Time Compression and Expansion	Pitch Shift Type	Sample-Rate Conversion	DSP Plug-in Formats	Audio-to-MIDI Conversion	Extract Timing from Audio	Special Features	Generates Time Code	Syncs to Incoming Time Code	List Price
8	Yes	Delay, echo, chorus, flanger, EQ	Yes	No	Traditional	Yes	N/A	Yes	Yes	Multisequence playback, articulation marks	Yes	Yes	\$40
N/A	No	Reverb, delay, echo, chorus, saturator	No	No	N/A	No	Standalone software	No	No	Integrated synthesizers	Yes	Yes	\$TBA
0	No	MIDI only	No	No	N/A	No	N/A	No	No	Pen-based editing	Yes	No	\$30
0	No	N/A	No	No	N/A	No	N/A	No	No	Sense tempo, note-spelling algorithms, step sequencing	No	No	\$195
Unlimited	Yes	50+ incl. plug-ins, EQ, dynamics, filters, reverbs, etc.; MasterWork's 64-bit premium series	Yes	Yes	Formant preserving, traditional	Yes	TDM, MAS, AU, Premiere	No	Yes	Supports Pro Tools HD as DAE host; supports third-party AU/MAS plug-ins, virtual inst.	Yes	Yes	\$795
255	Yes	All direct Music - reverb, distortion, EQ, more	Yes	No	Plug-in	Yes	Direct Music 9	No	No		Yes	Yes	\$249
0	No	N/A	No	No	N/A	No	N/A	No	No	Transpose, copy to WP and DTP apps	No	No	\$79-\$200
Up to 48	Yes	Comp, gate, dist, reverb, echo, chorus, flanger, ring mod, trem, tone, EQ, exciter	Yes	No	Traditional	Yes	Proprietary, DirectX	No	No	Detect chords from MIDI file, export to WMA and MP3, CD-RW software, guitar tuner	No	No	\$49
0	No	N/A	No	No	N/A	No	N/A	No	No	Two MIC1 outs, 1.4-MB floppy drive, read/write, mid	Yes	Yes	\$795
8 stereo	Yes	MFX (24), reverb (2), chorus (4), mastering	Yes	Yes	Realtime	No	N/A	No	No	VGA/mouse-expansion, sampler, CD-R	Yes	Yes	\$2,695
Unlimited	Yes	Many	Yes	Yes	Traditional	Yes	VST, CXi	No	Yes	Freeze, Time Warp, VST system link, video track, ReWrite 2, unlimited undo/redo	Yes	Yes	\$499
200+	Yes	Delays, dynamics, de-esser, overdrive, quadra fuzz, flange, phase, rotar, chorus, symphonic, reverb	No	Yes	Audio Warp, Acid	Yes	VST, DirectX	No	Yes	Audio warp, play order, track, replace editor, MIDI device maps, external plug-ins, freeze, surround	Yes	Yes	\$799
48	Yes	Reverbs, delays, chorus, flange, more	Yes	Yes	Traditional	Yes	VST, DirectX	No	No	Special bundle includes Virtual Guitarist SE, The Grand SE, Groove Agent SE, D'Nea SE, HAL on SE	No	Yes	\$299
128	Yes	Delay, reverb, dynamics, EQ, distortion, chorus, flanger, phaser, more	Yes	Yes	Traditional	Yes	DirectX, Vst	No	Yes	Groove slicer, Genetics, microtuning, chord and groove templates, event editing tools, multiband effects	No	No	\$298
0	No	N/A	No	No	Knobs	No	N/A	No	No	Analog 16-step sequencer	No	No	\$329
0	No	N/A	No	No	N/A	No	N/A	No	No		Yes	Yes	\$200
6 stereo	Yes	Hardware dependent	Yes	Yes	Normal	Yes	Proprietary (hardware)	Yes	Yes	Guitar arranger, auto arranger, XG editor, voice to score, multiple notation formats	No	No	\$100
0	No	Hardware, reverb, chorus, variations	No	No	N/A	No	N/A	No	No	A/D input with effects for guitar and microphone	No	No	\$630
0	No	Processors, effects	No	No	N/A	No	N/A	No	No	XG tone generator, phrase database, FDD 2 MIDI outs, pitch and modulation	Yes	Yes	\$1,495
0	No	Reverb, chorus, variations	Yes	Yes	Normal	No	N/A	No	No	654 normal voices, 46 drum kits, 3.5 FDD, SMF compatible, 8 real-time control knobs	No	No	\$900

degree image, but instead about a 120-degree image spread from about ten to two o'clock.

When you are just starting out doing MIDI orchestrations, the number of instruments that must be put into the proper positions can be a bit overwhelming. Therefore, I recommend doing the following: get a roll of paper that is two- to three-foot

wide, and cut it so that it is as long as the space between your two monitors. Then draw an orchestra seating chart like the one included here and hang it on the wall behind your speakers. As you adjust your pan settings, try to position the instruments so that they sound as if they are coming from the appropriate instruments on the drawing itself. ☺

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Signal-Processing Software

Manufacturer	Product	Version	Processor Type	Minimum System Requirements	Format and Platform	Automation	Operates In Real-time	Special Features	List Price
4Front Technologies	4Front XLimiter	1.2	Soft brickwall limiter	Win 2000/XP, 128 MB RAM, x86-compatible	DX, VST	Yes	Yes	Gentle psychoacoustic continuous-band mastering limiter	\$35
4Front Technologies	4Front YLimiter	1.2	Brickwall limiter	Win 2000/XP, 128 MB RAM, x86-compatible	DX, VST	Yes	Yes		\$35
4Front Technologies	4Front Auxiliter	1.2	Exciter-type high frequency refresher	Win 2000/XP, 128 MB RAM, x86-compatible	DX, VST	Yes	Yes	High frequency stimulation, audio restoration	\$35
4Front Technologies	4Front SandBrush	1.2	Brushed drums, saturation effect, more	Win 2000/XP, 128 MB RAM, x86-compatible	DX, VST	Yes	Yes	Effect type enhancement	\$35
4Front Technologies	4Front Contour Max	1.2	Frequency contour adjust plug-in	Win 2000/XP, 128 MB RAM, x86-compatible	DX, VST	Yes	Yes		\$35
4Front Technologies	4Front Mastering Bundle	1.2	Includes two limiters and three exciters (of different types)	Win 2000/XP, 128 MB RAM, x86-compatible	DX, VST	Yes	Yes	Various high-quality limiters and exciters for master pre-processing	\$85
4Front Technologies	DSSv3D (Consumer audio enhancement)	7	Spatialization, bass boost, reverb, exciter, DVC mixdown	Win, Intel P3 or higher, 64 MB RAM	Winamp, WMP 9/10, MusicMatch, JetAudio, Sonique, Foobar	Yes	Yes	Spatialization, bass boost, reverb, exciter, DVD mixdown, surround-sound emulation	\$12
AIPL	AIPL WarmTone Standard	2.2	Dynamics processor	Win 95, Pentium 90, 16 MB RAM, 1 MB disk space	DirectX	No	No	Add 24-bit analog warmth and compression to PC digital audio, fully functional, try-before-you-buy	\$34
AIPL	AIPL SpinCycle Standard	2.1	Dynamics processor	Win 95, Pentium 120, 16 MB RAM, 1 MB disk space	DirectX	No	No	Add 24-bit rotary speaker sound to PC digital audio, fully functional, try-before-you-buy software	\$49
AIPL	AIPL WarmTone Pro	2.2	Dynamics processor	Win 95, Pentium 90, 16 MB RAM, 1 MB disk space	DirectX	No	No	Add 24-bit analog warmth and compression to digital audio. Pro eliminates digital by-products.	\$64
AIPL	AIPL SpinCycle Pro	2.1	Dynamics processor	Win 95, Pentium 120, 16 MB RAM, 1 MB disk space	DirectX	No	No	Add big 24-bit rotary speaker sound to your PC digital audio. Pro eliminates digital by-products.	\$76
Antares Audio Technologies	Tube	1.0	Tube emulator	Win 98, Mac OS 9x	DX, MAS, VST (Mac OS X/PC), RTAS (Mac OS X/PC)	Yes	Yes	Choose between a clean "blue tube" or a distorted, growling "orange tube"	\$124
Antares Audio Technologies	Auto-Tune 3	N/A	Intonation processor	Computer-compatible with host application	RTAS (Mac OS X/PC), VST (Mac OS X/PC), MAS, TOM (Mac OS X), DX	Yes	Yes	Pitch correction	\$299-\$599
Antares Audio Technologies	Mic Modeller	N/A	Modeling	Win 9x, Mac OS 8.6 or higher	DX, RTAS (Mac OS X), VST (Mac), MAS, TDM (Mac OS X)	Yes	Yes	Makes input microphone sound like rare or expensive microphone	\$369-\$599
Amwidia Soft	GL015V	1.5	15-band 2/3 octave graphic equalizer	Win 9x/ME/NT4/2000/XP, 200 MHz Pentium, Mac OS X, PowerMac G3/200 MHz, 32 MB RAM, VST2.0 host	VST/PC, VST/Mac OS X	Yes	Yes		\$49
Amwidia Soft	GL031V	1.5	31-band 1/3 octave graphic equalizer	Win 9x/ME/NT4/2000/XP, 200 MHz Pentium, Mac OS X, PowerMac G3/300 MHz, 32 MB RAM, VST2.0 host	VST/PC, VST/Mac OS X	Yes	Yes		\$69
Amwidia Soft	L1V	1.5	Limiter/maximizer	Win 9x/ME/NT4/2000/XP, 200 MHz Pentium, Mac OS X, PowerMac G3/300 MHz, 32 MB RAM, VST2.0 host	VST/PC, VST/Mac OS X	Yes	Yes	Look-ahead, hard/soft knee, above threshold monitoring, delay compensation	\$66
Amwidia Soft	CX1V	1.5	Compressor/expander	Win 9x/ME/NT4/2000/XP, 200 MHz Pentium, Mac OS X, PowerMac G3/300 MHz, 32 MB RAM, VST2.0 host	VST/PC, VST/Mac OS X	Yes	Yes	Look-ahead, hard/soft knee, above threshold monitoring, delay compensation	\$66
Amwidia Soft	Graphic Equalizer Pro	2.2	Stereo 15-band 2/3 octave graphic equalizer	Win 9x/Me/NT4/2000/XP, 166 MHz Pentium, 16 MB RAM	Standalone, PC, Win	No	Yes	Real-time processing of sound-card inputs, off-line and real-time processing of WAV files	\$40
Amwidia Soft	Parametric Equalizer Pro	3.0	Parametric equalizer	Win 9x/Me/NT4/2000/XP, 200 MHz Pentium, 16 MB RAM	Standalone, PC, Win	No	Yes	Real-time processing of sound-card inputs, off-line and real-time processing of WAV files	\$99
Amwidia Soft	Spazio for SAWStudio	1.0	Reverb	SAWStudio/SAWSStudioLite/SAWSt. basic host, 200 MHz Pentium, 64 MB RAM, Win NT4/2000/XP	SAWStudio	Yes	Yes	Native SAWStudio and MIDI automation support, SAWStudio preset support and built-in preset manager	\$199
Amwidia Soft	DXReverb	2.0	Reverb	200 MHz Pentium CPU, 32 MB RAM, Win 9x/ME/NT4/2000/XP	DirectX	Yes	Yes	Two small rooms, two medium rooms, two large rooms/halls, two plate reverbs, two gate rev., one inverse rev.	\$149
Amwidia Soft	DXReverbLight	2.0	Reverb	PC, 200 MHz Pentium, 32 MB RAM, Win 9x/ME/NT4/2000/XP, Mac PowerMac G3/GDC, 32 MB RAM, Mac OS X	DirectX, VST/PC, VST/Mac OS X	No	Yes	Free reverb plug-in for PC and Mac	Free
Amwidia Soft	DK Modulation Pack	2.0	Phaser, flanger, chorus, tremolo, c-delay, HP/LP filter	200 MHz Pentium CPU, 32 MB RAM, Win 9x/ME/NT4/2000/XP	DirectX	Yes	Yes	Full MIDI support, built-in preset manager, the value of control parameters can be inserted manually	\$39
Amwidia Soft	Native Modulation Pack for SAWStudio	1.5	Phaser, flanger, chorus, tremolo, c-delay, HP/LP filter	200 MHz Pentium CPU, 32 MB RAM, Win NT4/2000/XP, SAWStudioLite/SAWStudioBasic host	SAWStudio	Yes	Yes	Native SAWStudio and MIDI automation support, SAWStudio preset support and built-in preset manager	\$150
Audio Ease	Rocket Silence Bundle	3	Room simulation, vowel filter	Mac OS X	VST, MAS, Audio Units, RTAS, HTDM	Yes	Yes	2-D Sound positioning, talking filter, envelope follower	\$199
Audio Ease	Nautius Bundle	2	Exotic effects	Mac OS X	VST, MAS, Audio Units, RTAS, HTDM	Yes	Yes	Sound-sculpting tools	\$299

Signal-Processing Software

Manufacturer	Product	Version	Processor Type	Minimum System Requirements	Format and Platform	Automation	Operates in Real-time	Special Features	List Price
Audio Ease	Altverb	4	Reverb	Mac G4, OS 9 - OS X, 40 MB free	MAS, VST, RTAS, Audio Units	Yes	Yes	Sampled acoustics processor	\$495
Audio Ease	Altverb HTDM	4	Reverb	Mac G4 733 MHz, OS 9 - OS X, 40 MB free	HTDM, RTAS, MAS, VST, Audio Units	Yes	Yes	Sampled acoustics processor	\$195
BIAS Inc.	SuperFreq	1.1	Scalable 10-band parametric equalizer	Mac OS 8.6/9, OS X 10.1/10.2	VST	No	Yes	Optionally, SuperFreq can be launched as a 4-, 6-, 8-, or 10-band parametric EQ	\$79
BIAS Inc.	SoundSoap	1.1.2	Broadband noise reduction	Mac OS 10.2/10.3, Win XP	Standalone and VST on Mac/Standalone, VST & DirectX on Win XP	Yes	Yes	Learn noise/noise only functions	\$99
BIAS Inc.	SoundSoap Pro	1.0	Audio restoration	Mac OS 10.2/10.3, Win XP	VST, DirectX, Audio Units, RTAS	No	Yes	Hum/rumble removal, click and crackle removal, broadband noise reduction, and noise gate	\$400
Blaze Audio	Voice Cloak	1.1	EQ, pitch shift, chorus	Win 98, ME, 2000, XP	Standalone	No	Yes	Voice Chat and VoIP	\$30
Camel Audio	CamelPhat	2.11	Multieffect (compressor/distortion/filters/bass enhance)	Win 98+, Mac OS 9	VST	Yes	Yes	High-quality, 64-bit, analog modeling, signal-processing algorithms	\$49
CreamWare Audio Solutions Inc.	Interphase	N/A	Stereo analog filterbank	Win, Mac, 400+ MHz, 256 MB RAM	Scope Fusion Platform (Win & Mac)	Yes	Yes	Wild filter modulations and warm analog feel for digital production	\$99
CreamWare Audio Solutions Inc.	Optimaster	N/A	Multiband dynamics	Scope Fusion Platform 3.1c	Scope Fusion Platform (Win & Mac)	Yes	Yes	The processor combines a normalizer, multiband expander, multiband compressor and multiband limiter	\$198
CreamWare Audio Solutions Inc.	PSY Q	N/A	Psycho-acoustic processor	Scope Fusion Platform 3.1c	Scope Fusion Platform (Win & Mac)	Yes	Yes	Professional psychoacoustic equalizer behind an unassuming surface	\$198
CreamWare Audio Solutions Inc.	Masterverb Pro	N/A	Reverb	Win 95/98/2000/XP, 400 MHz, 128 MB RAM, Mac OS 8.6 up to 9.2, G3 B/W, 400 MHz, 128 MB RAM	PC, Mac, VST, standalone, Scope Fusion Platform	Yes	Yes	Effect with zero latency, no CPU-load	\$198
CreamWare Audio Solutions Inc.	Vinco	1	Compressor	Scope Fusion Platform 3.1c	Scope Fusion Platform (Win & Mac)	Yes	Yes	High end vintage compressor	\$198
Cycling 74	pluggo	3.3	Variety	Mac OS X, Win XP, 128 MB RAM	VST, AU, RTAS	Yes	Yes	Over 100 plug-ins and synths	\$199
Cycling 74	Mode	1.1	Variety	Mac OS X, Win XP	VST, AU, RTAS	Yes	Yes	A collection of three synths, two signal processors, and 18 "satellite" plug-ins	\$199
DARTech, Inc.	DART XP Pro	1.1.4	Click/hiss removal, hum and wideband noise removal, EQ	Intel or AMD CPU, 64 MB RAM, 1.2 GB HD	Win 95/98/ME/NT/2000/XP	No	Yes	DirectX support, CD burning utility included	\$200
DARTech, Inc.	CD-Recorder	4.1.20	CD-Recorder/sound improvement	Sound card, SCSI, USB or EIDE CD-R/RW, 16 MB RAM, 1.2 GB disk space	Win 95/98/NT/2000/ME/XP	No	Yes	Rip & burn with any CD-R/W device, DirectX plug-ins DeClick/DeHiss, CD Format, more	\$40
delaydots.com	Phat Pro DX	3.2	Subharmonic processor	Win 9x/XP, 128 MB RAM	DirectX	No	Yes	Two bass-enhancing modes, full controllable limiter. Recommended for DD 5.1 LFE channel processing	\$15
delaydots.com	Spectral Plug-ins Pack	1.5	Spectral processors: morpher, shaper and extractor	Win 9x/XP, 128 MB RAM	DirectX, VST PC	Yes	Yes	Three unique DSP plug-ins: Spectral Morpher, Shaper, and Extractor. Presets created by Martin Walker	\$15
delaydots.com	Sound Designers Plug-ins Pack	2.4	Multiband pitch shifter, subharmonic processor, distortion	Win 9x/XP, 128 MB RAM	DirectX, VST PC	Yes	Yes	Phat Pro DX (advanced version of Phat), subharmonic generator as bonus for bundle buyers	\$15
delaydots.com	SpectrumWorx	1.1	Modular Spectral effect processor	Win 9x, 128 MB RAM	VST	Yes	Yes	Frequency domain processing, more than 40 build-in modules, 8 slot sampler, rich preset library	\$100
delaydots.com	PitchWorks DX (freeware)	1.1	Pitch/tempo/speed processor	Win 9x, 128 MB RAM	DirectX	No	Yes	Allow alternate pitch (preserve time), tempo (preserve pitch), and speed (quality resampler)	Free
DSound	VL2 Multichannel Valve Interface	1.0	Surround dynamics	Mac, Win	PowerCore	Yes	Yes	Up to 8-channel operation	\$279
DUY	DUY ReDSPider	3.2	Plug-in effects (reverb, dynamics, NR, synth, EQ, dist)	Mac OS 9/OS X, Win XP, 2 MB RAM	TDM (Mix & HD)/Mac & Win XP	Yes	Yes	Plug-in library of over 250 plug-ins which can be loaded from any Dig design host	\$399
DUY	DUY SynthSpider	2.1	Modular synthesizer for TDM	Mac OS 9/OS X, Win XP, 2 MB RAM	TDM (Mix & HD)/Mac & Win XP	Yes	Yes	Modular synthesizer for TDM with high-quality sounds and creative versatility	\$449
DUY	DUY DSPower	3.2	Modular plug-in builder	Mac OS 9/OS X, Win XP, 2 MB RAM	TDM (Mix & HD)/Mac & Win XP	Yes	Yes	DUY DSPider allows user to make plug-ins modularly	\$895
DUY	DUY Analog Bundle	3.2	Analog-sound simulation (tubes/valves & tape saturation)	Mac OS 9/OS X, Win XP, 2 MB RAM	TDM (Mix & HD)/Mac & Win XP	Yes	Yes	DUY Analog Bundle includes DUY DaD Tape and DUY DaD Valve analog simulation plug-ins	\$795
DUY	DUY Global Bundle	3.2	Analog sim. (tapes/tubes), dynamics, stereo enhancer	Mac OS 9/OS X, Win XP, 2 MB RAM	TDM (Mix & HD)/Mac & Win XP	Yes	Yes	Includes DUY DaD Tape, DaD Valve, ReDSPider, Shape, Max, and Wide plug-ins	\$1,475
DUY	DUY Global Bundle PRO	3.2	Analog sim. (tapes/tubes), stereo enhancer, dynamics	Mac OS 9/OS X, Win XP, 2 MB RAM	TDM (Mix & HD)/Mac & Win XP	Yes	Yes	Includes DUY's DaD Tape, DaD Valve, Wide, DSPider, SynthSpider, ReDSPider, Shape & Max TDM plug-ins	\$1,795

Signal-Processing Software

Manufacturer	Product	Version	Processor Type	Minimum System Requirements	Format and Platform	Automation	Operates In Real-time	Special Features	List Price
DUY	DUY EverPack for VST	2.0	Reverb, tube simulation, stereo enhancer, dynamics	Mac OS X, 2 MB RAM	VST/Mac	Yes	Yes	Includes DUY DaD Valve, DUY Z-Room, DUY Shape, Max DUY and DUY Wide plug-ins for VST	\$279
DUY	DUY EverPack for AL (Audio Units)	1.1	Reverb, tube simulation, stereo enhancer, dynamics	Mac OS X, 2 MB RAM	Audio Units/Mac	Yes	Yes	Includes DUY's DaD Valve, DUY Wide, DUY Shape, Max DUY and DUY Z-Room plug-ins for Audio Units	\$279
DUY	DUY EverPack for MAS	2.0	Reverb, tube simulation, stereo enhancer, dynamics	Mac OS X, 2 MB RAM	MAS/MOTU/Mac	Yes	Yes	Includes DUY DaD Valve, DUY Z-Room, DUY Shape, Max DUY and DUY Wide plug-ins for MOTU/MAS	\$339
DUY	DUY EverPack RTAS/AudioSuite	2.1	Reverb, tube simulation, stereo enhancer, dynamics	Mac OS 9/OS X, Win XP, 2 MB RAM	RTAS & AudioSuite/Mac & Win XP	Yes	Yes	Includes DUY DaD Valve, DUY Z-Room, DUY Shape, Max DUY and DUY Wide plug-ins	\$339
Elemental Audio Systems	Firium	2.0	Linear phase EQ	Mac OS X (PowerPC G4), Win 98/ME/2000/XP (P3 equivalent or better)	RTAS, VST (Mac OS X/Win), Audio Units (Mac OS X)	Yes	Yes	Spectrum analyzer, spectral matching, state automation, draw EQ, mastering quality	\$129
Elemental Audio Systems	Eqium	2.0	EQ tools	Mac OS X (PowerPC G4), Win 98/ME/2000/XP (P3 equivalent or better)	RTAS, VST (Mac OS X/Win), Audio Units (Mac OS X)	Yes	Yes	From one band to 20+ (limited only by resources, hum removal, nine more filter types, low CPU)	\$129
Elemental Audio Systems	Necdymium	1.0	Compressor/dynamics processor	Mac OS X (PowerPC G4), Win 98/ME/2000/XP (P3 equivalent or better)	RTAS, VST (Mac OS X/Win), Audio Units (Mac OS X)	Yes	Yes	New approach to compression, multizone (not multiband), sidechain, three key filters	\$159
Epinois Software	Digital Ear	4.2	Audio-to-MIDI converter	Pentium class, 16 MB RAM, sound card	Win 95/98/2000/XP	No	Yes	Converts audio (WAV), into MIDI	\$79
Epinois Software	Digital Ear Real-Time	4.02	Audio (WAV)-to-MIDI converter	Win 95/98/XP/2000/NT, 32 MB RAM, soundcard	Win 95/98/NT/2000/XP	No	Yes	Converts audio (WAV) into MIDI in real-time	\$119
Eventide	H3000 Band Delays	1.1	Tempo-based delays with modulating filters	Mac OS 9.2.2 or newer, Win XP	TDM (Mix, HD, Accel) Mac OS 9.2.2 or newer, Win XP	Yes	Yes	Extensive Function Generator for modulation offers 19 waveshapes and MIDI	\$385
Eventide	Octaver	1.1	Diatonic pitch shifter with delay and panning	Mac OS 9.2.2	TDM (HD/Accel only) Mac, Win XP	Yes	Yes	Notation Grid allows the placement of notes on a musical staff like a step sequencer	\$595
Eventide	Clockworks Legacy	1.2	Omnipressor, phaser, flanger, pitch change w/delay	Mac OS 9.2.2 or higher, Win XP	TDM (HD/Accel only) Mac, Win XP	Yes	Yes	Vintage Eventide tone, convenience of a plug-in without the bother of vintage hardware	\$795
Eventide	Eventide Reverb	1.1	Reverb with 3-band parametric compressor, twin delays	Mac OS 9.2.2, Win XP	TDM (HD/Accel only) Mac, Win XP	Yes	Yes	Best Halls, Plates, Rooms, Ambience, Chambers and Concert Halls from Orville	\$795
Expert Sleepers	Augustus Loop	1.1.0	Tape delay/looping	Mac OS X 10.2	Audio Units	Yes	Yes	Varispeed tape emulation with looping features	\$20
FASoft	ParEQ	1.2	Parametric EQ	Win 95/98/ME/NT/2000/XP	DirectX	Yes	Yes	Spectrum analyzer, guitar tuner	\$20
FASoft	Compressor	1.1	Dynamics processor	Win 95/98/ME/NT/2000/XP	DirectX	Yes	Yes		\$20
FMJ Software	Any Time	1.0	Time stretch, pitch scaling, sample rate conversion, mastering	Intel Pentium III or AMD Athlon XP or later CPU	Win 9X/NT/2000/XP	No	No	Independently take control of the time, the pitch, and the sample rate of an audio recording	\$TBA
IK Multimedia	AmpliTube	N/A	Guitar amp and effects plugin	Win 98/XP, Mac OS 9 and OS X, 256 MB RAM	HDTM, RTAS, VST, MAS, DXi, AU	Yes	Yes	Guitar amp and effects plugin for Mac/PC	\$399
IK Multimedia	AmpliTube Live	N/A	Guitar amp and effects modeling	Mac OS X, Win XP	Standalone	No	Yes	Operates independently of a host program, making your computer your amp	\$129
IK Multimedia	T-RackS Stand Alone	N/A	EQ, tube compression, multiband limiter, soft clipper	Win 98/XP, Mac OS 9 and OS X, 256 MB RAM	Standalone	No	No	Models actual hardware mastering gear circuit by circuit	\$299
IK Multimedia	T-RackS Plug-In	N/A	EQ, tube compression, multiband limiter, soft clipper	Win 98/XP, Mac OS 9 and OS X, 256 MB RAM	HDTM, RTAS, VST, DXi, AU	Yes	Yes	Complete analog mastering suite	\$399
INA-GRM	Classic Bundle	1.7	Doppler, EQ, delays, band pass, comb filters, resonance	Mac OS X/CS 9, Win XP	TDM, HDTM/RTAS/AS, VST	Yes	Yes	Unique interface including 2-D potentiometer, elastic string, savable snapshots, and preset morphing	\$199-\$549
INA-GRM	ST Bundle	1.7	Compression-expansion, EQ, spectral transform, transposer	Mac OS X/OS 9, Win XP	HTDM, RTAS, AudioSuite, VST	Yes	Yes	Unique interface controls, real-time EQ band automation, FFT analysis	\$199-\$549
iZotope, Inc.	Spectron	1.0	Spectral processing effects	Win 98SE/ME/2000/XP, 600 MHz P III, Mac G4/G5, OS X, 64 MB RAM	RTAS, VST, MAS, Audio Units, DirectX	Yes	Yes	Spectral delay, morphing, panning, and modulation effects	\$130
iZotope, Inc.	Ozone	2.0	Multiband dynamics, EQ, reverb, loudness maximizer, exciter	Win 98SE/ME/2000/XP, 600 MHz Pentium II or higher, 64 MB RAM	RTAS, VST, MAS, Audio Units, DirectX	Yes	Yes	Complete 64-bit analog-modeled mastering system	\$250
iZotope, Inc.	Trash	1.0	Multiband distortion, amp simulation, filters, and delays	Win 98SE/ME/2000/XP, 600 MHz Pentium II or higher, 64 MB RAM	RTAS, VST, MAS, Audio Units, DirectX	Yes	Yes	48 distortion models, 85 amp and cabinet models, and six vintage delay models	\$200
iZotope, Inc.	Vinyl	1.5	Lo-fi vinyl record simulation	Win 98SE/ME/2000/XP, 600 MHz Pentium II or higher, 64 MB RAM	RTAS, VST, MAS, Audio Units, DirectX	No	Yes	64-bit hi-fi record player emulation	Free

Signal-Processing Software

Manufacturer	Product	Version	Processor Type	Minimum System Requirements	Format and Platform	Automation	Operates In Real-time	Special Features	List Price
Keyfax NewMedia	GridLok	1.0	Tempo-synced MIDI LFOs	Mac, system requirements as for Logic 5.0	Mac, Emagic Logic 5.0	Yes	Yes	260 tempo-synced MIDI LFO templates for Logic Automation	\$35
Korg JSA	Korg Legacy Collection 1, MDE-X Effects Module	1.1	16 effect types, 128 programs	Win XP; Mac OS X 10.2.6	VST, Audio Units	No	Yes	Nice Graphic Editing, tempo sync effects, all fully erasable (Part of KLC-1)	\$625
Line 6	Echo Farm	N/A	Vintage echo and delay	N/A	TDM	Yes	Yes	Classic tape echo, old school analog delay, and filtersweep echophonic modulations	\$495
Line 6	Amp Farm	N/A	Guitar amps and tube distortion	N/A	TDM	Yes	Yes	An industry standard for guitar recording or TDM, with classic amp emulations	\$595
Magix Entertainment Corporation	Magix Audio Cleaning Lab 2004	N/A	Declicker, declicker, dehisser, de-esser, dehummer, more	Win 98/98SE/2000/ME/NT/XP, 400 MHz, 64 MB RAM, 16-bit full-duplex soundcard	Standalone/Win	Yes	Yes	MP3 encoder, DirectX supp., DVD supp., CD Burn, CD effects, surround FX, time stretch, pitch expander, gate	\$49
McDSP	Analog Channel	2.4	Mic pre and tape saturation modeling	Mac OS X, Win XP	TDM, RTAS, Audio Suite / Mac OS X, Win XP	Yes	Yes	Models tape decks, Bias, IPS, IEC, analog circuits and tape	\$495
McDSP	FilterBank	3.4	EQ	Mac OS X, Win XP	TDM, RTAS, Audio Suite / Mac OS X, Win XP	Yes	Yes	Exclusive "peak slope & dip" shelf controls plus variable Q modes	\$495
McDSP	CompressorBank	3.4	Dynamics	Mac OS X, Win XP	TDM, RTAS, Audio Suite / Mac OS X, Win XP	Yes	Yes	Knee and bite controls, filtering/static/dynamic EQ	\$495
McDSP	MC2000	2.4	Multiband dynamics	Mac OS X, Win XP	TDM, RTAS, Audio Suite / Mac OS X, Win XP	Yes	Yes	Multiple peak detection circuits/knee/bite controls in 2,3,4 bands	\$495
McDSP	Chrome Tone	1.2	Amp modeling and modulation effects	Mac OS X, Win XP	TDM, RTAS / Mac OS X, Win XP	Yes	Yes	Distortion, Compression, EQ, Chorus, Wah, Trem ENV, LFC, MIDI sync and triggering	\$495
McDSP	Channel G	1.0	EQ and dyn. channel strip and 5:1 compressor	Mac OS X, Win XP	TDM / Mac OS X, Win XP	Yes	Yes	Console modeled expander/gate, comp/lim, 5-band EQ and filters	\$395
Metric Halo	Channe-Strip	2.0.3	EQ, gate, compressor	Mac OS X	TDM, RTAS/AS, MAS, VST, AU	Yes	Yes	Three plugs in one interface	\$345-\$699
Native Instruments	NI-Spektral Delay	1.5	Delay	Mac OS 8.6 or higher, G3 300 MHz, Win 98, Pentium 400 MHz, 128 MB RAM	Standalone, VST 2.0, Direct Sound, DirectConnect, ASIO, SoundManager, DXi, MME	Yes	Yes	Real-time Fast Fourier Transformation, level, delay time, feedback level for each band	\$339
Prosoniq	Orange Vocoder	3	Vocoder	Mac G3, OS 8.1; Win Pentium II/266	VST, Mac and PC (RTAS Mac only)	Yes	Yes		\$245
Prosoniq	Magenta	1.0	Pitch resynthesizer	Mac 350 MHz PPC	Mac and PC (RTAS Mac only)	Yes	Yes	Choir maker	\$199
Prosoniq	VST Bundle	1.0	Reverb, 3D/VoxCiter, effect rack, voc. processing/mastering	Mac PPC601/120 MHz PC, PentiumII/266	VST, Mac and PC (RTAS Mac only)	Yes	Yes		\$249
Prosoniq	TimeFactory	1.8	Time stretch/pitch shift	PC Pentium II 266 MHz/Mac PPC 120 MHz	Standalone Mac/PC	No	No	Batch processing	\$449
Prosoniq	sonicWorx Studio	2.6	Complete mastering and restoration	Mac PPC G3	Mac only, OS 8.6	Yes	Yes	Batch processing/voice reduction	\$449
Prosoniq	sonicWorx PowerBundle	2.6	Mastering, restoration, sound design	Mac G3	Mac only, OS 8.7	Yes	Yes	70 Soundesign algorithms, complete mastering and restoration	\$649
Prosoniq	Rayverb	1.0	Realtime Inverse Raytracing Reverb	Win98/2000/XP, 800 MHz, VST, Mac OS 9.x or OS X 10.1.5, G4/1GHz	VST	Yes	Yes	Inverse raytracing algorithm models real room from a sampled impulse response	\$369
Prosoniq	Morph		Real-time audio morphing	Win 95/98/ME/2000/XP, 600 MHz, VST, Mac OS 9.2/OS X 10.2, G3 or G4/400 MHz PowerMac, VST	VST	Yes	Yes	Morphing transitions when mixing different tracks (seamless mixing for DJs)	\$221
PSPaudioware.com s.c.	PSP StereoPack	N/A	Stereo plug-in	Mac/PC 64 MB RAM	VST, DirectX, MAS	Yes	Yes	Stereo enhancer, stereo controller, stereo analyzer, pseudostereo	\$24
PSPaudioware.com s.c.	PSP MixPack	N/A	Dynamics processors	Mac/PC 128 MB RAM	VST, DirectX, MAS	Yes	Yes	Mix saturator, mix treble, mix bass, mix processor	\$100
PSPaudioware.com s.c.	PSP VintageWarmer	N/A	Dynamics processor	Mac/PC 128 MB RAM	VST, DirectX, MAS, RTAS	Yes	Yes	Single or multiband signal processing	\$149
PSPaudioware.com s.c.	Lexicon PSP 42	N/A	Stereo delay and phase sampler	Mac/PC 128 MB RAM	VST, DirectX, MAS, RTAS	Yes	Yes	Up to 9,600 ms of delay time depending on internal sampling frequency, phase sampler capability	\$149
PSPaudioware.com s.c.	PSP VintageMeter	N/A	Metering plug-in	Mac/PC 128 MB RAM	VST, DirectX, MAS	Yes	Yes	Provides professional VU and PPM metering for mono and stereo tracks	Free
PSPaudioware.com s.c.	PSP PianoVerb	N/A	Reverb	Mac/PC 128 MB RAM	VST, DirectX, MAS	Yes	Yes	Reproduces reverberation originally provided by piano strings	Free
Roland	Boss GS-1J	N/A	Guitar multi-effects processor	Win 98, Mac OS 8.6	Stand alone	Yes	Yes	Audio to USB converter, bundled on-screen editing and cakewalk recording software	\$595
Serato Audio Research	Equalizer	N/A	Spectrum analyzer, graphic EQ	Mac OS & Win	RTAS & HTDM for Mac OS & Win	Yes	Yes	Phase linear, automatic room tuning, edit EQ curves over a spectrum analysis	\$299
Serato Audio Research	Scratch - studio edition	N/A	Record scratching within Pro Tools	Mac OS & Win	RTAS & HTDM	No	Yes	Scratch digital samples or sound files in Pro Tools using your existing turntables or mouse	\$299
Serato Audio Research	Pitch 'n' Time 2	N/A	Pitch shifting and time compression/expansion	Mac OS & Win	AudioSuite - Pro Tools 4.0 and higher including HD & Pro Tools Free	No	No	Artifact-free pitch shifting and time compression/expansion	\$799

Signal-Processing Software

Manufacturer	Product	Version	Processor Type	Minimum System Requirements	Format and Platform	Automation	Operates in Real-time	Special Features	List Price
Sonit Timeworks	ChannelX	1.01	EQ/dynamics	ProTools/ProTools LE Win/Mac	RTAS	Yes	Yes		\$149
Sonit Timeworks	CompressorX	1.3	Dynamics	Win 98/ME/NT/2000/XP, Pentium II	DirectX	Yes	Yes		\$149
Sonit Timeworks	ReverbX	1.03	Reverb	Win 98/ME/NT/2000/XP, Pentium II	DirectX	Yes	Yes		\$249
Sonit Timeworks	Equalizer V1	1.1	EQ	Win 98/ME/NT/2000/XP, Pentium II	DirectX	Yes	Yes	TrueResponse	\$249
Sonit Timeworks	X Bundle	1.01	Reverb/EQ/dynamics	ProTools/ProTools LE Win/Mac	RTAS	Yes	Yes		\$349
Sonit Timeworks	Studio Bundles		Reverb/EQ/dynamics	Win/Mac	Creamware SFP Scope/Pulsar, or DirectX	No	Yes		\$149 and up
Sony Electronics Inc.	PC-INFLG ⁺	N/A	Inflator	Approved TC Works CPU and hardware, Mac OS 9.0.4 or higher	Win 98SE/ME/2000/XP	Yes	Yes	Increases the loudness of almost any program material, creates warmth, character and dynamics	\$340
Sony Electronics Inc.	MT-INFLG ⁺	N/A	Inflator	Approved Digidesign CPU and hardware, Mac OS 9.0.4 or higher including OS X 10.2	Mac OS 9.0.4 or higher including OS X 10.2, 256 MB RAM	Yes	Yes	Increases the loudness of almost any program material, creates warmth, character and dynamics	\$450
Sony Electronics Inc.	FR-3DYG1	N/A	Dynamics	For Digidesign: Mac OS 9.0.4 or higher including OS X 10.2. For TC Works: Mac OS or Win 98SE	Digidesign: Mac OS, TC Works: Mac OS or Win 98SE/ME/2000/XP	Yes	Yes	Channel dynamics with separately controlled sections for compressor, limiter, gate, and expander	\$850
Sony Electronics Inc.	Oxford Plug-in PCR-3EDC1	N/A	EQ	Approved TC Works CPU	Win 98SE/ME/2000/XP, Mac OS 9.0.4	Yes	Yes	4 selectable EQ styles, noise below -130 dB; 2 separate HF and LF filters	\$540
Sony Electronics Inc.	Oxford Plug-in PTH-REDM1	N/A	EQ	Approved Digidesign CPU and hardware configuration	Mac	Yes	Yes	5 separate sections with HF and LF selectable to shelf, 4 EQ styles	\$850
Sony Electronics Inc.	Oxford Plug-in PTH-GEOM1	N/A	EQ	Approved Digidesign CPU	Mac	Yes	Yes	GML 8200 emulation	\$1,200
Sound Toys, Inc.	Tremolator	2.0	Rhythmic amplitude modulation	Pro Tools TDM & LE 6.x or higher	RTAS, TDM, AS for OS X and Win XP	Yes	Yes	Dynamic Tremolo, MIDI-locked programmable auto-gate	\$149
Sound Toys, Inc.	PanMan	1.0	Automatic panner	Pro Tools TDM & LE 6.x or higher	RTAS, TDM, AS for OS X and Win XP	Yes	Yes	Tempo-locked auto panning, programmable rhythm editor	\$149
Sound Toys, Inc.	Crystallizer	2.0	Granular echo synthesizer	Pro Tools TDM & LE 6.x or higher	RTAS, TDM, AS for OS X and Win XP	Yes	Yes	Reverse echo/pitch shifter Mangler based on H3000	\$149
Sound Toys, Inc.	FlangeThing	1.0	Analog flange emulation	Pro Tools LE or TDM 6.x or higher	RTAS, TDM, AS for OS X and Win XP	Yes	Yes	Rhythmic modulated tape flanging	\$249
Sound Toys, Inc.	PhaseMistress	2.0	Phasing	Pro Tools LE & TDM 6.x or higher	RTAS, TDM, AS for OS X and Win XP	Yes	Yes	Analog-modeing phase shifter, tempo-locked modulation	\$249
Sound Toys, Inc.	FilterFreak	2.0	48 dB/octave resonant filtering	Pro Tools 6.x or higher	RTAS, TDM, AS for OS X and Win XP	Yes	Yes	Fat analog sound, MIDI-synced programable Rhythm Editor	\$249
Sound Toys, Inc.	Decapitator	1.0	Bit and sample rate reduction	Pro Tools TDM & LE 6.x or higher	RTAS, TDM, AS for OS X and Win XP	Yes	Yes	Creative Noise Machine	\$249
Sound Toys, Inc.	EchoBoy	1.0	Analog style tape echo/delay	Pro Tools TDM & LE 6.x or higher	RTAS, TDM, AS for OS X and Win XP	Yes	Yes	Emulation of classic echo machines, with True Groove rhythmic control	\$495
Sound Toys, Inc.	SoundToys Native Effects	1.0	Pitch shift, flange, chorus, delay, echo, pan, filter, more	ProTools LE 6.x or higher	RTAS, AS for OS X and Win XP	Yes	Yes	Complete effects package for Pro Tools LE	\$595
Sound Toys, Inc.	SoundToys TDM Effects	1.0	Pitch shift, flange, chorus, delay, echo, pan, filter, more	ProTools TDM 6.x or higher	RTAS, TDM, AS for OS X and Win XP	Yes	Yes	Complete effects package for Pro Tools	\$1,595
Sounds Logical	WaveWarp	2.0.4	Multieffects	Win 98/ME/NT4/2000/XP	Standalone, DirectX	No	Yes	Modular, hundreds of components, unlimited combinations	\$199
Steinberg	Surround Editor	2.0	Compressor, EQ, loudness max, reverb, LFE management	Win 2000/XP, Pent/Athlon 1.4; Mac OS X 10.2.5, G4 867, 64 MB RAM	VST	Yes	Yes	Supports up to eight channels of surround	\$499
Symbolic Sound Corporation	Kyma X	3.1	Define your algorithms in software	Mac OS 9, Win ME	Mac OS X, Win XP	Yes	Yes	Live spectral analysis/resynthesis, live granulation, morphing, cross-synthesis	\$3,470
Syncliro Arts Ltd	VocAlign Project	2.7.1	Audio alignment software	Win, Mac	Standalone / Win, Mac	No	No	Automatically edits one audio signal to align with another	\$375
Syncliro Arts Ltd	VocAlign Project for Pro Tools	2.9.2	Automatic audio alignment	Win, Mac	AudioSuite	No	No	Edits one audio signal to align with another automatically	\$375
Tascam	GigaPulse VST	1.0	Convolution reverb processor	Win XP	VST	No	Yes	Sampled reverb spaces, multiple room locations, adjustable mic perspective, microphone modeling	\$299
Tascam	Nomac Factory Liquid Bundle	1.0	Five plug-in bundle	Win, Mac	VST	No	Yes	Affordable bundle of reverb, chorus, flange, compressor and delay	\$149
Tascam	Nomac Factory Rock Amp Legends	1.0	Guitar amp modeling plug-in	Win, Mac	VST, RTAS, AU	No	Yes	Recreations of classic tube guitar amps, co-developed with legendary guitarist Jimmy Crespo	\$379
Tascam	Nomac Factory Blue Tubes Bundle	2.0	15 tube emulation plug-ins: EQ, compression, phase, more	Win, Mac	VST, RTAS, AU	Yes	Yes	Tube emulation plug-ins based on coveted vintage signal processors	\$499
TC Electronic	Assimilator	N/A	Fingerprint EQ	Requires PowerCore hardware	VST, AU	Yes	Yes		\$249

Signal-Processing Software

Manufacturer	Product	Version	Processor Type	Minimum System Requirements	Format and Platform	Automation	Operates in Real-time	Special Features	List Price
TC Electronic	Character	N/A	Enhancement processor	Requires PowerCore hardware	VST, AU	Yes	Yes		\$249
TC Electronic	Voice Modeler	N/A	Vocal processor	Requires PowerCore hardware	VST, AU	Yes	Yes		\$249
TC Electronic	Intonator HS	N/A	Pitch correction	Requires PowerCore hardware	VST, AU	Yes	Yes		\$249
TC Electronic	MasterXS/48k	N/A	Multiband dynamics	Requires PowerCore hardware	VST, AU	Yes	Yes		\$249
TC Electronic	Waldorf D-Coder	N/A	Synthesizer, vocoder	Requires PowerCore hardware	VST, AU	Yes	Yes		\$249
TC Electronic	Filtroid	N/A	Dual filterbank	Requires PowerCore hardware	VST, AU	Yes	Yes		\$249
TC Electronic	TC Thirty	N/A	Guitar amp simulator	Requires PowerCore hardware	VST, AU	Yes	Yes		\$249
TC Electronic	Innovation V-Station	N/A	Synthesizer	Requires PowerCore hardware	VST, AU	Yes	Yes		\$375
TC Electronic	Dynamic EQ	N/A	Dynamic EQ	Requires PowerCore hardware	VST, AU	Yes	Yes		\$495
TC Electronic	Access Virus	N/A	Synthesizer	Requires PowerCore hardware	VST, AU	Yes	Yes		\$495
TC Electronic	Native Bundle	3.0	Dyn. processor, limiter, reverb, EQ, filter, sidechainer	Mac OS X or Classic, Win. 128 MB RAM, VST/AU sequencer	VST, AU	Yes	Yes	Pres. EQs, filter plug-in with envelope follower	\$499
TC Electronic	TC Tools	3.5	Reverb, EQ, chorus/delay	Pro Tools 24 Mix or HD, Mac/PC meeting DigiDesign requirements	TDM - HD	Yes	Yes	New support HD and 96 k	\$795
TC Electronic	MD3 Stereo Mastering	N/A	Multiband dynamics	Requires PowerCore hardware	VST, AU	Yes	Yes		\$995
TC Electronic	Restoration Suite	1.5	Restoration and noise removal	Requires PowerCore hardware	VST, AU	Yes	Yes		\$1,495
The Sound Guy, Inc.	SFX Machine RT	1.03	Multi-effects, modulation effects	VST2.0 or AU host 300 MHz	VST, AU, Mac OS 8.5/9 & OS X 10.2, Win 9x/XP	Yes	Yes	Pitch tracker and envelope follower, randomizer, MIDI Learn, hundreds of presets	\$99
Trillium Lane Labs	TL MasterMeter	1.0	Oversampling meter	Mac OS X	TDM	No	Yes	Oversampling meter for critical mastering applications	\$199
Trillium Lane Labs	TL EveryPhase	1.0	Effects processor	N/A	RTAS/TDM for XP and OS X	Yes	Yes	Analog modelled phaser for Pro Tools	\$245
Trillium Lane Labs	TL Space Native	1.0	Reverb	N/A	RTAS/AS for XP and OS X	Yes	Yes	Convolution reverb for Pro Tools	\$495
Trillium Lane Labs	TL Space TDM	1.0	Reverb	N/A	TDM/HTDM/RTAS for XP and OS X	Yes	Yes	TDM-powered convolution reverb for Pro Tools	\$995
Waldorf distributed by TC Electronic	D-Coder	1.0	Vocoder with integrated synth	Mac OS X, VST/AU sequencer, OS 8.x, VST/MAS sequencer, Win XP, PowerCore v1.6.1 or higher	DSP, PowerCore	Yes	Yes	Responds to polyphonic or monophonic MIDI and Free Run	\$249
Waldorf Music	AFB16	1.0	Analog filter bank	Win XP SP1, 500 MHz or faster, 256 MB RAM, compatible host software	Standalone box with USB 2.0	Yes	Yes	Total integration of 16 real analog filters into a computer based digital studio environment; USB 2.0 for computer connection	\$2,495
Wave Arts	WaveSurround	4.06	Spatial enhancer, wide reverb	N/A	VST/Mac OS 9/OS X/Win/DX Win, MAS/OS 9/OS X, Audio Units, RTAS/OS 9/OS X/PC	Yes	Yes		\$100
Wave Arts	MasterVerb	4.06	Reverb	N/A	VST/Mac OS 9/OS X/Win/DX Win, MAS/OS 9/OS X, Audio Units, RTAS/OS 9/OS X/PC	Yes	Yes	CPU efficient, silky smooth reverb	\$150
Wave Arts	TrackPlug	4.06	10-band EQ, compressor, gate	N/A	VST/Mac OS 9/OS X/Win/DX Win, MAS/OS 9/OS X, Audio Units, RTAS/OS 9/OS X/PC	Yes	Yes	All-in-one channel strip, CPU efficient	\$150
Wave Arts	MultiDynamics	4.06	Multiband compressor/expander	N/A	VST/Mac OS 9/OS X/Win/DX Win, MAS/OS 9/OS X, Audio Units, RTAS/OS 9/OS X/PC	Yes	Yes	Up to six bands of dynamics processing	\$150
Wave Arts	FinalPlug	4.06	Peak limiter/dynamics processor	N/A	VST/Mac OS 9/OS X/Win/DX Win, MAS/OS 9/OS X, Audio Units, RTAS/OS 9/OS X/PC	Yes	Yes	Peak limiting and several dither options	\$150
Wave Arts	Power Couple	4.06	MasterVerb/TrackPlug bundle	N/A	VST/Mac OS 9/OS X/Win/DX Win, MAS/OS 9/OS X, Audio Units, RTAS/OS 9/OS X/PC	Yes	Yes		\$250
Wave Arts	Power Suite	4.06	Plug-in bundle	N/A	VST/Mac OS 9/OS X/Win/DX Win, MAS/OS 9/OS X, Audio Units, RTAS/OS 9/OS X/PC	Yes	Yes	Features all five of Wave Arts' essential plug-ins	\$500
Wave Mechanics	PurePitch	2.8	Pitch change, harmonizer, vocal effects	Pro Tools TDM 5.0-6.1	TDM, Mac OS 9 and OS X, Win NT, 2000, XP	Yes	Yes	High quality format-preserving vocal pitch processor	\$495
Wave Mechanics	PitchDoctor	2.8	Pitch correction	Pro Tools TDM 5.0-6.1	TDM, Mac OS 9 and OS X, Win NT, 2000, XP	Yes	Yes	Possibly the only format-preserving automatic tuning plug-in	\$495
Wave Mechanics	SoundBlender	1.4	Multi-effects	Pro Tools TDM 5.0-6.1	TDM, Mac OS 9 and OS X, Win NT, 2000, XP	Yes	Yes	Diatonic harmonizing, delay, chorus, filter and modulation effects	\$495
Wave Mechanics	Speed	1.4	Time compression, expansion, and pitch shifting	Pro Tools 5.0-6.1	AudioSuite, Mac OS 9 and OS X, Win NT, 2000, XP	Yes	Yes	Polyphonic pitch and time correction	\$495

Signal-Processing Software

Manufacturer	Product	Version	Processor Type	Minimum System Requirements	Format and Platform	Automation	Operates In Real-time	Special Features	List Price
Wave Mechanics	UltraTools	2.3	Pitch, time, and effects	Pro Tools TDM 5 (4-6.1)	TDM, Mac OS 9 and OS X, Win NT, 2000, XP	Yes	Yes	Complete effects bundle including Pure Pitch, Pitch Doctor, Sound Blender, and Speed	\$1,195
WaveMachine Labs	Drumagog	4.0	Drum replacer	Win (All), Mac (9.x, OS X), 128 MB RAM	VST, RTAS, DirectX	Yes	Yes	Advanced triggering engine, rich multisample support	\$49-\$289
Waves, Ltd.	Native Power Pack	4.x	EQ, compressor/gate/expander, limiter, delay, reverb, de-esser	Mac OS 9.2.2 or 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	RTAS, AudioSuite, VST, Audio Units, MAS, and DirectX	Yes	Yes	All-in-one bundle, includes 8 plug-ins	\$500
Waves, Ltd.	Masters Native Bundle	4.x	L2 Ultramaximizer, linear phase EQ/multiband compressor	Mac OS 9.2.2 or 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	RTAS, AudioSuite, VST, Audio Units, MAS, and DirectX	Yes	Yes	Innovative linear phase EQ and Multiband introduce no phase distortions. Includes the award-winning	\$900
Waves, Ltd.	Gold Native Bundle	4.x	EQ, reverb, dynamics, psycho-acoustics, delay, flange, chorus	Mac OS 9.2.2 or 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	RTAS, AudioSuite, VST, Audio Units, MAS, and DirectX	Yes	Yes	Includes daily tools, sweetening, mastering processors, and sound design mindbenders	\$1,300
Waves, Ltd.	Platinum Native Bundle	4.x	EQ, reverb, dynamics, psycho-acoustics, delay, flange, chorus	Mac OS 9.2.2 or 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	RTAS, AudioSuite, MAS, VST, Audio Units, and DirectX	Yes	Yes	Includes Waves Gold Bundle, Masters Bundle, Renaissance Channel, and Renaissance Collection 2	\$2,100
Waves, Ltd.	Masters TDM Bundle	4.x	L2 Ultramaximizer, linear phase EQ/multiband compression	Mac OS 9.2.2 or 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	TDM, RTAS, AudioSuite, VST, Audio Units, MAS, and DirectX	Yes	Yes	Innovative linear phase EQ and Multiband introduce no phase distortions. Also includes the L2 Limiter	\$1,800
Waves, Ltd.	Gold TDM Bundle	4.x	EQ, reverb, dynamics, psycho-acoustics, delay, flange, chorus	Mac OS 9.2.2 or OS 10.2 and above, G4, Win 98, ME, 2000, XP, 512 MB RAM	HD, TDM, RTAS, AudioSuite, VST, AU, MAS, and DirectX	Yes	Yes	Includes daily tools, sweetening, mastering processors, and sound design mindbenders	\$2,600
Waves, Ltd.	Platinum TDM Bundle	4.x	EQ, flange, linear phase, dynamics, psycho-acoustics, stereo maker	Mac OS 9.2.2 or 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	TDM, VST, Audio Units, RTAS, AudioSuite, MAS, and DirectX	Yes	Yes	Includes Waves Gold, Masters, and Renaissance Maxx Collection	\$4,200
Waves, Ltd.	Renaissance Maxx Native Collection	4.x	Compressor, EQ, reverb, bass enhance, channel strip, d-essing	Mac OS 9.2.2 or OS 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	RTAS, AudioSuite, VST, Audio Units, MAS, and DirectX	Yes	Yes		\$600
Waves, Ltd.	Renaissance Maxx TDM Collection	4.x	Compressor, EQ, reverb, bass enhance, channel strip, d-essing	Mac OS 9.2.2 or OS 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	HD, TDM, RTAS, AudioSuite, VST, Audio Units, MAS, and DirectX	Yes	Yes		\$1,200

Software Instruments

Manufacturer	Product	Version	Type	Minimum System Requirements	Automation	# of Envelope Generators	Format	Multibrain (# of parts) per Instance	Modulation Sources (Number/Type)
4Front Technologies	4Front Bass Module	1.0	Bass synthesizer	x86-compatible or PPC (Mac OS X), 128 MB RAM	No	N/A	VST	N/A	N/A
4Front Technologies	4Front E Piano Module	1.0	DX7-like EPiano	x86-compatible or PPC (Mac OS X), 128 MB RAM	No	N/A	VST	N/A	N/A
4Front Technologies	4Front Piano Module	1.0	Piano synthesizer	x86-compatible or PPC (Mac OS X), 128 MB RAM	Yes	N/A	VST	N/A	N/A
4Front Technologies	4Front Rhodes Pro	1.1	Rhodes/Wurlitzer live synthesizer	x86-compatible, Win 2000/XP, 128 MB RAM	Yes	N/A	VST	N/A	N/A
AAS	Lounge Lizard	N/A	Physically modeled electric piano plug-in	Mac OS X, Win 98, ME, 2000, XP, 128 MB RAM	Yes	N/A	Standalone, Audio Units, VST, RTAS, MAS, DXi	N/A	N/A
AAS	Tassman 4	4	Physical modeling plug-in	Mac OS X, Win 98, ME, 2000, XP, 128 MB RAM	Yes	4	Standalone, Audio Units, VST, RTAS, MAS, DXi	Unlimited	LFO
Access Music GmbH	Virus PowerCore (Base Version)	1.04	Synthesizer	TC PowerCore/TC PowerCore compatible platform	Yes	2	VST, AU	4	30
Access Music GmbH	Virus PowerCore (Unlimited Version)	1.04	Synthesizer	TC PowerCore/TC PowerCore compatible platform	Yes	2	VST, AU	4	30
Access Music GmbH	Indigo TDM	N/A	Synth	Win, Mac	Yes	2	TDM	20	30
Alesis	Micron	1	49-key analog-modalizing synth	N/A	No	3	Standalone	4	8 voices
Applied Acoustics Systems	Lounge Lizard EP	2	Synth/emulation of electric pianos	Win 98SE, ME, 2000, XP, Pentium III 500MHz, Mac OS X.2, G3 400MHz	Yes	N/A	Standalone, VST, DXi, RTAS (Mac OS only), Audio Units	1	3 keyboard, vibrato, LFO
Antares Audio Technologies	Lambert	1.0	Audio-controlled synth	Win 9x or higher, Mac OS 8.6	Yes	2	DirectX, VST (Mac OS X/PC), MAS, RTAS (Mac OS X/PC)	1	7
Applied Acoustics Systems	Tassman	4.0	Polyphonic modular synth, sound design environment	Win 98SE, ME, 2000, XP, Pentium III 1 GHz, Mac OS X.2, G4 733 MHz	Yes	Unlimited	Standalone, DXi, VST, RTAS (Mac OS only), Audio Units	1	Unlimited LFO, ADAR, VADAR, ADSR, VADSR, envelope follower, keyboard

Signal-Processing Software

Manufacturer	Product	Version	Processor Type	Minimum System Requirements	Format and Platform	Automation	Operates In Real-time	Special Features	List Price
Waves, Ltd.	Restoration Native Bundle	4.x	Noise reduction, hum removal, click/crackle removal	Mac OS 9.2.2 or OS 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	RTAS, AudioSuite, VST, Audio Units, MAS, and DirectX	Yes	Yes	Software-based restoration and noise reduction. Includes 4 plug-ins	\$1,200
Waves, Ltd.	Restoration TDM Bundle	4.x	Noise reduction, hum removal, click/crackle removal	Mac OS 9.2.2 or OS 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	TDM, RTAS, AudioSuite, VST, Audio Units, MAS, and DirectX	Yes	Yes	Software-based restoration and noise reduction. Includes 4 plug-ins	\$2,400
Waves, Ltd.	Transform Native Bundle	4.x	Time and pitch shifting, vocoding, doubling, transient shaping	Mac OS 9.2.2 or OS 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	RTAS, AudioSuite, VST, Audio Units, MAS, and DirectX	Yes	Yes	Control with shape time, pitch, instrument sound, rhythmic contour, and dimension.	\$1,200
Waves, Ltd.	Transform TDM Bundle	4.x	Time and pitch shifting, vocoding, doubling, transient shaping	Mac OS 9.2.2 or OS 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	TDM, RTAS, AudioSuite, VST, Audio Units, MAS, and DirectX	Yes	Yes	Control with shape time, pitch, instrument sound, rhythmic contour, and dimension.	\$2,400
Waves, Ltd.	360 Surround TDM Tools	4.x	Limiting, panning, reverb, compressing, dithering, filters	Mac OS 9.2.2 or OS 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	TDM	Yes	Yes	A complete surround toolkit	\$2,400
Waves, Ltd.	Broadcast & Production Native Bundle	4.x	EQ, comp, reverb, hum/crackle/click/noise removal, linear phase	Mac OS 9.2.2 or OS 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	VST, Audio Units, RTAS, AudioSuite, MAS, and DirectX	Yes	Yes	Includes the Renaissance Maxx Bundle, the Masters Bundle, and the Restoration Bundle	\$2,400
Waves, Ltd.	Broadcast & Production TDM Bundle	4.x	EQ, comp, reverb, hum/crackle removal, linear phase, dynamics	Mac OS 9.2.2 or OS 10.2 and above, G4, Win 98, NT, 2000, XP, 512 MB RAM	TDM, VST, Audio Units, RTAS, AudioSuite, MAS, and DirectX	Yes	Yes	Includes the Renaissance Maxx Bundle, the Masters Bundle, and the Restoration Bundle	\$4,800
Wizoo	Darbuka	N/A	Arabic and Middle Eastern virtual drummer plug-in	PIII/Athlon 1 GHz, G3 500 MHz, Win XP, OS X, 256 MB RAM	VST 2.0, AU or RTAS compatible host software	Yes	Yes	Surround stage, real-time control, Original percussion performances by world-renowned artists	\$300
Wizoo	Latigo	N/A	Latin Percussion virtual drummer plug-in	PIII 500 MHz or AMD7, Win XP, Power Mac G3 500 MHz, OS X 10.3, 256 MB RAM	Standalone, Audio Units	Yes	Yes	Surround stage, proprietary VI engine specifically developed for multitrack percussion	\$300
Yamaha	Vocal Rack	1.0	Dynamics, EQ, enhancer and gate	Win XP, Mac OS 9-X	VST/AU Mac OS 9-X, Win XP	Yes	Yes	Includes highpass filter, compressor, harmonic enhancer, 3-band EQ, de-esser, gate and delay	\$199
Yamaha	Final Master	1.0	Dynamics	Win XP, Mac OS 9-X	VST/AU Mac OS 9-X, Win XP	Yes	Yes	Multiband compressor, limiter with adjustable frequency control, three soft clipping models, look ahead	\$199
Yamaha	Pitch Fix	1.0	Pitch correction	Win XP, Mac OS 9-X	VST/AU Mac OS 9-X, Win XP	Yes	Yes	Formant-based pitch correction and shifting, pitch control via MIDI keyboard	\$299

Filters (Number/Type)	Oscillators (Number/Type)	Real-time Editing	# of Programs/Performances	Synthesis Methods	Special Features	List Price
N/A	N/A	No	1	Hybrid	Optimized for low CPU usage and decent sound. Plug-in has no parameters - load and play.	Free
N/A	N/A	No	1	Hybrid	Optimized for low CPU usage and decent sound. Plug-in has no parameters - load and play.	Free
N/A	N/A	Yes	1	Hybrid	Optimized for low CPU usage and decent sound. Plug-in has no parameters - load and play.	Free
1	N/A	Yes	10+	Hybrid	Optimized for low CPU usage and decent sound.	\$30
Effects modules (delay, wah, vibrato)	3	No	150	Physical modeling		\$249
12 comb, lowpass, highpass, bandpass	VCO, FM, tone wheel, 15 acoustic generators	No	1,000	Physical modeling	Modular sound synthesis studio, construction interface, modules representing analog and FM objects	\$349
2	4	Yes	N/A	Virtual analog modeling synthesis	Base version is limited to 1 DSP, patch compatible with Access Virus synthesizers	\$499
2	4	Yes	N/A	Virtual analog modeling synthesis	Unlimited version, uses as many DSP as available, patch-compatible with Access Virus synthesizers	\$749
2	4	Yes	N/A	Virtual analog	Build in effects, vocoder, patch compatible with Access hardware synthesizers	\$798
2 multi mode filters	3 per voice	Yes	512	Analog model	Programmable step sequencer, arpeggiator, rhythm, phrase	\$999
4 wah wah, phaser, tremolo, delay	5 mallet, tone, tine, noise, key release	Yes	50+	Physical modeling	Emulation of classic electric pianos: Rhodes, Wurflitzer, RMI, more	\$249
3 filters, 2P highpass, 4P highpass, 2- & 4-pole bandpass	4 twc wavetable, 2 LFO	Yes	20+/N/A	Wavetable, user-added waveforms	Driven by audio input, extracts pitch, dynamics and harmonic content from input audio	\$299
Lowpass 12 & 24 dB, bandpass, highpass, comb, phaser, flanger	Unlimited VCO, strings, plates, membranes, bars, flute, FM sinus	Yes	Unlimited/unlimited	Physical modeling, analog modeling, additive, FM, subtractive, sample playback	Fully modular, unique modules reproducing acoustic objects via physical modeling	\$349

Software Instruments

Manufacturer	Product	Version	Type	Minimum System Requirements	Automation	# of Envelope Generators	Format	Multitimbral (# of parts) per instance	Modulation Sources (Number/Type)
Arturia	Storm Music Studio	3.0	Virtual studio including synths, drum machines, and effects	Win 9x/2000/ME/XP, Mac OS X, 256 MB RAM	Yes	N/A	Standalone, ReWire 2.0	N/A	N/A
Arturia	miniMoog V	1.1	Synth	Win 98SE/2000/XP, or Mac OS 9.2/10.2 or higher, 256 MB RAM, 1 GHz	Yes	2	Standalone, DXi, VSTi, RTAS/HTDM, MAS, AU	N/A	1 LFO, oscillator 3
Arturia	CS-80V	1.2	Synth	Win 98SE/2000/XP, or Mac OS 9.2/10.2 or higher, 256 MB RAM, 1 GHz	Yes	4	Standalone, DXi, VSTi, RTAS/HTDM, MAS, AU	8	3 LFOs
Arturia	Moog Modular V	2.1	Modular synth	Win 98SE/2000/XP, or Mac OS 9.2/10.2 or higher, 256 MB RAM, 1 GHz	Yes	8	Standalone, DXi, VSTi, RTAS/HTDM, MAS, AU	N/A	2 LFOs, 1 sequencer (3x8 steps), env follower
Camel Audio	Cameleon 5000	1.3	Synth	Win 98+, Mac OS 9/OS X	Yes	128	VSTi, AU, RTAS	1	2 flexible LFOs
Chickie Systems, Inc.	Translator	3.0	Sample-conversion software	Win 95, Mac OS 8.6, 32 MB RAM	Yes	N/A	N/A	N/A	N/A
ConcreteFX	Dicer	V1.5	Synth/sampler	Win 95, VST host, 8 MB RAM	Yes	4	VSTi	1	Envelope, LFO & MIDI events
ConcreteFX	Digital	V1.3	Soft synth	Win 95, VST host, 8 MB RAM	Yes	8	VSTi	1	8 envelopes, LFO, step sequences, waveshapes, MIDI cc
ConcreteFX	Adder	V1.4	Soft synth	Win 95, VST host, 8 MB RAM	Yes	4	VSTi	1	4 envelopes, LFOs, step sequences, MIDI controls
ConcreteFX	Unison	1.2	Soft synth	Win 95, VST host, 8 MB RAM	Yes	6	VSTi	1	6 envelopes, LFO, step sequences, MIDI
ConcreteFX	Kubik	1.03	VSTi softsynth	Win 95, VST host, 8 MB RAM	Yes	8	VSTi	1	8 envelopes, 8 LFOs, MIDI cc, keyboard events
CreamWare Audio Solutions Inc.	Modular III	3	Synth, sound design	Scope Fusion Platform 3.1c	No	Unlimited	Scope Fusion Platform (Win & Mac)	1	N/A
CreamWare Audio Solutions Inc.	Minimax	N/A	Synth	Scope Fusion Platform 3.1c	Yes	2	Scope Fusion Platform (Win & Mac)	1	N/A
CreamWare Audio Solutions Inc.	Profit 5	N/A	Synth	Scope Platform version 3.1c	Yes	N/A	Scope Fusion Platform (Win & Mac)	N/A	N/A
CreamWare Audio Solutions Inc.	Prodissey	N/A	Analog synth replica	Scope Platform version 3.1c	Yes	N/A	Scope Fusion Platform (Win & Mac)	N/A	N/A
CreamWare Audio Solutions Inc.	B-2003	N/A	Synth	Scope Platform version 3.1c	Yes	N/A	Scope Fusion Platform (Win & Mac)	N/A	N/A
Cycling '74	Max/MSP	4.5	Sound design	Mac OS X, Win XP, 256 MB RAM	Yes	Unlimited	Standalone	Unlimited	Unlimited
Edrol	Virtual Sound Canvas	3.23	Synth	Win 98/ME/SE/2000/XP, 64 MB RAM, Mac OS 8.6, 9.x, 128 MB RAM	Yes	N/A	Standalone, VST, DXi	16	2 per patch/modulation, tremolo
Edrol	HO HyperCanvas	1.5	Synth	Win 98/ME/SE/2000/XP, 128 MB RAM, Mac OS 8.6, 9.x, 192 MB RAM	Yes	N/A	VST, DXi	16	2 per patch/modulation, tremolo
Edrol	HO SuperQuartet	N/A	Synth	Win 98/ME/SE/2000/XP, 128 MB RAM, Mac OS 8.6, 9.x, 192 MB RAM	Yes	N/A	VST, DXi	16	2 per patch/modulation, tremolo
Edrol	HO Orchestral	N/A	Synth	Win 98/ME/SE/2000/XP, 128 MB RAM, Mac OS 8.6, 9.x, 192 MB RAM	Yes	N/A	VST, DXi	16	3 per patch/modulation, random modulation, vibrato
E-MU Systems	Proteus X	1.0	Sound module	Win 2000/XP, 512 MB RAM	No	3 per sample	Standalone and VSTi	32/16 per VSTi	64 types
E-MU Systems	Emulator X	1.5	Sampling synthesizer	Win 2000/XP, 512 MB RAM	Yes	3 per sample	Standalone and VSTi	32/16 per VSTi	64 types
E-MU Systems	Emulator X Studio	1.5	Sampling synthesizer	Win 2000/XP, 512 MB RAM	Yes	3 per sample	Standalone and VSTi	32/16 per VSTi	64 types
Flowave	iSynth	1.2	Sound design	Mac G3 OS 8.6	Yes	4	RTAS, VST, MAS	5	10
FXpansion Audio UK Ltd	VST-AU Adapter	1.1	Adapter	Mac OS X	Yes	N/A	Audio Units	16	N/A
FXpansion Audio UK Ltd	DR-008	1.11	Drum machine	Pentium II 233	Yes	Varies	DXi, DXi2, VSTi	96	Varies
FXpansion Audio UK Ltd	BFD XFL	1	Acoustic drum module expansion pack	Requires FXpansion BFD, OSX, Win	Yes	N/A	Standalone, VSTi, DXi, AU, RTAS, ReWire	96	N/A
FXpansion Audio UK Ltd	BFD	1.0	Acoustic drum module	Win 2000, XP, Mac OS X, 512 MB RAM, VSTi, DXi, RTAS, Audio Units	Yes	N/A	VSTi, DXi, RTAS, Audio Units, standalone	1	N/A
G'waresoft	iDrum	N/A	Drum machine	Mac OS X 10.2 with QuickTime 6.5. Works with any CoreAudio-compatible soundcard	Yes	Multiple	Standalone, Audio Units	8+	Trigger from MIDI
Hartmann	Neuron VS	1.0	Synth	Win XP, Mac OS X 10.2	No	7	VST and Audio Units	Dependent MP	Multiple
IK Multimedia	SampleTank 2 XL	2	Virtual sound workstation plug-in	Win, Mac OS 9 and OS X, 512 MB RAM	Yes	N/A	HTDM, RTAS, MAS, VST, DXi, AU	16	50
IK Multimedia	SampleTank 2 LE w/Expansion Tank Modules	2	Virtual sound workstation plug-in	Mac OS X, Win XP, 512 MB RAM	No	N/A	DXi, VSTi, RTAS, HTDM, MAS, AU	16	N/A

Filters (Number/Type)	Oscillators (Number/Type)	Real-time Editing	# of Programs/Performances	Synthesis Methods	Special Features	List Price
N/A	N/A	Yes	N/A	Sample playback, wavetables, analog model, physical model	Composition wizard, Hall (Internet chat and file exchange tool), 10 effects, built-in sequencer	\$149
1 Moog VCF 24 dB	3 oscillators (square, saw, sin, triangle)	Yes	400+ presets	Subtractive, analog model	PWM, chorus, delay, modulation matrix	\$199
4 filters (2 high, 2 low 12 dB)	2 oscillators (square, saw, sin, triangle)	Yes	400+ presets	Subtractive, analog model	Ring modulator, modulation matrix, multilayering	\$249
4 filters - 10 modes (lowpass, highpass) + formant	9 oscillators (square, saw, sin, triang) + 1 noise (pink/white)	Yes	400+ presets	Subtractive synthesis, analog model	Polyphonic up to 32 voices, with unison, fixed filter bank, delay, chorus	\$329
2	64	Yes	1,000+	Additive and subtractive	Unique resynthesis ability to analyze sampled sounds, real-time morphing between our sounds	\$199
N/A	N/A	Yes	N/A	N/A	44x44 matrix of sampler formats, transferable between each other	\$150
Up to 96 (one per slice)	N/A	Yes	16	Beat Slicer	Automatically slices samples, each slice can have its own properties (volume, pitch, etc)	\$50
4 filters *2/24 dB low/m/bp/br + comb. ring	4 oscillators	Yes	160	Phase distortion/FM	Digital uses a combination of phase distortion/FM to create unique digital sounds	\$65
4 multimode filters	32 (each additive partial is an oscillator)	Yes	160	Additive sample synthesis	Additive synthesis where you can use complex wave/samples as partials	\$70
3 filters, 12/24 dB low/high/bp/br + comb. ring	6 osc either modelled analog or additive	Yes	450	Subtractive	Complex subtractive synthesis with powerful effects	\$70
2 filters, 12/24 dB low/high/bp/br + comb. ring	2, each can play through 64 waveform wavetable	Yes	400+	Wavetable sequencing	64 additive waveforms making wavetable, 2 wavetable sequencers	\$90
N/A	N/A	No	N/A	N/A	More than 200 modules and 100 patches	\$98
1 per voice, 24 dB/octave	3	Yes	400+/N/A	Analog model	Complete emulation of the minion	\$198
N/A	N/A	Yes	N/A	N/A	The Unison mode assigns all available voices to a single note (and this is polyphonic again)	\$198
N/A	N/A	Yes	N/A	N/A	Extensive modulation possibilities, a sample & hold section. Over 500 presets are included	\$198
N/A	N/A	Yes	N/A	N/A	Drawbar organ in the tradition of the venerable Hammond B-3	\$198
Unlimited	Unlimited	Yes	N/A	Any		\$495
1 per patch/cutoff, resonance	N/A	Yes	902/N/A	Sample playback	GM2/GS compatible, MIDI to WAV/AIFF file conversion, 100 royalty-free MIDI files included	\$50
1 per patch/cutoff, resonance	N/A	Yes	256/128	Sample playback	Software synth for General MIDI 2 sounds	\$205
1 per patch/cutoff, resonance	N/A	Yes	70/384	Sample playback	Software synth for acoustic and electric rhythm section instruments: piano, bass, guitar, and drums	\$250
1 per patch/cutoff, resonance	N/A	Yes	145/216	Sample playback	Software synth for orchestral instruments, style templates	\$385
54 types, Z-Plane, 2-, 4-, 6-, 12-pole	Unlimited	Yes	Unlimited	Sample playback	24/96 0404 interface; over 2 GB of sounds; integrated hardware/software effects	\$150
54 types, Z-Plane, 2-, 4-, 6-, 12-pole	Unlimited	Yes	Unlimited	Sample playback	Auto sampling/preset creation; 24/192 1212M interface; over 2 GB of sounds; hardware/software effects	\$300
54 types, Z-Plane, 2-, 4-, 6-, 12-pole	Unlimited	Yes	Unlimited	Sample playback	Auto sampling/preset creation; 24/192 1820M interface; over 2 GB of sounds; hardware/software effects	\$500
LP, BP, HP	20	Yes	100/100	Sample, analog model	Integrated sequencer	\$79
N/A	N/A	Yes	N/A	Utility/wrapper	Converts Mac OS X VST plug-ins to Audio Units	\$75
2 per voice HP/LP	20	Yes	200+/N/A	Sample playback, analog model, FM, percussion model	Modular drum machine, 600+ MB of sounds, ready-to-use groove library, multiple outs	\$149
N/A	N/A	Yes	8 kits	Diskstreaming playback	17 mic drum recordings, up to 96 vel layers, 22 GB, brushes, rivet rides, vintage + prototype pieces	\$249
N/A	N/A	Yes	8 kits	Sample playback	Quality drum kits	\$299
2 highpass, lowpass	N/A	Yes	Unlimited	DSP-based filters, envelopes, bit-reduction, sample playback	Load any AIFF or WAV sound file up to 2MB	\$70
5	2 resonators	Yes	Unlimited	Neural network	Unique sound generation system	\$999
2	2	Yes	1,500+	3 synth engines Stretch, pitch-shift/time-stretch, resampling	32 built-in DSP effects, 5 effects per part, 1,500 sounds, 4.5 GB of samples	\$499
N/A	N/A	Yes	N/A	Stretch, pitch-shift/time-stretch, resampling	Expansion Tank Series Sound Modules, covering every style of music	\$99

Software Instruments

Manufacturer	Product	Version	Type	Minimum System Requirements	Automation	# of Envelope Generators	Format	Multitrack (# of parts) per instance	Modulation Sources (Number/Type)
IK Multimedia	SampleTank 2 LE w/Sonik Capsules	2	Virtual sound workstation plugin	N/A	Yes	N/A	DXi, VSTi, RTAS, HTDM, MAS, AU	16	N/A
IK Multimedia	Studio Bundle	N/A	Bundle includes AmpliTube, SampleTank 2 XL and T-Rack5	Win, Mac OS 9 and OS X, 512 MB RAM	No	N/A	N/A	N/A	N/A
Image Line Software	WASP	2	Synth	Win 9x, 2000, XP	Yes	2	VSTi, DXi & FL	16	2
Image Line Software	SimSynth Standalone	1.2	Synth	Win 9x, 2000, XP	Yes	2	VSTi, DXi & FL	16	2
Image Line Software	Sytrus	1.2	Synth	Win 9x, 2000, XP	Yes	36	VSTi, DXi & FL	Unlimited	5
Jamband Software	Jamband	0.9	Sampler-synth	Win 98, XP	Yes	N/A	Standalone	16	N/A
Korg USA	Korg Legacy Collection Volume 1, Legacy Cell Module	1.1	Software re-creation, effects	Win XP, Mac OS X 10.2.6	Yes	N/A	Standalone, VST, Audio Units	N/A	14 + 18 MIDI
Korg USA	Korg Legacy Collection 1, Wavestation Module	1.1	Software re-creation	Win XP, Mac OS X 10.2.6	No	8	Standalone, VST, Audio Units	N/A	28 + 2 MIDI
Korg USA	Korg Legacy Collection 1, Polysix Module	1.1	Software re-creation	Win XP, Mac OS X 10.2.6	No	1	Standalone, VST, Audio Units	N/A	7 + 2 MIDI
Korg USA	Korg Legacy Collection 1, MS 20 Module	1.1	Software re-creation	Win XP, Mac OS X 10.2.6	No	2	Standalone, VST, Audio Units	N/A	7 + 2 MIDI
McDSP	Synthesizer One	3.2	Virtual instrument/Soft Synth	Mac OS X, Win XP	Yes	N/A	RTAS, TDM	N/A	Unlimited
Mill Productions	Modular Ring	3.0	Synth, sampler, drum machine, sequencers	Mac OS X	Yes	2, 3	Standalone including MIDIShare and CoreAudio	Unlimited	1 per parameter
Mixman Technologies, Inc.	Mixman StudioX Pro	N/A	Real-time sample playback, step sequencer and DSP	Win 98, ME, 2000, XP, 64 MB RAM	No	N/A	Standalone	256 voice	N/A
Muon Software Ltd	Tau Pro	1	Bass/lead monosynth	Win 9x, XP, 64 MB RAM, Mac OS 9, Mac OS X 128 MB RAM	Yes	1	VSTi	1	1
Muon Software Ltd	Tau Bassline Mk2	1	TB303 emulation (Synth)	Mac OS 9, OS X, Win 9x/ME/XP/2000, 300 MHz processor, 128 MB RAM	Yes	1	VSTi	1	1
Muon Software Ltd	Electron	1	Synth	Win 9x, XP, 64 MB RAM, Mac OS 9, Mac OS X 64 MB RAM	Yes	2	VSTi and DXi	1	2 ADSR, 2 LFO
Native Instruments	Pro-53	3.0	Synth	Win 98/2000/ME/XP, Pentium 266 MHz, 64 MB RAM, Mac OS 8.6 or higher, G3 266 MHz, 64 MB RAM	Yes	N/A	Standalone, VST 2.0, DirectConnect, MAS, FreeMidi, ASIO, SoundManager, DXi, MME, DirectSound	N/A	6 LFO, oscillator modulation, 2 envelopes, velocity, keyposition, LFO rate from delay effects
Native Instruments	Reaktor	3.0	Modular synth	Win 98/2000/ME/XP, Pentium 300 MHz, 128 MB RAM, Mac OS 8.6 or higher, G3 300 MHz, 128 MB RAM	Yes	Unlimited	Standalone, VST 2.0, DirectConnect, MAS, FreeMidi, ASIO, SoundManager, DXi, MME, DirectSound	16 times	Unlimited
Native Instruments	Reaktor Session	1.0	Modular synth	Win 98/2000/ME/XP, Pentium 300 MHz, 128 MB RAM, Mac OS 8.6 or higher, G3 300 MHz, 128 MB RAM	Yes	Unlimited	Standalone, VST 2.0, DirectConnect, MAS, FreeMidi, ASIO, SoundManager, DXi, MME, DirectSound	16 times	Unlimited
Native Instruments	Battery	1.01	Drum sampler	Win 98/2000/ME/XP, Pentium 266 MHz, 64 MB RAM, Mac OS 8.6 or higher, G3 266 MHz, 64 MB RAM	Yes	N/A	Standalone, VST 2.0, DirectConnect, MAS, FreeMidi, ASIO, SoundManager, DXi, MME, DirectSound	N/A	8cc's/5 ext/constant loop count/random unipolar/bipolar
Native Instruments	Kontakt	N/A	Sampler	Win 98/2000/ME/XP, Pentium 300 MHz, 128 MB RAM, Mac OS 8.6 or higher, G3 300 MHz, 128 MB RAM	Yes	N/A	Standalone, VST 2.0, DirectConnect, MAS, FreeMidi, ASIO, SoundManager, DXi, MME, DirectSound, DMS	N/A	7 ext/6 LFO (sin, tri, sq, saw, rand, mult), 3 env (dcb, ahdr, 32 step), 3 special processors, env
Native Instruments	Absynth	1.3.3	Semi-modular synth	Win 98/2000/XP, Pentium 400 MHz, 128 MB RAM, Mac G3 400 MHz, 128 MB RAM (plugin use)	Yes	19	Standalone, VST 2.0, ASIO, DirectConnect, MAS, SoundManager, FreeMidi, DXi, MME, DirectSound	N/A	12 envelopes, 3 LFO 9 MIDI ccs
Native Instruments	B4	1.1	Tonewheel organ	Win 98/2000/ME/XP or NT 4.0, Pentium 233 MHz, Mac OS 8.6 or higher, PPC 604, 233 MHz, 64 MB RAM	Yes	N/A	VST 2.0, ASIO, SoundManager, DirectConnect, MAS, DXi, MME	N/A	N/A
Native Instruments	FM7	1.1	Synth	Win 98/2000/ME/XP, Pentium III 450 MHz, 128 MB RAM, 16-bit sound card, Mac OS 8.6 or higher, G4 400	Yes	N/A	Standalone, VST 2.0, ASIO, DirectConnect, MAS, SoundManager, FreeMidi, DXi, MME, DirectSound	N/A	2 LFO, 128 MIDI ccs (external)
Nyr Sound Ltd	Chaosynth	2	Synth	Win 9x, VST host, DXi host, or Sketch (by Nyr Sound)	Yes	8	VST, DXi, standalone (via Sketch)	Unlimited	Granules, 8 LFO, 9 GLFO, 8 SAH, 8 envelopes + controllers, routings from outputs and Note On
Nyr Sound Ltd	Ice	1	Subtractive synth	Win 9x	Yes	8	DXi, VST, standalone (via Nyr Sound Sketch)	Unlimited	Several envelopes, LFOs, Global LFOs, routings from oscillators, filters, ring mods, and waveshapers
Propellerhead	Reason	2.5	Expandable synth/sampler workstation	Win 98/ME/2000/XP, PIII 233 MHz, Mac OS X, 10.1	Yes	N/A	Standalone	16	Many
Propellerhead	ReCycle	2.1	Groove sampler	Mac OS X, Win XP	Yes	N/A	Standalone	N/A	N/A
Propellerhead	ReBirth	2.0.1	Techno micro composer	Win 95, Pentium, Mac OS 7.5.3, PowerPC 66 MHz, 16 MB RAM	Yes	N/A	Standalone, VSTi, ReWire	N/A	N/A
Roland	VariOS	2.5	Synth, sampler	Win ME/2000/XP, Mac OS 9/X	Yes	N/A	Standalone and with computer	N/A	Depends on application

Filters (Number/Type)	Oscillators (Number/Type)	Real-time Editing	# of Programs/ Performances	Synthesis Methods	Special Features	List Price
N/A	N/A	Yes	N/A	Stretch, pitch-shift/time-stretch, loop sync	Includes Stix, Capsules, and is compatible to other samplers and platforms	\$129
N/A	N/A	No	N/A	N/A	A complete music production plug-in suite	\$799
2	3	Yes	1	Subtractive		\$29
3	3	Yes	1	Subtractive		\$35
3	6	Yes	1	Subtractive, FM, RM		\$179
N/A	N/A	Yes	N/A	Sample playback	Joystick control, drag-and-drop sample loading, 3-D spatializing, scripting	\$50
4 2HP, 2 LP (max)	4 virtual VCO	Yes	32 per bank	Component Modeling Technology (VA) + MDE-X Effects	Polysix, MS-20 or mix/match pair, plus up to 4 insert and 2 master effects (Part of KLC-1)	\$625
4 LP	4/PCM	Yes	374/550	Wave sequencing, Vector, PCM	32-note polyphony, reads original Wavestation SysEx files (Part of KLC-1)	\$625
1 LP	1/virtual VCO	Yes	32 per bank	Component Modeling Technology (VA)	32-note polyphony, Original Polysix chorus/ensemble (Part of KLC-1)	\$625
2 HP, LP	2/virtual VCO	Yes	32 per bank/N/A	Component Modeling Technology (VA)	32 poly, 16 unison, includes up to MS-20 USB hands-on controller, with patching (Part of KLC-1)	\$625
2 multimode	2 wavetable, 1 analog-style, 3 low frequency	Yes	Unlimited	Wavetable, FM, additive, subtractive	Editable wavetables, modular design, built-in waveform editor	\$495
1 per synth	2 per synth	Yes	16/unlimited	Subtractive, wavetable, sample source	Stereo mix engine for HD recording for iTunes/QuickTime	\$TBA
N/A	N/A	No	N/A	Real-time sample playback up to 32 tracks, 128 samples per track	WARP (real-time FX), scratching, overduo recording, step sequencer, DSP module, editing	\$110
LP18, LP24, LP36	2	Yes	32/N/A	Subtractive, real-time wave modulation	Built-in stereo effects, real-time wave modulation, sync ringmod	\$35
1	1	Yes	32	Highly accurate TB303 model	Accurately emulates the Roland TB303	\$20
2 LP/HP/BP/BR with flexible routing	3	Yes	32/N/A	Subtractive	X-Y controller, flexible filter routing	\$80
2 24 dB lowpass filter with resonance and self-oscillation, highpass	2 oscillators with 3 waveforms plus noise	Yes	576/N/A	Subtractive	Fashioned after the vintage cult synths of the '80s, includes effects unit	\$199
Unlimited	Unlimited	Yes	Thousands/N/A	Subtractive, FM, Wavetable, Sampling, Granular, Additive, Resynthesis and more	Native modular real-time software for synthesis, sampling and effects processing, instruments and pr	\$499
Unlimited	Unlimited	Yes	Thousands/N/A	Subtractive, FM, Wavetable, Sampling, Granular, Additive, Resynthesis and more	Reaktor Audio engine for synthesis, sampling, and effects, library of instruments	\$349
N/A	N/A	Yes	Unlimited/unlimited	Sampling	For drum sounds, 54 inst., each w/128 velocity layers, tuning, vcl., pitch, bit reduction, shaper, F	\$199
11: 1 pole LP, 2 pole LP, 4 pole LP, 1 pole HP, 2 pole HP, 4 pole HP, 1+1 pole BP, 2+2 pole BP	N/A	Yes	Unlimited/unlimited	Granular, resynthesis, sampling	Dynamic resource allocation, real-time granular time stretching, comprehensive modulation capability	\$399
11: 6 dB, LP, 12 dB, LP, 24 dB, HP, 6 dB, HP, 12 dB, BP, notch, comb	6 wavetable, draw, wav extract, sine	Yes	700	Additive, subtractive, FM, AM, ring modulation, and waveshaping	66 breakpoints per env, semi-modular struct., drawable waveforms, authentic sawtooth organ simulation	\$299
N/A	91 oscillators/virtual tonewheels	Yes	120	Additive	Authentic simulation of the original tonewheel organ, scanner vibrato/chorus, rotary speaker	\$235
3 HP, BP, LP filter types can be crossfaded with one another	6 oscillators with 32 different waveforms	Yes	290/N/A	FM synthesis, subtractive, wavetable	Extended sound architecture, analog-style editing, graphical editors	\$299
8 filters selectable from LP24, LP12, HP and BF 8 distorting waveshapers various types	Up to 64, controlled by cellular automata, sine, saw, square, noise	Yes	Unlimited/N/A	Granular driven by cellular automata	Cellular automata	\$90
Several filters 24 dB LP, 12 LP/HP/BP, ring mods, waveshaper distorters	Up to 8 sine, sawtooth, square, triangle, parabola, multisaw, various options	Yes	Many	Subtractive	Lots of modulations, large number of components available	\$90
Many	Many	Yes	N/A	All	Configurable bank of instruments and effects, expands with user's needs	\$500
N/A	N/A	Yes	N/A	Sample playback	Complete sample-loop manipulation toolbox	\$250
3	2	Yes	N/A	Analog modeling	Accurate software emulation of the classic techno boxes TB-303, TR-808 and TR-909	\$230
Depends on application	Depends on application	Yes	N/A	VariPhrase, sample playback, analog model	Open System Module, V-Producer software	\$1,495

Software Instruments

Manufacturer	Product	Version	Type	Minimum System Requirements	Automation	# of Envelope Generators	Format	Multitrack (# of parts) per instance	Modulation Sources (Number/Type)
SeerMusic Systems	SurReal	1.01	Synth, sampler	Win 9x, 64 MB RAM	No	4	Standalone, integrates into any sequencer	16	Unlimited
SeerMusic Systems	Reality	1.56	Softsynth, sampler, sound design	Win 9x, 64 MB RAM	Yes	4+	Standalone, integrates into any sequencer	16	Unlimited
SeerMusic Systems	SuperConductor Pro	3.4	Sampler, interpreter	Win, Mac, 64 MB RAM	Yes	Unlimited	Standalone	128	N/A
Software Technology	VAZ Plus 2	2.02	Synth	Win 9x, ME, NT, 2000, XP, Pentium II, 32 MB RAM	Yes	2	Standalone, VSTi, DXi	N/A	19, 2 can be set to MIDI controller, 2 are controlled by the built-in sequencer
Software Technology	VAZ 2010	2	Synth	Win 9x, ME, NT, 2000, XP, Pentium, 32 MB RAM	Yes	2	Standalone, VSTi, DXi	16	19, 2 can be set to MIDI controller, 2 are controlled by the built-in sequencer
Software Technology	VAZ Modular 3	3.03	Modular analog synth	Win 9x, ME, NT, 2000, XP, Pentium II, 32 MB RAM	Yes	256	Standalone, VSTi, DXi	16	Unlimited
Sonicwef	Tsunami	1.6	Virtual analog synth	Win 95 or higher, Mac OS X	Yes	2	VSTi	N/A	3 LFO, envelope, ring modulation
Sound Quest Inc.	Infinity	2.05	Synth, sampler, drum machine, sound design	Win 95/98/ME/NT/2000/XP, 64 MB RAM	Yes	Unlimited	Standalone, VSTi, DXi	N/A	Unlimited
Spectrasonics	Stylus RMX - Realtime Groove Module	1.0	Real-time remix groove creation	Mac OS X 10.2.6 or higher, Win 98 or higher	Yes	192	VST 2.0, RTAS (Mac), Audio Units	8	384, envelope, LFO
Spectrasonics	Trilogy - Total Bass Module	1.2.1	All-bass module	Win 98 or higher, Mac OS X, 512 MB RAM	Yes	6	VST, RTAS, Audio Units	1	19 including LFOs, envelopes, randomizer, cc11, key position, wheels, more
Spectrasonics	Atmosphere - Dream Synth Module	1.2.1	Dual-layering synth	Win 98, Mac OS X, 512 MB RAM	Yes	6	VST, RTAS, Audio Units	1	19 including LFOs, envelopes, randomizer, cc11, key position, wheels, more
Speedsoft	VSampler	3.5	Sampler, synth, sound design	Win 98/ME/2000/XP, 256 MB RAM	Yes	15	Standalone, DXi, VSTi, ReWire, virtual MIDI cable	16	30+ internal, 128 external
Steinberg	Groove Agent	N/A	Drum machine	Mac OS 9 or OS X 10.2, Win 2000, XP	Yes	N/A	VSTi	N/A	N/A
Steinberg	Virtual Guitarist	N/A	Sample playback	Win 98/ME/2000/XP Pentium II/AMD 400, 256 MB RAM, Mac OS 9/X G3 500, 256 MB RAM	Yes	N/A	VST	8	N/A
Steinberg	XpHraze	N/A	Synth	Win 2000/XP Pentium/AMD 600, 70 MB RAM, Mac OS 9/X 10.2, G4 400, 70 MB RAM	Yes	5	VST	4	Morph
Steinberg	The Grand	N/A	Sample playback	Win 98/ME/2000/XP Pentium/AMD 400, 256 MB RAM, Mac OS 9/X G3 500, 256 MB RAM	Yes	N/A	VST	N/A	N/A
Steinberg	Halion String Edition	Vol 1	Sample playback	Win 98/ME/2000/XP Pentium/AMD 400, 256 MB RAM, Mac OS 9/X 10.2, G3 500, 256 MB RAM	Yes	N/A	VST, DXi	N/A	N/A
Steinberg	HALion 3	3	Synth	Win XP, Pentium/Athlon 1.4, 384 MB RAM, Mac OS X 10.3.3, G4 867, 384 MB RAM	Yes	2	VST, DXi	16	32-stage envelope as mod source
Steinberg	Hypersonic	1.0	Synth	Win 2000/XP, Mac OS X, 256 MB RAM	Yes	N/A	VST	16	N/A
Symbolic Sound Corporation	Kyma X	6.1	Sound design	Win ME, Mac OS 9	Yes	Unlimited	Standalone	16	Any module can modulate any parameter
Synapse Audio	Plucked String	4.0	Synth	Win 98/ME/2000/XP, Mac OS, 8 MB RAM	Yes	1	DXi, VSTi	1	1 vibrato effect
Synapse Audio	Scorpion	4.0	Synth	Win 98/ME/2000/XP, Mac OS X, 8 MB RAM	Yes	3	DXi, VSTi	1	LFO on filter/pitch, 1 modulation envelope
Synapse Audio	Hydra	4.1	Synth	Win 98/ME/2000/XP, Mac OS, 16 MB RAM	Yes	4	DXi, VSTi	1	LFO on amplitude, filter or both, Special Modulation Oscillator
Synthogy	Ivory	N/A	Sample-based piano plug-in	Mac OS 9, OS X, 512 MB RAM	Yes	N/A	VST, RTAS, Audio Units	N/A	N/A
Tascam	GigaStudio 3 Solo	3.0	Software streaming sampler and workstation	Win XP, 512 MB RAM	Yes	3	Standalone, ReWire compatible	32	256 dimensions per instrument
Tascam	GigaStudio 3 Ensemble	3.0	Software streaming sampler and workstation	Win XP, 512 MB RAM	Yes	3	Standalone, ReWire compatible	64	256 dimensions per instrument
Tascam	GigaStudio 3 Orchestra	3.0	Software streaming sampler and workstation	Win XP, 512 MB RAM	Yes	3	Standalone, ReWire compatible	128	256 dimensions per instrument
Ultimate Sound Bank	SonicBoomBox	N/A	Apple Loops plug-in	Mac OS X (GarageBand, Logic Pro 7, Soundtrack!, Final Cut)	Yes	2	Apple Loops	1	2 LFO, 1 filter envelope
Ultimate Sound Bank	Plugsound Vol. 1 Keyboards Collection	1.8	Sample-based synth	Win 98, ME, 2000, NT, XP, Mac OS 8.6-128 MB RAM	Yes	N/A	VST OS 9/OS X/Win, RTAS OS 9/OS X, MAS OS 9/OS X, Audio Units	N/A	LFOs, envelopes, wheels, more

Filters (Number/Type)	Oscillators (Number/Type)	Real-time Editing	# of Programs/ Performances	Synthesis Methods	Special Features	List Price
4 multimode filters	4 oscillators, 4 LFO	No	1,000-764	Sample playback, virtual analog, advanced FM, physical models, model synthesis, combined synthesis	Plays back Bankssets created in Reality and SF2s. Author: SeerMusic Works	\$49
4 multimode filters	4 oscillators, 4 LFO	Yes	1,000+128	Sample playback, virtual analog, advanced FM, physical models, model synthesis, combined synthesis		\$39
N/A	N/A	Yes	1,000+128	Hierarchical pulse, predictive note shaping, organ c vibrato, expressive intonation tuning	Create realistic performances	\$299
9, with 2/4 pole multimode variations, including resonance and separation modulation	2 plus 2 LFO (1 of which can be used as a 3rd oscillator)	Yes	Unlimited/unlimited	Analog, sample playback, subtractive	Analog polyphonic sequencer	\$69
14, with 2/4 pole multimode variations, including resonance and separation modulation	2 plus 2 LFO (1 of which can be used as a 3rd oscillator)	Yes	Unlimited/unlimited	Analog, sample playback, subtractive	Analog polyphonic sequencer per part. Hosts VST/DX and VSTi plugins. 16 channel mixer with effects	\$179
255 12 including type A, B with low, band- and highpass Type C lowpass 2/4 pole	Up to 255 per part, with a choice of several, including granular and wavetable	Yes	128/unlimited	Sample, analog model, granular, wavetable	Authentic analog sound, modules for creating new sounds	\$299
1 24 dB lowpass filter	4 3 waveform and 1 noise	Yes	64/N/A	Subtractive, analog model	Waveform drawing and morphing	\$69
Unlimited - Reson, low/highpass, low/high shelf, parametric EQ, bandpass, band reject, FIR, IIR	Unlimited - saw, square, pw, sine, pulse, triangle, pulse, impulse, parabola, custom	Yes	Unlimited/unlimited	Subtractive, additive, sample playback, FM, Karplus-strong	User-creatable custom instruments, includes 14 synths, 7 organs, 2 drum machines, over 40 effects	\$399
6, lowpass 12 dB/24 dB, bandpass 12 dB/24 dB, highpass 12 dB/24 dB	N/A	Yes	Thousands/N/A	Sample playback	Chaos Designer, Groove Control/REX file import, built-in effects/mixer, edit groups, groove menus, kits	\$299
Master filter, plus 3 lowpass and 1 highpass	N/A	Yes	Thousands/N/A	Sample playback	True staccato sample-mapping, mono-legato glide, dual layer, acoustic/elec/synth basses, LFO sync	\$349
Master filter, plus 3 lowpass and 1 hi pass	N/A	Yes	Thousands/N/A	Sample playback	Dual layer architecture, programmable sample start points, solo mode, glide, 3+ GB library, LFO sync	\$399
10 filter types 6 dB - 24 dB, LP, HP, BP	255 true multilayer stereo voices	Yes	16,384	Sample playback, subtractive synth, effects	Unlimited sample size, imports SF2, Gig, Halion, Kontakt, Akai, E-MU, ReCycle, Battery, LMA, AcidWAV	\$188
N/A	N/A	Yes	50	N/A	Set the amount of drum room ambience, play fills and half-time breaks	\$249
N/A	N/A	Yes	27	Sample playback	27 different acoustic/electric guitar "players" sync to song tempo, effects, Electric Version avail.	\$249
4 LFOs	32 phrase	Yes	1,024	Sample playback, vector, FM synthesis	32 step phrase generation, vector synth, BFM based synth, 6 stereo effects, Xmix, huge library	\$249
N/A	N/A	Yes	N/A	Sample playback	Realistic piano sounds, sustain/sostenuto, sampled ambience damper/pedal	\$299
N/A	N/A	Yes	N/A	Sample playback	16 violins, 12 violas, 10 cellos, 8 basses, articulations and ambience	\$399
Notch: HP, LP, BP 12/24 db, Waldorf	2 LFO syncable	Yes	128	Sample	Up to 32-bit/384 kHz, RAMSave, Archiving, 27 effects, 5.1 surround, Sample Accurate Sync, Total Recall	\$399
N/A	N/A	Yes	1,000+	Multisample, virtual analog, FM, wavetable, laced loop, drumkit, expandable	Multitimbral, multisynthesis workstation w/ effect/mixing capabilities, 1,000+ hyper patches, macro	\$499
High-, low-, band-, allpass, frequency domain, more	Table-lookup, oscillator banks, samples used as oscillators	Yes	Unlimited	All standard synthesis algorithms plus additive, aggregate, granular, others	Software for sound design with hardware accelerator, professional-quality surround audio	\$3,470
1	1	Yes	20	Physical modeling	5 different plucked string models	\$49
LP 18 dB, LP 30 dB, LP + notch, inv LP 30 dB	2	Yes	100	Analog model	Spectral FX, chorus/delay/tremolo effects	\$59
LP, BP, HP, LP + notch, 24 dB each with separation control	7 in single mode, 4 in dual-voice mode, 40 waveforms per osc	Yes	150/N/A	Analog modeling, phase modulation, subtractive synthesis	Multimodel synth, dual voice mode, bass boost, percussive mode	\$99
2 - timbre LPF, key noise	N/A	Yes	45 programs, 27 effects	Sample playback	Sustain resonance, soft pedal samples, stereo perspective and stereo width, synth layers, effects	\$349
1	255 dimensions per instrument	Yes	17 GB of included libraries	Streaming sample playback, up to 0.5TB sample sizes	VST plug-ins, 96k/24-bit sample support, 96 voices, GigaPulse SP	\$199
1	255 dimensions per instrument	Yes	17 GB of included libraries	Streaming sample playback, up to 0.5TB sample sizes	VST plug-ins, 96k/24-bit sample support, 160 voices, GigaPulse SP	\$369
1	255 dimensions per instrument	Yes	17 GB of included libraries	Streaming sample playback, up to 0.5TB sample sizes	VST plug-ins, 96k/24-bit sample support, unlimited polyphony, GigaPulse Pro	\$599
4/3 lowpass, 1 highpass	1/sine wave	Yes	4,000 loops, 222 instr.	Sample playback, subtractive	Reverb	\$99
3 lowpass filters, 1 highpass filter, 1 master filter	Sample-based oscillator	Yes	N/A	Subtractive sample playback	Acoustic and electric pianos, classic keyboards, release triggers, reverb	\$99

Software Instruments

Manufacturer	Product	Version	Type	Minimum System Requirements	Automation	# of Envelope Generators	Format	Multibrain (# of parts) per Instance	Modulation Sources (Number/Type)
Ultimate Sound Bank	Plugsound Vol. 2 Fretted Instruments	1.8	Sample-based synth	Win 98, ME, 2000, NT, XP, Mac OS 8.6-128 MB RAM	Yes	N/A	VST OS 9/OS X/Win, RTAS OS 9/OS X, MAS OS 9/OS X, Audio Units	N/A	LFOs, envelopes, wheels, more
Ultimate Sound Bank	Plugsound Vol. 3 Drums & Percs Elements	1.8	Sample-based synth	Win 98, ME, 2000, NT, XP, Mac OS 8.6-128 MB RAM	Yes	N/A	VST OS 9/OS X/Win, RTAS OS 9/OS X, MAS OS 9/OS X, Audio Units	N/A	LFOs, envelopes, wheels, more
Ultimate Sound Bank	Plugsound Vol. 4 Hip Hop & R'n'B Toolkit	1.8	Sample playback synth	Win 98, ME, 2000, NT, XP, Mac OS 8.6-128 MB RAM	Yes	N/A	VST OS 9/OS X/Win, RTAS OS 9/OS X, MAS OS 9/OS X, Audio Units	N/A	LFOs, envelopes, wheels, more
Ultimate Sound Bank	Plugsound Vol. 5 World of Synthesizers	1.8	Sample-based synth	Win 98, ME, 2000, NT, XP, Mac OS 8.6-128 MB RAM	Yes	N/A	VST OS 9/OS X/Win, RTAS OS 9/OS X, MAS OS 9/OS X, Audio Units	N/A	LFOs, envelopes, wheels, more
Ultimate Sound Bank	Plugsound Vol. 6 Global Collection	1.8	Sample playback synth	Win 98, ME, 2000, NT, XP, Mac OS 8.6-128 MB RAM	Yes	N/A	VST OS 9/OS X/Win, RTAS OS 9/OS X, MAS OS 9/OS X, Audio Units	N/A	LFOs, envelopes, wheels, more
Ultimate Sound Bank	Plugground Box Set	N/A	Sample-based synth	Win 98, ME, 2000, NT, XP, Mac OS 8.6-128 MB RAM	Yes	N/A	VST OS 9/OS X/Win, RTAS OS 9/OS X, MAS OS 9/OS X, Audio Units	N/A	LFOs, envelopes, wheels, more
Ultimate Sound Bank	Charlie	N/A	Sample-based synth plugin	Mac OS 9, OS X, Win 98, 2000, ME, NT, XP	Yes	2	MAS, RTAS, VST, Audio Units, DXi	1	20 envelope (pitch, filter, amplitude), 4 LFO
Ultimate Sound Bank	Ultra Focus	N/A	Sample-based synth plugin	Mac OS X, Win 98, 2000, ME, NT, XP	Yes	2	MAS, RTAS, VST, Audio Units, DXi	1	20 envelope (pitch, filter, amplitude), 4 LFO
Ultimate Sound Bank	X-treme FX	N/A	Sample-based effects & sound-design plugin	Mac OS X, Win 98, 2000, ME, NT, XP	Yes	2	MAS, RTAS, VST, Audio Units, DXi	1	20 envelope (pitch, filter, amplitude), 4 LFO
VirSyn Software Synthesizer	Cube	1.51	Spectral morphing additive synthesizer	Win XP, Mac OS 9, OS X, 256 MB RAM, PIII/G4	Yes	4	Standalone, VST, Audio Units, ReWire, RTAS	8	Morphing
VirSyn Software Synthesizer	VirSyn Tera	2.0	Synth	Win 98, XP, Mac OS 9, OS X, 256 MB RAM	Yes	8	Standalone, VSTi, Audio Units, ReWire, RTAS	16	19 layback (pitch, velocity, aftertouch, modulation, pitchbend, LFO), more
Waldorf Music	Attack Percussion Synthesizer	1.2	Drum and percussion synthesizer	Win 95 to XP, 266 MHz, 64 MB RAM, Mac PPC 604e, 64 MB RAM, Mac OS 8.0 to OS X 10.2	Yes	2	VSTi	24	N/A
Waldorf Music	PPG Wave 2 V	1.2	Wavetable synthesizer	Win 95 to XP, 266 MHz, 64 MB RAM, Mac PPC 604e, 64 MB RAM, Mac OS 8.0 to OS X 10.3	Yes	3	VSTi	8	N/A
Wavelength Devices	Dual Filter	1	Filterbank	CreamWare SFP/ XTC v3.1	Yes	1	CreamWare SFP/ XTC	NA	Key-follow, velocity, bipolar aftertouch, ADSR, LFO
Wavelength Devices	europa	1.12	Synth	CreamWare SFP/ XTC v3.1	Yes	2	CreamWare SFP/ XTC	Up to 16	Extensive
Wavelength Devices	uberPlastic	1	Synth	CreamWare SFP/ XTC v3.1	Yes	2	CreamWare SFP/ XTC	Up to 16	Extensive
Wavelength Devices	sparC	1	Synth	CreamWare SFP/ XTC v3.1	Yes	2	CreamWare SFP/ XTC	Up to 16	Extensive
Wavelength Devices	OP-8	1	Synth	CreamWare Scope v3.1+	Yes	2	CreamWare Scope	16	Extensive
WaveMachine Labs	Drumageg	3.0	Drum replacer plugin	Win 98/2000/ME/XP	No	N/A	DirectX	256	N/A
yellow tools	MVI Culture	1.0	Virtual instrument of world, ethnic, industrial & orchestral percussion	Mac OS 9.2.2, OS X, Win 98, 2000, ME, XP, 256MB RAM, 10 GB free hard disc, DVD drive	Yes	5	Mac: RTAS classic & OS X, VST i30 classic & OS X, AU, CoreAudio standalone, Win: RTAS, DXi, VST, standalone	8	N/A
yellow tools	MVI Candy	1.0	Virtual instrument of soprano, alto, tenor, baritone, and bass saxophones	Mac OS 9.2.2, OS X, Win 98, 2000, ME, XP, 256 MB RAM, 10 GB free hard disc, DVD drive	Yes	5	Mac: RTAS classic & OS X, VST i30 classic & OS X, AU, CoreAudio standalone, Win: RTAS, DXi, VST, standalone	8	N/A
yellow tools	MVI Majestic	1.0	Virtual instrument of electric basses from 1955-2000	Mac OS 9.2.2, OS X, Win 98, 2000, ME, XP, 256 MB RAM, 10 GB free hard disc, DVD drive	Yes	5	Mac: RTAS classic & OS X, VST i30 classic & OS X, AU, CoreAudio standalone, Win: RTAS, DXi, VST, standalone	8	N/A
yovistar	Cosmetic	1.0	Drum sequencer	G3/266 OS 8.5 or OS X, 64 MB RAM	Yes	N/A	Standalone	Varies	N/A
yovistar	G Audio	N/A	Instruments, looper, recorder	N/A	Yes	N/A	Standalone, VST	Varies	N/A
Zarg Music	Rotor 48	3.2	Synth	Win, Mac 9.x	Yes	2	CreamWare	1	1 LFO, ring mod, 4 'retro's'
Zarg Music	Rotor 4BRD	1.1	Synth	Win, Mac 9.x	Yes	2	CreamWare	1	LFO, envelope
Zarg Music	Ambient	3.0	Synth	Win, Mac 9.x	No	3	CreamWare	1	N/A
Zarg Music	Orion Custom	2.4	Synth	Win, Mac 9.x	Yes	2	CreamWare	1	5 LFO and envelope
Zarg Music	Dark Star	3.0	Synth	Win, Mac 9.x	Yes	3	CreamWare	1	2 LFO, envelope follower
Zarg Music	Red Dwarf EX	3.0	Synth	Win, Mac 9.x	Yes	8	CreamWare	1	2 LFO, all envelopes, mod wheel, AT, external in
Zarg Music	Solaris	2.1.1	Synth	Win, Mac 9.x	Yes	4	CreamWare	1	5 LFOs, sequencer
Zarg Music	Python Pro	N/A	Synth	Win, Mac 9.x	Yes	3	CreamWare	1	LFO, envelope

Filters (Number/Type)	Oscillators (Number/Type)	Real-time Editing	# of Programs/ Performances	Synthesis Methods	Special Features	List Price
3 lowpass filters, 1 highpass filter, 1 master filter	Sample-based oscillator	Yes	N/A	Subtractive sample playback	Acoustic and electric guitars, basses, plus world guitars	\$99
3 lowpass filters, 1 highpass filter, 1 master filter	Sample-based oscillator	Yes	N/A	Subtractive sample playback	Acoustic drum kits, all styles, electronica kits, drum machines	\$99
3 lowpass filters, 1 highpass filter, 1 master filter	Sample-based oscillator	Yes	600	Subtractive sample playback	Loops, kits, mono-mode leads, basses, dual-resonant filters	\$99
3 lowpass filters, 1 highpass filter, 1 master filter	Sample-based oscillator	Yes	512	Subtractive sample playback	Retro and modern synth sounds, dual resonant filters, reverb	\$99
3 lowpass filters, 1 highpass filter, 1 master filter	Sample-based oscillator	Yes	N/A	Subtractive sample playback	Wide variety of sounds, advanced GM set, built-in reverb	\$99
3 lowpass filters, 1 highpass filter, 1 master filter	Sample-based oscillator	Yes	N/A	Subtractive sample playback	All six plugsound volumes in one box	\$399
4/3 lowpass, 1 highpass	1/sine wave	Yes	500 presets	Sample playback, subtractive	Retro organ, reverb	\$299
4/3 lowpass, 1 highpass	7/sine wave, triangle, square, analog square, ramp up, ramp down, sample & hold	Yes	Over 2,000 presets	Sample playback, subtractive	2 layers and multi effects	\$399
4/3 lowpass, 1 highpass	7/sine wave, triangle, square, analog square, ramp up, ramp down, sample & hold	Yes	5,000 presets	Sample playback, subtractive	2 layers and multi effects	\$399
Morphing filter with arbitrary characteristic	512 sine oscillators/voice	Yes	Unlimited	Additive synthesis	2-dimensional morphing/multistage envelopes/resynthesis	\$249
3/24/18/12 dB LP/HP/BP/BS, formant filter	9: 64 waveforms, spectrum oscillator	Yes	16,384/unlimited	Analog model, FM, spectrum synthesis, additive, physical modeling, formant synthesis, wave shaping	80 Sound access, song/step sequencer, built-in mixer/effects	\$299
1 multimode filter with 6 types	2 oscillators with 9 waveforms each + FM + RingMod + Crack Modulator	Yes	16 kits with 24 sets	Virtual modeled circuitry synthesis	8 audio outputs (2 stereo, 4 mono), polyphonically playable percussive bass and lead sounds	\$150
PPG type lowpass filter	2 wavetable oscillators	Yes	128 sounds per bank	Wavetable synthesis	VST plug-in based on the well known PPG Wave 2 series from the Mid-Eighties	\$200
2 x 24 dB mixable low/high/band (all resonant)	N/A	Yes	50+	Analogue-modeled filterbank	Stereo filterbank that allows the frequencies of the left and right to be shifted apart	\$29
6 dB highpass/switchable 12 dB, 24 dB resonant lowpass	2 x phase-mod saw/phase + width-mod pulse/sub (square) + noise	Yes	100+	Subtractive/FM	Vintage analog timbres, great for classic funk/R&B/electro	\$69
3 - 12 dB/ 3 - 24 dB filters (low/high/band)	2 x sine/tri, phase-mod saw, phase/width-mod pulse, sub (square) + noise and external inputs	Yes	100+	Subtractive/FM	Unique sound, capable of lush feedback timbres	\$99
6 dB highpass/24 dB resonant lowpass	6 x switchable sine/tri/up saw/down saw/variable pulse + noise	Yes	100+	Subtractive/FM	Amazing oscillator sync and crossmod capabilities	\$99
6 dB highpass/24 dB LP morphing to 24 dB highpass (resonant)	2 multimode, morphing/1 FM/ringmod	Yes	200+	Subtractive/FM/modelling	Vast array of distortion/lofi/mod effects	\$99
N/A	N/A	Yes	N/A	Drum Replacer	Visual triggering, MIDI output, GIG file import, advanced sample management	\$19-\$269
N/A	N/A	Yes	800	Sample playback	9 GB brand-new percussion sounds (2 DVDS), special instrument mapping, multis with up to 8 layers	\$399
N/A	N/A	Yes	800	Sample playback	9 GB brand-new saxophone sounds (2 DVDS), aftertouch volume, 4 sampled variations of each note	\$399
N/A	N/A	Yes	800	Sample playback	9 GB highend e-basses sounds (2 DVDS), alternate, more attack, true legato mode	\$399
1 multimode	3 samplers, 1 synth, 1 VSTi	Yes	N/A	Sample playback, FM, VSTi	Probability-based sequencing for machine-based changes	\$79
2 multimode	N/A	Yes	N/A	Sample playback, FM, VSTi	Looper, fmTone, VST instrument, Audio input, DJ player and stereo effects, VST effects	\$110
1 12 dB multimode (LP, HP, BP)	48 selectable from multimode, sample playback, or external ins	Yes	32/N/A	Subtractive, 4-stage crossfading 'rotors' give unusual new timbres at audio rates	Each rotor plays 4 oscs sequentially, variable crossfade provides 'atmospheric' pad sounds	\$99
1 - user selectable semi-modular design	48 selectable from multimode, sample playback, or external ins	Yes	30/N/A	Semi-modular version of the Rotor 48, subtractive, 4-stage crossfade modulation	Same as Rotor 48, user-configurable 'semimodular' (like Red Dwarf), effects included	\$99
2 multimode 12 dB filters, series or parallel	11 standard waveforms, wavetables, samples	Yes	100/N/A	Analog model, sample playback, subtractive	Panning for each filter, user can assign each oscillator to a pan position between the filters	\$179
4 lowpass 24 dB, highpass 12 dB, 12/24 dB bandpass, and comb	3: 2 multimode and 1 'Juno' style	Yes	101/N/A	Subtractive analog model, AM cross-modulation	Effects include EQ, stereo flanger, and stereo delay	\$179
4: 12/24 dB lowpass, 12 dB multimode, comb, free filter bank of 8 bandpass filters, RD modules	4: multimode, 'Juno' style, sample playback, noise, external input, RD modules	Yes	50/N/A	Analog model, sample playback, subtractive	EQ, overdrive, stereo chorus, and delay included, filters series are fully reconfigurable	\$179
2 filter slots - user decides: possible LP, HP, BP, comb	2 slots - multimode, spectral, wavetable, sample playback, user selectable	Yes	70/N/A	Subtractive, analog model, sample playback, semimodular	User reconfigurable - WAV oscs: 4 for env slots, 9 mod matrix paths	\$229
4 filter sections: LP, HP, BP and comb	Multimode, CEM, WaveTable, FM, Sample playback, Rotor, Modular, RD Module insert slots (user-defined)	Yes	225	Subtractive, analog model, sample playback, FM	Extensive modulation matrix, flexible use of Pulsar Modular modules for sound sources and filters	\$249
N/A	N/A	Yes	170/N/A	FM/Comb	Freeform routing, polyphonic plus a monophonic part, effects	\$199

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