CRN TEST CENTER

Sound Cards

Product Reviews & Channel-Support Programs   PAGE 73 ◆

TEST·CENTER 1996 ResellerNews EDITORS' ★CHOICE★

SoundExpression 288 SRS

Boca Research Sound Expression 28.8 SRS
Price: $309
Distributors, Master Resellers: Gates/Arrow, Ingram Micro, Liuski International, Silicon 21, Western Micro Technology
Boca Research Inc.
Boca Raton, Fla.
(561) 997-6227
http://www.bocaresearch.com

Diamond 12X Multimedia Kit
Price: $399
Distributors, Master Resellers: Ingram Micro, Tech Data
Diamond Multimedia Systems Inc.
San Jose, Calif.
(408) 325-7000
(800) 468-5846
http://www.diamondmm.com

The CRN Test Center gave the Editors' Choice award to Boca Research's SoundExpression 28.8 SRS board. This multi-function Plug and Play board provides audio, a 28.8-Kbps modem, 14.4-Kbps fax and the software for PC-based voice mail and a full-duplex speaker phone. The product constitutes a complete multimedia and communications solution in one slot that is backed by a five-year warranty and free technical support.

Diamond Multimedia's 12X Multimedia Kit deserves honorable mention and may be a better solution for resellers looking for the complete multimedia up-
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TECHNICAL OVERVIEW

Resellers sing praises of sound cards

Videoconferencing, multimedia signal renewed awareness in high-quality audio

BY ERIC ELGAR
New York

SOUND HAS BECOME a standard component of today's workstation. Few vendors offer PCs that do not include audio capabilities as part of the base system. Resellers need to be aware of the capabilities of sound cards. An increasing number of applications, and the Web itself, are furnishing multimedia-based content for everything from help subsystems to voice-recognition input.

Videoconferencing, multimedia presentations and computer-aided training also represent popular uses for workstations with audio capabilities.

Audio is becoming a core of electronic information dissemination; there are few Internet surfers who have not experienced the power of RealAudio from Progressive Networks. RealAudio enables equipped Internet and intranet users to listen to audio-based mul-

timedia content on demand, in realtime over conventional phone lines. Resellers can make quite a bit of easy money by developing a sound-card standard and installing and supporting sound in millions of installed workstations that lack audio capabilities.

What to Look For
The CRN Test Center evaluated eight 16-bit audio adapters for the Intel platform that include internal sound cards, as well as a portable device that connects to the PC's parallel printer port. This is a very useful device for laptops or for a PC lacking a free expansion slot. Multimedia PC (MPC) compatibility, a standard developed by the Multimedia PC Marketing Council in 1990, is a staple for any sound card. Sound cards now support 44.1KHz sampling rates for the playback of CDs, sound effects and speech, as well as the ability to record sounds and music.

Wave-table synthesizers have replaced FM synthesis for signal generation, producing far richer sounds and more-realistic effects.

The de facto standard for storing music on PCs has graduated from the WAV file format to the musical instrument device inter-

face (MIDI) files, creating far better sound and saving users gobs of disk space. When storing WAV files, the waveform audio actually records the sounds much like a tape recorder. One minute of digital audio with CD quality (16-bit stereo sampled at 44.1KHz) requires 10.5 Mbytes of storage. The average music CD requires 630 Mbytes of storage. MIDI files contain the instructions for playing an audio sequence, not the actual recording. This saves a tremendous amount of disk space. A good example is the MIDI file "canyon.mid" that comes with
Continued on page 86

Product Feature Ratings & Comparisons

★ EXCEPTIONAL
● VERY GOOD
◐ AVERAGE
○ NEEDS IMPROVEMENT

	PERFORMANCE	INSTALLATION	EASE OF USE	EXPANDABILITY	OVERALL
Aztech Labs MM Waverider Pro 32 3D	◐	●	◐	◐	◐
Boca Research SoundExpression 28.8 SRS	●	★	★	◐	★
Creative Labs Sound Blaster AWE32	◐	●	●	●	●
Creative Labs Sound Blaster 16 Value	◐	●	●	◐	●
Diamond 12X Multimedia Kit	★	★	★	★	★
DSP Solutions Digispeech Plus DS311	◐	●	●	○	◐
Shark Multimedia Mako Plus 32	◐	●	●	◐	●
Televideo TeleSound 3D	◐	◐	◐	○	◐

FOR COMPLETE DETAILS SEE FEATURE ROUNDUP ON PAGE 82 AND LAB ANALYSIS ON PAGE 84

RESELLER PROFILE

ARvee Designs Custom Solutions For Unique Situations

A SYSTEMS INTEGRATOR that incorporates audio technology into its custom programming, ARvee Systems' strength is the ability to create a unique solution to a unique problem. Specializing in software development, networking and bar-code technologies, ARvee has organized Du Pont World Parts Center and rescued the New York City Fire Department.

While most projects are programming originals, ARvee still benefits from economies of scale by creating building blocks for a variety of vertical markets such as

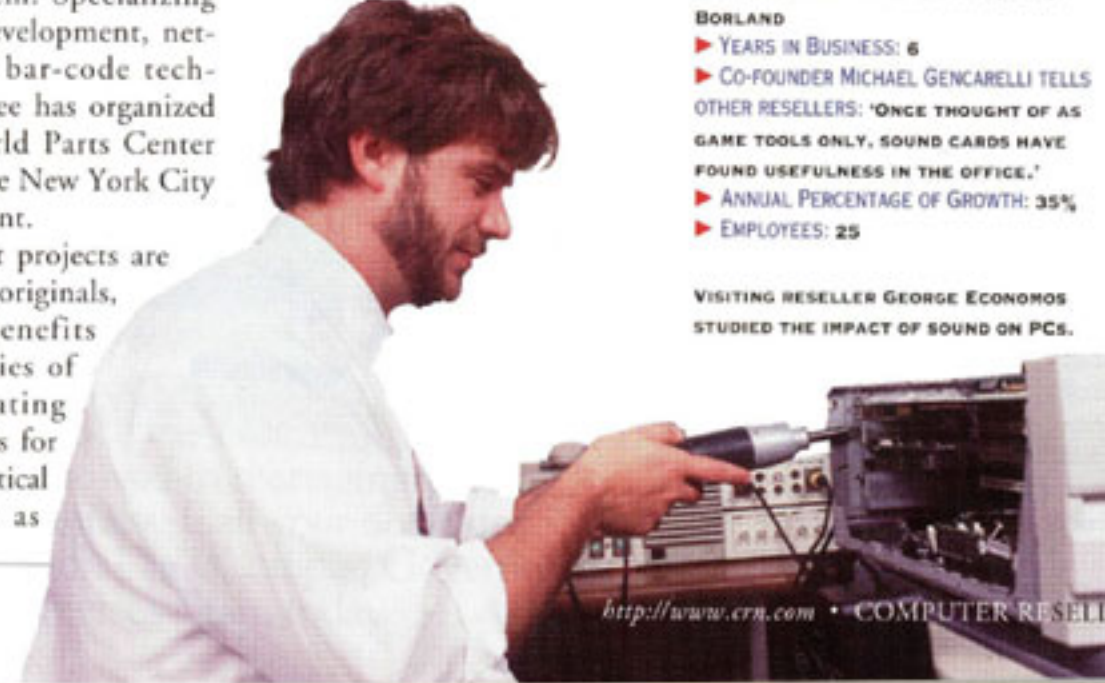communications, document management and accounting. These blocks are the starting points for new endeavors. An example of ARvee's
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ARvee Systems Inc.
BOHEMIA, N.Y.
▶ KEY CLIENTS: NEW YORK CITY FIRE DEPARTMENT, DU PONT WORLD PARTS CENTER, CHASE MANHATTAN, SYMBOL TECHNOLOGIES
▶ AFFILIATIONS: NOVELL, LOTUS, IBM, BORLAND
▶ YEARS IN BUSINESS: 6
▶ CO-FOUNDER MICHAEL GENCARELLI TELLS OTHER RESELLERS: 'ONCE THOUGHT OF AS GAME TOOLS ONLY, SOUND CARDS HAVE FOUND USEFULNESS IN THE OFFICE.'
▶ ANNUAL PERCENTAGE OF GROWTH: 35%
▶ EMPLOYEES: 25

VISITING RESELLER GEORGE ECONOMOS STUDIED THE IMPACT OF SOUND ON PCs.

UPCOMING REVIEWS...

Dec. 9
Comdex Test Center Results I

Dec. 16
Comdex Results II

Dec. 23/30
Comdex Results III

Channel Program Analysis

▶ Sound Cards

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Categories	Aztech Labs	Boca Research	Creative Labs	Diamond Multimedia	DSP	Shark Multimedia	Televideo
Average Margin							
Average margin (points)	15-20	23	15-20	20	25	15-17	25
Distributes To:							
Master distributors	○	●	○	●	○	●	●
Specialty distributors	○	●	○	●	○	○	●
Systems integrators	○	●	○	●	○	●	●
VARs	○	●	○	●	○	●	●
Retailers/dealers	○	●	○	●	○	●	●
End users	○	○	○	○	○	○	○
Sourcing							
Single sourcing	○	○	○	○	●	○	○
Secondary sourcing	●	●	●	●	○	●	●
Open sourcing	●	●	●	●	○	●	●
Reseller Discount Programs							
One tier	○	●	●	○	●	●	●
Multiple tiers	○	▐	●	▐	●	○	○
One-time discount for large sales	○	▐	●	▐	●	●	○
Support Available to Resellers							
Help desk	●	●	●	▐	▐	●	▐
Sales training	●	●	●	▐	▐	○	▐
Technical training	●	●	●	▐	▐	○	▐
General business training	○	●	●	▐	▐	○	▐
Presales support	●	●	●	●	●	●	●
Post-sales support	●	●	●	●	●	●	●
Free technical support	○	●	●	●	●	○	●
White papers	○	●	●	▐	●	○	●
Advisory councils	○	●	▐	▐	●	○	●
Fax-back service	○	●	●	●	●	○	●
Bulletin board service	●	●	●	●	●	○	●
Web site	●	●	●	●	●	●	●
Reseller Certification Requirements							
Sales	○	●	○	●	●	○	●
Service	○	●	○	●	●	○	●
Lead-Generation Policy							
Vendor passes leads to resellers	●	●	●	●	●	○	●
Leads prequalified by vendor	○	●	●	○	●	○	●
Resellers required to report back	○	●	●	○	●	○	●
Leads furnished free by vendor	●	●	●	●	●	○	●
Demo Unit Policy							
Resellers required to display product	▐	●	●	▐	●	●	●
Must display at reseller's multiple sites	▐	○	●	▐	●	○	●
Quantity limited	▐	○	●	▐	●	○	●
Units available at no charge	▐	●	●	▐	▬	○	●
Units can be purchased	▐	●	●	▬	▬	●	●
Purchased demos are discounted	▐	●	●	▬	▬	●	●
Market-Development Funds							
Co-op funds available	▐	●	●	▐	●	○	●
Periodic spiffs	▐	○	●	○	●	○	●
Periodic rebates	▐	●	●	●	●	○	●
Vendor Inventory Policy							
Reseller must maintain specified levels	○	●	○	○	●	○	●
Vendor offers price protection	●	●	●	●	●	○	●
Resellers required to carry spare parts	○	●	○	○	●	○	●
Vendor offers stock-balancing	○	●	●	●	●	○	●
Reseller Return Policy							
Freight and insurance paid by reseller		▬	▬	▐▬	●		▐▬
Freight and insurance paid by vendor	DOA	▬	DOA	▐▬	●	●	▐▬

KEY
● = Yes   ▬ = Demo units only   ▬ = Not applicable
○ = No   ▬ = DOA units only   ▬ = Through distributor
▐ = Yes in varying circumstances

RESELLER PROFILE

VAR integrates sound cards with customized applications

Continued from page 73
unique solution-providing was its work with the New York City Fire Department. The rescue squad needed a specialized tracking system that could utilize radio frequency identification (RFID) technology to record a complete history—including repairs, shipping, testing, cylinder refilling as well other maintenance duties—for each piece of equipment.

Lieutenant Christodoulou of the NYFD's Mask Service Unit said ARvee provided a solution that fulfilled their needs. While the system is a work-in-progress and needs issues addressed from time to time, ARvee has been responsive in the evolution of the product.

The system alerts rescue workers of the required testing of the breathing units, and if the safety criteria is not met, the software notifies the maintenance engineer via video messages, audio alarms and digitized sound warnings.

In a crisis situation, failure of the breathing unit can cause serious injury. And if the maintenance engineer is looking in the wrong place at the wrong time, all that could lie between breathing and suffocation is a sound card.

In the six years since ARvee's inception, the principals of the company, Michael Gencarelli and James Laurice, along with 25 other employees have installed hundreds of sound cards.

Gencarelli said ARvee capitalizes on the progress sound cards have made in business environments. Once thought of as game tools only, sound cards have found usefulness in the office as well as in the arcade. This progressing technology suits ARvee's business structure perfectly.

Being software developers, ARvee easily integrates sound cards in solutions as the evolution of peripheral technology becomes more software-oriented. New programs being written include audio features, such as audio-help. "We've found that it's a lot easier to record a wave file than to scan or transcribe pages of text and import it into a program. This type of solution could not be supported in the past," said Gencarelli. He also added that as a VAR, small procedures such as the incorporation of wave files indicates a lot of value being added to the program with minimal effort.

George Economos, program analyst for ARvee, has seen sound cards become a commodity item as more clients are requesting multimedia systems and videoconferencing. "These cards are being used to

enhance presentation materials and other business-specific applications. There is also a large calling for sound in internet applications as well as intranet solutions," he said. Economos dedicated a majority of his undergraduate studies to the impact of sound on the computer technology boom.

Uniqueness is a term that best suits ARvee's top management as well. Gencarelli said what separates his integration company from the competition is the experience that employees have brought to the company. While all are skilled masters in software development and systems analysis, the employees come from a variety of industries such as manufacturing, defense electronics and investment financing. ARvee's business philosophy revolves around the premise that respecting the clients' business functions is mission critical in order to build an infrastructure around that business. "Unlike other resellers, ARvee meets its customers' exact requirements without insisting on changing the operation of their office functions," Gencarelli added.

With the networking portion of ARvee's business growing, upper management had to make some tough platform choices. Gencarelli and partner James Laurice have decided to step up Windows NT's presence among their clients. They estimate that all their clients will be running NT in the near future. ARvee's headquarters are already restructuring to be 100 percent NT.

"Microsoft is winning the war," Gencarelli said in reference to the battle between NetWare and Windows NT. He suspects Novell's decrease in market share may eventually hamper ARvee's ability to service its clients.

—*Deborah A. Cozzolino*

ARVEE'S GEORGE ECONOMOS REVIEWS THE INSTALLATION PROCEDURE AS HE PREPARES THE SOUND CARD FOR PERFORMANCE TESTING.

◆ FYI ◆

Testing is performed by Test Center engineers and an invited reseller. Resellers wishing to participate should contact Associate Editor Eddie Correia (ecorreia@crn.cmp.com). Vendors can check CRN's Web site (http://www.crn.com) or CompuServe forum (Go CRN) for the 1996 reviews schedule. Address inquiries to Senior Technical Editor Eric Elgar (eelgar@crn.cmp.com) or Reviews Editor Joel Shore (jshore@crn.cmp.com). Or call (516) 733-8660.