

**BONUS!** A SUPPLEMENT TO *Electronic Musician*

# PERSONAL STUDIO

2001

# BUYER'S GUIDE

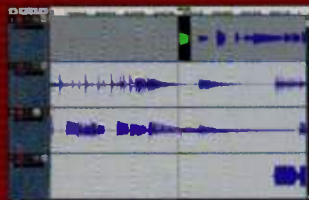
*Essential, up-to-date info  
on 2,113 products*

*Our biggest  
buyer's guide **ever**  
—over 220 pages!*



# HDR24/96. MACKIE'S NEW 24 TRACK RECORDER.

## WORKS WITH ANY MIXER. NO EXTRA COMPUTER OR SOFTWARE NEEDED.



- 24 tracks...24-bits
- Built-in full-feature digital workstation editing
- Affordable pull-out media
- Built-in SVGA, mouse & keyboard ports
- Built-in 100BaseT Ethernet

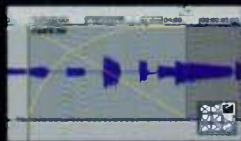
New hard disk recorders are popping up all over the place. Our new HDR24/96 is the only recorder with built-in nondestructive graphic waveform editing. Just plug in a mouse, keyboard and SVGA monitor to view all recorder parameters on screen in real time. Enjoy complete editing control with unlimited levels of undo, drag-and-drop cross-fades with 9 preset combinations plus fade/crossfade editor. And look forward to DSP time compression/expansion, pitch shift and lots more!

The HDR24/96 was the only recorder that uses pull out Ultra-DMA hard drives, so affordable that you can keep one for each project—over 90 minutes of 24-track recording time costs less than a reel of 2-inch tape!

Call or visit our website for preliminary info on the new HDR24/96. Shipping soon from Mackie Digital Systems.

### HDR24/96 editing features include:

8 takes per track with nondestructive comping, nondestructive cut/copy/paste of tracks, regions or super-regions, drag-and-drop fades & crossfades, 1x/2x/4x/8x/24x waveform views, bidirectional cursor scrub and unlimited locators and loops... with unlimited undos — but without requiring an external computer! Coming soon: DSP time compression/expansion, true waveform editing with pencil tool, invert, pitch shift, normalize and much, much more.



- Built-in 20-gig Ultra-DMA hard disk plus front panel bay for additional easily available pullout drives
- Intuitive analog tape deck interface and monitoring
- Syncs to SMPTE, MIDI, Black Burst, PAL & NTSC without extra cards
- Unlimited HDR24/96 linking! Sync 48, 72, 96, 128 or more tracks sample accurately
- 96kHz recording via software and new PDI • 96 I/O
- Digital 8 • Bus I/O cards — mix and match!
- 3.5-inch disk drive for software upgrades & tempo map importing
- Fast Ethernet port built-in
- Remotes available.

**MACKIE**  
Digital Systems

www.mackie.com

800/258-6883



DIGITAL MACKIE  
AT 400 HANCOCK  
WOODBRIDGE, VA

# “REASONS NOT TO BUY A MACKIE D8B...ZERO.”

—Roger Nichols, EQ Magazine

## PLUS 3 MORE REASONS TO GO FOR IT.

### 1 FREE UPGRADE! NEW OS 3.0 ADDS OVER 30 NEW FEATURES!

Our Programming Department has been chugging the double lattes to create Mackie Realtime OS™ Version 3.0, packed with more new features and enhancements than you can shake a mouse at. Here's just part of what 3.0 adds to the already amazing D8B.

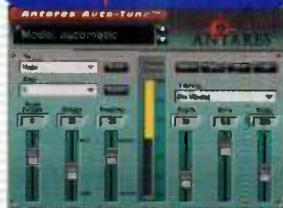
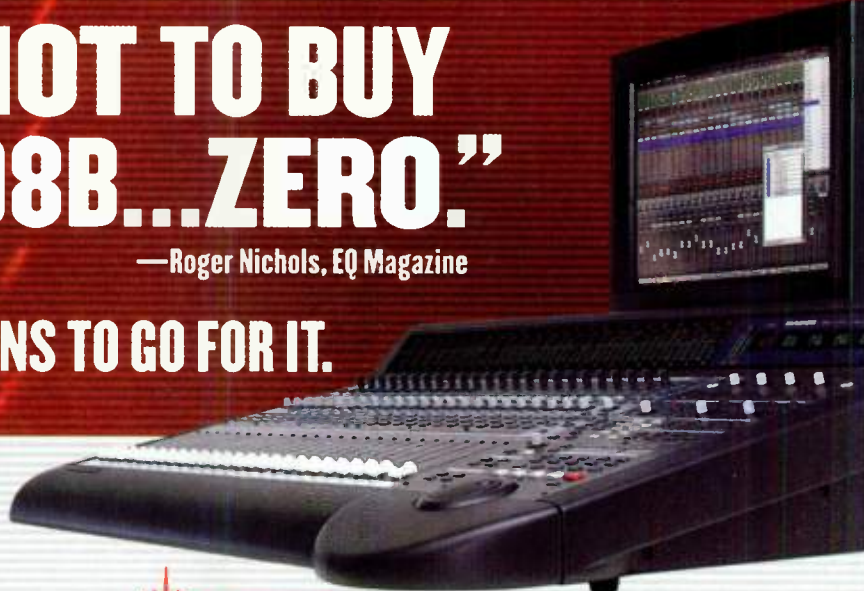
- **New key (sidechain) inputs** for all 48 onboard dynamic processors featuring soft knee architecture and single band 20-20k parametric EQ for frequency dependent processing such as de-essing
- **3rd-party plug-ins** via our new UFX card. Up to 16 simultaneous plug-ins on the first 48 channels, pre or post DSP, pre-fader via up to 4 UFX cards. Each plug-in is available twice — once when tracking, and again at mixdown!
- **Multiple Undo List** — 999 levels!
- New **Snapshot libraries**.
- Externally or internally accessible **inserts across Mains and Buses** plus **channel inserts pre and post DSP**
- **Updated GUI** including 48-channel fader bank view screen.
- **Time Offset** (delay) adds a delay of up to 999 samples to the signal at the pre-DSP (dynamics / EQ) point in the signal path.
- **New surround capabilities** including depth-of-center control (LCR mixing with divergence), multiple surround panner window, individual LFE channel level control.
- **Multiple direct outs** per channel.
- **Optional level to tape** fader control.
- **Assignable, bidirectional MIDI control** of all parameters.
- **Cross patching** allows substitution of channels between various banks.

The list of top engineers and producers who use the award-winning Mackie Digital 8 • Bus is growing daily. For info on the D8B, new UFX and Optical • 8 cards, 3rd-party plug-ins and how D8B owners can get their free OS upgrade, visit [www.mackie.com](http://www.mackie.com) or call your local D8B dealer.



**MACKIE**  
Digital Systems

[www.mackie.com](http://www.mackie.com) • 800/258-6883



### 2 DSP PLUG-INS!

**Antares' Auto-Tune** for the D8B uses advanced DSP algorithms to detect the incoming pitch of a voice or solo instrument as it's being tracked and instantly pitch-correct it without introducing distortion or artifacts. Fully automatable.



**Massenburg Parametric EQ.** MDW 2x2 High-Resolution Parametric Equalizer plug-in from Grammy-winning engineer/producer George Massenburg. Mono/stereo EQ at 96kHz sample rate for unprecedented clarity and high frequency smoothness.



**Drawmer** offers two dynamics packages for the D8B: ADX100 includes their industry standard frequency conscious gating, plus compression and limiting; ADX200 adds variable "Peak Punch" and further Drawmer innovations.



**IVL Technologies' VocalStudio** provides real time vocal doubling, multi-part harmonies and pitch correction in an easy-to-use interface. A free demo is built-into the Digital 8 • Bus. Just add a second MFX card to own this innovative plug-in from a world leader in vocal processing.



**TC Electronic Reverb** (bundled with the D8B UFX card) provides Reverb 1 and Reverb 2 algorithms from the renowned TC Electronic M2000 Studio Effects Processor. TC FX upgrade package contains an expanded set of M2000 reverbs plus Delay, Chorus, and Pitch. TC 2000 adds the TC M2000's Reverb 3, de-essing, tremolo, phasing, and panning.

### 3 1999 TEC AWARD WINNER!



Normally we don't name competitors in our ads. But in this case, Mix Magazine published the other nominees for the 1999 TEC Award for Outstanding Technical Achievement in Small Format Consoles: Allen & Heath's GS-3000, Digidesign's ProControl, Panasonic's WR-DAT, Spirit's Digital 328 and Yamaha's O1V.

Thanks to all who helped us win this prestigious award.

**EGO**  
**Simply Irresistible!**

*What if the best hardware company meets powerful software partners*

**EGO-SYS Power Pack. And the new....**

**WaMi Rack 24**



**WaMi Rack 24 Power Pack (available for both PC and MAC)**

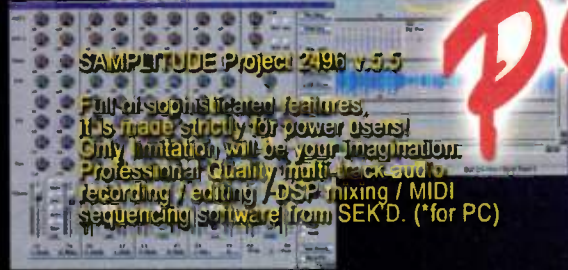
We have been thinking that 4 Mic preAmp, 8 analog audio channel, A/D/A with 120dB dynamic range, 4In/4Out MIDI interface, Word Clock I/O, SMPTE I/O, 24-bit, 96kHz...are not enough. So, we decide to include software....

WaMi Rack 24 with Smaplitude Project v.5.5 and special Gigasampler LE(8ch/48kHz) At only \$789.00



Compatible with all major recording software

**SAMPLITUDE PROJECT**



**SAMPLITUDE Project 2496 v.5.5**  
 Full of sophisticated features, it's made strictly for power users! Only limitation will be your imagination. Professional Quality multi-track audio recording / editing / DSP mixing / MIDI sequencing software from SEK'D. (\*for PC)

*Power Pack*



**GIGASAMPLER LE**  
 8ch/48kHz-special version provided for WaMi Rack-24.  
 Who cares external sampler when you can use whole GB memory for sampling. Awesome Gigasampler LE from NEMESYS. (\*for PC)

**GIGASAMPLER LE**

**Waveterminal 2496 Power Pack (available for both PC and MAC)**

It's just right time for you to get the Waveterminal 2496. 24-bit, 96kHz super sound quality audio interface meets Powerful software package.

Waveterminal 2496 with Smaplitude Project v.5.5 and Gigasampler LE At only \$489.00



Compatible with all major recording software

**Waveterminal 2496**

distributed by **THINKWARE**

Contact in USA & CANADA : [egosys@thinkware.com](mailto:egosys@thinkware.com)

For More Information; Contact Us !  
<http://www.egosys.net>  
[webmaster@egosys.net](mailto:webmaster@egosys.net)

# Audioterminal 24

PREPARED MULTI-CHANNEL AUDIO/MIDI SYSTEM PROVIDING DUAL ADAT PORTS

adat



Digital Purity.

Total of 18 digital channels with dual ADAT ports and additional 24-bit, 96kHz digital I/O (AES/EBU or S/PDIF) gives you enough room for creation.

2 ADAT Toslink Input & Output (24-bit 16 channels), S/PDIF Coaxial digital Input & Output, AES/EBU XLR digital Input & Output, Total 18 ch of Digital I/O (Ready for 24-bit 96 kHz), 54 channel Internal Digital Mixer for monitoring, BNC type Word Clock Input & Output, 2 MIDI In and 2 MIDI Out ports (32 MIDI channels), 9-pin ADAT sync In connector, Included 20-bit Analog Bracket for analog monitoring, Windows 95/98/NT4.0/2000 Ready!

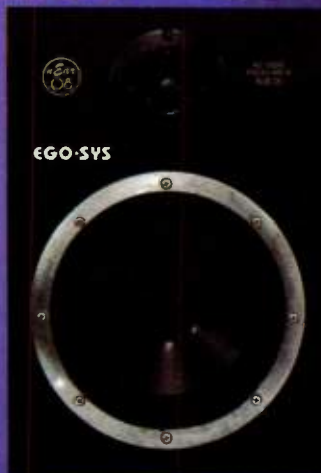


**- NEAR O8 -**

NEO STANDARD REFERENCE MONITOR



EGO-SYS



EGO-SYS

Surprise!

High quality studio reference monitor system. You can't stop once you turn it on.

# Audiotrak 2000

COMPLETE AUDIO/MIDI STUDIO, 64-VOICE SYNTH/SAMPLER, 8x16 MIDI & 1/2"



EAS/



GIGA COMPATIBLE

ASIO 2.0



6 analog line inputs & 8 analog line outputs, A pair of Mic PreAmp with Phantom Power, A pair of Headphone Amps with level control, 8 of 20-bit DAC, S/PDIF (Coaxial) digital Output, Full-Duplex - All Channels Record & Playback simultaneously, High Performance RISC-based Audio DSP (no CPU dependent) provides Internal Mixer & Professional effects Processor (Reverb, Delay, Chorus, Echo, EQ, etc.), 64-voice 2 multi-timbral hardware wavetable Synth/Sampler with 16 Mb on-board Sample RAM (expandable up to 64MB), 1 Input Port and 1 Output Port MPU-401 MIDI Interface

Time to clean up your working space. Looks small but carries huge capability



## WaMi Box

PCMCIA digital audio/MIDI system built in 64-voice synth/sampler



## Waveterminal U24

USB-Quench the thirst 24-bit ready audio interface for USB. Enough to say.



## Miditerminal M4U

Takes all the function from 4140 and more..... It is made for USB!



## Dr. D

Ultimate solution for digital signal converting. Finally, they can understand each other.



## Miditerminal 4140

4in 4Out MIDI Interface supplying more I/O and more stability and even SMPTE Generator/Reader

# EGO-SYS®

VR1

# PERSONAL STUDIO 2001 BUYER'S GUIDE

**A SUPPLEMENT TO ELECTRONIC MUSICIAN MAGAZINE**

## **10 PRODUCTION NOTES**

*By Paul Potyen*

## **14 DIGITAL AUDIO**

*By Scott Wilkinson*

## **42 MASTERING YOUR MIX**

*By Gino Robair*

## **214 PRODUCTS AND SERVICES**

## **222 MANUFACTURER INDEX**

## **226 Ad INDEX**

## **58 RECORDERS, SEQUENCERS & MIXERS**

- 60 Computer-Based Digital Audio Workstations
- 68 MiniDisc and Cassette Multitracks
- 68 Modular Digital Multitracks
- 70 Modular Hard-Disk Recorders
- 72 Digital Mixdown Machines
- 74 CD Recorders
- 76 Sequencers (MIDI & Digital Audio)
- 80 Analog Mixing Consoles
- 86 Digital Mixing Consoles

## **88 I/O DEVICES, MONITORING & POWER AMPS**

- 90 Audio Patch Bays
- 92 Direct Boxes
- 96 Digital Audio Converters
- 100 Microphone & Instrument Preamps
- 106 Channel Strips & Voice Processors
- 110 Power Amps
- 120 Reference Monitors
- 136 Headphones

## **138 OUTBOARD PROCESSORS**

- 140 Dynamics Processors
- 148 Effects Processors
- 156 Equalizers
- 162 MIDI Interfaces, Patch Bays & Processors
- 166 Synchronizers

## **168 ELECTRONIC MUSICAL INSTRUMENTS & MICROPHONES**

- 170 Microphones
- 182 Keyboard Synthesizers & Samplers
- 188 Synthesizer & Sampler Modules
- 194 Drum Machines

## **196 ENVIRONMENT & POWER PRODUCTS**

- 198 Sonic Treatment
- 202 Studio Furniture
- 208 Power Products

Great care has been taken to ensure the validity of the information contained herein. However, neither *Electronic Musician* nor Intertec Publishing, Inc., are responsible for misspellings, omissions, or other errors in accuracy. Specifications listed in the charts as "N/A" are either not applicable to the product or were unavailable at press time.

# The Revolutionary Way to Mix, Master and Make CDs



## MASTERLINK™ ML-9600 HIGH-RESOLUTION MASTER DISK RECORDER

The new MasterLink™ ML-9600 high-resolution recorder is much more than just a mixdown deck or CD burner. It's a visionary product that will completely change your perspective on two-track audio, and redefine the way you master your mixes.

Combining hard disk recording, DSP and the world's most advanced CD-R format, MasterLink offers you an all-in-one system for creating polished, fully mastered CDs. And with its unique high-resolution capabilities, MasterLink makes it easy to deliver and archive two-track mixes – up to 24-bit/96kHz – using convenient, inexpensive CD-Rs.

Fully compatible with standard CD and AIFF audio formats of today, it delivers the advanced digital quality you'll be using in the years ahead. But why wait? Visit your Alesis dealer today and join the MasterLink revolution.

### Hard Disk Recording



Record your two-track mixes onto MasterLink's internal hard drive with your choice of digital resolution...from standard 16-bit/44.1kHz resolution all the way up to 24-bit/96kHz.

### Custom Playlists



Create 16 different playlists containing up to 99 songs each...with full control of song order, track gain, fades and more.

### Dynamics Processing



Use MasterLink's compression, limiting and normalization to optimize each song's dynamics.

### CD Creation and Playback



Record your master to CD-R. MasterLink creates standard 16-bit/44.1kHz Red Book CDs as well as AIFF-compatible hi-res discs up to 24-bit/96kHz.

### Professional Equalization



Fine-tune each song with MasterLink's 3-band, fully parametric EQ.

# Sonic Irregularities gettin' you down?

## Soothe your mix with the CEL™-2!



If your mix is in need of a dose of sonic TLC, the amazing dual channel CEL-2 compressor/expander/limiter may be just what the doctor ordered. Three high quality products all in one, the CEL-2 does a thorough but gentle job of soothing sonic irregularities in any recorded or live sound application. And it doesn't even upset your mix. Discrete circuitry allows each of the CEL-2's three sections to be independently operated and controlled. Intuitive and accurate metering makes the unit incredibly easy to use. The awesome speed of its onboard THAT™ processor alone is a prescription for success. The CEL-2 is, hands down, the most professional product in its category. And better still, it costs less than the competition!

So why cramp your style? If sonic irregularities flare up in your mix, don't let 'em get you down. Soothe 'em instead with the CEL-2. Only from Peavey. Oh, and don't forget to call your local Peavey dealer in the morning.



[www.peavey.com](http://www.peavey.com)

Peavey Electronics Corporation • 711 A Street • Meridian, MS 39301 • U.S.A. • (601) 483-5365 • Fax (601) 486-1278  
Peavey Europe • Great Folds Road • Oakley Hay • CORBY • Northants NN18 9ET • England  
Tel: +44 (0) 1536 461234 • Fax: +44 (0) 1536 747222 • ©1999





# TRANSCEND

## ORDINARY DIGITAL PIANO SOUND



### *The revolutionary Pro2 Realpiano*

At last. What you've been waiting for. A solid, 88-note hammer-action digital piano that faithfully reproduces the subtle nuances of a fine acoustic piano.

The best sounding digital piano on the market today, the Pro2 uses breakthrough physical modeling technologies to provide the player with everything the competition left out. Notes that aren't limited by traditional sampling technology, so they are free to resonate without artificial loops, envelopes and annoying ambience from effects processors. Open and sympathetic string resonances, continuous damper pedal function and accurate sounding hammer strikes that aren't "stretched". All these elements combined are the very essence of an acoustic piano. The Pro2 captures them all.

Transcend ordinary digital piano sound at your Generalmusic dealer today. Play the feature-packed Pro2. You'll be amazed by what's not missing.

# PRODUCTION NOTES

## IT'S ELEMENTAL

After three years, you would think **EM** would have this buyer's guide down pat. But this fourth edition takes the *Personal Studio Buyer's Guide* to another level. When you examine recording products, one of your concerns, naturally, is ease of use. We think that applies to magazines, too, so we've worked hard to make the guide easier to read, including color-coded sections; clearly written specifications; and minimal, easily understood abbreviations. We also lost all sense of restraint when deciding what to include: we shoehorned 2,371 products into the guide, a significant increase over last year's already impressive 1,759.

Building and expanding a personal studio is a sort of audio alchemy in which you are constantly seeking just the right product formula. Like a chemist in a well-stocked lab, today's personal studio owner has more equipment to experiment with than ever before. As with chemistry, the right formula can be worth gold, while the wrong formula could result in experiments blowing up in your face. We've put a lot of thought into making sure you get the information you need to build an efficient, ergonomic, and effective music "lab."

Selecting the right gear is just part of your challenge, of course. You have to assemble it properly and use it well, or your financial investment could be more than matched by your investment in wasted time and effort. To help you in this endeavor, we've brought you articles from respected **EM** editors that help you find that special magic that will make your productions glow.

Digital audio is at the heart of modern recording, yet many people don't entirely understand how it works. But you won't have that problem because **EM** contributing editor Scott Wilkinson will bring you up to speed, stepping you through the basics of digital audio. And when you have tracked and mixed your project, you can follow associate editor Gino Robair's advice to ensure you understand the process of mastering, the last stage before your music goes out to the listening audience.

To top it off, in the near future you will be able to access the data contained within these pages on the *Electronic Musician* Web site at [www.emusician.com](http://www.emusician.com). Stay tuned to **EM** for details.

Over the last few months, the *Electronic Musician* team has combined forces with me and my associates at the Montara Creative Group (which helped research and design this issue) to create the magazine you hold in your hands. We are convinced that our efforts have resulted in the best edition of the *Personal Studio Buyer's Guide* yet. I think you will agree that our experiments in conjuring up this one-of-a-kind guide are sure to prove useful in your quest for music-making tools. May those tools help you unleash your creative energy on the world!



Paul Potyen  
Project Editor

# PERSONAL STUDIO BUYER'S GUIDE

Editorial Director **STEVE OPPENHEIMER**  
Managing Editor **PATRICIA HAMMOND**  
Contributing Editors **BARRY CLEVELAND, GINO ROBAIR**  
Art Director **DMITRY PANICH**  
Production Artist **STEPHEN RAMIREZ**  
Informational Graphics **CHUCK DANHER**

Publisher **JOHN PLEDGER**

Associate Publisher **ERIKA LOPEZ**  
Eastern Advertising Manager **JOE PERRY**  
Midwest Advertising Associate **JULIE CLARK**  
Northwest Advertising Associate **JOANNE ZOLA**  
Southwest Advertising Associate **MARI STANCATI**  
Sales Assistant **KEVIN BLACKFORD**

Classifieds/Marketplace Advertising Director  
**ROBIN BOYCE-TRUBITT**

Classifieds Sales Associate **JEF LINSON**

Classifieds Assistant **DIANE SUBER**

Classifieds Assistant **MONICA CROMARTY**

Marketing Director **CHRISTEN POCOCC**

Sales Promotions Manager **JULIE DEES**

Sales Promotions and Events Coordinator  
**LAUREN GERBER**

Sales Promotions Coordinator **ROBERT IRWIN**

Sales Promotions Art Director **ALEX BUTKUS**

Director of Operations and Manufacturing  
**ANNE LETSCH**

Production Manager **JANE LOWE**

Advertising Production Coordinator  
**MARIA RODRIGUEZ**

Production Assistant **CHASTITY LOCKETT**

Computer Systems Coordinator **ERIK SHANK**

Circulation Director **PHILIP SEMLER**

Circulation Coordinator **ALEXANDRA SINGER**

Business Manager **CINDY ELWELL**

Administrative Coordinator **MICHAEL DEVINE**

Administrative Assistant **ELIZABETH PRICE**

Receptionist **CARLA GREEN**

**mcreative.com**

Project Editor **PAUL POTYEN**

Associate Editor **RANDY ALBERTS**

Creative Director **PETER RODGERS**

Project Manager **BUSAN LEE**

All rights reserved. This publication may not be reproduced or quoted in whole or in part in any manner, printed or electronic, without the written permission of the publishers.

PHOTOCOPY RIGHTS: Authorization to photocopy items for internal or personal use of specific clients is granted by Intertec Publishing, provided that the base fee of U.S. \$2.25 per copy, plus U.S. \$0.09 per page, is paid directly to Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923 USA. The fee code for users of the Transactional Reporting Service is ISSN 0894-4720/2000 \$2.25 + \$0.09. For those organizations that have been granted a photocopying license by CCC, a separate system of payment has been arranged. Before photocopying items for educational classroom use, please contact CCC at (978) 750-8400. Organizations or individuals with large-quantity photocopy or reprint requirements should contact Cherie Wood at (913) 967-7212. Microfilm copies of *Electronic Musician* are available by calling Bell & Howell Information and Learning (800) 521-0600 or (313) 761-4700.

**INTERTEC PUBLISHING**  
A PRIMEDIA COMPANY

**BPA**  
BUSINESS PUBLISHERS ASSOCIATION

**AMERICAN BUSINESS PUBLISHERS ASSOCIATION**

Intertec Publishing Corp., Inc.  
Also publishers of *Electronic Musician*, *Mix*, *Onstage*, and *Remix* magazines, *The Recording Industry Sourcebook*, *Desktop Music Production Guide*, and *Digital Piano Buyer's Guide*.

Printed in the USA.

# Insatiable lust for tone?



## Own POD.

POD is the ultimate guitar direct recording/performance tool with acclaimed Line 6 modeling, built-in stereo effects and A.I.R. (Line 6's proprietary mic/room emulation technology).

Bass POD delivers all of the excitement of POD to bass players: 16 bass amp models to mix and match with 16 bass cab models, 16 built-in effects (including Distortions, Phasers, Flanger, Envelope Follower, Octave Divider and Crossover) and Dual Outputs—Modeled with A.I.R. and D.I.

POD Pro, a 2U rackmount version of POD, features amp modeling, effects and A.I.R. With 1/4" and XLR analog outputs, 24-bit AES/EBU and S/PDIF digital outputs, Digital Clock In (sync) and a stereo effects loop, POD Pro is perfect for professional recording or live performance.

Whichever POD you choose, you get instant tonal gratification and access to an ever-expanding library of new tones from the Line 6 ToneTransfer Web Library—enough to feed the most insatiable lust for tone.





# Music123.com

**Music123 Guarantee**  
100% Satisfaction  
Lowest Prices  
Secure Transactions  
30 Day Returns

Accessories

Amplifiers

Guitars

Basses

Percussion

Keyboards

Studio

DJ Gear

Brass

Woodwinds

Strings

*What Musicians  
Have Been Waiting For...*

**Any Instrument  
Any Time  
Any Where**

**Guaranteed Lowest Prices.**  
(We dare you to beat them)

**Call Center Staffed by Pro Musicians.  
Over 100,000 Products:  
Instruments, Gear, Accessories, and  
Sheet Music Titles.**

**www.music123.com**

**1.888.590.9700**

It doesn't matter if you're an amateur or a pro,  
we just want to know one thing...

are  
**YOU** a  
**CONTROL**  
freak?



CMS-161/PAK

Comes complete with 61-note  
controller, stand, second tier  
shelf, bench, and sustain pedal.

**FATAR** **STUDIOLOGIC**

*...it just makes sense*

**A**nd why shouldn't you be? After all, it's your music that we're talking about here. And, the need to create and control your own sound is something that STUDIOLÓGIC by Fatar understands. That's why we've dedicated the last 10+ years to researching and improving our line of exclusive MIDI controllers. Whether you're an amateur or a pro, you'll appreciate the time and energy that we've put into products that will resist becoming obsolete and outlast trendy keyboards with pre-packaged sounds. We offer everything from 37-note computer assisted learning systems to sophisticated weighted, hammer action 88-note controllers. Want to learn more? Visit our website or give us a call to locate a retailer near you. You'll be happy you did. [www.musicindustries.com](http://www.musicindustries.com) 1-800-431-6699



# DIGITAL AUDIO

Sound is an acoustic phenomenon. The changing air pressure that pushes and pulls on our eardrums varies smoothly rather than jumping discretely from one pressure to another. With electrical audio signals, the voltage in a cable varies smoothly in a way that mimics the changing air pressure of the sound represented by the signal. The signal's changing voltage is analogous to the changing pressure of the sound it represents, hence the term "analog."

by Scott Wilkinson

## meet the standard nobody else can match

In the world of studio recording, video and film, 24-bit resolution audio is the new de facto standard – bringing recorded sound in-line with the absolute limits of human hearing and providing a 256 fold improvement in signal definition.

The DA-78HR takes TASCAM's market leading 8-track digital DTRS format into the 24-bit environment, providing affordable access to this new audio standard for recording studios, project studios and home recordists alike. The DA-78HR exploits the full potential of 24-bit audio recording to give major improvements in dynamic range and signal-to-noise performance. All analog and digital circuitry is optimized to maximize the 24-bit sonic quality.

Other advanced performance features include on-board digital mixing – with level and pan control – and internal digital I/O patchbay, ensuring no loss of the 24-bit sound quality when copying or comp'ing tracks. Time Code I/O and on-board SMPTE synchronizer, MIDI IN/OUT/THRU, and Word Sync I/O enable the DA-78HR to operate readily within existing recording systems with other digital or analog multitracks, digital mixers, DAWs or video decks. The DA-78HR also records locate points and punch in-out information onto tape, so that these can be recalled during later sessions.

The DA-78HR is backward compatible with 16-bit DTRS recording and locks seamlessly with any combination of up to 16 other DA-38, DA-88 or DA-98 recorders, to provide integrated digital recording systems of up to 128 tracks.

TASCAM DA-78HR

24-BIT HIGH RESOLUTION DTRS

01 10 20 03



8-track 24-bit digital modular multitrack recorder DA78HR



The world's first 24-bit MDM is not only the world's most cost-effective professional 24-bit audio recorder, but also one of the finest digital multi-tracks ever produced.

# TASCAM

a whole world of recording

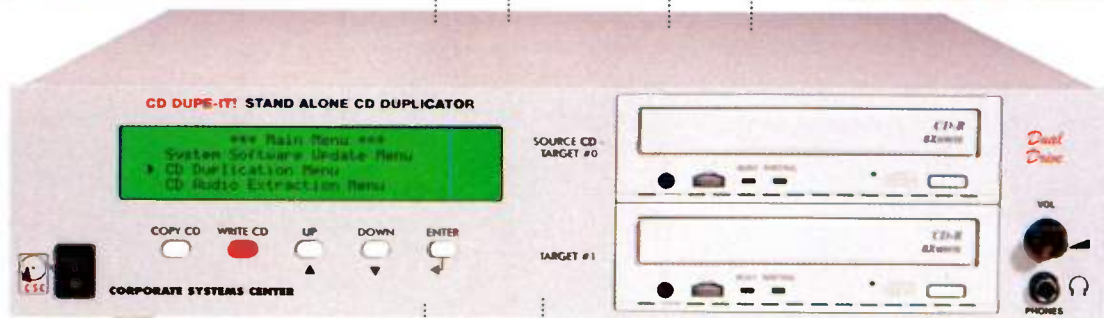
TEAC America, Inc., 7733 Telegraph Road, Montebello, CA 90640  
323-726-0303. web: [www.tascam.com](http://www.tascam.com). faxback: 800-827-2268

**BOTH SINGLE AND DUAL  
DRIVE MODELS AVAILABLE.**

**INTERNAL A/V HARD DRIVE  
STORES DISC IMAGES FOR MULTIPLE  
COPIES, AND CUSTOM AUDIO DISCS.**

**EXTERNAL SCSI-II PORT WORKS  
LIKE A STANDARD CD WRITER  
FOR CREATING CUSTOM DISCS.**

**MAKE CUSTOM DISCS WITH  
JUST THE MUSIC YOU LIKE.**



**TOTALLY SELF CONTAINED,  
NO ADDITIONAL HARDWARE  
IS REQUIRED**

**ADVANCED FORMAT DETECTION  
PRODUCES PERFECT DUPLICATES  
ON STANDARD CD-R MEDIA.**

# COPY ANY CD NOW. NO PC REQUIRED.

## DUPE-IT!

Instantly copy music and CD-ROM compact discs. Make backup copies of your favorite music and software on rugged, permanent CDs. Produce compact discs quickly and economically. No mastering or multimedia experience is required.

Insert your original CD and press "start." The multimedia processor quickly copies any disc to the internal A/V hard drive. Insert blank CDs and make as many copies as you like. You'll produce perfect duplicates. The system is totally self contained — no additional hardware is required.

**FROM \$595!**

**100 BLANK CDs \$169!  
408 330-5522**

Just plug in the power cord and press "start"—it's that easy.

You can even make your own custom music CD without a PC! Insert your original CD's, select the tracks you want, and Dupe-It will copy them to the internal hard drive. Built in, amplified stereo speakers allow you to preview the music before recording a CD. Then insert a blank CD, and you'll have a custom music CD with just the songs you want.

With the included CD mastering software, Dupe-It will work overtime as your personal CD design system. Just attach a SCSI cable to your PC or Mac, and you're ready to design and create your own original CD's. Similar systems used in duplication houses cost over \$5,000. Now you can easily copy CDs yourself for a fraction of the price.



**CORPORATE SYSTEMS CENTER**  
3310 WOODWARD AVE., SANTA CLARA, CA 95054  
[WWW.DUPEIT.COM](http://WWW.DUPEIT.COM)

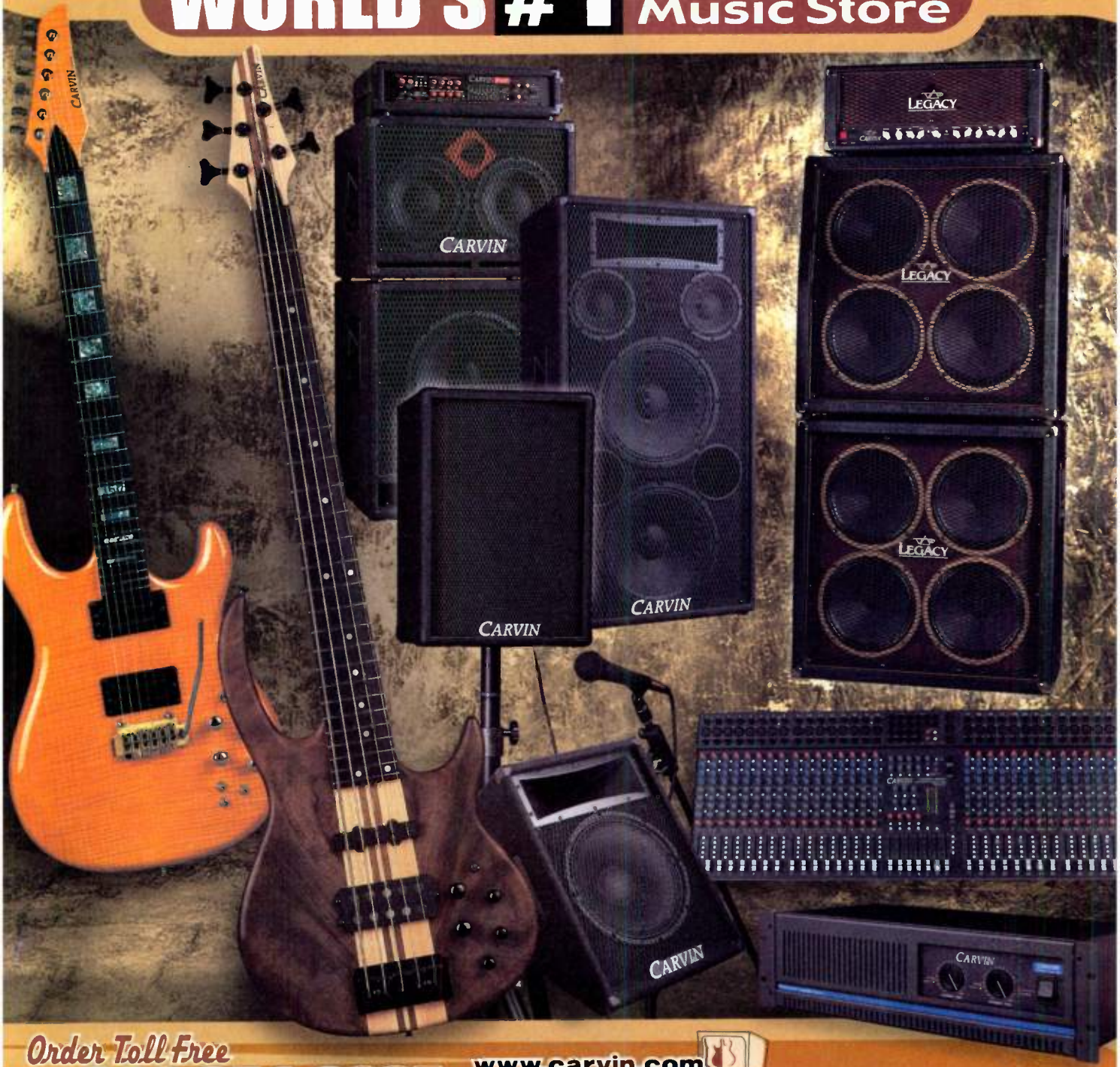
Musicians—ask about our pro-audio CD recorders. Software publishers—ask about our high-volume multi-drive duplication systems. Dupe-It is sold and intended for backup and in-house design purposes only. Copyright laws must be observed. Dual Drive Model is pictured above.



# CARVIN

For all your music needs – Musicians • Schools • Churches • Businesses • Contractors

**WORLD'S #1** Factory Direct Music Store



Order Toll Free

**800-854-2235**

**BUY DIRECT FROM MANUFACTURER**

**CALL TODAY OR VISIT OUR STORE ONLINE**

[www.carvin.com](http://www.carvin.com)

World's #1 Factory Direct Music Store



Sherrin Oaks, CA 818-990-2660 Hollywood, CA 213-851-4200  
Santa Ana, CA 714-550-0665 Covina, CA 626-815-5737 San Diego, CA 858-467-8700

Recently, however, the recording landscape has been altered dramatically. Audio signals are now commonly stored and transmitted as digital information. This offers several advantages over analog audio. For example, there is virtually no loss of audio quality when you make copies of the data. In addition, it is much easier to edit and assemble digital audio information. Finally, there is no tape noise when recording digital audio.

Fortunately, the same basic principles apply to all forms of digital audio

recording, storage, and playback. This includes samplers, digital tape decks, hard-disk recorders, and CDs. As a result, the following section applies equally to all these types of digital audio equipment.

### THE BASICS

Humans use ten digits (0 to 9) to express all numbers; this is called the decimal number system. The decimal system probably arose because we have ten fingers (which are also called dig-

its). To express numbers larger than 9, we combine two or more digits. For example, with two decimal digits, we can express 100 numbers from 0 to 99. With three decimal digits, we can express 1,000 numbers from 0 to 999.

Computers use only two digits: 0 and 1. This is called the binary number system, and binary digits are called bits (short for Binary digITS). Like humans, computers combine two or more bits to express larger numbers. For example, with two bits, you can express four numbers: 00, 01, 10, and 11. With three bits, you can express eight numbers, from 000 to 111.

Are you starting to see a pattern here? The pattern is this: Number of numbers you can express =  $2^{(\text{number of bits})}$ .

So, if you have eight bits, you can express  $2^8 = 256$  numbers from 00000000 to 11111111; with sixteen bits, you can express  $2^{16} = 65,536$  numbers.

Computers almost universally combine eight bits into a group called a byte. A group of four bits is half a byte, which is called a nibble. These days, most computers also work with larger groups of bits called words, which typically include 16 to 32 bits.

### A/D CONVERSION

The starting point of most digital audio systems is an analog audio signal from a microphone or other analog source. (Some systems can generate digital audio from scratch without an analog source, but I'm going to put this idea aside for now.) The goal is to convert the analog audio signal into a series of discrete digital numbers that a computer can deal with.

A sample-and-hold circuit measures, or samples, the instantaneous voltage, or amplitude, of an analog audio signal and holds that value until an analog-to-digital converter (ADC) converts it into a binary number, which is called the quantization value (see Fig. 5.1). The sample-and-hold circuit then reads the next instantaneous amplitude and holds it for the ADC. This occurs many times per second as the signal's instantaneous voltage rises and falls. As a result, the smoothly varying analog waveform is converted into a series of "stair steps" (see Fig. 1.2).

In some systems, the lowest possible instantaneous amplitude is represented by a string of zeros, and the highest possible instantaneous amplitude is

"It didn't take long for the TLM 103 to emerge as our benchmark mic during the comparative tests.

This is a premium microphone characterized by an open, articulate, very natural sound; super resolution; big, tight, detailed lows; and a distinctive presence boost that yields a delicious, intimate quality."

**Brian Knave, Electronic Musician, September, 1998**

"The TLM 103 is certainly worthy of the Neumann name. It sounds excellent and looks and feels like a quality instrument."

**Steve La Cerra, EQ Magazine, May 1998**

"I found applications where I preferred the TLM 103 over anything else in the mic cabinet. It was excellent on drums, harmonica and sax as well as certain singers who would also sound good on a U 87."

**Barry Rudolf, Mix Magazine, February 1998**

"On acoustic guitar, the overall tonal balance is excellent without any EQ."

**Rick Chinn, Audio Media, April 1998**

"I really like this mic. I'd recommend it to anyone who records with closely placed mics, essentially who does modern multitrack recording."

**Monte McGuire, Recording Magazine, February 1998**

"This is a no-hype microphone, and may be one of the most natural, flattest-sounding large-diaphragm designs I've heard."

**Loren Alldrin, Pro Audio Review, January, 1998**

"The TLM 103 is a real jewel in any mic collection."

**Michael Delugg, Music Production Supervisor for The Late Show With David Letterman**

# Step Up To A Neumann



Everyone who tries the TLM 103 loves it. Why? Because it brings the classic sound and precision quality for which Neumann is famous to a price under \$1000 US. That's also why it's won a host of prestigious awards, including the *Mix Foundation TEC Award*, the *EQ Blue Ribbon Award*, the *Radio*

*World Cool Stuff Award* and the *Post Magazine Professional's Choice Award*.

Of course, our goal in designing the TLM 103 was not to win praise or awards for ourselves, but to provide YOU with the best tools so that you might win awards for yourself. Now, go out and bring home a Grammy...



## Neumann USA

*The Choice of Those Who Can Hear The Difference*

Tel: 860.434.5220 • FAX: 860.434.3148 • Web: <http://www.neumannusa.com>

# TOTALLY TRANSPARENT.

Introducing our new **INVISIBLE MIC PREAMP.**

Make a quantum leap with **BEHRINGER**'s new **EURORACK**'s. 5 years of development have culminated in the best and most "Invisible" microphone preamp we've ever built. Add space-age SMD technology, high-end 4580 op-amps and double-flooded circuit boards, and you end up with audio so transparent you can see right through it.

The new **EURORACK**'s from **BEHRINGER**®

- State-of-the-art mic preamps
- Super low-noise 4580 op-amps
- 5 Hz - 100 kHz bandwidth
- Panasonic/Alps faders and pots
- Steel chassis, fiberglass PCB's
- Individually tested with System One
- Manufactured under ISO9000 certified management system

More information at:

[www.behringer.com](http://www.behringer.com)

**BEHRINGER USA**

144 Railroad Avenue, Suite 210  
Edmonds, WA 98020  
Tel.: +1/425/672 0816  
Fax: +1/425/673 7647  
Support Tel.: +1/425/673 8926  
Email: support.us@behringer.de



**JUST LISTEN.**

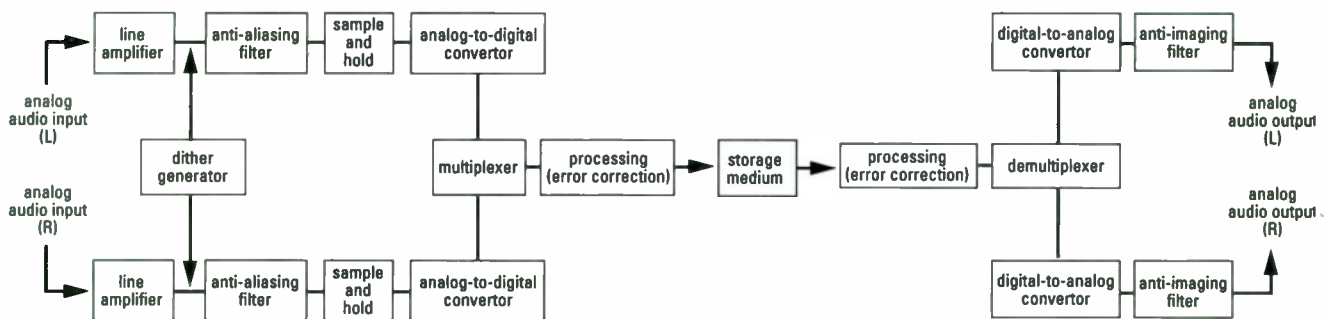


FIG. 1.1: All digital audio systems include these basic components.

represented by a string of ones. In other systems, a string of 0s represents the middle of the possible amplitudes. Values with a zero as the first bit represent amplitudes above the middle (positive), while values with a one as the first bit represent amplitudes below the middle (negative). This is called two's-complement representation, which allows for positive and negative numbers.

Stereo signals are converted separately and then multiplexed, or combined, into a single stream of binary numbers. The numbers representing the right and left channels are inter-leaved, or alternated, in the stream.

One of the most common techniques for encoding each instantaneous amplitude is pulse-code modulation (PCM). Each bit is a code for an electrical or optical pulse: 1 = high-level pulse, 0 = low-level pulse. For example, if an instantaneous amplitude is represented by the binary number 1101, four pulses are sent: high, high, low, high. The rate at which the measurements are taken and the number of bits used to represent each measurement are the two most fundamental concepts in digital audio.

**SAMPLING RATE**

The rate at which the instantaneous-amplitude measurements are taken is called the sampling rate, and the time between measurements is called the sampling period. The more often measurements are taken, the higher the frequency that can be accurately represented (see Fig. 1.3). However, more measurements require more digital storage (which I'll discuss in more detail shortly).

If the frequency of the analog signal is low compared with the sampling rate, you get an accurate representation of the signal. If the frequency of the signal is over half the sampling rate, however,

some weird things start to happen (more in a moment). The frequency that corresponds to half the sampling rate is called the Nyquist frequency after American engineer Harry Nyquist. For example, if the sampling rate is 48 kHz (48,000 measurements per second), the Nyquist frequency is 24 kHz.

The Nyquist frequency is the maximum audio frequency that the system can accurately represent and reproduce. This defines the audio bandwidth of the system. For example, if the sampling rate is 48 kHz, the system can represent and reproduce audio signals at frequencies from 0 to 24 kHz. In other words, the audio bandwidth of the system is 24 kHz.

By contrast, the digital bandwidth of the system is the maximum number of bits per second it can transmit or receive. For example, if the maximum sampling rate is 48 kHz, and each instantaneous-amplitude measurement is represented with sixteen bits, the digital bandwidth is 48,000 x 16 = 768,000 bits per second, or 768 kbps. In a stereo system, this digital bandwidth would double to 1.536 megabits per second (Mbps).

When digitizing a signal whose frequency is greater than the Nyquist frequency, you run into a problem called aliasing. In this case, the measurements of instantaneous amplitude don't accurately reflect the shape of the original signal's waveform (see Fig. 1.4). The measurements are taken at disparate points along the waveform. When these measurements are reconstructed into an analog signal, the reconstructed signal has a lower frequency than the original. (In fact, several alias signals appear above and below the original frequency.)

As a precaution against aliasing, the input signal is usually sent through an anti-aliasing filter before it reaches the sample-and-hold circuit (see Fig. 1.1). This lowpass filter blocks any frequen-

cies that are greater than the Nyquist frequency of the system while passing all frequencies below the Nyquist limit. The slope of the filter is very steep, which leads many people to call it a brickwall filter.

All audio CDs use one sampling rate—44.1 kHz—which is also common among samplers, hard-disk recorders, and digital multitracks. This rate was adopted as a standard because its Nyquist frequency is 22.05 kHz, which is just above the top of the human hearing range. As a result, all frequencies we can hear are accurately represented. However, there is much debate in the

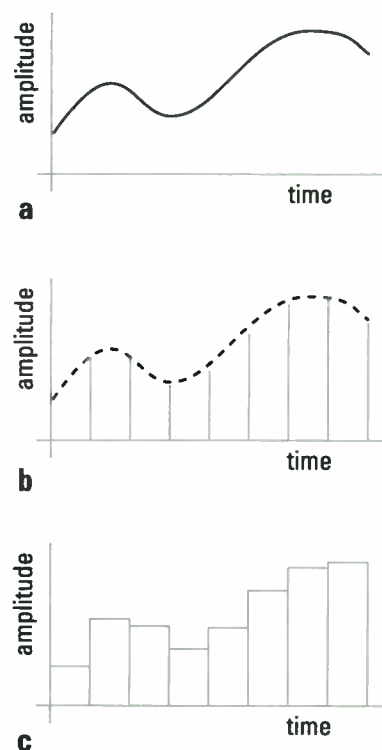


FIG. 1.2: The instantaneous amplitude of an analog waveform (a) is measured many times per second by a sample-and-hold circuit (b), resulting in a stair-step representation (c).

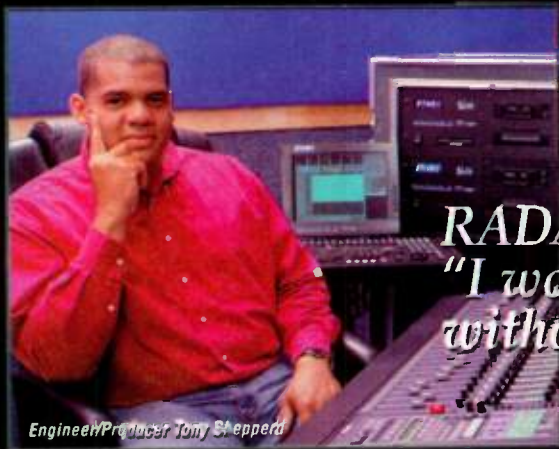
# RADAR II HDR SERIES

L.A. Engineer/Producer  
*Tony Shepperd* is one of the  
music industry's busiest  
independents. His clients run  
the gamut – from such legends  
as *Barbra Streisand*, *Chicago*  
and *Kenny Loggins* to the  
critically-acclaimed *Take 6*  
and *Boyz II Men*. For Tony's  
non-compromising and  
discriminating clients, what is  
his first choice in a 24-bit HDR  
recorder? Otari's RADAR II.

In his own words:

*"The sound quality of RADAR is  
simply incredible! It's a workhorse  
of a machine – tracking or mixing.  
It locks like a dream and has  
proven to be extremely reliable.  
I won't do a session without it."*

The impressive, new *Waveforms*  
display upgrade is available  
for the RADAR II HDR recorder.  
Contact Otari now for full details.



Engineer/Producer Tony Shepperd

RADAR II –  
"I won't do a session  
without it."



## OTARI

DIGITAL'S NEW STANDARD

[www.otari.com](http://www.otari.com)

Otari Corporation USA Tel 800-877-0577 1/818-598-1200 Email [sales@otari.com](mailto:sales@otari.com) • Otari, Inc. Japan Tel 81/424-81-8626 Email [salesinfo@otari.co.jp](mailto:salesinfo@otari.co.jp)  
Otari Europe GmbH Tel: 49/2159-50861 Email [euro@otari.de](mailto:euro@otari.de) • Otari Singapore Pte. Ltd. Tel 65 284 7211 Email [otarisg@singnet.com.sg](mailto:otarisg@singnet.com.sg) • Otaritec Corp. Japan Tel 81/3-3332-3211  
Email [sales@otaritec.co.jp](mailto:sales@otaritec.co.jp) • U.S. Regional Offices: Los Angeles 1/818-598-1200, New York 1/212-324-1700, Nashville: 1/615-255-6080

R&D in cooperation with Sanyo Kogyo, a member of the Otari Group.

audio industry about whether or not overtones above 20 kHz make an audible contribution to the entire signal. In fact, some DATs are now available with a sampling rate of 96 kHz to address this issue. Most consumer DAT machines sample at 48 kHz, and most professional systems offer both 48 kHz and 44.1 kHz sample rates.

As you might expect, a sound sampled at 22 kHz uses half the storage space required by the same sound sampled at 44 kHz. Therefore, multimedia producers

generally use sampling rates of 11 kHz or 22 kHz to reduce storage requirements, CD-ROM access time, and, in the case of Internet-based products, download time. Because of the reduced bandwidth dictated by the Nyquist frequency, however, lower sample rates yield lower audio quality.

In many samplers and hard-disk recorders, it's possible to use different sampling rates. For example, you might sample the lowest notes of a bass at 11 kHz; there are probably no overtones

above 5.5 kHz, so you don't lose anything by sampling these notes at a lower rate, and you conserve sample memory. Higher notes can be sampled at 44.1 kHz and combined with the low notes to form an entire bass patch in a sampler.

In some systems, the input is sampled at a higher rate than will be used to reproduce the signal; this is called oversampling. As you might imagine, this increases the Nyquist frequency and reduces aliasing. After the signal has been sampled, a digital filter removes any frequency components above the final Nyquist frequency, and the data is output at the final (lower) sampling rate.

### RESOLUTION

The number of bits used to represent each instantaneous measurement is called the resolution or word length. The greater the resolution, the more accurately each measurement is represented (see Fig. 1.5). However, the more bits you use, the greater the storage requirements.

The resolution determines the number of steps between the lowest and highest instantaneous amplitude the system can represent. With 16-bit resolution, there are 65,536 steps between the lowest and highest amplitudes. This defines the dynamic range of the system. Theoretically, the dynamic range of a 16-bit system is 98 dB, but various factors reduce this figure to about 90 dB

welcome to digital audio  
...we have your drive.

tracks: 24  
converters: 24 bit  
sample rate: 48 kHz  
project: 10 songs  
average song length: 4 mins.  
storage requirement: 8.3 gigabytes  
external drive: X-Project™ by Glyph

X-Project™. Enjoy the performance, Herculean service and crushing technical support that the professionals do. When you're using the Digi 001, you need Glyph's new drive, the X-Project™ as the perfect companion to get the most from your system.

(800)335-0345      **GLYPH** TECHNOLOGIES, INC.      ...store in a cool place.      www.glyphtech.com

©1999 Glyph Technologies, Inc. All rights reserved.  
Glyph, the X-Project and their logos are registered trademarks of Glyph Technologies, Inc.  
We build cool, reliable gear so you don't have to. Digi 001 is a trademark of Avid Technology.  
All trademarks are property of their respective holders.

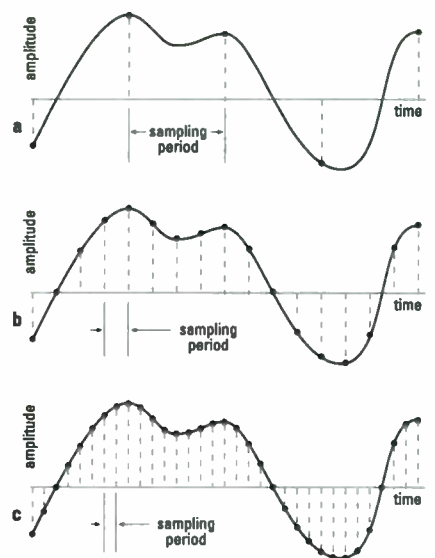


FIG. 1.3: As the sampling rate increases the sampling period decreases, and more of the high harmonics in the original signal are accurately represented.

# PS6: Breakin' the Law

**O**ur own eminent speaker designers, Frank Kelly and Walter Dick, have long claimed that when it comes to producing low end from a monitor speaker, "It's all controlled by the laws of physics." In other words, in order to get big low end you need a big box and a big woofer.

And then Frank and Walter created the Project Studio 6—and gave it low end response that simply blows the laws of physics to smithereens. A 6.5" speaker in a tiny cabinet producing a deep rich 42Hz . . . astounding!

Part of the secret: a custom biamplification system that delivers extended low frequency response—and enough power to warrant a late night visit from the cops.

Rounding out the package is a silk dome tweeter handed down from our award-winning 20/20*bas*—for detailed, precise, and easy-on-the-ears high end response. And the dual front-mounted low air restriction ports allow for easy placement in even the most confined spaces (like a jail cell).

## PS6 Biamplified Direct Field Monitor System

Sound this good  
should be illegal.



**EVENT**  
ELECTRONICS

P.O. Box 4189,  
Santa Barbara, CA 93140 4189  
Voice: 805 566 7777  
Fax: 805 566 7771  
E-mail: info@event1.com  
www.event1.com

**EVENT**

**Does  
your  
tape based  
system...**

**VSR-880** 24bit DIGITAL STUDIO RECORDER  
STATUS/LOCATOR/SCENE /CH EDIT



**VSR-880** 24bit DIGITAL STUDIO RECORDER  
STATUS/LOCATOR/SCENE /CH EDIT





Give you instant, random-access operation with no rewind or lock-up time?

Offer 128 Virtual Tracks of pristine 24-bit recording?

Allow you to cut, copy and paste audio with 999 levels of Undo/Redo?

Provide you two optional 24-bit stereo effects processors?\*

Come bundled with FREE emagic® Logic™ VS software for computer-based integration and VS editing?\*

Digitally interface with all major digital audio formats and Roland V-Mixers?

Support audio CD mastering with an onboard Mastering Tool Kit?\*

Let you quickly burn audio CD's using an optional CD Recording System?

If not, then you owe it to yourself to check out the new Roland VSR-880 24-bit Digital Studio Recorder—the modular, expandable version of Roland's popular and award-winning V-Studio. Now coming to a rack near you.

Get the details at your local Roland dealer or by visiting <http://VSR880BG.rolandus.com>

**Roland**

\*Optional VS8F-2 required. \*\*Limited time offer. Product Faxback Information: (323) 890-3780 (Doc. #10408). Product specifications and appearance subject to change.

for practical purposes. Higher resolutions mean more steps and correspondingly higher dynamic ranges.

The most common resolution for professional digital audio is 16 bits, but 8-bit audio is often used for multimedia applications for the same reason that lower sampling rates are used: the file size is reduced by half. Multimedia sound designers usually have to strike a balance between resolution (8-bit or 16-bit) and sampling rate (11 kHz or 22 kHz).

Many professional digital audio products use 18-bit D/A converters, but that doesn't mean they necessarily record 18-bit audio; products such as the Alesis ADAT XT use 18-bit converters but record 16-bit audio. (I'll explain the reason for using higher-resolution converters in a moment.) Some professional systems actually record at 18-bit or 20-bit resolution, and a few even record at 24 bits.

You must be extremely careful not to exceed a digital recording system's maximum input-signal level. If the instantaneous amplitude of the input signal rises above the highest point that can be represented by the binary numbers, the digitized signal will be clipped (i.e., the top of the waveform will be chopped off, forming a horizontal line). This makes a very unpleasant noise. Unlike analog recorders, the input-signal level must not exceed 0 on the VU meter of a digital recorder in order to avoid clipping. Some digital recorders actually calibrate the 0 VU point a few dB below the actual clipping point so users can exceed this level without clipping as if they were using an analog recorder.

On the other hand, the hotter the recorded signal (i.e., the greater the input level), the more bits are used to represent it. If you record a signal whose level is the maximum possible short of clipping, you will use every available bit of the system's resolution. But if the input signal is at a lower level, fewer bits are used to represent it. This means you might not be using all sixteen bits in a 16-bit converter (I'll return to this concept in the section on dithering). In order to ensure full 16-bit recording, some 16-bit recording devices have 18- or 20-bit A/D converters. That way you can run a hot enough signal to record with 16-bit resolution while still having some headroom left over to protect against digital clipping.

No matter how many bits are used to

represent each instantaneous measurement, the representation is not always completely accurate. In most cases, the actual measurement value must be rounded to the nearest binary number. This is called quantization, and the difference between the actual measured amplitude and the quantization value is called quantization error (see Fig. 1.6).

Quantization error can lead to audible quantization noise, which is particularly apparent in signals of low amplitude because only a few bits are used to represent the entire signal. As a result, you should try to keep the input signal's overall amplitude as close as possible to the maximum level that the system can accommodate.

The most common solution to quantization noise is called dithering. In this process, a small amount of noise is added to the input signal before it is measured and quantized (see Fig. 1.7). This randomizes the quantization error,

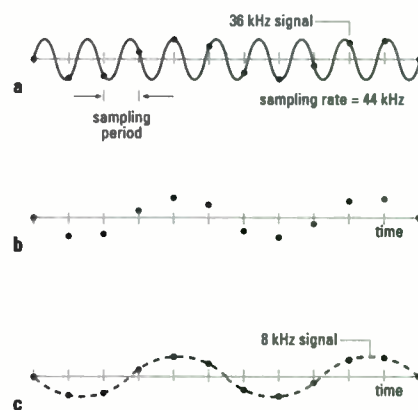


FIG. 1.4: If the frequency of the input signal is more than half the sampling rate, a lower-frequency alias signal appears. In this example, the sampling rate is 44 kHz and the input signal's frequency is 36 kHz. The resulting alias signal is 8 kHz.

reducing its audible effect. For this reason, it is particularly important to apply dither to minimize audible artifacts that arise when the resolution of a digital-audio signal is reduced, which is a common procedure in multimedia titles. I'll dig into dithering in more detail later in this chapter.

## STORAGE

Once the signal has been digitized into a stream of binary numbers, it is stored in one medium or another. Common

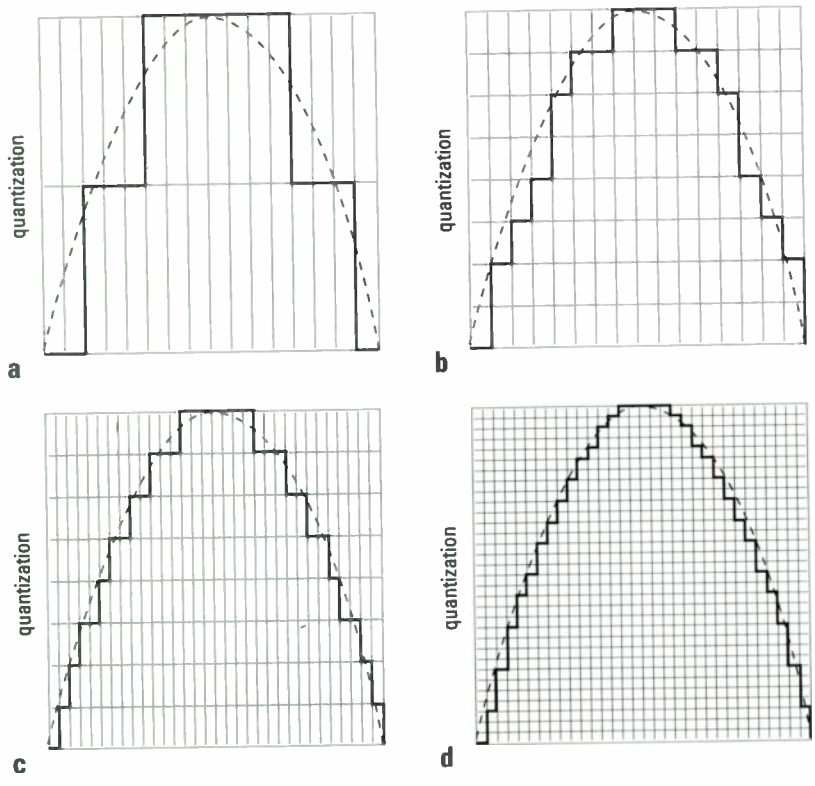


FIG. 1.5: If the resolution is low (a), the signal is poorly represented with large stair steps. If you increase the resolution (b), the approximation is more accurate. If you increase the sampling rate (c) and the resolution (d) even more, the approximation is very close to the original waveform.

media include magnetic tape or disk, optical disc, RAM, and ROM. At a sampling rate of 44.1 kHz and a resolution of sixteen bits, digital audio data consumes over 5 MB per minute for a monaural file or 10 MB per minute for a stereo file.

To reduce storage requirements, you can reduce the sampling rate and/or resolution, but this also reduces audio quality. Another option is called compression, which is often used in multimedia titles, Web audio, and some professional applications. In this process, the digital audio data is compacted to reduce storage requirements. There are many types of digital compression, which can be divided into two broad categories: lossy and lossless.

With lossy algorithms (e.g., MPEG, ADPCM, and  $\mu$ -Law), parts of the signal are discarded in order to compress the remainder. Lossy compression schemes are designed to lose information that, in theory, represents sound we wouldn't hear anyway due to masking and other psychoacoustic effects. However, the lost information is gone forever, and you can, in fact, hear the difference. While this might be marginally acceptable for a few multimedia applications

(e.g., Web-based games) where high-fidelity playback is not expected, it simply won't do for professional audio recording. The advantage of lossy compression is that it provides the greatest storage reduction, generally by as much as 4:1, 5:1, and even more. In other words, a given amount of compressed digital-audio data requires 1/4 or 1/5 as much storage as the original data.

Lossless compression discards no data.

Instead, it depends on identifying and marking redundant data. In effect, programs such as Aladdin Software's Stuffit remove redundant instances of data and replace them with markers, which take up much less space than the data itself. If you have lots of redundant data, as in your average word-processing file or bitmapped graphic, these programs can dramatically reduce file size. When the file is expanded, the program follows the markers to replace redundant data with no loss.

But most digital audio files are densely packed with data in which redundancies are not obvious and not easily identified by standard file-compression algorithms. As a result, compressing audio files with, say, Stuffit or PKZip doesn't save much space.

Recently, however, several lossless audio-file compression programs for the Mac and Windows have arrived. These programs operate much like Stuffit, DiskDoubler, and PKZip in that they look for redundancies in a file. But unlike regular file-compression programs, these new audio compactors use algorithms specifically designed to find and eliminate nonlinear redundancies in audio files, which makes a huge difference. Although lossless compression retains all the information in a file, the storage reduction is not as dramatic as with lossy compression.

**D/A CONVERSION**

To play a digital-audio signal, it must be converted back into analog form. After some error correction, the digital signal is sent to a digital-to-analog converter

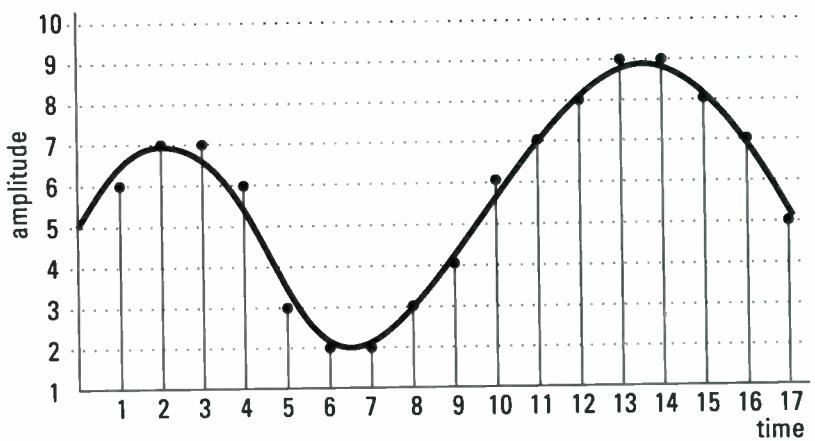
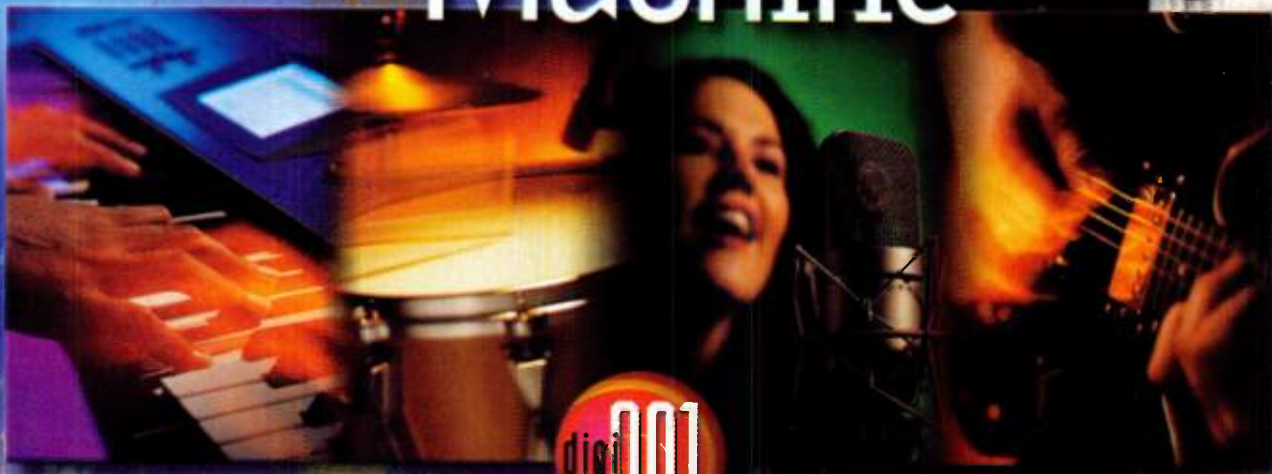


FIG. 1.6: As an analog waveform is digitized, the measurement of each voltage value is rounded to the nearest quantization value, causing quantization error and distortion. (Courtesy Ken C. Pohlmann)

Powered by



# The Dream Machine



Perform and arrange with built-in MIDI sequencing; integrate software synths/samplers with DirectConnect™; create mind-altering sounds with the Kablo Studio9000\*.

Sequence your rhythm tracks; arrange in bars and beats; create easy drum loops; replace and remix rhythm tracks with SoundReplacer™\*. Cut, paste, nudge, move, re-arrange, pitch shift — do it all with Pro Tools LE.

Build unlimited vocal comps; record directly into the built-in mic pres; add reverb, compression and delay at any time.

Record first and tweak your amp later with SansAmp\*; loop record unlimited takes in real time; experiment and arrange to perfection.

\*Sold separately

## At a Dream Price

\$995

Your \$995 dream machine includes: Built-in mic pres, 24-bit audio, 8 analog ins and outs, MIDI I/O, ADAT optical I/O, 24 audio tracks, MIDI sequencing, Real-Time AudioSuite™ effects — all with the world's most advanced recording, mixing and editing software. No mixer, pre-amps or outboard gear is necessary. Just hook the Digi 001™ up to an approved Mac OS or Windows 98 computer and you're ready to make your dreams come true.



Upgradeable to our Pro Tools™|24 family of workstations.

For more information, visit [www.digi001.com](http://www.digi001.com) or contact us at 1-888-707-3444, code 580

**digidesign®**

A division of **Avid**

©1/00. Digi, 001, DirectConnect, Pro Tools, Pro Tools LE, Pro Tools|24, Real-Time AudioSuite, and SoundReplacer are trademarks or registered trademarks of Avid Technology, Inc. or its subsidiaries or divisions. All trademarks are the property of their respective owners. All features and specifications subject to change without notice.

COMPACT DISC • CASSETTE  
& RECORD MANUFACTURING

# MUSICIAN DIES LATE CD SHIPMENT BLAMED!

**A LATE DELIVERY IS NOT A  
VICTIMLESS CRIME!**

OCA IS COMMITTED  
TO STAMPING OUT THESE  
SENSELESS ACTS!

CALL TOLL FREE  
**1.800.859.8401**

For Your Free Catalog



Serving the Music Industry for Over 45 Years.  
2832 Spring Grove Ave., Cincinnati, OH 45225  
Tel: 513.681.8400 • Fax: 513.681.3777  
E-mail: qca@pol.com • web: www.pol.com/QCA

## Learn Audio Recording Like nowhere else.



All students  
train, hands-on, in  
cutting edge 48-track  
Analog/Digital Recording  
studios that feature:

- SSL • Otari • Amek
- Neotek • Studer • Neumann

PLUS...

- Mac G3/TASCAM Digital Lab
- StudioMaster Mix Down Lab
- Individual Pro Tools Work Stations

Every student is trained on Pro Tools  
& completes an internship in the  
industry for graduation.

Only recording school authorized  
by Avid Digidesign to teach  
Pro Tools Courses 135 & 235.

Award winning professionals  
teach no more than  
12 students per class.

**1-800-562-6383**  
2300 E. Broadway Rd., Tempe, AZ 85282

CONSERVATORY  
Recording  
Arts & Sciences

## Digital Audio

excellent sound quality at a lower price, which is why they are used so much these days.

Digital-audio systems are difficult to design and build, but the basic concepts are relatively easy to understand. Once you grasp these concepts, you can optimize your use of samplers, DATs, digital multitracks, and hard-disk recorders and enjoy high-quality audio for relatively low monetary investment. In addition, digital products always improve their performance while falling in price, so the future looks bright for all forms of digital audio.

### DITHERING

Although dithering might seem to be a relatively minor part of a digital audio system, it's of critical importance if you want to maximize the sound quality, and it's misunderstood even by many professionals.

Recall that when an analog signal (an electrical voltage that varies over time) is directed to the input of a digital audio system, an ADC measures the instantaneous voltage level of the signal many times per second (typically 44,100 or 48,000 times per second). Each measurement is then represented by a binary number (the quantization value) that includes a fixed number of bits. The number of bits in the quantization value is called the resolution of the system.

But what if the instantaneous voltage falls between two consecutive quantization values (e.g., between 10101010101010 and 10101010101011)? In most cases, the system uses the quantization value that is closest to the actual voltage (see Fig. 5-6), which is similar to

rounding a fraction to the nearest whole number. This happens more often than not in digital audio systems because the chance that a voltage corresponds exactly with a quantization value is very small. After all, there is an infinite number of voltages between any two consecutive quantization values. This is one of the fundamental differences between analog and digital audio.

This rounding process results in an inaccurate representation of most measured voltages, which can lead to audible distortion and noise. One of the most common solutions to this problem is called dither. But before I can explain what dither is, you must first understand the nature of the distortion caused by the rounding process.

### IN A DITHER

As described in the previous section, the difference between the actual voltage and the nearest quantization value is called quantization error, and it leads to an often audible artifact called quantization noise or

quantization distortion. This artifact manifests itself in several different ways, depending on the situation.

In part, quantization distortion depends on the resolution of the system. The greater the number of bits used to represent each voltage measurement, the smaller the interval between consecutive quantization values, and the less the measured value must be rounded. This means less quantization error and therefore less quantization distortion. Each added bit of resolution lowers quantization noise by 6 dB. However, simply adding more bits to a system's resolution becomes cost-prohibitive after a certain point.

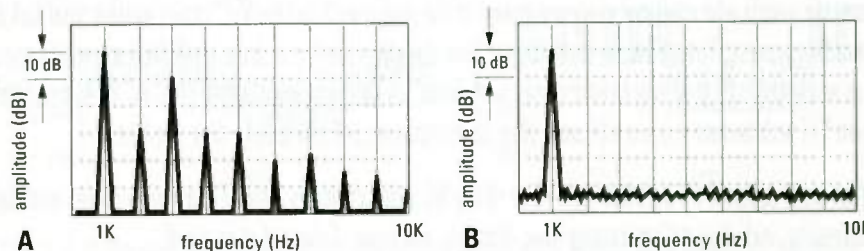


FIG. 1.9: In this example, a low-level, undithered sine wave with a frequency of 1 kHz is digitized, and quantization distortion produces additional harmonics (a). Dithering the input removes the distortion harmonics but adds some white noise (b). (Courtesy Ken C. Pohlmann)

Your computer

Your mixer

Introducing

# WaveCenter/PCI

OK, you see what's happening: digital mixers are looking pretty cool. After all, they've got incredible sonics, built-in effects, and the automation capabilities you could only dream about before. But if you hook that puppy up to the NoiseRacket analog soundcard that came with your computer, you're right back in \*\*\*\*ville. (Rhymes with "Snapville.")

Here's a better idea: keep it digital with our new **WaveCenter/PCI** card. It has all the connections you need to integrate your digital mixer into your computer-based studio. Transfer up to 10 channels of digital audio simultaneously using ADAT lightpipe and S/PDIF, with 24-bit resolution on all channels. Use one of the built-in MIDI ports for mixer automation, and the other to connect your synthesizers.

Built from the same technological foundation that's made our Dakota card the leading digital I/O and MIDI solution for the PC, WaveCenter/PCI provides all the connections you need to integrate your PC or Mac with your digital mixer.

Your card

## The perfect partner for your digital mixer

- 8 channels of ADAT optical I/O
- Stereo S/PDIF (coax or optical)
- High performance 2x2 MIDI interface
- Works with both Windows and Macintosh computers
- Fast PCI bus interface
- Direct interface for Nemesys GigaSampler software
- 24-bit resolution on all channels
- Includes Cool Edit Pro SE for out-of-the box multitrack recording
- ASIO drivers for PC and Mac

Amazing price: **\$389!**

Compatible with your favorite recording software



Check it out online:  
[www.frontierdesign.com](http://www.frontierdesign.com)

30-day money-back  
GUARANTEE

TO ORDER or FIND OUT MORE  
**800.928.3236**  
outside USA 603.448.6283  
[www.frontierdesign.com](http://www.frontierdesign.com)



# FRONTIER

DESIGN GROUP

WaveCenter/PCI and Dakota are trademarks of Frontier Design Group, LLC. All other trademarks and registered trademarks are the property of their respective holders.

# ACID™ PRO 2.0

LOOP BASED MUSIC CREATION TOOL



"WHAT ACID  
DOES FOR ME IS  
UNPRINTABLE"

"Censors would be all over me if you printed the first words that come out of my mouth regarding ACID PRO. What you can print is that this is an astonishing, revolutionary program. **There is nothing like it.** I do a ton of remixing for today's top artists, and **ACID PRO has changed the very way I work.** It takes the guesswork out of loop based composition and gives me more time to devote to actually creating. As long as I'm alive and making records and searching out and producing artists, ACID will be a part of it. It's killer. Can you print that?"



- Tempo and pitch changes in real time
- Automatic matching of tempos and pitch
- Audition files in real time
- Non-Looping audio support
- Record in
- Unlimited tracks
- Generates and chases MIDI Time Code
- Onboard effects - XFX 1 included
- Track-at-Once CD burning
- Editing - Sound Forge XP 4.5 included
- DirectX Audio Plug-In support
- 24- and 16-bit audio support
- Multiple audio output support
- Volume, pan, and effects envelopes for each track
- Unlimited undo/redo
- Track bouncing (mix to new)
- Adjustable stretch properties
- Export each track as a single file
- Tempo maps
- Multiple time stretching algorithms
- Snap-to grid
- Hundreds of loops included
- Export/Save as .wav, .wma, .mp3, .aif, .rm

**Doug Beck** remix artist / music producer  
Shania Twain, Backstreet Boys, Britany Spears, Cyndi Lauper, The Fixx



**SONIC FOUNDRY**

SONICFOUNDRY.COM

# Loops for ACID

ROYALTY-FREE MUSIC & EFFECTS



## "IT'S ABOUT TIME"

"When I'm composing for artists or doing sound design work for networks like The Sci-Fi Channel, Loops for ACID helps me get there fast. Drums are my main instrument, so the beat is at the heart of what I create. **Loops for ACID allows me to spend time being creative** - not monkeying around with computers. Instantaneous loop bpm brings a new perspective to sound for picture.

**Sonically, it's true open architecture.** My sound, my beats, my time - I'm in control, not the technology. Loops for ACID. It's about TIME."

- Ambient Realms
- Bill Laswell - Ambient Grooves
- Classic Country
- Cyclotron Resonator - Electronica Grooves
- Drum Tools
- Essential Sounds II
- Ethnicity
- Funky xtreams I & II
- Futurist Drum 'N' Bass
- Groove Spectrum - R&B Drums
- Harvey Mandal - Psychedelic Guitar
- Jazz Solos & Sections
- Mac Money Electro Hip-Hop
- Marc Andersen - World Percussion
- Methods of Mayhem - Industrial Toolkit
- New York Dance
- On the Jazz Tip
- Opium - Sounds of Asia
- Pandora's Toolbox - Dark Ambient Soundscapes
- RADS - Drum Components
- Robert Rich - Ambient Atmospheres & Rhythms
- Robin Storey - Textures & Soundscapes
- Signals I & II - Techno Synth
- Street Beats
- Syntonic Generator - Classic Drum Machines
- Twisted Reality - Synthetic Sound Effects
- Universal Groove Elements
- Voices from the Blackbox - Hip Hop Vocals
- Voices of Native America
- Vortexual Amplitude - Vintage Analog Synths
- Whiskey, Cigarettes & Gumbo - Blues Guitar

**Willie Wilcox** artist / producer / sound designer / composer  
Utopia, Meat Loaf, Hatalie Cole, Pointer Sisters, Sci-Fi Channel, USA Networks, MTV

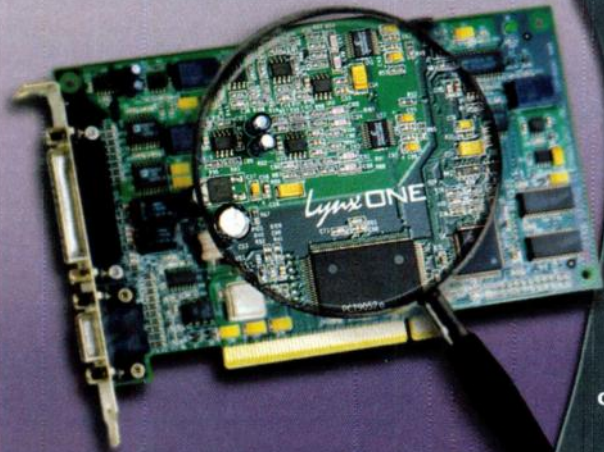


**SONIC FOUNDRY®**

SONICFOUNDRY.COM

# Get Focused.

24-bit Analog I/O • 24/96 Digital I/O  
Two MIDI Ports



# LynxONE

Lynx Studio Technology, Inc.

1048 IRVINE AVE. #468, NEWPORT BEACH, CA 92660 ph.949.515.8265 • www.lynxstudio.com

"Sonically, the LynxONE is top quality. Easy install and crash free operation... offers I/O and sync options professionals expect. One could use this card for a big-buck master session or block-buster movie without any reservations."

- Pro Audio Review  
April 2000

"It's extremely clean, very clear, and amazingly accurate. Rock solid with a wide range of programs."

-Recording Magazine  
February 2000

"The LynxONE is an excellent mastering card in terms of sound quality and flexibility. Suitable for today's professional studio."

AUDIO QUALITY: 5 [out of 5!]

-Electronic Musician  
August 1999



Quantization distortion also depends on the input signal itself. With high-level signals, quantization distortion is random and resembles white noise. However, it is rarely objectionable (or even perceptible) with high-level signals, as with most music.

With low-level signals (including low-level harmonics in otherwise high-level signals), quantization distortion is more problematic. These signals have a small amplitude; i.e., the voltage varies over a narrow range of values. As a result, only a few quantization values are used to represent the entire signal. To put it another way, low-level signals only use a few bits of the system's resolution.

This leads to greater quantization distortion because most of the measured voltages are rounded to only a few quantization values. In this case, the digital waveform doesn't look much like the original analog waveform. This type of quantization distortion is often called granulation noise, because of its "gritty" quality. In extreme cases, a sine wave can become a square wave, or it might even disappear completely.

Unlike many digital audio systems, the system depicted in Fig. 1.7 always rounds upward to the nearest higher quantization value. If the sine-wave voltage crosses a single quantization value and never reaches the adjacent values, all voltages above the center value are rounded up to the next higher value, while all voltages below the center value are rounded up to the center value, which produces a square wave output (see Figs. 1.6a and b). If the voltage remains within the boundaries of two consecutive quantization values, all voltages are rounded up to a single value, which results in no output at all (see Figs 1.6c and d).

If a low-level sine wave is distorted into a square wave in this manner, it exhibits its own set of harmonics that extend well beyond the Nyquist frequency of the system. All digital audio systems include a lowpass filter at the input that removes any overtones above the Nyquist frequency to prevent aliasing. However, the harmonics arising from quantization distortion appear after the anti-aliasing filter, so the filter cannot prevent aliasing in this case. If these harmonics are near the sample rate, a chirping effect called bird singing or birdies can be heard.

# Turn this into this



# music hotbid.com

The World's Largest On-Line Music Auction Site. No Kidding!

guitars • amps • basses • pro audio • recording • records/CDs • memorabilia • books and videos  
• keyboards • drums • microphones • lighting and everything in between!

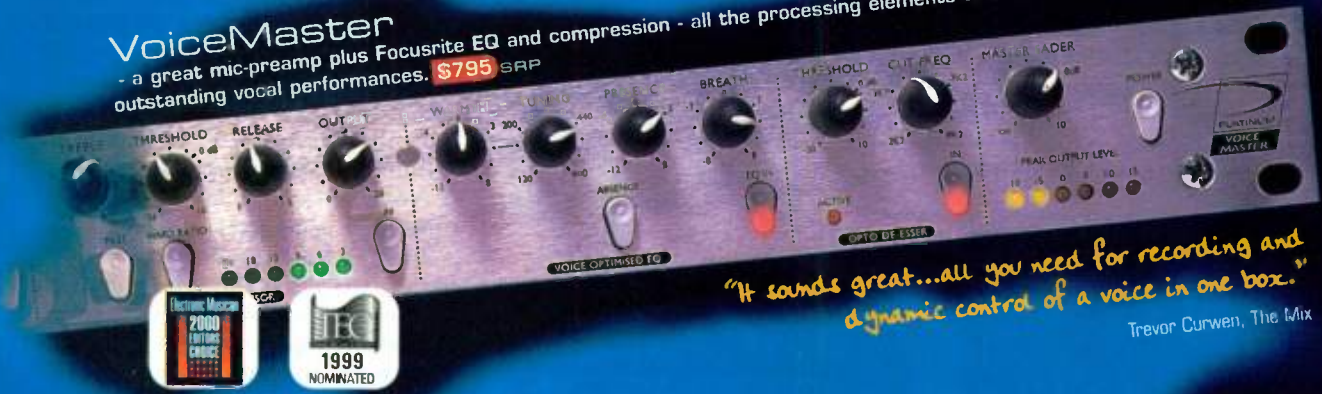
800-267-8926



# COOL Projects

Focusrite Platinum Range brings you three essential processors to ensure that your recording projects have great tonal quality, controlled dynamic range and all the power of a potential hit record.

**VoiceMaster**  
- a great mic-preamp plus Focusrite EQ and compression - all the processing elements to create outstanding vocal performances. **\$795 SRP**



*"It sounds great...all you need for recording and dynamic control of a voice in one box."*

Trevor Curwen, The Mix

**ToneFactory**  
- the same great pre-amp stage plus an instrument input so you can record guitar, bass, keyboards - anything you like - with great EQ, compression and, if desired, some creative distortion. **\$795 SRP**



*"There is not much else that attempts to address this task with this sort of conviction. And what a price."*

Zenon Schoepe, Studio Sound

**ComPounder**  
- this dual compressor is designed to give your mix real power; it puts control of all parameters of dynamic control in your hands plus the unique "huge" control which will fatten up any mix at the push of a button. **\$895 SRP**



*"The Bass Expander...the section that puts the pound in ComPounder"*

Paul White, Sound on Sound



PRODUCED IN THE UK BY

**Focusrite**  
www.focusrite.com  
+44 (0)1474 32246

DISTRIBUTED IN NORTH AMERICA BY

www.digidesign.com

**digidesign**

1.800.333.2137, code 581



™ VoiceMaster, ToneFactory, ComPounder, Platinum & Focusrite are Trademarks of Focusrite Audio Engineering Ltd.

### DITHERING DOWN

Dither can also be applied to a signal after it has been digitized; this is called redithering to distinguish it from input dithering. Redithering is usually performed when reducing the number of bits used to represent the signal. In this case, the process is often called dithering down.

For example, many professional recording studios record with 20-bit resolution to improve the dynamic range of the recording and reduce quantization noise. However, these signals must

eventually end up with 16-bit resolution to accommodate the CD format. In addition, just about any type of digital signal processing (DSP) results in data words that are longer than original samples in order to maintain the accuracy of the computations. These data words must be returned to their original resolution at some point, which means reducing the number of bits in each word.

Of course, you could simply delete the extra bits; this is called truncation. But this is generally considered unsatisfac-

tory because of the potentially audible artifacts it creates. A much better solution is to add random numbers to the longer data words and then truncate to the desired resolution. These random numbers should have a resolution equal to the number of extra bits you want to remove. For example, if you want to convert from 20-bit to 16-bit words, add random 4-bit values to the 20-bit words and truncate to 16-bit resolution.

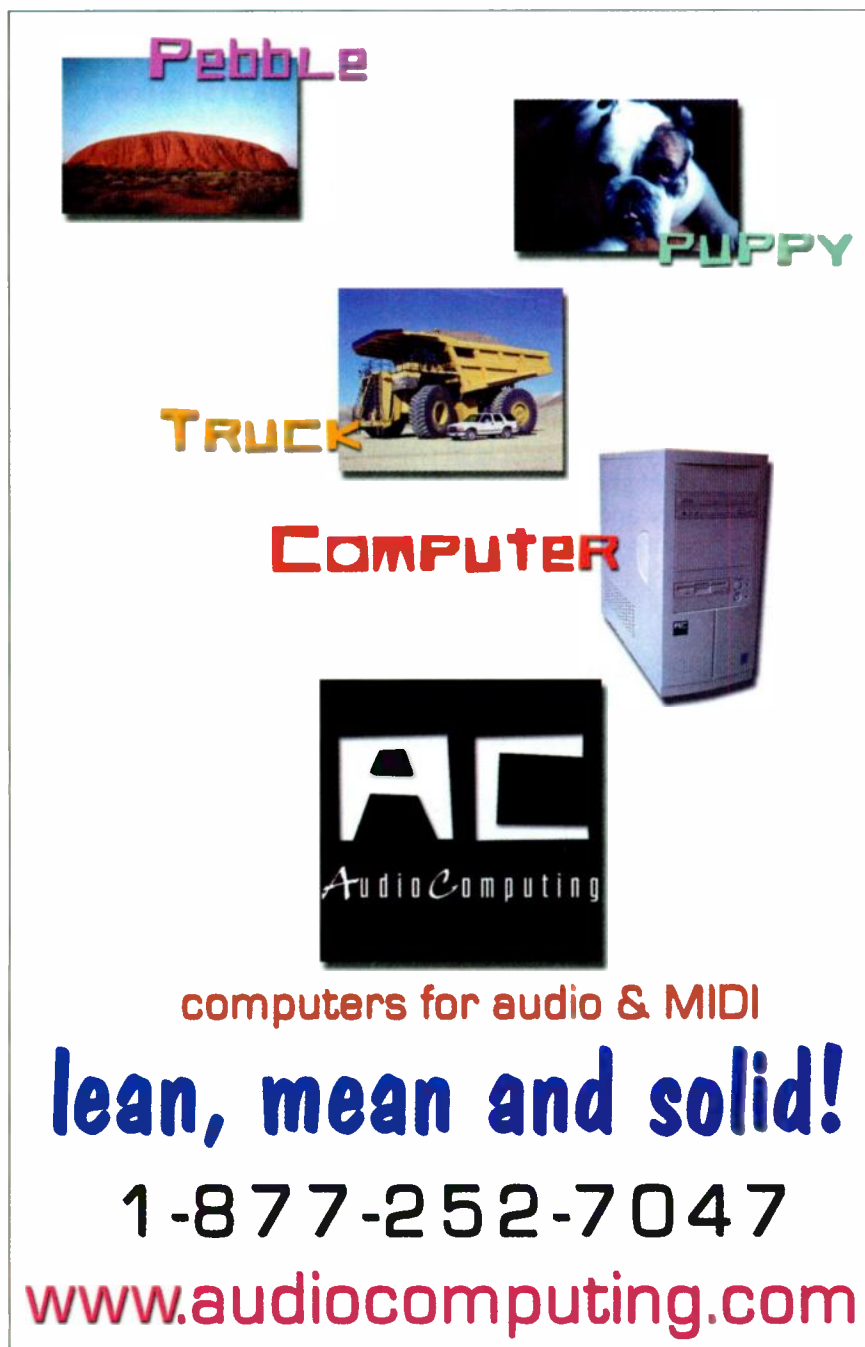
As a result of this process, the least significant bit (LSB) of the final 16-bit words switches its value from 0 to 1 and back in a pattern that represents the information from the extra bits, much like the changing pulse width of a digital PWM signal represents the shape of the original, dithered analog waveform as described earlier.

As before, dithering down adds a bit of white noise to the final signal, which is pervasive throughout the audible frequency range. This noise is often compensated for by shifting it to regions of the audio spectrum to which the human auditory system is less sensitive. This process is called noise shaping, and it is accomplished by controlling the pattern in which the value of the LSB switches from 0 to 1 and back.


The total power of the noise is not reduced (there is no such thing as a free lunch!), but it is restricted to a limited frequency range, typically above 10 kHz. The amplitude of the noise in this region is greater than the original white noise, but our hearing system is less sensitive to it, so we don't perceive it as well. The noise in the frequency range to which we are most sensitive is greatly reduced, which means we perceive less noise overall.

Understanding dither is very important for all electronic musicians, who use digital audio systems more and more with each passing year. Multimedia producers must often create several versions of sound files in various formats, and each file might have a different sample rate and resolution. Many digital audio programs offer dithering options for just these purposes. Dithering is also important when performing almost any computational processing on a digital audio file.


(To dig deeper into the concepts of digital audio, check out *Principles of Digital Audio*, Third Edition, by Ken C. Pohlmann, published by McGraw-Hill).




**Pebble**




**PUPPY**



**TRUCK**



**COMPUTER**



**AC**  
Audio Computing

computers for audio & MIDI

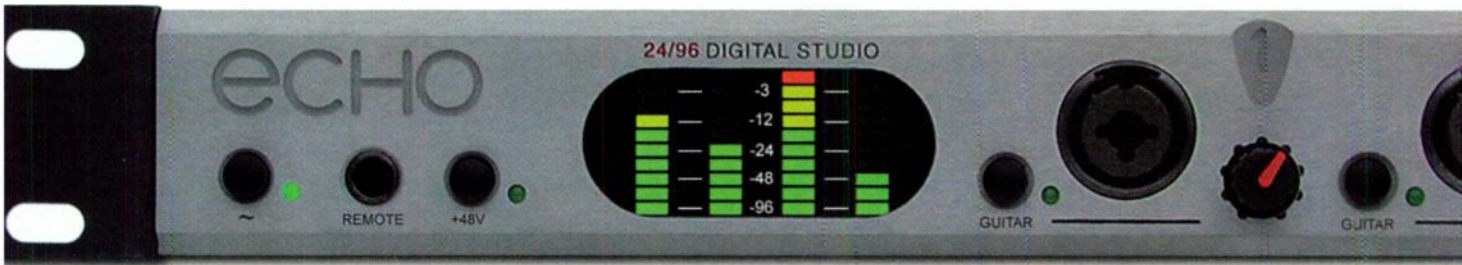
**lean, mean and solid!**

**1-877-252-7047**

**www.audiocomputing.com**

# MONA™

## THE NEXT GENERATION 24/96 DIGITAL STUDIO



**Mona joins Layla, Gina, and Darla as the latest in high quality recording products from Echo. Its four universal inputs allow you to connect your microphones, guitars, and line level signals directly into your computer, bypassing external equipment that can add noise and distortion to your recordings. Using the latest generation of 24-bit 96kHz converters (not 20-bit converters outputting four more bits of noise), Mona offers the highest dynamic range and lowest distortion frequency available.**

- Dynamic range of 116dB (A-weighted) on inputs and outputs
- Four high quality mic preamps with phantom power
- Trim control and meters on each input
- Six outputs featuring both XLR (+4dBu) and RCA (-10dBV) connectors
- Headphone output with volume control
- Both Alesis ADAT optical and S/PDIF digital inputs and outputs
- External word clock sync
- Software console for monitoring, metering, and setting output levels
- Low-latency drivers for Windows 95/98/NT, Mac, and BeOS
- Compatible with all popular recording/editing software



# Vegas™ pro

PROFESSIONAL AUDIO MULTITRACK RECORDER/EDITOR



"I USE  
VEGAS FOR  
EVERYTHING  
BUT A HOT BATH"

"From live multitrack recording of the London Symphony Orchestra at Abbey Road to quick commercial music or television work in my home studio - **VEGAS performs.** I find artists, producers, and engineers totally amazed not only with the 'transparent' sound quality of VEGAS, but also its astounding ease of use. You really don't have to learn VEGAS - you just use it. **It's so intuitive it teaches you itself.** Even if you haven't had experience with hard-disk multitracking - Vegas is for you. I never leave home without my passport, a change of socks and my VEGAS."



- Unlimited tracks
- Automatic crossfades
- Drag-and-drop operations
- Multiple file formats in the same project or same track
- Real-time effects
- DirectX audio plug-in support
- Unlimited undo/redo
- Simultaneous play and record
- 4-band EQ, compressor, and noise gate on every track
- Video support with frame-level accuracy
- Non-destructive editing
- Multiple I/O configurations
- MIDI Time Code synchronization
- 24-bit/96kHz file support
- Real-time play and record meters
- 32 assignable DirectX FX sends
- Audio/video scrub
- Quick-edit trimmer
- Launch files directly into audio editor
- Dual processor and monitor support
- Plug-in manager
- 26 auxiliary outputs
- Opens: .wav, .mp3, .aif, .avi, .mov, .mpg (video), .bmp
- Saves: .wav, .mp3, .aif, .avi, .wma, .asf, .rm

**Keith Levenson** Composer, Arranger, Conductor  
Jewel, Roger Daltrey, Alice Cooper, British Rock Symphony, Tony Awards, Beach Boys



**SONIC FOUNDRY®**

SONICFOUNDRY.COM

USE HAFLER.  
GET IT  
RIGHT.



TRM6



TRM8



TRM10s



TRM12s

**Hafler**  
the standard

# MASTERING YOUR MIX

by Gino Robair



“Mastering and editing a recording project is analogous to assembling an art exhibit. Every piece may be great on its own; however, the pieces will have a much greater impact as a collection once they are cleaned up, properly framed, and displayed in a way that shows each in the best possible light. This kind of attention to detail makes the whole artistic experience greater than the sum of its parts.”

—Myles Boisen

Chief Engineer, Headless Buddha Mastering Labs



# A Shining Light in a Sea of DAW's

The SeaSound **Solo EX** is a surprisingly affordable, professional digital audio recording system that expands with your needs. When you plug into the **Solo EX**, your music flows through new **Tom Oberheim-designed** analog input circuitry and into state-of-the-art **24-bit, 96kHz** digital converters. The result is audibly superior to any other way of getting your music into, and out of a computer. The **Solo EX** sounds so good, you'll remember why you wanted to start recording in the first place.

The **Solo EX's** thoughtfully designed analog front panel control enhances your creative flow, and speeds up the production process. The all-in-one design and true hands-on **ZERO LATENCY** monitor mixer means you can quickly overdub new tracks, and get perfect monitor/record levels without ever reaching for the mouse. One **Solo EX** is a completely integrated environment replacing: direct boxes, mic preamps, headphone amps, a sound card, a monitor mixer, a standard MIDI interface, as well as the numerous cables you'd need to hook all that to your computer.

In addition to ASIO 2, Sound Manager, Multimedia and DirectX drivers **Solo EX** comes with Steinberg's **Cubasis VST** and **Sonic Foundry's Acid Rock**.

By adding the SeaSound's new **a8** to your system, the **Solo EX** becomes the **EX8**, a complete 8x8, balanced +4 system, utilizing **Solo EX's** preamps and monitor section.



The SeaSound **a8**, (shown above) is a professional stand alone 8x8 interface that can be purchased separately.

**Paul Chiten**  
**Composer, Producer, Songwriter, Artist**

*Credits:*  
**Dawson's Creek** Columbia/Tri-Star/Warner Brothers  
**Coming To America** Paramount  
**Witness** Paramount and many others



"The SeaSound **SOLO EX** gives me the quality and performance I need in working with digital audio. The convenient rack mount unit has features that are extremely accessible -Master, Control Room, and Headphone outputs. The mic preamps sound wonderful! The SeaSound **SOLO EX** is a great piece of gear."



PCI Card including S/PDIF I/O that connects the Solo EX right to your Mac or PC

Two Custom Mic Preamps with true 48V Phantom Power

Control Room and Master Level Controls

Two Super-clean Instrument Preamps for guitar or bass

Two LOUD headphone amps

Line Level Input Controls for DAT CD, or keyboards

Precision Peak Meters on input or output

Zero latency Monitor Mixer for overdubs that really work

**Mike Lawson**  
**Composer, Producer, Songwriter, Guitarist**

*Credits:*  
**Publisher of Mix Books, product reviewer MIX, EM.**  
**Recorded with: Merl Saunders, Bob Welch, Joe Louis Walker and others.**

"The SeaSound **SOLO EX** is the foundation of my computer-based personal recording studio. The **SOLO EX** is elegantly designed with first-class components and is a breeze to use. With its incredibly clean custom mic-pre's and quality AD/DA converters, I'm able to plug guitars, basses and microphones straight into the **Solo EX** and get the true, warm sound of my mics and pickups. The preamps can really take a pounding without breaking up. The SeaSound **SOLO EX** rocks!"



**SeaSound**

SeaSound LLC Marin County California  
www.seasound.com 415-485-3900



**Steinberg**



**cakewalk**

**emagic**

**MOTU**

# Mastering your mix

## MASTERING YOUR MIX FOR REPRODUCTION

Now that you have finished mixing your tracks, mastering is the next important step to take if you plan on releasing them as an album. The mastering process involves performing any final edits, putting the various tracks in their proper order, checking them for any audio anomalies, and processing them (using EQ, compression, and normalization) so that you have uniform sound and level from one song to the next (see Fig. 32.1).

When the mastering engineer feels satisfied that the album has an overall consistency, he or she will create a pro-

duction master that will be used by the manufacturing plant for replication. For projects destined for release on compact disc, the formats commonly used for a master are CD-R, DAT, or a digital format on 3/4-inch videotape called PCM-1630. In every case, the sample rate and bit length must match that of a Red Book CD: 16-bit at 44.1 kHz.

FIG. 1.1: Engineers use mastering compressors such as Waves' L1 Ultramaximizer to implement gain boosts without causing digital overs when they burn a CD-R master

duction master that will be used by the manufacturing plant for replication. For projects destined for release on compact disc, the formats commonly used for a master are CD-R, DAT, or a digital format on 3/4-inch videotape called PCM-1630. In every case, the sample rate and bit length must match that of a Red Book CD: 16-bit at 44.1 kHz.

## PREPARING FOR AN EDITING SESSION

You're the only person who knows how your album should sound. Whether you have one edit or a hundred, preparing for the editing session in advance will save you time and money. In fact, the amount of time you spend in preparation

is proportional to the amount of money you will save. The more edits you need, the more planning you should do. The first step is to determine the final order of the songs. To do this, you will need a copy of the mixes. It's best to use a dub rather than the master tapes themselves, to avoid accidental damage or degradation from continual playback. This goes for CD-R masters, too: make more than one, and put one aside for the session.

If you're using a CD-R as your reference, you can easily experiment with different song orders by programming them into your CD player. Some pro-

“band” on the disc, which allowed for easy cueing. However, with CDs you are free to put a shorter space—or none—between tracks.

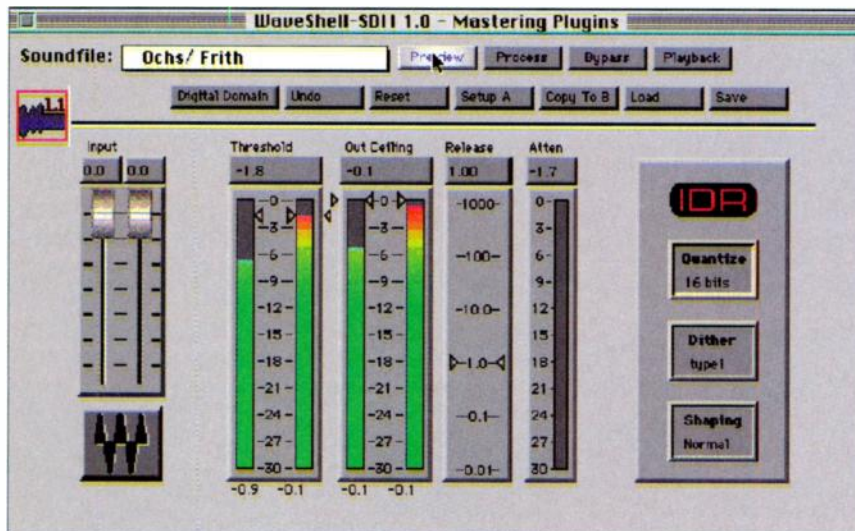
The next step is to determine which sections of music you want to use. For example, pick the take you want to use, or pick the best parts of each take and decide how you want to piece them together. Mark down the exact time (in minutes and seconds) of each potential edit point. This is easy to do if you're using a DAT or CD-R as a reference, because you can read the timing off of the player. If you're using a cassette or reel-to-reel tape, use a watch to get your timings. Once the tapes are digitized, your timings will be slightly different than the ones in the audio file. But that's okay—your mission is to help the engineer find edit points quickly. Knowing, for example, that the killer guitar solo begins 4 minutes and 12 seconds from the beginning of the song will help the engineer find it easily.

Now determine the order of the edits. The time it takes to complete each individual edit depends on the complexity of the edit. To help move the session along quickly, you should have as much information in front of you as possible about each edit you wish to make. If you are not sure whether one take is better than another, don't sweat it; just note both of their timings and make the final judgment when you assemble the parts into the final version.

As you go through these procedures, keep a list of any questions or thoughts that come up. When you hear the songs in a new sequence, keep your ears open for subtle variations in level, EQ, and mix. If you make a list of comments for each song, arrange them in an easy-to-read list by song title so that you can check them off one at a time as you go through the session. This little exercise in anal retentiveness may save you from having to book yet another session because you overlooked an important mastering point during the session.

## MASTERING SUITE ETIQUETTE

Mastering is one of the most crucial stages of the recording process. It can also be one of most tedious, because you may not be able to tell what the engineer is doing much of the time. Critical listening requires a lot of energy as well as sustained patience for everyone involved. So how can you



essional DAT players can be programmed to play tracks in a specified order, as well. Another way is to make a cassette of each sequence and compare how they sound.

Things you will want to listen for include the timing between cuts; how the musical keys of the songs sound when they're played back-to-back (for instance, does it sound weird to have a song in F# after a song in G?); and the overall flow of the album (such as the pattern of fast songs and slow songs, and how the record ends). Back in the days when vinyl was king, it was common practice to put up to six seconds of silence between tracks. The reason for this was to provide a visual



Unparalleled Audio & Technical Dominance...

*Again*

*Kurzweil is world-renowned for its sound quality.  
Now, the new PC2 technology raises the bar even higher.*

**Audio quality so obviously superior  
the difference is crystal clear.**

*Experience it today at an authorized Kurzweil dealer near you.*



PC2

**KURZWEIL**  
HEARING IS BELIEVING

Kurzweil Music Systems • P.O. Box 99995 • Lakewood, Washington 98499 • Phone (253) 589-3200 • Fax (253) 588-6809  
[www.youngchang.com/kurzweil](http://www.youngchang.com/kurzweil)

PROFESSIONAL RECORDING EQUIPMENT

MANLEY

Langevin



**COMPANY PROFILE:** Manley Laboratories, Inc. in recent years has expanded and thrived under EveAnna Manley's leadership. Our 11,000 sq. ft. building houses our own machine-shop, printed circuit board manufacture, audio transformer winding, engraving, and silk-screening facilities. All custom design, R&D, assembly, testing, and quality control processes are performed with precision and pride at the Manley factory, located just 35 miles east of Los Angeles.

**NEO-CLASSIC:  
MANLEY ALL-TUBE GEAR**

We take a purist approach to everything we build; refining, executing, and expanding upon Manley's legacy of vacuum tube design philosophies proven over years of real-world experience, using high quality modern components, many of which are fabricated in-house. This attention to detail delivers the rich, present, and natural sound our vacuum tube designs are renowned for. Never small, sterile, or boring.

Beyond this, Manley means reliability, real technical support, and a company attitude that professionals depend on.

**BIG BANG FOR THE BUCK: LANGEVIN**

LANGEVIN is a legendary marque of premium electronics whose lineage goes back to World War II. MANLEY acquired the LANGEVIN brand name several years ago. With these products we offer you the different sonic flavor that ALL-DISCRETE CLASS A CIRCUITRY brings using fresh, original designs built alongside and to the same exacting standards as the Manley equipment.

We believe that good music and those who create it deserve the finest gear.

The choice is yours.

**MANLEY LABORATORIES, INC.**  
13880 MAGNOLIA AVE.  
CHINO, CA. 91710 USA  
TEL: (909) 627-4256  
FAX: (909) 628-2482  
email: emanley@manleylabs.com  
http://www.manleylabs.com

## The Software



## The Hardware



## The Machine



### **NemeSys**

#### **GigaStudio 160**

GigaStudio™ will transform your PC into the most powerful sampler ever created. Unlike traditional samplers, GigaStudio™ streams samples off of the computer's hard drive, allowing the use of gigantic, ultra-realistic sound sets. A unique sample search engine eliminates the need to spend hours hunting for the ideal sounds, and even works over a network. New features include: up to 160 voice polyphony, 64 Midi Channels, built-in professional effects, 24-bit/96Khz support, an expanded sample format convertor and a new enhanced interface. GigaStudio™ includes the famous GigaPiano™, analog and digital percussion, a new set of acoustic instruments, and more.

### **Soundscape Mixtreme PCI**

Based on a completely different concept from most audio soundcards, the Mixtreme™ provides 16 channels of 24 bit digital I/O via 8 channel TDIF ports and also provides an expandable digital mixing environment. Many cards have DSP chips on-board, but the Mixtreme™ uses it's DSP as the engine for effects plug-ins. You get the same quality effects found in the 5 figure systems, without taxing your computer's CPU. The Mixtreme™ provides multi-client and ultra-low latency performance with the most widely used sequencers, audio editors and software synths on the market. Also available form Soundscape are hardware/software bundles, AD/DA converters, and pro studio systems.

### **Soundchaser PC-DAW**

Soundchaser PC Digital Audio Workstations are dialed in for serious recording, sound design, software synthesis, restoration, mastering and CD duplication. All of our Machines are factory certified to work beautifully with software and hardware from companies you can trust, such as: Cakewalk, Creamware, Diamond Cut, Digital Audio Labs, Echo, Egosys, Emu/Ensoniq, Frontier Designs, Gadget Labs, LST, MidiMan/M Audio, Nemesys, Sek'd, Soundscape, Sonic Foundry and Steinberg. Visit our website ([www.soundchaser.com](http://www.soundchaser.com)) or call one of our system specialists at 1(800)-549-4371 for a quote on an audio-friendly computer custom built for you.

# **The Ultimate Integration**

Visit our online store at **[soundchaser.com](http://soundchaser.com)**

**1-800-549-4371**

**Call us for a FREE  
80 page Catalog!**



**Everything to Make Your Computer Musical**

# Mastering your mix

maximize the productivity of this all-important session?

For one thing, stay out of the engineer's way. It's okay to occasionally ask a question, especially if something is sounding different than you expected. But don't start up an unrelated conversation in the middle of the session. Not only does it waste time (and money!), but it breaks the engineer's concentration and makes it difficult for him or her to focus on the necessary sonic minutiae.

Be invisible. If your project requires a fair amount of work, the engineer will play small portions of each track over and over while listening carefully and adjusting various aspects of the sound. Therefore, it is important to be as quiet as possible when you are sharing the mastering lab with the engineer. If you need to conduct business or carry on a conversation with someone else, take it out of the room so the engineer can work. The engineer will come and get you when it's time for you to hear how the piece has progressed.

## OLD-SCHOOL EDITING

Sequencing in the analog domain is usually done by splicing the songs together and placing white leader tape between cuts. If each song on the master tapes is complete and there is no other editing to be done, an entire album often can be assembled in one hour. Just be sure, if you're doing an LP or cassette release, to leave plenty of leader between what will become sides A and B. That way the duplication engineer can easily make the distinction. You could also put each side on a separate reel of tape.

Digital editing, on the other hand, is a little more involved. For one thing, you cannot physically splice a DAT tape with the same success as splicing analog tape. Fortunately, there are alternative methods for digital editing.

## DIGITAL EDITING

Digital mastering sessions involve assembling various takes and mixes using a digital-audio workstation (DAW). After previewing the tapes, the first thing the mastering engineer will do is digitize them—that is, play them into the computer using a digital connection (if the

master is in a digital format) or through analog-to-digital converters (if the master is on analog tape). During this stage, the engineer may decide to do a little preliminary processing as the music is being digitized. This could include EQ, compression, limiting, or reverb. As the tape is playing, the engineer will note the beginnings and endings of songs, so that later they can be found easily. If you did your homework before the session, you can use this time to let the engineer know where important edit points are on the tape so he or she can note them for future reference.

Once the digitizing is finished, and the data is saved as a file, the engineer will begin creating In and Out points for the sections you want to use. The In point is a marker that tells the computer where in the file to begin, and the Out point tells the computer where to stop. By doing this, you create regions of data (which translate to portions of each song) that can be played at any time and in any order (see Fig. 1.2). Once the engineer has finished creating the various regions, it's time to assemble them into the correct order and assemble the record.

There are several other things you can do in the workstation that would be impossible within the analog domain, such

as shaping the crossfades between tracks; auditioning different versions of an edit without destroying the original (this is called nondestructive editing); and changing the length of a song by deleting a chorus or verse, or duplicating and copying it elsewhere in the tune (again, in a nondestructive environment). All of this is possible without the generational loss associated with copying analog tape tracks.

While complex edits can be done fairly quickly within the workstation, the whole process requires a fair amount of patience, particularly since each song must be loaded into the system in real time. Ditto for offloading the final edited version to a linear tape format such as DAT or PCM-1630. If you choose to make a CD-R master for reproduction, you can burn the master at two, four, or eight times the normal playing time, depending on your CD-R machine.

Once you have finished editing the tracks, it's a good idea to make a safety copy of the edited album, either on DAT or as a disk backup. Keep the safety in a secure place, away from the master, in case disaster strikes.

Here's a typical example of a nondestructive editing session. Let's say there are three takes of a song, and you want to use different portions of each take for the final version. The mastering engineer creates the regions using the In and Out markers, as previously discussed. Each region is given a name

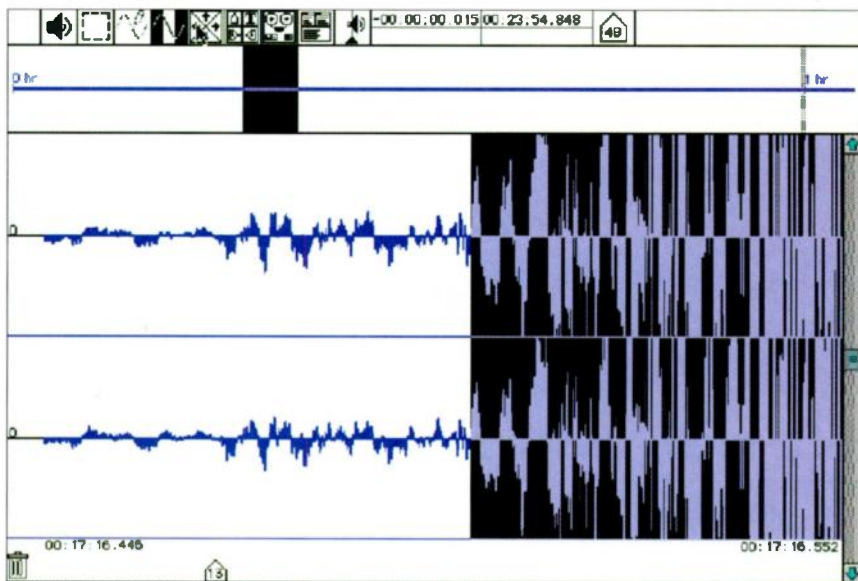


FIG. 1.2: This is a screen shot from a 2-channel digital-audio editor, Digidesign's Sound Designer II. The shaded part at the right is the beginning of a highlighted region.



VERGENCE TECHNOLOGY, INCORPORATED

3195 PARK ROAD SUITE A BENICIA, CALIFORNIA 94510 (707) 751-0270

WWW.VERGENCEAUDIO.COM



M00



S00



A10



A10 AMPLIFIER



A20



A20 AMPLIFIER

HIGH PERFORMANCE ACTIVE STUDIO MONITORING SYSTEMS

# Plastic Surgery of Sound

# Pro-FX Plus



**Juan Patiño**  
Grammy®-nominated  
engineer/producer  
*Lisa Loeb, Jewel,  
Juan in a Million*

"I'm dangerously obsessed with the Enigma and MondoMod ... they're forward-thinking, slightly crooked, and sparkling..."



**Douglas Murray**  
Sound Editor -  
Ardmore Sound,  
Ireland  
*The English Patient,  
Twin Peaks pilot*

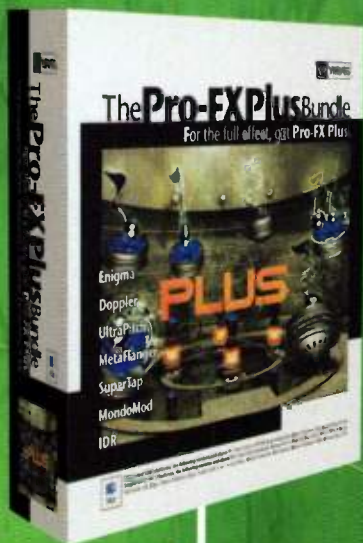
"It's a cinch to create very dramatic fly-bys ... the easiest and most effective way to introduce natural Doppler."



**Charles Deenen**  
Sound Supervisor -  
Interplay  
*Baldur's Gate,  
Torment*

"Great time/pitch mod tools, with excellent interfaces. Easy-to-use and get what you want in sound design..."

Juan's photo by Eduardo Patiño



Mess it up. Or be subtle. After all, creatively messy is necessary in audio, especially REMIX, or sound design for GAMES, and of course for FILM SOUND. None of these are a walk in the park. You need something "different", weird, crawling, unknown, distinctive. Waves Pro-FX Plus has 6 mind-benders in a single package, too much to talk about, so just download the demos and check 'em in your studio.



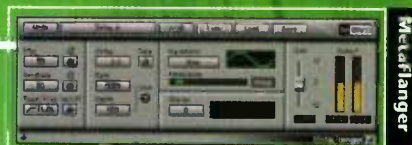
MondoMod

AM+FM+Rotation=!!



SuperTap

Mother of Multitaps



MetaFlanger

Emulation & Innovation



UltraPitch

6-voice creativeshifter



Enigma

Words simply fail



Doppler

Perfect fly-bys

Bend. Move. Morph.  
Remix. Twist.



phone +1.865.546.6115  
www.waves.com Choice of the Masters

# Take the fast lane to recording MP3 tunes



## Introducing WavePRO 24-bit digital recording gear

Ready to post your tunes to the Internet? Our WavePRO gear gives you the flexibility to create a dream studio with your PC or Mac. Whether you need 24 channels of digital audio and ADAT light pipe for a large project studio or 4 channels and MIDI for a home studio, WavePRO is the fastest route to recording your own MP3 hits.

- ✓ 24-bit recording
- ✓ 96 kHz sampling
- ✓ A/D & D/A converters
- ✓ SPDIF digital I/O
- ✓ ADAT light pipe
- ✓ Word Clock sync



Surf to our web site and enter to win a new Rio 500 MP3 player!

Copyright © 1999, Gadget Labs, Inc. All rights reserved. Gadget Labs and WavePRO are trademarks of Gadget Labs. ADAT is a trademark of Alesis Studio Electronics, Inc. Rio 500 is a trademark of Diamond Multimedia Systems, Inc. Other names are trademarks or registered trademarks of their respective companies. Prices, features and availability subject to change without notice.



## Gadget Labs

Order online

[www.gadgetlabs.com](http://www.gadgetlabs.com)

Order by phone: 1.800.660.5710

# Mastering your mix

Trk	Index	Time	Name	Length	Length Prev	SMPTE	SRC Code
0	0	0:00:00:00	Standing on the Edge	0:03:00:45		X	UKJMB9500101
	0	0:00:00:00	pre-gap start				
	1	0:00:02:00	audio start				
	2	0:02:55:00	Outro				
2	0	0:03:02:45	Another Play	0:03:26:12		X	USBFD9400001
	1	0:03:02:45	audio start				
3	0	0:06:27:03	Some Shades	0:03:27:08			
	0	0:06:27:03	pre-gap start				
	1	0:06:29:03	audio start				
4	0	0:09:54:11	Dancing Dreams	0:03:15:08		X	
5	0	0:13:09:20	Fly Away	0:03:27:08		X	USFAB9500301
	0	0:13:09:20	pre-gap start				
	1	0:13:11:20	audio start				
6	0	0:16:36:28	Freedom-Live	0:03:58:19			
	0	0:16:36:28	pre-gap start				
	1	0:16:38:28	audio start				
7	0	0:20:36:28	Crazy-Live	0:02:52:18			
	1	0:20:36:28	audio start				
RR	1	0:23:26:46	Start of Lead Out				

FIG. 1.3: This playlist, in Digidesign's MasterList CD, contains a list of the regions in the order you want them to play.

(such as "song title, region A," or "song title, chorus") so that it is easily identifiable later on.

When all of the regions are created, they are arranged in their proper order using a playlist. The playlist can be thought of as a menu, in which the different parts of the song follow each other in the proper order, from top to bottom (see Fig. 1.3). The playlist is also a great tool for determining which parts of the different takes sound the best together, because you can quickly assemble and play the regions in any order for comparison.

When the final order of regions is determined, the playlist is saved and placed into another playlist that contains all of the tracks of the album in their proper order.

## MIND YOUR P's AND Q's

Before you finish the mastering session, the engineer will create a "PQ" log sheet, which is derived from the PQ sector in the CD's subcode. This information, which will accompany your master to the CD plant, is nothing more than a list of all the songs with their start and stop times referenced to a SMPTE time-code track (30 frames per second, non-drop-frame rate), along with other pertinent information such as the length of silence (at least 2 seconds required) at the beginning of the master, crossfades, lengths of times between cuts, and frame-accurate running times for each piece (see Fig. 1.4).

When you deliver a digital tape master (such as DAT or PCM-1630) to a replication plant, a technician there enters

Trk	Start Time	Name	Length	Stop Time	L	S	M	D	R	X	Y	Z	Length	Trks
1	0:00:02:00	Standing on the Edge	0:03:00:45	0:03:02:45	0	3	0	0	0	X	0	0	1000 ns	1
2	0:03:02:45	Another Play	0:03:24:32	0:06:27:03	0	0	0	0	0	X	0	0	2000 ns	1
3	0:06:29:03	Some Shades	0:03:25:08	0:09:54:11	-0	5	0	0	0	I	0	0	0 ns	1
4	0:09:56:11	Dancing Dreams	0:03:13:08	0:13:09:20	2	0	2	0	0	I	0	0	0 ns	1
5	0:13:11:20	Fly Away	0:03:25:08	0:16:36:28	0	0	0	0	0	I	0	0	0 ns	1
6	0:16:38:28	Freedom-Live	0:06:50:17	0:23:28:45	0	0	0	0	0	X	0	0	3000 ns	2

FIG. 1.4: The PQ subcode list for a CD project using Digidesign's MasterList CD.

## FOOD FOR THOUGHT

If you want to take your mixing skills to the next level, it's a good idea to closely examine your work just as a mastering engineer would, even if you're not planning on mastering your mixes immediately.

Begin by listening to your mixes on a variety of monitoring systems and headphones. Compare the sound of your tracks to professionally mastered CDs and imagine what you would and wouldn't do to them in a mastering situation. In addition, it's a good idea to check your mixes for mono compatibility, dropouts, and any noise and distortion that may have worked their way onto the masters.

If you are able to step back and look critically at your work, you will probably find room for improvement. Each time you notice problems and make corrections, you will get one step closer to becoming a better engineer.



# It's time for Change...

M Audio was created because we recognized the need for change-- a change in leadership, quality, and affordability... a change in standards.

We think it's time for a new level of leadership; call it a changing of the guard. We made a choice to be the industry's most accessible company because you're our lifeline; after all, we make our products for you. When we noticed inconsistency and confusion in the industry with regard to publishing specs, we decided to enact a strict "truth in advertising" policy\* that ensures your gear does exactly what you expect of it.

## It's time to raise the bar.

When it comes to quality, the playing field is no longer level. We have always and will always have a lifetime guarantee on our products. We believe the dependability and flexibility of an interface are as important as how good it sounds. Part of making quality products is making sure they work with everything, no matter what operating system, software platform, or computer you choose. We provide the most comprehensive choice of dependable drivers of any manufacturer, so you'll never find yourself stranded.

## At the end of the day...

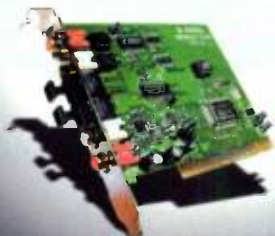
You'll even keep a little change in your pocket, because we think that something this good should also be affordable.

We're changing your expectations of your gear and its manufacturer.

**DELTA 66**  
24 Bit/ 96 KHZ 6 IN/ 6 OUT  
PCI DIGITAL RECORDING INTERFACE



**DELTA 1010**  
24 Bit/ 96 KHZ 10 IN/ 10 OUT  
PCI DIGITAL RECORDING INTERFACE



**DELTA DIO 2496**  
24 Bit/ 96 KHZ PCI DIGITAL I/O CARD



**DELTA 44**  
24 Bit/ 96 KHZ 4 IN/ 4 OUT  
PCI DIGITAL RECORDING INTERFACE

DELTA 1010

DELTA 66

DELTA 44

DELTA DIO 2496



Change Is Good.

800-778-3241 • WWW.M-AUDIO.COM • EMAIL: INFO@M-AUDIO.COM

For more information call 800-778-3241 or see your local dealer.

\* M Audio pledges to maintain a strict "truth in advertising" policy: M Audio will always print honest specs that reflect the actual performance of the products they sell. Where other manufacturers print the specs of their products' individual components, we print the specs of production models under real-world conditions.

# samash.com

Call now for a  
**FREE** subscription  
to our catalog!



Call us at  
**1-800-4-SAMASH**  
or shop online  
**www.samash.com**  
24 hrs/7 days!

The Nation's  
Largest Selection  
at The Nation's  
Guaranteed  
Lowest Prices!

## Mastering your mix



A unique solution for mixing and mastering in the personal studio is the Alesis MasterLink ML-9600, a 2-track hard-disk recorder and CD burner with 24-bit/96 kHz high-resolution audio capabilities. It has editing features, digital and analog inputs, and digital effects (parametric EQ, compression, limiting, normalization).

the cue points from your PQ log into a PQ editor that transfers your cue points into the subcode area of the CD master. If you master directly to CD-R, the information is contained on the disc itself, and the PQ log serves as reference information in case there are problems with the master disc.

### DIY MASTERING

If you are interested in setting up your own computer for digital editing and mastering, there are a couple of things you need to know. The first thing is that a 74-minute CD holds 650 megabytes of digital information. That means you will

tegrity of your music as it passes through the various editing and mastering phases. A number of formats allow you to record above the 16-bit/44.1 kHz standard, including stand-alone hard disk recorders, computer-based DAWs, and even a DAT machine (Tascam's 24-bit DA-45HR).

The differences between 16-bit and 20- or 24-bit audio are not as subtle as you may think. The most obvious rewards are improved dynamic range, quicker transients, greater low-level detail, and a smooth, even blend throughout the frequency spectrum. When you reduce the digital word length back to 16 bits during the final mastering phase using noise-



TC Electronic's Finalizer is a powerful and versatile tool featuring several mastering processes (A/D and D/A conversion, 5-band EQ, spectral enhancement, normalization, and dithering) in a single box.

need at least 650 MB of hard-disk space to work with (preferably more, if you have more material than you will eventually use on your album).

In addition, it is recommended that you use an external hard disk for all of your digitized music. Fortunately, disk space is continually getting cheaper, and it's not uncommon to find home recordists using 4- to 9-gigabyte external disk drives with their computers.

### HIGHER GROUND

If you have the capability to mix to a resolution that's higher than the CD standard (i.e., above 16 bits), do so; by keeping your mix in the highest resolution possible, you will ensure the sonic in-

shaping algorithms (a process referred to as dithering), the resulting 16-bit audio retains much of the clarity of the original high-resolution version.

### MONEY WELL SPENT

If you want to create a marketable release from your demos to sell at gigs, the mastering phase is a crucial step. Although much of the work can be done on your own (such as assembling the songs in the correct order for the album), a mastering engineer has the know-how to raise the audio quality to professional standards. If you've never mastered an album project before, consider taking it to a professional before trying it at home. When you hear the results, you will see how the added expense was money well spent.

Throw away your mouse.  
 Throw away your keyboard.  
*And plug in to your creative potential!*



Roland ED

Designed for  
  
 Microsoft  
 Windows 98

**USB**  
 UNIVERSAL SERIAL BUS



With your hands on real controls that you can touch and feel, and your eyes on the highly detailed, flexible displays on your computer screen, everything you dreamed of is finally possible. Multiple track audio mixing. A wide assortment of sophisticated digital sound effects. Guitar and XLR microphone inputs. MIDI support. USB connectivity. It's everything you need for professional audio, right where you need it. At your fingertips. Stop being locked into the limitations of a keyboard and mouse. And explore the creative possibilities of the U-8 for yourself.

Roland ED U-8  
 USB Digital Audio Studio

Distributed by Edirol  
 Dealer inquiries welcome

**EDIROL**

A member of the Roland Group

Call for our huge FREE color catalog  
**1-800-380-2580**

[www.edirol.com](http://www.edirol.com)

*Putting the future of desktop media production into your hands*



# VX-10 **NEW**

Flagship hand held vocal condenser designed for live, studio and broadcast application. Uniquely blends the sensitive response of a condenser with the performance attributes that have made Audix mics a world standard.

# The Ultimate Vocal Mics!

## TAKE CONTROL OF YOUR SOUND

Clear, natural, and undistorted, Audix microphones will handle every performance with consistent high quality sound. Whether you re on a world tour, playing in a small club, or recording your next demo, Audix has the right mic for you.

Finally, microphones developed for vocalists and engineers who refuse to compromise.

Isn't your career worth it?



### OM-Series



#### OM-1

The classic, now reissued. Low handling noise, supreme durability and the classic rock sound.

#### OM-7

Unbeatable for gain before feedback in the monitors. A touring standard.

#### OM-6

Smooth, accurate and wide response with incredible feedback rejection.

#### OM-5

Cuts through any gig with a crystal clarity that's hard to beat.

#### OM-3X

Slight proximity, great clarity and feedback rejection. Ideal for small to mid size PA's.

#### OM-2

High performance at a breakthrough price!

CALL: 503-682-6933 FAX: 503-682-7114 [www.audixusa.com](http://www.audixusa.com)

Audix Corporation PO Box 4010, Wilsonville, OR 97070 In Canada, Cabletek Electronics LTD, 604-942-1001 fax 604-942-1010

© Audix Corporation 2000. All rights reserved. Audix and the Audix logo are trademarks of Audix Corporation.

# Strip!

Without Getting  
Caught with  
Your Pants Down

**PROFESSIONAL QUALITY, TUBE-BASED  
MICROPHONE/LINE RECORDING CHANNEL STRIP**

**THREE INDEPENDENT WORLD-CLASS CIRCUIT  
DESIGNS: PREAMPLIFIER, OPTICAL  
COMPRESSOR, AND PARAMETRIC EQ**

**PROFESSIONAL PROCESSING FOR USE WITH  
ANY DIGITAL OR ANALOG RECORDING  
EQUIPMENT**

**SMOOTH, SILKY, AND TRANSPARENT SOUND  
QUALITY**

**DETENTED ROTARY CONTROLS**



The Tube Channel features all the coveted tube dynamics control you need in one convenient rack-mounted channel strip. Legendary A R T mic preamplification, award-winning tube/opto compression and genuine tube parametric equalization will treat your music to the most coveted tube textures in the industry. Never again will you be caught with your pants down during recording sessions. Experience the joy of stripping the A R T Tube Dynamics way. Visit your A R T dealer today.

## **TUBE CHANNEL**

**PROFESSIONAL TUBE PREAMPLIFIER  
COMPRESSOR & EQUALIZER**

**VU LEVEL METERING**

**TUBE CHARACTER AND GAIN REDUCTION LED  
ARRAYS**

**HAND-SELECTED 12AX7A TUBES**

**FULL 20KHZ TO 20KHZ SWEEP WITH TWO MID-  
FREQUENCY FILTER BANDS**

**INTERNAL POWER SUPPLY**

**XLR AND 1/4" INPUT AND OUTPUT  
CONNECTORS**

**1/4" INSERT POINTS BETWEEN PREAMP AND  
COMPRESSOR, AND COMPRESSOR AND EQ**

**CUSTOM AIRCRAFT-QUALITY EXTRUDED  
ALUMINUM CHASSIS**

**3 YEAR WARRANTY**

**DESIGNED AND MANUFACTURED IN USA**

**A R T**  
APPLIED RESEARCH AND TECHNOLOGY

215 TREMONT STREET, ROCHESTER, NEW YORK 14608, USA  
VOICE: 716/436.2720, FAX: 716/436.3942, <http://www.arttech.com>

# RECORDERS, SEQUENCERS & MIXERS

## CAPTURE – COMPUTE – COMBINE

- 60** COMPUTER-BASED DIGITAL AUDIO WORKSTATIONS
- 68** MINIDISC AND CASSETTE MULTITRACKS
- 68** MODULAR DIGITAL MULTITRACKS
- 70** MODULAR HARD-DISK RECORDERS
- 72** DIGITAL MIXDOWN MACHINES
- 74** CD RECORDERS
- 76** SEQUENCERS (MIDI & DIGITAL AUDIO)
- 80** ANALOG MIXING CONSOLES
- 86** DIGITAL MIXING CONSOLES

**E**ight charts make up this year's Recorders, Sequencers & Mixers section of the Personal Studio Buyer's Guide. The Computer-Based Digital Audio Workstation's table spans the many definitions of DAW. Some are PCI audio cards with analog and digital I/O connectors, and some are high-end proprietary systems, but all come bundled with multitrack recording software. A few systems are based around traditional sound cards with MIDI-controllable synthesizers. Supported platforms, plug-in formats, sampling rates, and synchronization types are listed for products that range from \$99 audio cards to pricey high-end solutions.

Because their basic functions are similar, we've included MiniDisc and Cassette Multitrack recorders in one chart. These cost-efficient multitrack recorders are a great way to start any personal studio. Most offer basic equalization controls, noise reduction, and a built-in mixer section.

The Modular Digital Multitracks (MDM) chart follows, displaying digital tape recorders that offer up to 24-bit audio quality. MDMs are very easy to use and provide both analog and digital I/O connections. Keep an eye on the expansion ports column in this chart when looking to your studio's future needs.

It wasn't so long ago that the only mixdown options were 2-track reel-to-reel analog recorders; now there's a host of stereo DAT, MiniDisc, magneto-optical, and standalone CD-R and CD-RW products in our Digital Mixdown Machines chart. Only a handful support time code and separate microphone inputs, but most offer multiple sampling frequencies, AES/EBU and S/PDIF digital I/O, and very low total harmonic distortion.

The Analog and Digital Mixing Console charts show a host of configuration, connector, bus, EQ, and phantom power features. Analog mixers are economical and are preferred by some audio alchemists for that nebulous "warmth" factor, but the inclusion of built-in automation, onboard effects, dynamics processors, MIDI support, and the quiet performance provided by digital mixers easily justifies the added expense.

As computer-based digital audio workstations soar in popularity, so do the software offerings for Mac and PC. This year's MIDI & Digital Audio Sequencers chart includes professional-quality programs that rival or surpass many outboard recording solutions when it comes to editing features, signal processing, automation, and sample-rate conversion. Given the exploding popularity of software plug-ins, it's a good idea to check out the plug-in format supported by a host program before choosing your digital audio sequencer. The special features column provides an extended view of what these wonderful tools can do to help you achieve your music-production dreams.

# Radically Accurate

It took over half a century  
the revolutionary transducer  
to preserve the integrity  
of the C 4000 B is the  
dual - diaphragm backplate  
accurate highs and smooth  
the C 4000 B a revolution  
The C 4000 B can capture



of experience to create  
design. Carefully tuned  
of the source. At the heart  
world's first true 1 inch  
condenser capsule. Radically  
uncompromising lows make  
in price and performance.  
your virtual reality.

**C 4000 B**  
*virtual reality*



# COMPUTER-BASED DAWS

MANUFACTURER	PRODUCT	ANALOG I/O	DIGITAL I/O	PLATFORM VERSION	BUS TYPE	PLUG-IN FORMATS(S) SUPPORTED	SAMPLE RATE	A/D/A CONVERTER/BIT RATE	DIGITAL RECORDER RESOLUTIONS (MAX)	SYNC TYPES	MIDI CONTROL
Aardvark	Aark 24 - Professional Multitrack PC Interface	N/A	S/PDIF (RCA); ADAT (Optical); S/PDIF optical (Toslink)	Win 95/98	PCI	DirectX	32, 44.1, 48 kHz	24-bit	24-bit	Word clock; S/PDIF; ADAT	Yes
Aardvark	Direct Pro 24/96 Personal Studio	4 XLR; 4 1/4"; 2 RCA	S/PDIF (RCA)	Win 95/98	PCI	DirectX	32, 44.1, 48, 96 kHz	24-bit	24-bit	MTC; S/PDIF	Yes
Aardvark	Aark TDIF 8 ch TDIF card	no	8 Ch. TDIF	Win 95/98	PCI	DirectX	44.1, 48 kHz	24-bit	24-bit	TDIF	No
Alesis	ADAT/EDIT	N/A	1/1 ADAT Optical (8-channel)	Win 95/98; Mac	PCI	ASIO; VST	44.1, 48 kHz	N/A	24-bit	ADAT Sync	Yes
Antex	SC2000	4/4 XLR	1/1 XLR AES/EBU; S/PDIF	Win NT	PCI	N/A	6.25-50 kHz	20-bit	N/A	SMPTE read/write; video	Yes
Antex	SC-22	2/2	N/A	Win 95/98/NT	PCI	N/A	6.25-50 kHz	20-bit	N/A	LTC; VITC	No
CreamWare	TripleDAT 2.5	2	2 channels S/PDIF	Win	ISA	TripleDat	32, 44.1, 48 kHz	18-bit	16-bit	MTZ; MIDI Clock; word clock	No
CreamWare	Pulsar 1.31	2	2 ADAT; 1 S/PDIF	Win	PCI	Proprietary	22, 32, 44.1, 48, 96 kHz	A/D 20 bit, D/A 24 bit	24-bit	Optional sync. plate available	No
Creative Labs	SBLive Value Edition	1/8" mic/line	N/A	Win 95/98/NT	PCI	EAX	8-48 kHz	16-bit	16-bit	MIDI	No
Creative Labs	Sound Blaster Live	1/8" mic/line	S/PDIF	Win 95/98/NT	PCI	EAX	8-48 kHz	16-bit	16-bit	MIDI	No
Digidesign	Pro Tools/24	8-72 channels	8-72 channels	Mac; Win NT	PCI	TDM; AudioSuite	48, 44.1 kHz	24-bit (with 888/24 I/O)	N/A	LTC; VITC; MTC; AES/EBU; S/PDIF; ADAT; more	Yes
Digidesign	Pro Tools/24 MIX & MIXplus	8-72 channels	8-72 channels	Mac; Win NT	PCI	TDM; AudioSuite	48, 44.1 kHz	24-bit (with 888/24 I/O)	N/A	LTC; VITC; MTC; AES/EBU; S/PDIF; ADAT; more	Yes
Digidesign	Digi 001	8 (2 w/ built-in mic preamps)	10/8 ADAT Optical; 2 RCA S/PDIF	Mac; Win 98	PCI	RTAS	48, 44.1 kHz	24-bit	N/A	ADAT; S/PDIF	Yes
Digidesign	Digi ToolBox XP	Stereo inputs and outputs	Stereo S/PDIF	Mac; Win 98	PCI	RTAS	48, 44.1 kHz	18-bit	N/A	S/PDIF	Yes
Digidesign	888i24 I/O Audio Interface	8 channels I/O	8 AES/EBU; 2 S/PDIF	Mac; Win NT; standalone	PCI	N/A	44.1, 48 kHz	24-bit	N/A	256x slave clock	N/A
Digidesign	882i20 I/O Audio Interface	8 Channels 1/4" I/O	2 S/PDIF	Mac; Win NT; standalone	PCI	N/A	44.1, 48 kHz	20-bit	N/A	265x slave clock	N/A
Digidesign	1622 I/O Audio Interface	16 inputs/ 2 outputs 1/4"	2 S/PDIF	Mac; Win NT; standalone	PCI	N/A	44.1, 48 kHz	20-bit/24-bit	N/A	256x slave clock	N/A
Digidesign	ADAT Bridge I/O Audio Interface	2 Outputs	16 ADAT optical; AES/EBU; S/PDIF	Mac; Win NT	PCI	N/A	44.1, 48 kHz	20-bit/24-bit	N/A	256x slave clock; word clock	N/A
Digigram	VX Pocket Sound Card for Laptops	Stereo or dual mono, XLR	S/PDIF, coax	Win; Mac	PCMCIA	DirectX	8-48 kHz	24-bit	24-bit	N/A	No
Digigram	VX222 Professional Sound Card	2/2 XLR	2/2 S/PDIF; AES/EBU	Win; Mac	PCI	N/A	48, 44.1, 32, 22, 16, 11, 8 kHz	24-bit	24-bit	N/A	No
Digital Audio Labs	CardDeluxe	2/2 1/4" TRS (gold tipped RCA)	Stereo S/PDIF	Win	PCI	Active Movie; DirectX	48, 44.1, 32, 22, 16, 11, 8 kHz	24-bit/128x/24-bit/64x	24-bit	Internal; ext. digital	No
Digital Audio Labs	TDIF 2496 Pro	N/A	16	Win 95/98/NT	PCI	VST; AudioX	44.1, 48, 88.2, 96 kHz	16 and 24 bit	24-bit	DTRS	No
E-mu Systems	Audio E-MU Production Studio	4/2	2 S/PDIF	Win 95/98	PCI	DirectX; VST via ASIO drivers	8-48 kHz	20-bit	20-bit	MTC	Yes
Edirol	ED U-8 USB Digital Studio	XLR; 1/4" guitar in, RCA in/out	Optical S/P DIF In, optical S/PDIF out	Win 98	USB	DirectX; VST	44.1 kHz	20-bit A/D D/A	N/A	MIDI	Yes
Edirol	ED UA-100 Audio Canvas	RCA 1/4" (guitar/mic)	Optical S/PDIF out	Win 98	USB	DirectX; VST	44.1 kHz	20-Bit A/D/A	N/A	MIDI	Yes
Edirol	ED UA-30 USB Audio Interface	RCA in/out, 1/4 inch guitar/mic	coaxial S/P DIF in/out; optical S/P DIF in/out	Win 98/2000	USB	DirectX; VST	48 kHz, 44.1 kHz	20-Bit A/D/A	N/A	N/A	Yes
EGO-Systems	Waveterminal U24	2 x 2, 1/4" phono jack	2 x 2, S/PDIF (coaxial, optical)	Win 98/2000	USB	DirectX	32, 44.1, 48kHz	24-bit	16/24-bit	S/PDIF	No
EGO-Systems	Audioterminal 24	1/4" line/headphone; mic in	18/18 ADAT; AES/EBU; S/PDIF	Win 95/98/NT	PCI	DirectX	32-96 kHz	20-bit DAC	24-bit	Word clock; S/PDIF; ADAT sync; MTC	Yes



TRACKS/VIRTUAL TRACKS	# OF LOCATE POINTS	MAIN SYNTH CHIP SET	# OF PROGRAMS ROM/DRAM	SAMPLE ROM/DRAM	POLYPHONY/MULTITIMBRAL	EFFECTS/DYNAMIC PROCESSING	ADDITIONAL FEATURES	PRICE
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Includes ASIO drivers and DSP monitor mixer	\$899
N/A	N/A	N/A	N/A	N/A	N/A	Y/Y	Including compressor, Reverb, 3-Band EQ	\$699
N/A	N/A	N/A	N/A	N/A	N/A	N/A	DSP use and peak metering	\$425
8/12	4	N/A	N/A	N/A	N/A	Y/Y	Sample-accurate transfer and ADAT track-editing software included	\$399
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Video burning	\$895
4	N/A	N/A	N/A	N/A	N/A	N/A	Multi-card capability, Wintel & Alpha processor compatible	\$595
0/256	99	N/A	N/A	N/A	N/A	Y/Y	CD writing; moves effects presets to/from ext. devices; simul. digital/analog channels	\$998
N/A	N/A	N/A	N/A	N/A	64 voices	Y/N	Mixing and routing capabilities	\$1,298
N/A	N/A	E-mu	1000+	N/A	256/32	Y/Y	Includes game software	\$99
N/A	N/A	E-mu 10K1	1000+	N/A	256/32	Y/Y	Includes Callewalk, Sound Forge, Mixman software and digital I/O card	\$199
32-64/128	Unlimited	N/A	N/A	N/A	N/A	Y/Y	ProControl support; EQ, dynamics, delay, time comp/exp, pitch shift DigiRack plug-ins incl.	\$5,995
64/128	Unlimited	N/A	N/A	N/A	N/A	Y/Y	ProControl support; EQ, dynamics, delay, time comp/exp, pitch shift DigiRack plug-ins incl.	\$7,995-\$9,995
	Unlimited	N/A	N/A	N/A	N/A	Y	MIDI I/O, sep. monitor and headphone outs, incl. Pro Tools LE and five DigiRack plug-ins	\$995
	Unlimited	N/A	N/A	N/A	N/A	Y/Y	Incl. Pro Tools LE and EQ, dynamics, delay, time comp/exp and pitch DigiRack plug-ins	\$545
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Standalone operation for A/D/A conversion	\$3,695
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Standalone operation for A/D/A conversion	\$1,245
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Standalone operation for A/D/A conversion	\$1,595
N/A	N/A	N/A	N/A	N/A	N/A	N/A		\$1,245
N/A	N/A	N/A	N/A	N/A	N/A	N/A		\$729
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Two general purpose interface (GPI) inputs/outputs	\$549
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Multiple card support	\$595
N/A	2	N/A	N/A	N/A	N/A	N/A	Jog, shuttle & transport control of decks	\$495
N/A	N/A	Emu 10K1	0/unlimited	0/32 MB	64/32	Y/Y	Drive bay I/O; guitar/mic preamps	\$699
Unlimited	N/A	N/A	N/A	N/A	N/A	Y/N		\$795
Unlimited	N/A	VSC-88H	546	N/A	128	Y/N	Built-in MIDI interface; includes software synthesizer	\$595
Unlimited	N/A	N/A	N/A	N/A	N/A	No	Includes Cool Edit Pro LE for Windows	\$325
N/A	N/A	N/A	N/A	N/A	N/A	No	4-channel full duplex in and out (analog and digital)	\$270
N/A	N/A	N/A	N/A	N/A	N/A	No	Sound card and monitoring control panel; 32-channel MIDI support	\$6992

# COMPUTER-BASED DAWS

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	DIGITAL RECORDER RESOLUTIONS (MAX)	SYNC TYPES	MIDI CONTROL
EGO-Systems	Audiotrak 2000	6 x 8 1/4"	2 S/PDIF (Coaxial) Out only	Win 95/98/2000	PCI	DirectX	32-48 kHz	A/D (20-bit); D/A (20-bit)	16-bit	MTC	Yes
EGO-Systems	WaMi Rack 24	4 x 8 1/4" TRS bal/unbal	2 x 2, S/PDIF (Coaxial, Optical)	Win 95/98/2000; Mac	PCI	DirectX	32kHz-96 kHz	24-bit	24-bit	Word clock; S/PDIF; SMPTE; MTC	Yes
EGO-Systems	Waveterminal 2496	2 x 2, 1/4" TRS bal/unbal	2 x 2, S/PDIF (Coaxial)	Win 95/98/2000; Mac	PCI	DirectX	8-96 kHz	24-bit	24-bit	Word Clock, S/PDIF	No
EGO-Systems	WaMi Box	2 x 4 RCA	2 x 2, S/PDIF (Coaxial, Optical)	Win 95/98/2000	PCMCIA	DirectX	32, 44.1, 48 kHz	20-bit	16-bit	MTC	Yes
Emagic	Audiowerk8	2/8 RCA	1/1 S/PDIF	Win, Mac	PCI	N/A	32-50 kHz	18-bit	N/A	Digital in	No
Emagic	Audiowerk2	2/2 RCA (4 out with S/PDIF I/O)	S/PDIF	Win, Mac	PCI	N/A	44.1 kHz	D/A: 18-bit; A/D: 1 Bit	N/A	Digital in	Yes
Ensoniq	PARIS 3	8/8 TRS per module	S/PDIF, ADAT Module	Mac; Win 95/98	PCI	DirectX; VST	44.1, 48 kHz	24-bit	24-bit	MTC; SMPTE; ADAT (master only); word clock	Yes
Frontier Design	Dakota	8/8	ADAT	Win 95/98	PCI	N/A	44.1 or 48 kHz	24-bit or 20-bit	24-bit	ADAT; MTC; SoDA (SMPTE on digital audio);	No
Frontier Design	WaveCenter/PCI	8/8	8/8 ADAT S/PDIF (Toslink or RCA)	Win 95/98; Mac	PCI	N/A	44.1 or 48 kHz	24-bit or 20-bit	24-bit	MTC	No
Gadget Labs	Wave/824 Digital Interface	8/8	2/2	Win 95/98/NT; Mac	PCI	N/A	22, 32, 44.1, 48 kHz	24-bit	24-bit	MTC; word clock	Yes
Guillemot	Maxi Studio Isis	8/4 1/4"	2/2 S/PDIF optical and coaxia	Win	PCI	DirectX	32, 44.1, 48 kHz	20-bit	16-bit	MTC; MC	Yes
Korg	OASYS PCII	24-bit stereo +4dBu, 1/4"	ADAT; S/PDI; Word Clock	Mac; Win	PCI	SynthKit; VST; MAS; DirectX	44.1 kHz, external clock	24-bit	24-bit	Word Clock; MIDI Clock; SMPTE	Yes
Lynx	LynxONE	Two-channels, balanced	Two-channels, 24-bit, AES/EBU or S/PDIF	Win 95/98/NT; 2000	PCI	N/A	8-48 kHz (analog); 32-96 (digital)	24-bit	24-bit	AES/EBU; word clock, superclock,	Yes
M Audio	Delta 44	4x4 TRS	N/A	Mac; Win 95/98/2000/NT; Linux	PCI	Direct X; VST	8-96kHz	24-bit/128x	24 Bit	Multicard sync	N/A
M Audio	Delta 66	4x4 1/4" TRS	2x2 S/PDIF Coaxial	Mac; Win 95/98/2000/NT; Linux	PCI	Direct X; VST	8-96kHz	24-bit/128x	24 Bit	Multicard sync	N/A
M Audio	Delta DiO 24/96	(2) RCA	2 in / 4 out(S/PDIF in/out ; TOSLink in/out)	Mac; Win 95/98/2000/NT; Linux	PCI	Direct X; VST	8-96kHz	24-bit D/A	24 bit	Multicard sync	N/A
M Audio	Delta 1010	8x8 1/4" TRS	S/PDIF	Mac; Win 95/98/2000/NT; Linux	PCI	Direct X; VST	8-96kHz	24-bit/128x	24 bit	Word clock; multicard sync (up to 3 in a system)	Yes
Mark of the Unicorn	MOTU 2408mkII	8/2	S/PDIF; ADAT Lightpipe; TDIF; S/PDIF	Mac; Win	PCI	All native	44.1, 48 kHz	24-bit	24-bit	Word clock; lightpipe; ADAT Sync; DTP Sync	N/A
Mark of the Unicorn	MOTU 1224	8 in/10 out; bal +1/4" TRS	AES/EBU	Mac; Win	PCI	All native	44.1, 48 kHz	24-bit	24-bit	Word clock ADAT sync, AES/EBU	N/A
Mark of the Unicorn	MOTU 24i	24 bal +4 TRS inputs/ 2 bal +4 TRS outputs	S/PDIF (RCA and TOSLink) out	Mac; Win	PCI	All native	44.1, 48 kHz	24-bit	24-bit	Internal; word clock (in / out); ADAT sync (in)	N/A
Mark of the Unicorn	MOTU 308	None	8 AES/EBU; 8 RCA coax S/PDIF; 8 optical S/PDIF (TOSLink)	Mac; Win	PCI	All native	44.1, 48 kHz	N/A	24-bit	Internal; word clock; AES/EBU; S/PDIF; TosLink	N/A
Mark of the Unicorn	MOTU 1296	12 bal +4 XLR in/out	AES/EBU	Mac; Win	PCI	All native	44.1, 48, 88.2, 96	24-bit	24-bit	Internal; word clock, AES/EBU; independent AES word in	N/A
Merging Technology	Mykerinos PCI Audio Board	Optional 24-bit/96 kHz	ADAT; S/PDIF; MADI; AES/EBU; TDIF	Win NT/2000	PCI	Native; DirectX	32-192 kHz		32-bit, 24-bit, 16-bit	SMPTE; VITC; MTC	Yes
Merging Technology	PyraMix Virtual Studio 3.1	Optional 24-bit/96 kHz	ADAT; S/PDIF; MADI; AES/EBU; TDIF	Win NT/2000	PCI	Native; DirectX	132-92 kHz	24-bit	32-bit, 24-bit, 16-bit	SMPTE; VITC; MTC	Yes
Micro Technology	MicroSound/ Krystal	2/2	AES/EBU; S/PDIF	Win	PCI	DirectX	8-48 kHz	16-bit	24-bit	Video blackburst, SMPTE (all, optional)	No
Midiman	DMan PCI	2/2 RCA gold	N/A	Win 95/98/NT	PCI	MME; DirectX	44.1, 48 kHz	18-bit	16-bit	MIDI Clock	Yes

TRACKS/VIRTUAL TRACKS	# OF LOCATE POINTS	MAIN SYNTH CHIP SET	# OF PROGRAMS ROM/DRAM	SAMPLE ROM/RAM	POLYPHONY/MULTITRACK	EFFECTS/DYNAMIC PROCESSING	ADDITIONAL FEATURES	PRICE
N/A	N/A	RISC based 50 MIPS Audio DSP	0/User configurable patch set	0/16 MB (expandable up to 64 MB)	64/32	Y/N	2 mic preamps w/phantom power, dual headphone amps	\$399
N/A	N/A	N/A	N/A	N/A	N/A	No	MIDI I/O; 4 mic preamps w/ phantom; ASIO 2.0, EASI and GSIF drivers; 4 units stackable	\$770
N/A	N/A	N/A	N/A	N/A	N/A	No	ASIO 2.0, EASI, and GSIF drivers	\$430
N/A	N/A	RISC 50 MIPS	0/user	16 MB RAM	64/32		Mic preamp; headphone amp; internal digital mixer; MPU-401 MIDI interface; reverb, delay, chorus, EQ, more	\$606
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Bundled w/Logic Audio Discovery, VMR, Cool Edit Pro LE (Win) and Zap (Mac) software	\$499
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Incl. Logic Audio Composer (PC), MicroLogic AV (Mac), Waveburner & Zap (both platforms)	\$299
128	99	N/A	N/A	N/A	N/A	Y/Y	Includes 16-channel control surface	\$4,195
N/A	N/A	N/A	N/A	N/A	N/A	N/A	ASIO 2.0, GigaSampler drivers; optional 8x8 MIDI I/O; includes Cool Edit Pro SE; ADAT optical exp. from 16 to 32 channels	\$6492
N/A	N/A	N/A	N/A	N/A	N/A	N/A	2x2 MIDI I/O; ASIO 2.0 and GigaSampler drivers	\$329
N/A	N/A	N/A	N/A	N/A	N/A	N/A	MIDI port included; optional S/PDIF card	\$500 and up
8/infinite	N/A	RISC based Dream-9707	368/0	0/4-36 MB	64	Y/N	MIDI I/O/thru via external rack	\$399
Host dependent	Host dependent	5 Motorola	Unlimited	24 MB	8/244	Y/Y	Applies effects to live inputs; 28 soft synths incl. Moog, Prophet, and inst models	\$2,200
N/A	N/A	None	N/A	N/A	N/A	No	XLR audio and MIDI/clock I/O cables included	\$549
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Onboard mixing/routing/monitoring; SCMS, ASIO 2.0, EASI, GSIF, DirectX drivers	\$4,002
N/A	N/A	N/A	N/A	N/A	N/A	N/A	SCMS, ASIO 2.0, EASI, GSIF, DirectX drivers; multi-card (Mac) and breakout box (Win)	\$500
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Onboard mixing/routing/monitoring; SCMS support	\$300
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Onboard mixing/routing/monitoring; SCMS, ASIO 1/2, EASI, GSIF, DirectX support	\$1,000
Host dependent	Host dependent	N/A	N/A	N/A	N/A	Y/Y	Works as standalone format converter; sample-accurate ADAT/Tascam transfers	\$695-\$995
Host dependent	Host dependent	N/A	N/A	N/A	N/A	Y/Y	116 dB S/N A-weighted on inputs and XLR main outs; front-panel headphone control	\$995-\$1,195
Host dependent	Host dependent	N/A	N/A	N/A	N/A	Y/Y	111 dB S/N A-weighted; accepts -10 dB input w/software boost; front-panel headphone	\$1,195-\$1,495
Host dependent	Host dependent	N/A	N/A	N/A	N/A	N/A	Standalone format conversion of up to 8 channels at a time	\$695
Host dependent	Host dependent	N/A	N/A	N/A	N/A	Y/Y	117 dB S/N A-weighted; supports 5.1 surround I/O; AES/EBU I/O rate converters	\$1,795-\$2,095
64/64	N/A	Phillips	N/A	N/A	N/A	Yes	Built-in 2-bit/96 kHz output monitoring	\$1,995
unlimited	10	Phillips	N/A	N/A	N/A	Yes	Built-in CD mastering tools; automatable surround mixing grid; para, EQ; cpmpressors, gates; more	\$3,990
infinite	32,767	N/A	N/A	N/A	N/A	Y/Y	Can edit and mix CD-ROM master files	\$1,595 and up
N/A	N/A	Crystal	128	N/A	64/16	Y/N	Internal CD-ROM connector	\$180

# COMPUTER-BASED DAWS

MANUFACTURER	PRODUCT	ANALOG I/O	DIGITAL I/O	PLATFORM VERSION	BUS TYPE	PLUG-IN FORMATS(S) SUPPORTED	SAMPLE RATE	A/D/A CONVERTER/ BIT RATE	DIGITAL RECORDER RESOLUTIONS (MAX)	SYNC TYPES	MIDI CONTROL
Mytek Digital	DAW 9624	8/8 XLR (expandable)	4 pairs AES/EBU, ADAT (optional) TDIF	Mac; Win 95/NT; BeOS; Linux	PCI	VST; DirectX	44.1, 48, 88.2, 96 kHz	24-bit	32-bit, depending on 3rd party stwr	Word clock; video; (SMPTE w/extra hardware)	Yes
Peavey	StudioMix	8 RCA 3	N/A	Win 95/98/NT	N/A	DirectX	Up to 48 kHz	N/A	32-bit	SMPTE; MTC	Yes
SADIE	Artemis	8/16/24 channels	8/16/24 AES/EBU	Win	N/A	Cedar; Syncoarts; DirectX; POW-r; Apogee	Up to 192 kHz	20-bit	32-bit floating point	SMPTE; VITC; AES sync	No
SADIE	SADIE 24 96	8/16/24/32 channels	8/16/24/32 AES/EBU	Win	N/A	Cedar; Syncoarts; DirectX; POW-r; Apogee	Up to 192 kHz	20-bit	32-bit floating point	SMPTE; VITC; AES sync	No
SeaSound	Solo EX	4x2	2x2	Mac; Win	PCI	VST; DirectX	96 kHz	All rates 8-bit to 24-bit	N/A	S/PDIF clock; MIDI Time Code	No
SeaSound	a8	8x8	2x2	Mac; Win	PCI	VST; DirectX	44.1 to 96k	All rates 8-bit to 24-bit	N/A	S/PDIF clock; MIDI Time Code	No
SEKD	Samplitude 2496	N/A	N/A	N/A	N/A	DirectX	N/A	N/A	999	N/A	N/A
SEKD	Profil 24	1 TRS out	1 Toslink; 1 TRS; 1 AES/EBU	Win 95/98	ISA	N/A	32, 44.1, 48 kHz	18-bit	24-bit	AES/EBU; S/PDIF (dual card)	No
SEKD	ARC88	8/8	1 Toslink; S/PDIF	Win 95/98/NT; Mac	PCI	N/A	32, 44.1, 48 kHz	16-bit	24-bit	S/PDIF (dual card)	No
SEKD	Profil 96 Pro	1/1 stereo 96 kHz	S/PDIF; AES/EBU; ADAT	Win 95/98/NT/2000; Mac	PCI	N/A	11-96 kHz	20-bit	24-bit	Word clock in; ADAT PLL Lock; AES; S/PDIF	No
SEKD	Profil Plus	1/1 stereo, 48 kHz	S/PDIF; AES/EBU; ADAT	Win 95, 98, NT; Mac	PCI	N/A	11-96 kHz	20-bit	24-bit	ADAT PLL Lock; AES; S/PDIF	No
SEKD	Siena 8896	8	No	Win NT/95/98; Mac	PCI	DirectX	96 kHz	24-bit	24-bit	MTC; MIDI Clock	Yes
Sonus	STUDI/O	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	24-bit	MTC	No
Sonus	USB Studio/ USB Studio D	2 mic; 2 instrument; 2 phono; 4 line in; 2 line out; phone out	USB Studio D w/2 S/PDIF I/O	Win; Mac	USB	N/A	44.1, 48 kHz	20-bit/128x	N/A	N/A	N/A
Soundscape	R.Ed Recorder Editor/Digital Audio Workstation	2in/4out 24/96 XLR board (option)	24 TDIF, 2x4 AES/EBU	Win 95/98/NT/2000	ISA	Soundscape real-time DSP and XPro	up to 96 kHz	24-bit	24-bit	SMPTE(LTC); VITC; BITC and video sync; RS 422 Master/slave; word clock/Superclock I/O; TDIF & AES/EBU sync	Yes
Soundscape	Mixtreme PCI Card	Up to 16 with optional 'iBox' AD/DA interfaces	2 TDIF; S/PDIF optional	Win 95/98/NT/2000	PCI	Soundscape proprietary real-time DSP	up to 48 kHz; 96kHz with external superclock	24-bit with converter boxes	24-bit	Word clock/Superclock I/O; video sync (option); TDIF sync; S/PDIF sync (option)	Yes
Soundscape	Mixtreme 2000 Digital PowerPAK	2 in/out via 'iBox 2-Line' interface	16 TDIF	Win 95/98/NT/2000	PCI	Soundscape real-time DSP	up to 48kHz; 96kHz with external superclock	24-bit	24-bit	Word clock/Superclock I/O; video sync (option); TDIF sync; S/PDIF sync (option)	Yes
Swissonic	USB Studio D USB Studio	16/4 Stereo TRS in; 2 Mic	S/PDIF	Win; Mac	N/A	N/A	N/A	16-bit	N/A	N/A	N/A
TASCAM	US-428	4 (XLR, balanced line, Hi-Z)	1 S/PDIF; 2 RCA	Mac; Win	USB	N/A	N/A	24-bit A/D/A	24-bit	N/A	Yes
TerraTec	EWS88MT AudioSystem	8 simultaneous inputs/outputs	2 S/PDIF	Win	PCI	DirectX	96 kHz	24-bit	24-bit	N/A	Yes
TerraTec	EWS64XXL	2 stereo inputs/outputs; 1 stereo mic input	1 coax/1 optical in; 2 coax outs	Win	ISA	DirectX	48 kHz	18-bit	N/A	N/A	Yes
TerraTec	EWS64X AudioSystem	2 stereo inputs/outputs; 1 stereo mic input	2 in (opt & coax); 2 out (coaxial)	Win	ISA	DirectX	48 kHz	18-bit	N/A	N/A	Yes

TRACKS/VIRTUAL TRACKS	# OF LOCATE POINTS	MAIN SYNTH CHIP SET	# OF PROGRAMS ROM/RAM	SAMPLE ROM/RAM	POLYPHONY/MULTITRACK	EFFECTS/DYNAMIC PROCESSING	ADDITIONAL FEATURES	PRICE
8 (expandable)/64	N/A	N/A	N/A	N/A	N/A	Optional	Various format I/O cards for 8X96	\$6,495
8/256	20	N/A	N/A	N/A	N/A	Y/Y	MIDI sync	\$899
Variable/unlimited	Unlimited	N/A	N/A	N/A	N/A	Y/Y	Surround panning; clip-based automation; standard PQ editing	\$15,495 (turnkey incl. PC and hard drive)
Variable/unlimited	Unlimited	N/A	N/A	N/A	N/A	Y/Y	Surround panning; clip-based automation; standard PQ editing	\$12,995 (turnkey incl. PC and hard drive)
Depends on computer and software of choice	N/A	N/A	N/A	N/A	N/A	No	4 mic/guitar preamps; dual headphone amps; MIDI I/O/Thru; S/PDIF I/O	\$850
Depends on computer and software of choice	N/A	N/A	N/A	N/A	N/A	No	Built-in monitoring; front-panel +/-10 switches; 6-segment VUs w/source switching	\$700
N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.1 surround; CD burning; multiband dynamics; dither/noiseshaping; FFT analysis	\$799
1 stereo track	N/A	N/A	N/A	N/A	N/A	N/A		\$319
8	N/A	N/A	N/A	N/A	N/A	N/A	Input gain amplifier	\$495
10 tracks	N/A	N/A	N/A	N/A	N/A	N/A	Direct digital input from CD-ROM	\$699
10 tracks	N/A	N/A	N/A	N/A	N/A	N/A	Direct digital input from CD-ROM	\$449
Unlimited	Unlimited	N/A	N/A	N/A	N/A	No	Built-in MIDI data filter driver	\$499
16	N/A	N/A	N/A	N/A	N/A	N/A		\$849
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Stereo input VU meter; phantom powered; insert jacks	\$699 (Studio), \$849 (Studio D)
32/256	999	Motorola 80MHz 56301 DSPs	N/A	N/A	N/A	Y/Y	Optional terabyte storage; networkable; dynamic mix automation; cue sheet print; R.Ed. sync board optional	\$6,295
32/256	0	Motorola 80 MHz 56301 DSP for mixing and effects processing	N/A	N/A	N/A	Y/Y	Includes multimedia drivers; ASIO 2.0 and Gigasampler drivers; realtime mixing/effects	\$549
32/128	0	Motorola 80 MHz 56301 DSP	N/A	N/A	64/48 w/bundled Surreal/Gigasampler	Y/Y	Incl. Gigasampler LE, Gigapiano, Sound Forge XP, Acid Style, Seer Surreal & more	\$999
N/A	N/A	N/A	N/A	N/A	Yes		19" rackmount mixer with USB interface for Mac or Windows	\$699-\$849
N/A	N/A	N/A	N/A	N/A	N/A	N/A		\$599
N/A	N/A	N/A	N/A	N/A	N/A	No	Includes internal/external breakout box; fully routable I/O	\$599
N/A	N/A	DREAM 9407	N/A	2 MB ROM/ 4 MB RAM	64/Yes	Y/N	Sample RAM upgradable to 64 MB	\$1,199
N/A	N/A	DREAM 9407	N/A	2 MB ROM/ 4 MB RAM	64/Yes	Y/N	Sample RAM upgradable to 64 MB	\$599

# COMPUTER-BASED DAWS

MANUFACTURER	PRODUCT	ANALOG I/O	DIGITAL I/O	PLATFORM VERSION	BUS TYPE	PLUG-IN FORMATS(S) SUPPORTED	SAMPLE RATE	A/D/A CONVERTER/ BIT RATE	DIGITAL RECORDER RESOLUTIONS (MAX)	SYNC TYPES	MIDI CONTROL
TerraTec	EWS64L AudioSystem	2 stereo inputs/outputs; 1 stereo mic input	No	Win	ISA	DirectX	5-48 kHz	18-bit	N/A	N/A	Yes
TerraTec	SoundSystem DMX	1 stereo line input; 2 stereo outputs	Coaxial and optical	Win	PCI	DirectX	32, 44.1, and 48 kHz	8/16-bit	N/A	N/A	Yes
TerraTec	SoundSystem XLerate PRO	1 stereo line input; 2 stereo outputs	1 optical output	Win	PCI	DirectX	32, 44.1, 48 kHz	8/16-bit	N/A	N/A	Yes
TerraTec	SoundSystem XLerate	Stereo line input; stereo mic input; switchable stereo speaker/line output	No	Win	PCI	DirectX	Up to 48 kHz	8/16-bit	N/A	N/A	Yes
TerraTec	SoundSystem Base 2	1 stereo line input; 1 stereo mic input; switchable stereo speaker/line output	No	Win	PCI	DirectX	Up to 48 kHz	8/16-bit	N/A	N/A	Yes
Voyetra	Pinnacle Project Studio	3/1	Coaxial S/PDIF	Win 3.1/95/98/NT	ISA	N/A	Up to 48 kHz	20-bit	20-bit	SMPTE; MTC	Yes
Voyetra	Montego II Home Studio	1/2	S/PDIF (RCA or optical)	Win 95/98/NT	PCI	N/A	Up to 48 kHz	18-bit	18-bit	SMPTE; MTC	Yes
Xytar	Audio Digital Mastering System (ADMS32) 8 I/O 32 Track	8/8	S/PDIF; AES/EBU; ADAT optical	Win	PCI	Proprietary; DirectX	11.025, 22.050, 32, 44.100, 48 kHz	20-bit	16-bit	SMPTE; MTC; 30d; 30nd; 29.97d; 29.97nd	Optional
Xytar	Audio Digital Mastering System (ADMS32) 16 I/O 32 Track	16/16	S/PDIF; AES/EBU; ADAT optical	Win	PCI	Proprietary; DirectX	11.025, 22.050, 32, 44.100, 48 kHz	20-bit	16-bit	SMPTE; MTC; 30d; 30nd; 29.97d; 29.97nd	Optional
Xytar	Audio Digital Mastering System (ADMS32) 24 I/O 32 Track	24/24	S/PDIF; AES/EBU; ADAT optical	Win	PCI	Proprietary; DirectX	11.025, 22.050, 32, 44.100, 48 kHz	20-bit	16-bit	SMPTE; MTC; 30d; 30nd; 29.97d; 29.97nd	Optional
Xytar	Audio Digital Mastering System (ADMS32) 32 I/O 32 Track	32/32	S/PDIF; AES/EBU; ADAT optical	Win	PCI	Proprietary; DirectX	11.025, 22.050, 32, 44.100, 48 kHz	20-bit	16-bit	SMPTE; MTC; 30d; 30nd; 29.97d; 29.97nd	Optional
Xytar	ADMS32HD 8 I/O 32 Track High Definition 24-bit	8/8	S/PDIF; AES/EBU; ADAT optical	Win	PCI	Proprietary; DirectX	11.025, 22.050, 32, 44.100, 48, 96 kHz	24-bit	24-bit	MTC; SMPTE; 30d; 30nd; 29.97d; 29.97nd	Optional
Xytar	ADMS32HD 16 I/O 32 Track High Definition 24-bit	16/16	S/PDIF; AES/EBU; ADAT optical	Win	PCI	Proprietary; DirectX	11.025, 22.050, 32, 44.100, 48, 96 kHz	24-bit	24-bit	MTC; SMPTE; 30d; 30nd; 29.97d; 29.97nd	Optional
Xytar	ADMS32HD 24 I/O 32 Track High Definition 24-bit	24/24	S/PDIF; AES/EBU; ADAT optical	Win	PCI	Proprietary; DirectX	11.025, 22.050, 32, 44.100, 48, 96 kHz	24-bit	24-bit	MTC; SMPTE; 30d; 30nd; 29.97d; 29.97nd	Optional
Xytar	ADMS32HD 32 I/O 32 Track High Definition 24 bit	32/32	S/PDIF; AES/EBU; ADAT optical	Win	PCI	Proprietary; DirectX	11.025, 22.050, 32, 44.100, 48, 96 kHz	24-bit	24-bit	MTC; SMPTE; 30d; 30nd; 29.97d; 29.97nd	Optional
Yamaha	DSP Factory	2/2 RCA	2/2 S/PDIF or AES/EBU (coaxial)	Win 95/98/NT; Mac	PCI	Software-dependent	44.1, 48 kHz	20-bit	32-bit (16- and 20-bit available)	Software/hardware-dependent	Yes
Zefiro Acoustics	ZA2	1 RCA	S/PDIF optical and coaxial; AES/EBU	Win 95/98/NT/ DOS/3.1; Linux	ISA	N/A	8-60 kHz	16-bit (D/A)	20-bit/24-bit	Superclock; word clock	No

TRACKS/VIRTUAL TRACKS	# OF LOCATE POINTS	MAIN SYNTH CHIP SET	# OF PROGRAMS ROM/RAM	SAMPLE ROM/RAM	POLYPHONY/MULTITIMBRAL	EFFECTS/DYNAMIC PROCESSING	ADDITIONAL FEATURES	PRICE
N/A	N/A	DREAM 9407	N/A	2 MB ROM/ 4 MB RAM	64/Yes	Y/N	Sample RAM upgradable to 64 MB	\$449
N/A	N/A	Canyon 3D	N/A	N/A	64/Yes	Y/N		\$199
N/A	N/A	Aureal A3D Audio	N/A	4MB	320/Yes	Y/Y		\$99
N/A	N/A	Aureal A3D Audio	N/A	4 MB	64/Yes	Y/N		\$80
N/A	N/A	VSpace 3-D Effect	N/A	1 MB/3 MB	32/Yes	No		\$60
System dependent	N/A	N/A	N/A	Up to 48 MB	64	Y/N	Includes Digital Orchestrator Pro, wavetable sampler, patch editor/librarian software	\$460
System dependent	N/A	Aureal 8830	N/A	N/A	128/256	Y/Y	Includes Digital Orchestrator Pro; Roland GS-compliant wavetable daughter card	\$299
32/unlimited	Unlimited	N/A	N/A	N/A	N/A	Y/Y	Incl. 17" monitor, 32-channel mic mixer, CD-R burner, Jaz drive, MP3 encoder/decoder	\$7,499
32/unlimited	Unlimited	N/A	N/A	N/A	N/A	Y/Y	Incl. 17" monitor, 32-channel mic mixer, CD-R burner, Jaz drive, MP3 encoder/decoder	\$9,999
32/unlimited	Unlimited	N/A	N/A	N/A	N/A	Y/Y	Incl. 17" monitor, 32-channel mic mixer, CD-R burner, Jaz drive, MP3 encoder/decoder	\$12,999
32/unlimited	Unlimited	N/A	N/A	N/A	N/A	Y/Y	Incl. 17" monitor, 32-channel mic mixer, CD-R burner, Jaz drive, MP3 encoder/decoder	\$15,999
32/unlimited	Unlimited	N/A	N/A	N/A	N/A	Y/Y	Incl. 17" monitor, 32-channel mic mixer, CD-R burner, Jaz drive, MP3 encoder/decoder	\$8,999
32/unlimited	Unlimited	N/A	N/A	N/A	N/A	Y/Y	Incl. 17" monitor, 32-channel mic mixer, CD-R burner, Jaz drive, MP3 encoder/decoder	\$11,999
32/unlimited	Unlimited	N/A	N/A	N/A	N/A	Y/Y	Incl. 17" monitor, 32-channel mic mixer, CD-R burner, Jaz drive, MP3 encoder/decoder	\$14,999
32/unlimited	Unlimited	N/A	N/A	N/A	N/A	Y/Y	Incl. 17" monitor, 32-channel mic mixer, CD-R burner, Jaz drive, MP3 encoder/decoder	\$17,999
16/ software-dependent	N/A	N/A	N/A	N/A	N/A	Y/Y	Real-time mixing; 2 card cascade for 32-track playback; all parameters can be automated	\$999
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Automatic digital sample rate conversion	\$495

# MINIDISC AND CASSETTE MULTITRACKS

MANUFACTURER	PRODUCT	FORMAT	# OF TRACKS/ SIMULTANEOUSLY	MIXER CONFIGURATION	CHANNEL INPUTS	# OF MIC TRIMS	EQ (TYPE)	# OF AUX SENDS/ AUX RETURNS	# OF DIRECT OUTS/INSERTS
Fostex	X-34	Cassette	4/4	4x2	(4) 1/4"; (2) XLR	2	High and low shelving	2/2 (stereo)	4/2
Fostex	X-24	Cassette	4/4	4x2	(2) 1/4"; (2) XLR	2	N/A	N/A	N/A
Fostex	X-14	Cassette	4/1	4x2	(2) 1/4"; built-in mic	1	No	No	No
Sony	MDM-X4 MKII	MiniDisc	4/4	10x4	(10) 1/4"; (2) XLR	4	3-band	2/2 stereo	4/0
Tascam	414 MKII Portastudio	Cassette	4/4	8x2	(8)1/4; (2) XLR; 1 guitar	4	High and low shelving	2/2	N/A
Tascam	424 MKIII Portastudio	Cassette	4/4	8x2	(4) 1/4"; (4) XLR	4	3-band w/mid-sweep	2/2	N/A
Tascam	564 Digital Portastudio	MiniDisc	4/4	12x2	(12) 1/4"; (4) XLR	4	3-band w/mid-sweep	2/2	4/2
Tascam	Porta 02	Cassette	4/2	2x2; 4x2	(2) 1/4"	2	N/A	N/A	N/A
Yamaha	MD4S	MiniDisc	4/4	8x4	(2)XLR; (2) 1/4"	4	3-band	2/2	4/2
Yamaha	MD8	MiniDisc	8	12x2	(2) XLR; (10) 1/4"	8	3 band w/ mid sweep	2/2	8 /2

# MODULAR DIGITAL MULTITRACKS

MANUFACTURER	MODEL	TAPE FORMAT	ADC	DAC	SAMPLING RATE	FREQUENCY RESPONSE	DYNAMIC RANGE	SIGNAL TO- NOISE RATIO	CROSSFADE TIMES
Alesis	LX20 20-Bit Digital Audio Recorder	S-VHS	20-bit/64x	20-bit/64x	44.1, 48 kHz	20 Hz-20 kHz	97 dB	N/A	11, 21 32, 43 ms
Alesis	XT20 20-Bit Digital Audio Recorder	S-VHS	20-bit/128x	24-bit/128x	44.1, 48 kHz	20 Hz-20 kHz	102 dB	N/A	11, 2, 32, 43 ms
Alesis	M20 20-Bit Digital Audio Recorder	S-VHS	24-bit/64x	24-bit/128x	44.1, 48 kHz	20 Hz-20 kHz	D/A; A/D	N/A	5.4 ms-1.365 sec
Studer	Studer V-Eight	S-VHS; ADAT type II	24-bit	24-bit	44.1, 48 kHz	20 Hz-20 kHz	A/D; D/A	N/A	5.4 ms-1.4 sec
Tascam	DA-88	Hi 8	16-bit/64x	18-bit/8x	44.1, 48 kHz	20 Hz-20 kHz	>92 dB	>92 dB	10-90 ms
Tascam	DA-78HR	DTRS	24-bit	24-bit	44.1, 48 kHz	20 Hz-20 kHz	104 dB	104 dB	up to 90 ms



# OF LOCATE POINTS	TAPE SPEED (IPS)	PITCH CONTROL RANGE	NOISE REDUCTION (TYPE)	FREQUENCY RESPONSE	SIGNAL-TO-NOISE RATIO	TOTAL HARMONIC DISTORTION	PRICE
N/A	3-3/4 ips	±50%	Dolby B	Mixer: 20 Hz-20 kHz; recorder: 40 Hz-14 kHz	58 dB	2%	\$499
N/A	3-3/4 ips	±15%	Dolby B	Mixer: 20 Hz-20 kHz; recorder: 40 Hz-14 kHz	58 dB	2%	\$389
No	1.87 ips	No	No	Mixer 20 Hz-20 kHz; recorder 40 Hz-12 kHz	N/A	N/A	\$229
11	N/A	±8%	No	5 Hz-20 kHz	>94 dB	N/A	\$895
1	3-3/4 ips	±12%	dbx Type II	40 Hz-16 kHz	85 dB	1% (@1 kHz)	\$375
2 plus RTZ	3-3/4 ips	±12%	dbx Type II	40 Hz-16 kHz	95 dB	1% (@1 kHz)	\$599
20	N/A	±9.9%	None	20 Hz-20 kHz	>88 dB	<0.008%	\$1,499
N/A	1-7/8 ips	N/A	N/A	40 Hz-12.5 kHz	60 dB	1.5% (@1 kHz)	\$220
10	N/A	±6%	None	20 Hz-20 kHz	96 dB	0.02% (@1 kHz)	\$899
8	N/A	±12%	N/A	20 Hz-20 kHz	96 dB	0.02%	\$1,399



# OF LOCATE POINTS	TOTAL HARMONIC DISTORTION	CHANNEL CROSSTALK	ANALOG I/O	DIGITAL I/O	ONBOARD SYNC	JOG/SHUTTLE CONTROL	SPECIAL FEATURES	OPTIONS	PRICE
5	>.009	<-90 dB	RCA	Alesis 8-channel optical digital interface	ADAT Sync	No	Auto-punch; auto-record; rehearse mode; loop	BRC mstr rem cntrl; ADAT/EDIT PCI Card	\$1,899
10	<.005	<-90 dB	Elco, RCA	Alesis 8-channel optical digital interface	ADAT Sync	No	Auto-punch; auto-record; rehearse mode; loop; track copy	BRC master remote/synchronizer; ADAT/EDIT PCI Card	\$2,599
100	<.002%	<-90 dB	Elco; XLR	Alesis 8-channel optical digital interface	ADAT; SMPTE/EBU; word clock; video in/thru; MTC out	Yes	Auto-punch; auto-record; rehearse mode; loop; track copy	Controller/autolocator; remote meter display	\$4,999
100	N/A	<-90 dB	XLR; ELCO	ADAT optical; AES/EBU	Word clock, video, digital in, SMPTE in, SMPTE reader/generator, Sony 9-pin RS-422	Yes	Linear aux track; SMPTE track, monitor mixer	Cockpit remote control; remote meters	\$5,500
2 plus RTZ	0.007%	<-90 dB	25-pin D-sub; RCA	TDIF	Yes (see options)	Yes	108 minutes of record/playback time with standard 120 tape	Controllers; 54-84 sync card; IF series digit interfaces	\$5,199
2	.004%	90 dB	D-sub, RCA	T-DIF; S/PDIF	SMPTE, word clock, MIDI	Yes	Internal mixer, save-to-tape	Remotes	\$3,199

# MODULAR HARD-DISC RECORDERS

COMPANY	MODEL	# OF TRACKS	# OF VIRTUAL TRACKS	LEVELS OF UNDO	# OF LOCATE POINTS	ANALOG INPUTS	ANALOG OUTPUTS	DIGITAL I/O	BACKUP OPTIONS	JOG/SHUTTLE CONTROL
Akai	DPS12i Digital Personal Studio	12	250	N/A	112	(6) 1/4"	(2) RCA; (2) 1/4"	S/PDIF	N/A	N/A
Akai	DR16 Pro	16	80	1	108	(8) 1/4"	(16) 1/4"	AES/EBU; S/PDIF	SCSI; DVD-RAM	Yes
Akai	DPS16 Digital Personal Studio	16	250	N/A	116	(2) XLR; (6) 1/4"	(4) RCA; (4) 1/4"	RCA; S/PDIF I/O	N/A	N/A
Boss	VSR-880	8	128	999	1,032	8 + 2 balanced	8	stereo coax/opt. in/out	CD-RW software included	Yes
Boss	BR-8	8	64	1	999	2 line, 2 balanced	(2) line/phones	S/PDIF out	Zip disk built in	Yes
Edirol	ED A-6 Digital Multi Audio Station	8	64	99	N/A	1/4" mic; (2) RCA	(2) RCA	S/PDIF I/O	Zip	Yes
Fostex	D160V2	16	8	1	99	(8) RCA	(16) RCA	S/PDIF	ADAT; DAT; SCSI	Yes
Fostex	D-108	8	16	1	99	(8) RCA	(8) RCA	S/PDIF	ADAT; DAT; SCSI	Yes
Fostex	D824	8	16	Unlimited	99	Optional	Optional	S/PDIF; optical	SCSI; ADAT; DAT	Yes
Fostex	D1624	16	8	Unlimited	99	Optional	Optional	S/PDIF; optical	SCSI; ADAT; DAT	Yes
Fostex	VF-16	N/A	N/A	N/A	90	(8) 1/4"; (2) XLR	(2) 1/4"	S/PDIF and ADAT Optical	SCSI	Yes
Fostex	VR-800	24	N/A	N/A	N/A	N/A	N/A	ADAT optical I/Os	N/A	Yes
HHB	Genex GX8500	N/A	N/A	N/A	100	25-pin D sub	25-pin D sub	S/PDIF, AES, DSD	Magneto optical; Hard Disc; Syquest	N/A
HHB	Genex 8000	N/A	N/A	N/A	N/A	N/A	N/A	AES/EBU, XLR, IEC, 958 Type II, RCA	Magneto optical	N/A
Korg	D8	8	400	1	3	(2) 1/4"; RCA	(4) RCA; 1/4 (headphone)	S/PDIF optical	DAT; SCSI	Yes
Korg	D16	16	112	999	4	(2)XLR; (6) 1/4"	(2) RCA; (3) 1/4"	S/PDIF optical I/O	External hard drive	Yes
Otari	RADAR II HDR Series	24	Unlimited	99	100	25-pin D sub	25-pin D sub	TDIF; AES/EBU	SCSI; Exabyte; TDIF	Yes
Roland	VS-840EX Digital Studio Workstation	8	64	999	1,008	4	4	S/PDIF coax/opt. outs	ext./removable SCSI	Yes
Roland	VS-880EX Digital Studio Workstation	8	128	999	1,032	(6) TRS	(4) RCA	S/PDIF I/O	CD-R; CD-RW; ext. SCSI; DAT	Yes
Roland	VS-1680EX Digital Studio Workstation	16	256	999	1,064	(2) XLR; (6) 1/4"	8	S/PDIF I/O	CD-R; CD-RW; ext. SCSI; DAT	Yes
Sonitex	Courier Location Recorder	2	0	1	99	(2) XLR	(2) XLR	AES out	PCMCIA; ext. drives	Yes
Studer	DAR OMR8	8	N/A	1	2	optional	optional	optional	SCSI	Yes
Tascam	MX-2424	24	499 per track	100	100	24	24	TDIF; ADAT optical; AES/EBU	Travan tape drive, DVD-RAM, SCSI	Yes

CHANNEL EQ	SYNCHRONIZATION	TIME CODE RATES	# OF EXPANSION PORTS	ADC	DAC	SAMPLE RATES	SCSI	MAXIMUM ADDRESSABLE HARD DRIVE SIZE	OPTIONS	PRICE
N/A	MIDI Clock w/SPP, MTC	N/A	N/A	18-bit/64x	20-bit/8x	32, 44.1, 48 kHz	Yes	10 GB	Internal stereo FX processor; CD-R/CD-RW support	\$1,649
3-band parametric or HS/LS w/parametric midband	MIDI Clock w/SPP, MTC, SMPTE, RS422 serial TC	24, 25, 29.97, 29.97d, 30, 30d	0	24-bit/128x	20-bit/8x	32, 44.1, 48, 96 kHz	Yes	2,048 GB	SMPTE, MIDI, RS422 intrfcs; ADAT, TDIF, AES/EBU 16 ch I/O; EQ brd	\$4,295
N/A	MIDI Clock SPP, MTC, MMC	Yes	N/A	24-bit	24-bit	32, 44.1, 48, 96 kHz	N/A	N/A	6-inch diag. tilting display; Q-Link	\$2,695
3-band	MTC, MMC, SPP	No	1	24-bit	24-bit	32, 44.1, 48 kHz	Yes	6 GB	VS8F-2 card for 2 stereo FX w/COSM	\$1,795
3-band	MTC master, MMC, SPP	No	No	24-bit	20-bit	44.1 kHz	No	Built in Zip	Includes digital mixer with 3 stereo FX	\$845
Yes	MIDI MTC/MMC (master, slave)		1	20-bit/64x	20-bit/128x over sampling	44.1 kHz	Yes	2.1 GB	OP-1 expansion board	\$1695
N/A	MTC (SMPTE optional)	24, 25, 29, 29d, 30, 30d	2	18-bit/64x	20-bit/128x	44.1, 48 kHz	Yes	8 GB	Balanced I/O; time code; 2.5 GB hard drive	\$2,195
N/A	MTC (SMPTE optional)	24, 25, 29, 29d;	2	18-bit/64x	20-bit/128x	44.1, 48 kHz	Yes	8 GB	Balanced I/O; SMPTE interface 2.5 GB hard drive	\$1,495
No	Yes	24, 25, 30d, 30d, 29.97nd/df	N/A	16- and 24-bit	16- and 24-bit	44.1, 48 and 96 kHz	Yes	N/A	RS-422 to support P2 protocol; 24-bit/96 kHz audio	\$1,795
No	Yes	24, 25, 30nd, 30d, 29.97nd/df	N/A	16- and 24-bit	16- and 24-bit	44.1, 48 and 96 kHz	Yes	N/A	RS-422 to support P2 protocol; 24-bit/96 kHz audio	\$2,795
N/A	N/A	N/A	N/A	16-bit	16-bit	44.1 kHz	Yes	N/A	32-bit processing and mixing; imports/exports WAV file format	TBA
N/A	MTC, MMC, Fostex SysEx	N/A	N/A	20-bit/64x	20-bit/128x	44.1, 48 kHz	Yes	N/A	External Zip; internal hard drive; 3/16" optical cables; footswitch	\$749 (base)
N/A	LTC, Biphase, video, word clock	N/A	N/A	24-bit	24-bit	32-92 kHz	N/A	N/A		\$8495
N/A	N/A	N/A	N/A	20-bit	20-bit	32-92 kHz	N/A	N/A		\$6,860
Hi/lo shelving	MIDI Clock, MTC, MMC	30	0	18-bit	18-bit	44.1kHz	Yes	4 GB		\$1,090
Mid/hi/lo shelving	MTC	30	N/A	24-bit	24-bit/64x	44.1 kHz	Yes	1 terabyte		\$2,399
N/A	LTC, VITC, word clock	All	N/A	24-bit/128x	24-bit/128x	32, 44.1, 48 kHz	Yes	Unlimited	24-channel digital format converter; AES/EBU I/O card	\$24,950
3-band	MMC, MTC (master)	30, 29d, 29, 25, 24	N/A	20-bit/64x	20-bit/128x	32, 44.1 kHz	Optional	250 MB	VS-840BG bag; VS4S-1 SCSI exp kit; DR-20 mic (for modeling)	\$1,395
3-band	MTC, MMC, MIDI Clock	30, 29d, 29, 25, 24	1	20-bit/64x	20-bit/128x	32, 44.1, 48 kHz	Yes	32 GB	VS-CDR CD rec; VS-880TC case; SI-80S MTC cnvrtr	\$2,195
3-band	MTC, MMC, MIDI Clock	30, 29d, 29, 25, 24	2	20-bit/64x	20-bit/128x	32, 44.1, 48 kHz	Yes	128 GB	CD rec; VS8F-2 FX exp board; case; stand; video ownsr man.	\$3,195
No	No	No	No	16-bit	16-bit	8-48 kHz	No	520 MB	ISDN	\$2,675
soft. optional	Video, word clock, SMPTE, bi-phase, Sony-9 pin RS-422	24, 25, 29.97, 30, 30d	N/A	24-bit	24-bit	32, 44.1, 48 kHz	Yes	18 GB	8 channels of AES/EBU, TDIF I/O	\$13,000
No	SMPTE, word clock, video sync, MIDI, TL-Bus	All	3	24-bit	24-bit	44.1, 48, 88.2, 96 kHz	Yes	2 terabytes	audio I/O; back-up media; remote	\$3,999

# DIGITAL MIXDOWN MACHINES

MANUFACTURER

MODEL

TYPE

SAMPLING  
FREQUENCY

PLAYBACK  
FREQUENCY

ADC

DAC

ANALOG I/O

DIGITAL I/O

TIME CODE

SCMS

SEPARATE  
MIC INPUT

WRITE/READ  
SPEED

Alesis	MasterLink ML-9600	Hard disk; CD-R	44.1, 48, 88.2, 96kHz	44.1, 48, 88.2, 96kHz	24-bit/128x	24-bit/128x	XLR, RCA	XLR AES; RCA S/PDIF	N/A	N/A	No	4x/8x
Denon	DMD-1300P	MiniDisc	32, 44.1, 48 kHz	44.1 kHz	20-bit	20-bit	RCA	S/PDIF, TOSLINK	No	Yes	No	1 X
Denon	DN-M2000R	MiniDisc	44.1 kHz	44.1 kHz	16-bit	18-bit	RCA	RCA-S/PDIF	No	Yes	No	1 x
Denon	DN-M1050R	MiniDisc	32, 44.1, 48 kHz	44.1 kHz	16-bit	18-bit	XLR, RCA	AES/EBU; RCA-S/PDIF	Optional	Yes	No	1 x
Denon	DN-M2300R	MiniDisc	44.1 kHz	44.1 kHz	16-bit	18-bit	XLR; RCA	AES/EBU; RCA-S/PDIF	Optional	Yes	No	1 x
Denon	DN-M991R	MiniDisc	44.1 kHz	44.1 kHz	16-bit	16-bit	XLR	XLR	No	Yes	No	1 x
Fostex	D15	DAT	44.1, 48 kHz	44.1, 48 kHz	18-bit	18-bit	XLR	AES/EBU	Optional	No	No	N/A
Fostex	D25	DAT	44.1, 48 kHz	44.1, 48 kHz	18-bit	18-bit	XLR	AES/EBU	Yes	No	No	N/A
Fostex	D30	DAT	44.1, 48 kHz	44.1, 48 kHz	18-bit	18-bit	XLR	AES/EBU	Yes	No	No	N/A
Fostex	D5	DAT	32, 44.1, 48 kHz	44.1, 48 kHz	1-bit	1-bit	XLR	AES/EBU; S/PDIF (optical)	No	No	No	N/A
HHB	PDR1000	Portable DAT	32, 44.1, 48 kHz	32, 44.1, 48 kHz	16-bit	16-bit	XLR; RCA	AES/EBU; RCA-S/PDIF	Yes	No	Yes	Real-time; 1/2 speed
Marantz	PMD650	Portable	44.1 kHz	44.1 kHz	N/A	N/A	XLR, 1/4"; RCA	S/PDIF (coax)/XLR	No	No	Yes	N/A
Panasonic	SV-3800	DAT	32, 44.1, 48 kHz	32, 44.1, 48 kHz auto	18-bit	20-bit	XLR	AES/EBU; S/PDIF (optical/RCA)	N/A	Yes	No	N/A
Panasonic	SV-4100	DAT	32, 44.1, 48 kHz	32, 44.1, 48 kHz auto	18-bit	20-bit	XLR	AES/EBU; S/PDIF (optical/RCA)	Word clock	Yes	No	N/A
Sony	MDS-JE630	MiniDisc	44.1 kHz	Auto	24-bit	20-bit	RCA	S/PDIF (optical)	No	Yes	No	N/A
Sony	MZR-55CG	Portable MiniDisc	44.1 kHz	Auto	16-bit	16-bit	1/8" mini stereo	Optical/mini	No	Yes	Yes	N/A
Sony	PCM-M1	DAT	32, 44.1, 48 kHz	Auto	16-bit	16-bit	1/8" stereo mini	7-pin w/opt. cable	No	No	Yes	N/A
Sony	PCM-R300	DAT	32, 44.1, 48 kHz	Auto	20-bit	16-bit	RCA	S/PDIF	No	No	No	N/A
Sony	PCM-R500	DAT	32, 44.1, 48 kHz	Auto	20-bit	16-bit	XLR, RCA	AES/EBU; RCA-S/PDIF	No	No	No	N/A
Sony	TCD-D8	DAT	32, 44.1, 48 kHz	Auto	16-bit	16-bit	1/8" stereo mini	7-pin connector w/opt. cable	No	Yes	Yes	N/A
Sony	MDS-E11	MiniDisc	44.1k	44.1k	20-bit	20-bit	XLR; RCA	S/PDIF	N/A	Yes	N/A	N/A
Studer	D424	Magneto optical	44.056, 44.1, 47.952, 48 kHz	48 kHz	20-bit/64x	20-bit/128x	XLR	AES/EBU	Yes	N/A	Yes	N/A
Yamaha	MD8	MiniDisc	44.1 kHz	44.1 kHz	N/A	N/A	N/A	N/A	MTC	No	Yes	N/A

SCSI CONNECTION      TRANSPORT DISC LOADING      BUNDLED SOFTWARE      DISC-AT-ONCE      FREQUENCY RESPONSE      SIGNAL-TO-NOISE RATIO      TOTAL HARMONIC DISTORTION      SPECIAL FEATURES      PRICE

No	Front-loading CD-R drive	N/A	Yes	20 Hz-20 kHz	113 dB	<0.002%	Playlists; editing; CD24; audio CD	\$1,699
No	Motor driven	No	N/A	4 Hz-20 kHz	>105 dB	0.02%	Includes wireless remote	\$699
No	Manual	No	N/A	20 Hz-20 kHz	>92 dB	0.02%	Hot starts; A-B loop; pitch +/- 8%; jg/shntl; instnt strt cue to music	\$999
N/A	Motor driven	No	N/A	20 Hz-20 kHz	>92 dB	0.012%	Extrnl sync; hot-start option; RS232/422; PC kybrd cntrl	\$1,999
N/A	Motor driven	No	N/A	20 Hz-20 kHz	>92 dB	<0.012%	Ext sync; hot-start opt; RS232/422; stndrd PC kybrd cnctr	\$1,999
No	Manual	Optional	N/A	20 Hz-20 kHz	>84 dB	0.02%	Hot start; shock memory; undo/redo; RS232/422; DN-M991RM version offers enhanced On-air and production features	\$2,299
No	Drawer	No	N/A	20 Hz-20 kHz	92 dB	0.05%	Parallel port; time code w/video ref; RS422 rack optional	\$3,195
No	Drawer	No	N/A	20 Hz-20 kHz	90 dB	0.05%	Sprt audio chans and varisped over RS422 port	\$7,995
No	Tray	No	N/A	20 Hz-20 kHz	92 dB	0.05%	LED scrm; sprt audio chans/usr presets	\$10,995
No	Tray	No	N/A	20 Hz-20 kHz	92 dB	N/A	Supplied infrared remote	\$1,029
No	Manual	No	Optional	20 Hz-22 kHz	90 dB	<0.015%	Time-code vrsn; mstr sync module & hdphn matrix options	\$6,995
No	Top load	No	N/A	20 Hz-20 kHz	85 dB	0.05%	Smlng-freq cnvrtr; phant pwr; audio buffr; dual mono rec	\$1,399
No	N/A	No	N/A	10 Hz-22 kHz	>92 dB	<0.007%	Rmt cntrl; opt hard-wired cntrl	\$1,695
No	N/A	No	N/A	16 Hz-22 kHz	>92 dB	<0.007%	Remote control	\$2,650
No	N/A	No	N/A	5 Hz-20 kHz	>96 dB	N/A	Smlng-freq cnvrtr allows dir rec from dgtl srce (48 kHz/32 kHz)	\$360
No	N/A	No	N/A	15 Hz-20 kHz	>96 dB	N/A	Editing/song srch; datl smpl-rt cnvrtr; hdphn/rmt; auto-lmtr	\$399
No	N/A	No	N/A	20 Hz-20 kHz	N/A	<0.008%	Adjustable level-sync; AGC/limiter circuit	\$1,000
No	N/A	No	N/A	20 Hz-20 kHz	>90 dB	<0.06%	20-bit A/D with super bit-mapping	\$995
No	N/A	No	N/A	20 Hz-20 kHz	>90 dB	<0.06%	20-bit A/D with super bit-mapping; 4 D.D. motor transport	\$1,695
No	N/A	No	N/A	20 Hz-20 kHz	>90 dB	<0.008%	High speed search/cue; auto-limiter; back-lit LCD	\$899
N/A	N/A	N/A	N/A	5 Hz-20kHz	96 dB	N/A	Parallel and serial (RS-232C) control ports; included wired/wireless remote; sequential playback bus	\$870
SCSI-2	Motor	Proprietary (SADIE compatible)	N/A	20 Hz-20 kHz	96-120 dB	N/A		\$6,000
No	N/A	No	N/A	20 Hz-20 kHz	96 dB	0.012%	Cut and paste editing	\$1,399

# CD RECORDERS

MANUFACTURER	PRODUCT	RECORD FORMATS	ANALOG I/O	DIGITAL I/O	SAMPLING RATES	DISC AT ONCE/ TRACK AT ONCE	INDIVIDUAL TRACK RECORD STOP/START	MANUAL TRACK INCREMENT	AUTO LEVEL RECORD	RECORD MUTE	TRACK NUMBERING	SAMPLE RATE CONVERSION
Fostex	CR-300	CD-R, CD-RW	RCA; XLR	S/PDIF(optical); AES/EBU	44.1 kHz	N/A	N/A	N/A	N/A	N/A	N/A	Yes
HHB	CDR 850	Audio CD-R, CD-RW	RCA; XLR	S/PDIF(optical); AES/EBU	44.1 kHz	Y/Y	Yes	Yes	N/A	N/A	Yes	Yes
Marantz	Professional CDR630	CD-R, CD-RW	XLR; RCA	S/PDIF (RCA, optical)	12-56 kHz	Y/Y	Yes	Yes	N/A	N/A	DAT ID reader	Yes
Microboards	AudioWrite Pro	CD-R	RCA	No	44.1 kHz	N/A	N/A	N/A	No	N/A	N/A	Yes
Microboards	Copywriter A2D	CD-R	RCA	No	44.1 kHz	N/A	N/A	N/A	N/A	N/A	N/A	No
Philips	200W Mini Shelf System with Integrated Audio CD Recorder	Audio CD-R, & CD-RW	1/1	S/PDIF (RCA)	12-56 kHz	Yes	Yes	Yes	Yes	Yes, soft mute	Yes	Yes
Philips	Dual Deck Audio CD Recorder	Audio CD-R, & CD-RW	1/2	S/PDIF (RCA, optical)	12-56 kHz	Yes	Yes	Yes	N/A	Yes, soft mute	Automatic or via manual increment	Yes
Philips	Integrated 3 CD-Changer/ CD Audio Recorder	Audio CD-R, & CD-RW	1/1	S/PDIF (RCA, optical)	12-56 kHz	Yes	Yes	Yes	Yes	Yes, soft mute	Automatic or via manual increment	Yes
Philips	Mini 100W Shelf System with integrated CD Recorder	Audio CD-R, CD-RW	1/1 (1 mic in)	S/PDIF (RCA)	12-56 kHz	Yes	Yes	Yes	Yes	Yes, soft mute	Yes	Yes
Philips	Premium Audio CD Recorder	Audio CD-R, CD-RW	1 XLR/1	S/PDIF (RCA, optical)	12-56 kHz	Yes	Yes	Yes	N/A	Yes, soft mute	Yes	Yes
Philips	Single Deck Audio CD Recorder	Audio CD-R, CD-RW	1/1	S/PDIF (RCA, optical)	12-56 kHz	Yes	Yes	Yes	N/A	Yes, soft mute	Automatic or via manual increment	Yes
TASCAM	CD-RW2000	Audio CD-R, CD-RW	XLR; RCA	S/PDIF (RCA, optical)	44.1 kHz	No/Yes	Yes	Yes, or automatic	Yes	Yes	Auto or manual	Yes
TASCAM	CD-RW700	Audio CD-R, CD-RW	RCA	S/PDIF (RCA, optical)	44.1 kHz	No/Yes	Yes	Yes or automatic	Yes	Yes	Auto or manual	Yes
Yamaha	CDR1000	Audio CD-R, CD-RW	XLR	AES/EBU; S/PDIF	30-50 kHz	N/A	Yes	Yes	No	Yes	Auto or manual	Yes

SERIAL COPY MANAGEMENT SYSTEM	RECORDING TIME DISPLAY	ERROR REPORTING	HEADPHONE JACK	REMOTE CONTROL	SCSI	DIMENSIONS	WEIGHT (LBS.)	ADDITIONAL FEATURES	PRICE
Yes	Yes	N/A	Yes	N/A	Yes	3U rackmount	N/A	Built-in data back-up	\$1,399
Selectable	Yes	Yes	Yes	N/A	No	2U rackmount	N/A	Timecode; adjustable auto-stop delay	\$1,249
No	N/A	N/A	Yes	Yes	No	N/A	N/A	44.1 kHz SRC bypass	\$799
N/A	Yes	Yes	Yes	No	Yes	11x7x4	10.5	Direct PC interface; MP3 download software incl.	\$649
N/A	N/A	Yes	Yes	No	Yes	17x10.6x9.8	11.7	Microphone input	\$2,695
Yes	Yes	Yes	Yes	Yes	N/A	10.4x12.2x13.2 (set); 9.4x12.2x9.8 (speakers)	48.5	Automatic volume equalization	\$600
Yes	Yes	Yes	Yes	Yes	N/A	17.1x3.46x12.2	11		\$450
Yes	Yes	Yes	Yes	Yes	N/A	17.1x5.6x14.5	16.8	Mic input; automatic equalizing of volume levels	\$500
Yes	Yes	Yes	Yes	Yes	N/A	10.4x12.2x13.2 (set); 9.4x12.2x9.8 (speaker)	48.5	Automatic volume level equalization	\$500
Yes	Yes	Yes	Yes	Yes	N/A	17.1x3.46x12.2	9.9		\$500
Yes	Yes	Yes	Yes	Yes	N/A	17.1x3.46x12.2	8.82		\$400
Yes/defeatable	Yes	Yes	Yes	Yes	No	19x39x12.3	14.5	RAM buffer; digital fade-in/out; word clock	\$1,125
Yes/defeatable	Yes	Yes	Yes	Yes	No	19x39x12.3	13.9	24-bit A/D and D/A; adjustable digital gain	\$699
Yes/defeatable	Yes	No	Yes	Yes	No	19x3.5x14.63	17.6	Accepts external word clock input (Apogee UV22 equipped)	\$1,799

# SEQUENCERS (MIDI AND DIGITAL AUDIO)

MANUFACTURER	PROGRAM	PLATFORM	SIMULTANEOUS MIDI TRACKS	MAXIMUM CLOCK RESOLUTION (PPQN)	QUANTIZATION TYPES	SEQUENCING METHOD	EDITING VIEWS	GRAPHIC FADERS	SYSEX EDITING	LOOPING	# OF AUDIO TRACKS
Cakewalk	Pro Audio	Win 95/98/NT	256	480	Swing; percentage; groove	Linear	Track; console; audio; multitrack piano roll; staff; temp	Yes	Yes	Yes	256
Cakewalk	Guitar Studio	Win 95/95/NT	256	480	Swing; percentage; groove	Linear	Track; console; audio; piano roll; staff; temp; studio ware	Yes	Yes	Yes	16
Cakewalk	Home Studio	Win 95/98/NT	256	480	Swing (real-time, offline, input); percentage	Linear	Track; console; audio; piano roll/cntrlr; staff; studio ware; SYSEX	Yes	No	Yes	8
Cakewalk	Metro	Mac	99	960	Swing; percentage; groove	Pattern based on linear	Track view, graphic editor; integrated audio/MIDI/velocity/cntrlr/pitch	Yes	Yes	Yes	64
Cakewalk	Guitar Tracks	Win 95/98	No	N/A	N/A	Linear	Audio	Yes	No	Yes	8
Emagic	Logic Audio Silver 4.2	Mac/Win 98	Unlimited	960	Input; output; swing; groove	Linear; pattern	Piano roll; event list; notation; stereo sample editing	Yes	No	Yes	4-24
Emagic	Logic Audio Gold 4.2	Mac/Win 98	Unlimited	960	Groove; swing; percentage; range; length; flam; velocity	Linear; pattern, folder	List; score; matrix (piano roll); hyper edit; environment; more	Yes	Yes	Yes	Up to 64
Emagic	Logic Audio Platinum 4.2	Mac/Win 98	Unlimited	960	Groove; swing; percentage; range; length; flam; velocity	Linear; pattern, folder	List; score; matrix (piano roll); hyper edit; stereo sample editor; environment editor	Yes	Yes	Yes	Up to 128
Emagic	MicroLogic AV 4.2	Mac/Win 98	Unlimited	960	Normal; swing	Linear	List; score; matrix	Yes	No	Yes	16
FASoft	n-Track Studio	Win 95/98/NT	Unlimited	480	N/A	N/A	Timeline, piano roll	Yes	No	Yes	Unlimited
Mark of the Unicorn	Digital Performer 2.7	Mac	Unlimited	Unlimited	Input; output; swing; groove; humanize	Linear; pattern	Track overview; graphic; drum editor; event list; notation	Yes	Yes	Yes	Unlimited
Mark of the Unicorn	FreeStyle (Mac/PC)	Mac/Win	Trackless	960	Straight; offset	Linear; loop	Piano roll; notation; event list (2.3)	No	Yes	Yes	0
Mark of the Unicorn	Performer 6	Mac	Unlimited	480	Input; output; swing; groove; humanize; GrooveEditor	Linear; pattern; chunk	Graphic; event list; notation	Yes	Yes	Yes	Up to 8
Midisoft	Studio Recording Session 1.0	Win 95	Unlimited	1000	Percentage	Linear	Notation; MIDI list	Yes	Yes	No	8
Musicator	Musicator Win 3.0	Win 3.1/95	255	480	Swing; percentage	Linear	Track/passage/bar; roll view; notation; audio; effects	Yes	Yes	Yes	32
Personal Composer	Personal Composer	PC	8, 16, 44	1024	Note-on, Note-off	Linear	Page, scroll, split-screen	Yes	No	No	NA
PG Music	Band-In-A-Box	Win 3.1/95/98/NT; Mac	12	120	Swing; percentage; randomize	Chord prog & style sel	Chord; staff/staff roll nota; style edit; Style Maker; MIDI chans	No	Yes	Yes	0
PG Music	PowerTracks Pro	Win 3.1/95/NT	48	960	Swing; percentage; randomize	Linear; step	Tracks; audio; mixer; events; bars; roll notation; SysEx editor	Yes	Yes	Yes	Up to 48
Roland	MC-50mkII	Roland S-MRC	8 (32 chan)	96	Grid	Linear/step	Track; event	No	Yes	Yes	0
Roland	MC-80	Roland MRC-Pro	16 (32 chan)	480	Grid; groove; shuffle	Step/real; pattern/linear	Track; event	No	Yes	Yes	0
Steinberg	Cubase VST/24 3.7	Win 95/98	Unlimited	384	Over; note on; interactive; analytic; freeze editable; groove	Linear	Key; list; score; drum; logical	Yes	Yes	Yes	Up to 96
Steinberg	Cubase VST/24 4.1/ VST 4.1	Mac	Unlimited	1920	Over; note on; interactive; analytic; freeze editable; groove	Linear	Key; list; score; drum; logical; controller	Yes	Yes	Yes	96/64
Steinberg	Cubase Score VST 3.7	Win 95	Unlimited	384	Over; note on; interactive; analytic; freeze editable; groove	Linear	Key; list; score; drum; logical	Yes	Yes	Yes	64
Steinberg	Cubase Score VST 4.1	Mac	Unlimited	1920	Over; note on; interactive; analytic; freeze editable; groove	Linear	Key; list; score; drum; logical; controller	Yes	Yes	Yes	64



**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**

**PRICE**

Yes	32-bit; real-time stereo FX	No	Yes	Format	Yes	DirectX	Yes	Yes	Sprts 24-bit/96 kHz, AVI, MPEG, QuickTime, RealMedia, encode to MP3, Audio X support	\$429-\$529
Yes	32-bit; real-time stereo FX	No	Yes	Yes	No	DirectX	No	No	Sprts tab; virtual frbrd; MIDI glr tlch fltr; MIDI FX; Roland GR-30 cntrl pnt; StudioWare; SMPTE/MTC	\$249
Yes	32-bit; real-time stereo rvrb; chrs	No	Yes	Basic	No	DirectX	No	No	Sprts AVI, MPEG, QuickTime, RealMedia; vector autmnt, MIDI FX; StudioWare	\$129
Yes	Real-time; stereo (para EQ, chrs, flngr, dly, rvrb, trml)	No	No	N/A	Yes	VST; Premiere	No	No	Rhythm Explorer; Note Spray; sprts: QuickTime, OMS, SMPTE/MTC, ASIO, import MP3's	\$249
	Delay, EQ; chorus	No	Yes	N/A	No	N/A	No	No	Drag and drop drummer, Slowblast, tuner	\$69
Yes	21 native effects	Yes	Yes	Traditional	No	VST; DirectX; Emagic	No	Yes	Load Logic/Logic Audio files; import Logic/ Logic Audio Environ templates	\$299
Yes	32 native plug-ins	Yes	Yes	Formant; trad.	Yes	VST; DirectX; Premiere; ASuite	Yes	Yes	Sprts ASIO, Audiowerk8/2, VS880/880EX/1680, more; real-time MIDI editing; Emagic plug-ins	\$499
Yes	40 native plug-ins	Yes	Yes	Formant; trad.	Yes	TDM; VST; DirectX; Premiere; ASuite; Emagic	Yes	Yes	Sprts TDM/DAE, ASIO, StudI/O, Roland VS, 1212, CBX, AV, Akai DR8/16, 24-bit/96k; xtades; 90 scrn-sets; 500 key/MIDI cmnds	\$799
Yes	6 native plug-ins	Yes	No	N/A	Yes	N/A	No	No	ASIO 2.0, Audiowerk8/2, Direct I/O, MME/ Mac AV, Real-time seq edit; Supports Win 2000	\$99
Yes	Reverb, echo, pitch-shift, chorus	Yes	N/A	N/A	Yes	DirectX	No	No		\$35-\$55
Yes	e-Verb; preamp-1; lim/comp; Sonic Modulator, auto-pan	Yes	Yes	Formant	Yes	TDM; MAS; Premiere	No	No	MIDI time stamping, MAS plug-in autmnt; 24-bit wavform editor; sprts QuickTime,	\$795
No	N/A	No	No	None	No	N/A	No	No	Sense tempo; note-spelling algorithms; step sequencing	\$195
Yes	EQ; dyn; chrs; flng; dly; phase shft; auto-pn; ech; trml	Yes	No	None	No	MAS	No	No	QuickTime support; Unisyn; cstm consoles for Roland VS-880; window sets; WYSIWYG notation editing	\$495
No	Dly; echo; chrs; flngr; EQ	Yes	No	Traditional	Yes	N/A	No	No	Multisequence playback; articulation mrks; more	\$150
Yes	N/A	No	No	N/A	Yes	N/A	No	No	Notation; frnt-pnl cntrls for GS; XG, SC-88 PRO FX; lng file nms w/Win 95	\$299
No	NA	No	No	RTC	No	NA	No	No	Transpose, copy to WP and DTP apps	\$69-\$199
No	N/A	No	No	N/A	No	N/A	No	No	Automatic soloing & songwriting; international language	\$88-\$249
Yes	Comp; gate; dist; rvrb; echo; chrs; flngr; ring mod; trem	Yes	No	No	Yes	Proprietary	No	No	Sprts .MID, .KAR, .WAV, .MP3, any Win comp format, international lang; guitar tuner.	\$29-\$49
No	N/A	No	No	N/A	No	N/A	No	No	2 MIDI outs	\$795
No	N/A	No	No	N/A	No	N/A	No	No	Dir frm disk plybck; exp arpegg; RPS; music-1; 2 footswitches	\$1,295
Yes	Reverse; ptch shft; EQ; varispd; chrs; dly; rvrb; pan; fuzz	Yes	Yes	Traditional	Yes	VST; DirectX	No	Yes	Up to 24/96k audio; proscoring; VST instruments; import REX and Mixman files; studio module; cue trax	\$799
Yes	4-band EQ; rvrb; chrs; dly; pan; fuzz; spatial; more	Yes	Yes	Formant	Yes	VST	No	Yes	Up to 24-bit/96k; VST instruments; import REX files; score VST w/pro scoring features	\$549-\$799
Yes	Reverse; ptch shft; EQ; chrs; dly; rvrb; pan; fuzz	Yes	Yes	Traditional	Yes	VST; DirectX	No	Yes	Pro Scoring; VST instruments; import REX and Mixman files; studio module; cue trax; arpeg	\$549
Yes	4-band EQ; rvrb; chrs; dly; pan; fuzz; spatial	Yes	Yes	Traditional	Yes	VST; DirectX	No	Yes	VST Instruments; import REX; style trax	\$399

# SEQUENCERS (MIDI AND DIGITAL AUDIO)

MANUFACTURER	PROGRAM	PLATFORM	SIMULTANEOUS MIDI TRACKS	MAXIMUM CLOCK RESOLUTION (PPQN)	QUANTIZATION TYPES	SEQUENCING METHOD	EDITING VIEWS	GRAPHIC FADERS	SYSEX EDITING	LOOPING	# OF AUDIO TRACKS
Steinberg	Cubase VST 3.7	Win 95/98	Unlimited	888	Over; note on; groove	Linear	Key, list; score; drum; logical	Yes	Yes	Yes	8
Steinberg	Cubasis AV	Mac	64 (x16)	384	Program auto	Linear	Key; list; score	Yes	No	Yes	8
Steinberg	Cubasis VST	PC Win 95/98	64	384	6	Linear	Key, list	Yes	No	Yes	64
Steinberg	Nuendo	Win 98/ NT 2000	Unlimited	N/A	6	Linear	Key, EDL; pool; sample editor; surround	Yes	Yes	Yes	128
Technosaurus	CYCLODON	Hardware 16 Step Sequencer	N/A	N/A	N/A	16 step	N/A	N/A	N/A	Yes	N/A
Voyetra	Digital Orchestrator Pro	Win 3.1/95/ NT 4.0	Unlimited	1920	Intensity; sensitivity; offset; inside/outside range	Linear	Graphic cntrlr editor; MIDI mxr; multitrack; notation; conductor	Yes	Yes	Yes	Unlimited (h/drw-dep)
WinJammer	WinJammer Professional Version 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	None
Yamaha	RM1x	Hardware sequencer	16	480	Grid; percentage; groove templates	Step; real; pattern; linear	Event; track; pattern chain	Yes	Yes	Yes	None
Yamaha	XGworks 3.0	PC	100	480	Strength; sensitivity; swing; gate; velocity	Step; real; pattern; linear	Track view; piano roll; staff; drum; event list	Yes	Yes	Yes	6 stereo

## M•ONE

### DUAL EFFECTS PROCESSOR

#### BEHIND THE EXTERIOR OF THIS COOL REVERB

- lie more than 20 years of know how & experience in supplying solutions for demanding audio professionals.

#### MAIN FEATURES

- ▶ 20 incredible TC effects: Reverb, Chorus, Tremolo, Pitch, Delay, Dynamics...
- ▶ Analog-style User Interface
- ▶ Presets: 100 Factory/100 User
- ▶ Dual-Engine™ design
- ▶ 24 bit A/D-D/A converters
- ▶ S/PDIF digital I/O, 44.1-48kHz
- ▶ 1/4" Jacks - Dual I/O
- ▶ 24 bit internal processing

#### SAY YOU WANT TO...

- ▶ Run two of the best sounding Reverbs or other quality effects simultaneously, without compromising sound
- ▶ Have more flexibility to create cool quality effects
- ▶ Have instant control of all vital parameters right at your fingertips
- ▶ Shortly put: Get right down to the business of making music instead of wasting time programming

#### YOU MUST CHECK OUT THIS MACHINE INSTANTLY!

## D•TWO

### MULTITAP RHYTHM DELAY

#### BASED ON THE CLASSIC TC 2290 DELAY

- TC introduces direct tap-in of actual rhythmical patterns as well as control of exact number of repeats and their duration.

#### MAIN FEATURES

- ▶ Multitap Rhythm Delay
- ▶ Absolute Repeat Control
- ▶ Up to 10 seconds of Delay
- ▶ Presets: 50 Factory/100 User
- ▶ 24 bit A/D-D/A converters
- ▶ S/PDIF digital I/O, 44.1-48kHz
- ▶ 1/4" Jacks - Dual I/O
- ▶ 24 bit internal processing

#### SIX UNIQUE DIRECT-ACCESS FEATURES...

- ▶ SPATIAL - Experience extra wide delay with a single keystroke
- ▶ PING-PONG - Pick any of five patterns and set the relationship between Panning speed and Delay tempo
- ▶ REVERSE - Reverse Delay with the flick of a key
- ▶ DYNAMIC - Set release time and threshold to let the Input signal control the level of Delay - keeping everything nice and tidy
- ▶ CHORUS - Or perhaps you prefer Flanger? Hit one key and you've instantly added it to your Delay
- ▶ FILTER - Increase filtering as repeats decay

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	PRICE
Yes	Reverse, pitch shift; EQ	Yes	Yes	Traditional	Yes	VST, DirectX	No	Yes	VST instruments; import REX and Mixman files	\$399
No	2-band EQ; rrvb, dly	No	No	No	No	N/A	No	No	QuickTime; MIDI clock send/rcv; 30 staves of notation	\$99
Yes	2 FX sends per channel; 2 band EQ per channel	No	Yes	Standard	Yes	VST, DirectX	No	Yes	VST instruments included; Master Unit; CD burning; mp3 export, REX import, Mixman trk import	\$99
Yes	Chorus, delay, reverb; panning; fuzz; spacial	Yes	Yes	Formant	Yes	VST, DirectX	No	Yes	Surround sound built in; EDL; unlimited undo with history; VST Instruments; import DMF files; import REX files	\$1,295
N/A	N/A	N/A	N/A	Knobs	N/A	N/A	N/A	N/A	Analog 16 Step Sequencer	\$329
Yes	EQ; dly	Yes	Yes	Traditional	Yes	N/A	No	No	Mixdown, export to ACM-compatible, export to any avail codes	\$199
No	N/A	No	No	No	No	N/A	No	No		\$200
No	Reverb x11, Chorus x 11, Variation x 43	Yes	Yes	Normal	N/A	N/A	N/A	N/A	654 normal voices; 46 drum kits; 3.5 FDD; SMF compatible; 8 realtime control knobs w/ 16 parameters	\$900
Yes	Hardware dependent	Yes	Yes	Normal	Via software (TWE)	Proprietary (hardware)	Yes	Programmable	Guitar arranger; auto arranger; XG editor; Voice to score; multiple notation formats	\$100



**t.c. electronic**  
ULTIMATE SOUND MACHINES

DENMARK ▶ PHONE: + 45 8742 7000 ▶ USA ▶ PHONE: (805) 373 1828  
INFO@TCELECTRONIC.COM ▶ WWW.TCELECTRONIC.COM



# ANALOG MIXING CONSOLES

MANUFACTURER	PRODUCT	MIXER CONFIGURATION	MIC INPUTS (XLR) LINE INPUTS	# OF INSERTS / DIRECT OUTS	# OF AUX SENDS / RETURNS / TYPE	# OF BUS OUTPUTS / TYPE	EQ	MUTE	SOLO-IN-PLACE	FREQUENCY RESPONSE
Alesis	Studio 32	16x4x2; 40x2	16/40	16/16	6/4/ 1/4"	4/1/4" TRS	High/low shelving	Yes +/-0.5 dB	Yes	20 Hz-50 kHz
Alesis	Studio 24	16x4x2; 12x2	8/28	8/8	4/2/ 1/4"	2/ 1/4"	High/low shelving	Yes +/-0.5 dB	Yes	20 Hz-50 kHz
Alesis	Studio 12R	14x2	8/14	8/0	2/1/ 1/4"	N/A	High/low shelving	No	No	20 Hz-50 kHz +/-0.5 dB
Allen & Heath	GS 3000	24 or 32x8x2	24/32	1/1	6+/2	8	4-band	Yes	Yes	20 Hz-20 kHz
API	7600	1x4	Mic XLR; 1/4	4/1	4 sends	N/A	HP/LP filters	Yes	Yes	30 Hz-20kHz
Ashly Audio	MX-508	8x2	8/8	8/8	2/2/ 1/4"	N/A	3-band w/sweepable mid	Yes	No	20 Hz-20 kHz, +/- .5dB
Behringer	Eurodesk MX9000	24x8x2	24/24	24/24	6/6	3	4-band	Yes	Yes	20Hz-40kHz, +/- 1dB
Behringer	Eurodesk MX8000A	24x8x2	24/24	24/24	6/6	3	4-band parametric	Yes	Yes	20 Hz-40 kHz, +/- 1dB
Behringer	Eurodesk MX3282A	24x8x2	24/24	24 mic	8/4	8	3-band parametric	Yes	Yes	20 Hz-40k Hz +/- 1dB
Behringer	Eurodesk MX2442A	24x8x2	16/16; stereo inputs	20 mic	6/2	4	3-band parametric	Yes	Yes	20 Hz-40 kHz +/- 1dB
Behringer	Eurorack MX3242X	14-input 4-bus mixer	6/8	24 mic	7/7	2/ 1/4"	3-band	Yes	Yes	10 Hz-60 kHz
Behringer	Eurorack MX2642A	24x4x8	8/8 ; 4 stereo channels	10/8	6/4	4	3-band parametric	Yes	Yes	20 Hz-40 kHz +/- 1dB
Behringer	Eurorack MX2004A	20 Input Alt. 4-Bus Mixer	8/8; 4 stereo channels	8 inserts	2/2	N/A	3-band parametric mids	Yes	Yes	20 Hz-40 kHz +/- 1dB
Behringer	Eurorack MX1604A	16 Input Alt. 4-Bus Mixer	4/4; 4 stereo channels	N/N	2/2	N/A	3-band parametric mids	Yes	Yes	10 Hz-60 kHz +/- 3 dB
Behringer	Eurorack MX802A	8 Input 2-Bus Mixer	4/4; 2 stereo inputs	N/N	2/2	N/A	3-band	N/A	N/A	10 Hz-120 kHz +/- 3 dB
Behringer	Eurorack MX602A	6 Input 2-Bus Mixer	2/2; 2 stereo channels	N/A	2/2	N/A	3-band	N/A	N/A	10 Hz-60 kHz +/- 3 dB
Behringer	Pro Mixer DX100	4x1	1/3	N/A	N/A	2	3-band	N/A	PFL	10 Hz-80 kHz +/- 3 dB
Behringer	Pro Mixer DX500 TBA	8x1	1/7	N/A	1/1	3	3-band	N/A	PFL	10 Hz-60 kHz +/- 3 dB
Behringer	Pro Mixer DX1000	12x2	2/10	N/A	1/2	2	3-band	Yes	PFL	10 Hz-100 kHz +/- 3 dB
Carvin	Studiomate	16x2	8/16	8	2/2/ 1/4"	(2) 1/4"; (2) RCA	3-band	No	No	20 Hz-20 kHz
Carvin	C800	8x2x1	8 /8	8	5/4/ 1/4"	(3) XLR	3-band w/mid	Yes	No	20 Hz-20 kHz
Crate	CSM8	8x2x1	8/8	8/8	4/2	2/XLR; 1/4"	3-band	Yes	PFL solo / mono	20 Hz-20 kHz
Crate	CSM12	12x2x1	12/12	12/12	4/2	2/XLR; 1/4"	3-Band	Yes	PFL solo / mono	20 Hz-20 kHz

SIGNAL-TO-NOISE RATIO	TOTAL HARMONIC DISTORTION	DYNAMIC RANGE	CHANNEL CROSSTALK (@ 1 KHZ)	PHANTOM POWER	TALKBACK / ONBOARD OSCILLATOR	DEDICATED 2-TRACK RETURNS	SPECIAL FEATURES	DIMENSIONS	PRICE
90 dB	<0.0025% @ 1 kHz	108 dB	>-80 dB	Global	N/N	Yes	Inline monitor w/FX and control room sections	17.5x16.5x6	\$1,149
90 dB	<0.0025% @ 1 kHz	108 dB	>-80 dB	Global	N/N	Yes	Inline monitor w/FX and control room sections	15x17x4.25	\$799
90 dB	<0.005% @ 1 kHz	108 dB	>-85 dB	Global	N/N	Yes	Rackmount; head/control room outs	19x6x5.25	\$449
N/A	0.006%	N/A	<-100 dB	Yes (per chan)	Y/Y	Yes		N/A	\$5,995-6,995
-128 dB	<0.05%	N/A	N/A	48V	N/A	N/A	Units stack to build 4-buss console/sidecards	1U	\$2,995
-90 dBu	<0.05%	-128 dBu	-85 dB	Yes	N/N	Yes	Rackmount	19.0x5.25x9.6	\$1,519
>129.0 dBu	0.007%	125 dB	-95 dB	48V	Y/N	Yes	24 inputs with 2-band EQ; built-in meter bridge	8.6x37x29.5	\$2,199
>129.0 dBu	0.007%	125 dB	-95 dB	48V	Y/N	Yes	24 inputs with 2-band EQ; meter bridge option	5.5x37x29.5	
>129.0 dB	0.007%	125 dB	-95 dB	48V	Y/N	Yes		4x41x21	\$1,399
>129.5 dBu	0.007%	125 dB	-95 dB	48V	Y/N	Yes		4x28.5x18	\$999
-112 dB	0.007%	N/A	-95 dB	48V	N/N	Yes	7-band master graphic EQ; 24-bit digital FX	16.06x15.09x3.125	\$1,149
-129.0 dBu	0.007%	125 dB	-95 dB	48V	N/N	Yes	Rackmount kit included	6x19x14	\$459
-129.5 dBu	0.007%	125 dB	-95 dB	48V	N/N	Yes	Alternate 3/4 bus; rackmount kit included	3.5x16x15	\$349
113.6 dB	0.007%	125 dB	-95 dB	48V	N/N	Yes	Alternate 3/4-Bus; rackmount kit included	3.5x16x15	\$229
-129.5 dBu	0.007%	125 dB	-95 dB	48V	N/N	Yes		3x9x10.6	\$149
-129.5 dBu	0.007%	N/A	N/A	48V	N/N	Yes		1.3x6.3x8.2	\$99
115 dB	0.004%	N/A	N/A	No	N/N	—	Punch buttons for creative mixing	8x10x2.75	\$119
115 dB	0.002%	N/A	N/A	No	N/N	—	Loopable internal 12-second digital sampler	14x11x5	\$229
115 dB	0.003%	N/A	N/A	No	N/N	—	Talkover mic function; remote start buttons	6x17.5x6	\$579
90 dB	<0.1%	104 dB	N/A	Yes	N/N	Yes	Low-noise toroid transformer	16x12x3	\$300
90 dB	<0.009%	104 dB	N/A	Yes	N/N	Yes	24-bit digital FX; 9-band graphic EQ	14x14.5x3.5	\$500
94 dB	<0.1%	N/A	-70 dB	48V	N/A	N/A	Balanced XLR & 1/4" outs; PFL output	20.25x4.25	\$480
94 dB	<0.1%	N/A	-70 dB	48 V	N/A	N/A	Balanced XLR & 1/4" outs; PFL output	25.13x4.25	\$600

# ANALOG MIXING CONSOLES

MANUFACTURER	PRODUCT	MIXER CONFIGURATION	MIC INPUTS (XLR) / LINE INPUTS	# OF INSERTS / DIRECT OUTS	# OF AUX SENDS / RETURNS / TYPE	# OF BUS OUTPUTS / TYPE	EQ	MUTE	SOLO-IN-PLACE	FREQUENCY RESPONSE
Crate	CSM16	16x2x1	16/16	16/16	4/2	2/XLR; 1/4"	3-Band	Yes	PFL solo / mono	20 Hz-20 kHz
Crate	CSM24	24x2x1	24/24	24/24	4/2	2/XLR; 1/4"	3-Band	Yes	PFL solo / mono	20 Hz-20 kHz
Crate	CSM1402	18x2x1	6/18	6/0	2/2	None	3-band	Yes	Yes	70 Hz-120 kHz
D&R	Orion X	24x16x2; 24 L-C-R mods	24	48/24	8/8	16	4-band	Yes	Yes	20 Hz-120 kHz, -0.5 dB
D&R	Vision 32	32/8/2	32	32/32	8/8	8/+ 4/-10 dBv	4-band	Yes	Yes	20 Hz-120 kHz, -0.5 dB
D&R	Vision 8	8x4x2	8	8/8	4/4	8/+ 4/-10 dBv	3-band	Yes	N/A	20 Hz-120 kHz, -0.5 dB
Geoffrey Daking	2981 Mixer	6x2	1/4" line	N/A	1 TRS	2	N/A	Yes	N/A	10 Hz-56 kHz
Geoffrey Daking	1112 Sidecar	8 In, 8 Bus	Mic/line XLR	N/A	8	8	4-band w/high & low pass filters	Yes	Yes	10 Hz-56 kHz
Mackie Designs	16.8/24.8/32.8	16/24/32x8x2	16/24/32	16/24/32	6 mon/6 ster	24/ 1/4"	4-band + low cut filter	Yes	Yes	20 Hz-60 kHz +0 dB/-1 dB
Mackie Designs	CFX 12	12x4x2	12/4	8/8	4/2/TRS	4/TRS	3-band; 9-band stereo graphic	Yes, all channels	Yes, all channels	32 Hz-20 kHz, +0, -1dB
Mackie Designs	CFX 16	16x4x2	16/4	12/12	4/2/TRS	4/TRS	3-band; 9-band stereo graphic	Yes, all channels	Yes, all channels	32 Hz-20 kHz, +0, -1dB
Mackie Designs	CFX 20	20x4x2	16/4	16/16	4/2/TRS	4/TRS	3-band; 9-band stereo graphic	Yes, all channels	Yes, all channels	32 Hz-20 kHz, +0, -1dB
Mackie Designs	808S Powered Mixer	10x2	10/12	6/6	4/2/TRS	None	3-band fixed, 9-band graphic	Chan. 1-6	No	10 Hz-30 kHz, +0, -1dB
Mackie Designs	408S Powered Mixer	10x2x2	10/12	6/6	2/2/TRS	None	3-band fixed, 9-band graphic	Chan. 1-6	No	1 Hz-30 kHz, +0, -1dB
Mackie Designs	808M Powered Mixer	10x2x2	10/12	6/6	2/2/TRS	None	3-band fixed, 9-band graphic	Chan. 1-6	No	10 Hz-30 kHz, +0, -1dB
Mackie Designs	408M Powered Mixer	10x2x2	10/12	6/6	2/2/TRS	None	3-band fixed, 9-band mono	Chan. 1-6	No	10 Hz-30 kHz, +0, -1dB
Mackie Designs	406M Powered Mixer	8x2x2	6/6	6/6	2/2/TRS	None	3-band fixed, 9-band mono	Chan. 1-6	No	10 Hz-30 kHz, +0, -1dB
Mackie Designs	1604 VLZ Pro	16x4x2	16/16	16/8	6/8/TRS	4/TRS	3-band w/swept mid	Yes per channel	Yes per channel	20 Hz-60 kHz, +0, -1dB
Mackie Designs	1642 VLZ Pro	16x4x2	10/16	8/8	4/8/TRS	4/TRS	3-band w/swept mid	Yes per channel	Yes per channel	20 Hz-60 kHz, +0, -1dB
Mackie Designs	1402 VLZ Pro	14x2x2	6/14	6/6	2/4/TRS	2/TRS	3-band fixed	Yes per channel	Yes per channel	20 Hz-60 kHz, +0, -1dB
Mackie Designs	1202 VLZ Pro	12x2x2	4/12	4/4	2/4/TRS	2/TRS	3-band fixed	Yes all channels	Yes all channels	20 Hz-60 kHz, +0, -1dB
Mackie Designs	SR24.4 VLZ Pro	24x4x2	20/24	20/20	6/8/TRS	8/TRS	3-band w/swept mid	Yes per channel	Yes per channel	20 Hz-50 kHz, +0, -1dB

SIGNAL-TO-NOISE RATIO	TOTAL HARMONIC DISTORTION	DYNAMIC RANGE	CHANNEL CROSSTALK (@ 1 KHZ)	PHANTOM POWER	TALKBACK/ ONBOARD OSCILLATOR	DEDICATED 2-TRACK RETURNS	SPECIAL FEATURES	DIMENSIONS	PRICE
94 dB	< 0.1%	N/A	-70 dB	48V	N/A	N/A	Balanced XLR & 1/4" outs; PFL output	29.75x4.25x16.5	\$750
94 dB	< 0.1%	N/A	-70 dB	48V	N/A	N/A	Balanced XLR & 1/4" outs; PFL output	40.75x4.25x16.5	\$950
N/A	N/A	N/A	N/A	Yes	N/A	Yes		N/A	\$580
N/A	0.015%	26 dBu	105 dB	Yes	Yes	Yes	Dynamics fx; VCA automation; opt. patchbay	61x37	\$19,997
N/A	0.015%	Hdrrn >22 dB; max 26dBu	>90 dB	Yes	Yes	Yes	4 stereo modules and matrix master included	6x30x9	\$16,571
N/A	0.015%	Hdrrn >+22dB; max output +26dBu	>90 dB	Per channel	Yes	Yes	Fully modular; optional meter bridge	19" frame (can be rack-mounted)	\$3,748
-96 dB	.0033%	96 dB	-86 dB	N/A	N/A	N/A	Stereo limiter built-in	1U	\$1,495
-96dB	.0033%	96 dB	-86 dB	48v	No	No	Expands to any size console	15x36	\$29,820
90 dBu	0.0013%	114 dBu	-91 dBu	Yes	Y/N	Yes	Inline monitoring	depends on configuration	\$2,719-\$4,249
>105 dB	<0.05%	120 dB	-90 dB	48v	No	Yes	Built-in effects; 75Hz/XLR subwoofer output	4.6x17.2x6.7	\$699
>105 dB	<0.05%	120 dB	-90 dB	48V	No	Yes	Built-in effects; 75Hz/XLR subwoofer output	4.6x21.4x16.2	\$899
>105 dB	<0.05%	120 dB	-90 dB	48V	No	Yes	Built-in effects; 75Hz/XLR subwoofer output	4.6x25.6x16.7	\$1,099
>105 dB	<0.10%	120 dB	>75 dB	15V	No	Yes	Built-in effects; switchable stereo/mon. mains	11.7x20.5x13	\$999
>105 dB	<0.10%	120 dB	75 dB	15V	No	Yes	Built-in effects; switchable stereo/mon. mains	11.7x 20.5x3	\$899
>105 dB	<0.10%	120 dB	75 dB	15V	No	Yes	Built-in effects; switchable stereo/mon. mains	11.7x 20.5x13	\$899
>105 dB	<0.10%	120 dB	75 dB	15V	No	Yes	Built-in effects; switchable stereo/mon. mains	11.7x20.5x13	\$799
>105 dB	<0.10%	120 dB	75 dB	15V	No	Yes	Built-in effects; switchable stereo/mon. mains	11.7x20.5x13	\$699
>107 dB	0.0007%	130 dB	-84 dBu	48V	No	Yes	XDR mic preamps; rotatable patchbay	5x19x17.9	\$1,249
>107 dB	0.0007%	130 dB	-84 dBu	48V	No	Yes	XDR mic preamps	5.45x16.63x17.28	\$999
>107 dB	0.0007%	130 dB	-84 dBu	48V	No	Yes	XDR mic preamps; alternate bus 3/4	2.9x14x12.9	\$649
>107 dB	0.0007%	130 dB	-84 dBu	48V	No	Yes	XDR mic preamps; alternate 3/4 bus	2.6x11.8x11.2	\$459
>105 dB	<0.0007%	120 dB	-88 dB	48V	Y/N	Yes	XDR mic preamps	5.6x31x19.2	\$1,599

# ANALOG MIXING CONSOLES

MANUFACTURER	PRODUCT	MIXER CONFIGURATION	MIC INPUTS (XLR) / LINE INPUTS	# OF INSERTS / DIRECT OUTS	# OF AUX SENDS / RETURNS / TYPE	# OF BUSES / OUTPUTS / TYPE	EQ	MUTE	SOLD IN PLACE	FREQUENCY RESPONSE
Mackie Designs	SR32.4 VLZ Pro	32x	28/32	28/28	6/8/TRS	4/TRS	3-band w/swept mid	Yes per channel	Yes per channel	20 Hz-50 kHz, +0, -1dB
Miles Technology	MTX-62 MultiMixer	6x2	6/6	2/2	0	2/XLR	2-band	No	No	20 Hz-20 kHz, +0/-1 dB
Millennia Media	Mixing Suite	4x2-80x4x4	80/80	80/80	4/4	4	HPF	Yes	Yes	1 Hz-500 kHz
Oram Pro	Octamix	8x2x1	8/-	N/A	N/A	2/XLR	N/A	N/A	N/A	18 Hz-73 kHz
Peavey	RQ 3014	10x2+2	6/4	6	3/2	2	2-band, mid sweep	Yes	PFL	20 Hz-20 kHz +0/-3 dB
Peavey	Unity 1002-8 RQ	8x2	8	0	2/0	2	3-band	No	No	20 Hz-20 kHz
Peavey	Unity 2002-12 RQ	12x2	12	0	4/0	2	3-band	No	No	20 Hz-20 kHz
Samson	MPL 1204 Rackmount Mixer	12x4	12/12	12/12	24/-	N/A	3-band	Yes	switchable PFL/AFL	<10 Hz-60 kHz
Sony	SRP-V110	34x8	10/24	10/8	8/8/ 1/4"	8/RCA	3-band, mid-sweep	Yes	PFL	20 Hz-20 kHz (+/- .5 dB)
Speck	XTRAMIXcxi	40x8x2	76 line	8	8/8	8/TRS	N/A	N/A	Yes	4 Hz-154 kHz
Spirit	Folio Notepad	8x2	4/8	0/0	1/ 1/4"	N/A	2-band, fixed	No	No	20 Hz-20 kHz
Spirit	Folio Powerpad	8x2	4/8	0/0	1/ 1/4"	N/A	2-band, fixed	No	No	20 Hz-20 kHz
Spirit	Folio FX8	16x2x2	8/16	8/8	3/ 1/4"	4/ 1/4"	3-band, swp mid	Yes	PFL	20 Hz-20 kHz
Spirit	Folio FX16	16x2x2	16/16	16/16	3/ 1/4"	4/ 1/4"	3-band, swp mid	Yes	PFL	20 Hz-30 kHz
Spirit	Folio SX	12x2x2	16/20	12/8	3/ 1/4"	4/ 1/4"	3-band, swp mid	Yes	SIP/PFL	20 Hz-30 kHz
Spirit	LX 7/16	16x4x2x1	16/16	16/16	6/ 1/4"	7/ 1/4"	4-band, 2 swp mid	Yes	SIP/PFL	20 Hz-20 kHz
Spirit	LX 7/24	24x4x2x1	24/24	24/24	6/ 1/4"	7/ 1/4"	4-band, 2 swp mid	Yes	SIP/PFL	20 Hz-20 kHz
Studiomaster	Trilogy T 326	24x4x2x1	24/28	24/20	6/8	4/ 1/4"	3-band w/sweep mids	Yes	Yes	20 Hz-20 kHz
Studiomaster	Mixdown Classic 24	24x8x16x2	24/24	34/24	6/18/ 1/4"	8/ 1/4"	3-band	Yes	PFL	30 Hz-20 kHz
Studiomaster	Mixdown Classic 32	32x8x16x2	32/32	42/32	6/18/ 1/4"	8/ 1/4"	3-band	Yes	PFL	30Hz-20 kHz
Studiomaster	Trilogy T 166	12x4x2x1	12/14	14/10	6/18/ 1/4"	4 / 1/4"	3-band w/mid sweep	Yes	Yes	20 Hz-20 kHz
Studiomaster	Trilogy T 206	16x4x2x1	16/18	18/14	6/18/ 1/4"	4/ 1/4"	3-band w/mid sweep	Yes	Yes	20 Hz-20 kHz
Studiomaster	Trilogy T 140	10 channel expander	10/12	8/8	6/4	4/ 1/4"	3-band w/mid sweep	Yes	Yes	20 Hz-20 kHz
Studiomaster	Pro 2 163	12x2x1	12/14	12/0	5 /2/ 1/4"	3/XLR	3-band w/mid sweep	Yes	Yes	20 Hz-20 kHz
Studiomaster	Pro 2 203	16x2x1	16/18	10/0	5 /2/ 1/4"	3/XLR	3-band w/mid sweep	Yes	Yes	20 Hz-20 kHz
Summit Audio	TMX-420	4x2	4/4	16	4/4/ 1/4"	4/ 1/4"	No	Yes	Yes	5 Hz-55 kHz
NHT Pro	PVC	N/A	0/2	2 inserts	N/A	N/A	N/A	N/A	N/A	1 Hz-50 kHz
Yamaha	MX 12/4	12x4x2	8/12	4/0	2/2/ 1/4"	(4) 1/4"; (2) XLR stereo	3-band	No	No	20 Hz-20 kHz



SIGNAL-TO-NOISE RATIO	TOTAL HARMONIC DISTORTION	DYNAMIC RANGE	CHANNEL CROSSTALK (@ 1 KHZ)	PHANTOM POWER	TALKBACK/ ONBOARD OSCILLATOR	DEDICATED 2-TRACK RETURNS	SPECIAL FEATURES	DIMENSIONS	PRICE
>105 dB	0.0007%	130 dB	-89 dBu	48V	Y/N	Yes	XDR mic preamps	5.6x39.25x19.2	\$1,999
90 dB	0.03%	110 dB	60 dB	Yes	No	No	1/4"-XLR combo inputs; crossovers; sub out	19x10x1.75	\$699
> -100 dB	0.002%	120 dB	>100 dB	Yes	Y/Y	Yes		4 rack spaces	\$15,000
N/A	>0.005%	N/A	N/A	N/A	N/A	N/A	Pan; 2 stereo XLR mix outs; headphone cue	1 rack space	\$1,295
N/A	<0.01%	110 dB	90 dB	Yes	No	Yes		15x16x4.3	\$550
N/A	<0.01%	110 dB	90 dB	Yes	No	Yes		17x16x3.2	\$400
N/A	<0.01%	110 dB	90 dB	Yes	No	Yes		23x16x3.2	\$500
-90 dB	.056%		80 dB	48V	No		10-segment LED meters; headphone out; 56mm faders	7x19x7.1	\$600
-95 dB	<.005%	>95 dB	90 dB	Yes	N/A	N/A	Rackmounts optional	17x4.75x 5.625	\$2,095
-92 dB	<0.0032%	N/A	-82 dB	No	Y/N	Yes	Expandable to 148 inputs	4 rack spaces	\$2,990
N/A	<0.005%	N/A	>90 dB	Global	N/N	Yes	Optional mic stand adapter	8.7x9.6x2	\$300
N/A	<0.005%	N/A	>90 dB	Global	N/N	Yes	Built-in 30W x 2 power amp	9.8x9.3x4	\$400
N/A	<0.009%	N/A	>96 dB	Global	N/N	Yes	Built-in Lexicon effects	17.5x16.5x4.1	\$700
N/A	<0.009%	N/A	>96 dB	Global	N/N	Yes	Built-in Lexicon FX; rotatable patch bay	17.5x18x6.3	\$1,200
N/A	<0.006%	N/A	>95 dB	Global	N/N	Yes	100mm faders	19x20x2.8	\$850
N/A	<0.006%	N/A	>95 dB	Global	Y/N	Yes	Left, right and mono outputs	19.5x26x7	\$1,600
N/A	<0.006%	N/A	>95 dB	Global	Y/N	Yes	Left, right and mono outputs	19.5x34x7	\$2,000
89 dB	0.0085%	112 dB	90 dB	48V	N	Yes	Combo XLR/stereo, monitor/stereo channels	34x21.125x3	\$1,695
92 dB	0.005%	N/A	-95 dB	48V per channel	Y/Y	Yes	MIDI muting; split design; meter bridge	47.2x25.5x5	\$2,995
92 dB	0.005%	N/A	-95dB	48V individual per channel	Y/Y	Yes	MIDI muting; split design; opt. meter bridge	58.5x25.5x5	\$3,595
89 dB	0.0085%	112 dB	90 dB	48V	N/N	Yes	Expandable to 22 channels; rackmountable	21.19x2.13x3	\$995
89 dB	0.0085%	112 dB	90 dB	48V	N/N	Yes	Expandable to 26 channels	24.19x2.13x3	\$1,195
89 dB	0.0085%	112 dB	90 dB	48V	N/N	Yes	Rackmountable	15.75x21.13xH: 3	\$449
89 dB	0.0085%	112 dB	90 dB	48V	N/N	No	100 Hz channel HPF; rackmountable	21.19x2.13x 3	\$870
89dB	0.0085%	112 dB	90 dB	48V	N/N	No	100 Hz channel HPF	24.19x2.13x3	\$1,070
>90 dB	<0.2%	>90 dB	N/A	No	No	No	Tube	19x14x3.5	\$3,695
120 dB	N/A	120 dB	-100 dB	N/A	N/A	N/A	Passive line level control; rackmounted	1.75x5.5x4.5	\$175
95 dB	<0.1	N/A	70 dB	Yes	No	Yes	Built-in digital effects	3.25x15.75x17.125	\$600

# DIGITAL MIXING CONSOLES

MANUFACTURER	PRODUCT	MIXER CONFIGURATION	MIC INPUTS (XLR)/LINE INPUTS	# OF DIGITAL INPUTS/TYPE	# OF DIGITAL OUTPUTS/TYPE	# OF OPTION CARD SLOTS	ANALOG INSERTS/DIRECT OUTS	# OF ANALOG AUX SENDS/ RETURNS	AD CONVERTERS	DA CONVERTERS	EQ TYPE
Electro-Voice	PSX1000	Stereo L/R bus w/mono	10/14	N/A	N/A	N/A	N/A	N/A	18-bit	18-bit	3-band w/ sweepable mids
Electro-Voice	PSX1600	Stereo L/R bus w/mono	12/8	N/A	N/A	N/A	N/A	N/A	18-bit	18-bit	3-band, w/ sweepable mids
Fostex	VM08	8x2	4/4	No	1/ S/PDIF	No	N/A	2 internal	20-bit/64x	20-bit/128x	3-band
Fostex	VM88	8x2	4/2	2/ADAT, S/PDIF	2/ADAT, S/PDIF	N/A	4/9	2	20-bit/64x	24-bit/128x	3-band
Fostex	VM04	4x2	2/2	No	1/ S/PDIF	N/A	N/A	Internal effects send	20-bit/64x	20-bit/64x	2-band
Fostex	VM-200	20x8	4/8	8/ADAT optical, S/PDIF	8/ADAT, S/PDIF	N/A	4/0	6 sends	20-bit/64x	20-bit/128x	4-band parametric
Generalmusic	Falcon Digital Mixer	12x4x2	6/4	2/ADAT, S/PDIF S/PDIF (coax)	1/AES/EBU or S/PDIF	1	0/0	2/0	20-bit/64x	20-bit/64x	3-band parametric
Mackie Designs	Digital 8-Bus	56x8x2	12/44	Up to 32/ADAT, TDF, AES/EBU	Up to 32/ADAT, TDF, AES/EBU	8	12/up to 24	12/0	Crystal semiconductor	Crystal semiconductor	4-band parametric
Panasonic	WR-DA7	36x8x2	8/8	1/AES/EBU, S/PDIF	1/AES/EBU, S/PDIF	4	16	2/6	24-bit	24-bit	4-band parametric
Roland	VM-3100 V Mixing Station	12x8x2	8/10	1/S/PDIF (optical/coax)	2/ S/PDIF (optical/coax)	N/A	4	4	24-bit	24-bit	3-band
Roland	VM-3100 Pro V Mixing Station	20x8x2	2/10	1/ S/PDIF (optical/coax)	2/ S/PDIF (optical/coax)	1	4	4	24-bit	24-bit	3-band
Roland	VM-7100/VM-C7100 V Mixing System	38x14x2	11/1	1/ S/PDIF or AES/EBU	2/ S/PDIF, AES/EBU	7	Up to 8	0/up to 10	24-bit	24-bit	6-band
Roland	VM-7200/VM-C7200 V Mixing System	48x14x2	21/1	1/ S/PDIF or AES/EBU	2/ S/PDIF, AES/EBU	3 FX, 3 ADAT/ TDF, 1 cascade	Up to 18	0/up to 10	24-bit	24-bit	6-band
Roland	VM-7200 (x2) + VM-C7200 V-Mixing System	94x14/28 flex bus x 2	41/1	2/ S/PDIF or AES/EBU	4/AES/EBU, S/PDIF	13	24/16	Up to 34	24-bit	24-bit	5-band
Spirit	Digital 328	32x8x2	16/16	6/ADAT, TDF, AES/EBU, S/PDIF	6/ADAT, TDF, AES/EBU, S/PDIF	2	16/16	4/5	24-bit/128x	24-bit/128x	3-band parametric
TASCAM	TM-D4000	36x8x2	8/12	2/AES/EBU, S/PDIF	2/AES/EBU, S/PDIF	3	8	6/4	24-bit	24-bit	4-band parametric
Yamaha	02Rv2	40x8x2	8/8 + 4 stereo	3/AES/EBU, S/PDIF	3/AES/EBU, S/PDIF	4	8/16	6/2	20-bit	20-bit	4 band parametric
Yamaha	01V	24x4	12/4	1/ S/PDIF	1/ S/PDIF	1	0/0 (4 using 1/4" omni outs)	0/0 (4 using 1/4" omni outs)	20-bit	20-bit	4-band parametric
Yamaha	03D	16x4x2	8/8	8/AES/EBU, TDF, ADAT	8/AES/EBU, TDF, ADAT	1	2/0	4/0	20-bit	20-bit	4-band parametric

# OF DYNAMIC PROCESSORS	# OF EFFECTS PROCESSORS	AUTOMATION: SCENE/MIDI/DYNAMIC	FREQUENCY RESPONSE	SIGNAL-TO-NOISE RATIO	TOTAL HARMONIC DISTORTION	CHANNEL CROSSTALK (@ 1 KHZ)	PHANTOM POWER	SPECIAL FEATURES	DIMENSIONS (INCHES)	PRICE
N/A	2	N/A	15 Hz-60 kHz	104 dB	< 0.006%	> 80 dB	+24V	Feedback notch filter on monitor aux; vocal voicing filter for increased vocal intelligibility	20x8x19	\$2,398
N/A	2	N/A	15 Hz-60 kHz	104 dB	< .006%	> 80 dB	+24V	Feedback notch filter on monitor aux	26x8x19	\$2,998
N/A	2	N/A	20 Hz-20 kHz	N/A	0.01%	70 dB	N/A	44.1 kHz sampling rate; 20 user mix scene memory; headphone output w/ level; Foxtex A.S.P. effects; large LCD screen	12x2.75x8.5	\$499
N/A	2	N/A	20 Hz-20 kHz	N/A	0.01%	70 dB	Yes	44.1 internal sampling rate; 24-bit stereo A.S.P. effects; 20-scene memory; data jog wheel; 95 dB dynamic range; stereo XLR & 1/4" outs; mono in/out	10.75x3.75x11.75	\$799
N/A	1	N/A	20 Hz-20 kHz	>86 dB	< 0.08%	N/A	No	20 mix scene memory; 20 built-in A.S.P. effects; headphone out with rotary control; large backlit LCD and illuminated buttons	10x2x7.3	\$299
N/A	2	Y/Y/N	20 Hz-20 kHz	>92 dB	< 0.08%	N/A	Yes	32-bit processing; 50 A.S.P. effects presets & 50 user EQ patterns; rotary pan on all channels; 12 rotary EQ controls; 60mm motorized faders; 44.1 kHz	10x2x7.3	\$1,499
12	2	Y/Y/N	20 Hz-20 kHz	96 dB	0.003%	-90 dB	Yes	Motorized fader on virtual strip; physical controls on all channel strips	19.75x4.5x17.5	\$1,495
48	Up to 8	Y/Y/Y	20 Hz-20 kHz	115 dB	0.005%	-90 dB	Yes	Built-in meter bridge; total dynamic automation of virtually every parameter	37.6x8.7x27.1	\$9,999
42	N/A	Y/Y/Y	20 Hz-20 kHz	-96 dB	< 1%	-90 dB	+48V	Moving fader automation; 1 step functionality; 5.1 surround sound panning	27.5x14x24	\$5,495
2	2	Y/Y/N	N/A	N/A	N/A	N/A	Yes	Dedicated Hi-Z guitar input	13.5x3.75x12	\$995
2	2	Y/Y/N	N/A	N/A	N/A	N/A	Yes	Dedicated Hi-Z guitar input; microphone modeling; speaker modeling	13.5x3.75x13.5	\$1,295
48	2 (up to 8)	Y/Y/Y	N/A	N/A	N/A	N/A	Yes	Modular; moving faders; 5.1 mixing; RTA; spkr modeling	17x5.25x16.5 (7100); 17x2.6x17 (C7100)	\$1,995 (7100) \$2,995 (C7100)
48	2 (up to 8)	Y/Y/Y	N/A	N/A	N/A	N/A	Yes	Modular; moving faders; 5.1 mixing; RTA; spkr modeling	17x5.25x16.2 (7200); 29.5x2.75x17(C7200)	VM-7200: \$2,795; VM-C7100: \$3,695
94	4 (up to 16)	Y/Y/Y	N/A	N/A	N/A	N/A	Yes	Modular; moving faders; 5.1 mixing; RTA; spkr modeling ADAT/Tascam interfaces	17x5.25x16.2 (7200); 29.5x2.75x17(C7200)	VM-7200 (x2): \$6,590; VM-C7100: \$3,695
2	2	Y/Y/N	20Hz-20KHz	114 db	< 0.005%	> 95 dB	Yes	E-Strip "virtual" channel strip; transport control through MIDI and RS 422	28.2x6.3x21.2	\$5,000
35	1	Y/Y/Y	20 Hz-20 kHz	90 dB	< 0.1%	90 dB	Yes	100 mm mtrd faders; mach control-Tascam MMC, ADAT, RS-422; surr/cscd I/O; word clock I/O	28x9.5x26	\$3,699
50	2	Y/Y/Y	20 Hz-20 kHz	105 dB	< 0.2%	70 dB	+48V	Surround capability	26x2.6x99	\$8,999
22	2	Y/Y/N	20 Hz-20 kHz	98 dB	<0.1%	-70 dB	+48V		20.4x5.8x16.9	\$1,999
40	2	Y/Y/N	20 Hz-20 kHz	98 dB	>0.1%	-70 dB	+48v	Total param recall; dyn/efx libraries	20.3x8x18.1	\$3,699

## ROUTE — LISTEN — DRIVE

- 90 AUDIO PATCH BAYS**
- 92 DIRECT BOXES**
- 96 DIGITAL AUDIO CONVERTERS**
- 100 MICROPHONE & INSTRUMENT PREAMPS**
- 106 CHANNEL STRIPS & VOICE PROCESSORS**
- 110 POWER AMPS**
- 120 REFERENCE MONITORS**
- 136 HEADPHONES**

If it routes, patches, direct-injects, or converts an audio signal, it's in the I/O Devices section. We've listed signal-routing audio patch bays, direct boxes, and digital audio converters, as well as channel strips, voice processors, and microphone and instrument preamps.

Considering how much time the average studio enthusiast spends manually re-routing audio cables for each project, even the priciest audio patch bays are a bargain. About half of the products listed here are prewired at the factory, and a handful of patch bays are user programmable.

Following the Audio Patch Bays chart is our collection of Direct Boxes. Here you can find boxes with goodies like pad switches and speaker simulation. Don't overlook the special features column, where you'll find more info about tube components, switchable I/O attenuation, and other handy extras.

Though digital-to-digital format converters aren't included, you'll discover a wide variety of analog-to-digital and digital-to-analog converters in this year's Digital Audio Converters chart. Some have ADAT optical (Lightpipe) connectors, while others sport TDIF, AES/EBU, and/or S/PDIF I/O, and almost every converter provides RF filtering. We've provided information on connectors, sample rates, digital I/O types, and word clock ports.

Like its sibling Microphones chart (see page 170), the Microphone & Instrument Preamp listings have grown by leaps and bounds. We've listed solid state, transistor, and tube designs, and about half of the preamps offer some form of filtering, such as variable high-pass filtering, parametric and graphic equalization, and switchable active and passive EQ sections.

Because of their similar uses and features, Channel Strips & Voice Processors are included in one chart. Essentially a mixer input channel in a rack-mount, each of these units includes a mic preamp and some form of equalization, and most offer a compressor, expander, gate, de-esser, sidechain, or all of the above. Some products also offer phantom power or a phase reversal switch. Generally speaking, voice processors include mic preamps, while channel strips only offer instrument preamps, but as you'll see, that doesn't hold true in all cases.

The Power Amps chart lists units designed for studio applications, but many are road-worthy enough to drive a P.A. system when the show hits the road. Continuous average power ratings, frequency response, and total harmonic distortion specs are provided, as are power consumption and protection features.

This year's Reference Monitors chart describes speaker enclosure types, woofer and tweeter sizes, and magnetic shielding—the latter being vital if you wish to place your speakers near a video monitor, such as a computer or television screen. Finally, the Headphones chart provides useful information on frequency response, power-handling capacity, and ear-cup design—important information if you have to work in "cans" for extended periods.



**FULL COMPASS**

has a website  
& really smart people  
who sell & deliver  
& service your every need  
& really nice people who  
answer the phones  
& has over 600 lines of the  
best equipment in a  
really big warehouse  
& a really great catalog.

Check out what's on  
**SALE** right now by calling  
**800-356-5844**

**Need it after hours?**



**COMPASS X PRESS**

**Pro Audio, Video, Lights**  
**800.476.9886**

M-F 8am-10pm, Saturday 10am-6pm(CST)  
[www.compassxpress.com](http://www.compassxpress.com)



**sells Mics &**

**Mixers & Wireless & Tape &**

**Stands & Recorders &**

**Signal Processors & Parts &**

**Keyboards & Software & Cable &**

**CD Players & Test Equipment &**

**Amplifiers & Speakers & Headphones &**

**Intercoms & Lights &**

**Gel & Cases & Cabinets & Screens &**

**Carts & Projectors & Video Cameras &**

**DVDs & Televisions & Monitors & Tripods &**

**Gaffers Tape & Connectors & Tele Conferencing &**

**Lots Of Other Things**



**FULL COMPASS**

**AUDIO • VIDEO • LIGHTS**  
**Call 800.356.5844**

[www.fullcompass.com](http://www.fullcompass.com)

# AUDIO PATCH BAYS

MANUFACTURER	PRODUCT	CONNECTOR TYPE	# OF PATCH-BAY POINTS	PREWIRED	MODULAR	PROGRAMMABLE	NORMALING	SPECIAL FEATURES	PRICE
AP Audio	APB-48S Balanced Patch Bay	1/4" balanced	48	Yes	Yes	No	Yes	Optional cable tester and other modules	\$130
AP Audio	APB-48SH Balanced Patch Bay	Balanced (hard-wired)	48	Yes	Yes	No	Yes	Optional cable tester and other modules	\$130
Bi-Tronics	Switchcraft, Neutrik, Rean Patch Bays	TT/Long frame	96,52,48	No	Yes	No	Full, half, open	EDAC and IDC terminations included	\$100-\$249
CM Automation	PM 64 Router/Level Controller	DB 25	32 x 32	N/A	Yes	Yes	N/A	Remote control via RS-232 port optional DB8 connector for wiring ease	\$2,4995
CM Automation	PM 216 Automated Patch Bay/Mixer	DB 25	16 x 16	N/A	Yes	Yes	N/A	Multiple units networkable via MIDI; incl. 2-bus mixer	\$699
Connectronics	JB24	1/4" TRS or mono	48	Yes	Yes	No	Full, half, through		\$775
Connectronics	XB16KV/XB32KV	Any combination	16/32	Yes	Yes	No	No	Wide range of connector types	\$94-\$174
dbx	PB48	1/4" TRS	48	No	Yes	No	Full, half		\$180
Fostex	3013	1/4"	16	Yes	No	No	Half		\$139
Fostex	DS-8 Digital Patch Bay	S/PDIF (6 optical + 2 coaxial)	8	No	No	No	N/A	Selectable 24-, 20-, 16- and 12-bit modes	\$389
M Audio	Digipatch 12x6 Digital Patch Bay	S/PDIF (coaxial/optical) ADAT optical	12 x 6	Yes	N/A	Yes	N/A	50 factory presets, 49 user	\$500
Neutrik	Easy Patch	TB	48	Yes	No	Yes	Full, half, no, parallel, double	Solderless construction	\$725
Neutrik	Easy Patch	TT	96	Yes	No	Yes	Full, half, no, parallel, double	Solderless construction; digital-capable	\$775
Neutrik	Patchlink SP-L	1/4"	48	No	Yes	Yes	Full, half, isolated, parallel	Gray normaled jack for faster identification	\$125
Neutrik	Rean MA 96; XPM Series	TT or Bantam	96	No	No	No	All options	Black, silver, red, or blue	\$350-\$425
Neutrik	Rean LF48 Series	TB	48	No	Yes	Yes	All options	Black, silver, red, or blue front panels avail.	\$250-\$300
Neutrik Patch Panels	REAN RPM	1/4"	48	No	Yes	Yes	Yes	Full/half normaled/hardwired/RCA available	\$10-\$225
Pro-Co	PJ Series	1/4" TRS, PJ, WECO, Long frame	52	Yes	No	No	All options	Customized options available	\$250-\$1,600
Pro-Co	TT Series	Bantam (TT), TRS	96	Optional	No	No	Determined by jack loading/wiring	Customized options available	\$600-\$2,800
Radial Engineering	Radial	TT, 1/4"; 1/4" TRS	24-96	Optional	Optional	No	All options	Customized options available	\$130-\$1,200
Rapco	Rapco Patch Bay	TT, 1/4"; 1/4" TRS	48, 52, 96	Yes	Yes	No	All options	Customized options available	\$199 and up
Switchcraft	Front Access Series	TT or MT	96 or 48	Yes	No	No	Normals strapped, normals out	Front-panel nickel-plated jacks gold contacts	\$1,100
Switchcraft	MTP Series	1/4" TRS	48	Yes	No	No	All options		\$700
Switchcraft	1/4" Kit Series	1/4" balanced	48, 52	No	No	No	Full, half, no	Cable tray; nickel-plated jacks;	\$220
Switchcraft	MT48/52 Series	1/4" TRS	48, 52	No	No	No	Full, half, no	Tie bar; nickel-plated jacks;	\$230
Switchcraft	TT96 EDAC Series	TT	96	Yes	No	No	Full, normals, out	EDAC-type rear panel connectors	\$1,300
Switchcraft	TT Kit Series	TT	96	No	No	No	Full, half, no	Cable tray; nickel-plated jacks; gold contacts	\$300
Switchcraft	TTP96 Series	TT	96	No	No	No	Full, half, no	Tie bar; nickel-plated jacks; gold contacts	\$300
Taytrix	Audio Patch Bay	TT	96	Yes	Yes	No	Full, half	Customized configurations available	\$1,500 and up
Whirlwind	WLF482	Long frame balanced	48	Optional	Yes	No	Full, half, no		\$440
Whirlwind	WPB-48S	1/4"; TRS	48	Yes	Yes	No	Half or no each		\$160
Whirlwind	WPB-48S/R	1/4" TRS; RCA	N/A	Yes	Yes	No	Half or no each		\$190
Whirlwind	WTT961	TT	96	Optional	Yes	No	Full, half or user	1U rackspace	\$530
Z-Systems	Digital Detanglers	AES/EBU	8-64	Yes	N/A	Yes	N/A	Hardware remote; computer controllable	\$980 - \$12,000

# JOEMEEK

If you haven't tried  
the new Joemeek Channels,  
you haven't got a Q!

Joemeek set the standards  
for "vintage" retro recording  
designs by offering quality  
and value. No other direct  
recording channel can match  
the silky smooth colored  
sound of Joemeek. While other  
units claim to reproduce colored  
"vintage" sound, wouldn't you  
rather own the one that does.

got meek?



**VC3Q** Mic-Pre, Compressor & EQ **\$399.99**



**VC6Q** Mic-Pre, Compressor & EQ **\$599.99**



**VC1Q** Transformer Mic-Pre, Compressor,  
Enhancer, De-esser & EQ **\$799.99**



**VC2** Dual Line Amp Transformer Mic-Pre, Compressor,  
Enhancer & Tube Output Amplifier **\$1,999.99**



**VC7** Dual Channel Mic-Pre with impedance matching  
& selectable HI-Pass filters **\$1,299.99**



**VC5** Kitchen 2-Channel EQ  
with "vintage" fat tone for days **\$199.99**

Distributed by

**PMI Audio Group**

23773 Madison Street · Torrance, California 90505

Toll Free (877)563-6838 · Facsimile (310)373-4714

**joemeek.com**

# DIRECT BOXES

MANUFACTURER

PRODUCT

TYPE

POWER

# OF CHANNELS

MANUFACTURER	PRODUCT	TYPE	POWER	# OF CHANNELS
Anthony DeMaria Labs	300 G	Floor or rackmount	External AC	2
Avalon Design	U5	Rackmount	Active AC	1
BBE	DI-100	Floor	Battery; external; phantom	1
Behringer	Ultra DI Pro DI4000	4-channel DI box/peak converter	N/A	4
Behringer	ULTRA-DI DI100	Active DI box	Phantom	1
Boss	DI-1	Floor	Batt/phantom	1
BSS Audio	AR133	Floor	Batt/phantom	1
BSS Audio	AR416	Rackmount	Internal AC	4
Countryman	Type 85	Floor	Battery; phantom	1
D.W. Fearn	VT-I/F Instrument Interface DI	Vacuum tube DI	N/A	2
Demeter	VTDB Tube Direct Box	Floor	AC	1
Demeter	STDB-2 Stereo Direct Box	Rackmount	AC	2
Demeter	H DI-1 Tube Direct Box/Line Driver	Rackmount	AC	2
Digital Music	Cab-Tone	Standalone	Battery	1
DOD	AC275	Floor	AC; battery; phantom	1
DOD	AC260/AC265	Floor	Passive	1
E.M.O.	E520	Floor	Passive	1
E.M.O.	E525	Floor	Passive	2
E.M.O.	E535	Rackmount	Passive	1
E.M.O.	E545	Rackmount	Passive	6
E.M.O.	E580	Rackmount	Passive	8
E.M.O.	E540	Floor	Passive	1
Ebtech	LLS-8	Rackmount	Passive	8
Ebtech	HE-8	Rackmount	Passive	8
Ebtech	LLS-2 PKG	Table or equip. mount	Passive	2
Ebtech	Hum Eliminator	Table or equip. mount	Passive	2
Fishman	Fishman Dual Parametric D.I.	Floor	Battery, AC	1
Fishman	Pro-EQ Platinum	Solid state preamp/DI/EO	Battery, AC	1
Gepco	GDB-1	Floor	Passive	1
Horizon Music	Stereo Line Direct Box	Multimode	Passive	2
Horizon Music	Active Direct Box	Active DI box	Battery	1
Horizon Music	Straightline	Passive	Passive	1
Horizon Music	Speaker Line	Speaker level direct box	Passive	1
Jensen Transformers	Iso-Max DB-2PX	Standalone or rackmount	Passive	2
Klark-Teknik	LBB100	Floor	Phantom	1
Manley Labs	Stereo Tube Direct Interface	Tube DI box	Passive	2
Manley Labs	Tube Direct Interface	Tube DI box	Passive	1
Palmer Direct	PDI-09 Direct Recording Devices	Mono direct box	Passive	1
Palmer Direct	PGA-04 Advanced Direct Injection for Guitar	Rackmount DI box	Passive	1
Palmer Direct	PGA-03 Guitar Y Box	Guitar DI box	Battery; external AC	1
Palmer Direct	PGA-05 Advanced Direct Injection for Guitar	Rackmount	Internal AC	2
Peavey	PS-4AC	Floor	External AC	4
Peavey	EDI	Floor	Passive	1
Peavey	IA 10/4	Floor	External AC	2
Peavey	ID-1G	Floor	Passive	1
Peavey	1:1 Interface	Floor	Passive	1
Peavey	PS-2C	Floor	Battery	2
Peavey	PD-4	Floor	Passive	1
Peavey	EDB-1	Floor	Phantom; battery; external AC	1



## INPUTS

## OUTPUTS

## GROUND LIFT

## SPECIAL FEATURES

## PRICE

INPUTS	OUTPUTS	GROUND LIFT	SPECIAL FEATURES	PRICE
1/4" (1)	1/4" (2); XLR (2)	Yes	Gain	\$899
1/4" (2)	1/4" (1); XLR	Yes	Variable gain; hi-cut filter; optional rack kits	\$595
1/4" (1)	1/4" (1); XLR	Yes	Includes BBE process; input pad	\$159
1/4" (1); XLR	XLR (1)	Yes	Direct connection of amp outputs up to 3000W	\$199
1/4" (1); XLR	XLR (1)	Yes	Direct connection of amp outputs up to 3000W	\$59
1/4" (1)	1/4" (1); XLR	Yes	Auto power-off; phase inverse	\$150
1/4" (1); XLR	1/4" (1); XLR	Yes	0/-20/-40 dB pads	\$185
1/4" (4)	1/4" (4); XLR (4)	Yes	0/-20/-40 dB pads; LP filter; phase reverse	\$899
1/4" (1)	1/4" (1); XLR	Yes	Isolates ground even w/ phantom power	\$232
1/4" (2)	1/4" (2)	Yes		\$1,500
1/4" (1)	1/4" (1); XLR	Yes	Jensen output transformers; tube-buffered output	\$600
1/4" (2)	1/4" (2); XLR	Yes	All tube construction; 27 Mohm input	\$1,100
1/4" (2)	1/4" (2); XLR (2)	Yes	Tube-buffered 1/4" outputs	\$899
1/4" (1)	1/4" (1); XLR	Yes	Guitar cabinet simulator; bal/unbal I/O levels	\$150
1/4" (2); XLR	1/4" (2); XLR	Yes	Speaker/instrument level switch	\$100
1/4" (2); XLR	1/4" (2); XLR	Yes	3-position pads; can be used as mic/instrument splitter	\$90/265; \$70/260
1/4" (5)	XLR (1)	Yes	20 Hz-40 kHz frequency response	\$124
1/4" (10)	XLR (2)	Yes	20 Hz-40 kHz frequency response	\$360
1/4" (10)	XLR (1)	Yes	20 Hz-40 kHz frequency response	\$130
1/4" (30)	XLR (6)	Yes	20 Hz-0 kHz freq. response; uses ES35 mods	\$745
1/4" (8)	1/4" (1); XLR	Yes	Parallel unbalanced outputs	\$1,225
1/4" (5)	XLR (1)	Yes	High isolation operation	\$190
1/4" (8)	1/4" (8)	No	Converts between -10/+4 dBu equipment	\$345
1/4" (8)	1/4" (8)	No	Breaks ground loops; converts bal/unbal inputs	\$285
1/4" (2)	1/4" (2)	No	Includes 4 RCA adapters; hum elimination	\$90
1/4" (2)	1/4" (2)	No	Converts automatically between bal/unbal inputs	\$75
1/4" (1)	1/4" (1); XLR	Yes	2-band parametric EQ; phase reverse	\$240
1/4" (1)	1/4" (2); XLR	Yes	Semiparametric EQ; sweepable mid w/notch	\$230
1/4" (2)	XLR (1)	Yes	20 dB pad	\$28
1/4" (2)	1/4" (2)	Yes	Works as stereo or 2 in/1 out mono combiner	\$ 99
1/4" (1)	1/4" (1)	Yes	-20 dB pad switch; adjustable output gain trim	\$ 199
1/4" (1)	1/4" (1)	Yes	Accepts line level signals from consoles/keyboards	\$ 49
1/4" (1)	1/4" (1)	Yes	Accepts guitar amp outputs	\$49
1/4" (2)	XLR (2)	Yes	Jensen JT-DB-EPC transformer	\$200
1/4" (2); XLR	XLR (1)	Yes	Switchable I/O attenuation; iso transformer	\$175
1/4" Hi-Z	1/4" (1); XLR	Yes	5-position EQ; all-tube architecture	\$875
1/4" Hi-Z	1/4" (1); XLR	Yes	5-position EQ; console boost-unity switch	\$575
1/4" (1)	1/4" (1); XLR	Yes	Variable tone and output attenuation switches	\$120
1/4" (1)	1/4" (1); XLR	Yes	Integrated 8 ohm load box; filter section	\$460
1/4" (1)	1/4" (2)	None required	Isolated transformer y-box	\$135
1/4 (2)	1/4" (1); XLR	Yes	Filter section	\$665
XLR (4)	XLR (4)	Yes	Provides phantom power for 4 condenser mics	\$130
1/4" (1)	1/4" (1); XLR	No		\$60
1/4" (2); XLR (2)	1/4" (2); XLR (2)	No		\$100
1/4" (1)	XLR (2)	Yes		\$50
1/4" (1); XLR	1/4" (1); XLR	Yes		\$60
XLR (2)	XLR (2)	No		\$58
1/4" (1)	1/4" (4)	No	Also works as a headphone distribution box	\$40
1/4" (1)	1/4" (1); XLR	No		\$70

# DIRECT BOXES

MANUFACTURER	PRODUCT	TYPE	POWER	# OF CHANNELS
Peavey	Patching Adapter	Floor	Passive	1
Pro-Co	CB-1	Floor or rackmount	Passive	1
Pro-Co	DB-1	Floor or rackmount	Passive	1
Pro-Co	DB-4A	Rackmount	Passive	4
Pro-Co	IT 1 Balancing Box/AV 1	Floor or rackmount	Passive	1
Pro-Co	AVP 1	Wall plate	Passive	1
Pro-Co	MS 3/MC 2/MS 1	Floor or rackmount	Passive	1
Pro-Co	MS 42A	Rackmount	Passive	4
Pro-Co	MS 43A	Rackmount	Passive	4
Pro-Co	MS 82	Rackmount	Passive	8
Pro-Co	MS 83	Rackmount	Passive	8
Radial Engineering	JD4	Rackmount	Passive	4
Radial Engineering	JD1	Floor	Passive	1
Radial Engineering	JDV	Floor	Active	1
Rapco	ADB+8	Floor	Battery or phantom	1
Rapco	DBR400	Rackmount	Passive	4
Rapco	DB-100	Floor	Passive	1
Rapco	DB-101SL	Floor	Passive	1
Raven Labs	APD-1 Active/Passive Direct	Floor	Battery, external AC	1
Raven Labs	MDB-1 Mixer/Direct Box/Buffer	Active DI/3-channel mixer	Battery, external AC	3 in/1 out
Roland	DI-1	Floor	Battery, phantom	1
Rolls	RDB104	Rackmount	Internal AC	4
Rolls	ADB2	Floor	Phantom	1
Rolls	DB25	Floor	Passive	1
Rolls	ADB3	Floor	External AC	2
Rolls	ADB3 Stereo Tube Direct Box	Tube direct box	Internal AC	2
Sledman	BA-18	Floor	Internal	1
Sledman	GA-12	Floor	Internal	1
Stewart Audio	ADB-1	Floor or rackmount	N/A	1
Stewart Audio	ADB-4	Floor or rackmount	External, phantom	4
Tech 21	SansAmp Classic	F.E.T. solid state	N/A	1
Tech 21	SansAmp GT2	F.E.T. solid state	N/A	1
Tech 21	TRI-O.D.	F.E.T. solid state	N/A	3
Tech 21	SansAmp PSA-1	F.E.T. solid state	N/A	1
Tech 21	SansAmp Acoustic DI	Floor	Phant; 9V batt; opt DC pwr supp	1
Tech 21	SansAmp Bass Driver DI	Floor	Phant; 9V batt; opt DC pwr supp	1
The John Hardy Co.	AMB Tube Buffered Direct Injection Box	Tube buffered DI box	AC power 110/220VAC	1
Tube Works	4001	Floor	External AC	1
Tube Works	4002	Rackmount	External VAC	2
Whirlwind	HotBox	Floor	Battery, phantom	1
Whirlwind	HotBox Quad	Rackmount	Internal AC; phantom	4
Whirlwind	Director	Floor	Passive	1
Whirlwind	Multi Director	Rackmount	Passive	4
Whirlwind	Mic Eliminator	Floor	Battery, phantom	1
Whirlwind	IMP 2	Floor	Passive	1
Whirlwind	Line Balancer/Splitter	Floor	Passive	1
Whirlwind	Direct 2 Dual Direct Box	Dual direct box	Passive	2

INPUTS

OUTPUTS

GROUND LIFT

SPECIAL FEATURES

PRICE

1/4" (1)	1/4" (5)	No		\$28
1/4" (1)	1/4" (1); XLR	Yes		\$55
1/4" (1)	1/4" (1); XLR	Yes	Line/speaker level in; high cut filter	\$122
1/4" (1)	1/4" (1); XLR	Yes	Line/speaker level in; high cut filter	\$333
1/4" (1); XLR	1/4" (1); XLR	Yes	Line/spkr level in; high cut filter	\$122
1/4" (1); RCA; XLR	Barrier strip	Yes	Line/speaker level in	\$122
XLR (1)	XLR (3)	Yes		\$122
XLR (1)	XLR (2)	Yes	Microphone splitting features	\$333
XLR (1)	XLR (3)	Yes	Microphone splitting features	\$444
Barrier strip	Barrier strip	Yes	Phantom buss available on P model	\$656-\$722
Barrier strip	Barrier strip	Yes	Phantom buss available on P model	\$878-\$944
1/4" (16)	XLR (4)	Yes	Merged input pairs; ultrasonic noise filter	\$900
1/4" (2)	XLR (1)	Yes	Merged inputs; -15 dB pad switch	\$240
1/4" (2)	XLR (1)	Yes	Uses NiCad rechargeable batteries	\$300
1/4" (1)	1/4" (1); XLR	Yes	Mic level/unity gain/+8 dB forward gain switch	\$208
1/4" (4)	1/4" (4); XLR (4)	Yes	4 units housed in 1U rackspace	\$249
1/4" (1)	1/4" (4); XLR (4)	Yes	Ground-lift jack	\$50
1/4" (1)	1/4" (4); XLR (4)	Yes	Accepts instrument/speaker level signals	\$60
1/4" (2)	XLR (1)	Yes	Sidechain effects loop w/ assign switch	\$349
1/4" (5)	XLR (1); 1/4"	Yes	Mute; tuner send; effects loop; inst. presets	\$299
1/4" (1)	1/4" (1); XLR	Yes	Auto power-off; phase inverse switch	\$150
1/4" (8)	XLR (4)	Yes		\$200
1/4" (2)	XLR (1)	Yes	3-position attenuation switch	\$50
1/4" (2)	XLR (1)	Yes	3-position attenuation switch	\$35
1/4" (4)	XLR (2)	Yes	Tube design; +20 dB gain control	\$200
1/4" (4)	XLR (2)	Yes	+20 dB gain/input level control	\$200
1/4" (1)	1/4" (1); XLR	Yes	Simulates 18" bass guitar speaker w/o battery	\$119
1/4" (1)	1/4" (1); XLR	Yes	Simulates 12" guitar speaker w/o battery	\$119
1/4" (1)	1/4" (1); XLR	Yes	Transformerless design	\$109
XLR (4)	1/4" (1); XLR (4)	Yes	Transformerless; selectable input sensitivity	\$379
N/A	N/A	N/A	Tube amp emulations; mult preamp styles; 8 chrctr swtchs/4 knobs; contour	\$345
N/A	N/A	N/A	Streamlined vers of SansAmp Classic; sel amp type/mod/spkr cab/mic plcmnt configs	\$195
N/A	N/A	N/A	Tweed, Calif, British amp models; drive/level cntrls ea ch; spkr sim	\$245
N/A	N/A	N/A	Prog tube amp emul; buzz, punch, crunch, drive, level cntrls; 49 lctry presets/49 usr locs	\$795
1/4" (2)	1/4" (1); XLR	Yes	Semi-parametric EQ; tube/mic emulation	\$225
1/4" (1)	1/4" (2); XLR	Yes	Bass tube amp emulation; active bass/treble	\$225
1/4" (1)	1/4" (2); XLR	Yes	Switchable 15 dB boost circuit for Jensen output	\$595
1/4" (1)	1/4" (2); XLR	Yes	Speaker/normal switch; XLR boost	\$195
1/4" (2)	1/4" (2); XLR (2)	Yes	Speaker/normal switch; transformerless DC out	\$395
1/4" (1)	1/4" (1); XLR	Yes	Instrument/amplifier switch	\$171
1/4" (4)	1/4" (4); XLR (4)	Yes	Instrument/amplifier switch	\$720
1/4" (-)	1/4" (1); XLR	Yes	Instrument/amplifier switch; LP switch	\$110
1/4" (4)	1/4" (4); XLR (4)	Yes	Instrument/amplifier switch; LP switch	\$400
1/4" (1)	1/4" (1); XLR	Yes	Emulates SM57 in front of 12" guitar speaker	\$100
1/4" (1)	1/4" (1); XLR	Yes		\$60
1/4" (1); XLR	XLR (2)	Yes	Selectable 600/150 ohm output	\$120
1/4" (2); XLR (2)	XLR (2)	Yes	-20 dB pad switch per channel	\$175

# DIGITAL AUDIO CONVERTERS

MANUFACTURER	PRODUCT	CONVERTER TYPE / #	ADC RESOLUTION OVER SAMPLING	DAC RESOLUTION	SAMPLE RATE(S)	SAMPLE RATE CONVERSION	DITHER	ANALOG I/O # / TYPE
Alesis	A13	A/D (8), D/A (8)	24-bit/128x	24-bit/128x	48 kHz	No	No	8/ 1/4" TRS
Apogee Electronics	AD-8000	A/D (8), D/A opt.	24-bit Delta-Sigma	24-bit (optional)	44.1, 48 kHz	No	Yes	XLR bal/unbal
Apogee Electronics	PSX-100	A/D; D/A	24-bit Delta-Sigma	N/A	44.1, 48, 88.2, 96 kHz	No	Yes	XLR
Apogee Electronics	Rosetta AD	A/D	24-bit Delta-Sigma	N/A	44.1, 48 kHz (Rosetta 48); 44.1, 48, 88.2, 96 kHz (Rosetta 96)	No	Yes	XLR bal/unbal
Apogee Electronics	8-ch Converter Cards for Yamaha Systems	N/A	24-bit Delta-Sigma	24-bit	44.1, 48, 88.2, 96 kHz	No	N/A	N/A
Behringer	Ultramatch H SRC2000	N/A	N/A	N/A	N/A	Yes	N/A	N/A
Benchmark	ADA 2008	A/D; D/A	20-bit/64x	20-bit	44.1, 48 kHz; varispeed (28-54 kHz)	N/A	No	XLR
Benchmark	AD2404-96	A/D (4)	24-bit/128x	N/A	44.1, 48, 88.2, & 96 kHz; varispeed	N/A	Yes	4/XLR
Benchmark	AD2408-96	A/D	24-bit/128x	N/A	44.1, 48, 88.2, & 96 kHz; varispeed	N/A	Yes	8/XLR
Crane Song	HEDD	A/D; D/A	24-bit	24-bit	44.1, 48 kHz	No	N/A	XLR
dCS	dCS Digital to Analog Converter	D/A	No	24-bit	44.1, 48, 88.2, 96, 176.4, 192 kHz; Sony DSD	No	No	2/XLR Ins
dCS	dCS Analog to Digital Converter	A/D	24-bit	No	44.1, 48, 88.2, 96, 176.4, 192 kHz; Sony DSD	No	No	2/XLR Ins
dCS	dCS Digital to Digital Converter	DDC 972	No	No	44.1, 48, 88.2, 96, 176.4, 192 kHz; Sony DSD	Yes	No	No
Fostex	COP-1/96k	A/D; D/A	N/A	N/A	32-96 kHz	N/A	N/A	None
Fostex	VC-8	ADAT optical to analog	20-bit	20-bit	32, 44.1 and 48 kHz	N/A	N/A	8/ 1/4"
Frontier Design	Tango24	A/D (8); D/A (8)	24-bit/128x	24-bit/128x	44.1, 48 kHz; 39-51 kHz from external clock	N/A	N/A	8/ 1/4" balanced TRS
Frontier Design	Zulu	A/D (4); D/A (8)	20-bit/128x	20-bit/128x	39-51 kHz from optical input	N/A	N/A	8/ 1/4"
Lucid	DA9624	D/A (2)	N/A	24-bit/128x	96, 88.2, 48, 44.1, 32 kHz	Yes	No	2/TRS; XLR
Lucid	AD9624	A/D (2)	24-bit/128x	N/A	96, 88.2, 48, 44.1, 32 kHz	Yes	Yes	2/XLR
Lucid	ADA8824 (Sonic)	A/D/A (8 channels)	24-bit/128x	24-bit/128x	44.1, 48 kHz	Yes	No	8/XLR
Lucid	ADA8824 (ADAT)	A/D/A (8 channels)	24-bit/128x	24-bit/128x	44.1, 48 kHz	Yes	No	8/XLR
Lucid	SRC9624	Sample rate converter	N/A	N/A	32-100 kHz	Yes	Yes	N/A
M-Audio	CO3	Format converter: S/PDIF; TosLink; AES/EBU	N/A	N/A	All	all	N/A	N/A
M-Audio	SuperDAC 24/96	D/A	N/A	24-bit/128x	22-100 kHz	N/A	N/A	2/TRS; 2/XLR
Merging Technology	Sphinx Modular High Resolution Audio Interface	N/A	24-bit	24-bit	32, 44.1, 48, 64, 88, 96 kHz	Yes	Yes	8/ 1/4"; ADAT
Midiman	Flying Cali DA/24bit	D/A	N/A	24-bit/128x	All	No	No	2/ 1/4" out
Midiman	Flying Cali AD/24bit	A/D	24-bit/128x	N/A	44.1, 48 kHz	No	No	2/ 1/4" out

DIGITAL I/O #/TYPE	WORD CLOCK I/O	VIDEO INPUT SYNC	RF FILTERING	THD	DYNAMIC RANGE	SPECIAL FEATURES	PRICE
ADAT (optical)	No	No	Yes	0.0025%	96 dB	Signal/clip mtrng; optical out source switch	\$499
8ch AES/EBU; 2ch S/PDIF; other intrics on plg-in cards	Yes	Optional	Yes	-110 dB A-weighted	> 114 dB (-60 dB A-weighted)	Opt: 2-ch/8-ch D/A; format cnvrt; AMBus digital I/O (ProTools, ADAT, TDIF, AES/EBU, SDIF-II, SSL HiWay)	\$5,995-\$7,995
AES/EBU; S/PDIF	Yes	Optional	Yes	-112 dB (-0.1 dBFS A-weighted)	> 119 dB (-60 dB A-weighted)	3 modes enable cross-connection of A/D & D/A; format conversion; ABS/ABS96 bit-splttng; low jitter clock	\$1,995-\$2,995
AES/EBU; S/PDIF (coax/opt); ADAT; TDIF	Yes (out only)	No	Yes	-112 dB (-0.1 dBFS A-weighted)	> 119 dB (-60 dB A-weighted)	Upgradable from 44.1/48 to add 88.2/96 kHz; pro/consmr analog in	\$1,295
N/A	N/A	N/A	Yes	-105 dB (A/D); -103 dB (D/A)	117 dB A-weighted (A/D); 116 dB A-weighted (D/A)	8-ch converters; same cards fit both YGDAI (02R) and Mini-Y (01V) slots	\$1,495-\$1,195
AES/EBU; S/PDIF	Yes	N/A	N/A	0.001%	95 dBFS	SCMS copy-bit and emphasis-bit removal	\$229
AES; ALR; BNC	No	No	Yes	0.0004% @ -1 dB FSD (20 Hz-20 kHz)	110 dB (20 Hz-20 kHz)	128 dBFS (0.00004%) @ -1 dBFS DCCIF IM	from \$3,900
2/ AES; 3/XLR; S/PDIF	No	No	Yes	0.00003% @ 1dB FSD (20 Hz-20 kHz)	117 dB (20 Hz-20 kHz)	Jitter reducing phase-locked-loop circuitry; 4 9-seg dgll mtrs	\$2,800
4/AES XLR; AES2id BNC; S/PDIF	No	No	Yes	0.00003% @ 1 dB FSD (20 Hz-20 kHz)	117 dB (20 Hz-20 kHz)	Jitter reducing phase-locked-loop circuitry; 4 9-seg dgll mtrs	\$4,995
AES; S/PDIF	Yes	No	Yes	Depends on process	>117 dB	DSP generates tricode/pentode tube sound in the digital domain	\$2,975
4/ AES/EBU; S/PDIF	Yes	No	Yes	N/A	125 dB	24/96 formats; 24 bit resolution at 192kS/s and DSD input	\$7,335
4/ AES/EBU; S/PDIF	Yes	No	Yes	N/A	125 dB		\$7,335
4/ AES/EBU; 2/ S/PDIF; SDIF-2	Yes	No	No	N/A	N/A		\$6,320
Coaxial RCA; optical in & out	N/A	No	N/A	N/A	N/A	96 kHz compatible	\$95
ADAT; S/PDIF	Yes	N/A	N/A	N/A	N/A	Selectable clock; adds analog I/Os to digital recs. or 8 analog ins to PCs	\$329
8/ADAT optical in & out	Yes	N/A	Yes	0.002% A-weighted	105 dB A-weighted	+4 dBu or -10 dBV, selectable per channel	\$699
8/ADAT optical in & out	N/A	N/A	Yes	0.002% A-weighted	>98 dB		\$399
2/ AES/EBU; 1/ S/PDIF (coax); Toslink	No	No	Yes	<0.002%	>114 dB	Sep hdphn vol cntrl; front panel out; 20-seg output lvl LED ladders	\$749
2/ AES/EBU; 1/ S/PDIF (coax); Toslink	Yes	No	Yes	<0.002%	>115 dB	User-selectable 16-bit noise shaping; 20-seg input lvl LED ladders w/pk/hld/clip indctr	\$899
4/AES/EBU; 1/ S/PDIF; 1/RCA (coax); 2/Sonic US	Yes	No	Yes	<0.005%	>117 dB, >113 dB A/D, >105 dB D/AP	Works with Sonic Solutions DAW using SonicStudio 16.24 card	\$3,295
4/AES/EBU; 1/ S/PDIF; 2/ADAT sync	Yes	No	Yes	<0.005%	>113 dB A/D, >105 dB D/A	ADAT-optical (light pipe) I/O; ADAT sync I/O connectors	\$3,295
2/XLR/AES3; 2/RCA coaxial; 2/optical (Toslink)	Yes	Yes	N/A	-117dB max	120 dB min, 128 dB typical	Single & double wire 96kHz I/O; 5 internal and 3 external master clock options	\$1,995
1/S/PDIF; 1/Toslink; 1/AES/EBU	N/A	N/A	N/A	N/A	N/A	SCMS bit management	\$250
AES/EBU; S/PDIF coaxial and optical (Toslink)	N/A	N/A	Yes	<0.0015%	115.5 dB		\$300
up to 8/AES/EBU; ADAT; S/PDIF	Yes	Yes	Yes	THD+N 1 kHz @ 0 dBFS -101dB 1 kHz @dBFS - 90dB	A-weighted 117 dB; unweighted 111 dB	Extended modularity with up to 8 channels of 24-bit/96 kHz I/O	\$3,995 and up
1/ S/PDIF (coaxial) in	No	No	No	0.002%	103 dB (A-weighted)		\$200
1/ S/PDIF	No	No	No	0.005%	103 dB (A-weighted)		\$250

# DIGITAL AUDIO CONVERTERS

MANUFACTURER	PRODUCT	CONVERTER TYPE/#	ADC RESOLUTION, OVER SAMPLING	DAC RESOLUTION	SAMPLE RATES(S)	SAMPLE RATE CONVERSION	DITHER	ANALOG I/O # /TYPE
Midiman	Flying Cow 24-bit	A/D (2); D/A (2)	24-bit/128x	24-bit/128x	32, 44.1, 48 kHz	No	No	2/ 1/4"
Mytek Digital	8x96 Series ADC and DAC	A/D; D/A	24-bit/64x/128x	24-bit	44.1, 48, 88.2, 96 kHz	No	Yes	8/XLR (+4 dBm to -10 dB)
Mytek Digital	Workstation 24 AD/DA Interface	N/A	24-bit/64x	24-bit	44.1, 48 kHz	No	Yes	+4 dBm XLR
Panasonic	96 kHz Series	A/D	24-bit/128 X	24-bit	44.1, 48, 88.2, 96 kHz	N/A	Yes	8
Panasonic	96 kHz Series	A/D	24-bit/128x	24-bit	44.1, 48, 88.2, 96 kHz	N/A	Yes	8/XLR balanced
Radio Design Labs	RU-AEC1	N/A	24-bit	N/A	32, 44.1, 48, 88.2, 96 kHz	N/A	N/A	XLR
Sonifex	Sonifex RedBox A/D and D/A Converter	A/D, D/A	N/A	24-bit	32, 44.1, 48, 64, 88.2, 96 kHz	No	No	XLR bal; RCA unbalanced
Sonifex	Sonifex Sample Rate Converter	A/D; D/A	N/A	No	32, 44.1, 48, 64, 88.2, 96 kHz	Yes	No	No
Sonus	AUDI/O AD/24	N/A	24-bit/128x	N/A	44.1, 48 kHz	No	No	8/XLR
Sonus	AUDI/O DA/24	N/A	N/A	24-bit/128x	44.1, 48 kHz	No	No	8/XLR
Sonus	AUDI/O AD/96	N/A	16, 18, 20, 24-bit	N/A	44.1, 48, 88.2, 96 kHz internal; 42-50, 84-100 kHz external	No	Yes	4/XLR
Sonus	AUDI/O DA/96	N/A	N/A	24-bit	44.1, 48, 88.2, 96 kHz internal; 42-50, 84-100 kHz external	No	Yes	4/XLR
Sonus	AUDI/O AD/8	N/A	24 bits or dithered to 16 or 20 bits	N/A	44.1, 48, 88.2, 96 kHz	N/A	Yes	8/XLR-1/4" combi
Soundscape	iBox 8-XLR/24	A/D (8); D/A (8)	24-bit/128x	24-bit	44.1, 48 kHz	N/A	N/A	8/XLR
Soundscape	iBox 8-Fibre	A/D (8); D/A (8)	20-bit/64x	20-bit	44.1, 48 kHz	N/A	N/A	8/XLR
Soundscape	iBox 8-XLR	A/D (8); D/A (8)	20-bit/64x	20-bit	44.1, 48 kHz	N/A	N/A	8/XLR
Soundscape	iBox 8-ADAT	TDIF to ADAT converter	N/A	N/A	44.1, 48 kHz	N/A	N/A	N/A
Soundscape	iBox 8-Line	Analog to TDIF converter	20-bit AKM	20-bit AKM	44.1, 48 kHz	N/A	N/A	8/RCA
Soundscape	iBox 2-Line	Analog to TDIF converter	20-bit AKM	20-bit AKM	44.1, 48 kHz	N/A	N/A	N/A
Studer	Studer MicValve A/D Converter	N/A	22-bit	N/A	44.1, 48 kHz	N/A	16-bit	XLR
Swissonic	AD24	N/A	24-bit/64x	N/A	44.1, 48 kHz	N/A	N/A	Balanced high CMR; XLR in
Swissonic	DA24	N/A	N/A	24/16-bit	44.1, 48 kHz	N/A	N/A	8/bal. XLR
Swissonic	AD96	N/A	16, 18, 20, 24-bit	N/A	44.1, 48, 88.2, 96 kHz	N/A	Yes	4/CMR
Swissonic	DA96	N/A	N/A	24-bit	N/A	Yes	Yes	4/XLR
Swissonic	AD8 / AD8 Pro	A/D (8)	24-bit	N/A	44.1, 48, 88.2, 96 kHz	N/A	Yes	Neutrik XLR/jack combi inputs
Z-Systems	Digital Sample Rate Converters	N/A	N/A	N/A	N/A	Yes	N/A	N/A
Zeliro Acoustics	Zeliro In Box	A/D	20-bit/128x	No	44.1 kHz	N/A	Yes	XLR in; RCA line in (optional)

DIGITAL I/O # /TYPE	WORD CLOCK I/O	VIDEO INPUT SYNC	RF FILTERING	THD	DYNAMIC RANGE	SPECIAL FEATURES	PRICE
2/AES/EBU; 2/ S/PDIF	No	No	N/A	0.003%	103 dB		\$500
4/AES/EBU; 2/ADAT; ProTools; Sonic; TDIF	Yes	No	Yes	-106 dB	120 dB	S/MUX and MRX bit-splitting; digital format conversion; 96 kHz	\$2,795
S/PDIF; AES/EBU; Toslink	Yes	No	Yes	-103 dB THD	117 dB	Digital format conversion; signal routing	\$1,995
AES/EBU; ADAT; TDIF optional	Yes	No	Yes	0.003	117 dB	Support all current and proposed digital output; mic preamp w/ A/D converter	\$2,496
AES/EBU; Lightpipe	Yes	No	Yes	0.003	118dB	Precision metering with selectable ref. levels	\$2,195
N/A	N/A	N/A	Yes	< 0.04%	> 90 dB	Sure-Lok auto recovery system	\$443
AES/EBU; S/PDIF	Yes	No	No	96 dB THD + N at 1 kHz	110 dB		\$680
AES/EBU; S/PDIF	No	No	No	-114 dB THD + N at 1 kHz	120 dB		\$590
ADAT; Toslink	Yes	No	Yes	99 dB THD +N	115 dB SNR (A-weighted)	Half-rack space	\$749
ADAT; Toslink	Yes	No	Yes	97 dB THD +N	106 dB (A-weighted)	Half-rack space	\$599
AES/EBU; S/MUX ADAT	Yes	No	Yes	100 dB	115 dB (A-weighted)	Half-rack size; high-res; multi-mode meters; bit word-packing	\$999
AES/EBU; S/MUX ADAT optical	Yes	No	Yes	96 dB	110 dB (A-weighted)	Half-rack size; supports bit- and sample-packing	\$999
2/ADAT optical; 4 AES/EBU (Pro version)	Yes	No	Yes	0.007% at min gain	115 dB at min gain	Neutrik XLR/jack combi-inputs; phantom power; 40 dB gain	\$1,499
1/ADAT; 1/TDIF w/ TDIF-ADAT conversion	Yes	N/A	N/A	< 92 dB	113 dB (A-weighted)	Fully adjustable input and output levels to +24dBu	\$1,999
ST Fibre in/out; ADAT; TDIF	Yes	N/A	N/A	< 90 dB	107 dB (A-weighted)	ST type connectors for 8 Ch. digital I/O; switchable output and adjustable input level; TDIF/ADAT interface	\$1,999
1/ADAT; 1/TDIF w/ TDIF-ADAT conversion	Yes	N/A	N/A	< 90 dB	107 dB (A-weighted)	8-channel metering; programmable routing; TDIF/ADAT interface	\$1,499
1/ADAT; 1/TDIF w/ TDIF-ADAT conversion	Yes	N/A	N/A	N/A	N/A	24-bit ADAT-TDIF conversion; clocks over TDIF or ADAT	\$199
1/TDIF	Yes	N/A	N/A	< -94 dB	100 dB (A-weighted)	8-channel LED input level metering at -30dBFS and -3dBFS	\$449
1/TDIF; TDIF cascade port	Yes	N/A	N/A	Output < -94 dB; input > 0.01% (at 1kHz -1dBFS)	100 dB (A-weighted)	Cascade up to 4 units via cascade TDIF port; 2-channel LED input level metering at -30dBFS and -3dBFS	\$199
AES/EBU out (opt ADAT, TDIF)	Yes	AES/EBU sync in	Yes	> 104 dB	106 dB	Tube gain stage (switchbl) with drive ctrl/EQ	\$3,025
Toslink optical; ADAT	Yes	N/A	N/A	0.001% (-1 dBFS input level)	115 dB (A-weighted) 113 dB (unweighted)	Half-rack space design (rack-shelf available)	\$749
Toslink optical;	Yes	N/A	N/A	< -97dB	115dB	Half-rack design	\$599
2/XLR	Yes	N/A	N/A	0.003% (@-1 dBFS)	115 dB (A-weighted)	For bit-packed/sample-packed ADAT formats	\$999
AES/EBU types: professional or consumer (jumper selectable) XLR; ADAT Toslink optical	Yes	N/A	N/A	0.003%(@-1 dBFS)	110 dB (A-weighted)	Support for bitpacked/sample-packed ADAT formats enables recording of 24/96 data on conventional 16/48 MDMs; half-rack design	\$999
2/Toslink or 4/AES/EBU	Yes	N/A	N/A	< 0.007%	115 dB	Internal/external sync; gain pots; 19" rackmount; 8 mic preamps w/ phantom	\$1,499-\$1,899
AES/EBU (XLR); S/PDIF (BNC); optical (Toslink)	Yes	N/A	N/A	N/A	N/A	Format conversion	\$450 and up
S/PDIF (optical/coax) out	No	No	Yes	0.0018%	> 99 dB	Built-in mic preamp	\$395

## MICROPHONE &amp; INSTRUMENT PREAMPS

MANUFACTURER      PRODUCT      TYPE      CHANNELS      EQ      OUTPUT LEVEL CONTROL      INSTRUMENT / LINE INPUT

Amek	9098 EQ	TLA (Transformer Like Amplifier)	1	4-band para; vari HP/LP	No	Yes
Amek	DMA	TLA (Transformer Like Amplifier)	2	HP filter	No	Yes
Aphex Systems	107	Tube	2	Low-cut filter	Yes	No
Aphex Systems	1788	Solid state	8	Low-cut filter	Yes	Yes
API	512C	Solid state	1	No	Yes	Yes
A.R.T.	Dual MP	Tube	2	No	Yes	Yes
A.R.T.	Pro MPA	Tube	2	Adjustable HP filter	Yes	Yes
A.R.T.	Tube MP	Tube	1	No	Yes	Yes
ATI	8MX2	Solid state	8 mic/8 line	No	Yes	Yes
Avalon Division	M5	Discrete, class A	1	Vari pass HP filter	Yes	Yes
Avalon Design	AD2022	Discrete, class A	2	Vari pass HP filter	Yes	Yes
Behringer	UltraGainPro MIC2200	Tube	2	Parametric; low-cut	Variable - 20 dB to +20 dB	4/4
Bellari	MP110 Direct Drive	Tube	1	No	Yes	Yes
Bellari	RP220	Tube	2	No	Yes	Yes
Bellari	RP520	Tube	2	No	Yes	Yes
Benchmark	Mic-Man Jr.	Solid state	2	No	No	No
Benchmark	MPS-400	Solid state	4	No	No	No
beyerdynamic	MV100	Solid state	2	HP filter	No	No
CLM	DB400S	Solid state	4	Low-cut filter	No	Yes
Crane Song	Flamingo	Discrete class A	2	N/A	Yes	No
Curtis Technology	Opre8 8-Channel Microphone Preamplifier	Solid state	8	None	Yes	
Curtis Technology	Opre2 2-Channel Microphone Preamplifier	Solid state	2	None	Yes	No
D.W. Fearn	VT-1 / VT-2 Vacuum Tube Microphone Preamplifier	Tube	1/2	No	Yes	No
DACS	DACS MicAmp	Discrete	2	Bass-rolloff	No	No
dbx	386 Tube Mic Preamp	Dual tube mic preamp	2	No	Yes	Yes
Demeter	VTMP-2b Stereo Tube Microphone Preamp	Solid state	2	Low-cut filter	Yes	Yes
Demeter	VTBP-201 DBL Tube Bass Preamp	All tube	1	Treble; mid; bass (w/SEL freq); presence	No	Yes
Demeter	VTMP-2bx Stereo Tube Microphone Preamp	Tube	2	Low-cut filter	Yes	Yes
Demeter	H MP-1 Stereo Tube Microphone Preamp	Tube	2	Low-cut filter	Yes	Yes
Drawmer	Drawmer 1962	Solid state/tube with 24-bit digital output	2	3-band each channel	Yes	Yes
Earthworks	LAB102/LAB101	Solid state, stepped and variable gain	2/1	No	Yes	N/A
Earthworks	1024	Microphone preamp	4	No	Yes	N/A
Event Electronics	EMP-1	Solid state	1	HP filters (switchable)	No	No
Fishman	Acoustic Blender/Acoustic Bass Blender	Solid state	2	Active shelving style, bass, treble, low-cut filter	Yes	Yes
Fishman	Pocket Blender	Solid state	2	Active shelving style, bass, treble, high/low-cut filters	Yes	Yes
Fishman	Pro-EQ II	Solid state preamp	1	4-band graphic	Yes	Yes
Fishman	G-II Acoustic Guitar/Instrument Preamp	Solid state preamp	1	Treble; bass	Yes	Yes



OVERLOAD WARNING	FREQUENCY RESPONSE	NOISE	TOTAL HARMONIC DISTORTION	SPECIAL FEATURES	PRICE
No	10 Hz-110 kHz @ -1.5 dB	-100 dBu	<0.01%	Phantom, notch filters, Neve glow & sheen	\$2,269
2x8-seg LED	10 Hz-110 kHz	-104 dBu S/N	<0.01%	Phantom, MS surround	\$1,710
Clip LED	20 Hz-30 kHz	-128 dBu EIN	0.2%	Remote mute, Tubessence, phantom, gain cntrl, pad	\$449
Clip LED	10 Hz-20 kHz	-124 dBu EIN	0.3%	2 outs pr ch, indiv hdphn mtr of sel chans, clickless remote gn chng, indiv lmters, dgtl out mod (\$995)	\$4,495
Yes	30 Hz-20 kHz @ +/-3 dB	-129 dB	<0.05%	Re-issue 70s API mic pre, 7-seg input LED, phase, phant, 20 dB pad, 1/4" XLR trnt pntl ins, fits 500 Series ltrms/consoles	\$825
3-segment LED, clip LED	10 Hz-20 kHz	-129 dBu EIN	<0.1%	Phase, phantom, +20 dB gain switch	\$349
10-segment LED	20 Hz-40 kHz	-132 dBu EIN	<0.1%	Output-level VU meters, phase, phantom, 5-year warranty	\$649
Clip LED	10 Hz-20 kHz	-129 dBu EIN	<0.1%	Phase, phantom	\$139
2 x 10-segment LED	20 Hz-20 kHz	-129 dBm EIN	0.006%	Vari-thrshld lmttr on each input (8), phase, phant/grnd lift on ech ch, 8x2 mixer w/ 8 outs	\$1,899
Analog VU, (2) signal peak LEDs	5 Hz-120 kHz	-126 dB EIN	0.05%	Ext B2T pwr sply (100/240V), polarity: 20 dB pad, DI in: opt B&K 130V phant pwr	\$1,600
No	1 Hz-120 kHz	-126 dB EIN	0.05%	Ext B2T pwr sply (100/240V), polarity: 20dB pad, DI in, opt bal JT-1 output trnsfrm, opt B&K 130V phant pwr	\$3,000
	10 Hz-200 kHz, +/- 3 dB	N/A	0.11% typ. @ +1 dBu, 1 kHz	12AX7 vacuum tube, phantom power, phase reverse	\$179
Clip LED	40 Hz-40 kHz	90 dB S/N	0.1%	Transformer-balanced inputs, phase, pad	\$230
5-segment LED, clip LED	20 Hz-40 kHz	107 dB S/N	0.1%	Transformer-balanced inputs, phase, pad	\$500
Clip LED	20 Hz-40 kHz	107 dB S/N	0.1%	Analog VU meters, transformer-balanced inputs, phase, pad	\$600
None	1 Hz-300 kHz	1 dB noise figure	0.001%	Portable AC/DC operation, gain range: +26 to +76 dB	\$425
None	1 Hz-500 kHz	-130 dBu EIN	0.0009%	Active bal I/O, phantom, max output level: +27 dBu, gain range: -2 to +73 dB (w/pad)	\$1,095
Clip LED	18 Hz-22 kHz	-128 dB EIN	0.03%	Headphone monitoring	\$799
10-segment LED per ch	20 Hz-20 kHz	-128 dB	0.006%	Phantom, limiter, mid & side with stereo width mngmnt	\$1,300
2x23-segment LED w/clip indicator	5 Hz-200 kHz	-129 dBm EIN S/N	0.0006%	Phantom, sel "Fal" & "Iron" Amos, emulates vintage sounds & creates new ones	\$2,255
	10 Hz-20kHz	-129 dB	0.3%	Lundahl input transformers, toroidal double regulated	\$ 2,995
	10 Hz-0 KHz	-129 dB	0.3%	Lundahl input transformers	\$ 1,295
VU meter	5 Hz-28 KHz	-124 dBu EIN	0.2 %	Phantom, phase, 20 dB pad, low imp in for trnsfrm/iss mics	\$2,000-\$3,500
No	20 Hz-55 kHz	-133 dB	0.002%	Phantom	\$2,110
No	10 Hz-75 kHz	0.35% at +4 dBu out, 1kHz, 480 dB gain	0.35% at +4 dBu out, 1kHz, 480 dB gain	AES/EBU and S/PiF digital outputs	\$595
LED	10 Hz-40 kHz	-124 dB EIN	0.016%	Jensen input trnsfmrs, phase, LC, pad, vari tube gain	\$2,295
No	N/A	N/A	N/A	Jensen DBE mic level output trnsfrm, effects loop, bal out	\$799
LED	10 Hz-40 kHz	-124 EdB IN	0.016%	Phantom, Jensen in/out trnsfmrs, phase, ILC, pad, vari tube gain	\$2,549
10-segment LED	10 Hz-80 kHz	-124 dB EIN	0.012%	Jensen input trnsfrm, phase, LC, pad, vari tube gain	\$1,295
Yes	10 Hz-35 kHz	-128.5 dB at +60 dB of gain	<0.01%	TDIF, In/ho/ide, XLR I/O, AES/EBU, S/PDIF outs, spectral enhncmnt, Tube Drive, 2-ch mixer, 3 str inserts, adj wrd lngth, dither, bit splitting	\$2,549-\$5,200
LED begins flashing at 10% below clipping	2 Hz-100 kHz @ +/- 0.1 dB	EIN= -125 dBv @ 20 dB of gain, -133 dBv @ 40 dB gain	0.02% at 8 Vrms output	Multiple outs per ch, phase, phantom, standby	\$750-\$1,500
LED begins flashing at 10% below clipping	2 Hz-100 kHz +/- 0.1dB	No distortion	< 0.001%	Zero distortion technology	\$3,500
Clip LED	20 Hz-20 kHz, +/-0.1 dB	122 dB S/N	0.02%	Intrnl pwr sply, extr alum case, phase, phantom, signl-pres LED	\$299
No	20 Hz-20 kHz	81 dB (A-weighted, ref to nom -20 dBV input)	0.2%	Sep mic/piezo transducer chans w/dedicated effects loops/phase rev, phantom	\$460
No	20 Hz-20 kHz	87 dB (A-weighted, ref to nom -20 dBV input)	0.7%	Sep mic/piezo transducer chans w/dedicated effects loops/phase rev, phant	\$360
				Sub bass trim control, input trim control, rugged injection molded case	\$150
				Input trim control, rugged injection molded case, suitable as floor unit, belt/strap pack or with (sold separately) mic-stand adapter	\$100

## MICROPHONE &amp; INSTRUMENT PREAMPS

MANUFACTURER

PRODUCT

TYPE

CHANNELS

EQ

OUTPUT LEVEL CONTROL

INSTRUMENT / LINE INPUT

MANUFACTURER	PRODUCT	TYPE	CHANNELS	EQ	OUTPUT LEVEL CONTROL	INSTRUMENT / LINE INPUT
Fishman	B II Acoustic Bass Preamp	Solid state preamp	1	Treble; bass	Yes	Yes
Focusrite	Red 7 Mic Pre and Dynamics	Solid state	1	High pass filter	Yes	Y/Y
Focusrite	Red 8 Dual Mic Preamp	Solid state	2	No	No	No
Focusrite	Red 1 Quad Mic Preamp	Solid state; transformer balanced	4	No	No	No
Geoffrey Daking	52270 Mic-Pre & 4-Band Equalizer	Transformer-coupled discrete transistor	1	4-Band w/high & low pass filters	Yes	N/Y
GML	8300	Solid state	2	No	No	No
Grace Design	Model 201	Solid state	2	No	Yes	Yes
Grace Design	Lunatec V2	Portable solid state, fully balanced	2	HP filter	Yes	No
Grace Design	Model 801	Solid state, fully balanced; transformerless	8	No	Optional	No
Grace Design	Model 801R	Solid state, fully balanced; transformerless	8 (up to 64 in a system)	No	No	No
Great River Electronics	MP-2MH Microphone Preamp	Transformer coupled discrete solid state	2	N/A		Yes
HNB	Radius 10	Tube	4	HP filter; low-cut	Yes	No
HNB	Radius 50	Tube	1	HP filter; low-cut	Yes	No
HNB	Classic 80	Pentode tube	2	High-cut, low-cut	Yes	Yes
Joemeek	VC7	Mic pre-amp	2	No	Yes	Yes
Langevin	Langevin Dual Mono Mic Pre	Solid state all-discrete	2	High and low shelving	No	Yes
Manley Labs	Dual Mono Mic Pre	Tube	2	No	No	Yes
Manley Labs	MIC/EQ 500	Tube	1	Stepped LF and HF, passive vintage EQ	Yes	Yes
Manley Labs	Mono 40 dB Mic Pre	Tube	1	No	No	Yes
Martech	MSS-10 Microphone Preamp	Discrete solid state	1	No	Yes	Yes
Neotek	Martinsound MicMAX	Solid state	2	N/A		
Midiman	Audio Buddy	Solid state	2	No	No	Yes
Millennia Media	HV-3B	Solid state	2	No	Yes	No
Millennia Media	HV-3D	Solid state	8	No	Yes	No
Millennia Media	STT-1 Origin	Channel strip/preamp	1	4-band parametric	Yes	Y/Y
Millennia Media	M-2B	Transformerless vacuum tube mic preamp	2	No	N/A	N/A
Millennia Media	MSM-01	M-S matrix (mid-side microphone decoder)	2	No	Yes	Y/Y
Nightpro	Pre03	Solid state	2 or 4	1-band (sel freq); broad-band shelving; LF rolloff	No	Yes
Oram Pro	Octasonic	Solid state	8	No	No	Yes
Palmer Direct	Palmer PGA-01 Triline Buffered A/B Box	Buffered A/B box with balanced output	2 in/3 out	None	Yes	Y/N
Palmer Direct	Palmer PGA-02 E-Froo Speaker Switcher	Speaker switcher for Triline	2 in/3 out	None	None	N/Y
Peavey	VMP-2	Tube	2	2-band; low-cut	Yes	Yes
Peavey	TMP-1	Mono class A tube mic preamp	1	N/A	Yes	Yes
Peavey	16 LM	16-channel line mixer	16	N/A	Yes (main and headphone)	N/Y
Pendulum	MDP-1	Tube, class A	2	10-pstn low-cut filter	Yes	Yes
Phoenix Audio	GT02	Stereo mic pre with 3-band EQ and active DI	2	3u /sweep mids	Yes	Yes
Precision Analog Systems	MPA 100	Solid state	2	No	Yes	No
PreSonus	M80 and MP20	Class A, discrete	2 or 8	Low-cut filter	Yes	Yes

## OVERLOAD WARNING

## FREQUENCY RESPONSE

## NOISE

## TOTAL HARMONIC DISTORTION

## SPECIAL FEATURES

## PRICE

				Input trim control, rugged injection molded case; suitable as floor unit; belt/strap pack or with (sold separately) mic-stand adapter	\$99.95
VU meter	10 Hz-140 kHz	-128 dB EIN	0.006%	Transformer balanced I/O mic-preamp with mono channel dynamics optimised for vocals.	\$2,995
VU meter	10 Hz-140 kHz	-128 dB EIN	0.003%	Phantom power; phase reverse on each channel, stepped gain controls	\$2,495
VU meter	10 Hz-140k Hz	-128 dB EIN	0.003%	Phantom power, phase reverse on each channel, stepped gain controls	\$3,745
No	10 Hz-56 kHz	-96 dB with 26 dB of gain and EQ bypassed	<.0033	Mute; phase change; 20 dB pad, phantom power	\$1495
Clip LED	1 Hz-20 kHz	-127 dBu EIN	0.0908%	Phantom, 1 rackspace; can be upgraded to 4 channels for \$1,200	\$2,195
Yes	4.5 Hz-1.0 MHz, +/-3 dB	<-130 dB @ 60 dB gain	0.0015%	24 position gold contact rotary gain controls	\$1,995
Yes	6 Hz-250 kHz, +/-3 dB	<-130 dB @ 60 dB gain	0.0011%	Studio quality in a battery operated package	\$1,495
Yes	4.5 Hz-1.0 MHz, +/-3 dB	<-130 dB @ 60 dB gain	0.001%	24 position gold contact rotary gain controls	\$4,795
Full digital metering/peak hold and reset	4.5 Hz-1.0 MHz, +/-3 dB	<-130 dB @ 60 dB gain	0.0015%	Fully remote contr. up to 64 chans contr from 1000' away; scene mem/recall; full MIDI ctrlr; desktop controller (\$995)	\$5,495
	10 Hz-60 kHz, +/- 0.5 dB	-129 dB EIN 150 source @ 40 dB gain	<0.007%	Phantom; polarity; pad switches; 2dB stepped gain controls	\$1,650
Drive/peak LEDs	10 Hz-40 kHz	-127 dB EIN	N/A	Phantom; phase per channel	\$749
8-seg LEDs	10 Hz-40 kHz	-127 dB EIN	N/A	Phantom power	\$469
Drive/peak indicators	30 Hz-40 kHz	-122 dB EIN	0.05%		\$1,850
VU meter	10 Hz-50kHz	-128 dB	.01	Selectable impedance matching and variable hi-pass filters	\$1,300
No	10 Hz-20 kHz	80 dB S/N	0.05%	All discrete; two channels	\$1,475
No	10 Hz-60 kHz	80 dB S/N	0.05%	High headroom; big beefy sound	\$2,400
VU meter	5 Hz-60 kHz	100 dB S/N	0.025%	Fully differential circuitry	\$2,900
No	10Hz-20 kHz	80 dB S/N	0.05%	High headroom	\$1,600
VU meter	10 Hz-20 kHz	-129.5 dBu typical	<-0.0015%		\$1,995
	5 Hz-150 kHz +/- .3 dB		<0.001%	Microphone impedance matching via switch selection	\$1,495
Yes	5 Hz-50 kHz	-122 dBu	0.1%		\$120
Clip LED	1 Hz-300 kHz	-129 dB EIN	0.001%	Fully balanced; B&K mic option	\$1,895
Clip LED	1 Hz-300 kHz	-129 dB EIN	0.001%	Fully balanced; B&K mic option	\$3,995
LED	5 Hz-300 kHz +/- 0 / -3 dB	-128 dBu EIN	<.002%	De-essers; compressors; EQs; preamps; metering	\$2,855
	5 Hz-100 kHz +/-0/-3 dB	-116 dB EIN	.05% typical	B&K (DPA) 130V input option; DC input option	\$2,855
	5 Hz-300 kHz +/-0/-3 dB	-95 dBu	<.001%	Headphone output with level; M-S line output	\$1,895-3,495
Peak LED 3 db before clip	15 Hz-40 kHz	-126 dBu EIN	0.003%	Vari air air-band EQ	\$1,675-\$2,675
Preclip LED	20 Hz-40 kHz	-127.5 dB EIN	0.005%	Phase; phantom per ch; alum knobs; 2 high-level inputs	\$1,795
	30 Hz-15 kHz	< -80 dB	< 1%	Allows guitarist to play through two amps individually or together; balanced XLR jack to connect acoustic guitar directly to PA	\$280
	NOT Limited	N/A	N/A	Expans functions of the TRILINE: routes outputs of two amplifiers to one speaker cabinet, protected by internal load	\$105
No	10 Hz-40 kHz	-126 dBu EIN	0.04%	20 dB pad, phantom, EQ bypass; input transformer with triple magnetic shielding	\$950
	20 Hz to 20 kHz +/- .3 dB	-106 dBv @ 150 ohms	0.2 at max gain	+24 V phantom power, LED level meter, input volume pot, XLR and 1/4" in/out	\$290
	20 Hz to 20 kHz +/- .1 dB	-92 dB ( 20 Hz-20 KHz )	<.005% (-4 dB output, 20 Hz -20 kHz)	Single rack space; 8 stereo inputs; 1/4" TRS balanced/unbalanced outputs	
VU meter	5 Hz-300 kHz	-125 dBu EIN	0.03%	All tube sqnt pth; trnsfrmrs; fully regulated pwr sply w/soft-start warmup; phase; -20 dB pad	\$2,495
	20 - 20 kHz +/- 1 dB	-45 dBu at 80 dB gain (22 Hz -22 kHz filter)	< 0.075%	All discrete, all class A circuitry	\$1,995
Clip LED	5 Hz-180 kHz	-127 dB EIN	0.009%	Pure Class A operation, 100% discrete	\$2,195
Clip LED	10 Hz-30 kHz	<-127.5 dB	0.001%-0.5%	Jensen input trnsfrmrs; twin servo gain stage; mix bus assign for mltpl mic/instr stereo imaging; IDSS control; headphone amp	\$650-\$2,000

# MICROPHONE & INSTRUMENT PREAMPS

MANUFACTURER

PRODUCT

TYPE

CHANNELS

EQ

OUTPUT LEVEL CONTROL

INSTRUMENT / LINE INPUT

MANUFACTURER	PRODUCT	TYPE	CHANNELS	EQ	OUTPUT LEVEL CONTROL	INSTRUMENT / LINE INPUT
Radio Design Labs	RU-MX5	Solid state	5	No	Yes	No
Radio Design Labs	ST-MMX3	Solid state	3	No	Yes	No
Radio Design Labs	ST-VCA1	Solid state		No	Yes	Yes
Radio Design Labs	STM-1	Solid state	1	No	No	No
Radio Design Labs	STM-2	Solid state	1	No	Yes	No
Radio Design Labs	STM-2X	Solid state	1	No	Yes	No
Radio Design Labs	STM-3	Solid state	1	No	Yes	No
Rane	DMS22	Solid state	2	3-band w/sweepable parametric mid	Yes	No
Rane	MS1a	Solid state	1	No	Yes	No
Raven Labs	PMB-1 Master Blender	Electric/acoustic instrument preamp	2	Bass, mid, treble for each channel	Yes	Y/Y
Raven Labs	PHA-1 Preamp/Headphone amp	Bass preamp, practice amp, headphone mon	1	Bass, mid, treble	Yes	Y/N
Rolls	MP110 Direct Drive Tube Mic Preamp	Tube mic preamp	1	No	Yes	N/Y
Sennheiser	True Audio Precision 8	Solid state	8	No	No	Yes
SPL Electronics	GoldMike	Tube preamplifier	2	-	Yes	N/Y
Steinberg	MindPrint AV/DI Pro	Class A with 24-bit stereo analog to digital conversion	2	No	No	Y/Y
Studio Technologies	Mic-PreEminence	Solid state	2	No	Yes	No
Summit Audio	MPC-100A	Tube/solid-state hybrid	1 (stereo linkable with another MPC)	No	Yes	Yes
Summit Audio	TPA-200B	Tube	2	No	Yes	Yes
Symetrix	302 Dual Microphone Preamplifier	Solid state	2	No	Yes	No
Symetrix	306 Preamp/Ducker	Preamplifier/ducker	2	N/A	Gain adjustable over +/-20dB range	Y/Y
Sytek	EQ4B-1M	Solid state	1	4-band parametric	No	Yes
Sytek	MPT-1A	All tube	1	No	Yes	No
Sytek	MPX-4A II	Solid state	4	No	Yes	No
Sytek	MPX-4D	Solid state	4	No	No	No
TC Electronic	1140 Parametric Equalizer Mic Preamp	Solid state	1	2-band parametric	Yes	Yes
TC Electronic	MP-1A	Solid state	N/A	+20 dB to +70 dB in 5 dB steps	No	Yes
TerraTec	Phono PreAmp	Instrument preamp	2	RIAA-equalization	0.3V/0.7V/1.2V (5mV/1kHz)	Yes
The John Hardy Co	Jensen Twin Stereo 990 Mic Preamp	Transformer coupled, solid state (class A)	1-4 (expandable)	No	No	No
The John Hardy Co	M-1 Mic Preamp	Transformer coupled, solid state (class A)	1-4 (expandable)	No	No	No
The John Hardy Co	M-2 Mic Preamp	Transformer coupled, solid state (class A)	No	No	No	No
TL Audio	Inury 5001	Tube	4	Low-cut filter	Yes	No
TL Audio	Classic PA1 Pentode Preamp	Tube	2	Low and high cut filters	Yes	Yes
True Systems	Precision 8	Solid state, transformerless	8	N/A	N/A	Yes
Tube Tech	MP-1A	Tube mic preamp	2	No	Yes	Yes
Tube Tech	PE-1C	Solid state	1	N/A	N/A	N/A
Whirlwind	MD-1	Solid state	1	No	Yes	Yes
Yamaha	HA8	Solid state	8	No	No	Yes
Yamaha	MLA7	Solid state	8	No	No	Yes
Zefiro Acoustics	Zefiro In Box Preamp	Solid state	2	No	Yes	Optional

OVERLOAD WARNING	FREQUENCY RESPONSE	NOISE	TOTAL HARMONIC DISTORTION	SPECIAL FEATURES	PRICE
3-segment LED	70 Hz-30 kHz	70 dB S/N	0.030%	5-channel active line mixer/mic pre w/phantom	\$255
No	10 Hz-18 kHz	70 dB S/N	0.2%	Small size (about 0.5"x1.5"x3"), indiv gain adj	\$130
No	20 Hz-22 kHz	80 dB S/N	0.05%	Small size (about 0.5"x1.5"x3"), cntrl via extnl potentiometer or 0-10 VDC	\$116
No	50 Hz-30 kHz	70 dB S/N	0.05%	Small size (about 0.5"x1.5"x3"), phantom, fixed gain of 50 dB	\$99
No	50 Hz-25 kHz	75 dB S/N	0.05%	Phantom, small size (about 0.5"x1.5"x3"), adj gain	\$136
No	50 Hz-25 kHz	75 dB S/N	0.05%	Gating preamp via external control, phantom, small size (about 0.5"x1.5"x3")	\$153
No	50 Hz-25 kHz	70 dB S/N	0.05%	Phantom, small size (about 0.5"x1.5"x3"), adj gain	\$156
Clip LED	20 Hz-200 kHz	97 dB S/N	0.009%	Stereo with pan, phantom	\$549
Clip LED	20 Hz-20 kHz	102 dB S/N	0.007%	Phantom	\$199
	30 Hz-30 kHz	-85 dB, unweighted	0.005%	Record all electric/acoustic instruments direct to tape XLR out	\$399
	30 Hz-30 kHz	-85 dB typical	0.008%-0.06%	Headphone mixed adjustable; click track monitor	\$299
Yes	20 Hz-40 kHz	-90 dB	0.1% typical		\$230
8x5-seg LED + peak	1 Hz-500 kHz @ +0/-3 dB	-132 dB EIN (20 Hz-30 kHz)	0.008%	MS decoding on chs 1/2	\$2,695
No	10 Hz-100 kHz	62 dBu S/N	0.175%	FLAIR circuitry for sound optimizing while recording	\$999
N/A	N/A	N/A	N/A	48v phantom power with -20dB pad, 24-bit A/D conversion	\$1096
5-segment LED	20 Hz-60 kHz	69.5 dB S/N, -129.5 dB EIN	0.002%	Trnsfrmrs: balanced in, phantom, bal/unbal outputs; phase; single rackspace	\$799
Clip LED, VU meter	5 Hz-65 kHz	-84 dBu, 108 dB S/N	0.05%	"Clean" to "saturated" valve sounds, Jensen mic trnsfmr, +4 dBu/-10 dBV outs	\$2,400
Clip LEDs	10 Hz-20 kHz	-84 dBu, 108 dB S/N	0.02%	Cont var frm "clean" to "overdrive", bal output, Hi-Z in, pad, phase	\$2,695
Clip LED	20 Hz-20 kHz	95 dB S/N, -128 dB EIN	0.007%	L/R mix output	\$299
	20 Hz-20 kHz		<.025	Mix control, phantom power	\$299
Peak LED	10 Hz-85 kHz	96 dB S/N, -129 dBu EIN	0.0015%	Class A hybrid	\$1,860
Peak LED	10 Hz-75 kHz	96 dB S/N, -110 dBu EIN	0.0115%	Internally balanced	\$2,450
Peak LED	10 Hz-85 kHz	96 dB S/N, -134 dBu EIN	0.0015%	Class A hybrid	\$1,680
Peak LED	10 Hz-85 kHz	96 dB S/N, -129 dBu EIN	0.0015%	Class A hybrid	\$2,870
Overload LED	N/A	N/A	N/A		\$760
No	N/A	N/A	N/A	Phantom, 1/4", XLR mic inputs	\$2,305
	20 Hz-20 kHz +/- 0.5 dB	>86 dB	<0.002% (5mV)	Power comes from Gateport	\$79
20-segment LED, clip LED	N/A	N/A	N/A	(2) discrete op amps per ch (990C), Jensen in/out trnsfmrs (JT-16-B/JT-11-BMQ), no caps in sgnl path	\$1,550-\$4,250
20-segment LED, clip LED	N/A	N/A	N/A	990 discrete op amp, Jensen JT-16-B input transformer, no capacitors in signal path, optional Jensen JT-11-BMQ output trans.	\$875-\$2,905
N/A	N/A	N/A	N/A	990 discrete op amp, Jensen JT-16-B input transformer, no capacitors in signal path, optional Jensen JT-11-BMQ output trans	\$920-\$3,085
Drive peak LEDs	20 Hz-40 kHz	-127 dBu EIN	0.05%	Phantom power, phase reverse	\$749
Drive peak LEDs	30 Hz-40 kHz	-122 dBu	0.05%	Phantom power; phase reverse; VU meters	\$1,850
OL light, peak meters	1.5 Hz-500 kHz	-132 dB	0.008%	MS decoder on ch. 1/2, 25-pin D connector outputs	\$2,595
No	15 Hz-60 kHz	-85 dB	0.2%		\$2,355
N/A	N/A	N/A	0-70 dB		\$1,850
No	6 Hz-25 kHz	-123 dB EIN	0.05%	Headphone amp w/vol cntrl/minimixer, batt oper w/bell clip, phantom	\$400
Peak LED	20 Hz-40 kHz	-128 dB EIN	0.05%	Phantom power, signal present LED, remote-control capable	\$1,779
Peak LED	20 Hz-20 kHz	-128 dB EIN	0.1%	Phantom	\$599
No	10 Hz-21 kHz	99 dB S/N, -125.4 dB EIN	0.008%	20-bit A/D, S/PDIF optical/coax out	\$316

# CHANNEL STRIPS & VOICE PROCESSORS

MANUFACTURER	MODEL	# OF CHANNELS/ STEREO LINK	MIC PRE TYPES	ANALOG I/O	DIGITAL I/O	EQ TYPE	FILTERS	COMPRESSOR TYPE	EXPANDER	GATE	DESSER	SIDECHAIN
A.R.T.	Tube Channel	1/No	Tube	XLR, 1/4"	No	4-band parametric w/sweep mids	No	Optical tube	No	No	No	No
A.R.T.	Pro Channel	1/No	Tube	XLR, 1/4"	No	4-band w/sweep mids parametric	HP variable	Optical tube/variable mu	No	No	No	No
Avalon Design	VT-737SP	1/Yes	Discrete Class A tube	XLR, 1/4" TRS in; XLR out	N/A	4-band/parametric	HP	Optical Class A tube	No	No	Yes	Yes
Barbetta	Channel One	1/No	Solid-state	XLR, 1/4" TRS in; XLR out	N/A	3-band parametric	Subsonic, ultrasonic	Full-function	No	Yes	No	No
BSS Audio	FCS 916	1/No	Solid-state	XLR, 1/4" TRS	N/A	4-band parametric	HP, LP	N/A	No	No	No	No
dbx	1086	1/No	Solid-state	XLR, 1/4" TRS	Optional	2-band detail	Low-cut	Overeas; hard knee	Yes	Yes	Yes	No
dbx	286A	1/No	Solid-state	XLR, 1/4" TRS	N/A	2-band enhancer	HP	Overeas; soft knee	Yes	Yes	Yes	Yes
dbx	586	2/No	Tube	XLR, 1/4" TRS	Optional	3-band w/sweep mid	LP	PeakPlus limiter	No	No	No	Yes
Drawmer	MX60 Front End One	1/No	Solid-state	XLR, 1/4" TRS	N/A	3-band high/low shelving, center parametric	100 Hz HP	Soft knee	Yes	Yes	Yes	No
Focusrite	ISA 430 Producer Pack	1/No	Solid-state	XLR, 1/4"	Optional (AES/EBU)	Parametric	LP, HP	VCA-controlled; soft knee	Yes	Yes	No	Yes
Focusrite	Platinum 1 VoiceMaster	1/No	Class A	XLR, 1/4"	N/A	4-band	HP	Optical	Yes	Yes	Yes	No
Focusrite	Platinum 2 ToneFactory	1/No	Class A	XLR, 1/4"	N/A	Parametric	HP, LP	Optical	No	Yes	No	Yes
HHB	HHB Radius 40	1/No	Solid-state/tube	XLR, 1/4"	No	4-band parametric	HP @ 90 Hz	Analog	Yes	Yes	No	Yes
Joemeek	VC2 Tube Channel	1/No	Solid-state	1/4", XLR	No	Enhancer	HP	Photo-optical	No	No	No	No
Joemeek	VC1Q Studio Channel	1/No	Transformer-coupled	1/4", XLR	Optional	3-band with mid sweep	HP	Photo-optical	Yes	No	Yes	No
Joemeek	VC3Q Pro Channel	1/No	Solid-state	1/4"	N/A	3-Band fixed	No	Photo-optical	No	No	No	No
Joemeek	VC6Q British Channel	1/No	Solid-state	1/4"	N/A	3-band with mid sweep	HP	Photo-optical	No	No	No	No
LA Audio	MPX1 Mono Multi-Processor	1/No	Solid-state	XLR, 1/4" TRS	N/A	4-band w/sweep high/low	HP @ 75 Hz; LP @ 12 kHz	Solid-state	Yes	No	Yes	No
LA Audio	MLX2 Mic/Line/DI Preamp	2/No	Solid-state	XLR, TRS	N/A	No	Sweepable HP	N/A	No	No	No	No
LA Audio	PS1 Professional Microphone Channel Strip	1/No	Solid-state	XLR, TRS	Optional	4-band w/sweep high/low, 2 parametric mids	HP @ 75 Hz; LP @ 12 kHz	Hard or soft knee w/variable rate	Yes	No	Yes	No
LA Audio	PS1D Professional Microphone Channel Strip	1/No	Solid-state	XLR, TRS	24-bit A/D	4-band w/sweep high/low, 2 parametric mids	HP @ 75 Hz; LP @ 12 kHz	Hard or soft knee w/variable rate	Yes	No	Yes	No
Langevin	Langevin Dual Vocal Combo	2/Yes	All-discrete	XLR, 1/4"	N/A	High/low shelving	No	Electro-optical	No	No	No	No
Manley Labs	Manley VOXBOX	1/Yes	Tube	XLR, 1/4"	N/A	Pultec	HP	Optical	No	No	Yes	Yes
Oram Pro	MWS Microphone Work Station	2/No	Solid-state	XLR	N/A	Series 24 console EQ	HP, LP	N/A	No	No	No	No

BYPASS	METER TYPE	FREQUENCY RESPONSE	DYNAMIC RANGE	THD	DIMENSIONS (INCHES)	WEIGHT (LBS.)	SPECIAL FEATURES	PRICE
Yes	LED; VU	20 Hz-20 kHz	>90 dB	<0.1%	19x5.25x1.75	8	Preamp/comp/EQ inserts; selectable metering	\$199
Yes	LED; VU	20 Hz-20 kHz	>100 dB	<0.1%	19x6.5x3.5	12	Preamp/comp/EQ inserts; selectable metering	\$799
No	VU; LEDs	1 Hz-200 kHz	148 dB	0.05%	19x12x3.5	26	Fully-discrete Class A tubes; EQ switch	\$2,295
Yes	VU; LED	3 Hz-20 kHz	>94 dB	0.001%	1u	6.5	Phantom powered	\$2,699
Yes	Peak LED	5 Hz-80 kHz	>90 dB	0.003%	19x8.6x1.75	7.7	Deep/narrow notch per filter; ind. band bypass	\$999
Yes	LED; VU	5 Hz-180 kHz	119 dB	0.005%	1u	N/A	Phantom powered	\$750
Yes	LED	20 Hz-20 kHz	105 dB	0.005%	19x7.5x1.75	5	Phantom powered	\$350
Yes	LED; VU	10 Hz-200 kHz	N/A	0.004%	19x8x3.5	12	Phantom powered; pad; phase	\$1,000
Yes	LED	20 Hz-20 kHz	N/A	<0.01%	1u	9	Inst. input w/ 20 dB pad	\$699
Yes	VU; LED	10 Hz-140 kHz	>98 dB	0.0008%	2u	N/A	Freq-sensitive compression/gating; split mode	\$3,495 and up
Yes	LED	10 Hz-200 kHz	N/A	0.002%	1u	N/A	Tube emulation circuitry	\$795
Yes	LED	10 Hz-200 kHz	>96 dB	0.002%	1u	N/A		\$795
Yes	VU	10 Hz-40 kHz	106 dB	N/A	19x7.9x3.5	5.5	Gain control; 2 units stereo linkable	\$749
Yes	VU	10 Hz-50 kHz	N/A	0.05%	N/A	N/A	Mic. preamp transformer; tube gain amplifier	\$2,000
Yes	VU	10 Hz-50 kHz	N/A	0.01%	2u	9	Phase reverse; phantom powered	\$800
Yes	LED	20 Hz-20 kHz	N/A	0.03%	8.25x 5x1.75	4.5	Phantom powered	\$400
Yes	LED	10 Hz-50 kHz	N/A	0.01%	1u	6.5	Phantom powered; 20 dB pad; dual voltage	\$600
Yes	LED	20 Hz-20 kHz	N/A	<0.05%	19x6x1.75	4.8	Phantom powered; -10/+4 dB operation	\$400
No	LED	20 Hz-20 kHz	N/A	<0.05%	19x6x1.75	5	Phantom powered; -10/+4 dB operation	\$320
Yes	LED	20 Hz-20 kHz	N/A	<0.05%	19x6x1.75	N/A	Phantom powered; -10/+4 dB operation	\$850
Yes	LED	20 Hz-20 kHz	N/A	<0.05%	19x6x1.75	N/A	Phantom powered; -10/+4 dB operation; digital input	\$1,150
Yes	VU	10 Hz-60 kHz	127 dB	<0.04%	19x3.5x10	12	All discrete; direct injection and limiter inputs	\$2000
Yes	VU	20 Hz-30 kHz	140 dB	<0.3%	19x5.25x10	21	Tube construction	\$4,000
Yes	LED	20 Hz-20 kHz	N/A	0.005%	N/A	N/A	Phantom; unity gain padless front end	\$2,195

# CHANNEL STRIPS & VOICE PROCESSORS

CHANNEL STRIPS & VOICE PROCESSORS

MANUFACTURER	MODEL	# OF CHANNELS/ STEREO LINK	MIC PRE TYPES	ANALOG I/O	DIGITAL I/O	EQ TYPE	FILTERS	COMPRESSOR TYPE	EXPANDER	GATE	DEESSER	STEREOWIDENING
PreSonus	VXP Dynamic Voice Processor	1/No	Class A, discrete	XLR; 1/4" TRS	N/A	4-band semi-parametric	HP	VCA; variable soft-knee to hard limit	Yes	No	Yes	No
Rane	VP12	2/No	Solid-state	XLR; 1/4" TRS	N/A	2-band parametric	HP; LP	Solid-state	Yes	Yes	Yes	No
SPL Electronics	Channel One	1/No	Tube preamplifier	XLR; 1/4"	N/A	3-band parametric	Proportional Q	SPL Double VCA	No	Yes	Yes	Yes
Steinberg	MindPrint EnVoice	1/No	Class A	XLR; 1/4"	Optional	3-band parametric	Low-cut	Tube	No	No	Yes	No
Steinberg	MindPrint AN/DI Pro	2/No		XLR; 1/4"	AES/EBU; S/PDIF	N/A	No	No	No	No	No	No
Steinberg	MindPrint T-Comp	2/Yes	No	XLR; 1/4"	Optional	No	Frequency-dependent	Tube	No	No	No	No
TC Electronic	Gold Channel	2/Yes	Digital	XLR	AES/EBU; S/PDIF; ADAT	5-band parametric w/ analog	N/A	Digital	Yes	No	Yes	No
TL Audio	Ivory 5050	1/Yes	Tube	Mic, Line, Instrument		Low-cut filter		Tube				
TL Audio	Ivory 5051	1/Yes	Tube	Mic, Line, Instrument		Tube 4 band	90 Hz low cut	Tube	Yes			Yes

The pieces are falling into place . . .



*motor mix*™

**Digital Mixer Worksurface**  
Now exclusively distributed worldwide  
by Digidesign.

Motor Mix provides Pro Tools with; Motorized faders, pan/send/plug in controls, mutes/solos/rec readies, LCD channel labels, transport/autolocator controls, and it's compatible with the Dashboard Digital Editor Worksurface.



**Creative Tools for New Technologies**

Automation

[www.cmatomation.com](http://www.cmatomation.com)

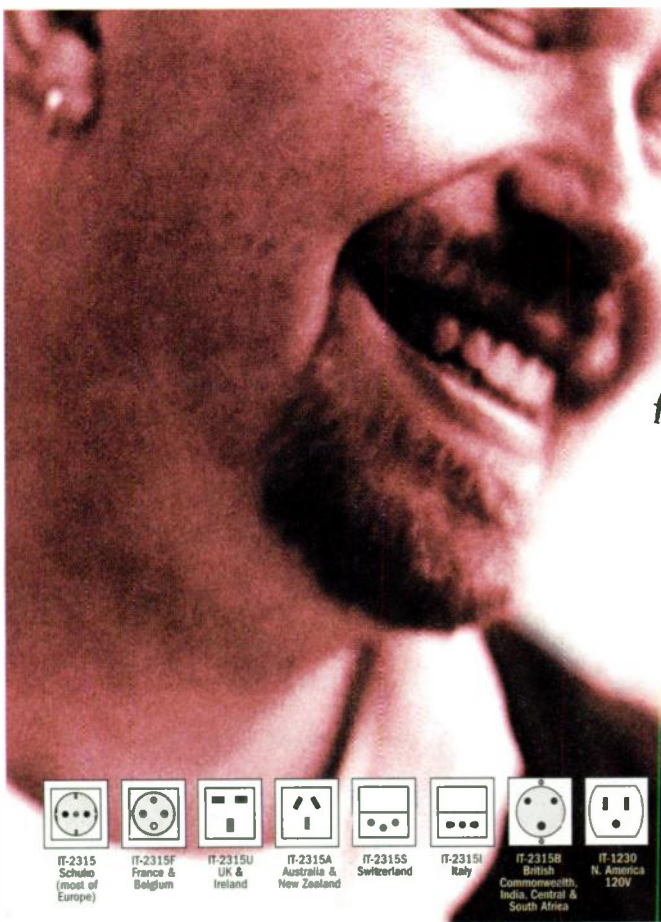
or call: 1 (888) 588-6434

© 2000 CM Automation. All logos property of their respective owners.





BYPASS	METER TYPE	FREQUENCY RESPONSE	DYNAMIC RANGE	THD	DIMENSIONS (INCHES)	WEIGHT (LBS.)	SPECIAL FEATURES	PRICE
Yes	LEDs	20 Hz-40 kHz	116 dB	0.001%	19x6x1.75	8	Jensen twin servo input transformer	\$700
Yes	LED;	20 Hz-20 kHz	N/A	0.01%	1u	N/A	Phantom powered; mic/line mix control	\$599
Yes	Output PPM	10 Hz-100 kHz	119 dB	0.01855%	19x3.5x8	4.15 kg	Headphone jack; mic/line/instrument inputs	\$1,399
Yes	LCD	10 Hz-22 kHz	112 dB	0.04%	1u	N/A	Digital outputs optional; freq-dependent filters	\$749.00
No	LCD	NA	116 dB	NA	1u	NA	24-bit converters; 44.1/48/96kHz	\$1099
Yes	LCD; LCD	10 Hz-22 kHz	106 dB	0.06%	1u	N/A	Tube saturation circuitry	\$1,099
Yes	LED	10 Hz-20 kHz	>103 db	0.003%	1u	5.5	Digital radiance generation; time alignment	\$2,495
Yes	Output	20 Hz-40 kHz	100 dB	0.05%	2u	N/A		\$469
Yes	VU; LEDs	20 Hz-40 kHz	106 dB	0.05%	2u		Includes three 12AX7 tubes	\$749



You're joking...  
 you spent a small fortune  
 outfitting this studio  
 and you want me to use  
 dirty, unbalanced power  
 from that wall outlet?

**ONLY FURMAN GIVES YOU PURE, BALANCED POWER ANYWHERE IN THE WORLD.**

Why is it that your plugs have three wires but only one carries all of the voltage? The Furman Balanced Power IT Series divides the power into two balanced lines of opposite polarity. This causes equal and opposite voltages that cancel each other out. Which in turn reduces hum—typically by about 16dB. And noticeably improves dynamic range and sonic clarity. (Notice we said noticeably.)

The IT-1230



IT-2315 Schuko (most of Europe)  
 IT-2315F France & Belgium  
 IT-2315U UK & Ireland  
 IT-2315A Australia & New Zealand  
 IT-2315S Switzerland  
 IT-2315I Italy  
 IT-2315B British Commonwealth, India, Central & South Africa  
 IT-1230 N. America 120V

**FURMAN**

POWER CONDITIONERS  
 PURIFY YOUR POWER

# POWER AMPS

MANUFACTURER	MODEL	CONTINUOUS AVG. POWER INTO 8Ω (20 HZ-20 KHZ ± 1 DB)	CONTINUOUS AVG. POWER INTO 4Ω (20 HZ-20 KHZ ± 1 DB)	FREQUENCY RESPONSE	SIGNAL-TO-NOISE	TOTAL HARMONIC DISTORTION	DAMPING FACTOR	SLEW RATE
Alesis	RA-100	75W per channel	100W per channel	20 Hz-20 kHz	>100 dB	<0.05%	200 @ <1 kHz (ref. 8Ω)	20V/μs
Ashly Audio	FTX-1501	200W per channel	300W per channel	20 Hz-100 kHz	>100 dB	0.007%	>250 @ <1 kHz (ref. 8Ω)	50 V/μs
Ashly Audio	FTX-2001	300W per channel	500W per channel	20 Hz-100 kHz	>105 dB	0.007%	>250 @ <1 kHz (ref. 8Ω)	50 V/μs
Ashly Audio	MFA-8000	750W per channel	1,200W per channel	8 Hz-100 kHz	>105 dB	0.025%	>200 @ <1 kHz (ref. 8Ω)	25 V/μs
Ashly Audio	SRA-120	45W per channel	60W per channel	20 Hz-20 kHz	100 dB	<0.01%	>200 @ <1 kHz (ref. 8Ω)	10 V/μs stereo/ 20 mono
Behringer	PowerPlay Pro HA4400	N/A	N/A	10 Hz-100 kHz	>99 dB	0.005%	N/A	N/A
BGW Systems	Millennium Series 1	110W per channel	165W per channel	8 Hz-150 kHz	>100 dB	<0.1%	>200 (ref. 8Ω)	>40 V/μs
BGW Systems	Millennium Series 2	220W per channel	330W per channel	8 Hz-150 kHz	>100 dB	<0.1%	>200 (ref. 8Ω)	>40 V/μs
BGW Systems	Millennium Series 3	330W per channel	500W per channel	8 Hz-150 kHz	>100 dB	<0.1%	>200 (ref. 8Ω)	>40 V/μs
BGW Systems	Performance Series 1	110W per channel	165W per channel	8 Hz-175 kHz	>100 dB	<0.1%	>200 (ref. 8Ω)	>40 V/μs
BGW Systems	Performance Series 2	220W per channel	330W per channel	8 Hz-175 kHz	>100 dB	<0.1%	>200 (ref. 8Ω)	>40 V/μs
BGW Systems	Performance Series 3	330W per channel	500W per channel	8 Hz-175 kHz	>100 dB	<0.1%	>200 (ref. 8Ω)	>40 V/μs
BGW Systems	Performance Series 4	440W per channel	660W per channel	8 Hz-175 kHz	>100 dB	<0.1%	>200 (ref. 8Ω)	>40 V/μs
Bryston	2-B-LP-PRO	70W per channel	120W per channel	0.5 Hz-100 kHz	>100 dB	<0.01%	>500 @ 20 Hz (ref. 8Ω)	>60 V/μs
Bryston	3B-ST Pro	150W per channel	250W per channel	<1 Hz-100 kHz	>106 dB	<0.007%	>500 @ 20 Hz (ref. 8Ω)	>60 V/μs
Bryston	4B-ST Pro	300W per channel	500W per channel	<1 Hz-100 kHz	>106 dB	<0.007%	>500 @ 20 Hz (ref. 8Ω)	>60 V/μs
Bryston	7B-ST Pro Mono Block	600W per channel	900W per channel	<1 Hz-100 kHz	>106 dB	<0.007%	>300 @ 20 Hz (ref. 8Ω)	>60 V/μs
Bryston	8B-ST Pro 4-channel	150W per channel	250W per channel	<1 Hz-100 kHz	>106 dB	<0.007%	>500 @ 20 Hz (ref. 8Ω)	>60 V/μs
Bryston	Power Pac 120	150W per channel	250W per channel	<1 Hz->1 kHz	>106 dB	<0.007%	>500 @ 20 Hz (ref. 8Ω)	>60 V/μs
Bryston	Power Pac 60	60W per channel	120W per channel	<1 Hz->1 kHz	>106 dB	<0.007%	>500 @ 20 Hz (ref. 8Ω)	>60 V/μs
Bryston	9B-ST Pro 5-channel	150W per channel	250W per channel	<1 Hz-1 kHz	>106 dB	<0.007%	>500 @ 20 Hz (ref. 8Ω)	>60 V/μs
Bryston	5B-ST Pro 3-channel	150W per channel	250W per channel	<1 Hz-1 kHz	>106 dB	<0.007%	>500 @ 20 Hz (ref. 8Ω)	>60 V/μs
Bryston	14B-ST Pro	600 watts per channel	1,100 watts per channel	1 Hz-100 kHz	>107dB	<0.002%	>500 @ 20 Hz	>60 V/μs
Carver Professional	pm125	50W per channel	62W per channel	20 Hz-20 kHz	>100 dB	<0.1%	<400	10 V/μs
Carver Professional	pm420	135W per channel	210W per channel	20 Hz-20 kHz	>100 dB	<0.1%	<400	10 V/μs
Carver Professional	pm700	225W per channel	350W per channel	20 Hz-20 kHz	>100 dB	<0.1%	<400	40 V/μs
Carver Professional	pm950	325W per channel	475W per channel	20 Hz-20 kHz	>100 dB	<0.1%	<400	40 V/μs
Carver Professional	pm1400	475W per channel	700W per channel	20 Hz-20 kHz	>100 dB	<0.1%	<400	40 V/μs
Carver Professional	pt1800	600W per channel	900W per channel	20 Hz-20 kHz	>100 dB	<0.5%	<400 @ 1 kHz	25 V/μs
Carver Professional	pt2400	750W per channel	1,200W per channel	20 Hz-20 kHz	>100 dB	<0.5%	<400 @ 1 kHz	25 V/μs
Carver Professional	PX1450	375W per channel	725W per channel	20 Hz-20 kHz	>106 dB	<0.1%	<600 @ 10-400 Hz (ref. 8Ω)	70 V/μs
Carver Professional	PX850	260W per channel	425W per channel	20 Hz-20 kHz	>106 dB	<0.1%	>600 @ 10-400 Hz (ref. 8Ω)	70 V/μs
Carver Professional	PXm900	280W per channel	440W per channel	20 Hz-20 kHz	>113 dB	<0.1%	>200	29 V/μs
Carver Professional	PXm450	140W per channel	215W per channel	20 Hz-20 kHz	>108 dB	<0.1%	>200	29 V/μs
Carver Professional	PXm250	70W per channel	120W per channel	20 Hz-20 kHz	>104 dB	<0.1% @ 60W	>180	29 V/μs

POWER CONSUMPTION	PROTECTION FEATURES	AC CIRCUIT BREAKER	GROUND LIFT	INDICATOR LIGHTS	DIMENSIONS (INCHES)	WEIGHT (LBS.)	PRICE
500W	Shrt crct; thrmld ovrld; DC offset; RF; open crct; sft clppng; on/off trnsnt	No	No	Clip	19x3.5x8	14.25	\$379
760W	Shrt crct; thrmld ovrld; DC offset; RF	Yes	Yes	11-seg LED mtrs; protect LEDs	19x3.5x16.5	41	\$859
1,350W	Shrt crct; thrmld ovrld; DC offset; RF	Yes	Yes	11-seg LED mtrs; protect LEDs	19x5.25x16.5	53	\$1,139
3,000W (max)	Shrt crct; thrmld ovrld; DC offset; RF limit/thermal/protect LEDs	Yes	Yes	11-seg LED mtrs;	19x5.25x16.5	61	\$2,139
350W	Shrt crct; thrmld ovrld; DC offset; RF	Yes	Yes	Sgnl prsnt/clip/protect LEDs	19x1.75x10	18	\$499
40 W	100-120V AC (630mA); 200-240V AC (315mA)	No	N/A	In level: 4 LED display/ out level: 4 LED display	19x1.75x8.5	5.9	\$179
350W	Shrt crct; RF; spkr out rlys; trn on/off; thrmld DC; inst shut-off	No	Yes	Clip; pwr; sgnl prsnt	19x5.25x12.8	28	\$786-\$943
480W	Shrt crct; RF; spkr out rlys; trn on/off; thrmld DC; inst shut-off	No	Yes	Clip; pwr; sgnl prsnt	19x5.25x12.8	34	\$899-\$1,057
675W	Shrt crct; RF; spkr out rlys; trn on/off; thrmld DC; spkr prtct; inst shut-off	No	Yes	Clip; pwr; sgnl prsnt	19x5.25x15.4	40	\$1,259-\$1,417
350W	Shrt crct; RF; spkr out rlys; trn on/off; thrmld DC; spkr prtct; inst shut-off	No	Yes	Clip; pwr; sgnl prsnt	19x3.5x12.6	26	\$849
480W	Shrt crct; RF; spkr out rlys; trn on/off; thrmld DC; spkr prtct; inst shut-off	No	Yes	Clip; pwr; sgnl prsnt	19x3.5x12.6	32	\$999
675W	Shrt crct; RF; spkr out rlys; trn on/off; thrmld DC; spkr prtct; inst shut-off	No	Yes	Clip; pwr; sgnl prsnt	19x3.5x13.6	37	\$1,399
1,100W	Shrt crct; RF; spkr out rlys; trn on/off; thrmld DC; spkr prtct; inst shut-off	No	Yes	Clip; pwr; sgnl prsnt	19x3.5x17.1	54	\$1,999
15-250W	Shrt crct; RF; thrmld; DC offst	No	Yes	Tricolor LED	19x1.75x10	18	\$995
30-500W	Shrt crct; RF; thrmld; DC offst	No	Yes	Tricolor LED	19x5.25x9	22	\$1,650
50-1,000W	Shrt crct; RF; thrmld; DC offst	No	Yes	Tricolor LED	19x5.25x15.5	42	\$2,350
50-1,000W	Shrt crct; RF; thrmld; DC offst	No	Yes	Tricolor LED	19x5.25x15.5	42	\$2,500
50-1,000W	Shrt crct; RF; thrmld; DC offst	No	Yes	Tricolor LED	19x5.25x15.5	44	\$3,100
15-250W	Shrt crct; RF; thrmld; DC offst	No	Yes	Tricolor LED	12x3.6x7.25	10	\$795
15-250W	Shrt crct; RF; thrmld; DC offst	No	Yes	Tricolor LED	12x2x5.5	6	\$450
50-250W	Shrt crct; RF; thrmld; DC offst	No	Yes	Tricolor LED	19x5.25x16	75	\$3,695
15-250W	Shrt crct; RF; thrmld; DC offst	No	Yes	Tricolor LED	19x5.25x15.5	33	\$2,550
50-1,000 W	Shrt crct; RF; thrmld; DC offst	No	No	Tricolor LED	19x7.25x19.5	85	\$5,295
250W	DC offset; ovr temp; shrt crct; clppng	Yes	No	Pwr rdyy; signal; clip/protect	19x1.75x13.25	13.8	\$619
1,000W	DC offset; ovr temp; shrt crct; clppng; crct brkr	Yes	No	Pwr rdyy; sgnl; clip/prct	19x3.5x13.25	23.8	\$799
500W	DC offset; ovr temp; shrt crct; clppng	Yes	No	Pwr cnctd/stndby; 7-LED dsply per chan	19x3.5x13.25	30	\$1,069
725W	DC offset; ovr temp; shrt crct; clppng	Yes	No	Pwr cnctd/stndby; 7-LED dsply per chan	19x3.5x13.25	34	\$1,269
800W	DC offset; ovr temp; shrt crct; clppng	Yes	No	Pwr cnctd/stndby; 7-LED dsply per chan	19x3.5x13.25	34.2	\$1,539
N/A	Shrt crct; exc high frqncy; thrmld; clppng; DC; soft strt/npst mute	Yes	Yes	Power ready/signal/clip/protect	19x5.25x12.75	46	\$2,379
N/A	Shrt crct; exc high frqncy; thrmld; clppng; DC; soft strt/npst mute	Yes	N/A	Power ready/signal/clip/protect	19x5.25x12.75	48	\$2,779
750W	Thermal; short circuit prtct; thrmld and stndby	Yes	No	Pwr rdyy; sgnl prsnt; clip;	19x5.75x15.38	58.2	\$1,245
840W	Thermal; short circuit	Yes	No	Pwr rdyy; sgnl prsnt; clip; prtct; thrmld and stndby	19x5.75x15.38	46	\$895
1135W	Thermal, short circuit and DC fault	N/A	N/A	Power, signal, clip, protect & thermal	19x5.25x15.38	28	\$795
640W	Thermal and short circuit	N/A	N/A	Power, signal, clip, protect & thermal	19x3.5x16.38	26.3	\$665
424W	Thermal and short circuit	N/A	N/A	Power, signal, clip, protect & thermal	19x3.5x15.38	24.4	\$535

# POWER AMPS

MANUFACTURER	MODEL	CONTINUOUS AVG. POWER INTO 8Ω (20 Hz-20 kHz ± 1 dB)	CONTINUOUS AVG. POWER INTO 4Ω (20 Hz-20 kHz ± 1 dB)	FREQUENCY RESPONSE	SIGNAL-TO-NOISE	TOTAL HARMONIC DISTORTION	DAMPING FACTOR	SLEW RATE
Carvin	DCM1500	300W per channel	500W per channel	20 Hz-20 kHz	107 dB	0.03%	>450	>50 V/μs
Carvin	DCM2000	450W per channel	700W per channel	20 Hz-20 kHz	109 dB	0.03%	>500	>5 V/μs
Carvin	DCM1000	225W per channel	350W per channel	20 Hz-20 kHz	106 dB	0.03%	>400	>45 V/μs
Carvin	HT150	50W per channel	75W per channel	20 Hz-20 kHz	100 dB	0.1%	>300	>30 V/μs
Carvin	DCM 600	150W per channel	225W per channel	20 Hz-20 kHz	100 dB	0.03%	>350	>45 V/μs
Carvin	HT760M	175W per channel	250W per channel	20 Hz-20 kHz	103 dB	0.03%	>350	>45 V/μs
Chord	SPA 1032 Stereo	280W per channel	400W per channel	-1 dB, 0.2 Hz-77 Hz	>105 dB	N/A	N/A	70 V/μs
Chord	SPA 1424 Mono Block	350W per channel	500W per channel	-1 dB, 0.2 Hz-77 Hz	>103 dB	N/A	N/A	70 V/μs
Chord	Chord SPA 2232 Stereo	600W per channel	900W per channel	-1 dB, 0.2 Hz-77 Hz	>103dB	N/A	N/A	70 V/μs
Crate	SPA 200	70W per channel	100W per channel	20 Hz-20 kHz	N/A	N/A	N/A	10 V/μs
Crate	SPA400	125W per channel	200W per channel	20 Hz-20 kHz	100 dB	.02% @ 1 kHz	250 (1 kHz/8 ohms)	30 V/μs
Crate	SPA1400	260W per channel	450W per channel	20 Hz-20 kHz	100 dB	.02% @ 1 kHz	Typically 250 (1kHz, 8 ohms)	40 V/μs
Crate	SPA1400C	260W per channel	450W per channel	20 Hz-20 kHz	100 dB	.02% @ 1 kHz	Typically 250 (1kHz, 8 ohms)	40 V/μs
Crate	SPA 1400C	260W per channel	450W per channel	20 Hz-20 kHz	100 dB	0.02%	N/A	40 V/μs
Crate	SPA 400	200W (stereo) per channel	125W (stereo); 400W (mono)	N/A	100 dB	0.02%	N/A	30 V/μs
Crate	SPA 200	100W per channel	70 W (stereo); 200W (mono)	N/A	100 dB	0.02%	N/A	10 V/μs
Crest Audio	V 450 Vs 450	150W per channel	225W per channel	10 Hz-165 kHz	105 dB	0.1%	>700	12 V/μs
Crest Audio	V 650 Vs 650	200W per channel	325W per channel	10 Hz-165 kHz	105 dB	0.1%	>800	12 V/μs
Crest Audio	V 900 Vs 900	250W per channel	450W per channel	10 Hz-165 kHz	105 dB	0.1%	>1,000	12 V/μs
Crest Audio	V 1100 Vs 1100	300W per channel	550W per channel	10 Hz-165 kHz	105 dB	0.1%	>1,000	12 V/μs
Crest Audio	V 1500 Vs 1500	400W per channel	750W per channel	10 Hz-165 kHz	105 dB	0.1%	>1,000	12 V/μs
Crown	CE 1000	275W per channel	450W per channel	20 Hz-20 kHz	>105 dB	<0.5%	>400	N/A
Crown	CE 2000	400W per channel	660W per channel	20 Hz-20 kHz	>105 dB	<0.5%	>400	N/A
Crown	CP 660	60W per channels	75W per channel	20 Hz-20 kHz	>100 dB	<0.3%	>250	N/A
Crown	K1	350W per channel	550W per channel	20 Hz-20 kHz	>100 dB	<0.1%	>3000	N/A
Crown	K2	500W per channel	800W per channel	20 Hz-20 kHz	>100 dB	<0.1%	>3000	N/A
Crown	MA-602	225W per channel	325W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	MA-1202	310W per channel	480W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	MA-2402	520W per channel	800W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	MA-3600VZ	1,120W per channel	1,565W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	MA-5002VZ	1,300W per channel	2,000W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	CT-210	110W per channel	150W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	CT-410	220W per channel	240W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	CT-810	305W per channel	490W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	CT-1610	540W per channel	870W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	D-45	25W per channel	35W per channel	20 Hz-20 kHz	>110 dB	<0.05%	>400	N/A
Crown	D-75A	40W per channel	55W per channel	20 Hz-20 kHz	>110 dB	<0.05%	>400	N/A
Crown	Reference I	800W per channel	1,190W per channel	20 Hz-20 kHz	>120 dB	<0.02%	>20,000/2500	N/A
Crown	Reference II	800W per channel	565W per channel	20 Hz-20 kHz	>117 dB	<0.02%	>20,000/2500	N/A

## POWER CONSUMPTION

## PROTECTION FEATURES

## AC CIRCUIT BREAKER

## GROUND LIFT

## INDICATOR LIGHTS

## DIMENSIONS (INCHES)

## WEIGHT (LBS.)

## PRICE

800W	Shrt crct; RF; thrm; DC offset	Yes	Yes	Power/clip/signal protect	19x5.25x10	31	\$540
2,400W	Shrt crct; RF; thrm; DC offset	Yes	Yes	Power/clip/signal protect	19x5.25x10	36	\$640
1,200W	Shrt crct; RF; thrm; DC offset	Yes	Yes	Power/clip/signal protect	19x3.5x10	20	\$440
180W	Shrt crct; RF; thrm; DC offset	No	No	Power/clip/signal protect	19x1.75x10	11	\$230
750W (max)	Shrt crct; RF; thrm; DC offset	Yes	Yes	Power/clip/signal protect	19x3.5x10	23	\$360
900W (max)	Shrt crct; RF; thrm; DC offset	Yes	Yes	Power/clip/signal protect	19x3.5x10	23	\$470
N/A	Shrt crct; thrm; ovrid; clip	Yes	No	Pwr; fault; onset of clip	19x5.5x14	49	\$4,497
N/A	Shrt crct; thrm; ovrid; clip	Yes	No	Pwr; fault; onset of clip	19x5.5x14	40	\$5,675
N/A	Shrt crct; thrm; ovrid; clip	Yes	No	Pwr; fault; onset of clip	18.3x3.0x15.95	40	\$6,625
N/A	N/A	N/A	N/A	N/A	19x3.5x7	19	\$400
10 amps (120 VAC)	Shrt crct; RF; spkr out rlys; trn on/off trnsnt; thrm	N/A	N/A	Signal; limit; fault	19x3.5x15	27	\$500
N/A	Shrt crct; RF; spkr out rlys; trn on/off trnsnt; thrm	Yes	N/A	Signal; limit; protect	19x3.5x15	27	\$600
N/A	Shrt crct; RF; spkr out rlys; trn on/off trnsnt; thrm	Yes	N/A	Signal; limit; protect	19x3.5x15	27	\$790
N/A	Short circuit, RF burnout, overtemp, speaker out relays, Off/On transient/DC protection	N/A	N/A	N/A	19x3.5x16.7	36	\$699
N/A	Variable speed fan, short circuit, RF burnout, overtemp, speaker out relays, On/Off transient, DC protection	N/A	N/A	N/A	19x3.5x15	27	\$499
N/A	Variable speed fan, short circuit, RF burnout, overtemp, speaker out relays, Off/On Transient, DC protections	N/A	N/A	N/A	19x3.5x7	19	\$394
625W	Active clip limit; auto ramp; thrm; DC; shrt crct	Yes	Yes	Clip	19x5.25x12	38	\$590-\$660
935W	Active clip limit; auto ramp; thrm; DC; shrt crct	Yes	Yes	Clip	19x5.25x12	39	\$690-\$780
1,250W	Active clip limit; auto ramp; thrm; DC; shrt crct	Yes	Yes	Yes	19x5.25x12	46	\$790-\$900
1,490W	Active clip limit; auto ramp; thrm; DC; shrt crct	Yes	Yes	Yes	19x5.25x12	47	\$1,050-\$1,110
1,020W	Active clip limit; auto ramp; thrm; DC; shrt crct	Yes	Yes	Yes	19x5.25x13.33	49	\$1,250-\$1,390
N/A	Short; DC; clip; other	Yes	No	Power; signal; fault; clip	19x5.25x13	32.4	\$716
N/A	Short; DC; clip; other	Yes	No	Power; signal; fault; clip	19x5.25x13	40.2	\$1,025
N/A	Short; DC; other	No	No	Power; signal; fault; clip	19x3.5x12.75	25	\$649
N/A	Short; DC; clip; other	No	Yes	Sgnl; TLC; IOC; clip; enable	19x3.5x16	32	\$1,532
N/A	Short; DC; clip; other	No	Yes	Sgnl; TLC; IOC; clip; enable	19x3.5x16	38	\$1,440
N/A	Short; DC; ODEP; other	No	Yes	IOC/SPI; ODEP; enable	19x3.5x16	39.6	\$1,332
N/A	Short; DC; ODEP; other	No	Yes	IOC/SPI; ODEP; enable	19x3.5x16	44.1	\$1,789
N/A	Short; DC; ODEP; other	Yes	Yes	IOC/SPI; ODEP; enable	19x3.5x16	51.75	\$2,299
N/A	Short; DC; ODEP; quad mute; other	Yes	Yes	IOC/SPI; ODEP; enable	19x3.5x16	55.25	\$3,172
N/A	Short; DC; ODEP; quad mute; other	Yes	Yes	IOC/SPI; ODEP; enable; load/limit	19x5.25x16	77.8	\$4,145
N/A	Short; DC; ODEP; quad mute; other	Yes	No	IOC; SPI; ODEP; power	19x3.5x16	29.4	\$974
N/A	Short; DC; ODEP; quad mute; other	Yes	No	IOC; SPI; ODEP; power	19x3.5x16	31.9	\$1,230
N/A	Short; DC; ODEP; quad mute; other	Yes	No	IOC; SPI; ODEP; power	19x5.25x16	47.25	\$1,717
N/A	Short; DC; ODEP; quad mute; other	Yes	No	IOC; SPI; ODEP; power	19x7x16	57.9	\$2,219
N/A	Short; DC; other	No	No	IOC; signal; power	19x1.75x9	10	\$487
N/A	Short; DC; other	No	No	IOC; signal; power	19x1.75x9	10	\$641
N/A	Short; DC; ODEP; quad mute; other	Yes	Yes	Enable; IOC; ODEP; dyn rng	19x7x16	60.7	\$4,464
N/A	Short; DC; ODEP; quad mute; other	Yes	Yes	Enable; IOC; ODEP; dyn rngs	19x7x16	56.1	\$4,070

# POWER AMPS

MANUFACTURER	MODEL	CONTINUOUS AVG. POWER INTO 8Ω (20 Hz-20 kHz ± 1 dB)	CONTINUOUS AVG. POWER INTO 4Ω (20 Hz-20 kHz ± 1 dB)	FREQUENCY RESPONSE	SIGNAL-TO-NOISE	TOTAL HARMONIC DISTORTION	DAMPING FACTOR	SLEW RATE
Crown	PT-1	220W per channel	305W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	PT-2	325W per channel	460W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	PT-3	540W per channel	760W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	MT-600	225W per channel	325W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	MT-1200	310W per channel	480W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	MT-2400	520W per channel	800W per channel	20 Hz-20 kHz	>105 dB	<0.05%	>1000	N/A
Crown	CE-4000	600W per channel	1,200W per channel	20 Hz-20 kHz	>102 dB	0.5%	>700 from 10 Hz to 400 Hz	N/A
Demeter	VTHF-300m Tube Mono Block	300W Mono	300W Mono	N/A	<97 dB	0.06%	10:1	N/A
Demeter	VT275HF 150 Watt Stereo Power Amplifier	60W per chan	60W per chan	N/A	<90 dB	0.06% @ 1 kHz 1W	10:1	N/A
Furman	SP-20A Half Rack Stereo Power Amp	20W per chan	20W per chan	20 Hz-20 kHz	99 dB	0.05%	N/A	N/A
Haller	9505	250W per channel	375W per channel	0.15 Hz-300 kHz	100 dB	<0.07%	1,000 (to 1 kHz)	150 V/μs
Haller	P1000	50W per channel	55W per channel	0.1 Hz-100 kHz	100 dB	<0.2%	900 (up to 1 kHz)	20 V/μs
Haller	P1500	75W per channel	85W per channel	0.15 Hz-300 kHz	100 dB	<0.1%	350 (to 1 kHz)	100 V/μs
Haller	P3000	150W per channel	200W per channel	0.15 Hz-300 kHz	100 dB	<0.1%	400 (to 1 kHz)	100 V/μs
Haller	P4000	200W per channel	275W per channel	0.2 Hz-200 kHz	100 dB	<0.1%	500 (to 1 kHz)	100 V/μs
Haller	P7000	350W per channel	500W per channel	0.2 Hz-200 kHz	100 dB	<0.1%	600 (to 1 kHz)	100 V/μs
Hot House	Model Four Hundred	125W per channel	200W per channel	3 Hz-100 kHz	>100 dB	0.01%	>200	>60 V/μs
Hot House	Model Six Hundred	195W per channel	325W per channel	3 Hz-100 kHz	>100 dB	<0.05%	>200	>60 V/μs
Hot House	Model One Thousand	350W per channel	500W per channel	3 Hz-100 kHz	>100 dB	<0.05%	>200	>60 V/μs
Hot House	Model Two Thousand	450W per channel	700W per channel	3 Hz-100 kHz	>100 dB	<0.05%	>200	>60 V/μs
Hot House	Model M500 High Current Mono Block	150W mono	275W mono	5 Hz-100 kHz	>100 dB	0.01%	>200	>60 V/μs
Hot House	Model M500HV High Voltage Mono Block	375W mono	600W mono	5 Hz-100 kHz	>100 dB	0.01%	>200	>60 V/μs
Mackie Designs	M1400i	250W per channel	425W per channel	10 Hz-70 kHz	>107 dB	<0.025% @ 8 ohms	>350 (0-400 Hz)	>50 V/μs mono/stereo
Mackie Designs	M800	150W per channel	250W per channel	10 Hz-70 kHz	>107dB	<0.025% @ 8 ohms	>250 (0-400 Hz)	>40 V/μs mono/stereo
Mackie Designs	M2600	425W per channel	700W per channel	10 Hz-70 kHz	>107dB	<0.025% @ 8 ohms	350V (0-400 Hz)	>60V/μs mono/stereo
Manley Labs	Studio 240	240W per channel	240W per channel	10 Hz-30 kHz	N/A	N/A	N/A	N/A
Manley Labs	Studio 440	500W per channel	500W per channel	10 Hz-30 kHz	N/A	N/A	N/A	N/A
Miles Technology	MPR-450	60W per channel x 6	75W per channel	20 Hz-20 kHz	>100 dB	0.15%	>400	Not slew limited
Panasonic	WP-1200	120W per channel	240W per channel	20 Hz-20 kHz	>100 dB	<0.1%	>100 @ 1 kHz 8 ohms	N/A
Panasonic	WP-1400	240W per channel	400W per channel	20 Hz-20 kHz	>100 dB	<0.1%	>100 @ 1 kHz 8 ohms	N/A
Peavey	CS200X	85W per channel	85W per channel	10 Hz-40 kHz	100 dB	<0.1%	>200 @ 40Ω	15 V/μs
Peavey	CS500A	130W per channel	210W per channel	5 Hz-50 kHz	100 dB	0.03%	>200 @ 40Ω	40 V/μs
Peavey	CS800S	240W per channel	420W per channel	3 Hz-60 kHz	100 dB	0.03%	>1000 @ 40Ω	40 V/μs
Peavey	CS1000X	325W per channel	525W per channel	5 Hz-50 kHz	100 dB	<0.03%	>200 @ 40Ω	40 V/μs
Peavey	CS1800G	350W per channel	600W per channel	5 Hz-50 kHz	100 dB	0.03%	>300 @ 40Ω	40 V/μs
Peavey	CS3000G	600W per channel	1,000W per channel	5 Hz-50 kHz	100 dB	<0.03%	>300 @ 8Ω	40 V/μs
Peavey	PV260	100W per channel	130W per channel	10 Hz-40 kHz	100 dB	<0.1%	>200 @ 80Ω	20 V/μs
Peavey	PV500	130W per channel	210W per channel	10 Hz-40 kHz	100 dB	<0.1%	>300 @ 80Ω	20 V/μs
Peavey	PV1200	270W per channel	425W per channel	10 Hz-40 kHz	100 dB	<0.1%	>300 @ 80Ω	20 V/μs
Peavey	PV2000	400W per channel	650W per channel	10 Hz-40 kHz	100 dB	<0.1%	>300 @ 80Ω	20 V/μs
QSC Audio	MX700	150W per channel	225W per channel	20 Hz-20 kHz	100 dB	0.1%	>200	N/A
QSC Audio	PLX 1202	200W per channel	325W per channel	8 Hz-50 kHz	106 dB	<0.05%	>500	N/A
QSC Audio	MX1500a	350W per channel	500W per channel	20 Hz-20 kHz	100 dB	0.05%	>200	N/A
QSC Audio	MX2000a	450W per channel	650W per channel	20 Hz-20 kHz	100 dB	0.05%	>200	N/A

POWER CONSUMPTION	PROTECTION FEATURES	AC CIRCUIT BREAKER	GROUND LIFT	INDICATOR LIGHTS	DIMENSIONS (INCHES)	WEIGHT (LBS.)	PRICE
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On, clip, protect, signal	17.9x5.25	69	\$2,465
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On; sgnl lddr, clip, prtct; parallel/bridge mode	17.9x3.5	18	\$1,488
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On; clip; signal; standby	17.9 x 3.5	18	\$1,578
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On; clip; signal; standby; protect	17.9x3.5	18	\$1,698
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On; clip; signal; standby	17.9 x 3.5	18	\$1,728
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On; clip; signal; standby	17.9 x 3.5	18	\$1,868
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On; clip; signal; standby; protect	17.9x3.5	18	\$2,028
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On; clip; signal; standby; protect	17.9x3.5	18	\$2,198
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On; clip; signal; standby	17.9 x 3.5	18	\$2,068
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On; clip; signal; standby	17.9x5.25	30	\$2,998
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On; clip; signal; standby	17.9x5.25	30	\$3,398
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On; sgnl lddr, clip, prtct; parallel/bridge mode	19x3.5x13.25	21	\$1,198
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On; sgnl lddr, clip, prtct; parallel/bridge mode	19x3.5x13.25	21	\$1,498
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On; sgnl lddr, clip, prtct; parallel/bridge mode	19x3.5x13.25	21	\$1,798
N/A	Full shrt crct, thrm1 mtng, ultrasonc/RF	No	No	On; sgnl lddr, clip, prtct; parallel/bridge mode	19x3.5x13.25	21	\$2,098
120v AC @ 20 amps	DC/shrt prot reconnects after clearance of fault	Yes	N/A	LEDs; mute; fault/OC; limit; pwr; temp warn	19x1.75x15	51	\$3,000
2,200W	Main fuse; chan fuses; forced cooling	No	No	Chan-rdy LED; clip limit LED; SOA limit LED	19x5.25x11	44	\$1,649
N/A	Yes	No	Yes	Yes	19x14.375x1.9375	11.1	\$795
240W	Short circuit, thermal, DC offset	No	No	Prot LED; 5-seg/3-color lvl mtrs; Pwr LED; spkr-dsbl LED (for headphone)	17.5 (19 w/rack ears incl) x 1.75x11.5	15.6	\$260
838W	Thermal; DC offset	Yes	No	Clip; idle; protect; pwr	19x5.2x9.2	13.7	\$300
420W	Shrt crct; thrm1 ovrid; DC offset	No	No	Clip; peak; protect; power	19x1.72x10.4	14.3	\$380
430W, 480W	Thermal; DC offset	Yes	No	Clip; idle; protect; power	19x3.5x9.5	17.6	\$450
N/A	N/A	No	No	power	8.9x1.7x6.9	2	\$180
160W	N/A	N/A	N/A	2-color Input/Peak/fault-front panel LEDs	19x1.75x13.75	17	\$525
310W, 335W	Thermal protection; DC offset	Yes	No	Clip; protect; power; mono bridge	19x1.72x10.4	14.3	\$380
1,080W	Shrt crct; thrm1 ovrid; DC offset; curmt lmt, pwr-up/down	Yes	No	Clip; protect; power; mono bridge	19x3.47x14	34.1	\$550
1,000W	Shrt crct, thrm1 ovrid, DC offset	Yes	Yes	Clip; protect; power; mono bridge	19x1.72x14	15.8	\$800
N/A	Thermal; DC offset	Yes	No	Clip; protect; power	19x3.5x14	26.4	\$550
1,080W	Thermal overload; DC offset	Yes	No	Clip; protect; power; mono bridge	19x5.23x16	38	\$7,800
1,800W	Thermal overload; DC offset	Yes	No	Clip; protect; power; mono bridge	19x3.5x16	52	\$1,010
1,900W	Thermal overload; DC offset	Yes	No	Clip; protect; power; mono bridge	19x5.23x16	40	\$1,000
1,900W	Thermal overload; DC offset	Yes	No	Clip; protect; power; mono bridge, temperature	19x3.5x14	21	\$1,429
5.25 amps	7-stg crct guard; shrt crct; thrm1 ovrid; DC offset; RF	Yes	No	Clip; signal; power	19x1.72x15	11	\$1,099
3.5 amps	7-stg crct guard; shrt crct; thrm1 ovrid; DC offset; RF	Yes	No	Clip; signal; power	19x1.72x15	10	\$799
6 amps	7-stg crct guard; shrt crct; thrm1 ovrid; DC offset; RF	Yes	No	Clip; signal; power	19x1.72x15	11	\$999
5 amps	7-stg crct guard; shrt crct; thrm1 ovrid; DC offset; RF	Yes	No	Clip; signal; power	19x1.72x15	16	\$1,199
5 amps	7-stg crct guard; shrt crct; thrm1 ovrid; DC offset; RF	Yes	No	Clip; signal; power	19x1.72x15	17	\$1,399
5.25 amps	7-stg crct guard; shrt crct; thrm1 ovrid; DC offset; RF	Yes	No	Clip; signal; power	19x1.72x5.5	5.5	\$469
5.8 amps	7-stg crct guard; shrt crct; thrm1 ovrid; DC offset; RF	Yes	No	Clip; signal; power	19x1.72x15	10	\$699

# POWER AMPS

POWER AMPS

MANUFACTURER	MODEL	CONTINUOUS AVG. POWER INTO 8Ω (20 HZ-20 KHZ ± 1 DB)	CONTINUOUS AVG. POWER INTO 4Ω (20 HZ-20 KHZ ± 1 DB)	FREQUENCY RESPONSE	SIGNAL-TO-NOISE	TOTAL HARMONIC DISTORTION	DAMPING FACTOR	SLEW RATE
Stewart Audio	HPA-1000	200W per channel	350W per channel	20 Hz-20 kHz	>110 dB	<0.1%	>500	>500
Stewart Audio	PA-50B	25W per channel	50W per channel	20 Hz-20 kHz	100 dB	<0.08%	>200 @ 8Ω	30 V/μs
Stewart Audio	PA-100B	50W per channel	90W per channel	20 Hz-20 kHz	98 dB	<0.08%	>200 @ 8Ω	30 V/μs
Stewart Audio	PA-200B	50W per channel	90W per channel	20 Hz-20 kHz	98 dB	<0.08%	>200 @ 8Ω	30 V/μs
Stewart Audio	CVA-7400	N/A	200W per channel	30 Hz-20 kHz	>100 dB	<1%	>500	30 V/μs
Stewart Audio	CVA-7800	N/A	400W per channel	30 Hz-20 kHz	>100 dB	<1%	>500	30 V/μs
Stewart Audio	CA-400	100W per channel	110W per channel	20 Hz-20 kHz	>100 dB	<0.1%	>500	30 V/μs
Stewart Audio	CA-800	200W per channel	400W per channel	20 Hz-20 kHz	>100 dB	1kHz 0.1%	>500	30 V/μs
Studiomaster	900 E	210W per channel	350W per channel	20 Hz-20 kHz	100 dB	0.008%	200	20V/μs
Studiomaster	1500 E	375W per channel	600W per channel	20 Hz-20 kHz	100 dB	0.015%	200	20V/μs
Studiomaster	2000 E	500W per channel	800W per channel	20 Hz-20 kHz	100 dB	0.015%	200	20V/μs
Studiomaster	600E	140W per channel	210W per channel	20 Hz-20 kHz	100 dB	0.015	100	12V/μs
TASCAM	PA-20MKII	N/A	25W per channel	20 Hz-20 kHz	85 dB	0.05%	80 @ 8Ω	N/A
Tube Works	1160 MosValve	60W per channel	80W per channel	N/A	>95 dB	N/A	N/A	N/A
Tube Works	1500 MosValve	185W per channel	250W per channel	N/A	>95 dB	N/A	N/A	N/A
Whirlwind	P-12	11W per channel	14W per channel	20 Hz-20 kHz	>96 dB	0.2% @6W	N/A	9.6 V/μs
Yamaha	A100A	50W per channel	N/A	20 Hz-20 kHz	107 dB	0.2%	>70	10 V/μs
Yorkville Sound	SR-300	110W per channel	150W per channel	20 Hz-20 kHz	95 dB	<0.015%	>400	20 V/μs

## Starting a Studio from SCRATCH



**Get it together with Interstate Music!**

Our FREE Recording, MIDI & Live Sound Catalog has the latest, greatest, coolest and most powerful gear for your studio setup - all at guaranteed lowest prices.

- TAPE & CD-Rs
  - RECORDING EQUIPMENT
  - MUSIC/DIGITAL AUDIO SOFTWARE
  - SOUNDCARDS
  - DIGITAL MIXERS
  - MICS & EFFECTS
  - KEYBOARDS & SAMPLERS
- PLUS MUCH MORE!



Great SERVICE • Huge SELECTION • Guaranteed LOW PRICES

**FREE** catalog 877.213.2587  
www.interstatemusic.com

Aside from practice  
We're all you need!

13819 West National Avenue • New Berlin, WI 53151

**MACKIE.**  
Compact Mixers

## The New Book

by Rudy Trubitt

The New Models

VLZ-PROs  
1642  
PPM  
CFX  
SR

What you  
need to know.  
18 models in all.  
264 pages, \$27.95  
(800) 265-8481  
www.trubitt.com

HAL LEONARD CORPORATION





## POWER CONSUMPTION

## PROTECTION FEATURES

## AC CIRCUIT BREAKER

## GROUND LIFT

## INDICATOR LIGHTS

## DIMENSIONS (INCHES)

## WEIGHT (LBS.)

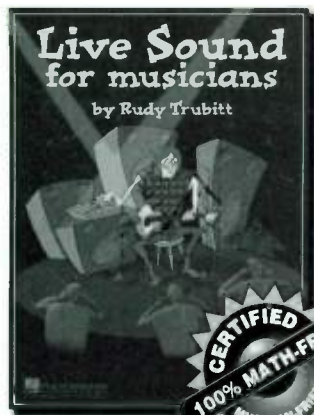
## PRICE

N/A	Short, DC; ODEP, other	Yes	Yes	Enable, IOC/SPI	19x3.5x16	30	\$1,281
N/A	Short, DC; ODEP; other	Yes	Yes	Enable, IOC/SPI	19x5.25x16	33	\$1,512
N/A	Short, DC; ODEP; other	Yes	Yes	Enable, IOC/SPI	19x7x16	36.5	\$1,768
N/A	Short, DC; ODEP, other	No	Yes	Enable, ODEP	19x3.5x16	36.25	\$1,075
N/A	Short, DC; ODEP; other	No	Yes	Enable, ODEP	19x3.5x16	41	\$1,385
N/A	Short, DC; ODEP; other	Yes	Yes	Enable, ODEP	19x3.5x16	46.9	\$1,795
N/A	Short, DC; others	N/A	N/A	Power, signal, clip, fault	19x5.25x16.25	33.3	\$2199
600W	N/A	Yes	No	LED	19x7x15	49	\$2,649
300W	N/A	Yes	No	LED	19x7x12	45	\$2,299
130W	Shrt crct; thrmal ovrid	Yes	Yes	Clip, sgnl prsnt	8.45x1.75x8.25	9	\$289
840	± Rail fuses	Yes	Yes	Power	19x5.25x12.5	50	\$2,200
260W	NOMAD	Yes	Yes	Pwr; sgnl; clip; therm	19x1.75x8.375	12	\$569
325W	Short circuit	Yes	Yes	Pwr; sgnl; clip; therm	19x3.5x8.5	22	\$599
600W	Short circuit	Yes	Yes	Pwr; sgnl; clip; therm	19x3.5x9.875	23	\$779
720W	Short circuit	Yes	Yes	Pwr; sgnl; clip; therm	19x5.25x11	34	\$999
1,100W	Short circuit	Yes	Yes	Pwr; sgnl; clip; therm	19x3.5x12.875	40	\$1,399
600W	RC network for RF	Yes	N/A	N/A	19x3.5x10.5	28	\$1,699
1,000W	RC network for RF	Yes	N/A	N/A	19x5.25x10.5	32	\$2,499
1,500W	RC network for RF	Yes	N/A	N/A	19x5.25x10.5	38	\$2,999
1,500W	RC network for RF	Yes	Yes	True RMS clip/channel	19x8.75x17	95	\$4,999
600W	RC network for RF	Yes	N/A	N/A	19x3.5x10.5	32	\$2,099
800W	RC network for RF	Yes	N/A	N/A	19x3.5x10.5	34	\$2,499
65W	Short circuit; thermal	No	No	Power, cold & hot, sig pres	19x3.5x16.25	36	\$699
55W	Short circuit; thermal	No	No	Power, normal & hot,	19x3.5x16.25	28	\$549
140W	Short circuit; thermal	No	No	Power, cold & hot, sig pres	19x5.2x16.7	55	\$1,199
1400W	B+ fuse	Yes	No	Yes	19x8.75x11	75	\$7,000
1400W	B+ fuse	Yes	No	Yes	19x8.75x11	75	\$9,500 (pair)
780W	Short circuit, hi temp, DC offset	No	No	Pwr on; high temp, all 6 chans: sgnl prsnt; clip	19x3.5x12.7	25	\$1,099
270W	Thermal overload; DC offset	Yes	No	Power, peak, protection	19x5.25x15.5	26.45	\$700
520W	Thermal overload; DC offset	Yes	No	Power, peak, protection	19x5.25x15.5	38.3	\$875
N/A	Shrt crct; thrmal ovrid; DC; RF	Yes	No	On, DDT	19x1.75x17	18.5	\$460
N/A	Shrt crct; thrmal ovrid; DC; RF	No	No	On; DDT 3.5	19x19	39	\$700
N/A	Shrt crct; thrmal ovrid; DC; RF	Yes	No	On, DDT	19x3.5x22	23.5	\$900
N/A	Shrt crct; thrmal ovrid; DC; RF	Yes	No	On, DDT	19x5.25x14	51	\$1,100
N/A	Shrt crct; thrmal ovrid; DC; RF	Yes	No	On; DDT	19x3.5x17	35	\$1,300
N/A	Shrt crct; thrmal ovrid; DC; RF	Yes	No	On; DDT	19x5.25x17	77	\$2,200
N/A	Shrt crct; thrmal ovrid; DC; RF	Yes	No	On, DDT	19x3.5x9.6	18.5	\$300
N/A	Shrt crct; thrmal ovrid; DC; RF	Yes	No	On; DDT	19x5.25x9	29	\$400
N/A	Shrt crct; thrmal ovrid; DC; RF	Yes	No	On, DDT	19x5.25x13	43.5	\$5450
N/A	Shrt crct; thrmal ovrid; DC; RF	Yes	No	On; DDT	19x7x14	64	\$750
N/A	Full shrt crct; thrmal mtng; ultrasonic/RF	No	No	On; clip; protect; signal	19x12x3.5	25	\$715
N/A	Full shrt crct; thrmal mtng; ultrasonic/RF	No	No	On; sgnl lddr; clip; prtct; parallel/bridge mode	19x3.5x13.25	21	\$858
N/A	Full shrt crct; thrmal mtng; ultrasonic/RF	No	No	On; clip; protect; signal	17.9x3.5	42	\$1,265
N/A	Full shrt crct; thrmal mtng; ultrasonic/RF	No	No	On; clip; protect; signal	17.9x5.25	54	\$1,665

# POWER AMPS

MANUFACTURER	MODEL	CONTINUOUS AVG. POWER INTO 8Ω (20 HZ-20 KHZ ± 1 DB)	CONTINUOUS AVG. POWER INTO 4Ω (20 HZ-20 KHZ ± 1 DB)	FREQUENCY RESPONSE	SIGNAL-TO-NOISE	TOTAL HARMONIC DISTORTION	DAMPING FACTOR	SLEW RATE
QSC Audio	MX3000a	800W per channel	1,200W per channel	20 Hz-20 kHz	100 dB	0.1%	>200	N/A
QSC Audio	PowerLight 1.0	200W per channel	325W per channel	20 Hz-20 kHz	108 dB	0.1%	>350	N/A
QSC Audio	PowerLight 1.0HV	300W per channel	500W per channel	20 Hz-20 kHz	108 dB	0.1%	>350	N/A
QSC Audio	PowerLight 1.4	300W per channel	500W per channel	20 Hz-20 kHz	108 dB	0.1%	>350	N/A
QSC Audio	PowerLight 1.5X Bi-amp	200W ch. 1/450W ch. 2	325W ch. 1 700W ch. 2	20 Hz-20 kHz	108 dB	0.1%	>350	N/A
QSC Audio	PowerLight 1.6HVX Bi-amp	300W ch. 1/700W ch. 2	500W ch. 1; 100W ch. 2	20 Hz-20 kHz	108 dB	0.1%	>350	N/A
QSC Audio	PowerLight 1.8	400W per channel	650W per channel	20 Hz-20 kHz	108 dB	0.1%	>350	N/A
QSC Audio	PowerLight 2.0HV	650W per channel	1,000W per channel	20 Hz-20 kHz	108 dB	0.1%	>350	N/A
QSC Audio	PowerLight 2.4MB Mono-block	1,000W mono	1,600W	20 Hz-20 kHz	108 dB	0.1%	>350	N/A
QSC Audio	PowerLight 3.4	725W per channel	1,200W per channel	20 Hz-20 kHz	108 dB	0.1%	>500	N/A
QSC Audio	PowerLight 4.0	900W per channel	1,400W per channel	20 Hz-20 kHz	108 dB	0.1%	>500	N/A
QSC Audio	PLX 1602	300W per channel	500W per channel	8 Hz-50 kHz	106 dB	<0.05%	>500	N/A
QSC Audio	PLX 2402	425W per channel	700W per channel	8 Hz-50 kHz	106 dB	<0.05%	>500	N/A
QSC Audio	PLX 3002	500W per channel	900W per channel	8 Hz-50 kHz	106 dB	<0.05%	>500	N/A
QSC Audio	PLX 3402	700W per channel	1,100W per channel	8 Hz-50 kHz	106 dB	<0.05%	>500	N/A
Quested	AP800	450W per channel	770W per channel	20 Hz-20 kHz	105 dB	0.005%	>400	50V/μs
Rane	MA6S	100W per channel	150W per channel	20 Hz-20 kHz	103 dB	0.07%	300 @ 1 kHz	N/A
Roland	SRA-200E	100W per channel	150W per channel	20 Hz-50 kHz	100 dB	0.05%	N/A	N/A
Samson	Servo 120	52W per channel	60W per channel	10 Hz-100 kHz	105 dB	<0.05%	>150	N/A
Samson	Servo 170	60W per channel	85W per channel	20 Hz-50 kHz	103 dB	<0.01%	N/A	N/A
Samson	Servo 260	90W per channel	130W per channel	20 Hz-50 kHz	103 dB	<0.03%	>100	N/A
Samson	Servo 550	220W per channel	275W per channel	20 Hz-50 kHz	103 dB	<0.03%	>100	N/A
Samson	Q5 Headphone Amp	500W per channel	N/A	20 Hz-20 kHz	N/A	<0.003%	N/A	N/A
Sony	SRP-P50	50W per channel	75W per channel	20 Hz-20 kHz	N/A	<.05%	N/A	N/A
Soundtech	PL200	65W per channel	100W per channel	20 Hz-20 kHz	90 dB	<0.1%	>300:1	48 V/μs
Soundtech	PL602	200W per channel	300W per channel	20 Hz-20 kHz	120 dB	<0.1%	>300:1	40 V/μs
Soundtech	PS802	230W per channel	400W per channel	20 Hz-20 kHz	120 dB	<0.05%	200:1	42 V/μs
Soundtech	PL350M	150W/mono	230W/mono	20 Hz-20 kHz	90 dB	<0.1%	>300:1	40 V/μs
Soundtech	PL802	230W per channel	400W per channel	20 Hz-20 kHz	90 dB	<0.1%	300:1	40 V/μs
Soundtech	PL1204	190W per channel	280W per channel	20 Hz-20 kHz	100 dB	<0.05%	300:1	40 V/μs
Soundtech	PL1402	390W per channel	620W per channel	20 Hz-20 kHz	100 dB	<0.05%	300:1	40 V/μs
Soundtech	PS1602	525W per channel	620W per channel	20 Hz-20 kHz	100 dB	<0.05%	200:1	56 V/μs
Stewart Audio	PR-1000	200W per channel	350W per channel	15 Hz-20 kHz	>108 dB	<0.05%	>500	>35 V/μs
Stewart Audio	PR-500	110W per channel	190W per channel	15 Hz-20 kHz	>108 dB	<0.05%	>500	>35 V/μs
Stewart Audio	World 1.2	240W per channel	420W per channel	20 Hz-20 kHz	>100 dB	<0.1%	>500	>30 V/μs
Stewart Audio	World 1.6	390W per channel	650W per channel	20 Hz-20 kHz	>100 dB	<0.1%	>500	>30 V/μs
Stewart Audio	World 2.1	450W per channel	650W per channel	20 Hz-20 kHz	>100 dB	<0.1%	>500	>30 V/μs
Stewart Audio	World 250	70W per channel	120W per channel	20 Hz-20 kHz	>100 dB	0.05%	>500	>30 V/μs
Stewart Audio	World 600	130W per channel	230W per channel	20 Hz-20 kHz	>100 dB	<0.1%	>500	>30 V/μs

POWER CONSUMPTION	PROTECTION FEATURES	AC CIRCUIT BREAKER	GROUND LIFT	INDICATOR LIGHTS	DIMENSIONS (INCHES)	WEIGHT (LBS.)	PRICE
120V AC 400VA	N/A	Yes	No	N/A	19x1.75x15	8	\$1,099
100W	N/A	Yes	No	1/4" TRS input, barrier strip output	8.2x1.75x6.2	3.5	\$325
100W	N/A	Yes	No	1/4" TRS input, barrier strip output	8.2x1.75x6.2	5.5	\$425
200W	N/A	Yes	No	1/4" TRS input, 1/4" phone outputs	8.5x1.75x10.2	5.5	\$455
120 VAC	7-stage circuitguard protection/VIF limiting	Yes	No	3 pin XLR, barrier strip output	19x1.75x15.3	10	\$749
120 VAC	7-stage circuit protection/VIF limiting	Yes	No	3 pin XLR, barrier strip inputs	17.5x19x14.8	11	\$1,049
120 VAC	7-stage circuitguard protection/VIF limiting	Yes	No	3 pin XLR, barrier strip inputs	1.75x19x14.8	10	\$749
120 VAC	7-stage circuitguard/VIF limiting	Yes	No	3 pin XLR, barrier strip inputs	1.75x19x14.8	11	\$1,049
8.6 Amps	Gated pwr stg; crow bar spkr prot	No	Yes	Peak; temp; fault; mono; bridge; power	17x16x3 9/16	38	\$699
15 Amps	Gated pwr stg; crow bar spkr protection	No	Yes	Peak; temp; fault; mono; bridge; power	19x3.5x17.1	42	\$399
20 Amps	Gated pwr stg; crow bar spkr protection	No	Yes	Peak; temp; fault; mono; bridge; power	19x3.5x17.1	45	\$1,199
6 Amps	Gated pwr stg; crow bar spkr protection	No	Yes	Peak; temp; fault; power	19x3.5x17.1	30	\$599
90W	DC balance; overload	Yes	Yes	Clip; power; protect	19x1.72	9.9	\$259
400W	Short circuit; thermal	N/A	N/A	Power (1)	19x3.5x7	13	\$399
1400W	Shrt crct; thrm; time dly turn-on relay	N/A	N/A	Power (1), clip (2)	19x3.5x11.5	30	\$699
75W	SOAR	No	Yes	Clip	19x1.75	N/A	\$269
120W	Shrt crct; thermal; DC detector	No	No	Meters; clip indic	19x3.5x11.5	10	\$329
500W	Current limit; thermal	Yes	No	Activity; clip; limit	19x15x3.5	22.5	\$499



Finally—a live sound book meant for musicians, not engineers! **Live Sound for Musicians** teaches you to run your PA smoothly, from setup and soundcheck right through your performance. Math-free, lots of pictures, 152 pages, all for \$19.95.

Surf [www.trubitt.com](http://www.trubitt.com) for free info and Web orders, or call **Music Books Plus** at (800) 265-8481. Seek out ISBN 0-7935-6852-8 at music and book stores. Any questions? Send email to: [ask\\_rudy@trubitt.com](mailto:ask_rudy@trubitt.com)

## EXPRESS, EXPAND, EXPLORE

# THE I-CUBE SYSTEM



P.O. Box 16178  
North Vancouver, BC,  
CANADA, V7J 3S9



Tel: 1-604-983-3640  
Fax: 1-604-983-3612  
E-mail: [Info@infusionsystems.com](mailto:Info@infusionsystems.com)  
Web: [www.infusionsystems.com](http://www.infusionsystems.com)

Explore new ways of controlling your MIDI gear with the **I-Cube**. Trigger samples with a wave of your hand. Escape menu-hell and use real knobs, sliders, buttons and lights to program. A light beam acts as your mod wheel, a touch triggers your samples, the temperature controls your volume!

Here at **Infusion Systems** we develop bizarre ways of controlling gear. All of our sensors are continuous control but can also act as switches (note on/note off). They are "tuned" and pre-wired to work with the I-Cube — no additional electronics or soldering required. Each I-Cube comes with a Turn sensor and a See actuator to get you started. Check out our web site [www.infusionsystems.com](http://www.infusionsystems.com) for even more sensor options!

Get ideas to use our products, visit our website and check out **Cube Culture**

GForce



Bend



Slide



Touch



Reach



# REFERENCE MONITORS

MANUFACTURER	PRODUCT	ENCLOSURE TYPE	POWERED / UNPOWERED	FREQUENCY RESPONSE	SENSITIVITY	CROSSOVER FREQUENCY	WOOFER SIZE AND TYPE
Alesis	Monitor One	Superport vented	Unpowered	45 Hz-18 kHz	88 dB	2.5 kHz	6.5" polypropylene cone
Alesis	M1 Active	0.625" MDF custom dual-ported mirror-image design	Powered biamplified (75W LF/25W HF)	45 Hz-22 kHz +/- 3 dB		1.5 kHz (8th order high & low pass)	Proprietary 6.5" non-woven carbon fiber
Alesis	S1 Active	1" MDF enclosure	Powered 250W subwoofer	Selectable 40 Hz, 60 Hz, 80 Hz, 100 Hz, 120 Hz	88.5 dB	4th Order Linkwitz-Riley switchable at 60 Hz/ 80 Hz/ 100 Hz/ 120 Hz	Custom 8" mica-impregnated polypropylene
Ambiance Acoustics	California Cube Loudspeaker System	Vented	Passive enclosure; active equalizer	38 Hz-16.5 kHz (-5 dB)	90 dB		
Ambiance Acoustics	Super Cube Loudspeaker System	Vented	Passive enclosure; Active equalizer	38 Hz-6.5 kHz (-5dB)	91 dB		
ATC	Pro 20A	Sealed	Powered	60 Hz-20 kHz	N/A	2.8 kHz	6.5", superlinear
ATC	SCM10 Pro	Sealed	Unpowered	65 Hz-20 kHz (-6 dB)	80 dB	2.8 kHz	5"
ATC	SCM100A Pro	Ported reflex	Powered	32 Hz-20 kHz (-6 dB)	-115 dB	380 Hz, 3.5 kHz	12" superlinear
ATC	SCM20 Pro	Sealed	Unpowered	60 Hz-20 kHz (-6 dB)	86 dB	2.8 kHz	6.5" superlinear
ATC	SCM50A Pro	Ported reflex	Powered	38 Hz-20 kHz (-6 dB)	N/A	380 Hz, 3.5 kHz	9" superlinear
ATC	SCM20SL	20 Liter	Unpowered	N/A	83 dB @ 1W/1m	2.8 kHz	6" superlinear
ATC	SCM20A Pro	20 liter cast aluminum	Powered	N/A	N/A	2.8 kHz	6.5" superlinear
Audix	N-5	Bass reflex	Unpowered	40 Hz-20 kHz	87 dB	2.2 kHz	7" Kevlar
Audix	N-10	Bass reflex	Unpowered	40 Hz-20 kHz	89 dB	2.2 kHz	2x7" Kevlar
Audix	Studio 1A	Bass reflex	Unpowered	55 Hz-18 kHz	87 dB	3 kHz	6.5" poly
Audix	PH15-VS	Bass reflex	Powered	50 Hz-20 kHz	86 dB	2.5 kHz	5.25" poly
Bag End	D10E-I Subwoofer	Sealed	Unpowered	8-95 Hz (+/-3dB w/ELF processor)	92 dB SPL 1W/1m	N/A	2x10" EL-10 woofers
Bag End	Infrasub-18 Subwoofer	Sealed	Powered	8-95 Hz (+/-3 dB)	N/A	N/A	18" EL-18P woofer
Bag End	MM-8 Nearfield Monitor	Ported	Unpowered	95 Hz-20 kHz (+/-3 dB)	93 dB 1W/1m	Time-Align EQ filter @ 2.9 kHz	8" LF
Bag End	MM-8H	Ported	Unpowered	95 Hz-20 kHz (+/-3 dB)	93 dB 1W/1m	Time-Align EQ filter @ 2.9 kHz	8" LF
Barbetta	D-10	Ported reflex	MOSFET powered biamp	39 Hz-22 kHz (± dB)	N/A	2,330 Hz	10" carbon fibre
Barbetta	DIVA D-9	Ported reflex	MOSFET powered	36 Hz-20 kHz (±1 dB)	N/A	2,345 Hz	8" polymer treated, rubber surround
Behringer	Truth B2031	2-way high-resolution active studio monitor	Manual, auto	50 Hz-20 kHz	Max. 116 dB SPL @1m (pair)	2 kHz	22 cm (8.75") polycarbonate diaphragm
Bryston	PMC TB-1S	Transmission line	Option	40 Hz-25 kHz	90 dB	3 kHz	Doped 6" cast magnesium alloy
Bryston	PMC LB-1	Transmission line	Option	35 Hz-25 kHz	87 dB	2.5 kHz	4 1/2" 1 kw pulse with 4" voice coil
Bryston	PMC IB-1S	Transmission line	Option	25 Hz-25 kHz	89 dB	380 Hz & 3.8 kHz	10" carbon fiber/Nomex
Bryston	AML-1	Transmission line	Powered	33 Hz-22 kHz	0.775v for 106 dB SPL @1m	1.4 kHz, 24 dB per octave	6 1/2" carbon fiber & Nomex flat piston
Cerwin Vega	CM-80	8" 2-way	Unpowered	40 Hz-20 kHz	93 dB	2.5 kHz	8" woofer with diecast aluminum frame

MIDRANGE SIZE AND TYPE	TWEETER SIZE AND TYPE	MAGNETIC SHIELDING	CABINET DIMENSIONS (HxWxD)	WEIGHT (LBS.)	NOTES	PRICE (PER PAIR)
N/A	1" silk dome	No	15x9.25x8.5	15	5-way binding posts	\$399
N/A	1" Silk dome; ferrofluid-cooled	Yes	15x8.5x9.25	21		\$649
N/A	N/A	Yes	17.5x11.5x12.5	36.5	Active Subwoofer w/ satellite crossover outputs	\$599
(4) 4.5" full-range drivers; treated paper cones; rubber surrounds		No	13.6x13.6x13.6	Enclosure: 27 Equalizer: 3	System includes two speakers and one equalizer	\$1,295/system
(9) 4.5" full range drivers; treated paper cones; rubber surrounds		None	13.6x13.6x13.6	Enclosure: 32 Equalizer: 3	System includes two speakers and one equalizer	\$1,595/system
N/A	1"	No	17.6x10.6x12.2	66		\$4,595
N/A	1" soft dome	Optional	15x7.1x10	22		\$1,650
3" soft dome	1" soft dome	Optional	32.8x15.7x22.29	143		\$9,995
N/A	1" soft dome	Optional	17.3x9.8x12.4	50.6		\$2,500
3" soft dome	1" soft dome	Optional	28.2x13.8x18.8	107.8		\$8,995
N/A	1" soft dome	Optional	15x7.1x10	50.6		\$2,400
N/A	1" soft dome	Optional	17.6x10.6x12.2	66		\$4,899
N/A	1" cloth dome	No	15x9.5x11	24		\$1,495
N/A	1" cloth dome	No	22x10x13.5	45		\$1,995
N/A	1" cloth dome	Optional	13x9x10	18		\$599
N/A	1" dome	No	9x6x9	18		\$479
N/A	N/A	No	13x22x13	44	Studio subwoofer for use w/ELF processor	\$730 ea
N/A	N/A	No	23.5x21.25x18.25	88	Time-align subwoofer w/8 Hz resp; 400W power amp	\$1,590 ea
N/A	1.75" aluminum compression HF	No	16.5x12.5x8.5	28	For use w/ELF subwoofer; EQ; polarity switch	\$2,520
N/A	1.75" aluminum compression HF	No	16.5x12.5x8.5	29	Includes cloth grille (no switches)	\$2,320
None	1" silk dome	Optional	14.5x12x17	47	Bi-amplified; patented active control technology	\$2699
None	1" silk dome	Optional	14.5x10.75x11	36	Bi-amplified; patented circuitry.	\$1799
	25 mm ferrofluid-cooled dome		15.75x9.84x11.41	30.8	2-Way active; well-balanced vertical and horizontal dispersion; 2 amplifiers; XLR & phone	\$599
N/A	Aluminum alloy phase shield-ferro fluid	Yes	16x12x8	18	Optional Bryston power modules	\$900
N/A	Silk soft dome w/double chamber	Yes	21x10x7	21	Optional Bryston power modules	\$2,160
5 1/2" doped fabric	3 1/2" silk dome w/double chamber	Optional	29x18x13	76	Optional Bryston power modules	\$4,500
	1 1/4" soft dome	Yes	15.75x7.75x12.50	35	Powered by Bryston discreet internal electronics	\$4995
N/A	1" system-matched dome tweeter	No	10.88 x20x1.5	26	Rear-loaded bass reflex cabinet design	\$600

# REFERENCE MONITORS

MANUFACTURER	PRODUCT	ENCLOSURE TYPE	POWERED/UNPOWERED	FREQUENCY RESPONSE	SENSITIVITY	CROSSOVER FREQUENCY	WOOFER SIZE AND TYPE
Diamond Audio	S2 Pro-Media 1060 Powered Subwoofer	Dual-port	Powered	50-140 Hz	N/A	12 dB/octave continuously variable from 70 to 140 Hz	6.5" long-throw neodymium DVC subwoofer
Diamond Audio	S2 Pro-Media 1100 Powered Subwoofer	Dual-port vented	Powered	30-140 Hz	N/A	12 dB/octave continuously variable from 70 to 140 Hz	8" long-throw neodymium DVC subwoofer
Diamond Audio	S2 Pro-media 4100 System	Dual-port vented	Powered	50 Hz-20 kHz (±3 dB)	N/A	120 Hz: 12 dB/octave active (HP and LP); 3.5 kHz: 12/6 dB/octave passive (HP/LP)	8" long-throw neodymium DVC subwoofer
Dynaudio Acoustics	BM5	Composite	Unpowered	55 Hz-29 kHz	87 dB	2.5k	7"
Dynaudio Acoustics	BM6A/BM6	Composite	Powered	42 Hz-21 kHz	86 dB	2.2 kHz	7"
Dynaudio Acoustics	BM15A/BM15P	Composite	Powered	40 Hz-21 kHz	88 dB	2.2 kHz	10"
Dynaudio Acoustics	M3A	Composite	Unpowered	35 Hz-22 kHz	88 dB	250 Hz/3 kHz	2x12"
Dynaudio Acoustics	M2	Composite	Unpowered	45 Hz-20 kHz	87 dB	N/A	2x8"
Dynaudio Acoustics	M1.5	Composite	Unpowered	40 Hz-20 kHz	88 dB	2.0 kHz	2x7"
Dynaudio Acoustics	M1	Composite	Unpowered	50 Hz-20 kHz	88 dB	2.0 kHz	2x6"
Dynaudio Acoustics	BX30	Subwoofer	P/ 305W	22-120 Hz	115 dB	95 Hz	2x12"
Dynaudio Acoustics	BM5.1A	Complete 5.1 mixing system - composite	Powered	N/A	N/A	N/A	N/A
Dynaudio Acoustics	M3	Composite	Unpowered	35 Hz-22 kHz	88 dB	250 Hz/3 kHz	2x12"
Dynaudio Acoustics	M3 Active	Reflex	Powered	35 Hz-22 kHz	N/A	250 Hz	2x12" polypropylene cone with 4" voice coil; fluid cooled
Dynaudio Acoustics	MA1 Versatile	Reflex or infinite baffle	Powered	32 Hz-22 kHz ported; 24 Hz-22 kHz int. bal.	N/A	625 Hz, 4.8 kHz	2x 9.5" polypropylene w/4" voice coil; fluid cooled
Edirol	ED MA-150U Speakers	Bass reflex	Powered	75 Hz-18 kHz	87 dB		12 cm (magnetically-shielded)
Edirol	ED MA-110 Powered Speakers	Bass reflex type	Powered	75 Hz-18 kHz	87 dB		12 cm (magnetically-shielded)
Electro-Voice	Sentry 100A	Vented	Unpowered	45 Hz-18 kHz	91 dB	2 kHz	8"
Electro-Voice	Sentry 500	Vented	Unpowered	40 Hz-18 kHz (±3 dB)	96 dB	1.5 kHz	12" extended voice coil
Electro-Voice	S-40	Vented	Unpowered	85 Hz-20 kHz	85 dB	3.5 kHz	5.25"
Event Electronics	20/20 Direct Field Monitor	Ported	Unpowered	50 Hz-20 kHz, ±2 dB	88 dB	2.2 kHz, 2nd-order	8" mineral-filled polypropylene cone
Event Electronics	20/20bas Bi-amplified System	Ported	Powered	35 Hz-20 kHz, ±3 dB (-2 dB @ 38 Hz)	N/A	2.6 kHz active fourth order	8" mineral-filled polypropylene cone
Event Electronics	Tria Tri-amplified Monitor System	Ported	Powered	35 Hz-20 kHz, ±3 dB (-2 dB @ 38 Hz)	N/A	VLF: 60 Hz; satellite: 2.9 kHz active third order	VLF: 8" mmrl-filled polypropylene cone; satellite: 5.25" mmrl-filled polypropylene cone
Event Electronics	Project Studio 5 Bi-amplified Direct Field Monitor	Ported	Powered	53 Hz-19 kHz, ±3 dB	N/A	2.6 kHz, active second order	5.25" mineral-filled polypropylene cone
Event Electronics	Project Studio 6 Bi-amplified Direct Field Monitor	Ported	Powered	45 Hz-20 kHz, ±3 dB	N/A	2.6 kHz, active fourth order	6.5" mineral-filled polypropylene cone
Event Electronics	Project Studio 8 Bi-amplified Direct Field Monitor	Ported	Powered	3.5 Hz-20 kHz, ±3 dB	N/A	2.6 kHz, active fourth order	8" mineral-filled polypropylene cone

DIAPHRAGM SIZE AND TYPE	TWEETER SIZE AND TYPE	MAGNETIC SHIELDING	CABINET DIMENSIONS (HxWxD)	WEIGHT (LBS.)	NOTES	PRICE (PER PAIR)
N/A	N/A	Yes	11.5x8.5x14	20	RCA (line lvl) or push-type spkr cnctrs (amplified lvls); bass output lvl cntr; polarity switch	\$389
N/A	N/A	Yes	16.5x8.5x17	30	RCA (line lvl) or push-type spkr cnctrs (amplified lvls); bass output lvl cntr; polarity switch	\$399
4.5" neodymium (midbass)	0.5" poly-aluminum composite dome tweeter	Yes	Sub: 16.5x8.5x17; satellite: 7.25x5x4.5	48	4-pc satellite/subwoofer system; S2 DS1 spkr stnds; mic input w/lvl cntrl; S2 TP-1 for use w/existing preamps	\$649
N/A	1"	Yes	12x8x10	12.5		\$799
N/A	1"	N/A	15x9x12/ 13x8x10	26.4/15.2		\$2,599/\$1,169
N/A	1"	N/A	18x11x5/ 17x10x13	41.8/27.1		\$3,599/\$1,529
2x6"	1"	N/A	30x22x20	165		\$9,110
3"	1"	N/A	13x27x20	99		\$6,579
N/A	1"	N/A	17x12x15	48		\$4,199
N/A	1"	N/A	8x18x12	31		\$3,199
N/A	N/A	N/A	16x24x21	69.3		\$2,999 each
N/A	N/A	N/A	N/A	286	System consists of 5 BM6As and 1 BX30	\$9,497
2x6"	1"	N/A	30x22x20	165		\$12,129
2x6" polypropylene cone with 3" voice coil, fluid cooled	1" soft dome; fluid cooled	Yes	31x22x20	143	Main monitor	\$24,450
3" soft dome, fluid cooled	1" soft dome; fluid cooled	Yes	27x22x14	88	Active 3-way system, 600W tri-amp, remote rackable, EQ trims	\$15,900
	3 cm cone tweeter magnetically-shielded	Yes	9.65x5.75x7.75	1	USB with 20-Bit D/A A/D converters	\$245
	3 cm cone tweeter magnetically-shielded	Yes	9.65x5.75x7.75	11		\$185
N/A	Superdome (high-power)	No	7.25x12x11.13	28		\$1,164
N/A	1" superdome coupled to dispersion control device	No	23.75x27x13	70	Step-down mode allows operation down to 25 Hz	\$1,960
N/A	1" tweeter	Yes	9.8x7.0x5.9	5.7		\$398
N/A	1" ferrofluid-cooled silk dome	Yes	14.75x10.25x11.75	22	Front-mounted lrg-diam port; 5-wy bndng psts	\$399
N/A	1" ferrofluid-cooled silk dome	Yes	14.75x10.25x11.75	30	200W per side; low/high freq & trim cntrls; sbsnc fltr; RF prot; gold 1/4" XLR combo cnctrs	\$999
N/A	1" neodymium ferrofluid-cooled silk dome	Yes	VLF: 18.5x12x11; Satellite: 10.5x7.5x9 VLF: 34; Satellite:	11	3-way sys w/2 satellites/1 very low-freq stn; low/high freq, trim, sbsnc fltr; RF prot; output-current limiting; gold combo 1/4" XLR cnctrs	\$999 (3-piece system)
N/A	1" ferrofluid cooled natural soft dome neodymium	Yes	10.5x7.5x9	16.5	100W per side; balanced gold XLR and 1/4" inputs; front-panel volume control; RF interference protection; power-on/clip LED indicator; subsonic filter	\$599
N/A	1" ferrofluid cooled natural silk dome	Yes	12.5x8.25x10	23	100W per side; balanced gold XLR and 1/4" inputs; input level control; RF interference protection; power-on/clip LED indicator; subsonic filter	\$699
N/A	1" ferrofluid cooled natural silk dome	Yes	14.75x10.25x11.75	26.5	100W per side; balanced gold XLR and 1/4" inputs; input level control; RF interference protection; power-on/clip LED indicator; subsonic filter	\$849

# REFERENCE MONITORS

MANUFACTURER

PRODUCT

ENCLOSURE TYPE

POWERED/ UNPOWERED

FREQUENCY RESPONSE

SENSITIVITY

CROSSOVER FREQUENCY

WOOFER SIZE AND TYPE

MANUFACTURER	PRODUCT	ENCLOSURE TYPE	POWERED/ UNPOWERED	FREQUENCY RESPONSE	SENSITIVITY	CROSSOVER FREQUENCY	WOOFER SIZE AND TYPE
Event Electronics	2020/15 System Subwoofer	Ported	Powered	28 Hz-120 Hz, -3 dB	N/A	LFE: 120 Hz, third order; monitor: variable, 30 Hz-80 Hz, third order	15" high temperature long throw coated cone
Event Electronics	2020/12 System Subwoofer	Ported	Powered	28 Hz-120 Hz, -3 dB	N/A	LFE: 120 Hz, third order; monitor: variable, 30 Hz-80 Hz, third order	12" high temperature long throw coated cone
Fostex	6301BEA	Sealed	Powered	80 Hz-13 kHz	84 dB	N/A	N/A
Fostex	NF-1	Ported bass reflex featuring HP sound reflectors	Unpowered	50 Hz-40 kHz	89 dB	10 kHz	6.5" cone
Fostex	NF-1A	Ported bass reflex featuring HP sound reflectors	Powered	50 Hz-40 kHz	89 dB	10 kHz	6.5" cone
Fostex	PS-3.1	Sub: ported bass reflex; satellites: sealed full range	Powered	80 Hz-20 kHz	60 mV	N/A	5-1/4" cone in sub
Fostex	SPA-11	Sealed; dual cone	Powered	60 Hz-18 kHz	92 dB/1W	N/A	None
Genelec	1029A	Ported	Powered	68 Hz-18 kHz ( $\pm 2.5$ dB)	110 dB	Electronic (3.3 kHz)	5" coated cone
Genelec	1030AP	Ported	Powered	52 Hz-18 kHz ( $\pm 2.5$ dB)	115 dB	Electronic (3.5 kHz)	6.5" polymer composite
Genelec	1031AP	Ported	Powered	48 Hz-20 kHz ( $\pm 2.5$ dB)	120 dB	Electronic (2.5 kHz)	8" polymer composite
Genelec	1032A	Ported	Powered	42 Hz-20 kHz ( $\pm 2.5$ dB)	124 dB	Electronic (1.8 kHz)	10" polymer composite
Genelec	1037B	Ported	Powered	37 Hz-20 kHz ( $\pm 2.5$ dB)	127 dB	Electronic (420 Hz, 3.2 kHz)	12" cone
Genelec	1091A Active Subwoofer	Ported	Powered	38-85 Hz ( $\pm 2.5$ dB)	103 dB	Electronic (85 Hz)	8" cone
Genelec	1092A	Ported	Powered	33-85 Hz ( $\pm 2.5$ dB)	115 dB	Electronic (85 Hz)	Dual 8" cones
Genelec	1094A Active Subwoofer	Ported	Powered	29-85 Hz ( $\pm 2.5$ dB)	120 dB	Electronic (85 Hz)	15"
Genelec	S30D	Ported	Powered	36 Hz-48 kHz ( $\pm 2.5$ dB)	122 dB	Electronic (400 Hz, 4 kHz)	8" cone
Genelec	2029A Digital Monitor System	Ported	Powered	68 Hz-18 kHz ( $\pm 2.5$ dB)	110 dB	Electronic (3.3 kHz)	5" coated cones
Hatler	TRM8	Bass reflex	Powered	45 Hz-21 kHz $\pm 2$ dB	N/A	2.5 kHz	8" polypropylene cone
Hatler	TRM6	Bass reflex	Powered	55 Hz-21 kHz $\pm 2$ dB	N/A	3.2 kHz	6" polypropylene cone
Hatler	TRM10s	Bass reflex	Powered	30 Hz-110 Hz $\pm 2$ dB	N/A	Variable 40-110 Hz	Down firing 10" cellulose fiber cone
Hatler	TRM12s	Bass reflex	Powered	25 Hz-110 Hz $\pm 2$ dB	N/A	Variable 40-110 Hz	Down firing 12" cellulose fiber cone
Hatler	M5	MDF cabinet	Unpowered			3.2 kHz	5.25" polypropylene cone
HHB	HHB Circle 3	2 way non-ported	Active & passive	70 Hz-20 kHz	83 dB	3.5 kHz	4.5" NRSC cone



MIDRANGE SIZE AND TYPE	TWEETER SIZE AND TYPE	MAGNETIC SHIELDING	CABINET DIMENSIONS (HxWxD)	WEIGHT (LBS.)	NOTES	PRICE (PER PAIR)
N/A	N/A	Yes	29x21.5x17.5	88	250W linear amplifier; 117dB max SPL; Full bass management system with continuously variable phase and monitor blend crossover tuning	\$1,199 ea
N/A	N/A	Yes	19.25x22.25x13.5	65	250W linear amplifier; 112dB max SPL; Full bass management system with continuously variable phase and monitor blend crossover tuning	\$799 ea
4" full range	N/A	Yes	6.5x4x5	7	Amplifier may be used independently	\$458
N/A	1" dome	Yes	13.4 x10.8x10.8	20	New 'hyperbolic parabolic' diaphragm for woofer; URD tangential diaphragm edge; push-pull damper; wide-range UFLC soft dome tweeter; time-aligned encl	\$1,199
N/A	1" dome	Yes	13.4x5x12.6	24	Biamped w/ 2 60-watt amps; adj. boost/cut filters @ 60Hz & 10kHz; 3dB attenuator at 3kHz; tweeter level adj. +/-3dB; radical HP woofer design	\$1,598
3" full-range cone in each satellite	N/A	Yes	10x11.25x 8.25 (subwoofer), 7.25x6-.56x4.69 (satellites)	14	Woofer contains 15W amp; x-over; 5W ampsx2 for satellites	\$349 (for entire system)
2 4" full-range cones	None	No	7x12x7	16.75	100-watt internal amplifier; mic and line inputs; level control; daisy-chainable and stackable, resin-impregnated plastic enclosure; numerous mounts	\$519
N/A	0.75" metal dome	Yes	10x6x7.25	12.5	XLR ins; pwr indctr; input-sens cntrls; amp/driver-prot; x-overs; EQ	\$1,080
N/A	0.75" metal dome	Yes	12.5x8x9.5	15	XLR ins; pwr indctr; input-sens cntrls; amp/driver-prot; x-overs; EQ	\$2,098
N/A	1" metal dome	Yes	15.5x10x11.5	26	XLR ins; pwr indctr; input-sens cntrls; amp/driver-prot; x-overs; EQ, avail in black (1031AP)	\$3,998
N/A	1" metal dome	Yes	19.5x12.625x11.5	44	XLR ins; pwr indctr; input-sens cntrls; amp/driver-prot; x-overs; EQ	\$4,998
5" cone	1" metal dome	Optional	26.75x15.75x15	82	XLR ins; pwr indctr; input-sens cntrls; amp/driver-prot; x-overs; EQ	\$9,498
N/A	N/A	No	20x10x9	22.5	XLR ins; pwr indctr; input-sens cntrls; amp/driver-prot; x-overs; bass roll-off EQ; for use w/1029As	\$699 ea.
N/A	N/A	Optional	24.25x12.5x20	66	XLR ins; pwr indctr; input-sens cntrls; amp/driver-prot; x-overs; L-C-R in/outs; LFE in	\$2,150 ea.
N/A	N/A	No	29x18.5x24.5	110	XLR ins; pwr indctr; input-sens cntrls; amp/driver-prot; x-overs; L-C-R in/outs; LFE in	\$3,699 ea.
4" cone	9x65 mm ribbon tweeter - Genelec design	Optional	19.5x12.625x11.5	44	24/96 kHz Digital in; XLR ins; input-sens cntrls; amp/driver-prot; x-overs; EQ	\$5,700
N/A	0.75" metal dome	Yes	10x6x7.25	12.5	S/PDIF and XLR ins; all features of 1029A	\$1325/pair
N/A	1" soft dome	Yes	15 7/16x10.25x13	35	150W + 75W trans nova amps	\$1,650
N/A	1" soft dome	Yes	13.25x8.875x11.5	25	150W + 33W trans ana amps	\$1,250
N/A	N/A	No	14.75x16x16	60	200W class G trans ana amp; XLR, RCA ins; 90/180/270 dgr phsng	\$695
N/A	N/A	No	18x19.5x19.25	96	200W class G trans ana amp; XLR, RCA ins; 90/180/270 dgr phsng	\$795
N/A	Proprietary 25mm silk dome	Yes	12.25x6.75x7	10	4th Order Butterworth Vented 2-Way	\$598
N/A	1" soft dome neodymium magnet	Yes	10.6x6.9x7.8	8.1 passive; 11 active	Active amp w/anti thump circ	\$895 active, \$449 passive

# REFERENCE MONITORS

MANUFACTURER	PRODUCT	ENCLOSURE TYPE	POWERED / UNPOWERED	FREQUENCY RESPONSE	SENSITIVITY	CROSSOVER FREQUENCY	WOOFER SIZE AND TYPE
HHB	HHB Circle 5	Ported	Active & passive	48 Hz-20 kHz	87 dB	2.6 kHz	8" polymer cone
HHB	HHB Circle Powered Sub	Twin chamber reflex	Powered	33 Hz-120 kHz	1V	5 main chans use Sallen & Key fltrs @ 120 Hz	12" double magnet
Hot House	ASB 310 Active Sub-Bass System	7th-order twin passive radiator	Powered	20 Hz-80 Hz	N/A	80 Hz	10" ultra-high excursion w/ 2x10" passive radiators
Hot House	ASB 112 Active Sub-Bass System	6th-order reflex	Powered 450WRMS MOSFET amp built-in	20 Hz-110 Hz	N/A	50-110 Hz	12" Hot House HV12
Hot House	ASB 115 Active Sub-Bass System	Sealed system	Powered-450 RMS MOSFET amp in-built	15 Hz-80 Hz	N/A	80 Hz	15" Hot House HV15 Pro
Hot House	ASB 212 Active Sub-Bass System	6th-order reflex	Powered 600WRMS MOSFET amp built-in	20 Hz-110 Hz	N/A	50-110 Hz	2xHot House HV12 Pro
Hot House	ARM 265 Active Reference Monitor	6th-order reflex, heavily braced, rear ported	Bi-amped (250WRMSx2)	30 Hz-20 kHz +/- 1/3/4 dB	Adjustable input gain +4 or -10 line level	1.5 kHz	2x6 1/2" long throw
Hot House	PRM 185 Passive Reference Monitor	Hybrid 6th-order reflex, heavily braced, rear ported	Passive	49 Hz-20 kHz +/- 1/3/4 dB	91 dB	2400 Hz	6 1/2" long throw
JBL	Control 1	Bass reflex	Unpowered	70 Hz-20 kHz (-10 dB)	87 dB	6 kHz	5 1/4"
JBL	4206	Bass reflex	Unpowered	65 Hz-20 kHz (±2 dB)	87 dB	2.8 kHz	6" woofer
JBL	4208	Bass reflex	Unpowered	60 Hz-20 kHz (±2 dB)	89 dB	2.8 kHz	8"
JBL	4408A	Bass reflex	Unpowered	50 Hz-20 kHz (±2 dB)	89 dB	2.5 kHz	8" cast frame
JBL	4410A	Bass reflex	Unpowered	45 Hz-20 kHz (±2 dB)	90 dB	900 Hz, 4 kHz	10" cast frame
JBL	4412A	Bass reflex	Unpowered	45 Hz-20 kHz (±2 dB)	89 dB	850 Hz, 4 kHz	12" cast frame
JBL	4425	Bass reflex	Unpowered	40 Hz-16 kHz (±3 dB)	91 dB	1.2 kHz	12" high-power
JBL	LSR28P	Bass reflex	Powered	50 Hz-20 kHz (+1, -1.5 dB)	89 dB	1.7 kHz	Differential drive
JBL	LSR32	Bass reflex	Unpowered	60 Hz-20 kHz (+1, -1.5 dB)	90 dB	250 Hz, 2.2 kHz	Neodymium differential drive
JBL	LSR12P	Subwoofer	Powered	28 Hz-80 Hz (-6 dB)	96 dB	85 Hz	Neodymium differential drive
JBL	LSR25P	Die-cast aluminum	Powered	70-20 kHz (+1, -2dB)	96 dB @ +4 dBu-10dBv	2.3 kHz	5.25 SFG woofer
Klein + Hummel	O198	Sealed	Triamp powered	50 Hz-20 kHz +/- 2 dB	N/A	650 Hz & 3.3 kHz	8" cone
KRK	Exposé E7	Tuned port	Powered	±2 dB 100-4 kHz ±3 dB 54-20 kHz	+6 to 30 dB	2 kHz	7" Kevlar
KRK	Exposé E8	Tuned port	Powered	+/-1 dB 100-4 kHz +/-2.5 dB 46-22 kHz	+6 to -30 dB	1.7 kHz	8" Kevlar
KRK	K-Rok/S	Tuned port	Unpowered	57 Hz-19 kHz (±3 dB)	92 dB	2.5 kHz	7" latex-coated, long stroke
KRK	M6000/S	Tuned port	Unpowered	62 Hz-20 kHz	89 dB	2.4 kHz	6" polyglass
KRK	M7000B/BS	Tuned port	Unpowered	50 Hz-20 kHz	91 dB	3 kHz	7" Kevlar
KRK	M9000B/S	Tuned port	Unpowered	45 Hz-20 kHz +/- 3 dB	92 dB	2.9 kHz	9" composite
KRK	Rokit Personal Shielded Monitor	Tuned port	Unpowered	69 Hz-24 kHz (±2 dB)	91 dB	1.5 kHz	6.5" long stroke polyvinyl
KRK	V8	Tuned port	Powered	47 Hz-23 kHz (±2 dB)	+6 to -30 dB	1.66 kHz	8" woven kevlar

WIDRANGE SIZE  
AND TYPE

TWEETER SIZE  
AND TYPE

MAGNETIC  
SHIELDING

CABINET  
DIMENSIONS  
(H/W/D)

WEIGHT (LBS.)

NOTES

PRICE  
(PER PAIR)

N/A	1" softdome with damping chamber	Yes	16.5x10x11.8	10 passive; 12.6 active	Active version. 2 chan amp Class AB	\$1,399 aglive, \$749 passive
N/A	N/A	No	18.3x16.3x16.3	47.3	Built in 5 chan active filtering	\$1,399
N/A	N/A	No	17x17x18	58	Stereo x-over w/ XLR & RCA I/O; HP outs; sens/lvl mtchng; pk SPL 118 dB	\$2,499
N/A	N/A	No	24x19x20	120	Stereo x-over w/ XLR & RCA I/O; HP/LP outs; sens/lvl mtchng; low freq cont; 180 deg phs cntrls; pk SPL 120 dB	\$3,499 ea
N/A	N/A	No	24x19x20	135	Stereo x-over w/ XLR & RCA I/O; HP outs; sens/lvl mtchng; peak spl 120dB	\$3,499 ea
N/A	N/A	No	37x17x31 (mid-field pedestal height)	185	Stereo x-over w/ XLR & RCA I/O; HP/LP outs; sens/lvl mtchng; low freq contour; 180 deg phs cntrls; pk SPL 126 dB	\$4,999 ea
N/A	1x1" recessed soft dome	N/A	25x14x12	52	Vertically aligned; adj LF/HF; pk SPL per pair 126 dB; avail in black, red, golden oak	\$6,499
N/A	1" recessed soft dome	Yes	212.5x8.5x13	25	Req 100-300W of hi qly amplification for ruler-flat mastering performance	\$1,299
N/A	0.75" polycarbonate	Yes	9.25x6.25x5.625	4	Multimedia brackets and adapters available	\$306
N/A	1" titanium	Yes	15.375x9x9.5	15	Multiradial baffle	\$388
N/A	1" titanium	Yes	17.75x11.25x9.5	20.5	Multiradial baffle	\$510
N/A	1" titanium dome	No	17.25x11.625x12	26	Mirror image pairs	\$710
5" cast frame	1" titanium dome	No	23.5x14.25x11.25	43	Mirror image pairs	\$980
5" cast frame	1" titanium dome	No	14.25x23.5x11.25	47	Mirror image pairs in horizontal configuration	\$1,470
N/A	2" compression driver on 100°x100° horn	No	25x16x14.75	57		\$2,510
N/A	1" titanium composite on waveguide	No	13x16x12.75	50	Carbon fiber composite baffle	\$2,198
5" neodymium w/2" voicecoil	1" titanium composite on waveguide	No	15.5x25x11.5	47	Carbon fiber composite baffle	\$2,198
N/A	N/A	No	15.5x25x11.5	50	Integrated bass management system	\$1,199
N/A	1" titanium composite with waveguide	Yes	10.6x 6.8x9.5	17		\$958
3" dome	1" dome	Yes	10x15x11.5	30.8	Active 3-way, w/HF waveguide; hard limiters; Max SPL 110 dB @ 1 meter	\$4,000
N/A	1" kevlar	Standard	15x13.25x12	50		\$2,995
N/A	1" kevlar	Standard	17x15.25x14.5	61		\$3,695
N/A	1" silk dome	Optional	14x12x9.75	46 (pair)		\$495 (\$645 shielded)
N/A	1" kevlar	Optional	13x9x10	36		\$775 (\$925 shielded)
N/A	1" kevlar	Optional	14.25x11x11	50		\$1,175 (\$1,325 shielded)
N/A	1" kevlar	Optional	17x14x14.25	88		\$1,995 (\$2,195 shielded)
N/A	1" silk dome	Yes	12.5x10.5x8	29 (pair)		\$329
N/A	1" silk dome	Standard	N/A	38 (pair)		\$1,249

# REFERENCE MONITORS

MANUFACTURER	PRODUCT	ENCLOSURE TYPE	POWERED/ UNPOWERED	FREQUENCY RESPONSE	SENSITIVITY	CROSSOVER FREQUENCY	WOOFER SIZE AND TYPE
KRK	V6	Tuned port	Powered	30 Hz-50 kHz, -130 Hz (vari) $\pm 2$ dB	+6 to -30 dB	80 Hz Fixed	10" woven kevlar
KRK	S10	Tuned port	Powered	30 Hz-50 kHz -130 kHz (variable) $\pm 2$ dB	+6 to -30 dB	80 kHz fixed	10" woven kevlar
KRK	V88	Tuned port	Powered	35 Hz-2 kHz ( $\pm 2$ dB)	+6 to -30 dB	1.83 kHz	8" woven kevlar
KRK	V4	Slotted port	Powered				4" coated
KRK	V4Si	Slotted port	Powered				4" woven kevlar
Mackie Designs	HR824	Sealed	Powered	39 Hz-20 kHz ( $\pm 1.5$ dB)	>120 dB 1W / 1m	2 kHz	8.75" mineral-filled polypropylene cone
Meyer Sound	HD-1	Tuned bass reflex	Powered	32 Hz-22 kHz	N/A	N/A	8" cone driver (bass reflex)
Meyer Sound	HM-1S	Tuned bass reflex	Powered	42 Hz-20 kHz	N/A	3 kHz	7" graphite cone driver
M&K Professional	MPS-2810 Subwoofer	Sealed cabinet	Powered	20 Hz-125 Hz	N/A	N/A	(2) 8"
M&K Professional	MPS-5320 Subwoofer	Sealed cabinet	Powered	20 Hz-125 Hz	N/A	N/A	(2) 12"
M&K Professional	MPS-5150 Subwoofer	Sealed cabinet	Powered	20 Hz-125 Hz	N/A	N/A	(2) 12"
M&K Professional	MPS-5410 x Subwoofer	Sealed cabinet	Powered	18 Hz-125 Hz	N/A	N/A	(2) 12"
M&K Professional	MPS-5310 Subwoofer	Sealed cabinet	Powered	20 Hz-125 Hz	N/A	N/A	(2) 12"
M&K Professional	MPS-5420 Subwoofer	Sealed cabinet	Powered	18 Hz-125 Hz	N/A	N/A	(2) 12"
M&K Professional	MPS-1525 Tripole Surround	Sealed cabinet	Unpowered	80 Hz-20 kHz	90 dB	1,800 Hz	(2) 5.25"
M&K Professional	MPS-1625 Tripole Surround	Sealed cabinet	Unpowered	80 Hz-20 kHz	90 dB	1,800 Hz	6.5"
M&K Professional	MPS-2525 Tripole Surround	Sealed cabinet	Unpowered	80 Hz-20 kHz	90 dB	1,800 Hz	(2) 5.25"
M&K Professional	MPS-1610	Sealed cabinet	Unpowered	80 Hz-20 kHz	90 dB	1,800 Hz	6.5"
M&K Professional	MPS-1510	Sealed cabinet	Unpowered	80 Hz-20 kHz	90 dB	1,800 Hz	5.25"
M&K Professional	MPS-1520 Center Channel	Sealed cabinet	Unpowered	80 Hz-20 kHz	90 dB	1,800 Hz	(2) 5.25"
M&K Professional	MPS-2575 Tripole Surround	Sealed cabinet	Unpowered	80 Hz-20 kHz	90 dB	1,800 Hz	(2) 6.5"
M&K Professional	MPS-2550	Sealed cabinet	Unpowered	77 Hz-20 kHz +/- 2 dB	90 dB	200 Hz/1,500 Hz	(2) 6.5"
M&K Professional	MPS-2510 Powered	Sealed cabinet	Powered 180W + 180W	77 Hz-20 kHz +/- 2 dB	90 dB	1.5 kHz	(2) 5.25"
M&K Professional	MPS-2510	Sealed cabinet	Unpowered	77 Hz-20 kHz +/- 2 dB	90 dB	1.5 kHz	(2) 5.25"
M&K Professional	MPS-2525P Tripole Surround Monitor	Sealed	Powered	77 Hz-20 kHz	90 dB	1,800 Hz	(2) 5.25"
M&K Professional	MPS-1625P Tripole Surround Monitor	Sealed	Powered	77 Hz-20 kHz	90 dB	1,800 Hz	6.5"
NHT Pro	M-00	2-way, sealed, cast aluminum	Powered	80 Hz-20 kHz	111 dB peak output		4.5" paper cone
NHT Pro	A-10	2-way, sealed	Dedicated outboard amplifier, 150W/ch rms/300W peak	50 Hz-20 kHz	116 dB peak output	2 kHz	6.5" paper cone

WIDRANGE SIZE  
AND TYPETWEETER SIZE  
AND TYPEMAGNETIC  
SHIELDINGCABINET  
DIMENSIONS  
(HxWxD)

WEIGHT (LBS.)

NOTES

PRICE  
(PER PAIR)

N/A	N/A	No	13 1/6x18 3/4x17	53 (pair)		\$799
N/A	N/A	No	13x18.75x17	53 (pair)		\$799
N/A	1.25" silk dome	Standard	N/A	50 (pair)		\$1,599
	1" titanium dome	Standard				\$599
	1" titanium dome	Standard				\$799
N/A	1" alumin-alloy; ferrofluid cooled coil	Yes	15.75x10x10.5	32	Rear mass-loaded passive radiator	\$1,498
N/A	1" silk dome	Optional (direct radiating)	16x12x14 (+2" for amp chassis)	51		\$5,520
N/A	1" soft-dome tweeter	Yes	11.5x8.9x9.7	11	PS-1 pwr supp (\$400); Sub-woofer (\$650)	\$2,600
N/A	N/A	Yes	14.5x17.5x12.125	41	Dual driver push-pull; hdrm maximizer; backfire dsgn	\$1,499 ea.
N/A	N/A	Yes	23.25x*5.5x19.625	82	Dual driver push-pull design; hdrm maximizer; XLR in; THX PM3 appr; backfire dsgn	\$2,100
N/A	N/A	Yes	23.25x15.5x19.625	72	Dual driver push-pull; hdrm maximizer; XLR in; THX PM3 appr	\$1,499
N/A	N/A	Yes	23.25x15.5x26	115	Dual driver push-pull design; hdrm maximizer; XLR in; THX PM3 appr	\$2,999
N/A	N/A	Yes	23.25x15.5x19.625	82	Dual driver push-pull design; hdrm maximizer; XLR in; THX PM3 appr	\$1,999
N/A	N/A	Yes	23.25x15.5x26	115	Dual driver push-pull design; hdrm maximizer; XLR in; THX PM3 appr; backfire dsgn	\$3,099
(2) 3.5"	1" soft dome	Yes	10.5x8.5x6	11	Switchable power response	\$1,250 ea
(4) 3.5"	1" soft dome	Yes	12.6x10.5x8	14	Switchable power response	\$1,550
(4) 3.5"	(3) 1" soft dome	Yes	12.5x10.5x12	26	Tripole surr mntr; switchable pwr resp	\$1,199
N/A	1" soft dome	Yes	12.6x18.4x7.5	12		\$750 ea.
N/A	1" soft dome	Yes	10.5x6.25x7.4	9		\$450 ea.
N/A	1" soft dome	Yes	5.6x6.18x8.25	17	Horizontal center channel monitor	\$599 ea.
(2) 5.25"; (2) 3.5"	(5) 1" soft dome	Yes	12.375x10.5x14	36	Tripole surr mntr; switchable pwr resp	\$1,599 ea.
(2) 5.25"	(3) 1"	Yes	12.5x10.5x14	32	Usr slotbl vertical directivity	\$1,299 ea.
N/A	(3) 1" soft dome	Yes	12.5x10.5x12	24	THX PM3 appr; usr slotbl wide/narrow vertical directivity	\$1,499 ea.
N/A	(3) 1" soft dome	Yes	12.5x10.5x12	24	THX PM3 appr; usr slotbl wide/narrow vertical directivity	\$899 ea.
(4) 3.5"	(3) 1"	Yes	12.5x10.5x14	26	Switchable power response	\$2,500
(4) 3.5"	1"	Yes	12.5x10x9	18	Switchable power response	\$2,000
N/A	1" ferrofluid cooled; soft dome	Full, including transformer	9x5.7x7.3	14	Inputs-XLR, TRS, RCA; cntrls-NF/MF, +4/-10 dBu, auto power	\$750
N/A	1" ferrofluid cooled; soft dome	Yes	12x7.5x10.75 Amp dimensions: 3.5x19x12.75 (2u)	14	XLR/TRS in; output (amp-monitors)-XLR cables; cntrls: Istnag pstn-NF/MF, wall prox-0/1, inpt sensi-10/-3/+4,+11 dBu, mute	\$1,200

# REFERENCE MONITORS

MANUFACTURER	PRODUCT	ENCLOSURE TYPE	POWERED / UNPOWERED	FREQUENCY RESPONSE	SENSITIVITY	CROSSOVER FREQUENCY	WOOFER SIZE AND TYPE
NHT Pro	A-20	2-way, sealed	Dedicated outboard amplifier, 250W/ch rms/400W peak	40 Hz-20 kHz	117 dB peak output	2 kHz	6.5" paper cone
NHT Pro	S-00	Acoustic suspension subwoofer	Powered 125W	39 Hz-90 Hz	N/A	Variable 50 Hz-90 Hz	8" long throw, treated paper
NHT Pro	C-20	Acoustic suspension	Modular, powered 250W	48 Hz-20 kHz	N/A		6.5" treated paper; shielded.
NHT Pro	B-20	(2) Air suspension subwoofers	Modular powered stereo subwoofer system	29 Hz-100 Hz	N/A	5 position variable 70, 85, 95, 105, bypass (230 Hz)	(2) 10" ultra long throw (1" linear peak-peak); treated paper
Panasonic	WS-AT80	2-way bass reflex	Unpowered	70 Hz-20 kHz	92 dB	2,000 Hz	8"
Panasonic	WS-AT200	2-way bass reflex	Unpowered	70 Hz-18 kHz	99 dB	2,400 Hz	12"
Panasonic	WS-AT-300	Bass reflex	Unpowered	70 Hz-18 kHz	99 dB (1m/1W)	2,200 Hz	15"
Paradigm Reference	Active 40	Bass reflex	Powered	38 Hz-22 kHz ( $\pm 1$ dB)	N/A	1.5 kHz	6.5" polypropylene cone
Paradigm Reference	Active 20	Bass reflex	Powered	35 Hz-22 kHz ( $\pm 1$ dB)	N/A	1.5 kHz	6.5" mica-polymer cone
Paradigm Reference	Mini Monitor	Bass reflex	Unpowered	43 Hz-20 kHz ( $\pm 2$ dB)	89 dB	1.8 kHz	6.5" injection molded copolymer polypropylene
Paradigm Reference	Monitor 3	Bass reflex	Unpowered	36 Hz-20 kHz ( $\pm 2$ dB)	89 dB	1.8 kHz	6.5" copolymer polypropylene
Paradigm Reference	Studio/20	Bass reflex	Unpowered	40 Hz-22 kHz ( $\pm 2$ dB)	89 dB	1.5 kHz	6.5" mica-polymer cone
PMC	IB-1	Transmission line	Unpowered	25 Hz-25 kHz	91 dB	380 Hz, 3.8 kHz	10" flat carbon fiber; Nomey piston driver
PMC	LB-2	Transmission line	Powered (unpowered available)	35 Hz-25 kHz	87 dB	2.5 kHz	5" 1 kW pulse; 3" voice coil
PMC	MB-1	Transmission line	Unpowered	20 Hz-25 kHz	91 dB	380 Hz, 3.8 kHz	12" radial driver
PMC	TB-2S	Transmission line	Powered (unpowered avail.)	35 Hz-25 kHz	90 dB	3 kHz	6.5" doped- cast magnesium
PMC	XB-1P Subwoofer	Transmission line	Powered (unpowered avail.)	25-200 Hz	90 dB	100 Hz	Die-cast 10" dual voice coil
Posthorn Recordings	Waveform Mach 17	Sealed	Unpowered	17 Hz-22 kHz	89 dB	120 Hz, 7.6 kHz	2x12" cone
Quested	H108	Bass reflex	Passive	55 Hz-18 kHz	90.5 dB	N/A	8" custom bass driver
Quested	VH3208	Bass reflex	Passive	45 Hz-20 kHz ( $\pm 2$ dB)	92 dB	N/A	2x8" custom bass drivers
Quested	VS2108	Bass reflex	Powered	55 Hz-19 kHz ( $\pm 2$ dB)	N/A	N/A	8" custom bass woofer
Quested	VS2205	Bass reflex	Powered	75 Hz-19 kHz	N/A	N/A	2x5" custom bass cone
Quested	UD-1	Bass reflex	Passive	45 Hz-20 kHz	92 dB	N/A	(2) 8" custom
Quested	F 11	Bass reflex	Powered	65 Hz-20 kHz ( $\pm 2$ dB)	N/A	N/A	6.5" custom
Quested	F11p	Bass reflex	Passive	65 Hz-20 kHz	84.5 dB	N/A	6.5" custom
Quested	HQ410u	Bass reflex	Passive	40 Hz-20 kHz	92.5 dB	N/A	(4) 10" custom woofers
Quested	VS3208	Bass reflex	Powered	40 Hz-20 kHz	N/A	N/A	2 X 8" custom woofers

MIDRANGE SIZE AND TYPE	TWEETER SIZE AND TYPE	MAGNETIC SHIELDING	CABINET DIMENSIONS (HxWxD)	WEIGHT (LBS.)	NOTES	PRICE (PER PAIR)
N/A	1" ferro fluid cooled; metal dome	Partial	3.5x1.9x12.75 (2u)	17	XLR/TRS in; output (amp-monitors)-XLR cables; cntrls: lslng pstr-NF/MF, wall prox-O/1, inpt sensi—10/-3/+4,+11 dBu, mute; LED readout-SPL; VAC; heat sink temp.	\$2,000
N/A	N/A	No	13.25x10.25x13	30	Optional footswitch bypass	\$750 ea.
N/A	1" aluminum dome; fluid cooled; shielded	Partial	14x8x9.375	19	Center channel complement for A-20 system	\$1,250
N/A	N/A	N/A	(2) 14x14x16 (inc. grill)	38	Includes 250W/CH control amplifier	\$2,000/system
N/A	Compression driver	N/A	16.94x11x9.56	16.5	Trapezoidal molded enclosure	\$590
N/A	Compression driver	N/A	22.69x15.5x1.81	33	Trapezoidal molded enclosure	\$1,090
N/A	Compression driver	N/A	27.94x 18.88x14.94	57.2		\$1,190
6.5" mica-polymer cone	1" pure aluminum dome	Yes	21x8x11.5	88	Biampified: 125 w/wooler pr, 50 w/tweeter	\$2,100
N/A	1" pure aluminum dome	No	14x8.25x11	70	Biampified: 110 w/wooler pr, 50 w/tweeter	\$1,700
N/A	N/A	Yes	13x3x10.875	31	Black ash, light cherry and dark cherry laminates	\$329
N/A	1" titanium dome	No	20x9.25x11.375	48	Black ash, light cherry and dark cherry laminates	\$399
N/A	1" pure aluminum dome	Yes	14x8.25x11	40	Black ash, light cherry and rosenut laminate and wood veneer	\$750
3" fabric dome	Silk soft dome with double chamber	Optional	30x13x21	65	Available in several finishes	\$4,500
N/A	Silk soft dome with double chamber	Optional	21x7x10.5	Powered: 27; unpowered: 17	Available in several finishes	\$3,660 (\$2,160 unpowered)
3" fabric dome	Silk soft dome with double chamber	Optional	34x15x21	105	Avail as fully active system (incl all electronics & cbils)	\$9,500
N/A	Aluminum alloy phase shield ferrofluid	Optional	15.75x7.5x11.75	Powered: 30; unpowered: 20	Available in several finishes	\$2,530 (\$1,025 unpowered)
N/A	N/A	No	31x17x10.5	Powered: 71; unpowered: 60	Available in several finishes	\$2,000 (\$1,250 unpowered)
5" cone	3" cone	No	24x24x43	110	Triampified	\$6,000
N/A	1.125" high frequency soft dome	Optional	15x9x9	26	Highly accurate nearfield monitor	\$1,780
3" custom midrange soft dome	1.125" high frequency soft dome	Optional	24x19x16.5	84	Highly accurate midfield	\$4,730
N/A	1.125" high frequency soft dome	Optional	16x13x13	48		\$4,680
N/A	1.125" high frequency soft dome	Yes	10x13x11	29		\$3,490
3" custom	28 mm custom	Optional	47.25x16.25x13.25	95	TRI wireable; avail in a several veneer finishes; floor standing; great for mastering and high end home theater	\$8,590
N/A	28 mm soft dome	Yes	12.5x8.5x11.25	24.5	Bass/treble bst/cut; lvi cntrl; intrgd mntng points	\$1,960
N/A	28mm	Yes	12.5x9x11.5	26	Integral mounllng points	\$1,190
3" high powered soft dome	28mm soft dome	No	36x31x20	242	Upgradeable to bi-amped or tri-amped; high powered main monitor system	\$13,170
3" soft dome	28mm soft dome	Optional	24.5x19x16.5	104	Very high resolution midfield system	\$7,400

# REFERENCE MONITORS

MANUFACTURER

PRODUCT

ENCLOSURE TYPE

POWERED/  
UNPOWERED

FREQUENCY RESPONSE

SENSITIVITY

CROSSOVER FREQUENCY

WOOFER SIZE AND TYPE

MANUFACTURER	PRODUCT	ENCLOSURE TYPE	POWERED/ UNPOWERED	FREQUENCY RESPONSE	SENSITIVITY	CROSSOVER FREQUENCY	WOOFER SIZE AND TYPE
Quested	VS1115 Subwoofer	Bass reflex	Powered	15 Hz-100 kHz	N/A	38 Hz-100 Hz	15" custom radial designed woofer
Quested	Q412d	Bass reflex	Powered (4,880 watts)	20 Hz-20 kHz	N/A	N/A	(4) custom designed radial woofers
Roland	DS-90 24-bit Digital Reference Monitor	Bass reflex	Powered	Flat, w/user-adjustable settings	0 dBm (0.775 Vrms)	2.6 kHz active 4th order	6.5" polypropylene cone
Samson	DMS80 Desktop Monitoring System		Powered w/2x40 W amp included	40 Hz-18 kHz			5 1/4"
Samson	S40 Subwoofer		Powered 50W	20 Hz-100 Hz			6.5" bass driver
Soundtech	ST5T	Ported	Unpowered	80 Hz-20 kHz	93 dB	4.5 kHz	5" polypropylene
Soundtech	ST8T	Ported	Unpowered	55 Hz-20 kHz	95 dB	3 kHz	8" impregnated paper
Studer	Active A5 Monitor (Main)	Ported	Powered	38 Hz-23 kHz	0.775V for 100 dB @1m	450 Hz, 3 kHz	250 mm
Studer	Active A1 Closefield Monitor	Ported	Powered	58 Hz-22 kHz	0.775V for 100 dB SPL @1m	3.5 kHz	142 mm
Studer	A3 Active Nearfield Monitor	Ported	Powered	43 Hz-23 kHz	0.775V for 100 dB SPL @1m	2.2 kHz	215 mm
Sumiko	Sonus Faber Concertino	Bass reflex	Unpowered	55 Hz-20 kHz ( $\pm 3$ dB)	86 dB	N/A	5.5 PP-treated cone
Sumiko	Sonus Faber Concerto	Bass reflex	Unpowered	45 Hz-20 kHz ( $\pm 3$ dB)	87 dB	N/A	7" cellulose carbonium 7 cone
Sumiko	Sonus Faber Concerto Grand Piano	Sealed	Unpowered	40 Hz-20 kHz ( $\pm 3$ dB)	87 dB	N/A	7" copper ring sys, cell carbonium 7 cone, 7" acrilate carbonium 7 cone pssv rdr
Sumiko	Sonus Faber Solo	Sealed	Unpowered	45 Hz-20 kHz ( $\pm 3$ dB)	86 dB	N/A	2x7" cellulose carbonium 7 cone
Sumiko	Vienna Acoustics Bach	Bass reflex	Unpowered	38 Hz-20 kHz ( $\pm 3$ dB)	90 dB	N/A	7" paper cone
Sumiko	Vienna Acoustics Beethoven	Bass reflex	Unpowered	30 Hz-22 kHz ( $\pm 3$ dB)	91 dB	N/A	2x5.5" XPP cone; 2x7" XPP "spider" cone
Sumiko	Vienna Acoustics Centerspeaker	Bass reflex	Unpowered	42 Hz-20 kHz ( $\pm 3$ dB)	89 dB	N/A	5.5" XPP cone
Sumiko	Vienna Acoustics Haydn	Bass reflex	Unpowered	42 Hz-20 kHz ( $\pm 3$ dB)	89 dB	N/A	5.5" XPP cone
Sumiko	Vienna Acoustics Mozart	Bass reflex	Unpowered	35 Hz-22 kHz ( $\pm 3$ dB)	90 dB	N/A	2x5.5" XPP cone
Sundholm Acoustics	Sundholm SL 6.5	Ported reflex-front panel	Unpowered	45 Hz-20 kHz +/- 2 dB	88 dB	2.5 kHz	6-1/2" polycone
Sundholm Acoustics	Sundholm SL 5.0	Ported reflex-front panel with wave guide	Unpowered	56 Hz-20 kHz +/- 3 dB; 150 Hz-20 kHz +/- 1 dB; 24Hz-28 Hz-20 kHz +/- 1 dB	87dB	3.2 kHz	5-1/4" coated paper cone - fully shielded
Sundholm Acoustics	Sundholm SL 8.0	Ported reflex-front panel	Unpowered	40 Hz-20 kHz +/- 3 dB	88 dB	2.2 kHz	8" polycone
Sundholm Acoustics	Sundholm PS/10T Powered Sub	Ported reflex-front panel	Powered 175 Watts RMS	34 Hz-100 kHz +/- 3 dB	N/A	50 Hz-100 Hz variable	10" polycone
Sundholm Acoustics	Sundholm PS/8 Powered Sub	Ported reflex-front panel	Powered 175 Watts RMS	24 Hz-100 Hz +/- 3 dB; 28 Hz-100 Hz +/- 1 dB	N/A	50 Hz-100 Hz variable	8" treated paper cone
Tannoy	System 600	Front ported	Unpowered	52 Hz-20 kHz ( $\pm 3$ dB)	90 dB	1.8 kHz	Dual concentric



MIDRANGE SIZE AND TYPE	TWEETER SIZE AND TYPE	MAGNETIC SHIELDING	CABINET DIMENSIONS (HXWD)	WEIGHT (LBS.)	NOTES	PRICE (PER PAIR)
N/A	N/A	No	21x27x27	137	Internal left, center, right summing; discrete effects channel	\$3,675 ea
3" high powered soft dome	1 1/4" soft dome	No	37x34x26.5	286	Sold only as a system including amps; electronic crossovers; installation etc.	\$39,744
N/A	1" soft dome	Yes	19.6x9x12.7	24	24-bit dgitl ins (S/PDIF) on each spkr	\$1,190
	1"	Yes				\$300
			19x8.7x11	23		\$170 per unit
N/A	1" polycarbonate	No	9.25x6.25x5.5	5.25	Avail in white (ST5TWH); mounting brackets avail	\$200
N/A	1" linen	No	15.625x10x15.8	13.2	Avail in white (ST8TWH); mounting brackets avail	\$400
142 mm	100 mm	Yes	23x12x15	66	Negative impedance and group delay compensation	\$6,990 (\$3,495 ea.)
N/A	70 mm	Yes	9x5x7	11	Negative impedance and group delay compensation	\$1,590 (\$795 ea.)
N/A	100 mm	Yes	16x10x12	28	Negative impedance and group delay compensation	\$3,790 (\$1,895 ea.)
N/A	0.75" silk dome; ferrofluid	No	12.5x8.5x11.5	16.5	Walnut finish; piano black lacquer avail (\$1,200)	\$995
N/A	0.75" silk dome; ferrofluid	Yes	13.5x8.75x14.25	24.25	Walnut finish; piano black lacquer avail (\$2,100)	\$1,850
N/A	0.75" silk dome; ferrofluid	Yes	11.5x9.5x39.5	59.5	Piano black lacquer finish	\$3,500
N/A	0.75" silk dome; ferrofluid	Yes	9.25x21.75x8.75	11	Center channel speaker	\$995
N/A	1" silk dome; ferrofluid	Yes	33.7x7.5x9.8	34		\$1,500
N/A	1" silk dome; ferrofluid	No	44x7.5x14.3	54		\$3,990
N/A	1" silk dome; ferrofluid	Yes	13.6x6.7x10.2	19	Center channel speaker	\$500
N/A	1" silk dome; ferrofluid	No	13.6x6.7x10.2	19		\$895
N/A	1" silk dome; ferrofluid	No	37x6.7x11.6	44		\$2,500
N/A	1" silk dome tweeter	No	15.5x10.5x11.6	25	Bi-wire connector; time offset correction plate; assym technology	\$795
N/A	1" aluminum dome tweeter; fully shielded	Yes	15x7.75x8	2 each	5.1 mixing system with PS/8 powered sub	\$795
N/A	1" aluminum dome tweeter	No	15.5x12.14x25	35	Bi-wire connector; time offset correction plate, Assym technology	\$995
N/A	N/A	No	29x12x15.25	55	Pair serve as speaker stand for full-range monitors	\$899 ea.
N/A	N/A	No	15.25x15.25x15.25	50	Phase reversal switch, stacking outputs ; level control	\$820 ea.
N/A	N/A	Optional	8.6x14.1x10.5	16.5		\$695

# REFERENCE MONITORS

MANUFACTURER	PRODUCT	ENCLOSURE TYPE	POWERED/UNPOWERED	FREQUENCY RESPONSE	SENSITIVITY	CROSSOVER FREQUENCY	WOOFER SIZE AND TYPE
Tannoy	System 800	Front ported	Unpowered	47 Hz-20 kHz (±3 dB)	82 dB	1.8 kHz	N/A
Tannoy	System 800A	Front ported	Powered	44 Hz-20 kHz	N/A	1600 kHz	8" Tannoy dual concentric
Tannoy	Reveal Active	Rear ported	Powered	62 Hz-20 kHz	N/A	3000 kHz	6.5" bi-laminate shielded bass driver
Tannoy	System 600A	Front ported	Powered	44 Hz-20 kHz (±3 dB)	N/A	1600 kHz	6.5" Tannoy dual concentric
Tannoy	PS110-B	Vented	Powered	31 Hz-150 kHz	N/A	Continuously variable 40 Hz-150 Hz	10" direct radiating
Tannoy	Reveal	Rear Ported	Unpowered	60 Hz-20 kHz	90 dB SPL	3000 kHz	6.5" bi-laminate shielded bass driver
Tannoy	Proto -J		Unpowered	60 Hz-20 kHz +/-3 dB	90 dB SPL / 1W rms Programme	3000 Hz	6.5" bass driver
Westlake Audio	Lc6.75	Bass reflex	Unpowered	60 Hz-18 kHz	87.5 dB @ 1M for 2.83V input	4 kHz	6 1/2" polypropylene
Westlake Audio	Lc8.1	Bass reflex	Unpowered	55 Hz-18 kHz	90.5 dB @ 1M for 2.83V input	3.6 kHz	8" polypropylene
Westlake Audio	Lc3w10	Bass reflex	Unpowered	42 Hz-20 kHz	88 dB @ 1M for 2.83V input	160 Hz, 4.5 kHz	10" polypropylene
Westlake Audio	Lc3w12	Bass reflex	Unpowered	40 Hz-18 kHz	91 dB @ 1M for 2.83V input	160 Hz, 4.5 kHz	12" polypropylene
Westlake Audio	Lc265.1	Bass reflex	Unpowered	48 Hz-18 kHz	91 dB @ 1M for 2.83V input	180 H, 4 kHz	6.5" polypropylene
Westlake Audio	BBSM-4	Bass reflex	Unpowered	65 Hz-20 kHz	89 dB @ 1M for 2.83V input	1.5 kHz	4" polypropylene
Westlake Audio	BBSM-5	Bass reflex	Unpowered	55 Hz-20 kHz ±3 dB	90 dB @ 1M for 2.83V input	1.2 kHz	5" polyglass
Westlake Audio	BBSM-10	Bass reflex	Unpowered	50 Hz-18 kHz	95 dB @ 1M for 2.83V input	600 Hz & 4 kHz	10"
Westlake Audio	BB10-SWP	Bass reflex	Unpowered	26 Hz-20 kHz w/BBSM-10	96.5 dB @ 1M for 2.83V input	68 Hz	18"
Westlake Audio	BBSM-12	Bass reflex	Unpowered	50 Hz-18 kHz	97 dB @ 1M for 2.83V input	500 Hz & 4 kHz	Dual 12"
Westlake Audio	Lc5.75	Bass reflex	Unpowered	60 Hz-18 kHz	86 dB	4.5 kHz	5"
Yamaha	MS20S	Bass reflex	Powered	70 Hz-15 kHz	88 dB	3.5 kHz	4.67" cone speaker
Yamaha	MS60S	Bass reflex	Powered	20 Hz-20 kHz	91 dB	3 kHz	8" cone speaker
Yamaha	NS10M Studio	Acoustic suspension	Unpowered	60 Hz-20 kHz	90 dB	2 kHz	7" cone
Yamaha	MSP5	Bass reflex	Powered (biamped; 40W lf, 27W hf)	50 Hz-40 kHz	101dB (1W/1M)	2.5 kHz	5" paper cone w/ rubber surround
Yamaha	MSP10/10M	2 way, bass reflex	Biampified, 120W (lf), 60W (hf)	40 Hz-40 kHz (-10dB)	-6 dB to +4 (variable)	2 kHz	8" poly w/rubber surround
Yorkville Sound	YSM-1	Bass reflex	Unpowered	40 Hz-20 kHz	90 dB	2.5 kHz	6.5" stamped, proprietary, foam surround
Yorkville Sound	YSM-2	Bass reflex	Unpowered	80 Hz-20 kHz	90 dB	2.2 kHz	5.25" stamped, proprietary, foam surround
Yorkville Sound	YSM-4	Bass reflex	Unpowered	50 Hz-18 kHz	88 dB	3 kHz	4" stamped, proprietary, foam surround, polymer

MIDRANGE SIZE AND TYPE	TWEETER SIZE AND TYPE	MAGNETIC SHIELDING	CABINET DIMENSIONS (HxWxD)	WEIGHT (LBS.)	NOTES	PRICE (PER PAIR)
8" dual concentric	N/A	Optional	10.8x17.7x10.5	23		\$495
N/A	N/A	Included	10.875x17.75x11.375	28.5		\$1,995
N/A	1" silk soft dome tweeter	Included	13.375x8.25x10.125	18.5		\$899
N/A	N/A	Included	8.62x14.125x11.375	21		\$1,595
N/A	N/A	Optional	17.5x11.5/6x16.5	33		\$499 ea.
N/A	1" silk soft dome tweeter	Yes	13.4x8.25x10.25	15.5		\$399
N/A	3/4" soft dome tweeter	N/A	13.4x8.25x10.25	24		\$229
N/A	3/4" soft dome	Optional	16x8x10.37	21.5	Electro-mech-acoustical dmpng; align sgnt path	\$1,199
N/A	1" dome	Optional	18x10x11.625	31	Electro-mech-acoustical dmpng; align sgnt path	\$1,499
5" midrange	3/4" soft dome	N/A	12.25x21.5x13.375	69	Electro-mech-acoustical dmpng; intgrtd passive x-over for sngl/bi-amp oprtn	\$2,759
6" midrange	1" dome	N/A	15x25x15.5	107	Electro-mech-acoustical dmpng; intgrtd passive x-over for sngl/bi-amp oprtn	\$3,399
5" midrange	1" dome	N/A	8.5x22x11	42	Electro-mech-acoustical dmpng; intgrtd passive x-over for sngl/bi-amp oprtn	\$1,347
N/A	0.75" dome	N/A	8x15x10	31	Electro-mech-acoustical dmpng; intgrtd passive x-over for sngl/bi-amp oprtn	\$2,250
N/A	1" soft dome	N/A	10x18x11.75	42	Electro-mech-acoustical dmpng; intgrtd passive x-over for sngl/bi-amp oprtn	\$2,699
6.5"	1.25" dome	N/A	16x30x21.75	150	Electro-mech-acoustical dmpng; intgrtd passive x-over for sngl/bi-amp oprtn	\$4,896
N/A	N/A	N/A	30x28.5x23.5	275	Electro-mech-acoustical dmpng; intgrtd passive x-over for sngl/bi-amp oprtn	\$9,850
6.5"	1.25"	N/A	19x34x23	220	Electro-mech-acoustical dmpng; intgrtd passive x-over for sngl/bi-amp oprtn	\$6,898
	3/4"	Optional	14x6.5x9	18		\$999
N/A	1.2" dome speaker	Yes	5.5x11.375x7.75	8.8	Active servo tchnlgy for ext bass rspns	\$249 each
N/A	0.75" dome tweeter with horn	Yes	17.5x10.5x9.5	22	Active servo tchnlgy for ext bass rspns	\$599 each
N/A	1.2" soft dome	No	15x8.5x7.875	13.9		\$478
N/A	1" titanium dome	Yes	11x6.625x8.75	16.5		\$598
N/A	1" titanium dome with waveguide	Yes	16.5625x10.4375x12.3125	44	MSP10; black finish/ MSP10M; high gloss maple finish	MSP10- \$1,498/ MSP10M- \$1,598
N/A	1" soft dome	Optional	16x9.5x9	18	2" forward-firing port; binding posts; available in black or white	\$280
N/A	0.75" soft dome	N/A	13x7x8	9	binding posts	\$210
N/A	0.75" Dome	N/A	9x6x6	5.5		\$158

# HEADPHONES

MANUFACTURER	MODEL	TYPE	FREQUENCY RESPONSE	SENSITIVITY (DB PER MW)	IMPEDANCE ( $\Omega$ )
AKG	K 141 M	Dynamic	20 Hz-20 kHz	98 dB	600 $\Omega$
AKG	K 240 DF	Dynamic	20 Hz-20 kHz	88 dB	600 $\Omega$
AKG	K 240 M	Dynamic	15 Hz-20 kHz	88 dB	600 $\Omega$
AKG	K 270 S	Dynamic	20 Hz-28 kHz	92 dB	75 $\Omega$
AKG	K 301	Dynamic	20 Hz-25 kHz	94 dB	100 $\Omega$
AKG	K 70	Dynamic	20 Hz-20 kHz	105 dB	100 $\Omega$
AKG	K 100	Dynamic	20 Hz-28 kHz	103 dB	100 $\Omega$
Audio-Technica	ATH-910	Closed-back dynamic	20 Hz-22 kHz	90 dB	40 $\Omega$
Audio-Technica	ATH-M40fs	Closed-back dynamic	5 Hz-28 kHz	100 dB	60 $\Omega$
beyerdynamic	DT-131	Dynamic	30 Hz-18 kHz	N/A	40 $\Omega$
beyerdynamic	DT-250	Dynamic	10 Hz-30 kHz	98 dB	80 $\Omega$
beyerdynamic	DT-770 Pro	Dynamic	5 Hz-35 kHz	N/A	600 $\Omega$
beyerdynamic	DT-990 Pro	Dynamic	5 Hz-35 kHz	N/A	600 $\Omega$
beyerdynamic	DT 231	Dynamic	20 Hz-18kHz	112 dB	32 $\Omega$
Fostex	T-20RP	Printed ribbon	50 Hz-30 kHz	96 dB	50 $\Omega$
Fostex	T-40RP	Printed ribbon	30 Hz-20 kHz	98 dB	50 $\Omega$
Fostex	T-5	Dynamic	65 Hz-20 kHz	96 dB	50 $\Omega$
Fostex	T-7	Dynamic	50 Hz-20 kHz	98 dB	50 $\Omega$
Koss	A-130	Dynamic	16 Hz-23 kHz	98 dB	60 $\Omega$
Koss	R-10	Dynamic	30 Hz-20 kHz	103 dB	60 $\Omega$
Koss	R-200	Dynamic	18 Hz-23 kHz	84 dB	60 $\Omega$
Koss	R-30	Dynamic	18 Hz-20 kHz	106 dB	60 $\Omega$
Koss	R-80	Dynamic	16 Hz-22 kHz	101 dB	60 $\Omega$
Koss	TD/61	Dynamic	25 Hz-15 kHz	93.5 dB	38 $\Omega$
Koss	TD/65	Dynamic	20 Hz-17 kHz	101 dB	90 $\Omega$
Koss	TD/80	Dynamic	20 Hz-17 kHz	98 dB	60 $\Omega$
Koss	A/250	Dynamic	16 Hz-25 kHz	98 dB	60 $\Omega$
Koss	UR30	Dynamic	18 Hz- 20 kHz	101 dB	100 $\Omega$
Koss	UR-20	Dynamic	30 Hz-20 kHz	97 dB	32 $\Omega$
Koss	Pro-4AA	Dynamic	10 Hz-25 kHz	95 dB	250 $\Omega$
Radial Engineering	MB Quart QP240	Dynamic	24 Hz-20.1 kHz	98 dB	100 $\Omega$
Radial Engineering	MB Quart QP250	Dynamic	13 Hz-20.4 kHz	98 dB	100 $\Omega$
Radial Engineering	MB Quart QP400	Dynamic	14 Hz-24.1 kHz	93 dB	300 $\Omega$
Radial Engineering	MB Quart QPH805	Dynamic	10 Hz-33.4 kHz	96 dB	300 $\Omega$
Radial Engineering	MB Quart QP160	Dynamic	30 Hz-26.4 kHz	90 dB	40 $\Omega$
Radial Engineering	MB Quart QP240	Dynamic	24 Hz-20.1 kHz	98 dB	100 $\Omega$
Roland	RH-120	Dynamic	20 Hz-20 kHz	100 dB	40 $\Omega$
Roland	RH-80	Dynamic	20 Hz-20 kHz	94 dB	40 $\Omega$
Roland	RH-25	Dynamic	20 Hz-18 kHz	118 dB	32 $\Omega$
Sennheiser	HD 25	Dynamic	16 Hz-22 kHz	120 dB	70 $\Omega$
Sennheiser	HD 25 SP	Dynamic	30 Hz-16 kHz	100 dB	85 $\Omega$
Sennheiser	HD 265	Dynamic	10 Hz-25 kHz	94 dB	150 $\Omega$
Sennheiser	HD 433	Dynamic	18 Hz-20 kHz	100 dB	32 $\Omega$
Sennheiser	EH2200	dynamic	12 Hz-22 kHz	106 dB	64 $\Omega$
Sennheiser	EW 2270	Dynamic	12 Hz-22 kHz	106 dB	64 $\Omega$
Sony	MDR-7506	Dynamic	10 Hz-20 kHz	106 dB	63 $\Omega$
Sony	MDR-7509	Dynamic, closed-ear	5 Hz-30 kHz	107dB	24 $\Omega$
Sony	MDR-7505	Dynamic, closed-ear	16 Hz-22 kHz	105 dB	24 $\Omega$
Yamaha	RH5Ma	Dynamic	20 Hz-20 kHz	98 dB	32 $\Omega$
Yorkville Sound	Apex HP 30	Dynamic	20 Hz-20 kHz	100 dB	40 $\Omega$
Yorkville Sound	Apex HP 60	Dynamic	20 Hz-20 kHz	100 dB	40 $\Omega$
Yorkville Sound	HP90	Dynamic	20 Hz-20 kHz	102 dB	50 $\Omega$

POWER-HANDLING  
CAPACITYEAR-CUP  
DESIGNEAR-CUP  
COVERING

CORD LENGTH

PRICE

200 mW	Semi-open, supraural	Leatherette	10'	\$138
200 mW	Semi-open, circumaural	Leatherette	10'	\$192
200 mW	Semi-open, circumaural	Leatherette	10'	\$173
200 mW	Sealed, circumaural	Leatherette	10'	\$330
200 mW	Open, circumaural	Leatherette	10'	\$162
200 mW	Semi-open, circumaural	Foam	6'	\$63
200 mW	Semi-open, supraural	Leatherette	10'	\$127
120 mW	Circumaural	Leatherette	9'	\$115
1,600 mW	Circumaural	Leatherette	11'	\$150
N/A	Open, supraural	Felt	10'	\$59
10 mW	Closed, circumaural	Felt	10'	\$199
100 mW	Closed	Felt	10'	\$199
100 mW	Open, diffuse	Felt	10'	\$199
N/A	Closed	Cloth-covered foam	10'	\$99
200 mW	Semi-open	Leather	8'	\$119
200 mW	Closed	Leather	8'	\$129
100 mW	Semi-open	Foam	6'	\$70
100 mW	Semi-open	Foam	6'	\$85
100 mW	Closed	Leatherette	8'	\$100
100 mW	Closed	Leatherette	8'	\$30
100 mW	Open	Cloth	8'	\$70
100 mW	Closed	Leatherette	8'	\$40
100 mW	Closed	Leatherette	8'	\$50
100 mW	Closed	Leatherette	8'	\$20
100 mW	Closed	Leatherette	8'	\$30
100 mW	Closed	Leatherette	8'	\$50
100 mW	Open	Leatherette	8'	\$150
100 mW	Closed	Leatherette	8'	\$35
100 mW	Closed	Leatherette	8'	\$25
100 mW	Closed	Leatherette	8'	\$100
100 mW	Open	Velour	10'	\$190
100 mW	Closed	Leatherette	10'	\$200
100 mW	Circumaural	Velvet	10'	\$300
100 mW	Closed	Leatherette	10'	\$90
100 mW	Semi-open	Leatherette	10'	\$90
100 mW	Open	Velour	10'	\$190
1,300 mW	Closed	Vinyl	8'	\$149
100 mW	Open	Vinyl	11.5'	\$99
100 mW	Closed	N/A	8.9'	\$15
1,000 W	Closed, supraural	Padded vinyl	10'	\$259
200 mW	Closed, supraural	Padded vinyl	10'	\$130
200 mW	Closed, circumaural	Padded vinyl	10'	\$250
100 mW	Open, supraural	Foam	10'	\$25
200 mW	Circumaural, closed-back	Padded vinyl	10'	\$130
200 mW	Circumaural, closed	Padded, vinyl	10'	\$200
1,000 W	Closed	Vinyl-covered foam	9.75'	\$170
3,000 mW	Sealed, circum-aural design	Vinyl	9'	\$250
1,000 mW	Closed-back, aura-nomic design	Vinyl	9'	\$130
N/A	Closed	Padded Vinyl	8'	\$50
200 mW	Open back	Leatherette	10'	\$30
200 mW	Semi-open back	Leatherette	10'	\$40
200 mW	Closed	Leatherette	10'	\$53

# OUTBOARD PROCESSORS

## EFFECTS — MIDI — SYNC

- 140 DYNAMICS PROCESSORS**
- 148 EFFECTS PROCESSORS**
- 156 EQUALIZERS**
- 162 MIDI INTERFACES, PATCH BAYS,  
& PROCESSORS**
- 166 SYNCHRONIZERS**

**D**espite an onslaught of audio plug-in software the past three years, there are more hardware processors to outfit your alchemist's workbench than ever before. Dynamics processors, effects units, and equalizers are listed in the Outboard Processors section, along with specialized processors that fill the aural gaps. Check out the Special Features column for a closer look at the unusual capabilities some of these units supply. We've also supplied a complete list of MIDI interfaces, patch bays, and processors, followed by a wealth of information on synchronizers.

Dynamics Processors is a broad category that includes four types of devices that modify the dynamic range of audio signals: expanders, compressors, limiters, and gates. The controls in these devices vary, depending on the type of device and the degree to which the manufacturer has simplified the controls for ease of use. The parameter ranges for these controls are listed, as is information about metering, gain, bypass, input/output, sidechain, and other features.

The Effects Processors chart provides information on I/O configuration, A/D/A converters, MIDI implementation, and the types of effects included. This year's equalizer roundup includes graphic, parametric, quasi-parametric, semi-parametric, and multi-graphic units. Both analog and digital EQ models are listed. Be sure to check out whether a particular unit's Q bandwidth settings are fixed or sweepable.

The MIDI Interfaces, Patch Bays & Processors chart includes several devices that provide all three functions. Some units permit SMPTE vertical time code (VTC) burn-in, and many of them generate and read SMPTE linear time code (LTC) and MIDI Time Code (MTC).

Rounding out our MIDI section is the Synchronizers chart with information on SMPTE time code type, word clock options, and a host of special features. Make sure the unit you're interested in reads LTC if you're locking to an analog audio tape deck, and opt for VTC if you plan to synchronize your audio recorder to a video machine.

Because of the spiraling growth of digital mixers, digital tape decks, and digital audio workstations that have at least some onboard sync features, word clock and ADAT sync are increasingly important. In contrast, as fewer people rely on analog tape decks, LTC's importance is decreasing. Be sure you know exactly what devices you will want to synchronize—now and in the foreseeable future—before you choose a synchronizer.

# IF YOU PLAY MUSIC,

Click Here!



musiciansfriend.com<sup>®</sup>



**FREE**  
Weekly Gear Giveaways!

**FREE**  
Weekly Newsletter!

**FREE**  
Product Reviews!

**SECURE**  
On-line Ordering!

**SAVE**



On a Huge Selection of Top-Name Gear!

 **Musician's Friend**

Ask for your **FREE** catalog online or by calling **1-800-776-5173** today  
and giving this code: 260-0005

# DYNAMICS PROCESSORS

MANUFACTURER	MODEL	TYPE	THRESHOLD	RATIO	ATTACK TIMES	RELEASE TIMES	GAIN CONTROL
Alesis	3630 Compressor	Compressor/limiter/gate	-40 to +20 dB	1:1 to infinity:1	Auto or man (0.1 to 200 ms)	Auto or man (50 ms to 3 sec)	Output
Alesis	NanoCompressor	Compressor/limiter	-40 to +8 dB	1:1 to infinity:1	Auto or man (0.1 to 200 ms)	Auto or man (50 ms to 3 sec)	Output
Amek	Dual Compressor/Limiter	Compressor/Limiter	-30 dB to +12 dB	1.2:1 to 16:1	0.3 ms to 300 ms	0.1 sec to 10 sec	Output
Anthony DeMaria Labs	1000	Compressor/limiter	Fixed	3:1 to 12:1	Auto (10 $\mu$ s)	Auto (0.07 sec)	Input
Anthony DeMaria Labs	1500	Compressor/limiter	Fixed	3:1 to 12:1	Auto (10 $\mu$ s)	Auto (0.07 sec)	Input
Aphex Systems	105	Logic-assisted noise gate	-50 to +20 dB	infinity:1	Manual (200 $\mu$ s to 250 ms)	Manual (150 ms to 4 sec)	No
Aphex Systems	108 Easyrider	2-channel compressor	Fixed	1:1 to 5:1 (prog dep)	Auto	Auto w/2 sel. ranges	Input/output
Aphex Systems	320A Compressor	Compressor/leveler/limiter	Fixed	Comp: 1:1-3:1; lim: inf.: 1	Auto (1 $\mu$ s to 2.5 sec)	Auto w/2 sel. ranges	Output
Aphex Systems	622 Expander/Gate	Expander/gate	-50 to +20 dB	Gate: infinity:1; exp: 1.2:1-10:1	Manual (10 $\mu$ s to 100 $\mu$ s)	Manual (40 ms to 5 sec)	None
Aphex Systems	661 Expressor	Tube compressor	-30 to +20 dB	1.1:1 to 30:1 (manual); no-knee (auto)	Auto or manual (0.05 to 100 ms)	Auto or manual (40 ms to 4 sec)	Input/output
Aphex Systems	720 Dominator II	Peak limiter	-9 to +25 dB	infinity:1	Auto	Auto and manual	Input
API	API 525	Single channel compressor	Variable: infinity to 0 VU	2:1 or 20:1	15 ms	0.1 to 2.5 sec	Yes
A.R.T.	Tube Compressor	Tube compressor	-40 to +10 dB	Comp: 2.3:1; lim: 6:1	Auto/fast	Auto/fast	Output
A.R.T.	Dual Leveler	Tube compressor	-40 to +10 dB	Comp: 2.3:1; lim: 6:1	Auto/fast	Auto/fast	Output
A.R.T.	Pro VLA	Tube compressor	-20 to +15 dB	2:1 to infinity:1	Fast/slow	Fast/slow	Output
A.R.T.	Tube PAC	Tube preamp/compressor	-20 to +20 dB	Comp: 2.3:1; lim: 6:1	Auto/fast	Auto/fast	Input/output
Ashly Audio	CLX 51	Compressor/limiter	-40 to +22 dBu	2:1 to infinity:1	Manual (200 $\mu$ s to 20 ms)	Manual (100 ms to 3 sec)	Input/output
Ashly Audio	CLX 52	Dual-channel compressor/limiter	-40 to +22 dBu	2:1 to infinity:1	Manual (200 $\mu$ s to 20 ms)	Manual (100 ms to 3 sec)	Input/output
Avalon Design	AD2044	Class A opto-compressor	-24 dB to +20 dB	1:1 to 20:1	0.5 ms to 150 ms (manual)	8 ms to 5 sec for 1 dB release	Output
Avalon Design	VT-747SP	Class A opto-compressor	-30 dB to +20 dB	1:1 to 20:1	2 ms to 200 ms	10 ms to 5 sec.	Make-up/ output control
BBE	882 Sonic Maximizer	Audio enhancer	N/A	N/A	N/A	N/A	N/A
BBE	482 Sonic Maximizer	Audio enhancer	N/A	N/A	N/A	N/A	N/A
BBE	362 Sonic Maximizer	Audio enhancer	N/A	N/A	N/A	N/A	N/A
BBE	362NR Sonic Maximizer	Audio enhancer	N/A	N/A	N/A	N/A	N/A
BBE	362SW Sonic Maximizer	Audio enhancer	N/A	N/A	N/A	N/A	N/A
Behringer	Composer Pro MDX2200	2-channel compressor/ limiter/expander/gate	-40 dB to +20 dB	Variable (1:1 to >:1)	Variable (1 msec to 150 msec)	Variable (0.05 ms / 20 dB to 5s / 20 dB)	No
Behringer	Autocom Pro MDX1400	2-channel compressor/ limiter/expander/enhancer/gate	(Comp.) -40 to +20 dB (exp./gate) off to +10 dB	(Exp./gate) 1:1-1:8; (comp.) 1:1->1:8	Compressor: auto; 15 ms; 5 ms; 3 ms	Compressor: auto; program-dependent	Yes
Behringer	Multicom Pro MDX4400	4-channel compressor/limiter	-40 dB to +20 dB	Variable (1:1 to >:1)	15 ms at 10 dB, 5 ms at 20 dB, 3ms at 30 dB	Program-dependent, typ. 125 dB	Interactive gain control
Behringer	Multigate Pro XR4400	4-channel expander/gate	Bypass to +10 dBu	Variable (1:1 to 1:4)	Program-dependent	Variable (50 ms to 4 sec)	Gain reduction display
Behringer	Intelligate XR2000	2-channel class-A expander/gate/ ducker	-50 dBu to +20 dBu	Variable (1.2:1 to 30:1)	Variable (3 us to 90 ms)	Variable (10 ms to 2 seconds)	No
Behringer	Multigate Pro XR4400	Interactive frequency- conscious 4-channel	Bypass to +10 dBu	Variable (1:1 to 1:4)	Program-dependent	Variable (50 ms to 4 sec)	No
Behringer	Dualflex Pro EX2200	Multiband spatial sound enhancement processor	N/A	N/A	N/A	N/A	N/A
Behringer	Ultraflex ProPRO EX3200	Multiband spatial sound enhancement processor	N/A	N/A	N/A	N/A	N/A
Behringer	Ultra-Dyne Pro DSP9024	6-band dynamic processor	-70 to 0 dB	1:1 to INF (90):1	0 - 255 ms	50 - 5000ms	-24 to +24 dB
Behringer	Ultramizer Pro DSP1400P	2-band compressor/ leveler/loudness ultramizer	-48 to 0 dB	Density 0 - 100	Speed 0 - 100	Speed 0 - 100	-10 dBV/ +4 dB switch
Behringer	Multiband Denoiser SNR2000	2-channel single-ended noise reduction system	Variable (-40 to +40 dBu)	Variable (1:1 to 1:6)	N/A	variable (0.06 to 1.2 seconds)	No
Behringer	Super-X CX2300	Stereo/3-way mono crossover & xband limiters	-6 dBu to +18 dBu	N/A	N/A	N/A	Variable - 12 dB to +12 dB



BYPASS SWITCH	# OF CHANNELS/ STEREO LINK	METER TYPE	MAIN I/O	SIDECHAIN I/O	DIMENSIONS	SPECIAL FEATURES	PRICE
Yes	2/Yes	12-seg LED	1/4"	1/4" TRS	19x1.7x4.5	Hard/soft knee; peak/RMS compression	\$199
Yes	2/Yes	6-seg LED	1/4"	1/4" TRS	5.5x1.75x4.5	Hard/soft knee; peak/RMS compression	\$119
Yes	2/Yes	VU	XLR	Yes	19x12x3.5	Ambience; hard knee	\$2,949
No	1/No	VU	XLR	No	19x3.5x8	All tube architecture	\$1,699
No	2/Yes	VU	XLR	No	19x3.5x9	All tube architecture	\$2,999
No	4/No	LED	1/4" TRS	External key input	19x1.7x5.2	Logic assist; uses VCA 1001	\$449
Yes	2/Yes	LED	1/4" TRS	No	19x1.75x5.2	Waveform-dependent compression	\$299
Yes	2/Yes	LED	XLR	No	19x1.75x10	Frequency-dependent leveler	\$1,350
Yes	2/Yes	LED	XLR	1/4"	19x1.75x9	Logic assist	\$795
Yes	1/No	LED	XLR; 1/4"	1/4"	19x1.75x10.125	Auto-compression mode; hi-freq expander	\$749
Yes	2/Yes	LED	XLR	No	19x1.75x10	Brickwall limiter; 3-band auto limit threshold	\$1,350
Yes	1/No	VU miniature GR meter	XLR when in API frame	No	N/A	Re-issue of early 70's API compressor	\$1,295
Yes	1/No	LED	XLR; 1/4"	No	5.375x2.0x5.25	Vactrol electro-optical tube compression	\$139
Yes	2/Yes	LED	XLR; 1/4"	No	19x1.75x6.5	Vactrol electro-optical tube compression	\$349
Yes	2/Yes	LED, VU	XLR, 1/4" TRS	No	19x3.5x6.5	Vactrol electro-optical tube compression	\$649
Yes	1/No	LED	XLR; 1/4"	No	8.5x1.65x5.25	Phantom power; +20 dB gain; phase control	\$279
Yes	1/No	11-seg LED	XLR; 1/4"	1/4"	19x1.75x6	Infinite soft knee & timing based on comp. ratio	\$379
Yes	2/Yes	11-seg LED	XLR; 1/4"	1/4"	19x1.75x6	Infinite soft knee & timing based on comp. ratio	\$539
Yes	2/Yes	VU-output & GR, GR LED	XLR	XLR	19x12x3.5	Opto compression with time control; 2u rack mount	\$3,000
Yes	Yes	VU; (2) 20-seg LED	XLR	Yes	19x12x3.5	6-band graphic EQ; tube bypass	\$2,495
Yes	2/No	5-seg LED per chan	1/4" TRS; XLR	N/A	1U rack spc	Uses BBE process; hard-wire bypass	\$599
Yes	2/No	5-seg LED per chan	1/4" unbalanced; RCA	N/A	1U rack spc	Uses BBE process; hard-wire bypass	\$349
Yes	2/Yes	1 LED clip per chan	1/4"	N/A	1U rack spc	Uses BBE process	\$259
Yes	2/Yes	1 LED clip per chan	1/4"; RCA	N/A	1U rack spc	Uses BBE process; noise reduction	\$349
Yes	2/Yes	5-seg LED per chan	1/4"; RCA	N/A	1U rack spc	Uses BBE process; subwoofer filter	\$349
Yes	2/No	12 LEDs	XLR; phone	Yes	19x1.75x8.5	2-channel expander/gate/compressor/limiter	\$179
Yes	2/Yes	12 LEDs	XLR; phone	Yes	19x1.75x8.5	Link function; high-pass filter in sidechain	\$149
Yes	4/Yes	17 LED's per channel	XLR; phone	No	19x1.75x8.5	High-pass filter in sidechain; auto compressor	\$199
No	4/No	Traffic light display	XLR; phone	Yes	19x1.75x8.5	4 expander/gate circuits	\$229
Yes	2/Yes	Traffic light display	XLR; phone	Yes	19x1.75x8.5	Integrated high-pass filters	\$199
No	4/No	Traffic light display	XLR; phone	Yes	19x1.75x8.5	4 expander/gate circuits	\$199
Yes	2/No	N/A	RCA; 1/4"	N/A	19x1.75x8.5		\$99
Yes	N/A	N/A	XLR; 1/4"	N/A	19x1.25x8.5	Automatic noise reduction; bass processor	\$139
Yes	2/Yes	digital RMS and peak	Balanced 1/4" and XLR	No	19x3.5x12	MIDI-controllable; optional AES/EBU con.	\$579
Yes	2/Yes	8-segment LEDs	Balanced 1/4" and XLR	N/A	19x1.75x7.5	Includes PC remote control software	\$229
Yes	2/Yes	2x8 LED gain reduction/ 2x8 filter bandwidth	1/4"; XLR	No	19x1.75x8.5	Multiband frequency analysis; dynamic TAC	\$229
N/A	N/A	N/A	Servo balanced in; electronically balanced outs	N/A	19x1.75x8.5	Adjustable delay for runtime/phase inversion	\$229

# DYNAMICS PROCESSORS

MANUFACTURER	MODEL	TYPE	THRESHOLD	RATIO	ATTACK TIMES	RELEASE TIMES	GAIN CONTROL
Bellari	RP583	Tube compressor/limiter	-20 to +20 dB	2:1 to infinity:1	Manual (0.5 to 100 ms)	Manual (1 to 2 sec)	Output
Bellari	LA120	Tube compressor/limiter	-20 to +20 dB	Switchable 2:1; 10:1	Program dependent	Program dependent	Output
BSS Audio	DPR402	Compressor/de-esser/limiter	-30 to +20 dBu	1:1 to infinity:1	Manual (50 $\mu$ s to 80 ms)	Auto or manual (5 ms to 5 sec)	Output
BSS Audio	DPR404	Quad compressor	-30 to +20 dBu	1:1 to infinity:1	Auto	Auto	No
BSS Audio	DPR422	Dual compressor/de-esser	-30 to +20 dB	1:1 to infinity:1	Auto or manual (50 $\mu$ s to 400 ms)	Auto or manual (5 ms to 5 sec)	Output
BSS Audio	DPR504	Quad gate	-50 to +20 dBu	N/A	Auto (20 $\mu$ s or 40 $\mu$ s to 5 ms) program dependent	Manual (1 ms to 3 sec)	No
BSS Audio	DPR522	Dual gate	-60 to +15 dB	N/A	Manual (20 $\mu$ s to 1.5 sec)	Manual (1 ms to 3 sec)	No
BSS Audio	DPR901II	Dynamic equalizer	-30 to +20 dBu	N/A	Auto	Auto	No
BSS Audio	DPR944	Gate/compressor	Gate: -50 to +20 dB; comp: -30 to +20 dB	1:1 to infinity: 1 comp. only	Auto	Auto	Output
Crane Song	STC-8 Class A Compressor Limiter	Compressor/limiter	Auto	1:1 to 1:20	0.1 to 150 ms	Auto (40 ms to 10 sec)	Output
Crane Song	Trakker	Discrete Class A, single channel compressor/limiter	-40 to +24 dB	1.1:1 to 20:1	Manual 0.05 ms to 200 ms	Auto 40 ms to 10 ms	Output
Crate	SM4-CL	Compressor/limiter	-20 dBu to +20 dBu	5-position switch: 2:1, 4:1, 8:1, 12:1, 20:1	20 us-1.1s, adjustable for 100% recovery	50 us-1.1s, adjustable for 63% recovery	Yes
dbx	160A	Compressor	-40 to +20 dBu	1:1 to -1:1	Auto	Auto	Output
dbx	160SL	Compressor/limiter	-40 to +10 dBu	1:1 to infinity:1	Auto or manual	Auto or manual	Output
dbx	165A	Compressor	-40 to +10 dB	1:1 to infinity:1	Auto or manual	Auto or manual	Output
dbx	166XL	Compressor/limiter	Comp: -40 to +20 dBu; lim: 0 to +20 dBu	1:1 to infinity:1	Auto	Auto	Output
dbx	262	Compressor/limiter	-40 to +20 dBu	1:1 to -1:1	Auto	Auto	Output
dbx	266XL	Compressor/expander/gate	-40 to +20 dB; exp: -60 to +10 dB	1:1 to infinity:1	Auto or manual	Auto or manual	Output
dbx	1046	Quad compressor/limiter	-40 to +20 dBu	1:1 to infinity:1	Auto	Auto	Output
dbx	1066	Compressor/limiter/expander/gate	Exp. gate: 0 to +15 dBu; comp: -40 to +20 dBu; lim: 0 to +24 dBu	Expander/gate: 1:1 to 30:1; compressor: 1:1 to $\infty$ :1	Auto or man (0.05-100 ms)	Auto or man (0.05 ms-5 sec)	Output
Demeter	H CL-1 Mono Tube Optical Compressor	Compressor/limiter	-30 to +20 dBu	Optical/soft knee 2:1 to 30:1	1-200 ms	100 ms to 5 sec	Yes
Demeter	VTCL-2a Stereo Tube Optical Compressor Limiter	Compressor/limiter	-30 to +20 dBu	Optical/soft knee 2:1 to 30:1	1-200 ms	100 ms-5 sec	Yes
Demeter	VTCL-2ax Stereo Tube Optical Compressor Limiter	Compressor/limiter	-30 to +20 dBu	Optical/soft knee 2:1 to 30:1	1-200 ms	100 ms-5 sec	Yes
DOD	SR866	Gated compressor/limiter	-40 to +20 dBu	1:1 to infinity:1	Manual (0.1 to 100 ms)	Manual (50 ms to 2.5 sec)	Input/output
Drawmer	DL241/DL241XLR	Dual gated compressor/limiter	Comp: -40 to +20 dB; exp/gate: -70 to +20 dB; lim: 0 to +18 dB	1.2:1 to infinity:1	Auto or manual (0.5 to 100 ms)	Auto or manual (0.05 to 5 sec)	Input/output
Drawmer	DL251	Dual-channel; spectral compressor	Comp: -40 to +20 dB; lim: 0 to +18 dB	1.2:1 to infinity:1	Auto or manual (0.5 to 100 ms)	Auto or manual (0.05 to 5 sec)	Input/output
Drawmer	DL441	Quad compressor/limiter	Comp: -40 to +20 dB; lim: 0 to +18 dB	1.2:1 to infinity:1	Auto (0.5 to 100 ms)	Auto (0.05 to 4 sec)	Input/output
Drawmer	DS201	Dual frequency conscious noise gate	-54 to +infinity dB	N/A	Manual (10 $\mu$ s to 1 sec)	Manual (2 ms to 4 sec)	No
Drawmer	DS404	Quad noise gate	-70 dB to +20 dB	N/A	Auto	Combines hold and decay 10 ms to 5 sec	No
Drawmer	MX30	Dual gated/auto compressor/limiter	Comp: -40 to +20 dB; exp/gt: -70 to +20 dB; lim: 0 to +18 dB	1.2:1 to infinity:1	Auto or man (0.5 ms to 100 ms)	Auto (0.05 to 4 sec)	Output
Drawmer	MX40	4 channel tuneable gate + peak punch	-60 to +20 dB	N/A	10 $\mu$ s	10 ms to 4 sec	No

BYPASS SWITCH	# OF CHANNELS/ STEREO LINK	METER TYPE	MAIN I/O	SIDECHAIN I/O	DIMENSIONS	SPECIAL FEATURES	PRICE
Yes	2/Yes	VU	XLR; 1/4"	1/4"	19x3.5x6		\$650
Yes	1/No	VU	XLR; 1/4"	N/A	7.6x1.6x5.4		\$160
Yes	2/Yes	5/9/12-seg LED	XLR	Barrier strip	19x1.75x9	Variable knee w/comp. ratio; sidechain mon.	\$1,599
Yes	4/Yes	15/8-seg LED	XLR	1/4"	19x1.75x11	Variable HF de-essing; progressive knee	\$1,449
Yes	2/Yes	5/6-seg LED	XLR	1/4"	19x1.75x8	Progressive knee; de-esser	\$899
Yes	4/Yes	12-seg LED	XLR	1/4" TRS	19x1.75x11	External key-source facility; sidechain filter	\$1,449
Yes	2/Yes	3/9-seg LED	XLR	1/4"	19x1.75x8	Automatic dynamics enhancement	\$799
Yes	2/Yes	10-seg LED	XLR	No	19x1.75x9	Shelving EQ; 1 & 2 chan split; filter width control	\$1,549
Yes	4/Yes	12-seg LED	XLR	1/4" TRS (gate only)	19x1.75x7.1		\$899
Yes	2/Yes	16-seg LED	XLR	DB15	19x3.5x12	Soft knee; dual sidechain	\$3,400
Yes	1/No	23-seg LED	XLR	DB-9	1	Clean, vintage, clean/vintage VCA features	\$1,950
Yes	2/Yes	10-seg LED	Balanced 1/4"	N/A	1.6 x5.6x 5.5	Switchable level meters displays; 1/3rd Rack Unit	\$200
Yes	1/No	LED	XLR; 1/4"	1/4" TRS	1U	Switchable hard/soft/OverEasy compression	\$460
Yes	2/Yes	VU	XLR; 1/4" TRS	XLR; 1/4" TRS	2U	Optional simul. 24-bit AES/EBU, S/PDIF oper.	\$2,800
Yes	1/No	VU	Barrier strip	No	2U	Peak stop limiter w/ -2 to +24 dB threshold	\$1,800
Yes	2/Yes	19-seg LED	XLR; 1/4" TRS	1/4" TRS	1U	Switchable hard knee/OverEasy compression; expander	\$330
Yes	2/Yes	LED	1/4" TRS	No	1U	Switchable hard knee; OverEasy compression	\$160
Yes	2/Yes	LED	XLR; 1/4" TRS	1/4" TRS	1U	Switchable hard knee; OverEasy compression	\$250
Yes	4/Yes	LED	XLR; 1/4" TRS	No	1U	Switchable hard knee; OverEasy compression	\$650
Yes	2/Yes	LED	XLR; 1/4" TRS	1/4" TRS	1U	Sidechain monitor; OverEasy compression	\$550
N/A	1/Yes	10 seg LED VU/ovrid LED	XLR; TRS 1/4"	XLR; TRS 1/4"	19x1.75x13	H series tube hybrid; variable attack/release	\$1,149
N/A	2/Yes	Analog VU/ovrid 3-seg LED	XLR; TT; 1/4"	No	19x3.5x12	All tube; adjustable input sensitivity	\$2,499
N/A	2/Yes	Analog VU/ovrid 3-seg LED	XLR; TT; 1/4"	No	19x3.5x12	Jensen transformers; all tube; variable attack/release	\$2,499
Yes	2/Yes	LED	1/4" TRS; RCA	1/4"	19x1.75x9	Soft knee	\$240
Yes	2/Yes	8-seg LED	1/4"; (DL241); XLR (DL241XLR)	No	19x1.75x7	Program adaptive expander/gate; peak limiter	\$725-\$775
Yes	2/Yes	10-seg LED out; 9-seg GR LED	XLR	1/4" TRS	19x1.75x7	Variable dynamic spectral enhancement	\$1,099
Yes	4/Yes	5-seg output LED; 8-seg GR LED	XLR	No	19x1.75x7	Zero response time peak limiter	\$1,199
Yes	2/Yes	3-seg LEDs	XLR	1/4"; key input	19x1.75x7	Freq-sensitive gate w/HP & LP filters	\$775
Yes	4/Yes	3-seg LED per channel	XLR	1/4"; key input	19x1.75x7	Hard/soft gate w/ downward expansion	\$1,125
Yes	2/Yes	8-seg LED comp out; 9-seg GR LED; 2-seg LED gate on/off	XLR; 1/4"	No	19x1.75x7	Program-adaptive expander/gate	\$499
Yes	4/Yes	3-seg LEDs	XLR	1/4"; key input	19x1.75x7	Trigger stabilization; peak punch	\$699

# DYNAMICS PROCESSORS

MANUFACTURER	MODEL	TYPE	THRESHOLD	RATIO	ATTACK TIMES	RELEASE TIMES	GAIN CONTROL
Drawmer	1960	Dual channel tube compressor/tube preamp	infinity to -24 dB	1.1:1 to 30:1	Man or auto (0.5 ms to 20 ms)	Man or auto (400 ms to 20 sec)	Input/output
Drawmer	MX50	Dual channel de-esser	Auto	Auto	Auto	Auto	De-ess frequer
Drawmer	DC 2476	Digital mastering processor	-60 dB to 0 dB full scale digital	1:1 to infinity	Instant to 100 ms	50 mS to 5 sec	+24 dB to - 24
Empirical Labs	EL-8 Distressor	Compressor/limiter	Varies with input level	1:1 to infinity:1	Manual (<40 µs to 50 ms)	Manual (0.05 to 3.5 sec)	Input/output
Focusrite	Red 3 Dual Compressor/Limiter	Compressor/Limiter	Comp: -24 dB to 12 dB; Lim: 0 to 18 dB	Variable 1.5:1 to 10:1	Variable 300 µs to 90 ms	Variable 100 ms to 4 sec	Output
Focusrite	Platinum 3 ComPounder	Dual mono/comp/exp/noise/limit	Comp: -24 dB to 12 dB; Lim: 12 dBu to 26 dBu	Variable 1.3:1 to infinity; soft/hard knee switchable	Variable 100 µs to 100 ms	Variable 100 ms to 4 sec	Yes
Focusrite	Platinum 4 MixMaster	Multiband compressor/expander/limiter/equalizer/stereo imager	Comp: -20 dB to 10 dB	Variable 1.3:1 to 5:1	Auto	200 ms to 1.6 sec	Yes
Furman	LC-6 Stereo Compressor/Gate	Compressor/noise gate	Compressor: -20 to +20 dB; gate: infinity to +20 dB	1.4:1 to >50:1	Comp (100 µs-1 sec); gate: preset (1 ms)	Comp (0.05-5 sec); gate: preset (250 ms)	Input/output
Galaxy Audio / Valley Audio	Valley 401	Microphone processor	-40 to +20 dB	Compression ratio fixed 20:1	Expander attack & gate attack: 100 µs compression attack 1-15 ms	Compression, expander release: both program dependent, 25 sec/20 dB; gate release (program dependent) 1 sec, 20 dB	Mic preamp vari +20 to +60 dB Output -15 to +1
Galaxy Audio / Valley Audio	Valley 451	4-channel expander/gate	-40 to +20 dB	N/A	Gate/exp: 10 µs; exp 2: 5 ms-25 ms	0.5 s to 5 s/20 dB	No
Galaxy Audio / Valley Audio	Valley Model 730LT	Digital dynamics processor	Multi-threshold	Multi-ratio	Programmable	Adjustable from 24 ms to 8.53s	0 dB to +18 dB in .5dB steps
Galaxy Audio / Valley Audio	Valley Model 433 Dynamite 3	2-channel compressor/ limiter expander/gate	Comp -40 to +20 dB; exp -40 to +20dB; lim 0 to +20dB	Switchable 3:1,6:1,20:1	Comp/exp program dependent @ 1-10 ms	Expander/compressor 0.05 sec to 5 sec	Output gain € -15 to +15 dB
HHB	Radius 30	Compressor/expander/limiter	-20 to +20	11:5 to 1:30	0.5 ms to 20 ms, auto	40 ms to 2 sec, auto	Gain make-up
JBL	M644	4-channel noise gate	-60 to +20 dBu	N/A	Manual (50 µs to 25 ms)	Manual (50 ms to 5 sec)	Output
JBL	M712 Two Channel Gating Compressor/Limiter	Compressor/limiter	-60 to +20 dBu	1:1 to 165:1	Comp: man (1 to 100 ms); gate: auto (470 µs)	Comp: man (100 ms to 1.5 sec); gate: auto (95 ms)	Output
Joemeek	SC-2	Compressor	Varies	4.5:1 to 7:1	Manual (1.5 to 10 ms)	Manual	Input/output
Joemeek	C2	Stereo photo optical compressor	-40 to +20 dB	1:1 to 10:1	1 ms to 11 ms	250 ms to 5 sec	Output
Joemeek	SC-4	Stereo photo optical compressor	-40 to +20 dB	2:1 to 10:1	0.5 to 11 ms	250 ms to 5 sec	Output
Joemeek	SC2.2	Photo - optical compression	Varies	2:1 to 10:1	Variable between .5 and 10 ms	Variable	Input
Klark-Teknik	DN500	Dual compressor/ limiter/expander	Comp: -30 to +20 dB; exp: -40 to +20 dB; lim: 0 to +20 dB	Comp: 1:1 to 50:1; exp: 1:1 to 25:1	Comp: auto or man (50 µs-20 ms); exp: auto or man	Comp: auto/man (60 µs-2 sec); exp: auto/man (40 ms-2 sec)	-10 dB to +30
Klark-Teknik	DN504	Quad compressor/limiter	-30 to +20 dBu	1:1 to 50:1	Auto or man (50 µs to 20 ms)	Auto or man (60 ms to 2 sec)	-10 dB to +30
Klark-Teknik	DN514	Quad auto gate	-40 to +20 dBu	N/A	Prog dep, semi-automatic exp: auto/man (40 ms-2 sec)	Man (40 ms to 2 sec) including hold	No
LA Audio	GCX2	Dual compressor/gate	-50 to +20 dB	1:1 to 20:1	Prog dep: 5-70 ms (fast), up to 3 sec (slow)	Prog dep: up to 1 sec (fast) and up to 3 sec (slow)	-16 dB to +20
LA Audio	TCX2	Dual compressor/gate	-30 to +20 dB	1:1 to 20:1	Auto or man (0.1 to 100 ms)	Auto or man (0.04 to 4 sec)	Gain make-up +;
LA Audio	BCL2	Dual compressor/limiter	-40 to +20 dB	1:1 to 20:1	Peak: (1 to 70 ms); RMS: prog dep	Peak: 100 ms-3 sec; RMS prog. dep.	-20 to +20 dB
LA Audio	FGC2	Dual split band compressor and frequency selective gate	-40 to +20 dB	1:1 to 20:1	Fast = 1 ms; slow = 20 ms	40 ms to 4 sec	-6 to +20 dB
Langevin	Langevin Electro- Optical L	Stereo limiter	Up to 22 dB gain reduction	10:1	10 ms or 6 dB	2.5 ms or 6 dB	Output/gain redu

BYPASS SWITCH	# OF CHANNELS/ STEREO LINK	METER TYPE	MAIN I/O	SIDECHAIN I/O	DIMENSIONS	SPECIAL FEATURES	PRICE
Yes	2/Yes	VU meter each channel	XLR	Yes	19x3.5x7	Tube comp w/tube-based VCA; inst. preamp	\$2,549
Yes	2/Yes	9-LED on each channel	XLR	No	19x1.75x9	Up to -20 dB split/full band de-essing	\$599
Yes	2/Yes	LED bar graphs	Digital AES/EBU and SPDIF; analog XLR balanced	No	1U rack space	24-bit/96 kHz A/D D/A conversion; dither	\$3,100
Yes	2/Yes	LED	XLR; 1/4"	1/4"	19x1.75x10	Emulates classic compressors (LA2, LN1176, others)	\$1,499-\$2,899
Yes	2/Yes	VU	Transformer-balanced; XLR	N/A	2U rack space	Stereo switch; auto-release mode	\$3,995
Yes	2/Yes	LED	Balanced XLR or 1/4"	1/4"	1U rack space	Class A amplifier design; inductor-powered bass expander; switchable +4dBu and -10dBV operation	\$895
Yes	2/Yes	LED	Electrically balanced XLR; 1/4"; optional AES/EBU and S/PDIF digital output	N/A	1U rack space	3-band stereo EQ, optional 24-bit/96K digital output	\$1,395 and up
No	2/Yes	5-seg LED	1/4"; XLR (optional)	1/4"	19x1.75x4	Adaptive knee	\$439
No	1/No	LED, VU and attenuation	Balanced XLR	1/4" TRS	19x1.75x9.6	Clip indicator for preamp/EQ/VCA; phantom power	\$680
Yes	2	3 LED status indicator displays	XLR (bal/unbal)	1/4" (key input) TRS	33x1.75x8.5	Each channel keyable	\$699
Yes	1/No	LED	XLR	Optical (Digital)	17.35x1.75x10	Selectable AES/EBU, S/PDIF, optical ports	\$1,554
Yes	2/Yes	Gain reduction 8-seg LED Array -40 to -1dB	TRS 1/4"	TRS 1/4"	19x1.75x9		\$685
Yes	2/No	VU	XLR; 1/4"	1/4" TRS	19x7.9x3.5	VU switchable between output & GR	\$749
No	4/No	LED	1/4"; TRS	1/4"	19x1.75x5.5	30 Hz HP filter; external ground-link terminals	\$536
Yes	2/Yes	8-seg LED	XLR; 1/4"	1/4"	19x1.75x5.5	Soft-knee compression; ground-link terminals	\$536
Yes	2/Yes	VU	XLR; 1/4" TRS	None	19x3.5	Vintage photo-optical compressor sound	\$2,000
Yes	N/A	9-seg LED input/ 5-seg LED GR	1/4" TRS	N/A	8.25x1.75x5		\$400
Yes	N/A	VU	XLR; AES/EBU	N/A	19x8x3.5	Optional 24-bit digital interface	\$2,000
Yes	2/Yes	VU	XLR	N/A	2U rack space	Dark switch for thicker sound	\$800
Yes	2/Yes	LED	XLR	1/4" TRS	19x1.75x11.5	Variable knee; VCA design; vari-ratio expander	\$1,425
Yes	4/Yes	LED	XLR	1/4" TRS	19x1.75x11.5	Switchable hard or soft knee compression	\$1,495
Yes	No	LED	XLR	1/4"	19x1.75x11.5	Syncs audio tracks by interlocking gate release times	\$1,215
Yes	2/Yes	2x6-seg LED	XLR; TRS	N/A	19x61.75		\$300
Yes	2/Yes	2x6-seg LED	XLR; TRS	N/A	19x6x1.75		\$500
Yes	2/Yes	12-seg LED	XLR	N/A	19x7.5x1.75	RMS/peak detection mix feature; broadcast specs	\$1,200
Yes	2/Yes	2x8-seg LED	XLR	N/A	19x7.5x1.75	Freq-windowing filters in gate/sidechain/audio path	\$1,000
Yes	2/Yes	VU and gain reduction modes	XLR; 1/4" balanced and unbalanced	No	19x1.75x10	All discrete	\$1,775

# DYNAMICS PROCESSORS

MANUFACTURER	MODEL	TYPE	THRESHOLD	RATIO	ATTACK TIMES	RELEASE TIMES	GAIN CONTROL
Manley Labs	Stereo Electro-Optical Limiter	Stereo electrical-optical limiter	up to 22 dB	10:1	10 ms for 6 dB GR	2.5 seconds for 6 dB GR	Threshold/out
Manley Labs	Stereo Variable MU	Tube compressor/limiter	-32 to +14 dBm	2:1 to 20:1	Man (25 to 70 ms)	Man (0.2, 0.4, 0.6, 4, 8 sec)	Input/output
Millennia Media	Twincom TCL-2	Compressor/limiter	All	2.1 to 30:1	2 ms	0.1 to 30 sec	Output
Oram Pro	Sonicomp 1	Solid state compressor	Yes	Yes	Yes	Yes	Yes
Oram Pro	Sonicomp 2	Solid state compressor	Yes	Yes	Yes	Yes	Yes
Pendulum	OCL-2	Compressor/limiter	Off to -20 dB	1.5:1 to 15:1	1.0-50 ms	50 ms-20 sec	Output
Pendulum	6386	Compressor/limiter	Off to -20 dB	Program-dependent	0.5-50 ms	50 ms-20 sec (prog dep)	Input/output
	Variable-Mu Tube Limiter						
Phonic Hi-Tech	PCL3200	Compressor/limiter/gate	-40 to +20 dB	1:1 to 10:1	Manual (0.1 to 200 ms)	Manual (50 ms to 3 sec)	Output
PreSonus	ACP-88	Compressor/limiter/gate	-0 to +20 dBu	1:1 to 20:1	Auto or man (0.01 to 100 ms)	Auto or man (0.02 ms to 2 sec)	Output
PreSonus	Blue Max	Smart compressor/limiter	Fixed (-10 dB) manual mode	1:1 to 20:1	Manual (0.01 to 100 ms)	Manual (10 to 500 ms)	Input/output
PreSonus	ACP-22	Stereo compressor/limiter/spectral gate	-70 dB to +20 dB	1:1 to 20:1	Auto or man (comp: 0.1 to 100 ms; gate: 10 $\mu$ s to 100 ms)	Auto or man (0.02 ms to 2 sec)	Output
Rane	DC24	Compressor/limiter/expander/gate 2-way crossover	-50 to +20 dB	1:1 to 20:1	Auto	Auto	Output
Rolls	RP252	Compressor/limiter/gate	-40 to +12 dB	1:1 to infinity:1	Man (0.2 to 10 ms)	Man (40 ms to 2 sec)	Output
SADiE	Sintefex Replicator	Dynamic convolution DSP	Variable	Variable	Variable	Variable	Variable
Sony	SRP-F300	Digital speaker system multi-processor	N/A	N/A	N/A	N/A	N/A
SPL Electronics	Loudness Maximizer	Digital mastering comp/limiter	Adaptive	Adaptive	Adaptive	Adaptive	Yes
Steinberg	MindPrint T-Comp	Stereo tube compressor	+2 to -28	1:1 to infinity	1 ms to 150 ms	5 ms to 2.5 sec	Input/output
Summit Audio	TLA-100A Tube Leveling Amplifier	Tube compressor	-25 to +25 dBu	1:1 to 4:1	Sel (fst, mdm, slw)	Sel (fst, mdm, slw)	Output
Summit Audio	DCL-200 Dual Compressor/Limiter	Tube compressor/limiter	-27 to +25 dBu	1:1 to 7:1	Manual (0.1 to 100 ms)	Manual (35 ms to 10 sec)	Output
Symtrix	562E Windowing Expander/Gate	Gate/expander	-40 to +20 dB	Gate: infinity:1; exp: 1:1 to 3:1	Adj (auto to 300 ms)	Manual (30 ms to 2 sec)	No
Symtrix	565E Dual Comp/Limiter/Exp	Compressor/limiter/expander	Comp: -40 to +20 dBu; exp: +10 to -40 dBu; lim: -10 to +20 dBu	Comp: 1:1 to 10:1; exp: 1:1.5; lim: 20:1	Comp: prst; lim: prst (100 $\mu$ s); exp: prst (4 ms)	Comp: prog dep 180 ms-2.55 sec; lim: 100 ms; exp: 250 ms-5 sec	Output
TC Electronic	Finalizer 96K	Compressor: multiband, digital mastering processor	-25 to 0 dBu	1.12:1 to infinity:1	Man (0.3 to 100 ms per band)	Man (20 ms to 7 sec per band)	Input/output
TC Electronic	DB Max II	Compressor: 5-band digital mastering processor	-25 to 0 dBu	1.12:1 to $\infty$ :1	Man (0.3 to 100 ms per band)	Man (20 ms to 7 sec per band)	Input/output
TC Electronic	MEC-1A	Mic-pre/EQ/compressor	-20 to off	1.5:1 to 10:1	1 to 100 ms	60 ms to 2 sec	10-50 dB
TC Electronic	CL-1B	Opto-cell compressor	+20 to -40 dBm	2:1 to 10:1	Fast; slow	Fast; slow	Off to +30 c
TC Electronic	LCA-2B	Stereo compressor/limiter	Off to -10 dBu	1.6:1 to 20:1	0.3 to 70 ms	0.07 to 2 sec	-6 to +10 d
TC Electronic	Finalizer Express	Compressor: multiband digital mastering processor	1.12:1 to infinity to 1	N/A	0.3-100 ms/band	20 ms-7 sec/band	In/Out
TL Audio	Ivory 5021	Tube compressor	-20 to +20 dBu	1.5:1 to 30:1	Switchable fast/slow	Switchable fast/slow	Input/Output Gain make-1
TL Audio	Classic C1 Compressor	Tube	20 to +20 dB	Variable 1:1.5 to 1:30	Variable 0.5mS to 50mS	Variable 40ms to 4 sec	Variable; gain make-1
Tube Tech	CL-1B	Tube compressor	+20-40 dBm	2:1 to infinity:1	Fixed or continuously variable	Fixed or continuously variable	Yes
Tube Tech	SMC-2A	Stereo multiband compressor	variable	1.6:1 to 20:1	3 - 70mS	0.07 - 2 sec	Yes
Tube Tech	MEC-1A	Mic-preamp/EQ/compressor	-20 dB to off	1.5:1 to 10:1	0.0 - 70ms	60 ms - 2 sec	10-50 dB
Tube Tech	LCA-2B	Stereo tube compressor limiter	off-10 dBu	1.6:1 to 20:1	.3 - 70 mS	0.07 - 2 sec	Yes
Voce	EVC-1	Tube compressor	infinity to +20 dBu	1:1 to 10:1	Man (1 to 1000 ms)	Man (1 to 1,000 ms)	Output

BYPASS SWITCH	# OF CHANNELS/ STEREO LINK	METER TYPE	MAIN I/O	SIDECHAIN I/O	DIMENSIONS	SPECIAL FEATURES	PRICE
Yes	2/Yes	VU & GR	XLR bal.; 1/4" unbalanced	No	19x3.5x10	LA-2A style; all-tube	\$2,500
Yes	2/Yes	Gain reduction	XLR balanced	No	19x1.75x10	All tube; fully differential	\$4,000
Yes	2/Yes	True audio level meter	XLR	N/A	19x3.5x12	Twin Topology tube solid state	\$2,795
Yes	2/Yes	LED: GR/input	1/4"; XLR	Yes	1U	Switchable light-dependent resistor	\$1,995
Yes	2/Yes	VU: GR/input	1/4"; XLR	Yes	2U	Solid state or light dependent resistor	\$2,590
Yes	2/Yes	VU	XLR; 1/4"	1/4" TRS	19x3.5x12.5	All tube gain path; transformerless design	\$2,795
Yes	2/Yes	VU	XLR; 1/4"	1/4" TRS	19x3.5x12.5	Uses same tube as Fairchild 660/670 limiters	\$4,000
Yes	2/Yes	LED	1/4"	1/4"	19x2x4.5	Hard/soft knee; peak RMS switch	\$249
Yes	8/Yes	LED	1/4" TRS	1/4" TRS	19x3.5x6	Hard/soft knee; accepts +/-10 dBu inputs	\$1,000
Yes	2/Yes	LED	1/4" TRS	1/4" TRS	19x1.75x8	Includes 15 inst-specific preset comp. curves	\$290
Yes	2/Yes	8-seg LED	XLR; 1/4"	1/4" TRS	19x1.75x5	Hard/soft knee; freq-dependent LP gate filter	\$399
Yes	2/Yes	LED	XLR; 1/4" TRS	1/4" TRS	19x1.75x5.3	Combine crossover mode; -10/+4 dBu inputs	\$599
Yes	2/Yes	10-seg LED	XLR; 1/4"	1/4"	19x1.75x6		\$275
Yes	8/Yes	LED peak	Analog; S/PDIF	N/A	2U	Emulates analog EQs & dynamics processors	\$8,495
N/A	N/A	Peak-reading LED (x3)	Bal. XLR (analog); AES/EBU (digital)	N/A	19x1.75x14.5	PC-controlled multi-processing w/included software	\$1,800
Yes	2/Yes	I/O PPM	AES/EBU, S/PDIF	N/A	19x1.75x13.7	24-bit wordwidth; internal 56-bit processing	\$2,999
Yes	2/Yes	6-seg. I/O; 12-seg. gain	XLR; 1/4"	Stereo inserts	1U	Filter-dependent compression switch	\$1,699
Yes	1/No	VU meter; output/GR	XLR	1/4" TRS	19x3.5x10.5	Soft-knee; Jensen 990 output; transformerless	\$1,700
Yes	2/Yes	VU	XLR	1/4"	19x3.5x10.5	Soft-knee; Jensen 990 output; bal/unbalanced	\$2,950
Yes	2/No	LED	XLR; 1/4"	1/4"	19x1.75x8	Window advance; auto-windowing	\$599
Yes	2/Yes	LED	XLR; 1/4"	1/4"	19x1.75x7.25		\$399
Yes	2/Yes	LED	XLR; AES/EBU; S/PDIF; ADAT; Toslink	No	19x1.75x12	Digital radiance tube emulation; normalize	\$2,945
Yes	2/Yes	LED	XLR; AES/EBU; S/PDIF; ADAT; Toslink	No	19x1.75x8.2	4 inserts; external device inserts	\$3,995
EQ in/out	Yes	VU	XLR; 1/4"	N/A	2U	Gold-plated switches	\$5,995
Yes	Yes	VU	Analog	N/A	2U	Balanced & fully floating I/O	\$1,495
Yes	Yes (internally or othr LCA-2Bs)	LED	Analog	Analog	2U	Fairchild 670 attack/release presets	\$4,495
Yes	2/Yes	LED	S/PDIF; AES/EBU; Toslink	No	1U	24-bit AD/DA, soft clip; spectral balance	\$1,599
Yes	2/Yes	VU	XLR and TRS	TRS	19x2.5x10	Expander/gate, instrument inputs	\$749
Yes	2/Yes	VU	XLR and TRS	TRS	19x3.5x10	Onboard mic preamps and direct inputs	\$2,395
Yes	1/No	VU	XLR	XLR	3U		\$2,195
Yes	2/Yes	LED	XLR	XLR	2U		\$4,395
Yes	2/Yes	VU	XLR; 1/4"	N/A	2U	Gold-plated switches	\$3,995
Yes	2/Yes	LED	XLR	XLR	2U		\$3,495
Yes	1/No	LED	XLR; 1/4" TRS	1/4" TRS	8x1.6x8.5	Soft knee; no solid-state devices in audio path	\$799

# EFFECTS PROCESSORS

MANUFACTURER	PRODUCT	PRESETS (FACTORY/USER)	ANALOG EFFECTS	DIGITAL EFFECTS	SIMULTANEOUS EFFECTS	PROGRAMMABLE WET/DRY MIX	COMPARE/BYPASS	MAXIMUM DELAY TIME	MAXIMUM PITCH SHIFT RANGE	MIDI REAL-TIME CONTROL	SIMULTANEOUS MIDI CONTROLLERS
Alesis	MicroVerb 4	100/100	N/A	Rvrb, chrs, dly, flng, rtry, ptch	3	No	N/Y	1,300 ms	±1 octave	Yes	2
Alesis	MidlVerb 4	128/128	N/A	Rvrb, chrs, dly, flng, rtry, ptch	3	Yes	Y/Y	1,300 ms	±1 octave	Yes	2
Alesis	NanoVerb	16/0	N/A	Rvrb, chrs, dly, flng, rtry	3	No	N/Y	1,300 ms	N/A	No	No
Antares	ATR-1 Auto-Tune	50/50	N/A	Real-time pitch correction	1	No	Y/Y	N/A	±1 octave	Yes	Yes
Antares	AMM-1 Microphone Modeler	100/100	N/A	Models the sonic characteristics of a various microphones	2	N/A	Yes	N/A	N/A	Yes	Yes
A.R.T.	FX-1	60/0	N/A	Rvrb, chrs, dly, flng, ptch, trml, pan, gate	3	No	N/Y	420 ms	1 octave	No	No
A.R.T.	DMV-Pro	100/100	N/A	Rvrb, chrs, flng, ptch, trml, rtry, phst, pan, dly	4	Yes	Y/Y	5 sec	>2 octaves	Yes	16
Behringer	Ultrabass	N/A	N/A	Enhancer, limiter, subharmonizer	3	N/A	N/Y	N/A	N/A	N/A	N/A
Behringer	Edison EX1	N/A	N/A	N/A	N/A	N/A	N/Y	N/A	N/A	N/A	N/A
Behringer	Virtualizer Pro DSP1000P	N/A	No	32 effect types, 700 variations, 100 programs	2	Yes	Yes	5 sec	±12 semi-tones	Yes	11
Behringer	Modulizer Pro DSP1200P	N/A	No	24 effect types, 100 programs	1	Yes	Yes	N/A	N/A	Yes	13
Big Briar	Moogerfooger MF-101 Lowpass Filter	N/A	Two-pole/four-pole lowpass filter with envelope follower	None	N/A	Yes	Yes	N/A	N/A	N/A	N/A
Big Briar	Moogerfooger MF-102 Ring Modulator	N/A	Ring modulation with self-contained carrier oscillator and LFO	N/A	N/A	Yes	Yes	N/A	N/A	N/A	N/A
Big Briar	Moogerfooger MF-103 Twelve-Stage Phaser	N/A	Six-stage/twelve-stage phase shifter	N/A	N/A	N/A	Yes	N/A	N/A	N/A	N/A
Big Briar	Moogerfooger MF-104 Analog Delay Limited Edition	N/A	Analog delay	N/A	N/A	Yes	Yes	0.8 sec	N/A	N/A	N/A
Cedar	CRX Real Time Decrackle	0	N/A	Digital decrackle	None	None	Yes	N/A	N/A	No	No
Cedar	DCX Real Time Declicker	0	N/A	Digital declicking	N/A	None	Yes	N/A	N/A	No	No
Cedar	DHX Real Time Dehisser	0	N/A	Digital dehisssing	None	None	Yes	N/A	N/A	No	No
Crate	SM1-SP	32/0	N/A	Reverb, delay, flange, chorus, gated rvrb, rotary	2	No	No	455 ms	N/A	No	No
Crate	SM2-SRS	2/0	N/A	N/A	1	N/A	Yes	N/A	N/A	No	No
DACS	DACS FWS Series FREQue	0	Ring module; oscillator; frqncy module	N/A	3	No	No	No	No	No	No
dbx	480 DriveRack	10/10	N/A	Delay, compressor/limiter, EQs, notch filters, RTA	Yes	N/A	N/A	600 ms	N/A	Yes	N/A
dbx	481S DriveRack	10/10	N/A	Delay, compressor/limiter, EQ, crossovers, RTA	Yes	N/A	N/A	N/A	N/A	Yes	N/A
dbx	482S DriveRack	10/10	N/A	Delay, compressor/limiter, crossovers, EQs, notch filters, RTA	Yes	N/A	N/A	600 ms	N/A	Yes	N/A
Demeter	Real Reverb	N/A	Stereo spring reverb	None	3	Yes	N/Y	3.5 sec	No	No	No
DigiTech	StudioQuad 4	100/100	N/A	57	4	Yes	N/Y	5 sec	±2 octaves	Yes	8
DigiTech	Studio S-200	99/99	N/A	25	2	Yes	N/Y	2 sec	-1 octave/+2 octaves	Yes	15
DigiTech	Studio S-100	99/99	N/A	25	2	Yes	N/Y	2 sec	-1 octave/+2 octaves	Yes	1
DOD	D-12 Stereo Delay/Sampler	0	N/A	Smpl, dly, chrs, flng	4	Yes	No	4 bnsk of 6 sec; 2 bnsk of 12 sec smpling	N/A	N/A	None



DISCRETE  
PROCESSING CHANNELS

## ADC/DAC

OVERLOAD  
WARNING

## INPUTS

## OUTPUTS

## POWER SUPPLY

SPECIAL  
FEATURES

## PRICE

2	18-bit/18-bit	4-seg LED	1/4" (2)	1/4" (2)	Alesis P3 adapter	Bypass/tap-tempo footswitch, 2 parameter knobs	\$249
2	18-bit/18-bit	18-seg LED; clip light	1/4" (2)	1/4" (2)	Alesis P3 adapter	Auto level sensing; tap tempo footswitch	\$323
No	18-bit/18-bit	Clip light	1/4" (2)	1/4" (2)	Alesis P3 adapter	Adjust knob, bypass footswitch	\$135
1	20-bit/24-bit	6-seg LED	1/4" TRS; XLR (1)	1/4" TS; XLR (1)	External	Speed control matches correction rate to performance	\$849
1	20-bit/24-bit	5-seg LED AES/EBU	1/4"; XLR; AES/EBU	1/4"; XLR	External	Models tube saturation; downloadable models	\$995
2	16-bit/16-bit	Clip light	1/4" (2)	1/4" (2)	External		\$124
4	20-bit	5-seg LED	1/4" (4)	1/4" (4)	External	Twin LCD editing interfaces	\$449
N/A	N/A	N/A	1/4", XLR	1/4", XLR	Internal	Digital sub-harmonic bass synthesizer	\$179
N/A	N/A	N/A	1/4", XLR	1/4", XLR	Internal	Virtual stereo 3D processor; correlation meter for mono compatibility control; LED display	\$179
2	20-bit/18-bit	N/A	Balanced 1/4", XLR	Balanced 1/4", XLR	Internal	Includes software for remote control via PC; 24-bit dual engine multieffects	139
2	20-bit/20-bit	N/A	Balanced 1/4", XLR	Balanced 1/4", XLR	Internal	Includes software for remote control via PC	\$139
1	N/A	N/A	1/4"	1/4" (2)	External	Includes drive control, level, LFO and bypass LEDs; audio; cutoff control; resonance control; envelope amount control; mix control	\$299
1	N/A	N/A	1/4"	1/4" (3)	External	Includes drive control, level, LFO and bypass LEDs; audio; LFO rate control; LFO amount control; carrier frequency control; mix control; carrier	\$299
1	N/A	N/A	1/4"	1/4" (4)	External	Includes drive and output level controls, level, LFO and bypass LEDs; audio; sweep control; resonance control; LFO rate control; LFO amount control; sweep	\$399
1	N/A	N/A	1/4"	1/4" (3)	External	Includes drive, output and loop gain level controls; input/loop level and bypass LEDs; audio; delay time control; mix control; feedback control; external loop	\$595
2	None	None	AES/EBU, SP/DIF	AES/EBU, S/PDIF	AC	Real-time declick	\$6,495
2	None	None	AES/EBU, S/PDIF	AES/EBU, S/PDIF	AC	Real-time declick	\$5,995
2	None	None	AES/EBU, S/PDIF	AES/EBU, S/PDIF	AC	Real-time de hiss	\$6,895
2 in/out	1-bit/16-bit/64x	Signal/peak LED	1/4" (2)	1/4" (2)	External	Includes 32 presets	\$180
2 in/out	N/A	Signal/peak LED	1/4" (2)	1/4" (2)	External	Creates 3D surround from 2 speakers	\$130
2	No	LED	1/4" TRS	1/4" TRS	AC		\$1,155
Yes	N/A	N/A	XLR (4)	XLR (8)	Internal	GUI interface; optional remote controller	\$1,500
Yes	N/A	N/A	4 euroblock connectors	8 euroblock connectors	Internal	GUI interface; optional remote controller	\$2,000
Yes	N/A	N/A	XLR (4)	XLR (8)	Internal	GUI interface; optional remote controller	\$2,200
2	N/A	LED	TRS and 3-pin balanced inputs	TRS and 3 pin balanced outputs	Internal	Physical spring reverb; long or short decay times; low cut filter; phase switch; gain and mix controls; stereo or mono operation	\$700
4	20-bit	Clip (each input)	1/4" (4)	1/4" (4)	AC	Programmable signal routing; LFOs; dynamic filters	\$480
2	20-bit	Clip LED	1/4" (2)	1/4" (2)	Internal	User-selectable configurations; large display	\$340
2	20-bit	Clip LED	1/4" (2)	1/4" (2)	AC	User-selectable effects/signal routing configurations	\$220
4	16-bit/16-bit	Clip LEDs	2	2	External	Reverse playback; jog / shuttle wheel 24-second sampler	\$299

# EFFECTS PROCESSORS

EFFECTS PROCESSORS

MANUFACTURER	PRODUCT	PRESETS (FACTORY/USER)	ANALOG EFFECTS	DIGITAL EFFECTS	SIMULTANEOUS EFFECTS	PROGRAMMABLE WET/DRY MIX	COMPARE/BYPASS	MAXIMUM DELAY TIME	MAXIMUM PITCH SHIFT RANGE	MIDI REAL-TIME CONTROL	SIMULTANEOUS MIDI CONTROLLERS
DOD	Dimension 3-D-3 Multi-Effects Processor	0	N/A	Dly, rvrb, chrs, flng, phs, ptch, trml, rtry, pan	2	No	No	370 ms	±1 octave	No	None
Electrix	FilterFactory	Real time control only	High order resonant filter, distortion block	Analog only	2	Yes via MIDI	Yes	N/A	N/A	Yes	Yes
Electrix	WarpFactory	Real time control only	N/A	Vocoding (morphing two sounds together)	N/A	Yes via MIDI	Yes	N/A	N/A	Yes	Yes
Electrix	Mo-FX	Real time control only	N/A	Distortion, flange, tremolo, delay	4	Yes via MIDI	Yes	2.6 sec	N/A	Yes	Yes
Electrix	FilterQueen	Real time control only	High order resonant filter	Analog only	N/A	N/A	Yes	N/A	N/A	N/A	N/A
Eventide	DSP4000 Ultra-Harmonizer	491/unltd via PCMCIA SRAM card	N/A	Dozens	40	Yes	Yes	10 sec	±4 octaves	Yes	Yes
Eventide	H3000D/SE Studio Enhanced Ultra-Harmonizer	572/407	N/A	Ptch, rvrb, dly, flng, phs, chrs, cmpr	Algorithm dep	Yes	N/Y	1,500 ms	±3 octaves	Yes	Yes
Eventide	H3500DFX/E Dynamic Ultra-Harmonizer	679/298	N/A	Dozens	Algorithm dep	Yes	N/Y	95 sec in mono, 47.5 in stereo	±3 octaves	Yes	Yes
Eventide	Orville Harmonizer Brand Effects Processor	Over 800/unlimited via PCMCIA SRAM cards	N/A	Dozens	2 presets	Yes	Yes	174 sec mono; 87 sec stereo	±4 octaves	Yes	Yes
Fostex	DE-1	121	No	Yes	2	Yes	N/A	N/A	N/A	N/A	N/A
Korg	Pandora PX3 - Compact Guitar Processor	50/50	N/A	56	Up to 7	Y	N/Y	2000 ms	±2 octaves	N/A	N/A
Korg	Pandora PX3B - Compact Bass Processor	50/50	N/A	56	Up to 7	Y	N/Y	2000 ms	±2 octaves	N/A	N/A
Lexicon	MPX 100	240/16	N/A	Plate, gate, hall, chamber, ambience, room, tremolo, rotary, chorus, flange, pitch, detune, delays, echoes, special effects, dual algorithms	2	Yes via MIDI	Yes	5.7sec	2 octaves	Yes	24
Lexicon	MPX 500	240/30	No	Plate, gate, hall, chamber, ambience, room, tremolo, rotary, chorus, flange, detune, pitch, delay, echo, special effects, dual algorithms	2	Yes	Yes	5.5 sec	2 octaves	Yes	24
Lexicon	MPX 1	200/50	N/A	56 pitch, chorus, EQ, modulation, delay, and reverb effects	6	Yes	Yes	2 sec	2 octaves per voice (2 voices)	Yes	24
Lexicon	MPX G2	200/50	6 analog distortion effects (including full-function preamp)	68 pitch, EQ, gain, reverb, delay, JamMan, phase, filter, and compression effects	7	Yes	Yes	20 sec	2 octaves	Yes	24
Lexicon	PCM 81	550/50 PCMCIA slot unlimited	No	42 algorithms featuring reverb, pitch, delay, filtering, time-domain,	2	Yes	Yes	20 sec	2 octaves	Yes	24
Lexicon	PCM 91	450/100 PCMCIA slot (unlimited)	No	15 Lexicon reverberation effects	2	Yes	Yes	1.25 sec	No	Yes	24
Lexicon	M300/300L	N/A	None	Reverbs, delays, split/dual mono/cascade configurations, mastering algorithms, pitch	2	Yes	Yes	N/A	N/A	Yes	N/A
Line 6	POD	36/36	N/A	32 guitar amp models, 16 effects (incl. delay, chorus, reverb, flanger, tremolo, rotary), 15 cabinet models	3	Yes	Y/Y	3.2 sec	N/A	Yes	Yes
Line 6	POD Pro	36/36	N/A	32 guitar amp models, 16 effects (incl. delay, chorus, reverb, flanger, tremolo, rotary), 15 cabinet models	3	Yes	Y/Y	3.2 sec	N/A	Yes	Yes

## DISCRETE PROCESSING CHANNELS

## ADC/DAC

## OVERLOAD WARNING

## INPUTS

## OUTPUTS

## POWER SUPPLY

## SPECIAL FEATURES

## PRICE

	ADC/DAC	OVERLOAD WARNING	INPUTS	OUTPUTS	POWER SUPPLY	SPECIAL FEATURES	PRICE
2	18-bit/16-bit	Clip LED	1/4" (2)	1/4" (2)	External	Noise reduction w/ gate threshold	\$1,670
2	N/A	Clip LEDs input and output	1/4"; RCA stereo with RIAA preamp	1/4"; RCA stereo	Internal	Rackmount and tabletop models available	\$400
2	18-bit	Clip LEDs input and output	XLR mic, 1/4"; RCA Stereo with RIAA preamp	1/4"; RCA	Internal	Rackmount and tabletop models available	\$400
2	18-bit	Clip LEDs input and output	1/4"; RCA Stereo with RIAA preamp	1/4"; RCA stereo	Internal	Rackmount and tabletop models available	\$450
2	N/A	Clip LEDs input and output	1/4"; RCA Stereo with RIAA preamp	1/4"; RCA stereo	External	Modular rackmount and tabletop designs available	\$299
2	20-bit	10-seg clip light	1/4"; XLR; AES/EBU; S/PDIF	XLR; AES/EBU; S/PDIF	AC	Optional 2 MB or 4 MB sampler	\$3,995
2 (algorithm dep)	16-bit	10-seg clip light	XLR (pin 3 hot)	XLR (pin 3 hot)	AC	3D spatial imaging presets; Steve Vai presets	\$2,695
2 (algorithm dep)	16-bit	10-seg clip light	XLR (pin 3 hot)	XLR (pin 3 hot)	AC	95-second mono sampler, 47 seconds stereo; 3D spatial imaging presets	\$3,595
4 in/4 out	24-bit	9-seg LED	1/4"; XLR; AES/EBU; S/PDIF	XLR; AES/EBU; S/PDIF	AC	24-bit/96 kHz; 4MB sampler; UltraShifter software included; routing matrix	\$5,695
2	20-bit, with 24-bit internal data processing	Peak LEDs	2	2	DC9V (exclusive AC adapter)	Half rackspace; rotary controls	\$179
1	N/A	N/A	1/4"; 1/8" aux. in	1/4" (2)	4 AAA batteries or adapter	Bass/rhythm tracks; intelligent harmonizer; amp modeling	\$250
1	N/A	N/A	1/4"; 1/8" aux. in	1/4" (2)	4 AAA batteries or adapter	4-band graphic EQ; 50 rhythm patterns; phrase trainer	\$250
2	20-bit/20-bit	N/A	1/4" (2)	1/4" (2); S/PDIF	External	Tap tempo input; multiple routings for two discrete simultaneous stereo effects	\$299
2	24-bit /24-bit	N/A	1/4" (2); XLR (2); S/PDIF	1/4" (2); XLR (2); S/PDIF	Internal, switching	Tap tempo input; 16 adjustable parameters; stand-alone 24-bit A/D converter	\$599
2	18-bit/20-bit	N/A	1/4" (2); XLR (2); S/PDIF	1/4" (2); XLR (2); S/PDIF	Internal, switching	Discrete reverb processor and separate effects processor	\$869
3	24-bit /24-bit	N/A	1/4 (3)	1/4" (3); XLR (2)	Internal, switching	Fully controllable/assignable MIDI; controllable via optional footswitch	\$1,499
2	24-bit/20-bit	N/A	1/4" (2); XLR S/PDIF; AES/EBU	1/4" (2); XLR; S/PDIF; AES/EBU	Internal, switching	PCMCIA card slot; dual processing platform; upgradeable DSP engine	\$2,999
2	24-bit/20-bit	N/A	1/4" (2); XLR; S/PDIF; AES/EBU	1/4" (2); XLR; S/PDIF; AES/EBU	Internal, switching	Collection of Lexicon reverbs	\$2,999
2	18-bit/18-bit	N/A	XLR (2); S/PDIF; AES/EBU	XLR (2); S/PDIF; AES/EBU	Internal, switching	Controllable via LARC remote console	\$4,995-\$5,495
2	24-bit/20-bit	Clip light	1/4" guitar input	1/4" TRS	External	Direct/amp modes; MIDI; tap tempo; tuner; cabinet select; includes edit/lib software	\$499
2	24-bit	Clip light	1/4"	1/4" (2); XLR (2); S/PDIF; AES/EBU	Internal	Live and studio modes; re-amping; effects loop; wordclock in; noise gate; software incl.	\$799

# EFFECTS PROCESSORS

EFFECTS PROCESSORS

**MANUFACTURER**      **PRODUCT**      **PRESETS (FACTORY/USER)**      **ANALOG EFFECTS**      **DIGITAL EFFECTS**      **SIMULTANEOUS EFFECTS**      **PROGRAMMABLE WET/DRY MIX**      **COMPARE/BYPASS**      **MAXIMUM DELAY TIME**      **MAXIMUM PITCH SHIFT RANGE**      **MIDI REAL-TIME CONTROL**      **SIMULTANEOUS MIDI CONTROLLERS**

Line 6	Bass POD	36/36	N/A	16 bass amp models, 16 effects (incl. envelope follower, octave, down phaser, chorus, bass synth, compressor), 15 cabinet models	8	Yes	Y/Y	N/A	N/A	Yes	Yes
Miles Technology	MTI-3 TriSonic Imager	1	L/C/R sweet-spot enlarger, surround, spreadsound	N/A	2	N/A	No	N/A	N/A	No	No
Motion Sound	R3-147	Real time control	Real rotary horn, 12AX7 tube overdrive	N/A	2	N/A	N/A	N/A	N/A	Yes	1
Motronics	Mutator	0	Envelope follower	N/A	1	No	Y/Y	N/A	N/A	Yes	No
Petronics	RTSP-1600 MKII	30/69	Fingr, chrs, dblng	Delay	2	Yes	N/Y	700 ms	N/A	Yes	12
Phonic Hi-Tech	Verbilex	256 (factory)	N/A	Yes	1	Yes	Y/Y	N/A	N/A	No	No
Roland	VT-1	32/4	None	Voice transfer	2	Yes	N/Y	N/A	±1 octave	No	4
Roland	SRV-3030 & 3030D	N/A	N/A	Reverb	2	Yes	Y/Y	N/A	N/A	Yes	Yes
Roland	VG-88 V-Guitar System	160/100	None	Electric guitar models, acoustic guitar models, nylon, hex-pan, polyphonic pitch-shift, HRM synth sounds, poly oct, more string model	N/A	Yes	Yes	1,800 ms	±2 octaves	Yes	2
Roland	BOSS GT-5 Guitar Effects Processor	150/100	11	18	15	Yes	Yes	1,800 ms	±2 octaves	Yes	2
Seekers	Seekers Voice Spectra	No	Vocoder	No	No	No	No	No	No	No	No
Sony	DPS-V55	200/200	N/A	45 algo, rrvrb, dly, flng, chrs, ptch, EQ, comp, rtry	4	Yes	N/Y	2,720 ms	±2.4 octaves	No	N/A
Sony	DPS-V77	198/198	None	Rvrb, flng, chrs, dly, ptch, amp sim	4	Yes	Y/Y	5,460 ms	±2.4 octaves	Yes	6
Sony	DRE-S777	N/A	N/A	Yes	N/A	Yes	Yes	N/A	N/A	N/A	N/A
Spatializer	Retro	0	3-D audio	N/A	1	N/A	N/Y	N/A	N/A	N/A	No
SPL Electronics	Spectralizer	99	No	Generates odd and even harmonics separately	N/A	No	Relay hard bypass (AES/EBU)	N/A	N/A	Yes	No
SPL Electronics	Machine Head	99	No	Tape saturation effects	N/A	No	Relay hard bypass (AES/EBU)	N/A	N/A	Yes	No
Symetrix	606 Delay F/x Machine	10/99	N/A	Dly, chrs, rm sim, flng, aut pn, fltr	2	Yes	N/Y	2.5 sec	N/A	Yes	No
TC Electronic	1210 Spatial Expander + Stereo Chorus Flanger	N/A	Fingr, ptch mod, expndr	N/A	3	No	N/Y	22 ms	N/A	No	No
TC Electronic	1280 Stereo Digital Audio Delay	4/4	N/A	2 sep delay chans	2	No	Yes	2.5 sec with chip exp	N/A	Yes	1
TC Electronic	1380 Multitap Digital Audio Delay	4/4	N/A	1	1	No	Y/Y	5 sec with chip exp	N/A	Yes	1
TC Electronic	2290	100/100	N/A	1	2	Yes	Y/Y	8 sec	N/A	Yes	1
TC Electronic	FireworX	200/100	None	35	DSP space dependent	Yes	Y/Y	3 sec	±2 octaves	Yes	Yes
TC Electronic	G-Force	200/100	N/A	Rvrb, dly, ptch, phsr, flng, comp, pan/trml, mod, etc	8	Yes	Y/Y	1,480 ms	2 octaves	Yes	8
TC Electronic	M2000	256/256	N/A	Rvrb, dly, chrs, flng, comp, pan, t rml, limg, de-es, exp, str enhnc	2	Yes	Y/Y	1,200 ms	2 octaves	Yes	16
TC Electronic	M5000 Digital Audio MainFrame	212/100	N/A	Yes	Up to 4	Yes	Y/Y	1340 ms	±1 octave	Yes	No
TC Electronic	M3000	250/200	N/A	Rev, dly, chr, fln, EQ, comp, pan, trml, limg, de-es, exp, gate, str enhnc	2	Yes	N/Y	1200 ms	2 octaves	Yes	16

DISCRETE  
PROCESSING CHANNELS

## ADC/DAC

OVERLOAD  
WARNING

## INPUTS

## OUTPUTS

## POWER SUPPLY

SPECIAL  
FEATURES

## PRICE

	ADC/DAC	OVERLOAD WARNING	INPUTS	OUTPUTS	POWER SUPPLY	SPECIAL FEATURES	PRICE
2	24-bit/20-bit	Clip light	1/4"	1/4" (2)	External	Fully parametric EQ; effects crossover; phase-accurate DI and amp model output	\$499
2	N/A	N/A	XLR (4); 1/4" TRS (2)	XLR (5); 1/4" TRS (3)	AC	Creates L/C/R & surround outputs from 2-channel stereo input	\$599
1	N/A	LED	1/4" (2)	1/4" (2); XLR (2)	Internal	23 adjustable parameters; four horn mics.	\$1,095
2	None	None	1/4"	1/4"	AC	Stereo panning	\$1,315-\$1,425
1	16-bit/16-bit	N/A	1/4" (1)	1/4" (3)	Internal	Random modulation waveforms; hybrid analog/digital design without DSPs	\$549
2	16-bit	Dual color peak LEDs	1/4"	1/4"	Internal		\$269
1	16-bit/16-bit	Clip light	1/4" (1)	1/4" (1); RCA (2)	AC	Realtime control over pitch and formant	\$395
Yes	24-bit	Yes	XLR/TRS (2)	XLR/TRS (2)	Internal	Dynamic separation; preview w/user samples; digital I/O	\$695-\$995
2	24-bit	N/A	13-pin; 1/4"	1/4" (2)	AC	COSM-modeled electric, acoustic, and nylon string guitars; built-in exp/ control pedal	\$1,295
1	22-bit/18-bit	Yes	1/4" (1)	1/4" (2)	AC	13 modeled amps; 11 COSM modeled cabinets w/ modeled mics & mic placement	\$795
1	No	No	2	2	Internal	12-band analog vocoding; voice tracking	\$699
4	20-bit	Clip light	1/4" (4)	1/4" (4)	Internal	52-bit DSP engine; surround sound and other presets	\$580
2	20-bit	Clip light	XLR (2); AES/EBU; S/PDIF	XLR (2); AES/EBU; S/PDIF	Internal	Morphing feature; dual effects blocks; 52-bit DSP engine	\$1,675
N/A	24-bit/24-bit	N/A	AES/EBU (1); optional A/D balanced XLR (2)	AES/EBU (2); optional D/A balanced XLR (4)	N/A	Uses actual acoustic space impulse response samples; optional 24-bit/96k performance; CD-ROM with custom reverb sample (up to 9 per disc)	\$7,375
2	N/A	LED	1/4" TRS	1/4" TRS	Internal	3-D audio; mono compatible	\$999
2	N/A	No	AES/EBU; S/PDIF	AES/EBU; S/PDIF	Internal	24-bit wordwidth; 56-bit internal processing	\$2,999
2	N/A	No	AES/EBU; S/PDIF	AES/EBU; S/PDIF	Internal	24-bit wordwidth; 56-bit internal processing	\$2,999
2	20-bit	4-seg LED; clip light	1/4" TRS	1/4" TRS	Internal	6 modulation sources; room simulations; tap tempo control	\$699
2	N/A	LED	1/4"; XLR	1/4"; XLR	AC	Utilizes Haas principle to create expansion	\$1,684
2	18-bit	Overload LED	XLR	XLR	AC	1 MHz sample rate	\$2,446
1	18-bit	Overload LED	XLR	XLR	AC	1 MHz sample rate	\$2,446
1	1-bit	LED	XLR; 1/4"	XLR; 1/4"	AC	1 MHz sample rate	\$1,995
2	24-bit	Overload LED	XLR	XLR	AC	Includes vocoder	\$2,195
2	24-bit	Clip light	1/4" (2); S/PDIF	1/4" (2); S/PDIF	Internal	Intelligent pitch shifting; large 5 x 14 LED display	\$1,795
2	20-bit	LED	XLR (2); (XLR); AES/EBU; S/PDIF	XLR (2); (XLR); AES/EBU; S/PDIF	Internal	Dynamic morphing; preset glide control	\$1,495
Up to 4	18-bit /20-bit	LED	XLR; AES/EBU	XLR; AES/EBU	AC	Expandable; can be updated via Web	\$4,000 and up
2	24-bit	LED	(2) XLR; AES/EBU; S/PDIF; ADAT; Toslink	XLR (2); AES/EBU; S/PDIF; ADAT; Toslink	Internal	Dynamic morphing; preset glide control	\$2,495

# EFFECTS PROCESSORS

MANUFACTURER	PRODUCT	PRESETS (FACTORY/USER)	ANALOG EFFECTS	DIGITAL EFFECTS	SIMULTANEOUS EFFECTS	PROGRAMMABLE WET/DRY MIX	COMPARE/BYPASS	MAXIMUM DELAY TIME	MAXIMUM PITCH SHIFT RANGE	MIDI REAL-TIME CONTROL	SIMULTANEOUS MIDI CONTROLLERS
TC Electronic	UnitY	100/200	N/A	Rev, dly, chr, fln, comp, pan, n trml, lim, de-es, exp, ster enhnc, dy	3	Yes	Y/Y	1200 ms	2 octaves	Yes	16
TC Electronic	M•One	100/100	N/A	20+ effects	2	Yes	Yes	4000 ms	1200 cents	Yes	Yes
TC Electronic	D•Two	50/100	N/A	Stereo/mono, dynamic, rhythm, reverse, chorus, filter, spatial, ping-pong	1	Yes	Yes	10 sec	N/A	Yes	Yes
TC Electronic	Stereo Chorus Flange	0/0	Chorus, flange, pitch	N/A	1	Yes	No	N/A	N/A	No	No
Voce	Spin II	N/A	Yes	No	1	No	N/Y	N/A	N/A	No	No
Yamaha	D5000	100	N/A	Sngl/dual dly, freeze rec/ playback, sample & hold	2	N/A	Yes	5 sec (stereo), 10 sec (mono)	N/A	Yes	2
Yamaha	ProR3	90	N/A	Rvrb, rm sim, ech, chrs, symphnc, flngr, ptch	3	Yes	Y/Y	N/A	±1 octave	Yes	2
Yamaha	REV100	99	N/A	Ster rvrb, rvrb, dly, flngr, chrs, symphnc	0	Yes	Y/Y	N/A	N/A	Yes	2
Yamaha	REV500	100	N/A	Rvrb, rm sim, ech	1	Yes	Y/Y	200 ms	N/A	Yes	4
Yamaha	SPX1000	40/59	N/A	Rvrb, chrs, ech, frz, dstrtn, trig pan, dly, symphnc, trml	0	Yes	Y/Y	5,200 ms	±1 octaves	Yes	4
Yamaha	SPX990	80	N/A	Rvrb, dly, ech, erly ref, mod, ptch, pan, liz, chrs, symphnc	3	Yes	Yes	1,480 ms	±2 octaves	Yes	4
Zoom	Studio 1201	363/0	N/A	33	2	No	No	1,400 ms	±1 octave	No	No
Zoom	Studio 1204	512/100	N/A	32	2	No	N/Y	740 ms	±1 octave	Yes	6
Zoom	RFX-300	22/0	N/A	22	2	No	No	700 ms	±1 octave	No	No
Zoom	RFX-1000	121/0	N/A	33	1	No	N/Y	1486 ms	±1 octave	No	No
Zoom	RFX-2000	616/100	N/A	48	2	No	Y/Y	2972 ms	±2 octaves	Yes	No

DISCRETE  
PROCESSING CHANNELS

## ADC/DAC

OVERLOAD  
WARNING

## INPUTS

## OUTPUTS

## POWER SUPPLY

SPECIAL  
FEATURES

## PRICE

3	24-bit	Meter	AES/EBU; S/PDIF; ADAT; Toslink	AES/EBU; S/PDIF; ADAT; Toslink	Internal	Software interface within the Yamaha D2R	\$1,495 (sec sw/hr lic \$795/yr)
2	24-bit	Yes	S/PDIF; L/R Balanced	S/PDIF; L/R Balanced	Internal auto-sensing	Dual engine routings; serial, parallel, stereo linked, dual mono, dual send/return	\$699
2	24-bit	Yes	S/PDIF; L/R Balanced	S/PDIF; L/R Balanced	Internal, auto-sensing	Rhythm tap; programmable number of repeats	\$699
1	N/A	N/A	1/4"	1/4"	Internal	Pedal	\$399
1	N/A	No	1	2	Internal	4 knobs to control speed	\$525
2	20-bit	Clip light	XLR (2)	XLR (2)	Internal		\$1,499
2	20-bit	Clip light	XLR (2)	XLR (2)	Internal		\$1,299
2	16-bit	Clip light	1/4" (2)	1/4" (2)	External		\$299
2	20-bit/20-bit	Clip light	1/4" (2); XLR (2)	1/4" (2); XLR (2)	Internal	Audition switch	\$499
2	16-bit	Clip light	1/4" (2)	1/4" (2)	Internal	Digital I/O	\$1,829
2	20-bit/20 bit	Clip light	XLR (2)	XLR (2)	Internal		\$1,179
2	18-bit/18-bit	Clip light	1/4" (2)	1/4" (2)	External	Vocoder, auto filter, karaoke and vocal distortion effects	\$220
2	18-bit/128x	Clip light	1/4" (2)	1/4" (2)	External	Mic input for vocoder FX; vocal distortion; rotary speaker effect	\$320
2	18-bit/18-bit	Peak LED	1/4" (2); RCA (2)	1/4" (2); RCA (2)	External	Power mix, wide mix, boost mix, vocal mix effects	\$170
2	18-bit/18-bit	4-seg LED	1/4" (2)	1/4" (2)	External	Vocoder, mix effects	\$280
2	20-bit/20-bit	6-seg LED	1/4" (2)	S/PDIF (2); 1/4" (2)	External	PC editing software included for Macintosh & Windows	\$400

# EQUALIZERS

MANUFACTURER	PRODUCT	ANALOG/DIGITAL	PROGRAMMABLE	TYPE/ BANDWIDTH	# OF CHANNELS/ # OF BANDS	FREQUENCY RANGE (PARAMETRIC)	CONSTANT Q	FILTERS	ANALOG I/O #/TYPE
Alesis	MEQ-230	Analog	No	Graphic/ 1/3 octave	2/30	20 Hz-20 kHz	No	No	(2) 1/4"; (2) phono
Aphex Systems	109	Analog	No	Parametric/variable 0.66-7.2	Dual 2-band unit (or single 4-band)	20 Hz-2 kHz; 200 Hz-20 kHz	Yes/variable	Switchable shelving	1/4" TRS
API	API 550b EQ	Analog	No	Quasi-parametric, shelving	1/4	30 Hz-20 kHz	No	No	XLR
API	API 560 EQ	Analog	No	Graphic/1 octave	1/10	31 Hz-16 kHz	No	No	XLR
Ashly Audio	Protea System II 4.24G	Digital	Yes	Graphic/ 1/3rd octave	4/28	N/A	Yes	True reciprocating	NA
Ashly Audio	Protea System II	Digital	Yes	Parametric	4/12	20 Hz-20 kHz	No	Digital state variable 1/25 - 3.3 octaves	NA
Avalon Design	AD2055	Analog	No	Parametric 4-band active/passive	2/4	18 Hz-25 kHz	Yes	N/A	XLR
Behringer	Feedback Destroyer Pro	Digital	Yes	Parametric/ 1/60 - 120/60 octaves	2/24	20 Hz-20 kHz	Yes	Parametric	Balanced 1/4"; XLR
Behringer	Ultra-Curve Pro DSP8024	Digital	Yes	Graphic 1/3-octave + 6 parametric/feedback filters	2/31	20 Hz-20 kHz	Yes	Graphic and parametric	Balanced 1/4"; XLR
Behringer	Ultra-Q Pro PEQ2200	Analog	No	Variable parametric/ 0.03 to 2 octaves	1/5	20 Hz-20 kHz	Yes/variable 0.03 - 2 octaves	N/A	(4) 1/4"; XLR
Behringer	Ultra-Graph Pro GE03102	Analog	No	1/3 octave	2/31	10 Hz-30 kHz	Yes/12 dB/octave	N/A	(8) 1/4"; XLR
BSS Audio	FCS966	Analog	No	Constant Q/Q = 4	2/30	5 Hz-45 kHz	Yes	HP	XLR, 1/4"; barrier strip
BSS Audio	FDS366	Digital	Yes	Various slopes 0.025 to 3.00 octaves	N/A	20 Hz-16 kHz	N/A	N/A	(3) XLR balanced
CLM	CLM DB500S	Analog	N/A	Parametric 4-band	2/4	40 Hz-20 kHz	N/A	High/low cut	(2) XLR
Crate	LS1-131	Analog	No	Graphic	1/31	20 Hz-20 kHz	Yes	ISO	XLR; 1/4"; RCA
Crate	LS2-215	Analog	N/A	Graphic	2/15	20 Hz-20 kHz	Yes	Constant	Balanced 1/4"; XLR; unbal. RCA
Crate	LS3-231	Analog	N/A	Graphic	1/31	20 Hz-20 kHz	Yes	Constant	Balanced 1/4"; XLR; unbal. RCA
Crate	SM3-PE	Analog	No	Parametric 0.05 - 3 octaves	1/3	15 Hz-22 kHz	N/A	N/A	Balanced 1/4"
dbx	1215 Dual 15 Band Graphic Equalizer	Analog	No	Graphic	2/15	N/A	No	N/A	1/4"; balanced XLR
dbx	1231 Dual 31 Band Graphic Equalizer	Analog	No	Graphic	2/31	20 Hz-20 kHz	N/A	N/A	1/4"; balanced XLR
dbx	2231 Dual 31 Band Graphic Equalizer	Analog	No	Graphic	2/31	N/A	No	N/A	1/4"; balanced XLR
dbx	2031 Single 31 Band Graphic Equalizer	Analog	N/A	Graphic	1/31	N/A	N/A	N/A	1/4"; balanced XLR
dbx	2215 Dual 15 Band Graphic Equalizer	Analog	No	Graphic	2/15	25 Hz-16 kHz	N/A	N/A	1/4"; balanced XLR
DOD	SR 430QX	Analog	No	2/3 octave	2/15	N/A	Yes	ISO	1/4"
DOD	SR 830QX	Analog	No	2/3 octave	2/15	N/A	Yes	ISO	1/4"
DOD	SR 831QX	Analog	No	1/3 octave	1/31	N/A	Yes	ISO	1/4"
DOD	SR 231QX	Analog	No	1/3 octave	2/31	N/A	Yes	ISO	1/4"
Drawmer	Drawmer 1961 Mastering EQ	Analog Tube	No	Mastering/parametric	2/4	20 Hz-25 kHz	No	LP; HP	(2) XLR
Electrix	EQ Killer	Analog	N/A	3-way, 24 dB/oct summed crossover	2/3	N/A	N/A	24 dB/octave	(4) RCA
Focusrite	Red 2 Dual Equalizer	Analog	No	Parametric	2/4	40Hz-18 kHz	Yes/variable	LP; HP	Balanced 1/4"; XLR
Focusrite	ISA 110 Mono Mic Pre and EQ	Analog	No	Parametric	1/4	40 Hz-18 kHz	Yes/variable	LP; HP	Balanced 1/4"; XLR
Focusrite	ISA 215 Dual Mic Pre and EQ	Analog	No	Parametric	2/4	40 Hz-18 kHz	Yes/variable	LP; HP	Balanced 1/4"; XLR



DIGITAL I/O #/TYPE	INPUT/OUTPUT GAIN CONTROL	MAX BOOST/CUT	OPERATING LEVEL	HARD BYPASS	DYNAMIC RANGE	THD	WEIGHT (LBS.)	DIMENSIONS	PRICE
No	N/Y	±12 dB	-10 dB	Yes	107 dB A-weighted	< 0.005% @ 0 dB (20 Hz-20 kHz)	2.5	19x1.75x4	\$299
No	Y/Y	±15 dB	+4 dB	Yes	108 dB @ +4 dB	> 0.15 @ +10 dB	3	19x1.75x5.75	\$449
No	N/N	±12 dB	+4 dB	Yes	130 dB	< 0.07%	21	N/A	\$1,295
No	N/N	±12 dB	+4 dB	Yes	130 dB	< 0.07%	21	N/A	\$795
N/A	Y/Y	±15dB	+4 dB	No	>110 dB unweighted	< 0.01% @ 1 kHz, +20 dBu	14	19x3.5x8	\$2,569
N/A	Y/Y	+10/-20 dB	+4 dB	No	>110 dB unweighted infinity to +6 dB	< 0.01% @ 1 kHz, +20 dBu	14	19x3.5x8	\$1,899
N/A	Y/Y	±24 dB	+4 dB	Yes	123 dB	0.05%	17	19x3.5x12	\$4,000
N/A	Y/Y	+16/-48 dB	-10 dB/+ 4 dBu	No	104 dB	0.0075%	4.4	19x1.75x7	\$169
AES/EBU optional	N/N	graphic: ±16 dB; parametric: +16/-48 dB	+4 dBu	Yes	115 dB	0.004%	11	19x3.5x12	\$579
No	N/N	±15 dB	+4/-10 dB switchable	No	N/A	0.002% @ 1 kHz, +4 dBu	6.6	19x1.75x8.5	\$109
No	Y/Y	Filters: ±15 dB graphic: ±6 or ±12 dB	N/A	Yes	N/A	0.004% @ 1 kHz, +4 dBu	5.5	19x3.5x5.3	\$149
N/A	N/Y	±15 dB	+4 dBu nominal	Yes	>115 dB	< .005%	6.6	19x5.25x7.1	\$1,095
(1) XLR; AES/EBU	N/Y	±15 dB	+4 dBu nominal	No	>112 dB	< .005%	12	19x1.75x11	\$3,699
N/A	Y/Y	±20 dB	+4/-10 dB	Yes	118 dB	0.001%	11	19x5.25x8	\$3,299
N/A	Y/Y	±6 dB or ±12 dB (switchable)	Variable	Yes	N/A	N/A	4.5	19x1.75 x8.5	\$209
N/A	Y/Y	±6 dB or ±12 dB (switchable)	Variable	Yes	N/A	N/A	4.5	19x1.75x8.5	\$209
N/A	Y/Y	± 6 dB or ±12 dB	Variable	Yes	N/A	N/A	9	19x3.50 x8.5	\$309
N/A	Y/Y	+15 dB/ -30 dB	Variable from -10 dB to +4 dB	Yes	N/A	N/A	1.5	5.6x1.6x 5.5	\$30
No	Y/Y	Yes	+4/-10 dB	Yes	<112 dB unweighted	< 0.04%; 0.02% typical @ 1 kHz, +4 dBu	8.5	19x3.5x7.9	\$350
N/A	Y/N	Low cut	+4/-10 dB	Yes	115 dB	< 0.005%	10.6	199x5.25x7.9	\$470
N/A	Y/N	Low cut	+4/-10 dB	Yes	> 108 dB unweighted	< 0.04%; 0.02% typical @ 1 kHz, +4 dBu	N/A	19x5.25x7.9	\$800
N/A	Y/N	Low cut	+4/-10 dB	Yes	>108 dB unweighted	< 0.04%; 0.02% typical @ 1 kHz, +4 dBu	8.5	19x3.5x7.9	\$550
N/A	Y/N	Low cut	+4/-10 dB	Yes	>112 dB unweighted	< 0.04%; 0.02% typical @ 1 kHz, +4 dBu	8.5	19x3.5x7.9	\$550
N/A	Y/Y	±12 dB	-10 to +4 dB	Yes	N/A	0.004%	N/A	19x1.75x6	\$250
N/A	Y/Y	±12 dB	-10 to +4 dB	Yes	N/A	0.004%	N/A	19x1.75x6	\$250
N/A	Y/Y	±12 dB	-10 to +4 dB	Yes	N/A	0.004%	N/A	19x3.75x6	\$250
N/A	Y/Y	±12 dB	-10 to +4 dB	Yes	N/A	0.004%	N/A	19x3.5x6	\$370
No	Y/N	±18 dB	-10/+4 dB	Yes	120 dB	< 0.01%	18	19x3.5x8	\$2,549
N/A	Y/Y	+6 dB	+4 dB	No	>90 dB	< 0.3%	2.5	10x3.5x3.5	\$300
N/A	Y/N	±18 dB	+4 dB	Yes	>98 dB	0.02%	N/A	2U rackmount	\$3,395
N/A	Y/N	±18 dB	+4 dB	Yes	>98 dB	0.001%	N/A	1U rackmount	\$2,900
N/A	Y/N	±18 dB	+4 dB	Yes	>98 dB	0.0025%	N/A	2U rackmount	\$4,995

# EQUALIZERS

MANUFACTURER	PRODUCT	ANALOG/DIGITAL	PROGRAMMABLE	TYPE/ BANDWIDTH	# OF CHANNELS/ # OF BANDS	FREQUENCY RANGE (PARAMETRIC)	CONSTANT Q	FILTERS	ANALOG I/O #/TYPE
Furman	Q-151 and Q-151B	Analog	N/A	2/3 octave	1/15	N/A	Yes	Low cut	N/A
Furman	Q-301 and Q-301B	Analog	N/A	1/3 octave	1/30	N/A	Yes	N/A	N/A
Furman	Q-602 and Q-602B	N/A	N/A	1/3 octave	1/30	N/A	Yes	N/A	N/A
Furman	Q-152 and Q-152B	N/A	N/A	2/3 octave	1/15	N/A	Yes	N/A	N/A
Furman	Q-302 and Q-302B	N/A	N/A	1/3 octave	1/30	N/A	Yes	N/A	N/A
Geoffrey Daking	52270 Mic-Pre & 4 Band Equalizer	Analog	No	Discrete -1 @10Hz -3@ 56kHz	1/4	N/A	No	HP, LP	(1) XLR
HHB	HHB Radius 20	Analog	No	Parametric/Q range 4.5	2/4	30 Hz-20 kHz	No	None	(4) XLR, 1/4"
Joemeek	VC5	Analog	No	Parametric	2/3	600 Hz-3.5 kHz	N/A	N/A	(2) 1/4"
Langevin	Langevin Pultec EQ	Analog	No	High/low	1/2	20 Hz - 20 KHz	Yes/variable	No	XLR; unbalanced 1/4"
Manley Labs	Massive Passive Stereo Tube EQ	Analog	No	Quasiparametric	2/4	22 Hz-27 kHz	No	HP, LP	(4) XLR, 1/4"
Manley Labs	EQP1-A Enhanced Pultec EQ	Analog	No	High/low	1/2	20 Hz-20 kHz	No	No	Balanced XLR; unbal. 1/4"
Manley Labs	Stereo Pultec EQ	Analog	No	Passive EQ	2/2	20 Hz-20 kHz	No	No	Balanced XLR; unbal. 1/4"
Millennia Media	NSEQ-2 Twin Topology	Analog	No	Parametric 4-band	2/4	20 Hz-25 kHz	Yes	High/low shelving	XLR
Nightpro	EQ3D	N/A	No	N/A	2/5	N/A	N/A	N/A	N/A
Nightpro	EQ3	Analog	No	Parametric	2/6	10 Hz-40 kHz	N/A	N/A	N/A
Roland	SRQ-2031 Digital Graphic EQ	Digital	Yes	1/3 octave	2/31	20 Hz-22.5 kHz	N/A	1/3 octave	(4) 1/4" TRS, XLR
Roland	SRQ-4015 Digital Graphic EQ	Digital	Yes	1/3 octave	4/15	20 Hz-22.5 kHz	N/A	1/3 octave	(4) 1/4" TRS, XLR
Sabine	GRAPHI-Q	Digital	Yes	Multigraphic: 1/3 oct ISO; para: 12 fltrs	2/31	20 Hz-20 kHz	Yes	HP, LP	(4) XLR, 1/4" TRS
Sabine	GRAPHI-Q	Digital	Yes	Multigraphic: 1/3 oct ISO; para: 12 fltrs	1/31	20 Hz-20 kHz	Yes	HP, LP	(3) XLR; (2) 1/4"
Sabine	Power-Q ADF-4000	Digital	Yes	Multigraphic: 1/3 oct ISO; para: 12 fltrs	1/31	20 Hz-20 kHz	Yes	HP, LP	(3) XLR; (3) 1/4" TRS
Sabine	Real-Q2	Digital	Yes	Multigraphic: 1/3 oct ISO	1/31	20 Hz-20 kHz	Yes	HP, LP	(3) XLR; (3) 1/4" TRS
Samson	E30i	Analog	No	Graphic 2/3 octave	2/15	N/A	Yes	Parallel	Balanced 1/4", XLR
Samson	E31i	Analog	No	Graphic 1/3 octave	1/31	N/A	Yes	Parallel	Balanced 1/4", XLR
Samson	E62i	Analog	No	Graphic 1/3 octave	2/31	N/A	Yes	Parallel	Balanced 1/4", XLR
Speck	Model EQ16-32	Analog	No	Semi-parametric	16/3	50 Hz-15 kHz	Yes/variable	No	(32) 1/4" TRS
Speck	Model EQ16-16	Analog	No	Semi-parametric	16/3	50 Hz-15 kHz	Yes/variable	No	(16) 1/4" TRS
SPL Electronics	Tube Vitalizer (model 9530)	Analog	No	Program EQ	2/5	10 Hz-100 kHz	N/A	Resonant	XLR; 1/4"
SPL Electronics	Stereo Vitalizer MK2-T	Analog	No	Program EQ	2/5	20 Hz-100 kHz	N/A	Resonant	XLR; 1/4"
SPL Electronics	Classic Vitalizer	Analog	No	Program EQ	2/5	20 Hz-50 kHz	N/A	Resonant	XLR; 1/4"
SPL Electronics	Stereo Vitalizer 9215 MK2	Analog	No	Program EQ	2/5	20 Hz-50 kHz	N/A	Resonant	XLR; 1/4"
SPL Electronics	Stereo Vitalizer Jack	Analog	No	Program EQ	2/5	20 Hz-100 kHz	N/A	Resonant	XLR; 1/4"
SPL Electronics	Quire	Analog	No	Parametric 3-band	2/3	10 Hz-100 kHz	Yes	N/A	XLR; 1/4"
Studiomaster	SEQ 152	Analog	No	Graphic	2/15	20 Hz-20 kHz	Yes	Butterworth	Balanced XLR, 1/4" RTS
Studiomaster	SEQ 311	Analog	No	Graphic	1/31	20 Hz-20 kHz	N/A	Butterworth	Balanced XLR, 1/4" RTS
Summit Audio	EQF-100	Analog	No	Quasiparametric	1/4	5 Hz-100 kHz	Yes	HP	XLR
Summit Audio	EQF-200B	Analog	No	Program EQ	2/N/A	5 Hz-100 kHz	No	HP	(4) XLR

DIGITAL I/O  
#/TYPEINPUT/OUTPUT GAIN  
CONTROL

MAX BOOST/CUT

OPERATING LEVEL

HARD BYPASS

DYNAMIC RANGE

THD

WEIGHT

DIMENSIONS

PRICE

N/A	N/A	+6 dB or +12 dB	N/A	N/A	N/A	N/A	N/A	N/A	\$399 and up
N/A	N/A	+6 dB or +12 dB	N/A	N/A	N/A	N/A	N/A	N/A	\$389 and up
N/A	N/A	+6 dB or +12 dB	N/A	N/A	N/A	N/A	N/A	N/A	\$699 and up
N/A	N/A	15-135 kHz @ 12 dB per octave	N/A	N/A	N/A	N/A	N/A	N/A	\$489 and up
N/A	N/A	15-135 kHz @ 12 dB per octave	N/A	N/A	N/A	N/A	N/A	N/A	\$469 and up
N/A	Y/Y	±17.5 dB	+28 dB	Yes	96 dB	<.0033%	7.5	12.25x1.75x10.5	\$1,495
N/A	Y/Y	±15 dB	+4/-10 dB	Yes	106 dB; 0 dB gain	N/A	5.5	19x3.5x7.9	\$749
N/A	Y/Y	±18 dB	+4/-10 dB	Yes	N/A	.01%	5	1x1.75x5	\$400
No	Y/Y	±10 dB (+17 0dB HF boost)	+4/-10 dB	Yes	127 dB	< 0.04%	11	19 x1.75x10	\$1,275
No	Y/Y	±20 dB	+4/-10 dB	Yes	122 dB	0.05%	24	19x5.25x10	\$4,800
No	Y/Y	±10 dB - ±17 dB	+4/-10 dB	Yes	130 dB	< 0.04%	11	19 x1.75x10	\$2,150
No	Y/Y	±10 dB - ±17 dB	+4/-10 dB	Yes	130 dB	< 0.04%	15	19x 3.5x10	\$3,300
N/A	N/A	±20 dB	+4 dB	Yes	>100 dB	>.002%	25	19x3.5x12	\$2,995
N/A	N/A	N/A	N/A	N/A	N/A	0.005%	7	19x1.75x7.5	\$1,050
N/A	N/A	±15 dB; +30 dB high shelf	N/A	N/A	20 dB	0.005%	15	2U rackmount	\$4,500
N/A	Y/Y	N/A	+4/-20 dB	Yes	N/A	N/A	N/A	19x1.75x8.85	\$845
No	Y/Y	N/A	-20/+4 dB	Yes	N/A	N/A	N/A	19x8.85x1.75	\$945
(1) RS 232 serial	Y/Y	Graphic: ±6 or ±12 dB; parametric: +12 to -84 dB	+29 dB	Yes	>110 dB	< 0.01% @ 1 kHz	9	19x3.5x9.5	\$1,099 and up
(1) RS 232 serial	Y/Y	Graphic: ±6 or ±12 dB; parametric: +12 to -84 dB	+29 dB	Yes	>110 dB	< 0.01% @ 1 kHz, +22 dBv	9	19x3.5x9.5	\$700 and up
(1) RS 232 serial	Y/Y	Graphic: ±6 or ±12 dB; parametric: +12 to -84 dB	+29 dB	Yes	>110 dB	< 0.01% @ 1 kHz, +22 dBv	9	19x3.5x9.5	\$1,795
(1) RS 232 serial	Y/Y	Graphic: ±15 dB	+29 dB	Yes	>110 dB	< 0.02% @ 1 kHz, +22 dBv	9	19x3.5x9.5	\$2,000
N/A	Y/Y	±12 dB	+4 dB	Yes	N/A	N/A	4.95	19x1.75x7.5	\$250
N/A	Y/Y	±12 dB	+4 dB	Yes	N/A	N/A	4.95	19x1.75x7.5	\$250
N/A	Y/Y	±12 dB	+4 dB	Yes	N/A	N/A	9.9	19x3.5x7.5	\$380
N/A	N/N	±15 dB	+4 dB	Yes	>110 dB	0.003%	22	3U rackmount	\$2,595
N/A	N/N	±15 dB	+4 dB	Yes	>10 dB	0.003%	20	3U rackmount	\$1,745
No	Y/Y	±20 dB	0 dB/+6 dB	Yes	110 dB	0.002%	10.8	19x3.4x9	\$2,899
N/A	Y/N	±20 dB	0 dB/+6 dB	Yes	110 dB	0.01855%	7.5	19x1.75x9	\$979
N/A	Y/N	±20 dB	0 dB/+6 dB	Yes	110 dB	0.002%	7.5	19x1.75x9	\$799
N/A	Y/N	±20 dB	0 dB/+6 dB	Yes	110 dB	0.002%	7.5	19x1.75x9	\$599
N/A	N/A	±20 dB	0 dB	Yes	103 dB	0.01855%	4.4	19x1.75x9	\$299
N/A	Y/Y	±15 dB; MF +15/-30 dB	0 dB/+6 dB	Yes	119 dB	0.01855%	10.8	19x3.4x9	\$1,795
N/A	Y/N	±15 dB	-10/+4 dB	Yes	110 dB	> 0.1%	10	19x3.5x10	\$349
N/A	Y/N	±15 dB	-10/+4 dB	Yes	110 dB	> 0.1%	10	19x3.5x10	\$329
N/A	N/N	+18/-20 dB	+4 dB	Yes	105 dB	0.05% @ +4 dBm	16	19x3.5x10	\$3,950
N/A	N/N	±20 dB	+4 dB	Yes	105 dB	0.05% unweighted	19	19x3.5x10	\$2,500

# EQUALIZERS

EQUALIZERS

MANUFACTURER	PRODUCT	ANALOG/DIGITAL	PROGRAMMABLE	TYPE/ BANDWIDTH	# OF CHANNELS/ # OF BANDS	FREQUENCY RANGE (PARAMETRIC)	CONSTANT Q	FILTERS	ANALOG I/O #/TYPE
Summit Audio	MPE-200	Analog	Yes	Parametric 4-band	2/4	2 Hz-200 kHz	Yes	HP, LP	(4) XLR
Summit Audio	EQ-200	Analog with digital control	Yes	Parametric 4-band	2/4	2 Hz-200 kHz	Yes/variable 0.6 - 2.0	HP, LP	(4) XLR
Summit Audio	EQ-200 Slave	Analog with digital control	Yes	Parametric 4-band	2/4	2 Hz-200 kHz	Yes/variable 0.6 - 2.0	HP, LP	(4) XLR
TC Electronic	1128	Analog	Yes	Graphic	2/28	N/A	N/A	N/A	(2) XLR
TC Electronic	2240	Analog	Yes	Parametric	2/4	20 Hz-20 kHz	N/A	N/A	(2) XLR
TL Audio	Ivory 5013	Analog	N/A	Parametric	2/4	30 Hz-20 kHz	Yes/variable 0.5 to 5.0	N/A	XLR; 1/4" TRS
TL Audio	Classic EQ2 Equalizer	Analog	N/A	Parametric	2/4	30 Hz-20 kHz	Yes/variable 0.5 to 5.0	High/low cut	XLR; 1/4" TRS
Tube Tech	ME-1B	Analog	No	Mid EQ	1/3	5 Hz-40 kHz	N/A	N/A	(1) XLR
Tube Tech	EQ-1A	Analog	No	Parametric w/ sweep mids	1/6	16 Hz-25 kHz	N/A	High/low cut	XLR
Tube Tech	EQ-1AM	Analog	No	Parametric w/ sweep mids	1/6	16 Hz-26 kHz	N/A	High/low cut	XLR
Weiss Engineering	EQ1 Digital Parametric Equalizer	Digital	Yes	Parametric	2/7	20 Hz-20 kHz	Yes	High/low cut; high/low shelve; peak	N/A
XTA	DP202	Digital	Yes	Parametric 1/32 to 2 octave	2/8+	20 Hz-20 kHz	Yes/variable	HP, LP	XLR
XTA	GQ800 Dual Channel Graphic Equalizer	Analog	No	Graphic 1/3 octave	2/30	N/A	No	N/A	2
Z-Systems	z-q1, z-q6	Analog	N/A	Parametric 4-band	N/A	28 Hz-18 kHz	N/A	Parametric; shelving	N/A



Recording Institute of Technology

A professional recording engineer has to work fast and get it right on the first take. Engineers learn their craft through hands-on experience. Add guidance from a team of instructor professionals, a practical, tested production, state-of-the-art facilities and a 24-hour, full-music environment and you've got an experience that's unreal: the Recording Institute of Technology.

## Unreal World Experience



### LEARN

Classes in Acoustics, Electronics, Recording Theory, Music Production, Hard Disc Editing, Automation, Live Sound, and more. Access to MI's world-famous performance workshops and seminars.

### RECORD

SSL 4000G+, NEVE VX/Flying Faders, Otari Status 18R consoles. Sony PCM 24-track digital, Otari MTR90 tape decks. Full state-of-the-art outboard gear. Protocols 4.2. 10 ADAT/XTM workstations. Roger Nichols/Studio Bauton-designed rooms.

### WORK

Weekly board time. Engineer your own project from tracking to mastering. RIT students have earned credits on internationally released recordings produced at MI by artists such as Dennis Chambers, Steve Smith, Victor Wooten, Scott Henderson, Gary Willis, Frank Gambale, Stu Hamm and others.



VISIT: [www.mi.edu](http://www.mi.edu) CALL USA/CANADA: 1-800-255-PLAY INTERNATIONAL: 323-462-1384

**New Recording Artist Program now offered. Call us for details!**

DIGITAL I/O # / TYPE	INPUT/OUTPUT GAIN CONTROL	MAX BOOST/CUT	OPERATING LEVEL	HARD BYPASS	DYNAMIC RANGE	THD	WEIGHT	DIMENSIONS	PRICE
No	Y/Y	±16 dB	+4 dB	Yes	>120 dB	< .0025% @ +20 dBu	27	N/A	\$4,495
No	Y/Y	±16 dB	+4 dB	Yes	> 120 dB	< .0025% @ +20 dBu	27	N/A	\$3,995
No	Y/Y	±16 dB	+4 dB	Yes	> 120 dB	< .0025% @ +20 dBu	27	N/A	\$3,495
N/A	Y/Y	N/A	N/A	Yes	>100 dB	0.0002%	11	1U rackmount	\$2,742
N/A	Y/Y	N/A	N/A	Yes	>116 dB	0.015%	7.7	1U rackmount	\$1,288
N/A	Y/Y	±15 dB	-10/ +4 dB	N/A	106 dB	0.05%	N/A	19x3.5x10	\$749
N/A	Y/Y	±15 dB	-10/ +4 dB	N/A	100 dB	0.05%	N/A	19x 5.25x10	\$2,950
N/A	N/A	N/A	N/A	Yes	N/A	0.15%	12.3	2U rackspace	\$1,819
No	Y/Y	N/A	N/A	Yes	N/A	0.10%	12.1	2U rackspace	\$4,395
No	Y/Y	N/A	N/A	Yes	N/A	0.10%	12.1	2U rackspace	\$5,695
AES/EBU	Y/Y	±18 dB	N/A	No	144 dB	N/A	12.1	2U rackspace	\$3,500 and up
XLR; AES/EBU	Y/Y	-25 to +155 dB	+4 dB	No	105 dB	0.02%	8	19x1.75x11.8	\$2,475
N/A	Y/Y	±10 dB	+23 dB	Yes	117 dB	0.01%	14	199x5.25x9.3	\$1,650
AES/EBU	Y/Y	N/A	N/A	N/A	N/A	N/A	13, 18	N/A	\$3,000 and up

# Earthworks

*Great Sex!*

QTC1 Z30XL Z30X SR78 SR77 TC30K M30 SR71



SR69

SRO

*Real Value To Fit Every Budget*

*made you look! ...but seriously, we do offer great sound at affordable prices.*

real: +1-603-654-6427 (fax: 6107) virtual: [www.earthwks.com](http://www.earthwks.com) postal: box 517 Wilton NH 03086

## MIDI INTERFACES, PATCH BAYS &amp; PROCESSORS

MANUFACTURER	PRODUCT	COMPUTER INTERFACE	# OF MIDI INS/OUTS	MERGING	FILTERING	RECHANNELIZING	CONTROLLER REMAPPING	KEYBOARD SPLIT/ZONES	# OF PATCHES	SYNCHRONIZATION TYPE	SPECIAL FEATURES	PRICE
Behringer	UltraPatch ProPX2000	N/A	N/A	N/A	None	N/A	N/A	N/A	24	N/A		\$59
DACS	DACS MIDI Patch Bay	N/A	10/10	No	No	No	No	N/A	40	N/A	Uses 1/4" patch cords	\$295
Digital Music	MX-28M MIDI Patch Bay	N/A	2/8	Yes	No	Yes	No	Yes	N/A	N/A	Mapping; transposition; LED data indctrs; panic btn	\$399
Digital Music	MX-28S MIDI Patch Bay	N/A	2/8	No	No	No	No	N/A	N/A	N/A	Output disable; LED data indctrs	\$89
Digital Music	MX-8 MIDI Patch Bay	N/A	6/8	Yes	Yes	Yes	No	Yes	50	N/A	Vel scaling/cmpndr; vel cross-switch/MIDI dlys; ptch chaining; alphanum dsply	\$399
Digital Music	The Funnel	N/A	6/1	No	No	No	No	N/A	N/A	N/A	Auto MIDI input slctr for routing SysEx data	\$79
Doepfer	Pocket Control	N/A	1/1	Yes	N/A	-	-	-	-	-	MIDI control box with 16 rotary controls	\$125
Edrol	ED UM-2 USB MIDI Interface	USB	2/2	No	No	No	No	N/A	N/A	MTC	Power supplied by USB bus	\$99
Edrol	ED UM-4 USB MIDI Interface	USB	4/4	No	No	No	No	N/A	N/A	N/A	Power supplied by USB bus; 4 units stackable	\$199
EGO-Systems	Miditerminal 4140	Printer port	4/4	No	No	No	No	N/A	N/A	MTC; SMPTE (LTC)	SMPTE generator/reader; optional connection to Waveterminal	\$150
EGO-Systems	Miditerminal M4U	USB	4/4	No	No	No	No	N/A	N/A	MTC; SMPTE (LTC)	SMPTE generator/reader; 4 units stackable	\$170
Emagic	AMT 8	USB, Serial	8/8	Yes	Yes	No	No	N/A	32	N/A	Exp. to 192 MIDI I/O; Mac/PC	\$499
Emagic	Unitor 8 MkII	USB, Serial	8/8	Yes	Yes	No	No	N/A	32	SMPTE; VITC	VTC brn-in; updtbl frmwr; click in; OMS; Free MIDI/MME comp; Mac/PC	\$799
Emagic	Emagic's MT4	USB	2/4	Yes	Yes	No	No	No	32	N/A	Software included for patch bay programming; Mac/PC	\$199
Infusion Systems	I-CubeX	N/A	1/1	N/A	N/A	No	N/A	N/A	1	N/A	Use with our Sensors to create alternate MIDI controllers	\$615
JLCooper	MLA-1/MLA-10	N/A	4/4	No	No	No	No	N/A	N/A	N/A	Extends MIDI cable runs over 1,000'	\$370; \$500
Mark of the Unicorn	FastLane	Mac serial	1/3	No	No	No	No	N/A	N/A	N/A	Pwrs off cmpr; bypass allows use of MIDI cntrlr when cmpr is off	\$59
Mark of the Unicorn	Micro Express-USB	USB, Mac serial	4/6	Yes	Yes	Yes	No	N/A	16	SMPTE; MTC	Oprts w/o cmpr; supps MMC; freewheels ovr SMPTE drp-outs; cnvrts click to MIDI; 2 pdl ins	\$295
Mark of the Unicorn	MIDI Express XT-USB	USB, Mac serial	8/9	Yes	Yes	Yes	No	N/A	16	SMPTE; MTC	Oprts w/o cmpr; supps MMC; freewheels ovr SMPTE drp-outs; cnvrts click to MIDI; 2 pdl ins	\$395
Mark of the Unicorn	MIDI Timepiece AV-USB	USB, serial	8/8	Yes	Yes	Yes	No	N/A	128	SMPTE; MTC; video; word clock	Oprts w/o cmpr; MIDI time stamping many A/V sync features	\$595
Mark of the Unicorn	PC MIDI Flyer	PC	2/2	No	No	No	No	N/A	N/A	N/A	Pwrs off cmpr; bypass allows use of MIDI cntrlr when cmpr is off	\$89
Mark of the Unicorn	Pocket Express	Mac, PC	2/4	No	No	No	No	N/A	N/A	SMPTE; MTC	bypass allows use of MIDI cntrlr when cmpr is off; SMPTE free-wheeling ovr drp-outs	\$165
Mark of the Unicorn	FastLane USB	USB	2/2	No	No	No	No	No	N/A	N/A	5 fruity colors + charcoal; thru button passes MIDI in to out w/computer off	\$69
MIDI Solutions	F8 Footswitch Controller	N/A	1/1	Yes	No	Yes	No	N/A	N/A	N/A	MIDI-pwrd	\$119; \$329
MIDI Solutions	Mapper	N/A	1/1	No	No	No	Yes	N/A	N/A	N/A	MIDI-pwrd; prog via SysEx	\$119
MIDI Solutions	Merger: Quadra Merge: M8	N/A	2/1; 4/1; 8/1	Yes	No	No	No	N/A	N/A	N/A	MIDI-pwrd	\$79-\$279
MIDI Solutions	Relay R8	N/A	1/1	No	No	No	No	N/A	128	N/A	MIDI-pwrd	\$119; \$429
MIDI Solutions	Rouler	N/A	1/2	No	Yes	Yes	No	Yes/10	N/A	N/A	MIDI-pwrd; prog via SysEx	\$119
MIDI Solutions	Thru; Quadra Thru; T8	N/A	1/2; 1/4; 1/8	No	No	No	No	N/A	N/A	N/A	All messages appearing at In sent to all outs; MIDI-pwrd	\$49; \$59; \$199

# The Perfect Family

stable, compatible, yet wild at heart

## E4XT Ultra \$3,595 MSRP



- 128 Voice Polyphony
- 64 MB of RAM (expandable to 128)
- 3.2 GB Hard Drive
- 32 MIDI Channels
- 8 balanced analog outs (expandable to 16)
- Word Clock and AES/EBU
- 9 CD ROMs (over 2 GB of Sounds)

## E6400 Ultra \$2,295 MSRP



- 64 Voice Polyphony (expandable to 128)
- 16 MB of RAM (expandable to 128)
- 16 MIDI Channels (expandable to 32)
- 8 balanced analog outs (expandable to 16)
- 9 CD ROMs (over 2 GB of Sounds)

## E5000 Ultra \$1,795 MSRP



- 64 Voice Polyphony
- 4 MB of RAM (expandable to 128)
- 16 MIDI Channels (expandable to 32)
- 4 balanced analog outs (expandable to 12)
- new E5000 Ultra Turbo loaded model, check with your E-MU Dealer!

Meet E-MU's E4 Ultra family of Sampling Synthesizers, the latest generation in a long line of ground-breaking instruments that goes back almost twenty years. From the big daddy E4XT to the new E5000, all E4 Ultras offer you the cutting edge features and specs that keep E-MU one step ahead of the competition, like:

- The lightning-fast Ultra processor for blazing DSP speed and dead-on MIDI timing
- Exclusive Beat Munging DSP tool for effortless creation and manipulation of grooves and beats
- Custom ROM creation for the Proteus® 2000 Sound Module
- The new 32-bit, 16 stereo channel RFX-32 Effects/Mixer Card for studio quality effects and routing (optional)
- Analog and digital I/O expansion modules, including the new 24-bit analog and ADAT I/O modules for the RFX-32 Card
- The rock-solid Emulator Operating System that is regularly upgraded with powerful new features
- Legendary Z-Plane filters that make your sounds scream
- Advanced modular synthesis that helps you create almost any sound imaginable
- Unmatched sound library and file compatibility (Roland S-700, AKAI S3000/1000/1100) that puts a world of quality sounds at your fingertips

With several models and a variety of options available, there is an E4 Ultra family member that is perfect for your application and budget.

Check out the E4 Ultra line of Sampling Synthesizers at your local E-MU Dealer today and join the Family!

**E-MU**

1600 Green Hills Rd., Scotts Valley, CA 95067  
Tel: 831.438.1921 Fax: 831.438.8612 [www.emu.com](http://www.emu.com)

# MIDI INTERFACES, PATCH BAYS & PROCESSORS

MANUFACTURER	PRODUCT	COMPUTER INTERFACE	# OF MIDI INS/OUTS	MIXING	FILTERING	RECHANNELIZING	CONTROLLER REMAPPING	KEYBOARD SPLIT/ZONES	# OF PATCHES	SYNCHRONIZATION TYPE	SPECIAL FEATURES	PRICE
MIDI Solutions	Velocity Converter	N/A	1/1	No	No	No	No	N/A	40	N/A	Applies velocity curves to MIDI data; MIDI-pwrld; prog via SysEx	\$119
MIDI Solutions	Pedal Controller	N/A	1/1	Yes	No	No	No	N/A	N/A	N/A	MIDI-pwrld	\$119
MIDI Solutions	Breath Controller	N/A	1/1	Yes	No	No	No	N/A	N/A	N/A	Accepts Yamaha BC3; MIDI-pwrld	\$199
MIDIator	MS-124	Serial	1/4	No	No	No	No	No	N/A	N/A		\$100
MIDIator	MS-101	Serial	1/1	No	No	No	No	No	N/A	N/A		\$70
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	No	No		\$110
MIDIator	MP-128SP	Parallel	2/8	No	No	No	No	No	No	SMPTE	SMPTE in and out	\$180
MIDIator	UM1	N/A	1/1	No	No	N/A	N/A	N/A	N/A	N/A	Keyboard encoder/solenoid low side driver up to 128 lines	\$215-\$345
MIDIator	UM2	N/A	1/1	No	No	N/A	N/A	N/A	N/A	N/A	Solenoid driver up to 128 lines	\$195-\$330
Midiman	USB Midisport 8x8	USB	8/8	Yes	No	No	No	N/A	N/A	SMPTE; MTC	USB and serial cable included; Mac/PC	\$400
Midiman	Macman	Mac	1/3	No	No	No	No	N/A	N/A	N/A	Passive thru; serial thru (geo port); serial cbl inc	\$60
Midiman	Merge 2x2	N/A	2/2	Yes	No	No	No	N/A	N/A	N/A	N/A	\$100
Midiman	USB MidiSport 1x1	USB	1/1	No	No	No	No	N/A	N/A	N/A	USB cable included; Mac/PC	\$80
Midiman	USB MidiSport 4x4	USB	4/4	No	No	No	No	N/A	N/A	N/A	USB cable included; Mac/PC	\$200
Midiman	Portman 4x4S	PC parallel	4/4	No	No	No	No	N/A	N/A	SMPTE; MTC	Extrnl 4x4 w/SMPTE; 4x4 patch bay/merger; native Win 95 drvrs	\$280
Midiman	Portman PC/P	PC	1/1	No	No	No	No	N/A	N/A	N/A	Includes cable (parallel)	\$80
Midiman	Portman PC/S	Serial	1/1	No	No	No	No	N/A	N/A	N/A	Includes PC serial cable	\$80
Midiman	Thru 1x4	N/A	1/4	No	No	No	No	N/A	N/A	N/A	N/A	\$60
Midiman	Winman 1x1	PC	1/1	No	No	No	No	N/A	N/A	N/A		\$70
Midiman	Winman 2x2	PC	2/2	No	No	No	No	N/A	N/A	N/A		\$90
Midiman	Winman 4x4/S	PC	4/4	Yes	No	No	No	N/A	N/A	SMPTE; MTC	64-chan; ISA; native Win 95 drvrs; 4x4 patch bay	\$250
Midiman	Thru 3x8	N/A	3/8	No	No	No	No	N/A	N/A	N/A	N/A	\$100
Midiman	Bi Port 2x4	Mac; PC	32/64	No	No	No	No	N/A	N/A	SMPTE; MTC	Serial port intric	\$180
Midiman	USB MidiSport 2x2	USB	2/2	No	No	No	No	N/A	N/A	N/A	USB cable included; Mac/PC	\$100
Rolls	RFX MP1288	N/A	1/1	Yes	No	No	Yes	N/A	128	N/A	MIDI song select & strl/stp; up to 8 prgrm chngs on 8 MIDI chans w/1 switch; 8 CCs	\$200
	MIDI Wizard											
Seekers	Seekers UMC-1688	N/A	1/2	Yes	Yes	No	No	N/A	40	N/A	16 knobs, 8 buttons and 8 laders for real time control	\$369
Steinberg	Micro MIDI Interface	Mac	1/1	No	No	No	No	N/A	N/A	N/A	Portable; no power supp required	\$49
Steinberg	USB 2 MIDI	Mac/PC; USB	2/2	No	No	No	No	No	No	No	Thru switch; different colors available	\$99
Yamaha	UX256	USB	6/6	Yes	No	N/A	N/A	N/A	N/A	N/A	Bundeled patch bay software for Mac and PC; self powered	\$300



great sound  
**JUST GOT  
 EASIER**

The **ORIGIN STT-1**

*with Twin Topology...  
 combines a single channel  
 of every Millennia solid state  
 and vacuum tube audio  
 function ...over 130  
 product combinations  
 in one toolbox.*



**AT THE TOUCH  
 OF A BUTTON**

**Vacuum Tube  
 OR  
 Discrete Transistor  
 Selectable at Every Function**



**Transformer  
 or  
 Transformerless  
 Input**



**Vacuum Tube Mic Preamp  
 Solid State Mic Preamp  
 Vacuum Tube DI Instrument Input**

**Eight  
 Input &  
 Output  
 Choices**



**4-Band Vacuum Tube  
 Parametric EQ  
 4-Band Solid State  
 Parametric EQ**



**Vacuum Tube Opto-Compressor & De-esser  
 Solid State Opto-Compressor & De-esser**



**Uncompromised Millennia sonic performance. Priced under \$3,000**

Millennia Media, Inc.  
 Pleasant Valley, CA

530-647-0750  
 Fax 530-647-9921  
[www.mil-media.com](http://www.mil-media.com)

**Millennia**  
 Music & Media Systems



# SYNCHRONIZERS

MANUFACTURER	PRODUCT	SMPT	JAM SYNC	FREEWHEELING	MTC/MMC	SPECIAL FEATURES	PRICE
Aardvark	AardSync II - Master Clock Generator	No	N/A	N/A	N/A	Low-jitter clock; eliminates digital clicks; NTSC/PAL	\$1,795
Aardvark	Sync DA - Word Clock Distribution Amp	No	N/A	N/A	No/No	Generates word clock from AES/EBU; 5 WC outputs	\$845
Aardvark	TimeSync II - Universal Time Code Synchronization	Yes	Yes	Yes	Yes	Derives ultra-low jitter word clock & MTC from LTC/VITC in	\$1,295
Alesis	BRC Master Remote	Yes	No	Yes	Yes/Yes	Connects directly to ADAT; video in; word-clock I/O	\$1,499
Audio Engineering Associates	CB Electronics MC-1	Yes	Yes	Yes	No/No	9-pin control of 35mm film dubbers; timecode drivers for DAWs.	\$7,945
Digidesign	Universal Slave Driver (USD)	Yes	Yes	Yes	Yes/No	LTC, VITC, biphasic, pilot tone; near sample-accurate lock; pull-up/down; window burn	\$2,095
Digidesign	Video Slave Driver (VSD)	Yes (VITC)	No	No	No/No	NTSC or PAL; resolves sample clock to video black	\$995
Independent Audio	Motionworks R2P2	Yes	Yes	Yes	Yes/Yes	Sony 9-pin serial control	\$1,225
JLCooper	dataSYNC2	Yes	No	No	Yes/Yes	ADAT interface; drives sequencers/DAWs w/o track; MTC/SMPT/MIDI clock with song position pointer; bi-dir MIDI	\$300
JLCooper	MMC/9 Pin	Yes	Yes	Yes	Yes/Yes	9-pin control; records from MMC-sequencers, DAWs	\$500
JLCooper	PPS-2	Yes	Yes	Yes	Yes/No	Reads/gens SMPT tc & converts SMPT to MTC or DTL	\$170
Mark of the Unicorn	Digital Timepiece	Yes (LTC, VITC)	Yes	Yes	Yes/Yes	MTC; Sony 9-pin; video, ADAT, DA-88, S/PDIF sync; 0.1% pull-up/down sample rates (44.1/48 kHz)	\$995
Midiman	Syncman	Yes	Yes	No	Yes/No	Syncs sequencers to tape or video	\$200
Soundscape	Rosendahl Nanosync	Yes	N/A	N/A	N/A	Low-jitter master clock generator, S/PDIF, AES, (6) word/super clock outputs; (4) video outputs; video sync generator	\$1,000
Soundscape	Rosendahl WIF2	Yes (LTC and VITC)	Yes	Yes	Yes/No	Word clock/superclock out from LTC or video output, film/video pull up/down, MTC out for VITC jog/shuttle	\$775
Soundscape	Rosendahl MIF3	Yes (LTC)	Yes	Yes	Yes/No	Reclocks LTC for stable output from MTC input with jitter, LTC stationary frame output for MTC full frame	\$399
Soundscape	Rosendahl BIF	Yes	Yes	Yes	Yes/Yes	Positional LTC and MTC full/MMC locale in jog/shuttle; LTC and MTC gen from bi-phase signals	\$775
Soundscape	Rosendahl LIF	Yes	Yes	Yes	Yes/Yes	Generates LTC, MTC from LANC-embedded code; positional LTC and MTC full/MMC locale in jog/shuttle	\$775
Soundscape	Rosendahl VIF	Yes	Yes	Yes	Yes/No	VITC-LTC/MTC and LTC-MTC conversion; MTC full frame output for VITC jog/shuttle	\$649
Steinberg	ACI ADAT	No	No	No	Yes/Yes	Syncs computer to ADAT w/o audio track	\$399
Steinberg	Steinberg Time Lock Pro	Yes	Yes	Yes	Yes	Word clock or Digidesign superclock lockup less than 0.4 seconds	\$999
TimeLine	Lynx-2	Yes	Yes	Yes	Yes/No	Cross-frame sync; film-card option	\$2,995
TimeLine	MicroLynx	Yes	Yes	Yes	Yes/No	Includes 2-machine sync/kybd cntrl audio clock-gen; VITC reader card avail, cntrl; audio clock	\$2,995

# WORLD<sup>®</sup>

REPLICATION GROUP

**CD  
Duplication**

**Video  
Duplication**

**Digital Audio  
Cassettes**

**In-House  
Graphics/  
Packaging**

**Fulfillment**

Call  
1-800-463-9493  
for your

**FREE**  
Buyer's Guide



Visit our  
Website at:  
[www.worldreplication.com](http://www.worldreplication.com)

## WORLD<sup>®</sup>

REPLICATION GROUP



**Wholesale Buyer's Guide**

Superb Sound • Free Services • No Hidden Extras  
Professional Graphics • Nationwide Delivery Dates



**4600 Witmer Industrial Estates, Suite 2, Niagara Falls, NY, 14305**  
**Toll Free: 1-800-463-9493 • Fax: (905) 433-1868**  
**E-mail: [service@worldreplication.com](mailto:service@worldreplication.com)**

**In Canada: 1712 Baseline Rd. W., Bowmanville, Canada L1C 3Z3 (905) 433-0250**

# ELECTRONIC MUSICAL INSTRUMENTS & MICROPHONES

- 170** MICROPHONES
- 182** KEYBOARD SYNTHESIZERS & SAMPLERS
- 188** SYNTHESIZER & SAMPLER MODULES
- 194** DRUM MACHINES

## PAINT — CAPTURE

The term “electronic musical instrument” can refer to theremins, wind controllers, and Radio Shack oscillator kits, as well as MIDI synthesizers, samplers, and drum machines; but the latter three product types remain the focus of this year’s guide. The first and second charts list keyboard synths and samplers and their module-based siblings. The third chart lists microphones, and the fourth is a roundup of drum machines.

Owing to their shared sound engines, the features columns are practically identical for module- and keyboard-based synths and samplers in their respective charts. The keyboard grouping includes additional information on number of keys, keyboard zones, and left-hand controllers. About half of the products in both charts offer built-in sequencers, and in the special features column you’ll find info on arpeggiators, SCSI support, synthesis types, trigger inputs, and audio file compatibility.

This year’s microphone listings are by far the largest and most rapidly expanding category in the *Personal Studio Buyer’s Guide*. (Not surprisingly, the Microphone Preamps category is a close second; see page 100.) Thanks to such developments as improved manufacturing techniques, low-cost imports from Asia, and new versions of classic mics with reduced feature sets (e.g., fewer polar patterns), quality mics have come down in price to the point that almost any personal studio owner can afford to have a couple of good ones. Check out the type, polar patterns, and suggested applications columns to research the right mic for the job.

One-third of a page was all that was needed for last year’s Drum Machines chart, and this year’s version is no fatter. Why? Your guess is as good as ours, but perhaps it’s due to the recent explosion of loop-based programs, software synthesizers, keyboard samplers, drum sample CDs, MIDI drum files, and other drum-emulating tools. Velocity-sensitive pads, onboard effects, quantization types, MIDI ports, and the number of drum and nonpercussive sounds included are among the features worth noting before deciding which drum machine to bang away on.



# Capture the Warmth. Vintage-style.

When it comes to capturing the essence of a musical moment, every nuance... each subtlety... it's hard to beat the warmth of a vintage-style, large-diaphragm microphone.

That's why we created the new AT4047/SV. It offers the sonic characteristics reminiscent of early F.E.T. studio microphones and delivers the consistent performance and reliability you've come to expect from A-T's 40 Series.



The AT4047/SV gives you a perfect blend of classic sound and modern precision engineering. We call it a contemporary replication of vintage condenser technology. You'll call it amazing.

*AT4047/SV Cardioid  
Capacitor Microphone*

 **audio-technica.**

# MICROPHONES

MANUFACTURER

PRODUCT

TYPE

POLAR PATTERNS

INTERNAL ROLL-OFF

INTERNAL PAD

MANUFACTURER	PRODUCT	TYPE	POLAR PATTERNS	INTERNAL ROLL-OFF	INTERNAL PAD
ADK	A-51	Condenser	Cardioid	N/A	N/A
ADK	A-51s	Condenser	Cardioid	N/A	N/A
ADK	A-51TC	Condenser	Cardioid	N/A	N/A
ADK	Area51	Condenser	9 (omni/cardioid/figure-8)	N/A	N/A
AKG	C 1000S	Condenser	Cardioid	N/A	N/A
AKG	C 3000B	Condenser	Cardioid	500 Hz	-10 dB, switchable
AKG	C 400BL	Condenser	Hypercardioid boundary layer	N/A	N/A
AKG	C 414B/TLII	Condenser	Cardioid; hypercardioid; omni; figure-8	75 Hz/150 Hz	-10 dB/-20 dB, switchable
AKG	C 414B/UJS	Condenser	Cardioid; hypercardioid; omni; figure-8	75 Hz/150 Hz	-10 dB/-20 dB, switchable
AKG	C 416/C416 B	Condenser	Hypercardioid	N/A	N/A
AKG	C 418/C 418 B	Condenser	Hypercardioid	N/A	N/A
AKG	C 419/C 419 B/C 419 L	Condenser	Hypercardioid	N/A	N/A
AKG	C 420/C 420 B/C 420 L	Condenser	Cardioid	N/A	N/A
AKG	C 480B-CK 61	Condenser	Cardioid	70 Hz/150 Hz	-6 dB, -10 dB
AKG	C 480B/CK 62ULS	Condenser	Omnidirectional	75 Hz/150 Hz	-10 dB, +6 dB
AKG	C 480B/CK 63ULS	Condenser	Hypercardioid	70 Hz/150 Hz	-10 dB
AKG	C 535EB	Condenser	Cardioid	100 Hz/500 Hz	-14 dB
AKG	C 547BL	Condenser	Hypercardioid boundary layer	200 Hz	N/A
AKG	C 562BL	Condenser	Hemispherical omnidirectional	N/A	N/A
AKG	C 5900	Condenser	Hypercardioid	150 Hz	N/A
AKG	C 680BL	Condenser	Cardioid boundary layer	N/A	N/A
AKG	C 747	Condenser	Hypercardioid	150 Hz	N/A
AKG	CK 91 (w/SE 300B)	Condenser	Cardioid	75 Hz	-10 dB
AKG	CK 92 (w/SE 300B)	Condenser	Omnidirectional	75 Hz	-10 dB
AKG	CK 93 (w/SE 300B)	Condenser	Hypercardioid	75 Hz	-10 dB
AKG	CK 94 (w/SE 300B)	Condenser	Figure-8	75 Hz	-10 dB
AKG	CK77 WR	Condenser	Omnidirectional	N/A	N/A
AKG	D 112	Dynamic	Cardioid	N/A	N/A
AKG	D 230	Dynamic	Omnidirectional	N/A	N/A
AKG	D 3700/D 3700S	Dynamic	Hypercardioid	N/A	N/A
AKG	D 3800	Dynamic	Hypercardioid	N/A	N/A
AKG	D 65S	Dynamic	Hypercardioid	N/A	N/A
AKG	D 770	Dynamic	Cardioid	N/A	N/A
AKG	D 880/D 880S	Dynamic	Supercardioid	N/A	N/A
Alesis	AM11	Condenser	Cardioid	75 Hz switchable	-10 dB switchable
Alesis	AM30	Condenser	Cardioid	75 Hz switchable	-15 dB switchable
Alesis	AM40	Condenser	Cardioid	75 Hz switchable	-15 dB switchable
Alesis	AM51	Condenser	Cardioid	75 Hz	-10 dB, switchable
Alesis	AM52	Condenser	Cardioid; figure-8; omni	75 Hz	-10 dB, switchable
Alesis	AM61	Condenser	Cardioid	75 Hz	-10 dB, switchable
Alesis	AM62	Condenser	Cardioid; figure-8; omni; supercardioid	75 Hz	-10 dB, switchable
Audio Engineering Associates	AEA R44C/AEA R44CX	Ribbon	Bidirectional	N/A	N/A
Audio-Technica	AT3525	Condenser	Cardioid	80 Hz	-10 dB
Audio-Technica	AT3527	Condenser	Omnidirectional	80 Hz	-10 dB
Audio-Technica	AT3528	Condenser	Cardioid	80 Hz	-10 dB
Audio-Technica	AT4033a/SM	Condenser	Cardioid	80 Hz	-10 dB
Audio-Technica	AT4041	Condenser	Cardioid	80 Hz	N/A
Audio-Technica	AT4047/SV	Condenser	Cardioid	80 Hz	-10 dB

MAX. SPL	FREQUENCY RESPONSE	SUGGESTED APPLICATIONS	SPECIAL FEATURES	PRICE
130 dB	20 Hz-20 kHz	Vocals; guitar; reed and woodwinds	Frequency curves derived from vintage tube mics	\$440-\$495
140 dB	20 Hz-20 kHz	Vocals; electric/acoustic guitars; drums; bass	Proximity boost	\$550-\$595
125 dB	20 Hz-20k Hz	Vocals; narration; acoustic instruments	Vintage sonic quality	\$995
125 dB	20 Hz-20 kHz	Vocals; acoustic instruments	Remote polar pattern controller; vintage sonic quality	\$1,595
137 dB	50 Hz-20 kHz	Personal studio; field recording	Battery powered option	\$288
140 dB	20 Hz-20 kHz	Studio; stage	Incl. H100 shock-mount	\$520
95 dB	40 Hz-14 kHz	Table-top		\$154
160 dB	10 Hz-20 kHz	Multipurpose, esp. vocals, strings		\$1,398
160 dB	20 Hz-20 kHz	Multipurpose studio		\$1,258
121 dB	20 Hz-20 kHz	Instrument; amplifier	Perm or temp mount	\$316-\$242
131 dB	50 Hz-20 kHz	Percussion	Clip-on mount	\$316-\$242
126 dB	20 Hz-20 kHz	Horn; brass	Clip-on mount	\$316-\$242
126 dB	20 Hz-20 kHz	Vocals	Headset	\$344-\$304
144 dB	20 Hz-20 kHz	Premium recording		\$813
144 dB	20 Hz-20 kHz	Premium ambient/analysis		\$842
144 dB	20 Hz-20 kHz	Premium ambient/analysis		\$842
137 dB	20 Hz-20 kHz	Premium hand-held vocal		\$338
133 dB	30 Hz-18 kHz	Edge-of-stage theatrical; conference	Shock-mount	\$596
130 dB	20 Hz-20 kHz	Piano; conference		\$822
140 dB	20 Hz-22 kHz	Handheld vocal		\$598
115 dB	60 Hz-20 kHz	Conference table; lecterns	Shock-mount	\$276
133 dB	30 Hz-18 kHz	Snare; acoustic guitar; lecterns		\$596
132 dB	20 Hz-20 kHz	General purpose		\$554
132 dB	20 Hz-20 kHz	General purpose		\$554
132 dB	20 Hz-20 kHz	General purpose		\$554
132 dB	20 Hz-20 kHz	Ambient, mid-side		\$934
N/A	20 Hz-20 kHz	Church; theater; broadcast	Water-resistant	\$300
N/A	20 Hz-17 kHz	Bass drums; bass instruments		\$338
N/A	40 Hz-20 kHz	Electronic news gathering		\$190
156 dB	50 Hz-20 kHz, 20 Hz-18 kHz	Vocal; instrument	On/off switch	\$184-\$198
156 dB	40 Hz-21 kHz	Vocal; instrument		\$264
141 dB	70 Hz-20 kHz	Vocal	On/off switch	\$98
147 dB	60 Hz-20 kHz	Vocal; instrument		\$125
147 dB	60 Hz-20 kHz	Vocal	On/off switch	\$138-\$150
144 dB	20 Hz-18 kHz	Vocal; instruments	Hard-mount; case	\$499
144 dB	20 Hz-18 kHz	Instrument; percussion; vocal	Interchangeable capsule design	\$699
145 dB	20 Hz-20 kHz	Instrument; percussion; vocal	Hard-mount, power supply & case	\$999
148 dB	20 Hz-18 kHz	Vocal; instrument	Hard-mount, shock-mount, case	\$649
148 dB	20 Hz-18 kHz	Vocal; instrument	Hard-mount; shock-mount, case	\$799
147 dB	20 Hz-20 kHz	Vocal; instrument	Hard-mount; shock-mount; case	\$1,199
148 dB	20 Hz-20 kHz	Vocal; instrument	Hard-mount; shock-mount; case	\$1,499
N/A	20 Hz-20 kHz			\$2,395-\$2,795
146 dB	30 Hz-20 kHz	Vocals; general-purpose	Shock-mount	\$339
148 dB	30 Hz-20 kHz	Instruments; vocals; general purpose		\$259
147 dB	30 Hz-20 kHz	Instruments; general purpose		\$259
145 dB	30 Hz-20 kHz	Instruments; vocals; general purpose	AT8441 shock-mount	\$495
145 dB	20 Hz-20 kHz	Instruments; acoustic guitar		\$395
149 dB	20 Hz-18 kHz	Vocals; instruments; general purpose	AT8449/SV shock-mount	\$695

# MICROPHONES

MICROPHONES

MANUFACTURER	PRODUCT	TYPE	POLAR PATTERNS	INTERNAL ROLL-OFF	INTERNAL PAD
Audio-Technica	AT4050/CM5	Condenser	Cardioid, omni, figure-8	80 Hz	-10 dB
Audio-Technica	AT4051a	Condenser	Cardioid	80 Hz	N/A
Audio-Technica	AT4060	Tube Condenser	Cardioid	N/A	N/A
Audio-Technica	AT822	Condenser	Cardioid stereo	150 Hz	N/A
Audio-Technica	AT825	Condenser	Cardioid stereo	Yes	N/A
Audio-Technica	ATM10a	Condenser	Omnidirectional	N/A	N/A
Audio-Technica	ATM25	Dynamic	Hypercardioid	N/A	N/A
Audio-Technica	ATM31a	Condenser	Cardioid	N/A	N/A
Audio-Technica	ATM33a	Condenser	Cardioid	N/A	N/A
Audio-Technica	ATM35	Condenser	Cardioid	150 Hz	N/A
Audio-Technica	ATM87R	Condenser	Cardioid	80 Hz	N/A
Audio-Technica	MB4000C	Condenser	Cardioid	N/A	N/A
Audio-Technica	PRO 37R	Condenser	Cardioid	N/A	N/A
Audix	ADX-50	Condenser	Cardioid	N/A	N/A
Audix	CX101	Condenser	Cardioid	N/A	N/A
Audix	CX111	Condenser	Cardioid	N/A	-10 db
Audix	D1	Dynamic	Hypercardioid	N/A	N/A
Audix	D2	Dynamic	Hypercardioid	N/A	N/A
Audix	D3	Dynamic	Hypercardioid	N/A	N/A
Audix	D4	Dynamic	Hypercardioid	N/A	N/A
Audix	OM3-xb	Dynamic	Hypercardioid	N/A	N/A
Audix	OM5	Dynamic	Hypercardioid	N/A	N/A
Audix	OM6	Dynamic	Hypercardioid	N/A	N/A
Audix	OM7	Dynamic	Hypercardioid	N/A	N/A
Audix	SCX-1	Condenser	Cardioid; hypercardioid; omni; omni presence	N/A	N/A
Baltic Latvian	Blueberry	Condenser	Cardioid	N/A	No
Baltic Latvian	Dragonfly	Condenser	Cardioid	N/A	No
Baltic Latvian	Mouse	Condenser	Cardioid	N/A	No
Baltic Latvian	The Bottle	Tube condenser	Cardioid, omni, figure-8	N/A	No
Behringer	ECM8000	N/A	Omnidirectional	N/A	N/A
Behringer	XM2000S	Dynamic	Supercardioid	N/A	N/A
Benson Audio Labs	B2	Condenser PZM	Cardioid	N/A	N/A
Benson Audio Labs	BA 30	Dynamic	Cardioid	N/A	N/A
Benson Audio Labs	ND 90	Dynamic	Hypercardioid	N/A	N/A
beyerdynamic	M-130	Dynamic ribbon	Figure-8	N/A	N/A
beyerdynamic	M-160	Dynamic ribbon	Hypercardioid	N/A	N/A
beyerdynamic	M-201TG	Dynamic	Hypercardioid	N/A	N/A
beyerdynamic	M-88TG	Dynamic	Hypercardioid	N/A	N/A
beyerdynamic	MC-740	Condenser	Wide cardioid, cardioid, hypercardioid, omni, figure-8	N/A	-10 dB
beyerdynamic	MC-834	Condenser	Cardioid	80 Hz/160 Hz	-10 dB
beyerdynamic	MCD 100	Digital condenser	Cardioid	Yes	Yes
beyerdynamic	MCE-82	Electret condenser	Dual cardioid	120 Hz	N/A
beyerdynamic	MCE-83	Electret condenser	Cardioid	N/A	N/A
beyerdynamic	MCE-90	Condenser	Cardioid	Switchable @ 100 Hz	Switchable to -15 dB
BPM Studio Technik	CR-10	Condenser	Cardioid	N/A	N/A



MAX. SPL

FREQUENCY RESPONSE

SUGGESTED APPLICATIONS

SPECIAL FEATURES

PRICE

149 dB	20 Hz-20 kHz	Vocals; instruments; general purpose	AT8441 shock-mount	\$995
143 dB	20 Hz-20 kHz	Instruments		\$700
150 dB	20 Hz-20 kHz	Vocals; general purpose	AT8560 power supply; AT8447 shock-mount	\$1,695
125 dB	30 Hz-20 kHz	Stereo recording		\$399
126 dB	30 Hz-20 kHz	Stereo recording	Battery or phantom power	\$525
137 dB	20 Hz-18 kHz	Group vocals; instruments	Battery or phantom power	\$210
N/A	30 Hz-15 kHz	Kick drum; toms		\$275
137 dB	30 Hz-20 kHz	Vocals; general purpose	Battery or phantom power	\$250
137 dB	30 Hz-20 kHz	Instruments; general purpose	Battery or phantom power	\$290
145 dB	30 Hz-20 kHz	Horns; drums; instruments	Battery/phantom power; clip-on mount	\$350
151 dB	30 Hz-20 kHz	Kick drum; piano		\$299
124 dB	100 Hz-18 kHz	General purpose	Battery or phantom power	\$125
141 dB	30 Hz-15 kHz	Instrument; general purpose		\$175
132	40 Hz-18 kHz	Drum overheads; acoustic instr; hi-hat		\$289
135	20 Hz-20 kHz	Vocals; drum overheads; acoustic instr; room	Shock-mount; flight case	\$499
145	20 Hz-20 kHz	Vocals; drum overheads; acoustic instr; room	Shock-mount; flight case	\$599
144 dB	46 Hz-18 kHz	Snare; percussion		\$219
144 dB	44 Hz-18 kHz	Toms; congas; percussion		\$219
144 dB	50 Hz-19 kHz	Snare; timbale; trumpet; electric guitar		\$229
144 dB	38 Hz-19 kHz	Kick drum; acoustic bass; piano; sax		\$329
144 dB	50 Hz-18 kHz	General purpose		\$199
144 dB	48 Hz-19 kHz	Vocals		\$299
144 dB	40 Hz-19 kHz	Vocals		\$329
144 dB	45 Hz-19 kHz	Vocals		\$359
128 dB	20 Hz-20 kHz (omni) 40 Hz-20 kHz (cardioid/hypercardioid)	Acoustic instruments	Interchangeable capsules	\$299-\$349
133 dB (0.5% THD)	20 Hz-22 kHz	General studio	Discrete transformer out	\$1,295
133dB (THD 0.5%)	20 Hz-20 kHz	General studio	Discrete transformerless; shock-mount	\$1,199
135 dB (0.5% THD)	20 Hz-20 kHz	General studio	Discrete transformerless; shock-mount	\$2,295
137 dB (0.5% THD)	20 Hz-22 kHz	Ultimate studio mic	8 interchangeable capsules w/various patterns	\$950-\$4,540
N/A	15 Hz-20 kHz		+15V/+48V phantom power; clip/stand adapter	\$79
N/A	50 Hz-15 kHz	Vocals	On/off switch; 2 pop filter; hard case with clip/adaptor	\$39
141 dB	30 Hz-20 kHz	Piano; acoustic instruments; group vocals	Battery or phantom-power adapter	\$260
145 dB	50 Hz-15 kHz	Drums; guitar amps; female vocals	Windscreen	\$170
145 dB	50 Hz-18 kHz	Vocals		\$350
116 dB	40 Hz-18 kHz	Digital recording; ambient; piano; strings		\$750
116 dB	40 Hz-18 kHz	Stringed instruments; strings		\$750
120 dB	40 Hz-18 kHz	Percussion; drums		\$300
120 dB	30 Hz-20 kHz	General purpose		\$399
134 dB/144 dB	20 Hz-20 kHz	Vocals; piano; perc; overhead		\$1,399
130 dB/140 dB/ 150 dB	20 Hz-20 kHz	Vocal; piano; strings; brass; perc; sampling; voice-overs		\$999
150 dB	20 Hz-20 kHz	Studio recording	AES/EBU out (requires MPD 200 power supply)	\$2,500
120 dB	50 Hz-20 kHz	Drum overhead; piano; vocals		\$800
138 dB	50 Hz-18 kHz	Brass; percussion		\$300
154 dB	30 Hz-20 kHz	General purpose		\$700
136 dB	20 Hz-20 kHz	Instrument amplifier; vocal; drum; acoustic instruments	Includes shock mount; road case; suspension; cable; windscreen; pop filter	\$550

# MICROPHONES

MICROPHONES

MANUFACTURER

PRODUCT

TYPE

POLAR PATTERNS

INTERNAL ROLL-OFF

INTERNAL PAD

MANUFACTURER	PRODUCT	TYPE	POLAR PATTERNS	INTERNAL ROLL-OFF	INTERNAL PAD
BPM Studio Technik	CR-10	Condenser	Cardioid	75 Hz/150Hz	N/A
BPM Studio Technik	CR-4N	Condenser	Cardioid	N/A	N/A
BPM Studio Technik	CR-73 II	Condenser	Cardioid; omni	80 Hz	-10 dB
BPM Studio Technik	CR-95	Condenser	Cardioid, omni, figure-8	80 Hz	-10 dB
BPM Studio Technik	TB-95	Tube	Cardioid, omni, figure-8	80 Hz	-10 dB
Brauner	VM1	Tube condenser	Variable (omni; cardioid; figure-8)	N/A	-10dB
Brauner	VM1S	Tube condenser	Stereo Variable (omni; cardioid; figure-8)	N/A	-10dB
Brauner	Valvet	Tube condenser	Omni; cardioid	N/A	None
Brauner	VM1-U	Condenser	Cardioid; omni	N/A	N/A
CAD	90/90Ni	Dynamic	Cardioid	N/A	N/A
CAD	95/95Ni	Condenser	Cardioid	N/A	N/A
CAD	C-84	Condenser	Cardioid	N/A	N/A
CAD	CM416	Electret condenser	Cardioid		
CAD	Equitek E100	Condenser	Supercardioid	80 Hz	-20 dB
CAD	Equitek E200	Condenser	Cardioid, figure-8, omni	80 Hz	-20 dB
CAD	Equitek E350	Condenser	Cardioid, figure-8, omni	80 Hz	-20 dB
CAD	KBM412	Dynamic	Cardioid	N/A	N/A
CAD	M-177	condenser	Cardioid	80 Hz	-20 dB
CAD	M-277	Condenser	Cardioid; omni; figure-8	80 Hz	-20 dB
CAD	TSM411	Dynamic	Cardioid	N/A	N/A
CAD	VSM1	Single-valve condenser	Cardioid	80 Hz	-8 /-16 dB
CAD	VX2	Dual-valve condenser	Cardioid, figure-8, omni	80 Hz	-8 /-16 dB
Carvin	CM50	Dynamic	Cardioid	N/A	N/A
Carvin	CM67	Dynamic	Cardioid	N/A	N/A
Carvin	CM68	Dynamic	Cardioid	N/A	N/A
Carvin	CM90E	Condenser	Cardioid	N/A	N/A
Coles	4038	Ribbon	Figure-8	N/A	N/A
Coles	4104	Ribbon	Figure-8	50 Hz	N/A
Countryman	Isomax Headset Microphone	Condenser	Hypercardioid, cardioid	N/A	N/A
Countryman	Isomax II	Condenser	Hypercardioid, cardioid, omni, bidirectional	N/A	N/A
Crown	CM-150	Condenser	Omnidirectional	N/A	N/A
Crown	CM-311A	Condenser	Differoid	N/A	N/A
Crown	CM-700	Condenser	Cardioid	80 Hz/150 Hz	N/A
Crown	P2M 6D	P2M	Hemispherical	N/A	N/A
Crown	SASS-PMKII	Condenser	Stereo P2M	100 Hz	N/A
Curtis Technology	AL-2	Stereo tube condenser	Elongated Cardioid	N/A	N/A
DPA	DPA 3541	Diaphragm	Omnidirectional	N/A	N/A
DPA	DPA 4006	Pre-polarized condenser	Omni	N/A	N/A
DPA	DPA 4007	Pre-polarized condenser	Omnidirectional	N/A	N/A
DPA	DPA 4011	Pre-polarized condenser	Cardioid	N/A	-20 dB
DPA	DPA 4060	Pre-polarized condenser	Omnidirectional	N/A	N/A
DPA	DPA 4065	Pre-polarized condenser	Omnidirectional	N/A	N/A

MAX. SPL	FREQUENCY RESPONSE	SUGGESTED APPLICATIONS	SPECIAL FEATURES	PRICE
140	20 Hz-20 kHz	Vocal; instrument	Case; shock mount	\$300
126 dB	30 Hz-20 kHz	Strings; acoustic instruments; overheads; stereo	Mic clip; pop filter	\$470 (omni version) \$490
124 dB	40 Hz-18 kHz	General purpose; vocals; amp close-miking	Case; shock mount; pop filter; cable	\$400
140 dB	20 Hz-20 kHz	Vocals; overheads; amp; acoustic instr; drums	Transformerless; custom road case; shock mount; pop filter; XLR cable	\$700
138 dB	20 Hz-20 kHz	Vocals; acoustic instruments; drums; strings	Power supply; road case; shock mount; pop filter; XLR cable	\$900
142dB	40 Hz-20 kHz	Reference recording	Brauner transformer; power supply w/remote pattern switch; phase invert; shock mount	\$4,995
142dB	40 Hz-20 kHz	Reference recording	Brauner transformer; outboard power supply; pad; phase invert; ground lift; shock mount	\$7,500
142dB	40 Hz-20 kHz	Reference recording	Lundahl transformer; power supply w/remote pattern switch; phase invert; shock mount	\$2,700
142 dB	40 Hz-20 kHz	Reference recordings	Upgradeable to a fully variable pattern VM1	\$3,495
N/A	40 Hz-16 kHz	Vocals; instrument amps		\$199
130 dB	40 Hz-20 kHz	Vocals; instruments; overhead		\$239
132 dB	40 Hz-16 kHz	Overhead; hi-hat; acoustic guitar; stringed instruments; choir		\$199
130 dB	40 Hz-20 kHz	Cymbals; overhead; percussion; string instruments	Shock mount clip	\$129
148 dB	10 Hz-18 kHz	Vocals; acoustic instruments; amplifiers; overhead; drum kit	6 hours on 2 NiCad batteries	\$469
148 dB	10 Hz-18 kHz	Vocals; orchestra; acoustic instrument; overhead; brass; room monitoring	6 hours on 2 NiCad batteries	\$749
148 dB	10 Hz-20 kHz	Vocals; voice-overs; acoustic instruments; broadcast; overhead and room monitoring	6 hours on 2 NiCad batteries	\$899
N/A	30 Hz-15 kHz	Bass drum ; other low frequency sources		\$149
148 dB	10 Hz-20,000 Hz	Vocals, acoustic and amplified instruments; overhead	High-speed; low noise; discrete power supply circuit	\$299
148 dB	10 Hz-20 kHz	Vocals; instruments; overhead; room monitoring		\$449
N/A	50 Hz-15 kHz	Snare; toms; percussion instruments; amp miking		\$99
149 dB	10 Hz-20 kHz	Vocals; strings; guitar	Suspension mount	\$1,299
145 dB	10 Hz-20 kHz	All recording applications	Interchangeable capsule/head screen assembly	\$2,249
N/A	50 Hz-14 kHz	Vocals	On/off switch	\$50
N/A	40 Hz-15 kHz	Vocals		\$90
N/A	45 Hz-15 kHz	Vocals		\$90
132 dB	30 Hz-20 kHz	General purpose	Battery/phantom power	\$115
125 dB/150 dB	30 Hz-15 kHz	Drum overheads; sax; string instruments; brass; voice; electric guitar; bass		\$1,195
120 dB	60 Hz-12 kHz	Teleconferencing; multimedia; on-location	Lip bar for flat voice response	\$660
150 dB	20 Hz-20 kHz	Vocals	Phantom vers. has pop-free switch	\$308
150 dB	Isomax II H, C, B: 50 Hz-20 kHz/ Isomax II O: 20 Hz-20 kHz	General instrument/SR and exotic (acoustical measurements)	Miniature size; opt18V battery power module	\$279
130 dB	20 Hz-20 kHz	General purpose; acoustical measurement applications		\$895
150 dB	50 Hz-15 kHz	Vocals		\$299
151 dB	30 Hz-20 kHz	Drums; brass; strings; guitar		\$289
150 dB	20 Hz-20 kHz	Piano; overhead; conference table		\$369
150 dB	20 Hz-20 kHz	Orchestra; church ensemble; marching band		\$995
125 dB	20 Hz-20 kHz	Drums; percussion; acoustic guitar; room		\$ 2,995
144 dB	10 Hz-20 kHz	Solo; instrumental	Solid state tube pre-amp; HMA 4000 power supply	\$6,000
143 dB	20 Hz-20 kHz	Close-miking vocals; strings; woodwinds; digital recording		\$2,060
155 dB	20 Hz-40 kHz	Close-miking drums; percussion; brass		\$2,060
158 dB	40 Hz-20 kHz	Orchestra; perc; guitar; piano; sax; drums; brass; strings; voice	5.4 mm size	\$2,190
134 dB	20 Hz-20 kHz	General purpose	5.4 mm size	\$430
144 dB	20 Hz-20 kHz	Theater; stage; broadcast	5.4 mm size	\$599

# MICROPHONES

MANUFACTURER

PRODUCT

TYPE

POLAR PATTERNS

INTERNAL ROLL-OFF

INTERNAL PAD

Earthworks	QTC1	Condenser	Omnidirectional	N/A	N/A
Earthworks	SR 71	Condenser	Cardioid	N/A	N/A
Earthworks	SR 77	Condenser	Cardioid	N/A	N/A
Earthworks	SR69	Condenser	Cardioid	N/A	N/A
Earthworks	SR78	Condenser	Hypercardioid	N/A	N/A
Earthworks	SRO	Condenser	Omni	N/A	N/A
Earthworks	TC-30K	Condenser	Omni	N/A	N/A
Earthworks	Z30X	Condenser	Enhanced cardioid	N/A	N/A
Electro-Voice	N/D167	Dynamic	Cardioid	N/A	N/A
Electro-Voice	N/D267a; N/D267as	Dynamic	Cardioid	N/A	N/A
Electro-Voice	N/D468	Dynamic	Supercardioid	N/A	N/A
Electro-Voice	N/D478	Dynamic	Cardioid	N/A	N/A
Electro-Voice	N/D767a	Dynamic	Supercardioid	Yes	N/A
Electro-Voice	N/D868	Dynamic	Cardioid	N/A	N/A
Electro-Voice	RE1000	Condenser	Supercardioid	N/A	N/A
Electro-Voice	RE20	Dynamic	Cardioid	80 Hz	N/A
Electro-Voice	RE200	Condenser	Cardioid	N/A	N/A
Event Electronics	Rode Classic II	Valve condenser	Omni; cardioid; figure-eight (9 positions, switched from power supply)	Yes	-10dB/-20dB
Event Electronics	Rode NT1	Condenser	Cardioid	N/A	N/A
Event Electronics	Rode NT2	Condenser	Omni, cardioid	150 Hz	-10 dB
Event Electronics	Rode NT3 Microphone	Condenser	Hypercardioid	N/A	N/A
Event Electronics	Rode NTV	Valve condenser	Cardioid	N/A	N/A
Fostex	221	Dynamic	Cardioid	N/A	N/A
Fostex	321	Dynamic	Cardioid	N/A	N/A
Fostex	521	Dynamic	Cardioid	N/A	N/A
Langevin	CR-3A	FET condenser	Cardioid	100 Hz	-10 dB
Lawson	L47C	Tube condenser	Cardioid	N/A	-12 dB
Lawson	L47MP	Tube condenser	Omni, cardioid, figure-8	N/A	-12 dB
Lawson	L47S	Condenser	Cardioid	100 Hz	-10 dB
Lawson	L47SH	Condenser	Cardioid	100 Hz	-10 dB/-20 dB
Manley Labs	Reference Cardioid Mic	Condenser	Cardioid	N/A	10 dB
Manley Labs	Reference Gold Mic	Condenser	Variable: figure-8; cardioid; omni	N/A	10 dB
Manley Labs	Reference Stereo Gold Mic	Condenser	Variable: figure-8; cardioid; omni	N/A	(2) 10 dB
Marshall Electronics	MXL 2001-P	Condenser	Cardioid	N/A	N/A
Marshall Electronics	MXL 2003	Condenser	Cardioid	150 Hz	-10 dB
Marshall Electronics	MXL 600	Condenser	Cardioid	N/A	N/A
Marshall Electronics	MXL V67 Gold	Condenser	Cardioid	N/A	N/A
Marshall Electronics	MXL V77S Tube	Tube condenser	Cardioid	N/A	N/A
MBHO - MTC	MBHO - MBNM-622	Electret condenser	Omni	N/A	N/A
MBHO - MTC	MBNM-440	Condenser	Cardioid	N/A	N/A
MBHO - MTC	MBNM-608	Condenser	Omni; cardioid; figure-8	N/A	N/A
MicroTech	Gefell M300	Condenser	Cardioid	N/A	N/A

MAX. SPL	FREQUENCY RESPONSE	SUGGESTED APPLICATIONS	SPECIAL FEATURES	PRICE
142 dB	4 Hz-40 kHz	Classical location recording	Quiet, time-coherent sound	\$940 (matched pair) \$2,000
145 dB	50 Hz-20 kHz	General purpose	Uncolored sound on axis, excellent rejection off axis	\$450
145 dB	30 Hz-30 kHz	Voice; guitar; drums; concert tapers	Uncolored sound on axis, excellent rejection off axis	\$599; (matched pair) \$1,300
145 dB	50 Hz-20 kHz	Stage vocals		\$350
145 dB	30 Hz-30 kHz	snare spot; location film; Foley	Excellent rejection	\$699; (matched pair) \$1,500
150 dB	10 Hz-20 kHz	Live sound; guitar amp		\$350
150 dB	9 Hz-30 kHz	Drums; guitar; bass room; location recording of loud sources		\$500; (matched pair) \$1,100
145 dB	30 Hz-30 kHz	Voice; guitar; drums; general recording	Uncolored sound on axis, excellent rejection off axis	\$800; (matched pair) \$1,700
145 dB	50 Hz-12 kHz	Vocal	Warm grip handle	\$110
154 dB	45 Hz-15 kHz	Vocals	Stand clamp; gig bag; warm grip handle, vocal optimized bass response	\$150; (w/ switch) \$158
158 dB	30 Hz-22 kHz	Instruments	Flex pivoting yoke; gig bag	\$278
154 dB	45 Hz-15 kHz	Vocals, instruments	Warm grip handle, vocal optimized bass response	\$150
158 dB	35 Hz-22 kHz	Lead vocals	Shock-mount; gig bag; vocal optimized bass response	\$210
157 dB	20 Hz-10 kHz	Kick drum		\$310
130 dB	70 Hz-18 kHz	General recording	Phantom power; 2-stage pop filter	\$596
148 dB	45 Hz-18 kHz	Bass; drum; vocal; upright bass; toms; electric guitars	Variable-D design	\$746
130 dB	50 Hz-18 kHz	Percussion; strings; brass; choir	Small; stand clamp; windscreen	\$298
131 dB	20 Hz-20 kHz	Vocals; instruments; general purpose	6072 twin triode; 1" diaphragm; shock-mount; flight case	\$1,999
135 dB	20 Hz-20 kHz	General purpose; vocals; guitar	Pop filter; shock-mount	\$349
135 dB	20 Hz-20 kHz	Vocals; acoustic guitar; woodwinds; piano; overheads	Dual pressure-gradient transducer	\$649
140 dB	20 Hz-20 kHz	Instruments; drums; location recording	Shock-mount; battery or phantom power; on/off switch	\$199
130 dB	20 Hz-20 kHz	Vocals; electric guitar; bass	1" diaphragm; shock-mount; flight case	\$399
N/A	100 Hz-16 kHz	Vocals		\$35
N/A	90 Hz-16 kHz	Vocals		\$55
N/A	60 Hz-16 kHz	Vocals		\$75
132 dB	40 Hz-16 kHz	General purpose	Shock-mount; hard mount; wind screen; case	\$880
124 dB	20 Hz-20 kHz	Vocals; acoustic guitar; strings; piano; choir; orchestra; sax	30' Mogami cable; case; 5-year warranty	\$1,665
128 dB	20 Hz-20 kHz	Vocals; acoustic guitar; strings; piano; choir; orchestra; sax	30' cable; case; 5-year warranty	\$1,995
138 dB	20 Hz-20 kHz	Vocals; acoustic guitar; strings; piano; choir; orchestra; horns	Case; 5-year warranty	\$1,295
145 dB	20 Hz-20 kHz	High-intensity, esp. bass drum	Case; 5-year warranty	\$995
135 dB	20 Hz-20 kHz	Vocal; general	All tube; line out option	\$3,000
150 dB	10 Hz-25 kHz	Ultra high quality recording	All tube; line out option	\$5,530
150 dB	10 Hz-25 kHz	Ultra high quality stereo recording	All tube; 1 fixed/1 rotatable cap; line out option	\$8,000
130 dB	30 Hz-20 kHz	Vocal; overheads; drums; amplifier	Mic stand adapter	\$200
140 dB	20 Hz-20 kHz	Vocals; piano; acoustic; high spl; strings	3-micron diaphragm; shock-mount	\$400
134 dB	30 Hz-20 kHz	Instrument; acoustic; overhead; percussion	Mic stand adapter	\$270
130 dB	30 Hz-20 kHz	Vocals; brass; overheads; percussion	Mic stand adapter	\$280
122 dB	20 Hz-20 kHz	Vocals; strings; piano; orchestra; acoustic	3-micron diaphragm; shock-mount; wind screen	\$700
130 dB	10 Hz-26 kHz	Stereo recordings; ambience; drums		\$545
N/A	40 Hz-20 kHz	Overhead; drums; choir; acoustic guitar; percussion	Matched pairs upon request	\$341
133 dB	5 Hz-20 kHz (omni); 10 Hz-20 kHz (cardioid); 40 Hz-18 kHz (figure-8)	Vocal; general instrument		\$1,299
135 dB	40 Hz-18 kHz	Drums; guitar; chorus	Small capsule; excellent transient response	\$495

# MICROPHONES

MANUFACTURER	PRODUCT	TYPE	POLAR PATTERNS	INTERNAL ROLL-OFF	INTERNAL PAD
MicroTech	Gelell M930	Condenser	Cardioid	N/A	N/A
MicroTech	Gelell MT 711S	Condenser	Cardioid	90 Hz	-10 dB
MicroTech	Gelell UMT 70S	Condenser	Cardioid; omni; figure-8	90 Hz	-10 dB
Neumann	KM 120	Condenser	Figure-8	N/A	-10 dB
Neumann	KM 130	Condenser	Omni	N/A	-10 dB
Neumann	KM 140	Condenser	Cardioid	N/A	-10 dB
Neumann	KM 183	Condenser	Omni	N/A	N/A
Neumann	KM 184	Condenser	Cardioid	N/A	N/A
Neumann	KM 185	Condenser	Hypercardioid	N/A	N/A
Neumann	KMS 105	Condenser	Supercardioid	120 Hz	N/A
Neumann	TLM 103	Condenser	Cardioid	N/A	N/A
Neumann	TLM 193	Condenser	Cardioid	N/A	N/A
Pearl Labs	CC22	Condenser	Cardioid	N/A	N/A
Pearl Labs	DS60 Stereo	Condenser	Multi-pattern	N/A	N/A
Pearl Labs	MS8 Stereo	Condenser	Cardioid; figure-8	N/A	N/A
Pearl Labs	TL66	Condenser	Cardioid; omni	N/A	No
Pearl Labs	TLC 90	Condenser	Cardioid	N/A	N/A
Pezavey	PVM T-9000	Tube condenser	Cardioid	N/A	-10 dB
Roland	DR-10	Dynamic	Hypercardioid	N/A	N/A
Roland	DR-20	Dynamic	Hypercardioid	N/A	N/A
Royer Labs	R-121 Ribbon Microphone	Ribbon	Figure-8	N/A	N/A
Royer Labs	SF-12 Stereo Ribbon Microphone	Ribbon	Figure-8	N/A	N/A
Samson	Q Mic	Dynamic	Hypercardioid	N/A	N/A
Samson	Q1	Condenser	Cardioid	N/A	N/A
Samson	Q2	Dynamic	Cardioid	Switchable	Switchable
Samson	Q3	Dynamic	Hypercardioid	Switchable	Switchable
Samson	S11	Dynamic	Cardioid	N/A	N/A
Samson	S12	Dynamic	Hypercardioid	N/A	N/A
Sanken	CU-31	Condenser	Cardioid	N/A	N/A
Posthorn Recordings	CCM 4	Condenser	Cardioid	N/A	N/A
Posthorn Recordings	CMB1	Condenser	Cardioid; omni; figure-8	N/A	-15 dB
Posthorn Recordings	CMC 641	Condenser	Supercardioid	N/A	N/A
Sennheiser	E 604	Dynamic	Cardioid	N/A	N/A
Sennheiser	MD 421 II	Dynamic	Cardioid	N/A	N/A
Sennheiser	ME 64/K 6	Electret condenser	Cardioid	120 Hz	N/A
Shure	Beta 52	Dynamic	Supercardioid	N/A	N/A
Shure	Beta 87A	Condenser	Supercardioid	N/A	N/A
Shure	Beta 87C	Condenser	Cardioid	N/A	N/A
Shure	BG4.1	Condenser	Cardioid	N/A	N/A
Shure	BG5.1	Condenser	Cardioid	N/A	N/A
Shure	KSM32/SL	Condenser	Cardioid	Switchable	-15 dB
Shure	SM57	Dynamic	Cardioid	N/A	N/A
Shure	SM58	Dynamic	Cardioid	N/A	N/A

MAX. SPL

FREQUENCY  
RESPONSESUGGESTED  
APPLICATIONSSPECIAL  
FEATURES

PRICE

N/A	N/A	Vocal; drums; acoustic instruments		\$795
144 dB	40 Hz-18 kHz	Vocals	Cable; windscreen; stand-mount	\$795
149 dB	40 Hz-18 kHz	General purpose	Cable; windscreen; stand-mount	\$1,100
138 dB; (w/pad) 148 dB	20 Hz-20 kHz	one of stereo pair for midside/Blumlein recording		\$1,275
140 dB; (w/pad) 150 dB	20 Hz-20 kHz	Room; strings; piano; choir		\$1,060
138 dB; (w/pad) 148 dB	20 Hz-20 kHz	Acoustic guitar; overheads; piano; hi-hat; percussion		\$1,060
140 dB	20 Hz-20 kHz	Room; piano; overheads; sampling; strings	16 dB (A) self noise	\$749
138 dB	20 Hz-20 kHz	Acoustic guitar; overheads; hi-hat; strings; perc; piano	16 dB (A) self noise; avail. in stereo pairs	\$729
142 dB	20 Hz-20 kHz	Hi-hat; acoustic guitar; drums; percussion	18 dB (A) self noise	\$749
150 dB	20 Hz-20 kHz	Vocal ; broadcast; home studio		\$586
138 dB	20 Hz-20 kHz	Vocals; acoustic guitar; strings; Foley; acoustic bass; piano	7 dB (A) self noise; available in stereo pairs	\$995
140 dB	20 Hz-20 kHz	Vocals; drum overheads; acoustic guitar; strings; sax; percussion; piano	Available in stereo pairs	\$1,405
126 dB	20 Hz-25 kHz	Vocals; instruments	Dual membrane	\$1,145
126 dB	18 Hz-25 kHz	Stereo recording	(4) dual membrane rectangular capsules	\$4,600
130 dB	29 Hz-25 kHz	TV; video; film		\$1,820
132 dB	20 Hz-20 kHz	Percussion		\$510
144 dB	20 Hz-20 kHz	Vocal		\$540
137 dB	20 Hz-20 kHz	Vocals; acoustic instruments	Integral shock suspension; 200 Hz LC; cable, shock-mount	\$1,300
130 dB	60 Hz-15 kHz	General purpose	On/off switch; wind screen; case	\$95
130 dB	60 Hz-15 kHz	General purpose	On/off switch; wind screen; case	\$150
>135dB	30 Hz-15 kHz	General purpose	High SPL handling; lifetime warranty; field-replaceable ribbon transducer; low self noise	\$995
130 dB	30 Hz-15 kHz	Single-point stereo recordings	X-Y and M-S recording; high SPL handling; lifetime warranty; low self noise	\$2,150
137 dB	20 Hz-18.5 kHz	Vocals		\$200
134 dB	50 Hz-20 kHz	Project Studio Vocals		\$400
137 dB	50 Hz-15 kHz	Vocal; instruments	Gold-plated XLR; case; clip; Eurometric adapter	\$150
137 dB	50 Hz-15 kHz	Drums; instruments	Gold-plated XLR; case; clip; Eurometric adapter	\$225
130 dB	60 Hz-18 kHz	Vocals	Case; clip	\$100
130 dB	60 Hz-18 kHz	Vocals	Case; clip	\$150
148 dB	20 Hz-18 kHz	High-pressure sources; brass; drums	Right-angle version available	\$699
132 dB	18 Hz-22 kHz	15' cable		\$1,470
132 dB	18 Hz-22 kHz	Portable recording	Internal battery; 15-ft. cable	\$1,190
132 dB	18 Hz-22 kHz	Film/video boom	Interchangeable capsules	\$1,455
160 dB	40 Hz-18 kHz	Drums (esp toms)	Glass-composite housing	\$249
160 dB	30 Hz-17 kHz	Drums; vocals; guitar; amps	5-position low-frequency rolloff switch	\$485
130 dB	40 Hz-20 kHz	Acoustic guitar; drum overhead	Interchangeable capsules	\$515
174 dB	20 Hz-10 kHz	Kick drum; bass amp; acoustic bass	Bass instruments	\$388
142 dB	50 Hz-18 kHz	Vocals; live; studio	High gain before feedback	\$543
142 dB	50 Hz-20 kHz	Live vocal		\$445
131 dB	40 Hz-18 kHz	Guitar; cymbals; strings; vocals; piano	Battery or phantom power	\$275
132 dB	70 Hz-16 kHz	Vocals	Battery or phantom power	\$275
139 dB	20 Hz-20 kHz	Vocal; instrument	Shock-mount; case	\$1,029
N/A	40 Hz-15 kHz	Guitar amp; drums; guitar; vocals		\$146
N/A	50 Hz-15 kHz	General purpose		\$188

# MICROPHONES

MANUFACTURER

PRODUCT

TYPE

POLAR PATTERNS

INTERNAL ROLL-OFF

INTERNAL PAD

MANUFACTURER	PRODUCT	TYPE	POLAR PATTERNS	INTERNAL ROLL-OFF	INTERNAL PAD
Shure	SM7A	Dynamic	Cardioid	N/A	N/A
Shure	SM81	Condenser	Cardioid	80 Hz/100 Hz	-10 dB
Shure	SM94	Condenser	Cardioid	N/A	N/A
Shure	SM96A	Condenser	Cardioid; supercardioid	80 Hz	-10 dB
Shure	VP88	Stereo condenser	Mid: cardioid; side: bidirectional	80 Hz	N/A
Sony	C-800GPAC	Condenser	Uni-; omnidirectional	N/A	N/A
Sony	C48	Condenser	Uni-; omni-; bidirectional	Yes	-10 dB
Sony	ECM-23F3PR	Electret condenser	Unidirectional	Yes	N/A
Sony	ECM-77B	Electret condenser	Omni	N/A	N/A
Sony	ECM-MS5	Electret condenser	Variable (stereo)	Yes	N/A
Sony	ECM-MS957	Stereo condenser	m-s, x-y	N/A	N/A
Sony	F740/9X	Dynamic	Unidirectional	N/A	N/A
Sony	F780/9X	Dynamic	Unidirectional	N/A	N/A
Soundelux	U195	Condenser	Cardioid	80 Hz	Variable
Soundelux	U95S	Condenser	Variable	N/A	N/A
Soundelux	U97	Condenser	Omni; cardioid; hypercard; figure-8	N/A	N/A
Soundelux	U99	Tube	Variable	N/A	N/A
SoundField	Mark 5	Condenser	Variable omnidirectional; cardioid; figure-8	40 Hz	-10/-20/-30 dB
SoundField	SPS422	Condenser	Variable omnidirectional; cardioid; figure-8	80 Hz	-10/-20/-30 dB
SoundField	ST250	Condenser	Variable omnidirectional; cardioid; figure-8	120 Hz	-20 dB
Stedman	C15	Condenser	Cardioid	N/A	N/A
Stedman	LD23	Dynamic	Supercardioid	N/A	N/A
Stedman	LD50	Dynamic	Supercardioid	N/A	N/A
Stedman	N90	Dynamic	Cardioid	N/A	N/A
Stedman	Transonic-TR1	Dynamic	Cardioid	80Hz	N/A
StuDiomaster	KM-81	Dynamic	Cardioid	N/A	N/A
Yorkville Sound	Apex 110	Electret Condenser	Hypercardioid	N/A	N/A
Yorkville Sound	Apex 120	Dynamic	Cardioid	N/A	N/A
Yorkville Sound	Apex 130	Electret condenser	Semicardioid	N/A	N/A
Yorkville Sound	Apex 150	Electret condenser	Cardioid	N/A	N/A
Yorkville Sound	Apex 165	Electret condenser	Cardioid	N/A	N/A
Yorkville Sound	Apex 170	Electret condenser	Cardioid	N/A	N/A
Yorkville Sound	Apex 190	Electret condenser	Cardioid	N/A	N/A
Yorkville Sound	Apex 350	Dynamic	Cardioid	N/A	N/A
Yorkville Sound	Apex 380	Dynamic	Cardioid	N/A	N/A
Yorkville Sound	Apex 420	Condenser	Cardioid; omni	Yes	Yes
Yorkville Sound	Apex 750	Dynamic	Cardioid	N/A	N/A
Yorkville Sound	Apex 770	Dynamic	Cardioid	N/A	N/A
Yorkville Sound	Apex 850	Dynamic	Cardioid	N/A	N/A
Yorkville Sound	Apex 880	Dynamic	Hypercardioid	N/A	N/A
Yorkville Sound	Apex 950	Dynamic	Cardioid	N/A	N/A



MAX. SPL

FREQUENCY  
RESPONSESUGGESTED  
APPLICATIONSSPECIAL  
FEATURES

PRICE

N/A	50 Hz-20 kHz	Vocals; bass amp		\$584
146/136 dB	20 Hz-20 kHz	Guitar; cymbals; strings; vocals; piano		\$530
141 dB	40 Hz-16 kHz	Guitar; cymbals; strings; vocals; piano	Battery or phantom power	\$280
144 dB	40 Hz-20 kHz	Drums; brass; woodwinds	Mini condenser; mounting clamp	\$350
129 dB	40 Hz-20 kHz	Single-point stereo	Internal matrix or MS out	\$1,194
134 dB	20 Hz-18 kHz	Critical vocal & instrument	Low thermal noise and distortion; shock-mount	\$6,550
128 dB	30 Hz-16 kHz	Vocals; guitar	48V or 9V internal battery	\$1,500
134 dB	20 Hz-20 kHz	Instrument; vocal	Music/vocal/off switch	\$285
N/A	40 Hz-20 kHz	On-air broadcast; interview; conference	Mini design; lavalier clip-mount; bal/phantom power	\$445
130 dB	70 Hz-20 kHz	Stereo recording of live performances and ambient sounds	Phantom power	\$1,500
115 dB	50 Hz-18 kHz	Stereo DAT; overhead piano; guitar; drum	1000-hour battery; rotating caps; x-y/m-s switch; stand; windscreen; cable; bag	\$299
N/A	50 Hz-15 kHz	Vocals; guitar		\$225
N/A	50 Hz-18 kHz	Vocals; guitar	Enhanced isolation and feedback rejection	\$360
125 dB	20 Hz-20 kHz	Close mic situations	1" capsule; "fat" bass switch	\$995
128 dB	20 Hz-20 kHz	Vocals; instruments; general studio	Case; spider-mount	\$2,999
138 dB	20 Hz-20 kHz	Drums; instruments; vocals	1" capsule; transformerless design	\$599
130 dB	20 Hz-20 kHz	Vocals; instruments; general studio	Case; donut-mount	\$2,249
145 dB	20 Hz-20 kHz	Reference mono/stereo/mid-side or B format	Variable stereo angle; shock-mount; test osc; low cut; headphone amp	\$9,150
145 dB	20 Hz-20 kHz	Stereo/mono; mid/side recording	Stereo output; variable stereo angle; headphone amp	\$4,425
135 dB	20 Hz-20 kHz	Location mono/stereo; mid/side; B format	Tetrahedral array w/port preamp; variable stereo angle; B format out; cable; headphone amp	\$5,800
132 dB	25 Hz-19 kHz	Vocal; instrument	Super buffered output	\$599
157 dB	38 Hz-18 kHz	Live vocals; instruments		\$139
152 dB	37 Hz-19 kHz	Live instruments	Large diaphragm	\$139
155 dB	35 Hz-19 kHz	General purpose	Large diaphragm	\$399
152 dB	33 Hz-19 kHz	General purpose	Switchable stage/studio EQ settings	\$159
119 dB	50 Hz-15 kHz	Personal studio; live performance	20-ft. cable; adapter; case	\$60
140 dB	70 Hz-18 kHz	Vocal		\$169
140 dB	50 Hz-18 kHz	Instrument		\$109
130 dB	50 Hz-18 kHz	Boundary		\$199
130 dB	50 Hz-18 kHz	Vocals		\$169
135 dB	30 Hz-18 kHz	Instruments		\$159
115 dB	80 Hz-15 kHz	General recording		\$109
135 dB	30 Hz-19 kHz	Vocals; instruments		\$119
N/A	50 Hz-15 kHz	Instruments; vocals		\$99
N/A	50 Hz-18 kHz	Vocals; instruments		\$119
140 dB	20 Hz-20 kHz	Vocals; instruments		\$299
N/A	50 Hz-15 kHz	Vocals		\$65
N/A	50 Hz-15 kHz	Instruments		\$49
N/A	80 Hz-12 kHz	Vocals		\$38
130 dB	80 Hz-12 kHz	Vocals		\$38
N/A	80 Hz-12 kHz	Vocals		\$26

## KEYBOARD SYNTHESIZERS &amp; SAMPLERS

MANUFACTURER	PRODUCT	POLYPHONY/ MULTITIMBRAL PARTS	WAVEFORM MEMORY ROM/RAM	FILTER TYPES/ RESONANCE	SINGLE PROGRAMS ROM/RAM	MULTITIMBRAL PERFORMANCES ROM/RAM	PORTAMENTO	GM/GS/XG COMPATIBLE	BUILT-IN COMPUTER INTERFACE/TYPE	DISK DRIVE TYPE	NUMBER OF KEYS	# OF KEYBOARD ZONES (MAX)	LEFT-HAND CONTROLLERS
Access (GSF)	Virus KB	24/16	N/A	24/12 $\square$ BP, LP, BP, HP, BS	512	128	Yes	N/N/N	No	N/A	61	16	Pitch; mod
Alesis	OS6.1	64/16	16/16 MB (w/flash cards)	LP/N	512/128	400/100	Yes	Y/N/N	Yes/serial	N/A	61 semi-weighted	6	Pitch; mod; 4 sliders
Alesis	OS8.1	64/16	16/16 MB (w/flash cards)	LP/N	512/128	400/100	Yes	Y/N/N	Yes/serial	N/A	88 weighted hammer-action	16	Pitch; mod; 4 sliders
Alesis	OS7.1	64/16	16/16 MB (w/flash cards)	LP/N	512/128	400/100	Yes	Y/N/N	Yes/serial	N/A	76 semi-weighted	16	Pitch; mod; 4 sliders
Ensoniq	Avista 7600	32/16	8 MB	N/A	128/N	16/0	No	Yes	No	1.4 MB MS-DOS	76	1	N/A
Ensoniq	ZR-76	64/16	30/4 MB	LP/N	468/256	32	Yes	Y/N/N	No	1.4 MB MS-DOS	76 weighted	3	Pitch; mod
Generalmusic	Equinox	64/32	16/40 MB	HP; LP; BP, para cut/vbst/Y	1200/1200	112/16	Yes	Y/Y/N	Yes/serial; SCSI (88 keys)	Floppy/ internal HD	61, 76, 88	16	Pitch; mod
Generalmusic	SK-760/880 World	64/32	16/40 MB	HP; LP; BP, para cut/vbst/Y	1000/1000	64	Yes	Y/Y/N	Yes/serial	Floppy/ internal HD	76; 88	32	Pitch; mod
Korg	Trinity	32/16	24/0 MB	HP; LP; BP, band reject/Y	0/256	0/256	No	No	No	3.5" HD/DD	61	16	Ribbon; X/Y joystick; (2) switches; slider
Korg	N1	64/32	18/0 MB	Resonant filter effect algorithm	1196/100	302/100	Yes	Yes	Yes/serial; PC/Mac	N/A	88 weighted	32	Pitch; mod; (4) knobs
Korg	N5EX	64/32	18/0 MB	Resonant filter effect algorithm	1196/100	302/100	Yes	Yes	Yes/serial; PC/Mac	N/A	61	32	Pitch; mod; (4) knobs
Korg	N364	64/16	8/0 MB	N/A	336/200	200/200	No	Y/N/N	No	3.5" HD/DD	61	16	X/Y joystick
Korg	N264	64/16	8/0 MB	N/A	336/200	200/200	No	Y/N/N	No	3.5" HD/DD	76	16	X/Y joystick
Korg	SG Pro X	64/1	24 MB	N/A	0/64	0/64	No	No	No	N/A	88 weighted	10	Pitch; mod; 5-brd EO; (4) sliders; (6) switches
Korg	Triton	62/16	32/32 MB	HP/LP	0/640	0/512	No	Y/N/N	Korg PCI/F	3.5" HD/DD	61	16	X/Y Joystick; ribbon; switch x 2; assignable/fixed knobs x 4
Korg	MS2000	4/1	N/A	LP/BP/HP + DWGS in ROM	0/128	N/A	Yes	No	N/A	N/A	44	2	Pitch and mod wheels
Korg	Triton Pro	62/16	32 MB ROM; up to 32 MB RAM optional	HP/LP	0/640	0/512	No	Y/N/N	Yes/Serial; Mac/PC; Korg PCI/F	3.5" HD/DD	76	16	X/Y Joystick; ribbon; switch x 2; assignable/fixed knobs x 4
Korg	Triton Pro X	62/16	32 MB ROM; up to 32 MB RAM optional	HP/LP	0/640	0/512	No	Y/N/N	Yes/Serial; Mac/PC; Korg PCI/F	3.5" HD/DD	88 weighted	16	X/Y Joystick; ribbon; switch x 2; assignable/fixed knobs x 4
Kurzweil	PC88MX	64/16	12/0 MB	N/A	269/0	64/128	No	Yes	No	N/A	88	4	Pitch; mod; (3) push btns; (4) sliders
Kurzweil	PC88	32/16	8/0 MB	N/A	64/0	32/128	No	No	No	N/A	88	4	Pitch; mod; (3) push btns; (4) sliders

AFTERTOUCH (POLY/CHANNEL)	# AND TYPE OF CONTROLLER INPUTS	# OF SEQUENCER TRACKS/PPQN	SEQUENCER MEMORY (NOTES)	TYPES OF QUANTIZATION	ARPEGGIATOR	# OF EFFECTS PROCESSORS/EFFECTS PROGRAMS	# AND TYPE OF AUDIO OUTPUTS	SPECIAL FEATURES	OPTIONS	PRICE
N/Y	1 sustain, 1 pedal	N/A	N/A	N/A	Yes	1/82	(6) 1/4"	Stereo filter inputs; 3LFOs; 2 enr.; 64 waveshapes; input follower etc	Free operating system updates via Web	\$2,295
Y/N	1 sustain, 1 assign	16	50 sequences	N/A	No	1/8	(2) 1/4"	CD-ROM; usr smpls/sqncs w/flash cards	Ocards; PCMCIA flash cards	\$1,099
Y/N	1 sustain; 2 assign	16	50 sequences	N/A	No	1/8	(4) 1/4"	CD-ROM; usr smpls/sqncs w/flash cards; dgtl out	Ocards; PCMCIA flash cards	\$1,899
Y/N	1 sustain; 2 assign	16	50 sequences	N/A	No	1/8	(4) 1/4"	CD-ROM; usr smpls/sqncs w/flash cards; dgtl out	Ocards; PCMCIA flash cards	\$1,299
N/N	1 sustain	2	25,000	N/A	No	1/2	(2) 1/4"; phones	Built-in speakers; bench; music rack		\$929
Y/Y	5 FS, 1 pedal	16/384	N/A	64th triplet to whole note; 11 dif styles	Yes	6/40	(6) main L&R; aux L&R; headphone	Idea pad; drum machine	Sound cards; flash memory	\$2,995
Y/Y	1 pedal, 3 FS	16/192	125,000	96th, 1/8 groove, 1/16 groove	Yes	3/85	(4) 1/4"	Smpl trnsltr; groove machine; tonewheel organ w/physcl dnwbrs; 8 prog MIDI ldrs/swtchs	Pro upgrade incl 8 MB BBU mem; 1.2 GB HD; SCSI; Pro2 piano smpls	\$1,995 - \$3,695
Y/Y	1 pedal, 3 FS	32/192	125,000	96th, 1/8 groove, 1/16 groove	No	4/56	(4) 1/4"	224 styles (192 ROM/32 usr) x 4; smpl trnsltr; groove machine; tonewheel organ w/dnwbrs	Powerstation vers/upgd incl 1.2 GB HD, complete General Music style/sound librs; 200+ strd/pop/rock tunes	\$2,495-\$3,495
N/Y	3 pedal; switch; damper	16/192	80,000	Hi; 32nd; 16th; 8th; 4th; triplet	No	10/14	(4) 1/4"; headphone	Touch sens screen, 4 outs	Digital aud intrfc w/SCSI; SCSI intrfc; ADAT optcl out; 8 MB flash ROM for smpl plybck; DSP anlg upgrd brd	\$2,100
N/Y	2 pedal; switch	0	N/A	N/A	Yes	2/48	(4) 1/4"; headphone	4 real-time knobs; layer/split buttons	No	\$2,099
N/Y	2 pedal; switch	0	N/A	N/A	Yes	2/48	(4) 1/4"; headphone	4 real-time knobs; layer/split buttons	No	\$1,099
N/Y	2 pedal; 2 switch; damper	16/96	32,000	Hi; 32nd; 16th; 8th; 4th; triplet	Yes	2/47	(4) 1/4"; headphone	RPPR-plays patterns back on keys	No	\$1,900
N/Y	2 pedal; 2 switch; damper	16/96	32,000	Hi; 32nd; 16th; 8th; 4th; triplet	Yes	2/47	(4) 1/4"; headphone	RPPR-plays patterns back on keys	No	\$2,400
N/Y	3 pedal; switch	0	N/A	N/A	No	2/12	(2) 1/4"; headphone	15 MB of piano smpls; cntrls up to 8 ext modules		\$2,600
N/Y	1 each damper; switch; pedal	16/192 ppq	200,000	Hi; 32; 32T; 16; 16T; 8; 8T; 4; 4T	Yes	8/102	(6) 1/4"; phones	Sampler; touch screen; user expandable	SCSI; physical modeling; sound RAM expansion for sampling (up to 64 MB)	\$2,850
No	2 pedal; switch	Motion sequencer	16 steps	N/A	Yes	2	(8) 1/4"	16 band vocoder; 3 part motion sequencer		\$1,100
N/Y	1 each damper; switch; pedal	16/192	200,000	Hi; 32; 32T; 16; 16T; 8; 8T; 4; 4T	Yes	8/102	(6) 1/4"; headphones	Sampler; touch screen; user expandable	SCSI; physical modeling; sound RAM expansion for sampling (up to 64 MB)	\$3,375
N/Y	1 each damper; switch; pedal	16/192	200,000	Hi; 32; 32T; 16; 16T; 8; 8T; 4; 4T	Yes	8/102	(6) 1/4"; phones	Sampler; touch screen; user expandable	SCSI; physical modeling; sound RAM expansion for sampling (up to 64 MB)	\$4,000
N/Y	2 FS, 4 pedal	0	N/A	N/A	Yes	2/80	(2) 1/4"		Music rack	\$3,150
N/Y	2 FS, 4 pedal	0	N/A	N/A	Yes	1/40	(2) 1/4"		VGM board; music rack	\$2,650

## KEYBOARD SYNTHESIZERS &amp; SAMPLERS

MANUFACTURER	PRODUCT	POLYPHONY/ MULTITIMBRAL PARTS	WAVEFORM MEMORY ROM/RAM	FILTER TYPES/ RESONANCE	SINGLE PROGRAMS ROM/RAM	MULTITIMBRAL PERFORMANCES ROM/RAM	PORTAMENTO	GM/ GS/ XG COMPATIBLE	BUILT IN COMPUTER INTERFACE/TYPE	DISK DRIVE TYPE	NUMBER OF KEYS	# OF KEYBOARD ZONES (MAX)	LEFT-HAND CONTROLLERS
Kurzweil	K2500/ 2500S/ 2500X/ 2500XS	48/16	8 MB RAM	LP, HP, BP, notch, para EQ, AP/Y	200/1000	100/1000	Yes	Y/N/□	Yes/SCSI	Floppy	76, 88	8	Pitch; mod; smll ribbon; lrg ribbon; (2) push btms, (8) sliders
Kurzweil	PC2X	64/16	16 MB RAM	LP, HP, BP, notch	128/128	32/128	Yes	Y/N/N	N/A	None	88 weighted	4	2 wheels, 4 sliders, 6 buttons
Kurzweil	PC2	64/16	16 MB RAM	LP, HP, BP, notch	128/128	32/128	Yes	Y/N/N	N/A	None	76 semi-weighted	4	2 wheels, 4 sliders, 6 buttons
Kurzweil	K2600/ 2600S/ 2600X/ 2600XS	48/16	64 MB RAM	LP, HP, BP, notch; para EQ, AP/Y	200/1000	100/1000	Yes	Y/N/N	Yes/SCSI	Floppy	76, 88	8	Pitch; mod; smll ribbon; lrg ribbon; (2) push btms, (8) sliders
Kurzweil	K2600 AES	48/16	128 MB RAM	LP, HP, BP, notch; para EQ, AP/Y	200/1000	100/1000	Yes	Y/N/N	Yes/SCSI	Floppy	88	8	Pitch; mod; smll ribbon; large ribbon, (2)pus
Nord	Lead2	16/4	N/A	BP, HP, LP/Y	59/40	100	Yes	N/A	No	N/A	49	2	Pitch stick/mod wheel
Nord	Nord Modular Keyboard	16/4	N/A	15 filter types/yes	500	0/0	Yes	N/A	No	N/A	25	2	N/A
Oberheim	OB12	12/4	N/A	LP, BP, HP	256	256	Yes	N/A	N/A	N/A	49	4	Ribbon controller, pitch wheel, mod wheel
Quasimidi	Sirius	28/7	192/0 MB	LB, HP	672/480	N/A	Yes	No	N/A	No	49	N/A	2
Roland	VK-7	N/A, 4	N/A	N/A	64/16	0/0	No	No	No	N/A	61	0	(9) drawbars; rotary speed; brake; bypass; drawbar select
Roland	JX-305	64/24	12 MB	LP, BP, HP, peaking/Y	640/128	768/256	Yes	No	No	SmartCard	61	0	Pitch; mod (lever)
Roland	JP-8000	8/2	N/A	LP, BP, HP/Y	128/128	64/64	Yes	No	No	N/A	49	0	Pitch; mod (lever), ribbon
Roland	XP-80	64/16	8 MB	LP, BP, HP, peaking/Y	512/128	64/32	Yes	Y/N/N	No	3.5" HD/DD	61	0	Pitch; mod (lever), (2) sliders
Roland	XP-60	64/16	8 MB	LP, BP, HP, peaking/Y	512/128	64/32	Yes	Y/N/N	No	3.5" HD/DD	61	0	Pitch; mod; (2) sliders
Roland	XP-30	64/16	32 MB	LP, BP, HP, peaking/Y	1534/128	64/32	Yes	Y/N/N	No	N/A	61	0	Pitch; mod (lever)
Roland	XP-10	28/16	8 MB	LP/Y	338/256	64/32	Yes	Y/N/N	No	N/A	61	0	Pitch; mod (lever)
Roland	VK-77	N/A, 64	8 MB	N/A	128	N/A	N/A	N/A	N/A	N/A	61 upper, 61 lower	N/A	21 drawbars
Waldorf (GSF)	0	16/16	N/A	LB, BP, HP, comb	300 RAM	100 RAM	Yes	No		Smartcard	61	16	2 wheels; 2 buttons



AFTERTOUCH (POLY/CHANNEL)	# AND TYPE OF CONTROLLER INPUTS	# OF SEQUENCER TRACKS/PPON	SEQUENCER MEMORY (NOTES)	TYPES OF QUANTIZATION	ARPEGGIATOR	# OF EFFECTS PROCESSORS/ EFFECTS PROGRAMS	# AND TYPE OF AUDIO OUTPUTS	SPECIAL FEATURES	OPTIONS	PRICE
Y/Y	4 FS; 2 pedal; breath	32/768	30,000	Groove; reference; swing; shift	Yes	1/37	(8) 1/4"; (1) AES/EBU; (1) optical; KDS	Vast synthesis; rds smpl lbrs frm Akai, Roland, Ensoniq, AIFX, Wave; triggr sng stps frm keys in real time	128 MB smpl RAM; 28 MB smpl ROM; KDFX; hard drive; sampling	\$5,556 - \$7,000
Y/Y	4 sliders; 5 switches; 2 pedal; 3 FS; breath; ribbon	Demo player	N/A	N/A	Yes	2/163	(2) 1/4"; stereo digital; phones	24 bit stereo digital output; new sounds; 4 zone MIDI; stereo multi-strike recording	Polyphony expansion (128); ROM expansions	\$3,150
Y/Y	4 sliders; 5 switches; 2 pedal; 3 FS; breath; ribbon	Demo player	N/A	N/A	Yes	2/163	(2) 1/4"; stereo digital; phones	24 bit stereo digital output; new sounds; 4 zone MIDI; stereo multi-strike recording	Polyphony expansion (128); ROM expansions	\$2,650
Y/Y	4 FS; 2 pedal; breath	32/768	30,000	Groove; reference; swing; shift	Yes	1/37	(8) 1/4"; (1) AES/EBU; (1) optical; KDS	Vast synthesis; rds smpl lbrs frm Akai, Roland, Ensoniq, AIFX, Wave	128 MB smpl RAM; 28 MB smpl ROM; hard drive; sampling	\$6,256 - \$7,700
Y/Y	4 FS; 2 pedal; breath	32/768	30,000	Groove; reference; swing; shift	Yes	1/37	(8) 1/4"; (1) AES/EBU; (1) optical; KDS	VAST synthesis; triggr sng stps frm keys in real-time; real-time resampling	128 MB smpl RAM; 28 MB smpl ROM; hard drive; sampling	\$21,000
N/N	1 each switch, exp. pedal	N/A	N/A	N/A	Yes	No	(4) 1/4"	Analog modeling synth	PCMCIA cards/1200 presets, 400 perf., etc - at clavia se	\$1,799
N/N	1 each switch; 1 exp. pedal	Step sequencer	Infinite	N/A	Yes	4/30	(4) 1/4"	Editor for Mac & PC allows you to build a synth	16 note voice expansion board	\$1,999
N/Y	2 each pedals, exp pedals	1/96	30,000	N/A	Yes	1/4	(4) 1/4"	Screen draws out edited parameters		\$1,999
N/N	1 FS	7/24	N/A	N/A	Yes	2	(2) RCA	Built-in vocoder		\$1,299
N/N	3 pedal	0	N/A	N/A	No	1/4	(2) 1/4" phones; 11-pin rotary cab	Bal outs; 2nd manual w/any MIDI kybrd; prog key click; prog pickup leakage	DP-2/6 damper ped; EV-5/7 expr ped PK-5/7 MIDI peds	\$2,495
1/Y	3 pedal; 1 FS	8/96	50,000	Grid; shuffle; groove	Yes	3/24	(2) 1/4"; headphone	8 realtime knobs; 60 RPS sets; dance FX; slider; lo-fi; phonograph	DP-2/6 damper ped; EV-5/7 expr ped	\$1,495
N/Y	2 pedal	0	23,000	Grid	Yes	3/18	(2) 1/4"	38 knobs & sliders; new waveforms; recordable motion cntrls	DP-2/6 damper ped; EV-5 expr ped	\$1,695
Y/Y	5 pedal	16/96	60,000	Grid; groove; shuffle	Yes	3/40	(4) 1/4"; phones; click out	4 exp slots; sound palette; disk quickplay; sync exp; beatloops to MIDI	SR-JV80 exp brds; DP-2/6 dmptr ped; EV-5 expr ped	\$2,495
Y/Y	5 pedal	16/96	60,000	Grid; groove; shuffle	Yes	3/40	(4) 1/4"; phones; click out	4 exp slots; sound palette; disk quickplay; sync exp; beatloops to MIDI	SR-JV80 exp brds; DP-2/6 dmptr ped; EV-5 expr ped	\$1,995
Y/Y	2 pedal	0	N/A	N/A	Yes	3/40	(4) 1/4"; phones;	2 exp slots; patch finder; prog sound palette sliders; sync exp; beatloops to MIDI	SR-JV80-series exp brds; SM-4 SmartMedia card; EV-5 expr ped; DP-2/6 dmptr ped	\$1,395
Y/Y	2 pedal	0	N/A	Arpegg; groove; shuffle	Yes	2/16	(4) 1/4"; phones;	Combination palette sliders	DP-2/6 damper ped; EV-5 expr ped	\$895
Y/Y	1 each hold; exp., control	NA	NA	NA	NA	1	(1) 1/4"; (1) XLR	Leslie simulator/full poly/ external control	PK-25 & PK-7 bass pedals/ EV-7 expression/KS-77 stand/ BNC-25 bench	\$5,795
Yes	2 switch, 2 CV	Step sequencer	100 patterns	32 step	Yes	2	(3) 1/4"; S/PDIF	1 stereo-analog-in; Xpharm-function; software-updates via MIDI	32-voice upgrade; RAM-cards	\$3,495

## KEYBOARD SYNTHESIZERS &amp; SAMPLERS

MANUFACTURER	PRODUCT	POLYPHONY/ MULTITIMBRAL PARTS	WAVEFORM MEMORY ROM/RAM	FILTER TYPES/ RESONANCE	SINGLE PROGRAMS ROM/RAM	MULTITIMBRAL PERFORMANCES ROM/RAM	PORTAMENTO	GM/GS/XG COMPATIBLE	BUILT-IN COMPUTER INTERFACE/TYPE	DISK DRIVE TYPE	NUMBER OF KEYS	# OF KEYBOARD ZONES (MAX)	LEFT-HAND CONTROLLERS
Waldorf (GSF)	8	16/1	N/A	LB, BP, HP, comb	300 RAM	100 RAM	Yes	No		Smartcard	61	16	2 wheels, 2 buttons
Yamaha	S80	64/19	43 MB	12/Y	256/128	0/128	Yes	Optional	Yes	SmartMedia	88	4	PB; MOD
Yamaha	S30	64/17	43 MB	12/Y	256/128	0/128	Yes	Optional	Yes/	SmartMedia	61	4	PB; MOD
Yamaha	EX5	128/16	16/1 MB	8/Y	256/256	0/128	Yes	Optional	N/A	3.5" FDD	76	16	PB, MOD x2, Ribbon
Yamaha	EX7	64/16	16/1 MB	8/Y	256/256	0/128	Yes	Optional	N/A	3.5" FDD	61	16	PB; MOD x2, Ribbon
Yamaha	CS6ix	64/19	28 MB	12/Y	256/128	0/128	Yes	Optional	Yes/serial Mac, PC	SmartMedia	61	4	PB, MOD, Ribbon
Yamaha	CS2x	64/16	28 MB	3/Y	256/256	0/256	Yes	Yes	Yes/serial	N/A	61	4	PB, MOD; 8 knobs

# onstage™

FOR THE PERFORMING MUSICIAN

**Onstage** is the exciting new quarterly magazine for musicians!

Are you seeking the latest in performance and promotion?  
Whether you're a full-time professional or a weekend warrior,  
**Onstage** is your all-access pass to success as  
a performing musician!

VIPER ROOM, LOS ANGELES

Get your free subscription today!  
[www.emusician.com/  
onstage/suboffer.html](http://www.emusician.com/onstage/suboffer.html)

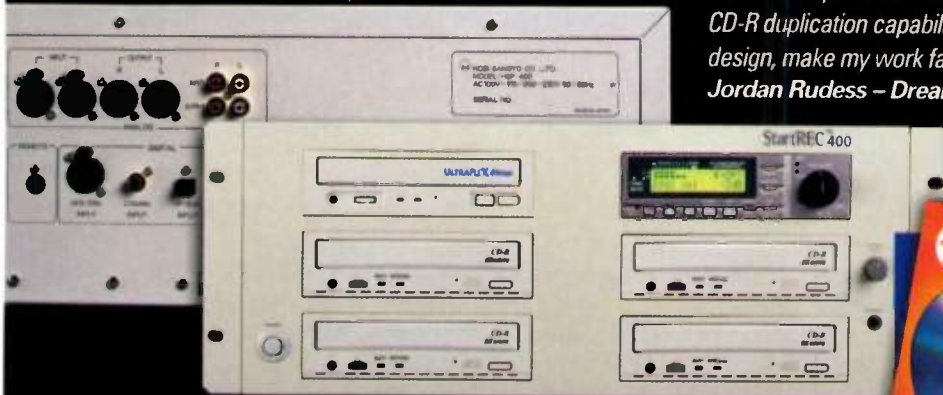
AFTERTOUCH (POLY/CHANNEL)	# AND TYPE OF CONTROLLER INPUTS	# OF SEQUENCER TRACKS/PPON	SEQUENCER MEMORY (NOTES)	TYPES OF QUANTIZATION	ARPEGGIATOR	# OF EFFECTS PROCESSORS/EFFECTS PROGRAMS	# AND TYPE OF AUDIO OUTPUTS	SPECIAL FEATURES	OPTIONS	PRICE
---------------------------	---------------------------------	----------------------------	--------------------------	-----------------------	-------------	--	-----------------------------	------------------	---------	-------

Yes	2 switch, 2 CV	Step sequencer	100 patterns	32 step	Yes	2	(3) 1/4", S/PDIF	1 stereo-analog-in; Xporm-function; software-updates via MIDI	32-voice upgrade; RAM-cards	\$3,495
N/Y	2 FS, 2 foot; 1 breath	16/480	N/A	N/A	Yes	4/127	(4) 1/4"	A/D input, MIDI master keyboard function w/ 128 set-ups	Modular synthesis expansion system	\$1,995
Yes	2 FS	16/ 480	N/A	N/A	Yes	4/127	(2) 1/4"	MIDI master keyboard functions	PLG series plug-in boardsx 5 types	\$1,295
N/Y	2 FS, 2 foot; 1breath	16/480	30,000	Percentage; destructive; non-destructive; groove templates	Yes	2/122	(4) 1/4"	5 types of synthesis	Flash ROM 8MB and 16MB, SCSI, INO Output Exp-Digital (Stereo), analog x 4 option	\$2,695
N/Y	2 FS, 2 foot; 1breath	16/480	30,000	Percentage; destructive; Non-destructive; groove templates	Yes	2/122	(2) 1/4"	Extended synthesis (4 types); sampling	Flash ROM 8MB and 16MB, SCSI, analog x 4	\$2,195
N/Y	2 FS, 2 foot; 1 breath	16/ 480	N/A	N/A	Yes	2/135	(4) 1/4"	Phrase clip sampling; 4MB save/load to SmartMedia	PLG Series Expansion Boards x 6 types	\$1,795
N/A	1 each volume, foot, FS	N/A	N/A	N/A	Yes	1/88	(2) 1/4" phone	Scene controller with morphing, analog style knobs	FC4 foot switch, FC7 foot controller,	\$900

# "Hear The Power"

"StartREC is the final piece of the puzzle"  
 Joe Mattis – King Biscuit Flower Hour

"StartREC's powerful editing features combined with it's CD-R duplication capability, and it's convenient rack mount design, make my work fast and easy."  
 Jordan Rudess – Dream Theater



Superior CD-R Media from MicroBoards!



The Inventor of CD-R Media TAIYO YUDEN

StartREC is the first Digital Audio Editing System combined with multidrive CD-R duplication capability designed specifically for the Audio Professional, from MicroBoards. The StartREC offers Audio Professionals advanced hard disk editing tools, and the ability to create simultaneously up to four custom audio CD's in a convenient rackmountable or desktop configuration.

**StartREC™**  
 CD-R Editor/Duplicator

Corporate Headquarters Phone: (952) 556-1600  
 Toll Free: (800) 646-8881 • Fax: (952) 556-1620  
 East Coast Phone: (888) 215-3966 • Fax: (610) 495-5437

[www.microboardsproaudio.com](http://www.microboardsproaudio.com)



**MICROBOARDS**  
 Technology

## SYNTHESIZER &amp; SAMPLER MODULES

MANUFACTURER	PRODUCT	POLYPHONY/ MULTITIMBRAL PARTS	WAVEFORM MEMORY ROM / RAM	FILTER TYPES/ RESONANCE	SINGLE PROGRAMS ROM / RAM	MULTITIMBRAL PERFORMANCES ROM / RAM	PORTAMENTO	GM / GS / XG COMPATIBLE	BUILT IN COMPUTER INTERFACE / TYPE	DISK DRIVE TYPE	# AND TYPE OF CONTROLLER INPUTS
Access	Virus B	24/16	N/A	24/12 dB LP; BP; HP; BS	512	128	Yes	N/N/N	No	N/A	N/A
Akai	S2000 MIDI Stereo Digital Sampler	32/16	0 MB (exp. to 32)/ 2 (exp. to 32)	Yes	0/255	0/1	Yes	N/N/N	Yes/SCSI	Floppy	0
Akai	S3000XL MIDI Stereo Digital Sampler	32/16	0 MB (exp. to 32)/ 2 (exp. to 32)	LP; BP; HP/Yes	0/255	0/1	Yes	N/N/N	Yes/SCSI	Floppy	0
Akai	S5000 MIDI Stereo Digital Sampler	64 (exp. to 128)/ 32	0/256 MB	26/Yes	0/0	0/No	No	N/N/N	Yes/SCSI	Floppy	0
Akai	S6000 MIDI Stereo Digital Sampler	64 (exp. to 128)/ 32	0/256 MB	26/Yes	0/0	0/128	No	N/N/N	Yes/SCSI	Floppy	0
Akai	MPC2000XL MIDI Production Center	32/1	0 (exp. to 16 MB)/ 2 (exp. to 32)	LP/Yes	0/24	0/1	No	N/N/N	Yes/SCSI	Floppy	(1) assignable MIDI footswitch
Alesis	QSR Synth Module	64/16	16/16MB (exp. w/flash RAM)	LP/No	512/128	400/100	Yes	Y/N/N	Yes/serial	N/A	0
Alesis	DM5 Drum Module	16/1	4 MB	LP/No	0/20	0/0	No	Y/N/N	No	N/A	0
Alesis	NanoBass	64/1	4 MB	LP/No	256/0	0/0	Yes	N/N/N	No	N/A	0
Alesis	NanoPiano	64/1	8 MB	LP/No	256/0	0/0	Yes	N/N/N	No	N/A	0
Alesis	NanoSynth	64/16	8MB	LP/No	512/128	0/1	Yes	Y/Y/Y	Yes/serial	N/A	0
Alesis	DM Pro	64/16	16/8 MB w/flash cards	LP/No	1536/128	64 RAM	Yes	Y/N/N	No	N/A	(1) pedal
Doepler	A-100 Modular Synthesizer	Depends on configuration	No	6 types	None	None	With port. module	Optional	No	N/A-	N/A
E-mu Systems	Proteus 2000	128/32	32 MB (exp. to 128)	17/Yes	1024/512	64	Yes	N/N/N	No	N/A	0
E-mu Systems	E6400 Ultra	64 (exp. to 128)/ 16 (exp. to 32)	0 MB (exp. to 64)/ 16 (exp. to 128)	21/Yes	1000/1000	1	Yes	N/N/N	Yes/SCSI	Yes	0
E-mu Systems	E4XT Ultra	128/32	0 MB (exp. to 64)/ 16 (exp. to 128)	21/Yes	1000/1000	1	Yes	N/N/N	Yes/SCSI	Floppy	0
E-mu Systems	E-Synth Ultra	64 (exp. 128)/ 16 (exp. to 32)	0 MB (exp. to 64)/ 16 (exp. to 128)		1000/1000	1	Yes	N/N/N	Yes/SCSI	Floppy	0
E-mu Systems	ESi2000	64/16	0/4 MB (exp. to 128)	21/Yes	0/256	1	Yes	N/N/N	Yes/SCSI	Floppy	0
E-mu Systems	Xtreme Lead - 1	64/16	32 MB (exp. to 64)/0	12th order/Yes	512/512	64	Yes	N/N/N	No	N/A	N/A
E-mu Systems	B-3	64/16	32 MB (exp. to 64)/0	17/Yes	384/512	64	Yes	N/N/N	N/A	N/A	N/A
E-mu Systems	Virtuoso 2000	128/32	64 MB (exp. to 128)/0	17/Yes	512/512	64	Yes	N/N/N	N/A	N/A	N/A
E-mu Systems	Mo'Phatt	64 (exp. to 128)/ 16 (exp. to 32)	32 MB (exp. to 64)/0	12th order/Yes	512/512	64	Yes	N/N/N	N/A	N/A	N/A
E-mu Systems	E5000 Ultra	64/16 (exp. to 32)	0 MB (exp. to 64)/ 4 (exp. to 128)	21/Yes	1000/1000	1	Yes	N/N/N	Yes/SCSI	None	N/A
E-mu Systems	E5000 Ultra Turbo	64/16 (exp. to 32)	32 MB (exp. to 64)/ 64 (exp. to 128)	21/Yes	1000/1000	1	Yes	N/N/N	Yes/SCSI	IDE	N/A



# OF SEQUENCER TRACKS/PPON	SEQUENCER MEMORY	TYPES OF QUANTIZATION	ARPEGIATOR	# OF EFFECTS PROCESSORS/EFFECTS	# OF AUDIO OUTPUTS/TYPE	SPECIAL FEATURES	OPTIONS	PRICE
N/A	N/A	N/A	Yes	1/82	(6) mono; (3) stereo	Stereo filter inputs; 3 LFOs, 2 env; sine, triangle, saw, pulse, plus 64 waveshapes	Virus KB (keyboard version)	\$1,795
No	N/A	N/A	No	0 (exp to 4)/0 (exp to 50)	(2 exp. to 10) 1/4"	M.E.S.A. editing stfwr (Mac/PC); SMF plyr	Multi-8/D output exp; ProFilter exp; SampleVerb	\$899
No	N/A	N/A	No	0 (exp to 4)/0 (exp to 50)	(10) 1/4"; RCA digital	Dir-to-disk rec; MESA cmpr stfwr (Mac/PC); SMF plyr	SampleVerb FX; 8 MB Flsh ROM brd; ProFilter	\$1,499
N/A	N/A	N/A	Yes	0 (exp to 4)/0 (exp to 50)	(8 exp to 16) 1/4"	FAT16/FAT32 native discs; word clk; smpl frmt	8 output exp; 64 voice exp; SampleVerb II FX	\$2,499-\$5,000
N/A	N/A	N/A	Yes	0 (exp to 4)/	(2) XLR; (16) 1/4"	Rem frnt cntrl pnt; FAT16/FAT32; WAV native smpl frmt	64 voice exp; SampleVerb II FX; 8i/16o ADAT optical I/O	\$3,499-\$4,499
64/96	300,000 notes	8th, 8th triplet; 16th triplet; 32nd	No	0 (exp to 4)/0 (exp to 50)	(2 exp to 10) 1/4"	Reads S1000/S3000/WAV files; vclty & press sens pads	8 output exp; SampleVerb FX; SMPTE brd; 8 MB flash ROM	\$1,649
16/480	8 MB/50 seq. per flash card	N/A	No	1/8	(4) 1/4"	Add sqncs/smpls via flsh RAM; dgtl outs; CD-ROM		\$649
No	No	N/A	No	N/A	(4) 1/4"			\$449
No	No	N/A	No	1/8	(2) 1/4"			\$299
No	No	N/A	No	1/8	(2) 1/4"			\$299
No	No	N/A	No	1/8	(2) RCA	CD-ROM	RCA audio inputs	\$449
16/480	8 MB/50 seq. on PCMCIA card	N/A	No	1/5	(6) 1/4" TRS	16 trigger ins; 2 RCA ins		\$199
N/A	N/A	With quantize module	No	Depends on configuration	Depends on configuration	100% analog modular synth system; 50 different modules available		\$100 and up per module
N/A	N/A	N/A	No	2/30+	(6) 1/4"; S/PDIF	32 MIDI channels; 4 real-time controls; plays back custom ROMs	Additional 16 MB and 32 MB sound ROMs	\$995
43/480	4 MB	1/4 - 1/64 w/swing	No	2/60	(8 exp. to 16) ADAT	Digital modular synthesis;	MIDI x 2 exp; dgtl I/O; ASCII; resampling; ROM brd; ADAT I/O	\$2,295
43/480	4 MB	1/4 - 1/64 w/swing	No	2/60	(8 exp. to 16) ADAT	Digital modular synthesis; resampling	RFX-32 (32-bit FX); flsh ROM brd; ADAT I/O; anlg out exp	\$3,595
48/480	4 MB	1/4 - 1/64 w/swing	No	2/60	(8 exp. to 16) ADAT	Digital modular synthesis; , resampling	RFX-32 (32-bit FX); flsh ROM brd; ADAT I/O; anlg out exp	\$2,895
No	No	N/A	No	Optional	(4 exp to 8)	Trigger mode; SCSI	Turbo option kit adds outputs & effects	\$995
N/A	N/A	N/A	Yes	2/30+	(2) 1/4"	4 real-time control knobs; SuperBEATS mod	Expansion sound ROMs	\$895
N/A	N/A	N/A	N/A	2/30+	(2) 1/4"	Plays custom ROMs	Expansion sound ROMs; opt. 6 analog outs, S/PDIF	\$895
N/A	N/A	N/A	N/A	2/30+	(6) analog; S/PDIF	4 real-time control knobs; plays back custom sound ROMs	Expansion sound ROMs	\$1,395
N/A	N/A	N/A	Yes	2/30+	(2) analog	4 real-time control knobs; SuperBEATS mode; plays back custom sound ROMs created with E4 Ultra Samplers	Expansion sound ROMs; polyphony/output/MIDI/ROM expansion hardware upgrade	\$895
48/480	4 MB	1/4 - 1/64 w/swing	N/A	2/60	(4) analog; ADAT; AES/EBU	Digital modular synthesis; burns custom flash ROMs	32 channel RFX-32 FX/Mixer card; MIDI; Word clock; S/PDIF	\$1,695
48/480	4 MB	1/4 - 1/64 w/swing	N/A	2/60	(4 exp. to 12 analog); ADAT, AES/EBU, S/PDIF	16 MB Orbit/Phatt sound ROM; int. hard drive; digital modular synthesis	32 channel RFX-32 FX/Mixer; ADAT, AES/EBU, S/PDIF options	\$2,395

## SYNTHESIZER &amp; SAMPLER MODULES

MANUFACTURER	PRODUCT	POLYPHONY/ MULTITHRALL PARTS	WAVEFORM MEMORY ROM/RAM	FILTER TYPES/ RESONANCE	SINGLE PROGRAMS ROM/RAM	MULTITHRALL PERFORMANCES ROM/RAM	PORTAMENTO	GM/CS/XG COMPATIBLE	BUILT-IN COMPUTER INTERFACE/TYPE	DISK DRIVE TYPE	# AND TYPE OF CONTROLLER INPUTS
Edirol	ED SC-8850 Sound Canvas	128/64	64 MB	Yes	1640	N/A	Yes	Y/Y/N	Yes/serial, USB, Mac/PC	N/A	N/A
Edirol	ED SC-8820 Sound Canvas	64/32	64 MB	Yes	1608	N/A	Yes	Y/Y/N	Yes/serial, USB, Mac/PC	N/A	N/A
Ensoniq	ASR-X Pro	32/16	2/ 2 MB (exp. to 66)	LP; HP; BP/Yes	0/0	1	Yes	N/N/N	Yes/SCSI	Floppy	2
Future Retro	FR-777	1	None	LP; HP/Yes	N/A	N/A	Yes	N/N/N	N/A	None	0
Korg	MIR	64/32	18 MB ROM	Resonant filter FX algorithm/Yes	1471/200	32 RAM	Yes	Y/Y/Y	Yes/serial; PC/Mac	N/A	0
Korg	TR-Rack	64/32	32 MB ROM	HP; LP; BP, BR	512	513	No	N/N/N	Yes/serial; PC/Mac	N/A	0
Korg	NX5R	64 (exp. to 96)/48	8 MB ROM	N/A	1645/200	0/4	No	Y/Y/Y	Yes/serial; PC/Mac	N/A	0
Korg	EA-1	2/2	None	LP/Yes	0/448	0/256	Yes	N/N/N	No	None	N/A
Korg	ES-1	10/ N/A	N/A	LP/resonant algorithm	0/100	N/A	No	N/N/N	No	SmartMedia	N/A
Korg	MS2000R	4/1	DWGS in ROM	LP; BP; HP	0/128	N/A	Yes	N/N/N	N/A	None	(2) assignable pedal and switches
Kurzweil	MicroPiano	32/0	6/0 MB	N/A	32/0	0/0	No	N/N/N	No	N/A	0
Kurzweil	K2600R/K2600RS	48/16	8 MB ROM (exp. to 128)	LP; HP; BP, notch; AP/Yes	200/1000	100/1000	Yes	Y/N/N	Yes/SCSI	Floppy	0
Nord	Nord Rack2	16/4		24dB BP; HP, LP/Yes	99	100	Yes	N/A	N/A	N/A	(1) pedal switch; (1) exp. pedal
Nord	Nord Modular Rack	16/4		15 types	500	N/A	Yes	N/A	No	N/A	(1) switch; (1) exp. pedal
Nord	Nord Micro Modular	4/1		15 types	99	N/A	Yes	N/A	No	N/A	0
Oberheim	MiniGrand Piano	64/1	8 MB		6/6	N/A		N/A	N/A	N/A	(2) switch pedals
Quasimidi	Polymorph	16/4		24 dB LP,+ 12 dB HP	0/128	0/64	Yes	N/N/N	No	N/A	0
Quasimidi	QM-309 Rave-O-Lution	17/5		24 dB/12 dB LP	0/384	N/A	Yes	N/N/N	No	N/A	(1) footswitch
Roland	PMA-5	28/8(16 part in GM mode)	8 MB	LP/Yes	306/200	306/0	Yes	Y/Y/N	No	N/A	0
Roland	JV-2080	64/16	8 MB (exp. to 40)	LP; BP; HP; peaking/Yes	640/128	64/32	Yes	Y/N/N	No	N/A	0
Roland	JV-1080	64/16	8 MB (exp. to 40)	LP; BP; HP; peaking/Yes	512/128	64/32	Yes	Y/N/N	No	N/A	0
Roland	JP-8080	10/2	N/A	LP; BP; HP; peaking/Yes	384/128	192/64	Yes	N/N/N	No	N/A	0

# OF SEQUENCER TRACKS/PPON	SEQUENCER MEMORY	TYPES OF QUANTIZATION	ARPEGGIATOR	# OF EFFECTS PROCESSORS/EFFECTS	# OF AUDIO OUTPUTS/TYPE	SPECIAL FEATURES	OPTIONS	PRICE
N/A	N/A	N/A	N/A	1/84	(4) RCA	Includes hybrid CD with GSAE editing software		\$1,195
N/A	N/A	N/A	N/A	1/64	(2) RCA	Hybrid CD-ROM; GSAE sound editing software; power supplied by USB bus.		\$595
16/384	70,000 notes (exp. to 140,000)	Adjustable	No	2/40	(1) headphone			\$1,695
256	256 patterns/16 songs	16th note; 3/4; 4/4	No	1/2 (overdrive)	(1) 1/4"	Pure analog synthesis; external audio input; MIDI to CV converter		\$777
Yes	N/A	N/A	Yes	2/48	(4) 1/4"	4 assignable realtime cntrl knobs	AG011(PC); AG002(Mac) srl cbl/drvr pckg (for 32 parts)	\$850
N/A	N/A	N/A	Yes	10/114	(4) 1/4"	All Trinity sounds + 8 MB; Sound Diver editor prgrm	DITRI-ADAT digital interface	\$1,399
N/A	N/A	N/A	No	2/47	(2) 1/4"	XG dghtbrdr; 96-vc plyphny/48 prts	AG001(PC); AG002(Mac) serial interface cable and driver software	\$725
2 / N/A	64 steps	12T; 16; swing 16; 32	No	2/2	(2) 1/4"; (1) heaphone	Audio in for gating audio with patterns; realtime control		\$499
10/N/A	Up to 64 steps per part	16; 16 swing; 32; triplets	No	2/12	(2) 1/4"	Resample; time motion sequencer; Smartmedia storage		\$599
part motion sequencer	16 steps	N/A	Yes	2/7	(2) 1/4"; RCA	16 band vocoder; 3-part motion sequencer		\$800
N/A	N/A	N/A	No	1/16	(2) 1/4"	Can link two mics for 64-vc plyphny		\$550
32/768	30,000 notes	Groove; reference; swing; shift	Yes	1/37	(8) 1/4"; AES/EBU; XLR; optical KDS	Reads smpls frm Akai, Roland, Ensoniq, AIFF, Wave	128 MB smpl RAM; 28 MB smpl ROM	\$4,475 K2600R; \$5,250 K2600RS
N/A	N/A	N/A	Yes		(4) 1/4"	Analog medeling synth	PCMCIA cards w/1200 presets, 400 performances	\$1,399
N/A	16 steps	N/A	Yes	4/30 (+)	(4) 1/4"	Mac & PC editor allows you to build a synth	16 voice expander board	\$1,889
N/A	N/A	N/A	Yes	1/30 (+)	(2) 1/4"	Mac & PC editor allows you to build a synth	3,000(+) presets avail. from co. website	\$749
N/A	N/A	N/A	N/A	1/4	N/A	Modeling and sample-based piano		\$450
4	N/A	N/A	N/A	16	4	Analog-style sequencer; AES synthesis; 2 audio inputs		\$1,199
5/24	20,000 events	N/A	No	3/17	(4) RCA	Full synth features on drum sounds; 2 audio inputs	Sound expansions for drums and synth sounds	\$899
8	21,000 notes	Grid	N/A	2/16	(1) mini plug	100 preset styles; chord track; 26 chord types; ad lib bar; batt oper	PMA-55 PC/Mac cnvrsn shwr; DP-2M strl/stp ped	\$495
N/A	N/A	N/A	N/A	5/120	L/R x3 (str); headphone	4 exp slots; PatchFinder; LFO sync-to-MIDI; sync exp	SR-JV80 exp boards; M-512E data card	\$1,695
N/A	N/A	N/A	N/A	3/40	L/R x3 (str); headphone	4 exp slots; LFO sync-to-MIDI	SR-JV80 exp boards; M-512E data card	\$1,195
1/96	23,000 notes	Grid	Yes	3/19	L/R (str); headphone	38 knobs/sliders; line/mic ins; 12-bnd frmnt tltr/vcdtr/robot; vcl morph	SmartMedia card	\$1,595

# DRUM MACHINES

DRUM MACHINES

MANUFACTURER	PRODUCT	# OF PADS/ TOUCH SENSITIVE	NON-PERCUSSION SOUNDS	ONBOARD EFFECTS	# OF SOUNDS	# OF PATTERNS PRESET/USER
Akai	MPC2000XL MIDI Production Center	16/Yes	Yes	Optional 4-bus effects processor	Unlimited	0/99
Alesis	SR-16	12/Yes	223	No	100	200/200
Boss	Dr. Rhythm	12/No	N/A	No	91	64/64
Boss	Dr. Rhythm	16/Yes	4 (bass)	Reverb, delay, flanger	255	400/400
Jomox	XBase-09	4/Yes	Yes (white noise)	No	Unlimited	64
Jomox	AIRBase-99	Yes	N/A	No	Unlimited	200
Korg	ER-1	8/No	N/A	delay, flange/chorus, ring mod.	Unlimited	224/32
Roland	MC-307 Groovebox	16/Yes	64	Reverb, chorus, multi	800	710/200
Yamaha	RY9	12/No	50	N/A	128	200/50
Yamaha	RY20	12/Yes	6 (bass)	Reverb, delay	300	300/600
Zoom	Rhythmtrak 123	13/Yes	Yes (bass)	Yes	80 drum kits; 25 bass programs	297/99
Zoom	Rhythmtrak 234	13/Yes	Yes (bass)	Yes	124 drum kits; 50 bass programs	99/99

## TECHNOLOGY CERTIFICATION FOR MUSIC TEACHERS

**Massachusetts  
Elementary School  
Principals' Association**  
The MIDI Schoolhouse (MESPA) 508-624-0303 1B  
603-431-3033 1A, 2A

**Berklee College of Music**  
617-747-2425 1A, 1B, 2C

**Central Michigan University**  
george.hess@cmich.edu 1A, 1B

**Duquesne University**  
800-934-0159 1A, 1B, 2A, 2B

**Long Island University/  
C.W. POST**  
610-799-1171 1A

**Lehigh Carbon  
Community College**  
610-799-1171 1A

**Temple University**  
215-204-8437 1A, 1B, 2B

**Villanova University**  
610-519-7214 1A, 1B, 2A, 2B.

**West Chester University**  
610-436-2873 1A, 1B, 2A

**University of Akron**  
330-972-6356 1B, 2A

**Capital University**  
614-236-6226 1A

**Auburn University**  
kim.walls@mail.auburn.edu

**Kent State University**  
610-436-2873 1A, 1B

**La Sierra University**  
909-785-2063 1A

**Ball State University**  
610-436-2873 1A, 1B

**Indiana University/  
Purdue University**  
Bpickard@acsc.net 1A, 1B

**Certification Courses -**  
1A - Basic Skills in Music Technology: Notation, Sequencing, & Electronic Instruments  
1B - Basic Skills in Music Technology: Instructional Software, Communications & Digital Media  
2A - Notation; 2A Printing; 2A Advanced Sequencing  
2B - Web Page Design  
2C - Integrating Technology into the Music Curriculum

For information [www.ti-me.org](http://www.ti-me.org)

[Timemused@aol.com](mailto:Timemused@aol.com)

# SONGS	QUANTIZATION TYPES/PPQN	# OF OUTPUT/TYPE	PORTS (MIDI IN/OUT/THRU)	SPECIAL FEATURES	PRICE
20	8th; 8th triplet; 16th triplet; 32nd; 32nd triplet; 96	(2) 1/4"	Y/Y/N	Automated mixing; 64 tracks; note sequencer	\$1,649
100	96	(4) 1/4"	Y/Y/Y	Includes start/stop, A-B fill/count footswitches	\$269
8	96	(2) 1/4"; phones	Y/N/N	Realtime & step programming entry modes	\$295
100	96	(3) 1/4"; phones	Y/Y/N	Search; 16 effects; 128 drum kits	\$495
64	N/A	(4) 1/4"	Y/Y/Y	Fully analog electronics; onboard sequencer	\$1,095
200	N/A	(10) 1/4"	Y/Y/Y	Fully analog electronics	\$995
16	12 triplet; 16; 16 swing; 32	(2) 1/4"; phones	Y/Y/Y	Motion sequencer; analog-modeled sounds	\$499
N/A	Grid; groove; shuffle/8	(2) 1/4"	Y/Y/N	Grab switch; turntable emulation	\$995
100	16th note; 24	(2) 1/4"; phones	Y/Y/N	Guitar input w/ tuner and mono pitch-to-MIDI	\$300
50	Normal; swing; groove; 96	(2) 1/4"; phones	Y/Y/N	4 tracks /patterns; programmable bass lines	\$500
99	96	(2) 1/4"; phones	Y/N/N	External input for playing along with unit	\$300
99	96	(2) 1/4"; phones	Y/N/N	3 drum, 1 bass track	\$430

**Electronic Musician** Presents

# REMIX™



**Finally... A Magazine Dedicated to the Tools of the Remix/Production Trade!**

**Catch the newest spin and latest groove with REMIX. Keeping up with the rapidly changing technology of the electronic music scene is now possible!**

- Featuring**
- Interviews with hot artists on the dance/music scene.
  - In the Know: Cool gadgets, gear, and Web resources.
  - Ear2Gear: In-depth reviews of the latest products and equipment for remixers, producers, and DJs.
  - Taking your mix over the top with tips and tricks from the people who know best.
  - And so much more!

**Get your free subscription\* today! [www.emusician.com/remix](http://www.emusician.com/remix)**

**Appearing Quarterly in 2000!**

\*Offer currently available in United States only.

198 SONIC TREATMENT

202 STUDIO FURNITURE

208 POWER PRODUCTS

## ACOUSTIC TREATMENT — ENERGY

Last and certainly not least in this year's PSBG are Sonic Treatment, Studio Furniture, and Power Products. These three charts contain some of the most commonly overlooked necessities in a safe and successful personal studio. You'll be surprised at how good you can sound in a well-tuned room with smart ergonomics and clean power.

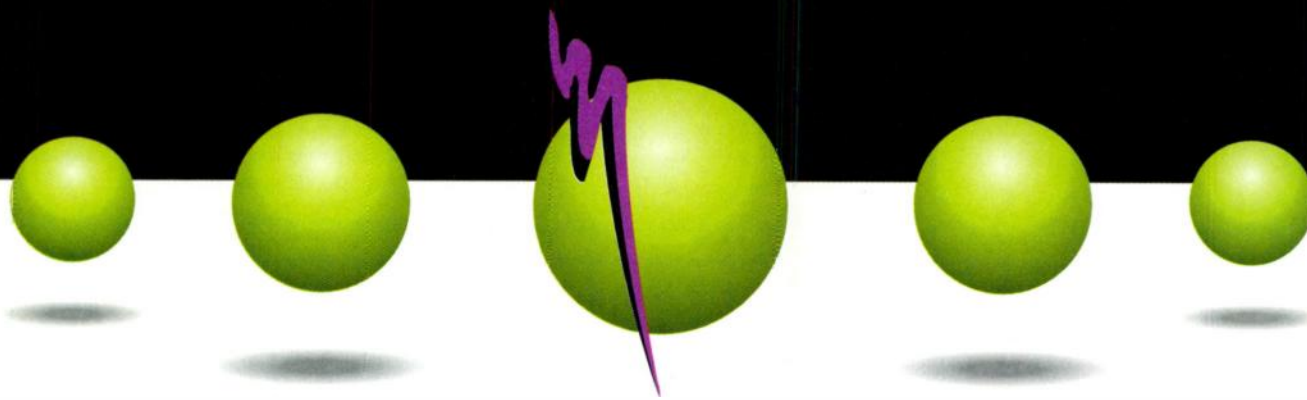
Whether you're soundproofing a broom closet or an airplane hangar, choosing the right materials, configurations, and prices is a lot easier with this chart. Everything from steel isolation chambers to a rainbow's worth of 12-inch foam squares are available to handle corner absorption, bass trapping, noise reduction, and standing waves. These products shape what you hear once your music has left the monitors. Your music and your neighbors will thank you.

Repetitive stress syndrome (RSS) and carpal tunnel syndrome are dramatically on the rise, thanks to the personal computer—a double whammy for computer-based personal-studio owners. Yet ergonomics are often ignored in most personal studio budgets. Whether coping with the physical stress of pushing music around all day with a mouse or trying to prevent stress in the first place, choosing the right product from our Studio Furniture chart can add years to your career. Locate what makes your body and your studio happiest, then visit the manufacturer's Web site for photos, configurations, and customizable solutions for your musical and physical needs.

Buying a new synth or digital recorder is much more exciting than looking at power products—until your gear starts flaking out due to poorly conditioned power. A cheap power strip can bring down digital devices faster than you can say "lightning bolt," and nothing drives a personal studio owner crazier than chasing down irritating line hums caused by inadequate grounding and unfiltered line current.

With prices ranging from \$20 to \$2,000, there's something in this category for every budget. Of course, you need to make sure you choose a unit with enough receptacles and surge and spike protection. But that's just the beginning. If you can afford it, we recommend you go for a power conditioner that independently filters electromagnetic (EMI) and radio frequency (RFI) interference. Better yet, get a unit that also regulates the output voltage at exactly 117 or 120 VAC regardless of voltage variations in your wall power (such as brownouts). To properly protect your computer and other RAM-based devices, consider an uninterruptible power supply (UPS); these units provide a few minutes of emergency power in the event of a power failure so you can properly shut down your gear.

# PUMP UP THE POWER!



## LDI•2000

The Entertainment Technology Show

October 20-22, 2000 • Sands Expo & Convention Center • Las Vegas, NV USA • [www.ldishow.com](http://www.ldishow.com) • [www.etcnyc.net](http://www.etcnyc.net)

LDI 2000 fuses the power of tomorrow's technology with a high-octane mix of the people, projects and products that fuel the imagination of the entertainment industry. With cutting-edge exhibits and super-charged training opportunities, LDI 2000 has all it takes to power your dreams.

**YES!** Please send me more information on:  **ATTENDING** LDI 2000  **EXHIBITING** at LDI 2000  
For information only. This does not register you for LDI 2000.

Source Code: AD

### FAX:

+1-720-489-3165

### MAIL:

LDI 2000 Registration/Intertec Exhibitions  
5680 Greenwood Plaza Blvd., Suite 100  
Englewood, CO 80111 USA

### CALL:

1-800-288-8606 or +1-303-741-2901

### E-MAIL:

[trade\\_shows@intertec.com](mailto:trade_shows@intertec.com)

### VISIT:

[www.ldishow.com](http://www.ldishow.com) or [www.etcnyc.net](http://www.etcnyc.net)

First Name \_\_\_\_\_ Last Name \_\_\_\_\_  
Title \_\_\_\_\_ Company \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Country \_\_\_\_\_  
Phone \* \_\_\_\_\_ Fax \* \_\_\_\_\_  
E-mail \*\* \_\_\_\_\_

International guests, please provide city and country codes. \*\*Provide only if you wish to receive news and updates via e-mail.

Sponsored by: **LIGHTING DIMENSIONS**  
**ENTERTAINMENT DESIGN**  
**S&VC**  
Specialty Video Contractor

**ESTA**  
Entertainment Services Technicians Association

Additional support comes from these other Intertec®/PRIMEDIA Publications:  
*Mix, Millimeter, Video Systems, Broadcast Engineering, World Broadcast News and Shopping Center World.*  
With additional support from: NSCA (National Systems Contractors Association) and ILDA (International Laser Display Association)

# SONIC TREATMENT

MANUFACTURER	MODEL	TYPE	FIRE RATING	DIMENSIONS	SPECIAL FEATURES	PRICE
ASC	Attack Wall System	Sub-space	N/A	Customized for your console	Studio traps/monitor stands; isolates listening position from the room	\$4,000-\$10,000
ASC	Mix Station	Room acoustic control package	N/A	5'x5' arrays; 8"x48" panels	Low-frequency control and precision imaging	\$1,5802
ASC	Quick Sound Field System	Sub-space	N/A	Varies	Increase/decrease ambience via placement; adjustable for bright or dead recording	\$2,520 and up
ASC	Studio Trap	Adjustable/tunable floor standing acoustic control device	N/A	9" diameter x 4' tall	Diffusive side & absorptive side; adjustable; absorbs 110 Hz & 400 Hz	\$315
ASC	Tube Trap	Bass trap	N/A	9, 11, 16, 20" diameters; 4 tall	Bass absorption down to 35 Hz with built-in diffusion above 400 Hz	\$248-\$678
ASC	Monitor Stand Acoustic Control Product	Reference monitor	N/A	13, 16, 20" diameters - height varies	Low-frequency control; reduces vertical mode problems	\$374-\$678
ASC	Sound Panel	Acoustic wall panel	Meets code	2"x8"x48"	Controls flutter echo, excess reverb & brightness while maintaining ambience & presence	\$398 (set of 8)
ASC	Planar Trap	General purpose acoustic control device	N/A	15"x6"x60"	Free-standing gabo device for reflection & ambient control	\$596 (set of 4)
ASC	Sub-Stand Cube	Bass trap/resonant control	N/A	Standard 18"x18"x20"; (custom sizes available)	Decouples sub, controls vertical resonant mode, improves bass articulation	\$329-\$399
ASC	WallDamp IsoWall System	Soundproof wall & ceiling construction kit	Meets fire codes	N/A	Room soundproofing /isolation construction kit for new construction or remodeling	\$2-\$3 sq/ft.
Acoustical Solutions	AAP Alpha Pyramid	Sound-absorbing foam	Class 2	2'x2' sheets; 2, 3, 4" thick	Matching pattern; variety of colors; NRC 0.70-1.05	\$178 \$212/box
Acoustical Solutions	AB10-NR Audio-Seal Sound Barrier	Sound-transmission blocker; high temperature-fused vinyl	N/A	54"x60"x1/8" roll	Stops noise from transmitting through walls, floors and ceilings	\$1.75-\$2.25 sq ft
Acoustical Solutions	AS1, AS2 AlphaSorb Panels	Fabric wrapped wall panels and hanging baffles	Class 1	Any size up to 4'x10'; 1" or 2" thick	NRC 0.80-1.05; 48 colors; custom shapes and cut-outs	\$39-\$280
Acoustical Solutions	Soundtex, SD2BT, SD2YD	Fabric wall covering	Class 1	Bolt: 54"x35 yards; linear yard: 54"x36"	12 colors; NRC 0.25; easy to install	\$850 bolt; \$32 yard
Acoustical Solutions	Sonex Acoustical Foam UNX	Polyurethane	Class 2	2'x 4' or 4'x 4'; 2, 3, or 4"	Charcoal, beige & brown	\$167 (3"); \$169 (2")
Acoustical Solutions	Sonex Acoustical Foam SOC-2	Melamine	Class 1/Class A	2'x 4'x 2"	White or colortec charcoal	\$213-\$299
Acoustical Solutions	AlphaTec Ceiling Tiles	Drop in t-grid or surface mount	Class 1/Class A	2'x 2'	white, gray or black hypalon finish	\$167
Acoustics First	Double Duty Diffuser	Polycylindrical diffuser/bass trap	Class A	2'x2'-4'x8'	Uniform high -frequency dispersion; increases the acoustic size of a mixing room	\$200
Acoustics First	Bermuda Broadband Triangle Trap	Corner absorber	Class 1/3	1'x1'x4'	Also avail as bermuda shorts (24") and stand-alone sound cylinder	\$42



MANUFACTURER

MODEL

TYPE

FIRE RATING

DIMENSIONS

SPECIAL FEATURES

PRICE

MANUFACTURER	MODEL	TYPE	FIRE RATING	DIMENSIONS	SPECIAL FEATURES	PRICE
Acoustics First	Geometrix	Broadband	Class A	8" diam, up to 10' high	Formed fiberglass covered w/1.00 above Guilford FR701 fabrics; 84 absorption at 125 Hz	\$157
Auralex Acoustics	LENRD (Low End Noise Reduction Device)	Bass trap	Class B	12"x12"x17" triangular; 24" long	12 diff colors; 8 pcs per box; triangular to fit corners; Overall NRC 1.35	\$269/box
Auralex Acoustics	SheetBlok	Sound barrier	Class B	1/8" thick; 4'x10' and 4'x30' rolls	Approx. 6dB more effective than solid lead at stopping the transmission of sound	\$360 per roll
Auralex Acoustics	Studiofoam	Absorptive foam	Class B	2'x4' panels; 1, 2, 3, 4" thick	12 colors; wedge cut; 6-20 pcs per box; overall NRC .50 to 1.10	\$219-\$249/box
Auralex Acoustics	TFusor	Diffusor	N/A	23.75" x23.75" square; 5.5" thick	Wall mountable; fits drop ceilings; easily painted; 4 pieces per box	\$280/ box
Auralex Acoustics	Studiofoam Pyramids	Absorptive foam	Class B	2'x4' panels; 2, 4" thick	12 colors; pyramid cut; seamless installations; 6-12 pcs per box; overall NRC .70 to .95	\$289/box
Auralex Acoustics	Studiofoam Metro	Absorptive foam	Class B	2'x4' panels; 2" thick	12 colors; unique "city-scape" profile; seamless installations; 12 pieces per box	\$239/box
Auralex Acoustics	MAX-Wall	Absorptive foam	Class B	2'x4' panels; 4.375" thick	Available in charcoal, purple, burgundy (other colors by special order)	\$349/box
Auralex Acoustics	MAX-Wall Window Kit	Absorptive foam, plexiglas	Class B	20"x48" panel; 4.375" thick; window 12"x18"	Available in charcoal, purple, burgundy (other colors by special order); 1 panel & 1 window per box	\$99/kit
Auralex Acoustics	Stand-Mounted LENRD Bass Traps	Bass traps	Class B	12"x12"x17" triangular; 48" long	12 colors; 4 pieces per box; 4 tripod-style mic stands included; overall NRC 1.35	\$299/box
Auralex Acoustics	ATOM-12 Corner Treatment Kit	Bass traps	Class B	12"x12"x17" LENRDs; 12"x12"x12" cubes	Kit contains 12 LENRD bass traps & 4 corner fill cubes; 12 colors	\$419/kit
Folded Space	Micro Room	Silent speaker cabinet	N/A	N/A	Silent recording of amp/speaker/mic	\$395
Folded Space	Acoustic Space	Diffusor, absorptive foam, panels, gobos	Class B foam and wood	2'x4' panels	128 sqr ft of surf area (64 reflective/ 64 absorbent); 8 acoustic panels 4 sets slits and linking hrdwr	\$549
Folded Space	Big Travel Kit	Diffusor, absorptive foam, acoustic panels, gobos	Class B foam and wood	2'x4' panels	64 sqr ft of surf area (32 reflective/ 32 absorbent); 4 acstc panels, stckng & linking hrdwr	\$279
Folded Space	Folded Wall	Bass trap, diffusor, absorptive foam, panels, gobos	Class B foam and wood	2'x4' panels	Over 128 sqr ft of surf area; 8 acstc panels, 4 sets linking hrdwr, 2 stacking kits	\$549
Folded Space	Medium Room Kit	Diffusor, absorptive foam, acoustic panels, gobos	Class B foam and wood	2'x4' panels	Over 128 sqr ft of surf area; 8 acoustic panels, 2 swivel stands, 6 standoffs, linking	\$649
Folded Space	Small Room Kit	Diffusor, absorptive foam, acoustic panels, gobos	Class B foam and wood	2'x4' panels	64 sqr ft surf area (32 reflective/ 32 absorbent); 4 acoustic panels, 2 extra 2'x4' of 2" Studiolum	\$329

# SONIC TREATMENT

MANUFACTURER	MODEL	TYPE	FIRE RATING	DIMENSIONS	SPECIAL FEATURES	PRICE
Folded Space	Small Travel Kit	Diffusor, absorptive foam, acoustic panels, gobos	Class B foam and wood	2'x4' panels	Two acoustic panels (32 sq ft of surf area); 1 set slits and linking hrdwr; makes a bifold on stilts or 2 freestanding floor panels; light	\$144
Folded Space	Space Doc	Diffusor, absorptive foam, acoustic panels, gobos	Class B foam and wood	2'x4' panels	96 sq ft of surf area (48 reflective/48 absorbent); 6 acoustic panels, 2 swivel stands	\$439
Folded Space	Space Doc Plus	Bass trap, diffusor, absorptive foam, acoustic panels, gobos	Class B foam and wood	2'x4' panels	164 sq ft of surf area, 6 cloaking device acoustic panels plus LENRD bass traps	\$599
Folded Space	Vox Box	Diffusor, absorptive foam, acoustic panels, gobos	Class B foam and wood	2'x4' panels	128 sq ft of surf area (64 reflective/64 absorbent); designed for vocals	\$699
Folded Space	Bass Micro Room	Silent speaker cabinet, compact	N/A	N/A	Silent recording through real amp/speaker/mic	\$425
Folded Space	Stereo Micro Room	Silent Speaker Cabinet/ stereo generator	N/A	N/A	Silent recording of amp/speaker/mic	\$525
Illbruck	Sonex	Acoustical and sound absorptive foam	Class A/B	2'x4'x2" and up	Many colors and patterns available	\$2.50-\$6 sq. ft.
Netwell Noise Control	Pyramids	Acoustic foam	Class 1/2	2'x2'x3"	Absorbs 90% of reflected sound	\$2-\$4 sq. ft.
RPG Diffusor	Corner Bass Trap	Pressure zone membrane absorber	Class A	24"x24"x12.25"	Corner wall mounting or freestanding; high bass absorption efficiency; stackable; lightweight,	\$56/box (2 per box)
RPG Diffusor	ProFoam	Absorbing foam panel	Class A Melaflex or Class B/C Polyflex	1'x1'x2" and up	Nestable to any depth required; utilizes variable depth air cavity technology	Up to \$500
RPG Diffusor	Abflector	Absorbing/diffusion panel	Class A	48"x19"x6"	Simultaneously offers diffusion and moderate mid band absorption; internal hinge	\$569/box
RPG Diffusor	Skyline	2 dimensional diffusor	Class A	24"x24"x47"	Patented optimized primitive root reflection phase grating; omnidirectional; ideal for small rooms	\$284/box (2 to a box)
RPG Diffusor	ProCorner	Corner mount foam bass trap	Class A/B/C	48"x1.625"x6.375"	Optimized corner profile, seamless integration with Profoam, NRC 1.0	\$247 (2 per box)
RPG Diffusor	Flatfusor	Flat sound diffractor	Class A	2'x2' nominalx1"	Omnidirectional diffusion from a thin, flat binary amplitude grating	\$126/box
Silent Source	SoundSucker	Corner bass traps	Class A/CC	12"x24"; 12"x48"	Available in charcoal, beige, brown, blue, hunter green, burgundy; 8 & 4 units pr box	\$200
Silent Source	Whisper Wedge	Absorptive foam	Class A/C	24"x48"x2/3/4/6" thick	Many colors to choose from, 2-12 sheets pr box (16-96 sq ft); class 1 available	\$160-\$250/box
Systems Development Group	Cutting Wedge Classic	Absorptive foam	Fire/smoke analysis available	Various	Sawtooth pattern for greatest absorption per sq ft; tear resistant w/shape memory	\$3 sq. ft. and up
Systems Development Group	Model C	Diffusor	Full Class A	24"x24"x4.5"	Install on wall or drop into 24"x24" opening of a T-Bar grid; available with center cutout	\$130
Systems Development Group	Model E	Diffusor	Available	15"x15"x9"	Small footprint; light weight; simple install	\$88

## MANUFACTURER

## MODEL

## TYPE

## FIRE RATING

## DIMENSIONS

## SPECIAL FEATURES

## PRICE

Systems Development Group	Sonora Panels	Absorptive fiberglass panel	Class A	Up to 48"x120"x2"	Molded fiberglass board non-resin chemically hardened edges, wrapped in Guilford fabrics	\$8-\$10 sq. ft.
Systems Development Group	Model F	Acoustic diffusor	Full Class A	2"x24"x1.75"	Specialized high-frequency diffusion on wall or ceiling	\$100
Systems Development Group	Model F-Styrene	Acoustic diffusor	None	24"x24"x1.75"	Specialized high-frequency diffusion on wall or ceiling	\$100
Systems Development Group	Cutting Wedge 2000	Absorptive foam	Available upon request	Various	Sawtooth pattern across face and back for easy stacking	\$3 sq. ft. and up
Systems Development Group	Model C-Styrene	Acoustic diffusor	None	24"x24"x4.5"	Easy install on wall or drop into 24"x24" opening of a T-Bar grid; avail w/center cutout	\$100
Systems Development Group	Bass Eraser	Broadband bass trap	Class A	24"x48"x10"	Mounts horizontally or vertically	\$360-\$450
Systems Development Group	Reflektors	Absorptive face/reflective panel	None	24"x48"x8"	Creates relection-free listening space	\$125
Taytrix	Absorptive Panels	Absorptive panels	Class 1	2'x2', 2'x4', 2'x6'	Fiberglass absorption panels trimmed with decorator fabrics	\$129 and up
Taytrix	Stack II Gobo System	Gobo	Class 1	16"x8"x48"; 3"x8x48	Stackable, lightweight, modular, interlocking acoustical control panels	\$300-\$445
Wenger	Ceiling Diffusor	Acoustical panels	Class A	2'x2'; 4'x4'; 4'x2'	Convex shape, impact-resistant PVC/acrylic plastic	\$90-\$135
Wenger	Pyramidal Diffusor	Acoustical panels	Class A	2'x2'; 4'x4'	Offset pyramid shape, impact-resistant PVC/acrylic plastic	\$57-\$156
Wenger	Quadratic Diffusor	Acoustical panels	Class A	4'x4'	Based on quadratic theory; effective over freq range of 750 Hz to 3.3 kHz	\$452
Wenger	Trapezoidal Diffusor	Acoustical panels	Class A	2'x2'; 4'x4'	Offset trapezoid shape, fiberglass resin with white gel-coat finish	\$101; \$153
Wenger	V-Room Sound-Isolating Room	Modular studio with active LARES-based acoustics	N/A	From 5'8"x5'8"; 10'8"x13'2"	Provide acoustical simulations of 10 different environments	\$13,946 and up
Wenger	Wall Diffusor	Acoustical panels	Class A	4'x4'; 4'x8'; other sizes available	Convex shape, PVC/acrylic plastic with reinforced corners & fabric covering	\$276; \$550
Wenger	Sound-Isolating Rooms	Sound-isolating, modular, pre-engineered rooms	N/A	4' 5' x5' 8"; 14' 5' x25' 8"	Optional horz. and vert. windows, 4-foot door, double door.	\$8,507 and up
Whisper Room	SE Series	Sound-isolation enclosures	N/A	Various sizes available	Portable; modular; easy assem; cable passage; ventilation sys; door window	\$2,195 and up

# STUDIO FURNITURE

MANUFACTURER

PRODUCT

TYPE

DIMENSIONS  
(INCHES)

SPECIAL  
FEATURES

PRICE

MANUFACTURER	PRODUCT	TYPE	DIMENSIONS (INCHES)	SPECIAL FEATURES	PRICE
Anthro	Console	Workstation for non-linear video editing, mixing, & post prod.	72x 23.5x 37	Holds (3) 21" monitors; kybrd area adj for sitting/standing; shelves adj in 1" incr; lifetime warranty	\$899
Anthro	RackCarts	Rack cart	13, 17, 21, 29	Rack mntng on tapped mntng rails front/back; rack accessories avail	\$719-\$929
Anthro	SlantRacks	RackCart for mounting 19" rack equip	9, 13, 21	Rack mntng on tapped mntng rails front/back; tilted for easier vis of rack equip	\$319-\$429
Anthro	AnthroBench	Studio Furniture	48, 60, 72	Modular, open design, lifetime warranty, holds 600 lbs.	\$999 and up
Argosy Console	90 Series Console Housing	Workstation	89.5-178x45x39	Expandable / modular enclosure w/full padded armrest; for Macki 8-bus, Digi ProControl and others	\$1,529 and up
Argosy Console	Dual 15	Workstation for digital-based rec/mix/post systems	90x50x43	Holds two 21" computer monitors plus 38 rack spcs, space for controllers and computer keyboard, full length padded armrest	\$1,199.95
Argosy Console	Dual 15K	Workstation for keyboard-based systems	94x50x43	Holds two 21" computer monitors plus 38 rack spaces, up to a 57" full size keyboard	\$2,000 and up
Argosy Console	Dual 15M-3	Workstation for Mastering Facilities	94x50x29.25	Full length padded armrest, wrap around design, 24 rack spaces, customizable	\$1,400
Argosy Console	Nevis 70 Series Console Housing	Workstation	68x45x30	Enclosure w/ full padded armrest, multi-access bridge lids; for Pana. DA-7, Yamaha O2R and others	\$700 and up
Argosy Console	Spire Rack Enclosures	Single, double, and quad rack bays; 14 or 28 spaces high	22-82x33x24	Optional finishes, producers desk attachments, removable access doors, optional shelves, casters available	\$300 and up
Argosy Console	Spire Speaker Stands	42" speaker stand	Base: 16x16; Top: 12x12	For close-field monitoring	\$55-\$140
Bryco Products	CD60, CDB60	Solid oak CD racks	21.5/8x11 1/4x4 7/8	Table or wall-mount; holds 60 CDs	\$60
Bryco Products	DR-60 DATRAX, DRB-60 DATRAX	DAT tape holder—solid oak (nat & blk)	21.25x9.5x2	Wall or table-mount; holds 60 DATs	\$60
Bryco Products	DRP-40	DAT-tape holder	17 3/8x7 3/8 x2	Wall or table-mount; holds 40 DATs	\$22
Bryco Products	DSD-320	DAT tape storage cabinet	19.5x21.75x15.5	Stores 320 DAT tapes	\$349
Bryco Products	V8-36 & V8-36 Pro	8mm tape storage racks	Reg: 17.5x10 1/4x2 3/8 Pro: 18 1/4x9 5/8x2 3/16	Wall or table mnt; holds 36 tapes	\$22
Bryco Products	CP-48	Cassette tape storage racks	18 1/2x11 1/2x2	Wall or table mnt; holds 48 cassettes	\$22
Bryco Products	CDP-63	Thick plastic CD-rack	15 3/4x13 7/8x4 1/4	Wall or table-mnt; holds 63 CDs	\$22
Bryco Products	MD-80 same as DRP-40	Minidisc holder	17 3/8x7 3/8x2	Wall or table-mnt; holds 80 minidisks	\$22
Bryco Products	MDV-24			Wall or table-mnt; holds 24 mini DV Tapes	\$17
Littlite	Task Lamp	Task lamp	6, 12, or 18 goosenecks	Flexible task lamp avail in 5W or 2.5W	\$25-\$160
Littlite	Gooseneck Lamps	Workstation for digital-based recording/mixing/post systems	94x50x43	Holds (2) 21" computer monitors; 38 rack spaces	\$1,199
Miles Technology	ACT-1 Audio/Cable Tester	Handheld Portable Tester	2.7x 5.1x 1.5	Checks XLR, 1/4", RCA cables, reads out exact wiring incl. XLR shells, 500Hz mic/line test tone.	\$129
Omnirax	C2	Keyboard composing/audio-video workstation	45.75x43.4x107.25	Holds keyboard, two comp monitors, near-field monitors, comp kybrd; 58 rack spaces	\$1,921
Omnirax	Coda	Digital editing/mixing workstation	38.75x38.5x67.9	For cmprtr and prphrls; fits Mackie HUI, and othr compact mixers/controllers	\$900
Omnirax	Commander	Keyboard, composing, mixing workstation	48x44.5x88	Holds up to 88-note keyboards w/room for computer and near-field monitors; 60 rack spaces	\$1,560
Omnirax	CW-22	22 Rack space rolling console	50.25x24 x20.6	22 rack spcs: 8 vertical below, 14 slanted above	\$330
Omnirax	CW-30	30 Rack space rolling console	36.5x36.5x20.6	14 rack spcs on sloping top, 10 rack spcs below, 6 lower rear	\$360
Omnirax	E-146	Slanted rolling rack	30.63x26x20.6	Slanted rolling rack: 14 spcs front, 6 spcs lower rear	\$210
Omnirax	M8	Compact Mixing workstation	45.5x36x40.5	Fits Mackie 24.8 mixer and others; 8 total rack spaces	\$540
Omnirax	MiniStation	Compact keyboard/computer workstation	39.75x30x48	Holds keyboards up to 46.5" wide; space for computer, kybrd/writing shelf; 6 rack spaces	\$800
Omnirax	MixStation MAK24	Console workstation for Mackie 24.8 bus mixer	43x37.9x81.6	Multilevel working envrmt for Mackie 24.8 mixer, computer, and peripherals;42 rack spaces	\$1,440
Omnirax	MixStation MAK32	Console workstation for Mackie 32.8 bus mixer	43x37.9x90.5	Multilevel working envrmt for Mackie 32.8 mixer, computer, and peripherals;42 rack spaces	\$1,500
Omnirax	MixStation O2R	Console workstation for Yamaha O2R	43.4x39x70.75	Multilevel working environment for Yamaha O2R mixer, computer, and prphrls; 42 rack spaces	\$1,440
Omnirax	Mobi	Mobile computer workstation	55.1x28.75x20.6	Room for 14" monitor, CPU, and computer keyboard; 10 rack spcs	\$480

# SHAPING YOUR SOUND SERIES

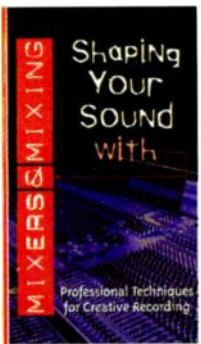
## MIX VIDEO

from the publishers of MixBooks



## Make your recording sound like a hit!

For more than a decade, this classic video course has taught professional recording techniques to thousands of musicians, students, engineers and producers. This course demystifies and explains the secrets of expert audio recording in an easy-to-understand manner so you immediately get the most out of your sessions! Hosted by world renowned educator, producer and engineer Tom Lubin, each 80-minute tape will give you the skills you need to make good recordings sound great. If you're ready to take the next step in making professional recordings, you're ready to begin **Shaping Your Sound!**

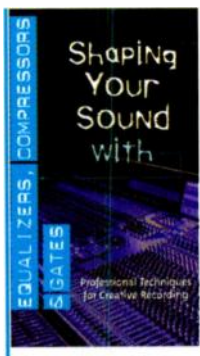


Item# 00320175 \$24.95

**NEW!**

**Shaping Your Sound with Mixers and Mixing**

With this info-packed video, you can: sit in on a complex 16-track recording mixing session; explore the inside of the recording console and learn how to route signals in, through and out of the board for maximum flexibility and professional results; understand inputs, effects, loops, mutes and solos, outputs, meters and peak level lights, mixing in layers, rough mixes, mixing the rhythm section, setting up reverbs, adding vocals and instruments and completing the mix-down; and train your ears to hear subtle differences in your mix.

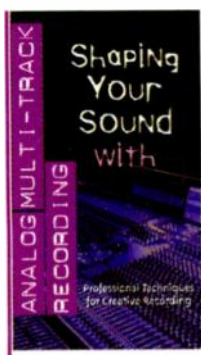


Item# 00320176 \$24.95

**NEW!**

**Shaping Your Sound with Equalizers, Compressors & Gates**

Learn to use your EQ to open up the sound of your recordings and make room for each instrumental texture while discovering various types of EQ curves and devices. This video covers compressors and gates and how to use them to shape the dynamics of any instrument by emphasizing or diminishing the attack, sustain or release of each note, and tells how to set up each of these devices with particular instruments and when to use them. Computer animations and visuals help you to understand how these workhorse tools can teach you amazing hi-tech tricks for getting unusual and surprising effects!

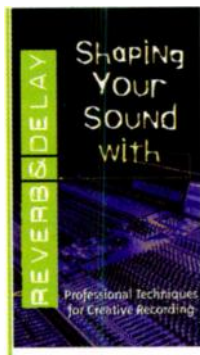


Item# 00320174 \$24.95

**NEW!**

**Shaping Your Sound with Analog Multi-Track Recording**

Discover the fundamental characteristics of analog tape and recorders and the techniques to make top-quality recordings no matter how many tracks you use! This video teaches how to professionally build a song, step by step, through the tracking and overdubbing process using dozens of musical examples and demonstrations. Learn precision erasure and tape editing, speed shifting, backwards recording, and other great analog tape effects. Powerful computer animations and advanced visuals provide detail examples of expert recording skills!

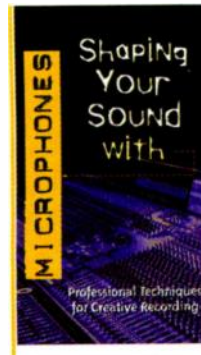


Item# 00320172 \$24.95

**NEW!**

**Shaping Your Sound with Reverb & Delay**

With this video, you'll discover the techniques professional engineers use to shape the space where the sound happens! Learn how to create custom flanging, delay, phasing, echo and chorusing effects. Through dozens of examples and demonstrations, you'll see and hear exactly how every effect is achieved, and learn precisely how the sound behaves with these effects through computer animations and visual displays.



Item# 00320173 \$24.95

**NEW!**

**Shaping Your Sound with Microphones**

This video features dozens of musical examples that show you the best ways to mike drums, guitars, pianos, horns, vocals, strings and more! Clear demonstrations let you SEE and HEAR the advantages and disadvantages of various studio microphone types and designs. You can explore stereo miking techniques and the complexities of multiple microphone set-ups, and learn how sound works with a mic through computer animations and visual displays.

**Special Offer!**

**Shaping Your Sound – Complete Course Pack 00320177 \$99.95**

Available from these and other fine retailers!



Sam Ash



Music Store



McCabe's Guitar Shop



exclusively distributed by  
**HAL LEONARD CORPORATION**

# STUDIO FURNITURE

MANUFACTURER

PRODUCT

TYPE

DIMENSIONS  
(INCHES)

SPECIAL  
FEATURES

PRICE

Omnirax	FUSTB	Hardwood tambour back for fusion	36x1x58.8	Covers all cable runs	\$400
Omnirax	Fido	CPU Cart	14.5x16x10	Rolling cart for any CPU up to 10" wide	\$120
Omnirax	Force 12	Multi purpose mixing/composing/ audio video workstation	36x52.3x86	12 rack spaces above desk; expansive video/near field monitor bridge	\$1,450
Omnirax	Force 12 MF Mahogany Finish	Multi-purpose mixing/composing/ audio video workstation	36x52.9 86	12 rack spaces above spacious desk; expansive video/near field monitor bridge	\$1,700
Omnirax	Force 24	Multi-purpose mixing/composing/ audio video workstation	39.7x39x94	24 rack spaces below spacious desk; expansive video/near field monitor bridge	\$1,450
Omnirax	Force 24 MF Mahogany Finish	Multi-purpose mixing/composing/ audio video workstation	39.7x39x94	24 rack spaces below spacious desk expansive video/near field monitor bridge	\$1,700
Omnirax	Synergy Kits	Add-on kits for Synergy series console housings	Varies according to mixer	Additional rack bays, writing surfaces and filler panels for 600, 800, 1000	\$100-\$300
Omnirax	Synthrax 76	Three tier synthesizer station	48.9x24x54.75	3 sliding, locking shelves for 76 note and smaller keyboards; 20 rack spaces below	\$900
Omnirax	ProLite Series	Economical racks	8.56-44.94x15.69x20.4	5/8" thick 4 to 20 space versions incl. 12/8 rolling rack	\$100-\$200
Omnirax	E-Series	Studio racks	8.75-19.25x12x20.6	4, 6, 10 space racks 12" overall depth;	\$100-\$120
Per Madsen Design	RACKIT System 19 Component Rack Rails	Equipment rack with shelves	5.7,5.10,15x20.75x16	Modular, stackable oak equip racks	\$90/\$95/ \$105/\$110
Per Madsen Design	RACKIT System 19 Component Rack Rails	Equipment racks with mounting rails	10,15,30 x20.75x16 EIA standard 5, 8, and 16 un l sizes	Modular, stackable oak equip racks	\$110/\$125/\$185
Per Madsen Design	RACKIT System 19CD/DVD/VHS 19 unit	Media storage drawers	15x20.75x16	Modular, stackable oak drawer units hold CD, DVD, minidisc, zip and VHS	\$245-\$265
Per Madsen Design	RACKIT System 19 Cassette 19; Cassette 19-10 units	Media storage drawers	10 or 15x20.75x16	Modular, stackable oak drawer units hold standard, DAT, 8mm cassettes, minidiscs, floppy discs	\$225-\$295
Per Madsen Design	The RACKIT System 19 CD/DVD/VHS 19 unit	Media storage drawers	15x20.7x16	Modular, stackable oak drawer units	\$245-\$265
Per Madsen Design	RACKIT System 19 Dolly 19 PC Tower	Dolly for RACKIT System 19 units	4x30x16	Holds RACKIT 19 units and PC tower	\$110
Per Madsen Design	RACKIT System 19 File-25	Storage drawers for hanging files and media	25x20.75x16	2 drawer model stores letter or legal hanging files, 3 drawer model stores hanging files, cassettes, Dats, and cds	\$330-\$395
Per Madsen Design	RACKIT System 19 DiscCabinet 19	Media storage cabinet	15 20.75x16	Stores lps, laser discs, books; available with glass door	\$135-\$185
Quik-Lok	Z-250	Triple shelf computer workstation	33.6x29.8x22.3	Main shelf with pull-out & peripheral shelves; holds computer equip/access	\$320
Quik-Lok	Z-544	Z-500 Series expandable music project station - 44"W	64.6x40.1x27.5	Expandable; holds computer prphrls, spkrs, rack equip, keyboards, mixers; shelves & crossbars hght adj	\$280
Quik-Lok	Z-555	Z-500 Series expandable music project station - 55"W	55-75.6x28.75x35.4	Expandable; shelves and crossbars are hght adj; computer-welded steel frame	\$300
Quik-Lok	BS-336	36" fixed height near-field studio monitor stand	Shelf: 11 square; height 36; base 17.7	All-steel, arc-welded cnstrctn; cable mngmnt; triangle base w/adj leveling floor spikes	\$150 pair
Quik-Lok	BS-342	42" fixed height near- field studio monitor stand	Shelf 11 square; height 42; base 17.7"	All-steel, arc-welded cnstrctn; cable mngmnt; triangle base w/adj leveling floor spikes	\$160
Quik-Lok	Z-750L	Computer workstation	52.8x28.9x22.3	Large left-angled main shelf with pull-out & peripheral shelves; scratch-resistant 3/4" laminate shelves	\$350
Quik-Lok	A-50	Tripod studio boom stand	Height: 53.5-91.5; Boom: 46.5-87	Tripod leg design w/solid steel legs; holds mics; locking casters; 7' boom; mic cable clips	\$180
Quik-Lok	Z-750R	Computer workstation	28.9x52.8x22.2	Main shelf with pull-out & peripheral shelves; scratch-resistant	\$350
Quik-Lok	BS-300	Height adjustable near-field	Shelf: 9 square; Height: 31.5-48; Base 17.7 each side	All-steel, arc-welded cnstrctn; cable mngmnt; triangle base w/adj leveling floor spikes	\$180 pair
Rackcraft	Desktop Studio Rack	Black laminated melamine board/ T-mold edging	25.5x2x48.16	Desktop; 20 rack spes; ideal for Mackie ADAT studio w/FX and monitors	\$299
Standtastic	100KS Single Tier Keyboard Stand Frame	For live or studio performance	48 Tall; Variable width Folds to 6 x 48	Infinite adjustment	\$175
Standtastic	102KS 2 Tier Keyboard Stand 60" Frame	Studio or live	60 Tall. Adjustable width Holds 2 keyboards	Fully adjustable; folds to compact size	\$235
Standtastic	103KS 3 Tier Keyboard Stand 60" Frame	Live or studio 3 tier keyboard stand	60 tall Frame. Adjustable width	Fully adjustable;	\$285

MANUFACTURER

PRODUCT

TYPE

DIMENSIONS (INCHES)

SPECIAL FEATURES

PRICE

Standtastic	VF-1 Vertical Frames	Wall mount kit accessory	36 Tall	Attaches to wall so 100TK's can be attached for wall mounting keyboards	\$53 pair
Standtastic	100TK Tier kits	Accessory for stands and wall mount kits	12-24 depth, 3 angle adjustments	Fully adjustable	\$68 pair
Standtastic	UB-1 U Bolts	Wall mount kit accessory	N/A	Adjusts 100TK's to 90 degrees when used with VF-1's on the wall	\$10
Standtastic	P3 Wood Adjustable Stand	Home or studio	36-54 width adjustment	Adjustable width	\$200
Taytrix	Rack Units	12-, 14- and 16-rackspace units	29.5-32x16.5-23	Available in sq-frnt or unique front-angle design; maple or cherry turn-grade plywood	\$117-\$300
Taytrix	Counter tops	Counter tops	Varies	Straight, angle wing; corner units	\$35 sq. ft. and up
Taytrix	Oval Workstation	Workstation	6.5' and 5' Mini Ovals	Adj meter bridge shelf; 180 degree swivel speaker wings; rack packages available	\$2,875 and up
Ultimate Support	HS26BP	Studio-organizer stand	Height Adjustable from 27.5-32; surface: 16x35.5	Large work surf; cntr tier and side; arms support gear; many accessories available	\$270
Ultimate Support	MS36	Studio-monitor stand	height: 36, top plate 9x9, triangle base diameter: 14	Cable mngmnt, triangle cast zinc base; available in black, and pewter	\$210 pair
Ultimate Support	MS45	Studio-monitor stand	height: 45, top plate 9x9, triangle base diameter: 14	Cable mngmnt, triangle cast zinc base; available in black, and pewter	\$230 pair
Ultimate Support	Accessories for Home Studio Stands	Custom	Depends on accessory; Tubing cut to order.		\$5 ft.
Wenger	Workstation	Computer/synthesizer workstation	48x37x32	Cockpit-like design; steel & wood frame; cord-mngmnt system	\$1,143

Free 80-Page Catalog



Avalon M-5 Mic-Pre



Digital 328



Digidesign 001



McDSP Compressor Bank



Alesis ADAT XT20



Lucid

RME HammerFall Lite



Marshall MXL-2001-P

Audio-Technica AT4047/SV

FRONTIER

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

PRO

# POWER PRODUCTS

MANUFACTURER	MODEL	# OF RECEPTACLES	OUTPUT CURRENT/LOAD RATING	MAXIMUM SURGE CURRENT RATING	SPIKE PROTECTION MODES/ # OF WAYS	SPIKE RESPONSE TIME	LINE REGULATION	BALANCED POWER	RACK MOUNT/ # OF SPACES	UPS Y/N
APC	SurgeArrest	6 or 7	<300W	240 Joules	N/A	Instant	No	Yes	No	No
APC	Back-Ups Pro 650	6	650 VA/410W	320 Joules/6500A	N/A	Instant	Yes	Yes	No	Yes
APC	Back-Ups Pro 420	6	420 VA/260W	320 Joules/6500A	N/A	Instant	Yes	Yes	No	Yes
APC	Back-Ups Office	6	280 VA/170W	320 Joules/6500A	N/A	Instant	No	Yes	No	No
APC	Back-ups Pro 350	7	350 VA/220W	320 Joules/6500A	N/A	Instant	Auto	Yes	No	Yes
APC	Back-ups Pro 500	7	500 VA/315W	320 Joules/6500A	N/A	Instant	Auto	Yes	No	Yes
Crate	LSS-PCL	9	15A/120V	6500A	Yes, 395 volts peak	1 ns	N/A	N/A	Yes/ 1	N/A
Crate	LSG-PCLV	9	15A/120V	6500A	Yes, 395 volts peak	1 ns	N/A	N/A	Yes/ 1	N/A
Equi-Tech	ET12W Balanced Power Wall System	N/A	15A/120V	240 Joules	Line-neut, neut-gnd, line-gnd/4	N/A	No	Yes	No	No
Equi-Tech	ET2R	12	12A/120V	240 Joules	Line-neut, neut-gnd, line-gnd/4	N/A	No	Yes	Yes/2	No
Equi-Tech	ET7.5R	24	60A/120V	240 Joules	Line-neut, neut-gnd, line-gnd/4	N/A	No	Yes	Yes/4	No
Equi-Tech	ET10R	24	83.3A	240 Joules	Line-neut, neut-gnd, line-gnd/4	N/A	No	Yes	Yes /4	No
Equi-Tech	ET1.5R	12	15 A/120V	240 Joules	Line-neut, neut-gnd, line-gnd/4	N/A	No	Yes	Yes/2	No
ETA Systems	PD620	6	120A/208V	N/A	N/A	N/A	No	No	Yes/2	Yes
ETA Systems	PD66	6	20A-30A/120V/240V	N/A	N/A	N/A	No	No	Yes/2	Yes
ETA Systems	PD8/PD8L	8	15A/120V	12,000A	N/A	1 ns	No	No	Yes/1	Yes
ETA Systems	PD9L/9LV	9	15A/120V	12,000A	N/A	1 ns	No	No	Yes/1	Yes
ETA Systems	PD11SS	11	15 A/120V	12,000A	N/A	1 ns	No	No	Yes/1	Yes
ETA Systems	PD320VS	16	60A/208	N/A	N/A	1 ns	No	No	Yes/2	Yes
ETA Systems	PD10VRS	10	120 A/120V	N/A	N/A	1 ns	Yes	No	Yes/1	Yes
Furman	PL-8 Power Conditioner/ Light Module	9	15A/120V	6,500A	Line-neut, neut-gnd, line-gnd/3	1 ns	No	No	Yes/1	No
Furman	PL-Plus/ PRO Series (20/120V PRO)	9	15A/120V line-gnd/3	6,500A	Line-neut, neut-gnd,	1 ns	No	No	Yes/1	No
Furman	PL-Tuner Power Conditioner/ Instrument Tuner	9	15A/120V	6,500A	Line-neut, neut-gnd, line-gnd/3	1 ns	No	No	Yes/1	No
Furman	PL-PLUS Enhanced Power/ Light Module	N/A	15A/120V	6,500A	Line-neut, neut-gnd, line-gnd	1 ns	No	No	Yes/1	No
Furman	PLP Power Conditioners	N/A	15 A/120V	6,500A	Line-neut, neut-gnd, line-gnd	1 ns	No	No	Yes/1	No
Furman	PL-PRO Power Conditioner/ Light Module	N/A	20A/120V	11,000A	Line-neut, neut-gnd, line-gnd	1 ns	No	No	Yes/1	No
Furman	PLH-15 Power and Light Center	N/A	15A/120V	58,500A	Line-neut, neut-gnd, line-gnd	1 ns	No	No	Yes/1	No
Furman	PM-8 Power Conditioner/ Monitor	N/A	15A/120V	6,500A	Line-neut, neut-gnd, line-gnd	1 ns	No	No	Yes/1	No
Furman	PM-PRO Power Conditioner/ Monitor	N/A	20A/120V	11,000A	Line-neut, neut-gnd, line-gnd	1 ns	N/A	N/A	Yes/1	No
Furman	PS-8 Power Conditioner/ Sequencer	N/A	15A/120V	6,500A	Line-neut, neut-gnd, line-gnd	1 ns	N/A	N/A	Yes/1	No
Furman	PS-8R Power Conditioner/ Sequencer, Remotable	N/A	15A/120V	6,500A	Line-neut, neut-gnd, line-gnd	1 ns	N/A	N/A	Yes/1	No
Furman	PS-PRO Power Conditioner/ Sequencer, Remotable	N/A	20A/120V	11,000A	Line-neut, neut-gnd, line-gnd	1 ns	N/A	N/A	Yes/1	No
Furman	PWRLINK Remote AC Power Sequence Controller	N/A	120V	N/A	N/A	N/A	N/A	N/A	Yes/1	No
Furman	PWRPORT Remote Power Controller	N/A	20A/120V	11,000A	Line-neut, neut-gnd, line-gnd	1 ns	N/A	N/A	Yes/ half	No
Furman	MP-15/MP-20/MP-30 MiniPort Power Relays	N/A	MP-15: 15A; MP-20: 20A; MP-30: 30A	N/A	N/A	N/A	N/A	N/A	No	No



EMI & RFI FILTERING:  
FILTER/CAPACITOR

VOLTAGE METER:  
ANALOG OR  
DIGITAL

LIGHTS #/TYPE

BATTERY  
BACKUP

WARRANTY  
(YEARS)

DIMENSIONS  
(INCHES)

WEIGHT (LBS.)

SPECIAL  
FEATURES

PRICE

EMI & RFI FILTERING: FILTER/CAPACITOR	VOLTAGE METER: ANALOG OR DIGITAL	LIGHTS #/TYPE	BATTERY BACKUP	WARRANTY (YEARS)	DIMENSIONS (INCHES)	WEIGHT (LBS.)	SPECIAL FEATURES	PRICE
EMI/RFI	No	2	No	Lifetime	3 outlet, 2x4.25x6.25; 7 outlet 2x4.25x10.5	0.7 (3 outlet) 1.7 (7 outlet)	Opt Tele/cable line surge supp	\$25 (3-outlet) \$30 (7-outlet)
EMI/RDI	Digital	4/LED	Yes	2	6.6x4.7x14.5	26	\$25K lifetime warranty	\$419
Filtering	Digital	4/LED	Yes	2	6.6x4.7x14.5	21.6		\$339
Filtering	N/A	2/LED	Yes	2	2.7x17x7	8	\$25K lifetime warranty	\$200
EMI/RFI	Digital	4/LED	Yes	2	9.4x5x7.9	14.2	USB port; file svng stwr; 2-line phone/fax/modem	\$300
EMI/RFI	Digital	4/LED	Yes	2	9.4x5x7.9	15.35	USB port; file svng stwr; 2-line phone/fax/modem	\$300
EMI/RFI	N/A	2/ retractable	No	5	1.75x19x6.5	6		\$100
EMI/RFI	Digital	2/ retractable	No	5	1.75x19x6.5	6.5		\$160
Filter optional	No	None	No	1/lifetime on transformer	30x42x8	334	4- Models available w/ options	\$5,960
Filter Optional	Optional	N/A	No	1/lifetime on transformer	16x12.5x3.5	48		\$1,389
Filter Optional	Optional	No	No	1/lifetime on transformer	17x17x7	136	Options available	\$3,689
Filter Optional	Optional	No	No	1/lifetime on transformer	17x17.5x7	152	Options available	\$4,389
Filter Optional	Meter Optional	No	No	1/lifetime on transformer	16x12.5x3.5	42	Options available	\$1,189
No	No	No	No	3	17x12x3.5	20	Square D breakers; 20-amp, duplex grounded power outlets	\$750
No	No	No	No	3	17x12x3.5	20	Square D breakers; 20-amp duplex grounded power outlets	\$750
Capacitor	No	2	No	3	19x6x1.75	7	Go/no Go LED protection status	PD8 \$79; PD8L \$99
Filtering	9/LED	Yes	No	3	19x7.5x1.75	8		PD9L \$160; PD9LV \$240
Filtering	No	No	No	3	19x10x1.75	10	4 power up/down adjustable sequential distribution circuits	\$390
Yes	Digital	No	No	3	17x12x3.5	14	3 power up/down adjustable sequential distribution circuits	\$1,000
Yes	Digital	No	No	3	19x12x1.75	25	4 power up/down adjustable sequential distribution circuits	\$990
Capacitor	No	2 slide-out, with dimmer	No	3	19x1.75x8	6		\$159
Filter	Analog	2, slide-out with dimmer	No	3	19x8x1.75	6		\$229 (PL-Plus.) \$399 (PRO)
Filter	No	2 slide-out, with dimmer	No	3	19x8x1.75	6		\$279
Yes	N/A	2 slide-out with dimmer	No	3	19x8x1.75	6		\$229
Yes	N/A	2 slide-out with dimmer	No	3	19x1.75x8	6		\$259
Yes	N/A	2 slide-out	No	3	19x10x1.75	6		\$399
Yes	N/A	2 slide-out with dimmer	No	3	N/A	N/A		\$389
Yes	N/A	N/A	No	3	19x8x1.75	6.1		\$199
Yes	N/A	No	No	3	19x8x1.75	6		\$359
Yes	N/A	No	No	3	19x8x1.75	6		\$329
Yes	N/A	No	No	3	19x8x1.75	6.1		\$359
Yes	N/A	No	No	3	19x10x1.75	6		\$469
No	N/A	No	No	3	19x7.125x1.75	5.5		\$299
Yes	N/A	No	No	3	1.75x8.5x10	6		\$329
No	N/A	No	No	3	MP-15/MP-20: 5.5x3.75x2; MP-30: 8x8x8	N/A		MP-15 \$115; MP-20 \$159; MP-20 \$279

# POWER PRODUCTS

MANUFACTURER	MODEL	# OF RECEPTACLES	OUTPUT CURRENT/LOAD RATING	MAXIMUM SURGE CURRENT RATING	SPIKE PROTECTION MODES/ # OF MOVs	SPIKE RESPONSE TIME	LINE REGULATION	BALANCED POWER	RACK MOUNT/ # OF SPACES	UPS Y/N
Furman	MP-15Q/MP-20Q MiniPort Power Relays,	N/A	MP-15Q: 15A/120V; MP-20Q: 20A/120V	N/A	N/A	N/A	N/A	N/A	No	No
Furman	ACD-100 Power Distro	N/A	100A/120V	6,500A	Line-neutral	1 ns	No	No	Yes/1	No
Furman	ASD-120 Sequenced Power Distro	N/A	120A/120V	6,500A	Line-neutral, neutral-ground, line-ground	1 ns	No	No	Yes/2	No
Furman	PGP-20/PGP-60 PlugLock-PRO Locking Outlet Systems	N/A	PGP-20: 20A; PGP-60: 60A	N/A	N/A	N/A	No	No	No	No
Furman	PGP-S Remote Switcher or PGP-20and PGP-60	N/A	60A/120V	N/A	N/A	N/A	No	No	No	No
Furman	AR-1215 AC Line Regulator	N/A	15A/120V	6,500A	Line-neutral, neutral-ground, line-ground	1 ns	No	No	Yes/1	No
Furman	AR-1220 AC Line Regulator	N/A	20A/120V	6,500A	Line-neutral, neutral-ground, line-ground	1 ns	No	No	Yes/2	No
Furman	AR-1230 AC Line Regulator	N/A	30A/120V	6,500A	Line-neutral, neutral-ground, line-ground	1 ns	No	No	Yes/2	No
Furman	AR-2306 AC Line Regulator	N/A	6 A/ 220/230/240V	6,500A (8 x 20ms)	Line-neutral, neutral-ground, line-ground	1 ns	No	No	Yes/1	No
Furman	AR-2330 AC Line Regulator	N/A	30A/ 220/230/240V	6,500A (8 x 20ms)	Line-neutral, neutral-ground, line-ground	1 ns	No	No	Yes/2	No
Furman	AR-2330D AC Line Regulator, domestic use	N/A	30A/220V	6,500A (6 x 20 ms)	Line-neutral, neutral-ground, line-ground	1 ns	No	No	Yes/2	No
Furman	AR-PRO AC Line Regulator, worldwide use	N/A	30A/120V	6,500A (8 x 20ms)	Line-neutral, neutral-ground, line-ground	1 ns	No	No	Yes/2	No
Furman	IT-1210/IT-1220/IT-1230 Isolation Transformer	N/A	IT-1210: 10A; IT-1220: 20A; IT-1230: 30A	6,500A (8 x 20ms)	Line-neutral, neutral-ground, line-ground	1 ns	No	Yes	Yes/1-3	No
Furman	IT-2315 Isolation Transformer, Int'l.	N/A	15A/230V	6,500A (8 x 20ms)	Line-neutral, neutral-ground, line-ground	1 ns	No	Yes	Yes/3	Yes
Juice Goose	JG 8.0	8	15A/120V	N/A	1/1	N/A	No	No	Yes/1	No
Juice Goose	JG 8.0LM	8	15A/120V	N/A	1/1	N/A	No	No	Yes/1	No
Juice Goose	JG Junior	6	15A/120V	N/A	Line-neutral/1	1 ns	N/A	No	Yes/1	No
New Frontier	Surge-X SX908	8	7.5A/120V	Unlimited (8x20 ns)	Mode 1/0	Instant	No	No	N/A	No
New Frontier	Surge-X SX1808	8	15A/120V	Unlimited (8x20 ns)	Mode 1/0	Instant	No	No	N/A	No
New Frontier	Surge-X SX115R	8	15A/120V	Unlimited (8x20 ns)	Mode 1/0	Instant	No	No	Yes/1	No
New Frontier	Surge-X SX115RT	8	15A/120V	Unlimited (8x20 ns)	Mode 1/0	Instant	No	No	Yes/1	No
New Frontier	Surge-X SX15-IR2	2	15A/120V	Unlimited (8x20 ns)	Mode 1/0	Instant	No	No	N/A	No
New Frontier	Surge-X SX20-IR2	2	15A/120V	Unlimited (8x20 ns)	Mode 1/0	Instant	No	No	N/A	No
New Frontier	Surge-X SX115RL	8	15A/120V	Unlimited (8x20 ns)	Mode 1/0	Instant	No	No	Yes/1 w/dimmer	No
New Frontier	Surge-X SX2120	15	15A/120V	Unlimited (8x20 ns)	Mode 1/0	Instant	No	No	Yes/2	No
Panamax	Max 1000+ Surge Protector/Line Conditioner	8	15A/120V	40,000A	Line-neutral, neutral-ground, line-ground/7	Instant	No	No	Yes/1	No
Panamax	Max 1500 Surge Protector/Line Conditioner	10	15A/120V	40,000A	Line-neutral, neutral-ground, line-ground/7	Instant	No	No	Yes/2	No
Panamax	Max 2000 Programmable Power Control System	10	15A/120V	40,000A	Line-neutral, neutral-ground, line-ground/7	Instant	No	No	Yes/2	No
Samson	PowerStrip	8 switched / 1 unswitched	15A/130V	N/A	Line-neutral, neutral-ground, line-ground	1 ns	No	No	Yes / 1	No
Samson	PowerBrite	8 switched / 1 unswitched	15A/130V	N/A	Line-neutral, neutral-ground, line-ground	1 ns	No	No	Yes / 1	No
Samson	PowerBrite Pro	6 unswitched / 1 unswitched	15A/130V	N/A	Line-neutral, neutral-ground, line-ground	1 ns	No	No	Yes / 1	No
VansEvers	Balanced Clean Line Basic	4	5A/120V	N/A	No	N/A	No	Yes	Optional/3	No
VansEvers	Balanced Clean Line Artist	4 2 gas surge arrestors	5A/120V	28,000A	Line-neutral, neutral-ground, 3 MOVs	<15 ns	No	Yes	Optional/3	No
VansEvers	Clean Line Junior Model 11 Analog	1	15A/120V	N/A	No	N/A	No	No	No	No
VansEvers	Clean Line Model 141-Special	8	4x15A/120V	28,000A	Line-neutral, neutral-ground/8 (8 gas surge arrest)	<15 ns	No	No	Yes/2	No
VansEvers	Clean Line Model 83	8: 6 analog; 2 digital	15A/120V, 2A/120V digital	28,000A	Line-neutral, neutral-ground/3 (2 gas surge arrest)	<15 ns	No	No	Optional/2	No

EMI & RFI FILTERING:  
FILTER/CAPACITORVOLTAGE METER:  
ANALOG OR  
DIGITAL

LIGHTS #/TYPE

BATTERY  
BACKUPWARRANTY  
(YEARS)DIMENSIONS  
(INCHES)

WEIGHT (LBS.)

SPECIAL  
FEATURES

PRICE

No	N/A	No	No	3	N/A	N/A	Quad Box mount	MP-150: \$89, MP-200: \$99
No	No	No	No	3	3.5x19x8	12		\$499
No	No	No	No	3	3.5x19x9.625	20		\$699
No	No	No	No	3	PGP-20: 30; PGP-60: 60	N/A		PGP-20: \$119, PGP-60: \$249
No	No	No	No	3	6x6x4	N/A		\$249
Yes	No	No	No	3	1.75x19x8	12		\$599
Yes	No	No	No	3	3.5x19x17	35		\$999
Yes	No	No	No	3	3.5x17	39		\$1,549
Yes	No	No	No	3	1.75x17	12		\$599
Yes	No	No	No	3	3.5x19x17	48		\$1,895
Yes	No	No	No	3	3.5x19x17	49		\$1,895
Yes	No	No	No	3	3.5x14.25x17	50		\$2,295
Yes	No	No	No	3	IT-1210: 3.5x19x17; IT-1220/1230: 5.25x19 x17	IT-1210: 40 IT-1220: 60.5 IT-1230: 66		IT-1210: \$999; IT-1220: \$1,579, IT-1230: \$1,879
Yes	No	No	No	N/A	83.46x18.7x16.73	79	Models available for use in 7 different countries	\$1,879
Filter/Capacitor	No	No	No	3	1.75x19x7	5		\$79
Filter	Analog	2/pull out	No	3	1.75x19x7	6		\$182
Capacitor	N/A	N/A	No	1	1.75x19x4.5	4		\$59
Yes	No	No	No	10	3.8x8.5x4	6	Magnetic shield; self-test	\$239
Yes	No	No	No	10	3.8x8.5x4	6	6 switched/2 unswitched; magnetic shield; self-test	\$299
filter	No	No	No	10	1.75x9x8	9	6 switched/2 unswitched; magnetic shield; grade A/class 1; self-test	\$459
filter	No	No	No	10	1.75x19x8	9	6 switched/2 unswitched; magnetic shield; grade A/class 1; self-test	\$459
Yes	No	No	No	10	3.2x7.8x3.75	5	(2) receptacles on front; magnetic shield; grade A/class 1	\$279
Yes	No	No	No	10	3.2x7.8x3.75	5	(2) receptacles on front panel; magnetic shield; grade A/class 1; self-test	\$279
filter	No	2 Littlite "R" receptacle	No	10	1.75x19x3	9	6 switched/2 unswitched; magnetic shield; grade A/class 1; self-test	\$499
filter	No	No	No	10	3.5x19x8	16	Front panel receptacles; magnetic shield; grade A, class 1; self-test	\$599
Yes	Both	5	No	Lifetime	7.31x17.14x1.94	6.43	Under/over volt prot; thermal fuse; remote sensing; delayed on/off	\$299
Enhanced 2-stage filter	Both	5	No	Lifetime	3.5x17.14x7.31	11.44	AllPath compatible; remote sensing for power on/off; delayed on/off; over/under volt protection	\$449
Enhanced 2-stage filter	Digital	None	No	Lifetime	17.25x3.5x8.5	11.44	Prog on/off seq	\$849
No	No	Power	No	3	1.75x19x7.5	7		\$80
No	No	Rack / fluorescent	No	3	1.75x19x7.5	7	Slide out fluorescent light	\$160
No	Digital	Rack fluorescent / rear goosneck	No	3	1.75x19x7.5	7	pull out fluorescent rack lamp / rear goosneck light	\$200
Capacitor	No	No	No	5	8x5x12	23		\$350
Capacitor	No	No	No	5	5x8x12	27	120/240 VAC dual primaries; transient-impedance switches. Polarity reverse on/off switch;	\$1,000
Yes	No	No	No	10	2.75x3x10.5	3		\$250
filter	No	No	No	10	3.5x19x8.75	20		\$2,980
Capacitor	No	No	No	10	3.47x10.6x7	9		\$625

# POWER PRODUCTS

POWER PRODUCTS

MANUFACTURER	MODEL	# OF RECEPTACLES	OUTPUT CURRENT/LOAD RATING	MAXIMUM SURGE CURRENT RATING	SPIKE PROTECTION MODES/# OF MOVs	SPIKE RESPONSE TIME	LINE REGULATI <small>ON</small>	BALANCED POWER	RACK MOUNT/# OF SPACES	UPS Y/N
VansEvers	The Unlimiter	0	15A/120V	28,080A	Line-neut, neut-gnd/ MOV and gas surge; 3 MOVs; 2 gas surge	<15ms	No	No	Optional/2	No
VansEvers	Guitar Junior	1	15A/120V	N/A	N/A	N/A	No	No	No	No
Tripp Lite	Isobar 12 Rackmount Surge Suppressor	12	15A/120V	750 Joules	Line-neut, neut-gnd;	Instant line-gnd	No	Yes	Yes/1	No
Tripp Lite	LC 1800 Line Conditioner	6 NEMA; 5 - 15 R	15A/120V	600 Joules	Line-neut, neut-gnd, line-gnd	Instant	87-140V	Yes	No	No
Tripp Lite	LC 2400 Line Conditioner	6	20A/120V	600 Joules	Line-neut, neut-gnd, line-gnd	Instant	87-140V	Yes	No	No
Tripp Lite	LS 600 Line Conditioner	2	5A/120V	100 Joules	Line-neut, neut-gnd; line-gnd	Instant	87-120V	Yes	No	No
Tripp Lite	LS 604 Line Conditioner	4 NEMA; 5 - 15 R	5A/120V	300 Joules	Line-neut, neut-gnd; line-gnd	Instant	87-140V	Yes	No	No
Tripp Lite	Smart 450 Net UPS	6	3.75A/120V	360 Joules	Line-neut, neut-gnd, line-gnd	Instant	86-145V	Yes	No	Yes
Tripp Lite	Isobar 6 DBS Surge Suppressor	6	12A/120V	2850 Joules	Line-neut, neut-gnd;	Instant line-gnd	No	Yes	No	No
Tripp Lite	Super 7 Coax Surge Suppressor	6	15A/120V	120 Joules	Line-neut, neut-gnd;	Instant line-gnd	No	Yes	No	No
Tripp Lite	Isobar 4 Surge Suppressor Ultra	N/A line-gnd	12A/120V	220 Joules	Line-neut, neut-gnd;	Instant	No	Yes	No	No
Tripp Lite	Isotel 4 Ultra Surge Suppressor	4	12A/120V	2700 Joules	Line-neut, neut-gnd; line-gnd	Instant	No	Yes	No	No

SUBSCRIBE

TO ONLINE

Electronic Musician®

www.emusician.com

EMI & RF FILTERING:  
FILTER/CAPACITOR

VOLTAGE METER:  
ANALOG OR  
DIGITAL

LIGHTS # /TYPE

BATTERY  
BACKUP

WARRANTY  
(YEARS)

DIMENSIONS  
(INCHES)

WEIGHT (LBS.)

SPECIAL  
FEATURES

PRICE

EMI & RF FILTERING: FILTER/CAPACITOR	VOLTAGE METER: ANALOG OR DIGITAL	LIGHTS # /TYPE	BATTERY BACKUP	WARRANTY (YEARS)	DIMENSIONS (INCHES)	WEIGHT (LBS.)	SPECIAL FEATURES	PRICE
Yes	No	LED on/off	No	0	3.75x7.375x11.75	12	2400watt/20 amp ver. available	\$750
Yes	No	No	No	0	2.75x3x5	4		\$300
Yes	No	No	No	Lifetime	1.75x17.5x4	4.5	Metal housing, Isol. filter banks	\$149
Yes	No	No	No	2	6.75x6x6.75	11.5	Isol. filter bank	\$299
Yes	No	No	No	2	6.75x6x6.75	14	Isol. filter bank	\$399
Yes	No	No	No	2	6x5.75x5	7.5		\$129
Yes	No	No	No	2	6x5.75x5	7.5		\$159
Yes	No	No	Yes	2	10x6.5x14	19	Software/cabling	\$369
Yes	No	No	No	Lifetime	2.5x7x3.5	3.6	2 sets F coax jacks; RJ11 tele jacks, metal hsg; iso fltr bnks	\$56
Yes	No	No	No	Lifetime	1.5x2.75x11.25	1.80	Type F coax jacks	\$211
Yes	No	No	No	Lifetime	2.5x6x3.5	2.38	Metal housing; iso fltr bnks	\$43
Yes	No	No	No	Lifetime	2.5x6x3.5	3.03	Metal hsg; iso fltr bnks; RJ11 tele jacks	\$53

# When Music Is Your Life... Let the Source Be Your Guide.

"A valuable asset to my company!" —J.B., Indie Label Owner

## Order your copy today!

Every day musicians, engineers, studio owners, and many other industry professionals use the *Recording Industry Sourcebook*, acknowledged as the source for recording industry information

- Over 9,000 listings • 65 categories
- Business listings include names, titles, phone & fax numbers, styles of music, unsolicited materials accepted or not, and more
- Production categories include equipment, credits, staff and specialties

### Order Information:

Recording Industry Sourcebook: \$79.95

\$9.95 S&H via US mail; \$11.95 UPS delivery, plus tax • Item # RIS11

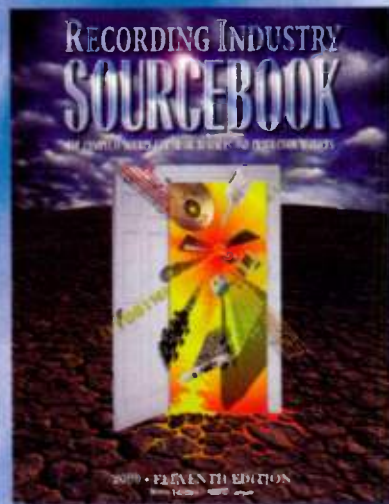
Available at your local music or book store or

Call (800) 543-7771; Fax (800) 633-6219

Outside the US: Call (913) 967-1719; Fax (913) 967-1901

Or send a check or money order, made payable to Recording Industry Sourcebook, c/o Intertec Publishing, P.O. Box 12901, Overland Park, KS 66282-2901

Order Code: DM • Order Online at: [www.mixbooks.com](http://www.mixbooks.com)



# PRODUCTS AND SERVICES

## ACOUSTIC PRODUCTS

**WhisperRoom INC.**  
SOUND ISOLATION ENCLOSURES

Vocal Booths  
Practice Rooms  
Broadcast Booths  
etc...

PH: 423-585-5827  
FAX: 423-585-5831

E-MAIL: [whisper@lcs.net](mailto:whisper@lcs.net)  
WEB SITE:  
[www.whisperroom.com](http://www.whisperroom.com)

116 S. Sugar Hollow Road  
Morristown, Tennessee 37813

**AcousticsFirst™**  
Toll Free: 888-765-2900

Full product line for sound control and noise elimination.  
Web: <http://www.acousticsfirst.com>

**SILENT**  
38 Hancock St., Northampton, MA 01062  
INFO (413) 584-7844 • FAX (413) 584-2377  
ORDER (800) 583-7174  
[info@silentsource.com](mailto:info@silentsource.com) • [www.silentsource.com](http://www.silentsource.com)

AcoustiScore Fabric Panels • Sound Barrier  
Isolation Hangers • A.S.C. Tube Traps  
Silence Wallcovering • WhisperWedge  
MelaFlex • S.D.G. Systems • Tecnofoam  
R.P.G. Diffusers • Sonex • Sound Quilt

## EQUIPMENT FOR SALE

Drowning in a sea of stuff?  
Get the RACKIT™ System  
Modular, stackable media furniture  
holds all formats and equipment  
Free brochure (please mention EM)  
(800) 821-4883  
*Per Media Design*  
[www.rackit.com](http://www.rackit.com)

**Don't Get Beat**  
When you need equipment call

**8TH STREET MUSIC**  
(800) 878-8882

Philadelphia's Largest Musical  
Instrument Dealer!!!  
[www.8thstreet.com](http://www.8thstreet.com)  
8th Street Music, 1023 Arch St.  
Philadelphia, PA 19107

**UPGRADE YOUR VOCALS**  
WITH  
*Variable Acoustic Compression™*  
Pop filters that adjust for the best  
combination of pop protection and sonic  
transparency before the sound reaches  
the microphone.

**POPLESS**  
VOICE SCREENS

voice/fax: (800)252-1503 or (914)259-3367 e-mail: [info@popfilter.com](mailto:info@popfilter.com)

[www.popfilter.com](http://www.popfilter.com)



**Hear Today. Gone Tommorrow.™**


**INTRODUCING THE MAX-Wall from Auralex.**  
It's the super-affordable, world-class, stand-mounted recording & mixing environment that can go ANYWHERE!

Our patent-pending, interlocking MAX-Wall system can grow & grow as your needs change. You want reconfigurable AND affordable? MAX-Wall's your answer!

The MAX-Wall offers virtually linear acoustic control in an attractive, portable package that's the perfect solution when wall-mounted & ceiling-mounted acoustical treatments are out of the question. Its absorption only varies .04 over the entire test frequency spectrum. That's accuracy & performance you can't get anywhere else!

Add our unmatched Sunburst-360s or some of our hot new stand-mounted 4' tall LENRD Bass Traps and you've got an incredible amount of AFFORDABLE and TOTALLY MOBILE acoustical control. Hit our site @ [www.auralex.com](http://www.auralex.com) for much more info!

**ON DISPLAY & IN-STOCK AT MAJOR DEALERS EVERYWHERE! • 800-95-WEDGE**



API BRYSTON PMC  
API "Lunch Box"  
Bryston Power Amps  
PMC Speakers  
[www.jmkaudio.com](http://www.jmkaudio.com)  
JMK AUDIO  
(205) 870-5557

**Sound thinking**  
INCORPORATED

Turn-key systems  
under \$5K!

**digidesign**  
...and more  
541-386-2682  
[www.soundthinking.com](http://www.soundthinking.com)



## COMPUTER SYSTEMS

[www.DAWGUSA.com](http://www.DAWGUSA.com)  
Digital Audio Workstation Gadgets  
8, 16, 24, & 32 Track Computer Workstations  
Order Online or Toll Free 1-877-469-3294

<http://www.primalgear.com>  
(For guys who like playing with really big knobs all day.)

**PRIMAL GEAR**  
(615)248-0007



**OMNIRAX**  
STUDIO FURNITURE

CODA D8  
with Sidecars

OMNIRAX 800.332.3303 416.332.3302  
FAX 416.332.2007  
[www.omnirax.com](http://www.omnirax.com)



## EQUIPMENT FINANCING

**A/V Equipment Financing**  
Specializing in Audio-Video Equipment

**New: Personal Lease**  
To \$15,000!

- No Down Payment
- No Financials Required
- New & Used Equipment
- Upgrade Existing Leases

Visit Our [Web Site](http://www.lfci.net) For Applications & Qualifications  
**LFCI** [www.lfci.net](http://www.lfci.net)  
We Are Direct Lenders **Call: 800 626 LFCI**

**CLASSIC MICS**  
FROM RUSSIA

VINTAGE TUBE & FET  
Telefunken, NEUMANN  
AKG, LOMO, OCTAVA, etc.  
TEL/FAX: 011-7-095-299-1161

[masterpieceav.com](http://masterpieceav.com)  
blank media  
cd-r recorders  
microphones  
studio gear  
digital audio workstations  
**Impeccable customer service**  
call aaron & jamey toll free  
(888) 776-2835

# PRODUCTS AND SERVICES

DD-301 *Digital Dynamicator* *Compressor* *Tubulator* *Antigrator* *Funk Logic*

SOFTENEN BIGGEN FROSTY POPP USB 8-1000

High Quality Vintage Style Rack Fillers for Filling Your Empty Rack Spaces with Vintage-Style Rack Fillers  
1 & 2 Space Designs ~ Red/Black ~ Silky-Smooth Knobs ~ [www.funklogic.com](http://www.funklogic.com) ~ 760.434.3854 **about \$20**

**Ribbon Mics**  
Sales, Parts & Service  
*The Best in the World*  
Matched Pairs & Stereo Bars

**Coles 4038**  
RCA 44s & 77s  
(800) 798-9127  
Call Wes Dooley

**Studio Furnishings** [ free catalog ]



Consoles, Mastering Desks, Digital Workstations, Keyboard Workstations, Rack enclosures, Spkr. Stands

[argosyconsole.com](http://argosyconsole.com)

**ARGOSY** 800.427.5698  
573.346.8549

LOOKING FOR BETTER SOUND?

Component-level upgrades for mixing consoles, tape machines, mics & all outboard gear. Also, high-speed high-quality mic pre-amps.

**AUDIO UPGRADES**  
6410 Matilija Ave.  
Van Nuys, CA 91401  
(818) 780-1222  
Fax (818) 886-4012  
[www.audioupgrades.com](http://www.audioupgrades.com)

**The Audio Toolbox<sup>tm</sup>**  
The amazing DSP-powered acoustical analysis, audio test, calibration and troubleshooting tool.

**Functions**  
SPL · 1/12 octave RTA · RT60 · Energy Time Graph  
Distortion Meter · Speaker Polarity · Signal Generator  
Frequency Counter · Stereo dB Meter · MIDI Analyzer  
Audio Scope w/phase · Impedance Meter · Cable Tester  
Time Code Generator / Reader / Re-gen / Analyzer  
Headphone Monitor Amp · Phantom Power Tester  
PC/Mac Interface · 40 memories · more...

Tel: 303 545 5848  
Fax: 303 545 6066  
Toll-free: 888 433 2821  
[www.terrasonde.com](http://www.terrasonde.com)

Available in Rack-mount, Plus, and Standard models (shown).



For a Subscription to **Electronic Musician**  
call 800 245-2737

WWW. **WE BUY USED GEAR!** **1-800-214-9222**

**ShreveAudio.com** 1200 Marshall st  
Shreveport, La. 71101

**ALISIS Blowout on AKAI Recorders and Samplers!**  
*Limited Time Only!*

Trade in your ADAT for a BRAND NEW ADAT!

**ADAT XT20** **AKAI DPS 12 v2** **AKAI MPC2000XL**  
STARTING AT \$699 AS LOW AS \$1199




\*12 Audio Tracks  
\*250 Virtual Tracks  
\*Record 8 Tracks Simultaneously  
\*Optional Multi FX Board

\*Producing Drum and Bass  
\*Sequencing a rack full of MIDI Modules  
\*Performing Live  
\*All-In-One Convenience

**ADAT LX20**  
**ADAT STUDIOPACK**

• Includes  
• LX20 20 Bit Digital Audio Recorder  
• Studio 24 Recording Console  
• Nanoverb • Nanocompressor  
• Cables included  
• Speakers not included

**While Supplies Last!**

**SHURE** We have the LOWEST Prices on Shure mics!  
**MOTU** 2408's in stock! & Digital Performer  
**Roland** **TASCAM SPIRIT**

Call 1-800-214-9222

**http://www.shreveaudio.com**

# PRODUCTS AND SERVICES

## EQUIPMENT FOR SALE

**ODYSSEY**  
PRO SOUND

**New, Used and Vintage Recording Equipment**  
*Buy • Sell • Trade*

**API, Neve, Fairchild, Manley, Quedsted, Urei  
Pultec, Neumann, Lang, Studer, and More!**

[www.odysseyprosound.com](http://www.odysseyprosound.com)  
Tel: (978) 744-2001 Fax: (978) 744-7224

**Professional Audio Design**  
THE SYSTEMS COMPANY

- Exclusive factory authorized U.S. agent for pre-owned Solid State Logic consoles.
- US representatives for Munro Associates studio design and custom monitors.

**QUALITY  
EXPERTISE  
VALUE**

- In-house service, custom wiring design and fabrication and installation services
- New, used and vintage equipment sales

*Please call us to discuss your facility's requirements.*

**Professional Audio Design Inc.**  
Voice (781) 982-2600  
Fax (781) 982-2610

REPRESENTING OVER 100 MANUFACTURERS PLUS HARD TO FIND VINTAGE GEAR  
API, AKG, AVALON, DYNAUDIO, FOCUSRITE, GML, LEXICON, MANLEY LABS, MUNRO CUSTOM MONITORS, NEVE, OTARI, SONY, SSL, T.C. ELECTRONIC, & MORE

[www.proaudiodesign.com](http://www.proaudiodesign.com)

*Craftsmanship*  
David Hill, designer

**CRANE SONG LTD.** [www.cranesong.com](http://www.cranesong.com) Log On!  
Info Call 888-345-9005 | 715-398-3627

**ALAN SMART COMPRESSORS**

**C-1, C-2 & Multichannel version**  
available in the U.S. & exclusively distributed by:  
**Sunset Sound, Hollywood (323) 469-1186**  
[www.sunsetsound.com](http://www.sunsetsound.com)

Call Toll Free! **ReliableMusic.com** Online Catalog!

**PRO AUDIO • RECORDING • KEYBOARDS • SOFTWARE**

**QUESTIONS?**  
Get straight answers from Pros with hands-on product knowledge. Working musicians, engineers and songwriters who understand your equipment needs.

**1-888-888-4515**



## PRODUCTS AND SERVICES

### BIG SUMMER SALE!

#### IL-SERIES™ IN-LINE TRANSFORMERS, PADS, ETC.

LINE LEVEL	IL-19	\$32.20
MIC LEVEL	IL-20	\$32.50
MIC LEVEL	IL-29*	\$39.35

\*PASSES PHANTOM)

GROUND LIFTER	IL-17	\$12.75
PHASE REVERSER	IL-11	\$13.50

#### PADS FIXED

10 dB 600 OHM	IL-23	\$14.30
20 dB 600 OHM	IL-24	\$14.30
30 dB 600 OHM	IL-25	\$14.30
LINE TO MIC 600/150 OHM	IL-16	\$14.30

#### PAD-ADJUSTABLE

600 OHM 0-31 dB	IL-28	\$64.75
-----------------	-------	---------

PREPAID ORDERS ONLY  
CHECK, VISA, MC & AMEX  
(NO COD'S) FREE GROUND SHIPPING  
48 STATES • MIN. ORDER \$30.00

CHECK WEBSITE: [www.sescom.com](http://www.sescom.com)  
FOR DETAILS OR TO REQUEST THE  
AUDIO CATALOG BY FAX, MAIL OR EMAIL

ORDERS: 1-800-634-3457

OFFICE: 1-702-565-3400

TECH: 1-702-565-3993

FAX: 1-702-565-4828

EXPORT: E & E EXPORTS

PHONE: 1-949-440-0760

FAX: 1-949-440-0766

EMAIL: [ee.exports@worldnet.att.net](mailto:ee.exports@worldnet.att.net)

LIMITED TO STOCK ON HAND • OFFER EXPIRES 8/31/00

**SESCOM, INC.**

2100 Ward Drive • Henderson, NV 89015 USA



"THE BEST DEALS ON EARTH"

**digibid.com™**

Auction Network  
an IndustryClick solution

Your One-Stop Shop for the Best Gear Deals! Open 24/7

The internet auction marketplace at [www.digibid.com](http://www.digibid.com)

**YOU'RE NOT GOING TO PAY  
A LOT FOR USED EQUIPMENT!**

Call us! We list over 400 consoles, 100s of speakers, effects, amps. We can help sell your used equipment, too!

Call now for details & FREE catalog  
The Grumpy folks at H.T.I.C.S.

(610) 865-9151

Fax: (610) 758-9999

Email: [HTICS@aol.com](mailto:HTICS@aol.com)

### MAKE MONEY MAKING CDS

Start your own duplication shop!

Duplication suite #1

Inferno 10 Bay 8x Tower • Rimage Thermal CD Printer  
w/autoloader • professional overwrapping system

Lease as low as \$299.00 per month  
\*Please call for complete lease options and details.

TOWERS  
starting from  
**\$99.00**  
per month

200+ CDs  
PER HOUR  
POSSIBLE!



BLANK  
CD-R's  
as low as  
**.49c**

VISIT OUR WEBSITE FOR SUPPORT ADDRESS - [www.superdupes.com](http://www.superdupes.com)  
PHONE IN YOUR AREA FOR SHIPPING FOR 8 OR 12 C/D

**800-617-3877**

American Duplication Supply™



Herman  
Miller

**800-883-9697**  
[www.sittingmachine.com](http://www.sittingmachine.com)

AERON  
CHAIR



## REDCO AUDIO

• AUDIO/VIDEO CABLES • CONNECTORS • WIRE • ACCESSORIES

Pro Audio Cable & Connectors  
Value Added Distributor

1730 COMMERCE DR., BRIDGEPORT, CT 06605

(203) 384-0834

FAX (203) 384-1239

SALES (800) 572-7280

E-MAIL: [SALES@REDCO.COM](mailto:SALES@REDCO.COM)

WEB PAGE: [WWW.REDCO.COM](http://WWW.REDCO.COM)

NEUTRIK USA

Master Distributor

MOGAMI

Stocking Master Distributor

**Redco Audio**

manufactures custom cables, panels and  
enclosures for the audio and video industry.

VISIT US AT OUR WEBSITE

[www.redco.com](http://www.redco.com)

[www.AudioGearOnline.com](http://www.AudioGearOnline.com)

One Stop Shopping & Friendly People

Order Online or Toll Free 1-877-469-3294

### THOUSANDS OF ACCESSORIES

FOR GUITAR, BASS, KEYBOARD AND RECORDING!!!!

For a FREE catalog call:

**1-888-348-5003**

or E-Mail: [rnrace@wwandbw.com](mailto:rnrace@wwandbw.com)

Rock 'n  
Rhythm

# PRODUCTS AND SERVICES

## EQUIPMENT FOR SALE

17 years of sales and service  
Specializing in pre-owned  
MCI products  
Randy Blevins

Latest gear list on the Web:  
www.blevinsaudioexchange.com  
ph: (615) 242-0596  
Fax: (615) 242-0599

**BLEVINS AUDIO**  
(B.A.E. Inc.)  
EXCHANGE

## INSTRUCTION

### Recording Engineer Broadcasting

Multimedia/Digital/Video/Film  
Radio/TV/Sports/News/DJ/Talk Show

No experience required

### On-the-job-training

in local major Recording Studios & Radio/TV Stations  
Part-time, nights, weekends - Call recorded info line for FREE video

1-800/295-4433 www.radioconnection.com



## MAINTENANCE SERVICES

### DATs FIXED FAST!

Expert solutions for all  
DAT recorder problems

- All makes and models
  - Experienced, factory-trained techs
  - Fast turnaround
  - Repairs, overhauls, parts
- "The DAT doctor is in!"



973-579-4849 FAX 973-579-7571

Midwest Digital Services Inc.  
DAT and DA-88 Repair  
(Chicagoland Area)

Professional DAT Service since 1985.  
Authorized by Sony  
Panasonic, Tascam & Fostex  
(888) 809-3309  
Ph: (708) 448-7539  
www.midwestdigitalservices.com

## RECORDS, TAPES & CDS

# CD LABELING & PACKAGING FROM YOUR DESKTOP!

DESIGN • PRINT  
APPLY • PACKAGE

**NEW!**  
**ONLY \$2995**



#### KIT INCLUDES

- NEATO 2000 CD Label Applicator
- Assortment of Labels and Jewel Case Inserts
- MediaFACE
  - Design Software (PC) Templates (Mac)
  - Digital Background Art for Labels and Inserts
  - Label and Insert Templates for Popular Graphics Programs (PC/Mac)

AVAILABLE AT YOUR LOCAL  
COMPUTER ACCESSORY RESELLER

Also available...  
Other Media Labeling Products for Audio,  
DAT, Mini-Disc & Zip

**NEATO**  
Media Labeling Products

250 Dodge Ave. • East Haven, CT 06512 • 877-574-2548 • 203-466-5170 • Fax 203-466-5178

www.neato.com

### LEARN the ART of RECORDING

**REC W RECORDING WORKSHOP**  
800-848-9900 or 740-663-2544  
www.recordingworkshop.com  
email: info@recordingworkshop.com  
453 E. Mainville Rd. Columbus, OH 43201

### The Midwest's Premiere Recording School.

**MUSIC TECH**  
Associate Degree in Music Production  
1-800-594-9500 www.musictech.com

### Better CD/Tape Duplication! Premium CDs: As low as \$.54 ea.

Creative Sound



(800) 323-PACK  
www.csoundcorp.com

**ballistic.com** YOUR LINE FOR ALL  
COMPACT DISC  
CD ROM  
& CASSETTE MANUFACTURING

**\$999.00** 1000 CD'S  
2 color on disc, insertion of your printed material  
standard jewel box & p/h wrap MANUFACTURED BY  
**EMI**

1.800.401.8273

## INTERNET SERVICES

Don't just settle for a page on the Internet...  
get your own Web site!

- Professional Web page design
- Web hosting & SSL security
- Domain name registration
- Support for Real Server G2,  
FrontPage 2000, Flush 4, etc.

Call to learn more...

1-800-96-ROCKA

www.rocka.com



**Rocka.com**

**300 CD PACKAGE: \$975**

**1000 CD PACKAGE: \$1499**

order: S1349

#### INCLUDES:

- ORIGINATION • 1-COLOR 1-PAGE BOOKLET AND TRAY CARD • 1-COLOR CD LABEL\*
  - JEWEL BOX & SHRINK WRAP • QUICK TURNAROUND
- \* From your print-ready files (in Rainbo's specs)

#### INCLUDES:

- ORIGINATION • 4-PAGE BOOKLET with 4-COLOR COVER, 1-COLOR BACK and 4-COLOR TRAY CARD • CD LABEL FILM & 2-COLOR LABEL IMPRINTING • JEWEL BOX & SHRINK WRAP • QUICK TURNAROUND
- \* From your print-ready files (in Rainbo's specs)

IN-HOUSE CD, VINYL & CASSETTE REPLICATING & PACKAGING

ASK FOR OUR FREE BROCHURE!

**Rainbo Records and Cassettes**  
1738 Berkeley St. • Santa Monica, CA 90404 • (310) 829-3476 •  
Fax: (310) 828-8765 • www.rainborecords.com • info@rainborecords.com

# PRODUCTS AND SERVICES

SPECTRUM'S **FastTrack** Full Color CDs...  
From your CD or DAT master

**Mix Special** GET 25 FREE  
CDs w/ EVERY  
100 ORDERED

**100 CD's Full Color only \$595 complete**

**AUDIO CDs  
CD ROMS  
AUDIO TAPES**

**INCLUDES:**

- Full color one side front insert card
- Matching color tray card with color photo
- Fast Track layout and design
- One color black print on disc
- Jewel case and wrap

**Spectrum** Fast Track Digital Chrome Cassettes  
**1.800.334.9328** 100 \$445 GET 25 FREE w/ EVERY 100 ORDERED

The Full Service Company  
**Magnetic Air** since 1980

1000 CD's - **\$1199**  
750 CD's - **\$1049**  
500 CD's - **\$849**  
300 CD's - **\$699**

**CD / CD-Rom  
Cassette  
DVD  
CD-Rom Business Cards  
Graphic Design / Film**

**Prices Include**

- 2 Color Disc
- 4 Page insert (full color/bw)
- Full color tray card
- Jewel case & shrink wrap
- Glass Mastering (you supply CDR or DAT & artwork/film)

**Just Getting Started?**  
Then take advantage of our all inclusive "Indie band special" DESIGN / FILMS / 300 CD's

**All for only \$999 (or 800 CD's for \$1149)**  
Includes free barcode

Visit our web site or call us today for a free full color brochure.

**www.magneticair.com**  
**1.800.561.1815**

**Lovingly Handcrafted CDs at Factory Direct Prices.**

We own the factory. (And the Elves aren't unionized.)

**CD SOURCE.NET**  
www.cdsource.net

toll free 1-877-CD PRESS

**IMPLOSION PUBLISHING INC.**  
**1-888-323-5431**

Call for our full price list & free samples. We also print postcards & posters! Graphic design also available.

1,000 bulk CDs: <b>\$670</b>	1,000 retail-ready CDs: <b>\$1,400</b>
w/ 2-color printing on disc	w/ 4-panel, 4/1 insert and traycard, ALL FILMS, jewelcase, shrinkwrap, barcode.

25 CDs: **\$99** 24-hr turn-around in most cases. Up to 74 mins., from your CD-R. Includes b/w label and jewelcase.  
50 CDs: **\$189** Booklets/shrinkwrap and other-size runs available.

**CD duplication**  
Guaranteed | Reliable | Highest Quality!

**59** each! **1000 for \$590**  
2-color on CD printing

**100 Pc Retail Ready Promo Packages from \$279!**  
Other packages & quantities available

**Call Toll Free 877.591.6000**  
www.newenglandcd.com

New England Compact Disc

**CD - R DUPLICATION**

1+ 3.99	100+ 2.49
25+ 3.49	200+ 2.24
50+ 2.99	300+ 1.99

Price Includes: CD - R Duplication, Direct Imprinting, Jewel Box, Insertion, and Shrinkwrapped

**THE 4th CREATION DUPLICATION**  
(409) 756-6861

**The Digital Sunspot Inc**  
Affordable Professional  
**CD MASTERING**  
1-888-985-3333  
www.digitalsunspot.com

**State of the Art CDs and Cassettes in 2 - 3 Weeks!**  
1,000 Packaged CDs - \$975.00 / 1,000 Packaged Cassettes - \$699.00

Take advantage of our superior product & customer services!

- Awesome Graphic Design • Full Color Proofs & Printing • No Hidden Fees
- Digital Mastering • Film • Color Separations • FedEx Correspondence

**JMP** **TOLL FREE 1-877-456-9385**

**Lowest Price Period!**

- CD, CD Rom, DVD cassette & video manufacturing
- Graphic design & print production
- Customized packaging solutions
- Low run capability

**DISC MANUFACTURING**

**1-888-256-DISC ballmedia.com**

Mastering • CD & Cassette Duplication • Media & Supplies  
**www.eclickpro.com**  
CALL TOLL FREE 1-888-738-2573

**CLICK Productions™**

Retail ready packages available  
Call for free info packet!

Highest Quality @ Lowest Prices  
CD Duplication short run special  
10 - \$45 50 - \$170  
25 - \$95 100 - \$270

**CLiCK Productions™**  
P.O. Box 584  
Crossville, TN 38557-0584  
FAX (931) 484-9399

**QUALITY • RELIABILITY • EXPERTISE  
ON TIME • EVERY TIME**

- DVD Replication
- CD-Audio • CD-ROM Replication
- Audio Cassette & VHS Duplication
- Printing • Graphic Design • Film Output
- Full Color Short-Run CD Duplication
- DVD Video Authoring/Encoding

**CDSONIC**

Toll Free 1-888-CDSONIC www.cdsonic.com

**CD DUPLICATION** **www.InstantCDquotes.com**  
The web's fastest and easiest way to get a realtime quote!

# PRODUCTS AND SERVICES

## RECORDS, TAPES & CDS

**Best Price... Best Service... Period.**

### CD REPLICATION

Retail-Ready Packages or Bulk

**New, Fast - DIGITAL PRINTING!**  
Booklets, tray cards, J-cards, posters!

- Vinyl Records (Colors Available!)
- Cassette Duplication
- Audio Mastering (State-Of-The-Art!)

Work directly with the factory and save - U.S. MOST COMPLETE FACILITY! **(800) 455-8555**  
http://www.europadisk.com major credit cards accepted

**EUROPADISK LTD.**



## 8X SPEED CDR MEDIA

FORMULATED FOR DATA STORAGE, DIGITAL AUDIO & DUPLICATOR USE. SCREEN & THERMAL PRINTABLE.

((NEW GENERATION CDR))  
SILVER/SILVER BK FORMULATION

CALL FOR SAMPLES

**spectrum**  
MANUFACTURING

**1.800.334.9328**

Authorized U.S. distributors for **DAI** Certified Media

### CD duplication

#### DEMO CD SPECIALS

- 2 Color On CD Printing **500/\$589**
- Deluxe Window Envelopes
- Layout, Design, Films **1000/\$869**
- Glass Master included  
no tricks, no gimmicks, just bring us your CDR!

#### RETAIL READY CD'S

- 2 Color On CD Printing **500/\$1,049**
- Film Output Included!
- Matchprints
- 4/1 Color Zpp 4-0 Tray **1000/\$1,399**
- Assembly & Over-Wrap
- Glass Master Charge Included

www.artistdevelopment.com  
toll free **888-RUBBER-8**

**ada**  
artist development associates inc.

### RECORDING & DUPLICATING SUPPLIES

**ARCAL® TDK BASF SONY QUANTEGY MAXELL**

Cassettes • Reel-to-Reel Tapes  
C-O's • Cassette Albums • Labels  
R-Dat's • CDR's • Video Tapes  
Data Storage Media

**ARCAL CORP.**  
2732 Bay Rd., Redwood City, CA 94063  
TOLL FREE 1-800-272-2591  
FAX (650) 369-7446  
Visit our web site: http://www.arcal.com

### CD, CASSETTE, CDR and CD-ROM

Complete Packages!

**DDAI**  
DIGITAL DYNAMICS ALTERNATIVE

1-800-444-DDAI  
www.4cdai.com

- CD/CASS MASTERING
- CD/CASS REPLICATION
- CEDAR RESTORATION
- GRAPHIC DESIGN
- FILMS AND PRINTING
- CD-ROM AUTHORIZING

## SOFTWARE, SEQUENCES & SOUNDS

### MIDI, MUSIC & MULTIMEDIA

Software & Hardware at Discount Prices  
Easy Online Ordering Free Shipping

- Sequencing
- Notation
- Educational
- Utility
- Cables
- MIDI Files

**M3** [www.mcubed.net](http://www.mcubed.net)

### CD & CD-ROM manufacturing

cassette duplication  
graphic design & insert printing  
digital mastering & editing  
30 years experience

guaranteed national distribution  
through all major Internet & Retail chains: Amazon.com, CDNow, Tower Records, etc.  
call or visit our website for details!

**crystal clear sound**  
**1-800-880-0073**  
visit us at [www.crystalclearsound.com/cdt3pe](http://www.crystalclearsound.com/cdt3pe)

### BAND-IN-A-BOX IMPROVEMENT PRODUCTS\*\*\*

You can put a Better-Band-In-Your-Box. Power-User Styles, Fake Disks & More! GenMIDI SEQUENCE & CD-ROMs, too! **FREE** info! Norton Music & Fun, Box 13149, Ft. Pierce, FL 34979.  
Voice mail/fax (561) 467-2420.  
[www.nortonmusic.com](http://www.nortonmusic.com)

### Music Tools Blowout!

Great Deals & Service

Software, Sound Cards, Interfaces, Cables, Controllers, Samples, Sequences, Books, Videos  
Shop for over 12,000 products at  
[www.midi-classics.com](http://www.midi-classics.com)  
Call 800-787-6434 NOW!  
MIDI Classics, Dept. E, Box 311, Weatogue, CT 06089

RECORDING

GUITARS

AMPLIFIERS

PRO AUDIO

MONITORS

KEYBOARDS

MICROPHONES

AND MORE

# GEAR UP

[www.sweetwater.com](http://www.sweetwater.com)

800.222.4700

You've worked hard on your music. Isn't it about time that someone worked hard for you when it comes to acquiring the music gear you need?

Now, with the continuous expansion of the Sweetwater Store online, it's easier than ever to do business with us. You can take advantage of our expert knowledge and browse our huge selection of pro audio gear from your computer! Just because we've entered the electronic age, doesn't mean we've lost our old fashioned values. On the Web, or on the phone, Sweetwater is still in the business of developing solid relationships with musicians, engineers, and enthusiasts just like you! Give us a call or check us out online today and join the thousands of customers who have discovered the Sweetwater Difference!

# Sweetwater

music technology direct

5335 Bass Road, Fort Wayne, IN 46808 • (800) 222-4700  
(219) 432-8176 • Fax (219) 432-1758 • [sales@sweetwater.com](mailto:sales@sweetwater.com)

## ALESIS MASTERLINK



• The ultimate 24/96 CD mastering and archiving device with 3.2gig hard drive. \$4699

## MACKIE HDR 24/96



• The ultimate 24/96 hard disk multitrack has landed! \$4995

## TASCAM DA-78HR



• 24-bit, long-play 8-track recording, and low price! \$3499

## E-MU MODULES



• All the EM-U modules are cooler and hipper than ever!

## TC ELECTRONIC M•ONE



• 20 incredible effects, up to 200 presets, analog-style user interface, 1/4" jacks, S/PDIF digital I/O, Dual-engine technology, and 24-bit A/D/A! \$699

## DIGITAL PERFORMER

• Upgrade to Digital Performer, for pro sequencing and recording! \$795.00

## KURZWEIL K2600



## ROLAND DS-90

• The first affordable powered studio monitors with digital and analog I/O! \$595

## MOTU 2408



• Computer-based recording for the real world! \$999

## DIGI 001



• The first affordable Pro Tools interface w/ 3 channels of 24-bit analog I/O, 2 microphone preamps, & ADAT I/O. \$695

## ROLAND VSR-880



• 24-bit, 8-track • 128 Virtual Tracks • 24-bit A/D/A • 12 inputs/outputs • R-BUS. \$4795

## WORLD-CLASS GUITARS



## DIGIDESIGN PRO TOOLS



## TASCAM MX-2424



• Knockout 24-bit, 24-track recorder w/ 9gig hard drive, and optional digital I/O. \$3999

## ROLAND VM-SERIES



• Modular digital mixing with tremendous I/O flexibility!

## DRAWMER DC-2476



• The digital mastering processor that has it all! Compression, brick-wall limiter, powerful EQ, spectral enhancement, and more! \$3400

## ALESIS AM62

• Great sound and tons of tube warmth and personality! Condenser element, vintage tube sound, 4 polar patterns, and more! \$299

## MACKIE DIGITAL 8 BUS



All prices are retail prices. Contact us or visit our Web site for real selling prices. Digidesign products may not be available in all areas.

# MANUFACTURER INDEX

**Aardvark** tel. (734) 665-8899 fax; (734) 665-0694;  
email info@aardvark-pro.com; Web www.aardvark-pro.com

**Access** tel. (310) 452-6216; fax (310) 452-3886; email  
gsfa@netcom.com

**Ace Products** tel.(888) 567 8722; fax (530) 582 8998;  
email rcarlsonace@aol.com; Web www.aceproducts.com

**Acoustic Sciences Corp. (ASC)** tel.(541) 343-9727;  
fax (541) 343-9245; email info@tubetrap.com;  
Web www.tubetrap.com

**Acoustical Interiors, LLC** tel.(800) 221-8975  
fax (301) 698-4683; email skip@acousticalinteriors.com;  
www.acousticalinteriors.com

**Acoustical Solutions** tel.(804) 346-8350;  
fax (804) 346-8808; email sales@acousticalsolutions.com;  
Web www.acousticalsolutions.com

**Acoustics First** tel. (804) 342-2900; fax (804) 342-1107;  
email nick@acousticsfirst.com;  
Web www.acousticsfirst.com

**ADK Condenser Microphones** tel. (503) 772-3007;  
fax (503) 772-3097; email larry@adk.cc; Web www.adk.cc

**Akai Musical Instrument Corp.** tel. (817) 831-9203;  
fax (817) 222-1490; email randy@akaipro.com;  
Web www.akaiapro.com

**AKG Acoustics** tel. (615) 360-0499; fax (615) 360-0275;  
email akgsusa@harman.com; Web www.ake-acoustics.com

**Alesis** tel. (800) 5-ALESIS; fax (310) 255-3401;  
email smoran@alesis.com; Web www.alesis.com

**Allen & Heath** USA tel. (801) 568-7660;  
fax (801) 568-7662; email jkunz@dbxpro.com;  
Web www.allen-heath.com

**AMB (c/o The John Hardy Co.)** tel. (847) 864-8060;  
fax (847) 864-8076

**Ambiance Acoustics** tel. (858) 485-7514;  
fax (858) 675-9245; email prosales@calcube.com;  
Web www.calcube.com

**Amek** tel. (818) 973-1618; fax (818) 973-1622;  
email amek@amek.com; Web www.amek.com

**American Power Conversion (APC)**  
tel. (800) 788-4080 or (800) 800-4APC;  
fax (401) 788-2739; email jdxter@apcc.com;  
Web www.apcc.com

**Antares Audio Technologies** tel. (888) 332-2636;  
fax (408) 399-0036; email info@antarestech.com;  
Web www.antarestech.com

**Antex Electronics** tel. (310) 532-3092; fax (310) 532-  
8509; email jantrim@antex.com; Web www.antex.com

**Anthony DeMaria Labs** tel. (914) 256-0032;  
fax (914) 255-3202; Web www.adl-tube.com

**Anthro Corp.** tel. (800) 325-3841; fax (800) 325-0045;  
email sales@anthro.com; Web www.anthro.com

**Aphex Systems** tel. (818) 767-2929; fax (818) 767-2641;  
email sales@aphex.com; Web www.aphex.com

**API (Transamerica Audio Group)** tel. (805) 375-1425;  
fax (805) 375-1424; email brad@transaudiogroup.com;  
Web www.transaudiogroup.com

**Apogee Electronics Corp.** tel. (310) 915-1000;  
fax (310) 391-6262; email relen@apogeedigital.com;  
Web www.apogeedigital.com

**Applied Research & Technology (A.R.T.)**  
tel. (716) 436-2720; fax (716) 436-3942;  
email pbetette@artroch.com; Web www.artroch.com

**Argosy Console, Inc.** tel. (573) 348-3333;  
fax (573) 348-2769; email tim@argosyconsole.com;  
Web www.argosyconsole.com

**Ashly Audio** tel. (716) 872-0010 x112; fax (716) 872-0739;  
email jstachow@ashly.com; Web www.ashly.com

**ATC Loudspeaker Technology, Ltd. / PSI**  
tel. (215) 949-8300; fax (215) 949-8400; email  
Scott@prosoundint.com; Web www.ProSoundInt.com

**Audio Engineering Associates** tel. (800) 798-9127;  
fax (626) 798-2378; email stereoms@aol.com;  
Web www.wesdooley.com

**Audio Toys, Inc. (ATI)** tel. (410) 381-7879;  
fax (410) 381-5025; email gordon@faders.com;  
Web www.audiotoys.com

**Audio-Technica U.S., Inc.** tel. (330) 686-2600;  
fax (330) 686-0719; email pro@atus.com;  
Web www.audio-technica.com

**Audix** tel. (503) 682-6933; fax (503) 682-7114;  
email info@audixusa.com; Web www.audixusa.com

**Auralex Acoustics, Inc.** tel. (800) 95-WEDGE;  
fax (317) 842-2760; email auralex@auralex.com  
www.auralex.com

**Avalon Design** tel. (949) 492-2000; fax (949) 492-4284;  
email avalon@avalondesign.com;  
Web www.avalondesign.com

**Bag End Loudspeakers** tel. (847) 382-4550;  
fax (847) 382-4551; email cshriver@ppcs.com;  
Web www.bagend.com

**Baltic Latvian Universal Electronics**  
tel. (818) 986-2583; fax (818) 784-7564;  
email blue@bluemic.com; Web www.bluemic.com

**Barbetta Electronics** tel. (805) 529-3607;  
fax (805) 529-0659; email barbetta@earthlink.net;  
response@barbetta.com; Web www.barbetta.com

**BBE Sound, Inc.** tel. (800) 233-8346;  
fax (714) 895-6728; email dmclaren@bbsound.com;  
Web www.bbsound.com

**Behringer** tel. (425) 672-0816; fax (425) 673-7647; email  
sales.us@behringer.com; Web www.behringer.com

**Bellari** tel. (801) 263-9053; fax (801) 263-9068;  
email eric@rolls.com; Web www.rolls.com

**Benchmark Media Systems, Inc.** tel. (800) 262-4675;  
fax (315) 437-8119; email sales@benchmarkmedia.com;  
Web www.benchmarkmedia.com

**Benson Audio Labs** tel. (412) 914-0575;  
fax (412) 914-0571; email bensonaudiolabs@prodigy.net

**beyerdynamic** tel. (631) 293-3200; fax (631) 293-3288;  
email bob@beyerdynamic.com

**BGW Systems, Inc.** tel. (800) 468-2677;  
fax (310) 676-6713; email sales@bgw.com;  
Web www.bgw.com

**BI-Tronics** tel. (800) 666-0996; fax (800) 569-4244;  
email mark@bitronics.com; Web www.bitronics.com

**Big Briar** tel. (828) 251-0900; fax (828) 254-6233;  
email realmoog@bigbriar.com; Web www.bigbriar.com

**Boss/Roland** tel. (213) 685-5141; fax (213) 722-0911;  
email erich@rolandus.com; Web www.rolandus.com

**BPM Studio Technik** tel. (310) 373-9129;  
fax (310) 373-4714; email sales@pmiaudio.com;  
Web www.pmiaudio.com/bpm.html

**Brauner (Transamerica Audio Group)**  
tel. (805) 375-1425 (805); fax 375-1424;  
email brad@transaudiogroup.com;  
Web www.transaudiogroup.com

**Bryston, Ltd.** tel. (705) 742-5325; fax (705) 742-0882;  
email cbnell@earthlink.net; Web www.bryston.ca

**BSS Audio USA** tel. (615) 360-0277; fax (615) 360-0480;  
email pfreuden@harman.com; Web www.bssaudio.co.uk

**CAD Professional Microphones/CTI**  
tel. (440) 593-1111; fax (440) 593-5395;  
Web www.cadmics.com

**Cakewalk Music Software** tel. (888) CAKEWALK  
[(617) 441-7870 Outside U.S.]; fax (617) 441-7887;  
email chriscric@cakewalk.com; Web www.cakewalk.com

**Carver Professional** tel. (503) 978-3344;  
fax (503) 978-3302; email swilliams@phoenixgold.com;  
Web www.carverpro.com

**Carvin.com - World's #1 Factory Direct Music Store**  
tel. (800) 854-2235; fax (858) 487-8160;  
email productinfo@carvin.com; Web www.carvin.com

**CEDAR** email jtodd@maine.rr.com

**Cerwin-Vega** tel. (805) 584-9332; fax (805) 583-0865;  
email gstanford@cerwin-vega.com;  
Web www.cerwin-vega.com

**Chord Electronics Ltd. c/o PAD** tel. (781) 982-2600;  
fax (781) 982-2610; email bruce@proaudiodesign.com;  
Web www.proaudiodesign.com

**CLM Dynamics** tel. (310) 373-9129; fax (310) 373-4714;  
email alan@pmiaudio.com; Web www.pmiaudio.com

**CM Automation** tel. (888) 588-6434;  
email pmontes@cmautomation.com;  
Web www.cmautomation.com

**Coles Microphones** email jtodd@maine.rr.com

**Connectronics** tel. (203) 372-6898; fax (203) 372-6899;  
email chilver@msn.com

**Countryman Associates, Inc.** tel. (800) 669-7422;  
fax (650) 364-2794; email carolyn@countryman.com;  
Web www.countryman.com

**Crane Song** tel. (715) 398-3627; fax (715) 398-3279;  
email staff@cranesong.com; Web www.cranesong.com

**Crate Pro Audio** tel. (800) 727-4512 x309;  
fax (314) 727-8929; email pjost@stlouismusic.com;  
Web www.crateproaudio.com

**CreamWare U.S. Inc.** tel. (800) 899-1939;  
fax (604) 435-9937; email info@creamware.com;  
Web www.creamware.com

**Creative Labs / E-MU** tel. (831) 438-1921;  
fax (831) 438-8612; email derkh@emu.com;  
Web www.emu.com

**Crest Audio** tel. (201) 909-8700; fax (201) 909-8744;  
email will@crestaudio.com; Web www.crestaudio.com

**Crown International** tel. (800) 342-6939 or (219) 294-  
8200; fax (219) 294-8329; email audioinfo@crownintl.com;  
Web www.crownaudio.com

**Curtis Technology** tel. (815) 399-8453;  
email curtismics@hotmail.com; www.Curtis-Technology.com

**D.W. Fearn** tel. (610) 793-2526; fax (610) 793-1479;  
email dwfearn@dwfearn.com; Web www.dwfearn.com

**D&R/PSI** tel. (215) 949-3200; fax (215) 949-8400;  
email don@prosoundint.com; Web www.ProSoundInt.com

**DACS Limited** tel. (207) 773-2424; fax (207) 773-2422;  
email jtodd@maine.rr.com; Web www.independentaudio.com

**dbx** tel. (801) 568-7660; fax (801) 568-7662;  
email jkunz@dbxpro.com; Web www.dbxpro.com

**Demeter Amplification** tel. (818) 994-7658;  
fax (818) 994-0647; email demeter@gte.net;  
Web www.demeteramps.com

**Denon Electronics** tel. (973) 396-0810;  
fax (973) 396-7459; email d\_birch-jones@denonj.com;  
Web www.del.denon.com

## MANUFACTURER INDEX

**Diamond Audio Technology, Inc.** tel. (888) 222-9439; fax (310) 582-1502; email [drew@diamondaudio.com](mailto:drew@diamondaudio.com); Web [www.diamondaudio.com](http://www.diamondaudio.com)

**Digidesign** tel. (650) 842-7900; fax (650) 842-7999; email [prodinfo@digidesign.com](mailto:prodinfo@digidesign.com); Web [www.digidesign.com](http://www.digidesign.com)

**Digigram** tel. (703) 875-9100; fax (703) 875-9161; email [input@digigram.com](mailto:input@digigram.com); Web [www.digigram.com](http://www.digigram.com)

**Digital Audio Labs** tel. (612) 559-9098; fax (612) 559-0124; email [jtomlin@digitalaudio.com](mailto:jtomlin@digitalaudio.com); Web [www.digitalaudio.com](http://www.digitalaudio.com)

**Digital Music Corp.** tel. (707) 782-0600; fax (707) 782-9777; email [info@voodoolab.com](mailto:info@voodoolab.com); Web [www.voodoolab.com](http://www.voodoolab.com)

**DigiTech / DOD Electronics** tel. (801) 566-8800; fax (801) 566-7005; email [bholt@hmgsl.com](mailto:bholt@hmgsl.com); Web [www.digitel.com](http://www.digitel.com)

**DOD Electronics / DigiTech** tel. (801) 566-8800; fax (801) 566-7005; email [bholt@hmgsl.com](mailto:bholt@hmgsl.com); Web [www.dod.com](http://www.dod.com)

**Doepfer** tel. 49-89 89 80 95 10; fax 49-89 89 80 95 11; email [vertrieb@doepfer.de](mailto:vertrieb@doepfer.de); Web [www.doepfer.com](http://www.doepfer.com)

**DPA Microphones / TGI North America Inc.** tel. (519) 745-1158; fax (800) 525-7081; email [jschause@tgina.com](mailto:jschause@tgina.com); Web [www.dpamicrophones.com](http://www.dpamicrophones.com)

**Drawmer (Transamerica Audio Group)** tel. (805) 375-1425; fax (805) 375-1424; email [brad@transaudiogroup.com](mailto:brad@transaudiogroup.com); Web [www.transaudiogroup.com](http://www.transaudiogroup.com)

**Dynaudio Acoustics c/o TC Electronic** tel. (805) 373-1828; fax (805) 379-2648; email [tcus@tcelectronic.com](mailto:tcus@tcelectronic.com); Web [www.tcelectronic.com](http://www.tcelectronic.com)

**E.M.O./PSI** tel. (215) 949-8300; fax (215) 949-8400; email [don@prosoundint.com](mailto:don@prosoundint.com); Web [www.ProSoundInt.com](http://www.ProSoundInt.com)

**E-MU** tel. (831) 438-1921; fax (831) 438-8612; email [derkh@emu.com](mailto:derkh@emu.com); Web [www.emu.com](http://www.emu.com)

**Earthworks Audio Products** tel. (603) 654-6427; fax (603) 654-6107; email [earthwks@jlc.net](mailto:earthwks@jlc.net); Web [www.earthwks.com](http://www.earthwks.com)

**Ebtech** tel. (619) 271-9001; fax (619) 271-9079; email [sales@cymation.com](mailto:sales@cymation.com)

**Edirol Corporation North America** tel. (800) 380-2580; fax (360) 332-4405; email [robread@edirol.com](mailto:robread@edirol.com); Web [www.edirol.com](http://www.edirol.com)

**EGO SYSTEMS Inc.** tel. +82 2 780 4451; fax +82 2 780 4454; email [webmaster@egosys.net](mailto:webmaster@egosys.net); Web [www.egosys.net](http://www.egosys.net)

**Electrix** tel. (250) 544-4091; fax (250) 544-4102; email [ltyner@ivl.com](mailto:ltyner@ivl.com); Web [www.electrixpro.com](http://www.electrixpro.com)

**Electro-Voice** tel. (612) 884-4051; fax (612) 884-0043; email [lou.vlahos@telex.com](mailto:lou.vlahos@telex.com); Web [www.electrovoice.com](http://www.electrovoice.com)

**Emagic** tel. (530) 477-1051; fax (530) 477-1052; email [info@emagicusa.com](mailto:info@emagicusa.com); Web [www.emagic.de](http://www.emagic.de)

**Empirical Labs, Inc** tel. (973) 728-2425; fax (973) 728-2931; email [eli@wavedistribution.com](mailto:eli@wavedistribution.com); Web [www.wavedistribution.com](http://www.wavedistribution.com)

**ENSONIQ** tel. (831) 438-1921; fax (831) 438-8612; email [derkh@emu.com](mailto:derkh@emu.com); Web [www.emu.com](http://www.emu.com)

**Equi-Tech** tel. (541) 597-4448; fax (541) 597-4099; email [rjh@equitech.com](mailto:rjh@equitech.com); Web [www.equitech.com](http://www.equitech.com)

**ETA Systems** tel. (330) 425-3388; fax (330) 425-9700; email [eta@etasys.com](mailto:eta@etasys.com); Web [www.etasys.com](http://www.etasys.com)

**Event Electronics** tel. (805) 566-7777; fax (805) 566-7771; email [info@event1.com](mailto:info@event1.com); Web [www.event1.com](http://www.event1.com)

**Eventide** tel. (201) 641-1200; fax (201) 641-1640; email [audio@eventide.com](mailto:audio@eventide.com); Web [www.eventide.com](http://www.eventide.com)

**FASoft** tel. +390650939148; fax +390650939148; email [info@fasoft.com](mailto:info@fasoft.com); Web [www.fasoft.com](http://www.fasoft.com)

**Fishman Transducers** tel. (978) 988-9199; fax (978) 988-0770; email [fishmail@fishman.com](mailto:fishmail@fishman.com); Web [www.fishman.com](http://www.fishman.com)

**Focusrite Audio Engineering** tel. (650) 842-7900; fax (650) 842-7999; email [prodinfo@digidesign.com](mailto:prodinfo@digidesign.com); Web [www.focusriteusa.com](http://www.focusriteusa.com)

**Folded Space Technologies** tel. (770) 427-8761; fax (770) 427-8761; email [space@mindspring.com](mailto:space@mindspring.com); Web [www.fstechnologies.com](http://www.fstechnologies.com)

**Fostex** tel. (562) 921-1112; fax (562) 802-1964; email [budd@fostex.com](mailto:budd@fostex.com); Web [www.fostex.com](http://www.fostex.com)

**Frontier Design Group** tel. (800) 928-3236; fax (603) 448-6283 (603) 448-6398; email [lanelle@frontierdesign.com](mailto:lanelle@frontierdesign.com); Web [www.frontierdesign.com](http://www.frontierdesign.com)

**Furman** tel. (707) 763-1010; fax (707) 763-1310; email [molly@furmansound.com](mailto:molly@furmansound.com); Web [www.furmansound.com](http://www.furmansound.com)

**Future Retro Synthesizers** tel. (785) 827-9278; fax (785) 827-7454; email [sales@future-retro.com](mailto:sales@future-retro.com); Web [www.future-retro.com](http://www.future-retro.com)

**Gadget Labs** tel. (503) 827-7371; fax (503) 295-0119; email [rob@gadgetlabs.com](mailto:rob@gadgetlabs.com); Web [www.gadgetlabs.com](http://www.gadgetlabs.com)

**Galaxy Audio / Valley Audio** tel. (800) 369-7768; fax (316) 263-0642; email [BacheusJ@galaxyaudio.com](mailto:BacheusJ@galaxyaudio.com); Web [www.galaxyaudio.com](http://www.galaxyaudio.com)

**Genelec, Inc.** tel. (508) 652-0900; fax (508) 652-0909; email [genelecwill@compuserve.com](mailto:genelecwill@compuserve.com); Web [www.genelec.com](http://www.genelec.com)

**Generalmusic Corp.** tel. (630) 766-8230; fax (630) 766-8281; email [ltramell@peavey.com](mailto:ltramell@peavey.com); Web [www.generalmusic.com](http://www.generalmusic.com)

**Geoffrey Daking & Co.** tel. (800) 522-3650; fax (801) 340-8218; email [geoffdake@aol.com](mailto:geoffdake@aol.com); Web [www.daking.com](http://www.daking.com)

**George Massenburg Labs, Inc.** tel. (323) 845-1155; fax (323) 845-1170; email [dtd@aidinc.com](mailto:dtd@aidinc.com); Web [www.gmlinc.com](http://www.gmlinc.com)

**Geppo International, Inc.** tel. (847) 795-9555; fax (847) 795-8770; email [geppo@geppo.com](mailto:geppo@geppo.com); Web [www.geppo.com](http://www.geppo.com)

**Grace Design** tel. (303) 443-7454; fax (303) 444-4634; email [egrace@gracedesign.com](mailto:egrace@gracedesign.com); Web [www.gracedesign.com](http://www.gracedesign.com)

**Great River Electronics** tel. (651) 455-1846; fax (651) 455-3224; email [dkennedy@minn.net](mailto:dkennedy@minn.net); Web [www.GreatRiverElectronics.com](http://www.GreatRiverElectronics.com)

**GSF/Waldorf** tel. (310) 452-6216; fax (310) 452-3886; email [gsta@netcom.com](mailto:gsta@netcom.com); Web [www.waldorf-gmbh.de](http://www.waldorf-gmbh.de)

**Guillemot** tel. (514) 279-9960; fax (514) 279-4954; email [hbougas@guillemot.qc.ca](mailto:hbougas@guillemot.qc.ca); Web [www.guillemot.com](http://www.guillemot.com)

**Hafler** tel. (888) 423-5371; fax (480) 894-1528; email [leibch@hafler.com](mailto:leibch@hafler.com); Web [www.hafler.com](http://www.hafler.com)

**HHB Communications** tel. (310) 319-1111; fax (310) 319-1311; email [sales@nhbusa.com](mailto:sales@nhbusa.com); Web [www.hhb.co.uk](http://www.hhb.co.uk)

**Horizon Music Inc.** tel. (573) 651-6500; fax (800) 455-3460; email [Horizonmusic@LDD.net](mailto:Horizonmusic@LDD.net); Web [www.Horizonmusic.com](http://www.Horizonmusic.com)

**Hot House Professional Audio** tel. (914) 691-6077; fax (914) 691-6822; email [embg@hothousepro.com](mailto:embg@hothousepro.com); Web [www.hothousepro.com](http://www.hothousepro.com)

**Illbruck, Inc.** tel. (800) 662-0032; fax (612) 588-8396; email [amr@illbruck.com](mailto:amr@illbruck.com); Web [www.illbruck-sonex.com](http://www.illbruck-sonex.com)

**Independent Audio** tel. (207) 773-2424; fax (207) 773-2422; email [info@independentaudio.com](mailto:info@independentaudio.com); Web [www.independentaudio.com](http://www.independentaudio.com)

**Infusion Systems Ltd.** tel. (604) 983-3640; fax (604) 983-3612; email [yasmeen@infusionsystems.com](mailto:yasmeen@infusionsystems.com); Web [www.infusionsystems.com](http://www.infusionsystems.com)

**JBL Professional** tel. (818) 894-8850; fax (818) 830-1220; email [dperry@harman.com](mailto:dperry@harman.com); Web [www.jblpro.com](http://www.jblpro.com)

**Jensen Transformers, Inc.** tel. (818) 374-5857; fax (818) 763-4574; email [info@jensen-transformers.com](mailto:info@jensen-transformers.com); Web [www.jensen-transformers.com](http://www.jensen-transformers.com)

**JLCooper Electronics** tel. (310) 322-9990; fax (310) 335-0110; email [sales@jlcooper.com](mailto:sales@jlcooper.com); Web [www.jlcooper.com](http://www.jlcooper.com)

**Joemeek** tel. (310) 373-9129; fax (310) 373-4714; email [alan@joemeek.com](mailto:alan@joemeek.com); Web [www.joemeek.com](http://www.joemeek.com)

**Jomox** tel. (323) 769-5510; fax (626) 355-8149; email [johnnyvn@earthlink.net](mailto:johnnyvn@earthlink.net); Web [www.jomox.net](http://www.jomox.net)

**Juice Goose** tel. (713) 772-1404; fax (713) 772-7360; email [info@juicegoose.com](mailto:info@juicegoose.com); Web [www.juicegoose.com](http://www.juicegoose.com)

**Klark-Teknik** tel. (612) 884-4051; email [lou.vlahos@telex.com](mailto:lou.vlahos@telex.com); Web [www.klarktek.com](http://www.klarktek.com)

**Klein + Hummel (Transamerica Audio Group)** tel. (805) 375-1425; fax (805) 375-1424; email [brad@transaudiogroup.com](mailto:brad@transaudiogroup.com); Web [www.transaudiogroup.com](http://www.transaudiogroup.com)

**Korg USA / Toneworks** tel. (516) 333-9100 x1282 (516) 333-9108; email [support@korgusa.com](mailto:support@korgusa.com); Web [www.korg.com](http://www.korg.com)

**Koss Corp.** tel. (800) 872-5677; fax (414) 964-8615; email [jmccurdy@koss.com](mailto:jmccurdy@koss.com); Web [www.koss.com](http://www.koss.com)

**KRK Systems, Inc.** tel. (714) 373-4600; fax (714) 373-0421; email [karenb@krksys.com](mailto:karenb@krksys.com); Web [www.krksys.com](http://www.krksys.com)

**Kurzweil Music Systems** tel. (253) 589-3200; fax (253) 588-6809; email [chris\\_martirano@ycrdi.com](mailto:chris_martirano@ycrdi.com); Web [www.youngchang.com/kurzweil](http://www.youngchang.com/kurzweil)

**LA Audio/PSI** tel. (215) 949-8300; fax (215) 949-8400; email [don@prosoundint.com](mailto:don@prosoundint.com); Web [www.prosoundint.com](http://www.prosoundint.com)

**Langevin** tel. (909) 627-4256; fax (909) 628-2482; email [emanley@manleylabs.com](mailto:emanley@manleylabs.com); Web [www.manleylabs.com](http://www.manleylabs.com)

**Lawson, Inc.** tel. (615) 269-5542; fax (615) 269-5745; email [mail@lawsonmicrophones.com](mailto:mail@lawsonmicrophones.com); Web [www.LawsonMicrophones.com](http://www.LawsonMicrophones.com)

**Lexicon** tel. (781) 280-0300; fax (781) 280-0490; email [info@lexicon.com](mailto:info@lexicon.com); Web [www.lexicon.com](http://www.lexicon.com)

**Line 6** tel. (805) 379-8900; fax (805) 379-3001; email [Barbara.Williams@Line6.com](mailto:Barbara.Williams@Line6.com); Web [www.line6.com](http://www.line6.com)

**Littlite/CAE** tel. (810) 231-9373 x214; fax (810) 231-1631; email [litesls@caeinc.com](mailto:litesls@caeinc.com); Web [www.littlite.com](http://www.littlite.com)

**Lucid** tel. (425) 742-1518; fax (425) 787-3211; Web [www.lucidaudio.com](http://www.lucidaudio.com)

**Lynx Studio Technology** tel. (949) 515-8265; fax (949) 645-8470; email [sales@lynxstudio.com](mailto:sales@lynxstudio.com); Web [www.lynxstudio.com](http://www.lynxstudio.com)

**M Audio** tel. (800) 778-3241; fax (626) 445-7564; email [hucky@m-audio.com](mailto:hucky@m-audio.com); Web [www.m-audio.com](http://www.m-audio.com)

**Mackie Designs** tel. (425) 487-4333; fax (425) 487-4337; email [rickb@mackie.com](mailto:rickb@mackie.com); Web [www.mackie.com](http://www.mackie.com)

# MANUFACTURER INDEX

**Manley Laboratories** tel. (909) 627-4256;  
fax (909) 628-2482; email emanley@manleylabs.com;  
Web www.manleylabs.com

**Marantz Professional/Superscope Technologies, Inc.**  
tel. (630) 820-4800; fax (630) 820-8103;  
email dpratt@superscope technologies.com;  
Web www.superscope-marantzpro.com

**Mark of the Unicorn** tel. (617) 576-2760;  
fax (617) 576-3609; email info@motu.com;  
Web www.motu.com

**Marshall Electronics** tel. (800) 800-6608;  
fax (310) 391-8926; email sales@mars-cam.com;  
Web www.mars-cam.com

**Martech (Martinsound)** tel. (800) 582-3555 or  
(626) 281-3555; fax (626) 284-3092;  
email chris@martinsound.com; Web www.martinsound.com

**Martinsound, Inc.** tel. (800) 582-3555;  
fax (626) 284-3092; email chwalsh@msn.com;  
Web www.martinsound.com

**MBHO - MTC** tel. (718) 963-2777; email mtc@inditec.com

**Merging Technologies** tel. (847) 272-0500;  
fax (847) 272-0597; email athacker@merging.com;  
Web www.merging.com

**Meyer Sound Laboratories, Inc.** tel. (510) 486-1166;  
fax (510) 486-8356; email info@meyersound.com;  
Web www.meyersound.com

**Micro Technology Unlimited** tel. (919) 870-0344;  
fax (919) 870-7163; email dave@mtu.com; Web  
www.mtu.com

**Microboards Technology, Inc** tel. (612) 401-3613;  
fax (612) 470-1805; email calconjr@microboards.com;  
Web www.microboards.com

**Microtech Gefell / G Prime** tel. (212) 765-3415;  
fax (212) 581-8938; email russhamm@gprime.com;  
Web www.gprime.com

**MIDI Solutions, Inc.** tel. (604) 794-3013;  
fax (604) 794-3396; email info@midisolutions.com;  
Web www.midisolutions.com

**MIDIator Systems** tel. (619) 223-9000; fax (619) 223-  
9000; email ron@midiator.com; Web www.midiator.com

**Midiman Inc. / M-Audio** tel. (800) 969-6434;  
fax (626) 445-7564; email hucky@midiman.net /  
info@m-audio.com; Web www.midiman.net;  
Web www.m-audio.com

**Midisoft Corp.** tel. (800) 776-6434; fax (425) 313-3491;  
email dans@recordlab.com; Web www.midisoft.com

**Miles Technology Inc.** tel. (800) 280-8572;  
(616) 683-4400; fax (616) 683-4499;  
email info@milestech.com; Web www.milestech.com

**Millennia Media, Inc.** tel. (530) 647-0750;  
fax (530) 647-9921; email info@mil-media.com;  
Web www.mil-media.com

**Miller & Kreisel Professional** tel. (310) 204-2854;  
fax (310) 202-8782; email support@mkprofessional.com;  
Web www.mkprofessional.com

**Monster Cable** tel. (415) 840-2000; fax (415) 468-4311;  
email dgraham@monstercable.com;  
Web www.monstercable.com

**Motion Sound** tel. (801) 265-0917; fax (801) 265-0978;  
email Sales@motion-sound.com;  
Web www.motion-sound.com

**Munro Associates/Pro Audio Design**  
tel. (781) 982-2626; fax (781) 982-2610;  
email bruceb@proaudiodesign.com;  
Web www.proaudiodesign.com

**Musicator** tel. (530) 759-9424; fax (530) 759-8852;  
email musicator@musicator.com; Web www.musicator.com

**Mutronics** tel. (207) 773-2424; fax (207) 773-2422;  
email info@independentaudio.com;  
Web www.independentaudio.com

**Mytek Digital** tel. (212) 245-7880; fax (212) 245-8636;  
email info@mytekdigital.com; Web www.mytekdigital.com

**Netwell Noise Control** tel. (800) 638-9355;  
fax (952) 939-9836; email info@controlnoise.com;  
Web www.controlnoise.com

**Neumann/USA** tel. (860) 434-5220;  
fax (860) 434-3148; email info@neumannusa.com;  
Web www.neumannusa.com

**Neutrik USA, Inc.** tel. (732) 901-9488; fax (732) 901-9608;  
email info@neutrikusa.com; Web www.neutrikusa.com

**New Frontier Electronics** tel. (215) 862-9344;  
fax (215) 862-0270; email michael@surgex.com;  
Web www.surgex.com

**Nightpro International** tel. (801) 375-9289;  
fax (801) 375-9286; email admin@nightpro.com;  
Web www.nightpro.com

**Nord (Armadillo)** tel. (727) 519-9669;  
fax (727) 519-9703; email tjmartin@armadilloent.com;  
Web www.armadilloent.com

**Oberheim (distributed by Armadillo Enterprises)**  
tel. (727) 519-9669; fax (727) 519-9703;  
email sassy@armadilloent.com; Web www.oberheim.com

**Omnirax** tel. (800) 332-3393; fax (415) 332-2607;  
email info@omnirax.com; Web www.omnirax.com

**OPTI-UPS** tel. (714) 674-5080; fax (714) 672-0021;  
email david@opti-ups.com; Web www.opti-ups.com

**Oram Professional Audio**  
tel. 011-44-1474-815-300; fax 011-44-1474-815-400;  
email john@oram.co.uk; Web www.oram.co.uk

**Otari Corp.** tel. (818) 598-1200; fax (818) 594-7208;  
email pschwartz@otari.com; Web www.otari.com

**Palmer Direct Recording Devices**  
tel. (615) 242-2925; fax (615) 242-9528;  
email tsteks@aol.com; Web www.palmerdirect.com

**Panamax** tel. (800) 472-5555; fax (415) 472-5540;  
email amy@panamax.com; Web www.panamax.com

**Panasonic Broadcast & Digital Systems Co.,  
Professional Audio Division** tel. (323) 436-3500;  
fax (323) 436-3618; email jonestr@panasonic.com

**Paradigm Reference** tel. (905) 632-0180;  
fax (905) 632-0183; email maling@audiostream.com;  
Web www.paradigm.ca

**Pearl Labs** tel. (207) 773-2424; fax (207) 773-2422;  
email jtodd@maine.rr.com; Web www.independentaudio.com

**Peavey Electronics Corp.** tel. (601) 483-5365;  
fax (601) 486-1172; email ltrammell@peavey.com;  
Web www.peavey.com

**Pefftronics** tel. (800) 548-PEFF; fax (515) 296-9910  
info@tonefrenzy.com; Web www.pefftronics.com

**Pendulum Audio, Inc.** tel. (908) 665-9333;  
email info@pendulumaudio.com;  
Web www.pendulumaudio.com

**Per Madsen Design** tel. (415) 822-4883;  
fax (415) 822-4873; email permsads@rackitfm.com;  
Web www.rackitfm.com

**Personal Composer, Inc.** tel. (800) 446-8088;  
fax (918) 742-1232; email norman@pcomposer.com;  
Web www.pcomposer.com

**PG Music, Inc.** tel. (800) 268-6272; fax (250) 475-2946;  
email mlema@pgmusic.com; Web www.pgmusic.com

**Philips Consumer Electronics** tel. (770) 821-3433  
x2272; fax (770) 821-2228; Web www.PhilipsUSA.com

**Phoenix Audio International LLC**  
tel. (323) 462-4373 (323); fax 462-6137;  
email phoenixaudio@earthlink.net; Web phoenixaudio.com

**Phonic/Visual Effects Inc.** tel. (800) 422-3639;  
fax (718) 324-0300; email info@visualeffectsinc.com;  
Web www.visualeffectsinc.com

**PMC** tel. (705) 742-5325; fax (705) 742-0882;  
email cnbell@earthlink.net; Web www.bryston.ca

**Precision Audio Labs** tel. (818) 888-0388  
(818) 704-7614; email pas3@pacifinet.net;  
Web www.pacifinet.net/~pas3

**PreSonus Audio Electronics, Inc.** tel. (800) 750-0323;  
fax (225) 926-8347; email lodom@presonus.com;  
Web www.presonus.com

**Pro Co Sound, Inc** tel. (616) 388-9675;  
fax (616) 388-9681; email jlsmelker@worldnet.att.net;  
Web www.procosound.com

**Pro Sound International** tel. (215) 949-3200;  
fax (215) 949-8400; email don@prosoundint.com;  
Web www.prosoundint.com

**QSC Audio Products, Inc.** tel. (714) 754-6175;  
fax (714) 754-6174 john\_subbiondo@qscaudio.com;  
Web www.qscaudio.com

**Quasimidi Corporation** tel. (941) 945-8672;  
fax (941) 945-8673; email usamidi@peganet.com;  
Web www.quasimidi.com

**Quested Monitoring Systems/Q.usa, Inc.**  
tel. (608) 850-3600; fax (608) 850-3602;  
email brian@quested.com; Web www.quested.com

**Quik-Lok** tel. (516) 352-4110; fax (516) 352-0754;  
email quiklok@earthlink.net; Web www.quiklok.com

**RackCraft** tel. (913) 262-3949;  
fax (913) 262-2513; email rackcraft@aol.com

**Radial Engineering** tel. (604) 942-1001;  
fax (604) 942-1010; email peterjanis@cabletek.ca;  
Web www.radial.com

**Radio Design Labs** tel. (800) 281-2683;  
fax (805) 684-9316; email johng@rdlnet.com;  
Web www.rdlnet.com

**Rane Corp.** tel. (425) 355-6000; fax (425) 347-7757;  
email ellena@rane.com; Web www.rane.com

**Rapco** tel. (800) 467-2726; fax (573) 243-1384;  
email brad@rapco.com; Web www.rapco.com

**Raven Labs** tel. (818) 368-2400; fax (818) 368-2400;  
email ravenlabs@aol.com; Web www.raven-labs.com

**Roland Corporation U.S.** tel. (323) 890-3700;  
fax (323) 890-3701; Web www.rolandus.com

**Rolls Corp.** tel. (801) 263-9053; fax (801) 263-9068;  
email eric@rolls.com; Web www.rolls.com

**Royer Labs** tel. (818) 760-8472; fax (818) 760-8864;  
email sales@royerlabs.com; Web www.royerlabs.com

**RPG Diffuser Systems, Inc.** tel. (301) 249-0044;  
fax (301) 249-3912; email info@rpginc.com;  
Web www.rpginc.com

**Sabine** tel. (904) 418-2000; fax (904) 418-2001;  
email hosborne@SabineUSA.com;  
Web www.SabineUSA.com

**SADIE, Inc.** tel. (615) 327-1140; fax (615) 327-1699;  
email info@sadies.com; Web www.sadie.com

**Samson Technologies** tel. (516) 364-2244;  
fax (516) 364-3888; email jgreco@samsontech.com;  
Web www.samsontech.com

**Sancken Audio Systems** tel. (323) 845-1155;  
fax (323) 845-1170; email dtd@aidinc.com;  
Web www.sas-mk.co.jp



# MANUFACTURER INDEX

**Schoeps(Posthorn Recordings)** tel. (212) 242-3737; fax (212) 924-1243; email jbruck@tiac.net; Web www.posthorn.com

**SeaSound** tel. (415) 485-3900; fax (415) 485-3901; email press: ryan@seasound.com; customers: mel@seasound.com; Web www.seasound.com

**Seekers - DRUM MACHINE MUSEUM LLC (Dealer)** tel. (415) 503-0477; fax (415) 503-0476; email mickey@drummachine.com; Web www.drummachine.com

**SEKD** tel. (707) 578-2023; fax (707) 578-2025; email mikeymuzak@metro.net; Web www.sekd.com

**Sennheiser Electronic Corporation** tel. (860) 434-9190; fax (860) 434-1759; email info@sennheiserusa.com; Web www.sennheiserusa.com

**Shure Incorporated** tel. (800) 257-4873; fax (847) 866-2279; email kohler\_michelle@shure.com; Web www.shure.com

**Silent Source** tel. (800) 583-7174; fax (413) 584-2377; email info@silentsource.com; Web www.silentsource.com

**Sonifex, Ltd.** tel. (207) 773-2424; fax (207) 773-2422; email jtodd@maine.rr.com; Web www.independentaudio.com

**Sonorus** tel. (212) 253-7700; fax (212) 253-7701; email mark.clayton@sonorus.com; Web www.sonorus.com

**Sony Electronics, Inc.** tel. (201) 930-1000; fax (201) 358-4907; Web www.sony.com/proaudio

**Soundelux Microphones** tel. (323) 464-9601; fax (323) 463-2881; email lmarks@soundelux.com; Web www.soundelux.com/mics

**SoundField (Transamerica Audio Group)** tel. (805) 375-1425; fax (805) 375-1424; email brad@transaudiogroup.com; Web www.transaudiogroup.com

**Soundscape Digital Technology** tel. (805) 658-7375; fax (805) 658-6395; email us-sales@soundscape-digital.com; Web www.soundscape-digital.com

**Soundtech** tel. (800) 877-6863; fax (847) 949-8444; email washburn@washburn.com; Web www.washburn.com/soundtech

**Spatializer Audio Laboratories, Inc.** tel. (408) 296-0600; fax (408) 296-0650; email petebirch@ureach.com; Web www.spatializer.com

**Speck Electronics** tel. (760) 723-4281; email sales@speck.com; Web www.speckelectronics.com

**Spirit by Soundcraft** tel. (888) 251-8352; fax (615) 360-0273; email soundcraft-usa@harman.com; Web www.spiritbysoundcraft.com

**SPL Electronics GmbH** tel. +49-2163-9834-0; fax +49 (0)2163-9834-20; email info@soundperformancelab.com; Web www.soundperformancelab.com

**Standtastic** tel. (765) 642-5205; fax (765) 641-1205; email lmprod@indy.net

**Stedman Corp.** tel. (888) 629-5960; fax (616) 629-4149; email info@stedmancorp.com; Web www.stedmancorp.com

**Steinberg North America, Inc.** tel. (818) 678-5100; fax (818) 678-5199; email costa@steinberg-na.com; Web www.us.steinberg.net and; Web www.cubase.net

**Stewart Audio** tel. (209) 588-8111; fax (209) 588-8113; email stewartaudio@mlode.com stewartaudio.com

**Studer Professional Audio, USA** tel. (510) 297-2711; fax (510) 297-2785; email studersales@harman.com; Web www.studer.ch

**Studio Electronics** tel. (818) 776-8104; fax (818) 776-1733; email analogia@earthlink.net; Web www.studioelectronics.com

**Studio Technologies, Inc.** tel. (847) 676-9177; fax (847) 982-0747; email cloving@studio-tech.com; Web www.studio-tech.com

**Studiologic Master Controllers by FATAR** tel. (516) 352-4110; fax (516) 352-0754; email sean@musicindustries.com; Web www.musicindustries.com

**Studiomaster, Inc.** tel. (714) 998-2102; fax (714) 998-2086; email stmstr@earthlink.net; Web www.studiomaster.com

**Sumiko** tel. (510) 843-4500; fax (510) 843-7120

**Summit Audio** tel. (831) 728-1302; fax (831) 728-1073; email tbutler@summitaudio.com; Web www.summitaudio.com

**Sundholm Acoustics** tel. (503) 794-2661; fax (503) 786-7550; email love@teleport.com; Web www.sundholm-acoustics.com

**Swissonic America** tel. (707) 577-7691; fax (707) 577-7692; email infousa@swissonic.com; Web www.swissonic.com

**Switchcraft** tel. (773) 792-2700; fax (773) 792-2129; email jhoffman@switchcraft.com; Web www.switchcraft.com

**Symetrix, Inc.** tel. (425) 787-3222; fax (425) 787-3211; email sytek1@netzero.net; Web www.symetrixaudio.com; www.Sytek-Audio-Systems.com

**Tannoy/TGI North America** tel. (519) 745-1158; fax (519) 745-2364; email cschiebel@tgina.com; Web www.tannoy.com

**TASCAM** tel. (323) 726-0303; fax (323) 727-7635; email psanchez@tascam.com; Web www.tascam.com

**Taytrix, Inc.** tel. (201) 222-2826; fax (201) 222-5457; email somea@hotmail.com; Web www.taytrix.com; www.stackit.com

**TC Electronic** tel. (805) 373-1828; fax (805) 379-2648; email kento@tcelectronic.com; Web www.tcelectronic.com

**Tech 21** tel. (212) 315-1116; fax (212) 315-0825; email lloyd@tech21nyc.com; Web www.tech21nyc.com

**Technosaurus - Drum Machine Museum (Distributor)** tel. 415-503-0477; fax 415-503-0476; email mickey@drummachine.com; Web www.drummachine.com

**TerraTec-US** tel. (407) 331-4002; fax (407) 331-8239; email info@terratec-us.com; Web www.terratec.net

**The John Hardy Co.** tel. (847) 864-8060; fax (847) 864-8076; email jwhardy@mediaone.net

**The VansEvers Co., Inc.** tel. (813) 239-0700; fax (813) 239-0805; email mikev@vansevers.com

**TimeLine Vista** tel. (760) 761-4440; fax (760) 761-4449; email info@digaudio.com; Web www.timelinevista.com

**TL Audio** tel. +44-1462-680888; fax +44-1462-680999; email info@tlaudio.co.uk; Web www.tlaudio.co.uk

**Tripp Lite** tel. (773) 869-1075; fax (773) 869-1080; email jnochowi@triplite.com http://triplite.com

**True Systems (Distributed by Neumann/USA)** tel. (860) 434-5220; fax (860) 434-3148; email info@neumannusa.com http://www.neumannusa.com/rue.htm

**Tube Tech c/o TC Electronic** tel. (805) 373-1828; fax (805) 379-2648; email kento@tcelectronic.com; Web www.tcelectronic.com

**Tube Works/A Division of Genz Benz Enclosures, Inc** tel. (800) 326-0269; fax (480) 946-2412; email tubeworkstech@genzbenz.com; Web www.genzbenz.com

**Ultimate Support Systems, Inc.** tel. (970) 493-4488; fax (970) 221-2274; email jennil@ultimatesupport.com; Web www.ultimatesupport.com

**Vergence Technology Incorporated** tel. (707) 751-0270; fax (707) 751-0271; email chrisb@listen2us.com; Web www.vergenceaudio.com

**Voce** tel. (201) 599-0100; fax (201) 599-0404; email drstaff@drstrings.com; Web www.vocceinc.com

**Voyetra Turtle Beach, Inc.** tel. (800) 233-9377; fax (914) 966-1102; email mkelly@voyetra.com; Web www.voyetra.com

**Waveform (Posthorn Recordings)** tel. (212) 242-3737; fax (212) 924-1243; email jbruck@tiac.net; Web www.posthorn.com

**Weiss Engineering** tel. +41 1940-2006; fax +41 1940 2214; email weiss@weiss.ch; Web www.weiss.ch

**Wenger Corp.** tel. (800) 733-0393; fax (507) 455-4258; email chris.mislinski@wengercorp.com; Web www.wengercorp.com

**Westlake Audio** tel. (805) 499-3686; fax (805) 498-2571; email ken@westlakeaudio.com; Web www.westlakeaudio.com

**Whirlwind** tel. (888) 733-4396; fax (716) 865-8930; email sales@whirlwindusa.com; Web www.whirlwindusa.com

**WhisperRoom** tel. (423) 585-5827; fax (423) 585-5831; email whisper@ics.net; Web www.whisperroom.com

**Wiard Synthesizer** tel. (414) 327-6316; fax (414) 546-4279; email sales@wiard.com; Web www.wiard.com

**WinJammer Software, Ltd.** tel. (905) 842-3708; fax (905) 842-2732; email support@winjammer.com; Web www.winjammer.com

**XTA Electronics/Group One** tel. (516) 249-1399; fax (516) 753-1020; email jack@g1ltd.com; Web www.g1ltd.com

**Xytar Digital Systems** tel. (650) 697-7493; fax (650); email 697-4905 xytar@yahoo.com

**Yamaha Corp. of America** tel. (714) 522-9011; fax (714) 522-9522; email info@yamaha.com; Web www.yamaha.com

**Yorkville Sound, Inc.** tel. (716) 297-2920; fax (716) 297-3689; email yusa@yorkville.com; Web www.yorkville.com

**Z-Systems** tel. (352) 371-0990; fax (352) 371-0093; email rich@z-sys.com; Web www.z-sys.com

**Zefiro Acoustics** tel. (949) 551-5833; fax (949) 653-2260; email greg@zefiro.com; Web www.zefiro.com

**Zoom/Samson Technologies** tel. (516) 364-2244; fax (516) 364-3888; email jgreco@samsontech.com; Web www.samsontech.com

# ADVERTISER INDEX

ADVERTISER	PAGE	ADVERTISER	PAGE	ADVERTISER	PAGE
AKG	.59	Frontier Design Group	.31	Musichotbid.com	.34
Alesis	.7	Full Compass	.89	Musicians Institute	.160
Applied Research & Technology (A.R.T.)	.57	Furman Sound	.109	Music123.com	.12
Audio Computing	.38	Gadget Labs	.51	Neumann USA	.18
Audio-Technica	.169	Generalmusic	.9	Otari	.21
Audix	.56	Glyph Technologies	.22	Peavey	.8
Bayview Pro Audio	.207	Hafler	.41	QCA	.30
Behringer	.19	Infusion Systems	.119	Roland	.24-25
Carvin	.17	Interstate Music	.118	Sam Ash	.54
CM Automation	.108	JDSound	.37	SeaSound	.43
Conservatory of Recording Arts & Sciences	.30	Joemeek/PMI	.91	Sonic Foundry (Acid)	.32
Corporate Systems Center	.16	Kurzweil	.45	Sonic Foundry (Vegas Pro)	.40
digibid	.227	Line 6	.11	Sonic Foundry (Loops Library)	.33
Digidesign	.27	Lynx Studio Technology	.34	Sound Chaser	.47
Earthworks	.161	M Audio	.53	Steinberg	.29
Echo Digital Audio	.39	Mackie (HDR24/96)	.2	Studiologic/Music Industries	.13
Edirol	.55	Mackie (D8B)	.3	Sweetwater Sound	.221
EGOSYSTEMS	.4-5	Manley Laboratories	.46	Tascam	.15
E-mu Systems	.163	Mark of the Unicorn	.228	TC Electronic	.78-79
Event Electronics	.23	MicroBoards Technology	.187	Vergence Technology	.49
FAQ System Engineering	.36	Millennia Music & Media Systems	.165	Waves	.50
Focusrite	.35	Musician's Friend	.139	World Replication Group	.167

## PSBG Advertiser Sales Regions and Representatives

**Joanne Zola**  
Northwest  
(510) 853-3307  
joanne\_zola@intertec.com

**Mari Stancati**  
Southwest  
(323) 845-1881  
mari\_stancati@intertec.com

**Julie Clark**  
Midwest  
(616) 687-8848  
julie\_clark@intertec.com

**Joe Perry**  
East Coast/Europe  
(770) 343-9978  
joe\_perry@intertec.com

**Jef Linson**  
Classifieds  
(800) 544-5530  
jef\_linson@intertec.com

PSBG offers reader service online! To receive more information on the products that you see advertised in PSBG, simply go to [www.emusician.com/rs](http://www.emusician.com/rs), provide the information requested, and select the advertisers you want to know more about. Be sure to fill out the Rate the Articles section while you're there.

**IMPORTANT NOTICE TO READERS:** Reader service inquiries are sent directly to the advertiser, who is solely responsible for sending product information. *Electronic Musician* can not guarantee a response from all advertisers.

**THE EQUIPMENT LIQUIDATION CHANNEL**

# **The Leading Marketplace for Professional Audio Tools**



- **100% Satisfaction Guaranteed**
- **Secure Transactions**
- **Automatic Payment Escrow**
- **Over 20 years of Pro Experience**
- **Consignment or Buyout**

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

**digibid.com**  
Auction Network  
an IndustryClick solution

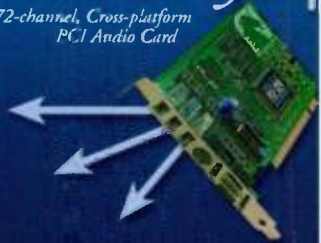
**Pro Audio / Broadcast / Film / Video / Lighting / DJ**

**e-mail your list to [liquidation@digibid.com](mailto:liquidation@digibid.com)  
or call 1.800.432.5499**

PCI-324

72-channel, Cross-platform  
PCI Audio Card

# Thinking about a 2408 system?



## You've seen the MOTU 2408. Perhaps you own one.

Now it's grown into an interchangeable system of affordable core systems and expansion I/Os.

It's expandable — connect up to three rack I/Os to a single PCI card for 72 channels of input/output.

It's compatible — Mac/Windows, ASIO, Wave & Sound Manager drivers for your favorite audio software.

It's affordable and configurable — core systems start at only \$995; begin with the system that's just right for you.

The 2408 I/O (\$695) — 3 ADAT lightpipe (24 ch), 3 Tascam TDIF (24 ch), analog (8 ch), S/PDIF & sample-accurate sync.

The 1224 I/O (\$395) — 24-bit analog (8 ch) with 116 dB dynamic range; quality that rivals even the most expensive I/Os.

The 308 digital I/O (\$695) — 24 channels of 24-bit digital, AES/EBU (8 ch), S/PDIF (8 ch), and optical S/PDIF (8 ch).

The 24i I/O (\$1195) — Twenty four 24-bit analog inputs (!), switchable +4/-10, in one affordable rack space.

The 1296 I/O — The ultimate 96kHz interface when you want the best in multitrack 96K recording.

