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SINGAPORE's PREMIER SOUND CARDS ROUND UP



- Reviewed by Matthew Fam Kai Liang (11 Oct 98) -

INTRODUCTION : SoundCards Quest

The revolution of 3D Surround sound brings out the best of AUREAL. DIAMOND Multimedia hit the first wave with the introduction of FIRST GENERATION PCI sound card called MonsterSound (but they did not use the AU8820 chipset). What's outstanding is its ability to produce wonderful surround effect with just 2 speakers. Quite remarkable at that point in time. Guess what's behind it? -- The AUREAL A3D 1.0 3D positional surround sound.

Since then, Aureal has decided to build its own renowned Vortex AU8820 chipset, incorporating the A3D 1.0 Positional surround effect that sent everyone amazed by its true-to live effect while playing UNREAL or QUAKE II. From there, almost every major sound card manufacturer went on the spread to equip their new cards with the AUREAL chipset. DIAMOND was quick to improve on the A3D 1.0 3D surround sound when they released the 2nd generation of MonsterSound cards -- the M80 and MX200, which were once quoted as the 'BEST Consumer Sound Card' of all time. Others like Turtle Beach's Mentago, Orchid's NuSound, Aztech's PCI 338-A3D, TeraSound's A3D all of which were equipped with the 'AU-8820' Aureal chipset onboard. And the list does not just end here

CREATIVE went dormant for almost a year during which they were heavily criticized over their PCI-64 cards which was a gimmick in which CREATIVE used to earn some revenue while they tried to catch up with the AUREAL family. After much fanfare about its Sound Blaster LIVE card, they released the 'LIVE!' and 'Value' edition for the market. Not to be outdone with, Aureal released its Vortex+ 2 chip onboard the latest MonsterSound MX300 sound card.

Not forgetting YAMAHA too. This music giant also has its own candidate. The YAMAHA WaveForce 192XG which was launch slightly earlier than CREATIVE's Live! And sure enough, this card packed much punch! Many people do not know that its processing power of 1250 MIPS is on par if not better than CREATIVE's EMU10K1 chipset. Rated at 1,000+ MIPS. For more great information, do read on....

We @ **SINGAPORE HARDWARE ZONE** brings you the **WORLD'S FIRST** premier in-depth **REVIEW** on the current range of new cards comb with the latest state-of-art technologies. I also

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used the AZTECH PCI 338-A3D which utilizes the A3D 1.0 technology as a reference and comparison between the few others cards. The following brands and models of cards for this review are,

- 1) **DIAMOND MonsterSound MX300 PCI Sound Card**
(Vortex+ 2 : A3D 2.0)
- 2) **CREATIVE Sound Blaster LIVE! PCI Sound Card**
(EMU10K1 : EAX)
- 3) **CREATIVE Sound Blaster LIVE! Value PCI Sound Card**
(EMU10K1 : EAX)
- 4) **AZTECH PCI 338-A3D PCI Sound Card**
(Vortex 1 : A3D 1.0)
- 5) **YAMAHA WaveForce 192XG PCI Sound Card**
(YMF724 XG : DS 3D + A3D 1.0 compliant)

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Technical Specification Chart

Summary:

Card Name/Model	MonsterSound MX300	SoundBlaster LIVE	SB LIVE Value	PCI 338-A3D	WF 192XG
Manufacturer	DIAMOND	CREATIVE Lab	CREATIVE Lab	AZTECH Lab	YAMAHA
Chipset (Maker)	Vortex+ 2.0 (AUREAL - AU8830)	EMU10K1 (CREATIVE)	EMU10K1 (CREATIVE)	Vortex 1.0 (AUREAL - AU8820)	YMF724(XG)
Processing power	600+ MIPS	1,000+ MIPS	1,000+ MIPS	300 MIPS	1250 MIPS*
3D engine	16 channel Hardware-based A3D engine	32 DirectSound 3D streams @ 16 bit, 48 kHz	32 DirectSound 3D streams @ 16 bit, 48 kHz	16 bit, 48 kHz DAC	73 DirectSound 3D streams 16 bit, 48 kHz DAC
32-Bit Digital Audio Engine	26-point convolution interpolation	8-point interpolation 32-bit, 48 kHz	8-point interpolation 32-bit, 48 kHz	32-bit 48KHz	24MHz processor speed 32bit bus width
Wavetable engine	320 Voice (total) 64 (hardware)	512 Voice (total) 64 (hardware)	512 Voice (total) 64 (hardware)	64 Voice (total) 32 (hardware)	192 midi XG voice (64 hardware voice)
DMA Channels	96 DMA channels: 80 DS3D streams. 16 A3D streams	40 DirectSound streams 16 EAX ch	40 DS streams 16 EAX ch.	48 (16+32)	73 DirectSound streams
Speaker discrete Audio Output	HRTF for 2 out Front/Rear Out	HRTF for 2 out Front/Rear Out	HRTF for 2 out Front/Rear Out	HRTF for 2 speakers.	HRTF for 2 speakers.
Sound effect modelling	A3D 2.0 Wavetracing engine	EAX accelerator E-mu Environmental Modeling	EAX accelerator E-mu Environmental Modeling	Aureal 1.0	CRL Sensaura engine
Wavetable sample	4MB onboard (DLS capable)	2/4/8MB system Memory Maximum 32MB	2/4/8MB system Memory Maximum 32MB	1-4MB system Memory	2MB onboard + 2MB s/w
DOLBY DIGITAL (AC-3) support	YES (now)	Not Available (Under-Planning)	Not Available (Under-Planning)	NO	NO
Soft-DVD support	YES	NIL	NIL	NIL	NIL
Digital I/O	YES (S/PDIF)	YES. Digital I/O card supplied	Capable. Digital I/O connector	NO	NO
Soft-DVD support	YES	NIL	NIL	NIL	NIL
Signal / Noise Ratio	96dB	96dB/100dB(full)	96dB/100dB(full)	>93dB	>95dB

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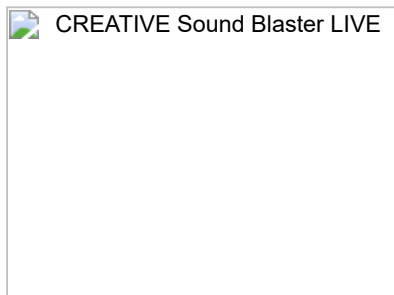
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THD+N	0.002%	0.002%	0.002%	0.003%
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**DIAMOND MonsterSound MX300
(AUREAL's Vortex+ 2/A3D 2.0 Audio Chipset)**

Sound Card Specifications	
Interface	PCI 2.1 Compliant
Chipset	Aureal Vortex+ 2
Ram	4MB onboard (DLS for using system memory)
Working Standard	1) Aureal A3D 2.0 2) Aureal A3D 1.0 3) Microsoft DirectSound/DirectSound 3D 4) MPC-3
Package Content	1) Diamond MonsterSound MX300 audio card 2) Monster Cable 3) Software package (includes driver/applications)
OS supported	1) MICROSOFT Windows 95 2) MICROSOFT Windows 98 MICROSOFT Windows NT 4.0
Warranty Term	-
Pricing	Suggested Retailer Price(SRP) : US\$99.95



**CREATIVE Sound Blaster LIVE
(CREATIVE's E-mu EMU10K1 Audio chipset)**

Sound Card Specifications	
Interface	PCI 2.1 Compliant
Chipset	E-mu EMU10K1
Ram	2MB/4MB/8MB SoundFont Using system memory (Maximum up to 32MB SoundFont)
Working Standard(API)	1) EAX (Environmental Audio Extension) 2) Microsoft DirectSound/DirectSound 3D 3) Sound Blaster PCI 4) MPC-3
Package Content	1) Sound Blaster Live! PCI audio card 2) Digital CD Audio cable 3) Digital I/O card 4) Mini to standard MIDI DIN adapter cable 5) Software package : i. Installation CD

	ii.Application CD I (Unreal inside!) iii.Tour and Demo CD)
OS supported	1) MICROSOFT Windows 95 2) MICROSOFT Windows 98 MICROSOFT Windows NT 4.0
Warranty Term	1 Year limited Hardware
Pricing (Retail Price) :	S\$359 (w/free 4point speakers)



**CREATIVE Sound Blaster LIVE Value
(CREATIVE's E-mu EMU10K1 Audio chipset)**

Sound Card Specifications	
Interface	PCI 2.1 Compliant
Chipset	E-mu EMU10K1
Ram	2MB/4MB/8MB SoundFont Using system memory (Maximum up to 32MB SoundFont)
Working Standard(API)	1) EAX (Environmental Audio Extension) 2) Microsoft DirectSound/DirectSound 3D 3) Sound Blaster PCI 4) MPC-3
Package Content	1) Sound Blaster Live! PCI audio card 2) Digital CD Audio cable 3) Software package : i.Sound Blaster Live! Value Installation CD ii.Sound Blaster Live! Value Application CD (Unreal inside!)
OS supported	1) MICROSOFT Windows 95 2) MICROSOFT Windows 98 MICROSOFT Windows NT 4.0
Warranty Term	1 Year limited Hardware
Pricing (Retail Price) :	S\$ 185



**AZTECH SC 338-A3D PCI Sound Card
(AUREAL AU8820 A3D 1.0 Audio chipset)**

Drive Specifications	
Card Specification	32-bit PCI Bus 2.1 compliant
Model	AZTECH SC 338-A3D
Wavetable Synthesis	64-Voice (32 hardware)
General Features	1) Microsoft Direct X 5.0/6.0 Compliant 2) Hardware Direct Sound/Direct Sound3D accelerator 3) A3D Audio Surround

Software Compatatibility	1) A3D Interactive Sound Postioning 2) Support Win95/Win98/WinNT 3) Sound Blaster Pro/DIRECT X Compatible 4) MPU-401 MIDI
Card Package	1) AZTECH SC 338-A3D PCI Audio Accelerator 2) PCI 338-A3D Multimedia Studio CD 3) Easy Start Manual (with warranty card enclosed) 4)Jedi Knight: parthways to the Force(game) A3D Game title
Bundled Package	1) Audiostation Integrated Audio Control System 2) Videostation Video for Windows Manager with Playlist 3) Imagestation Image Manager with Playlist 4) Audio Calendar™ Personal Scheduler 5) Voyetra Jukebox Playlist Editor 6) Sound Check Multimedia PC Troubleshooting Utility 7) Say It Voice Annotation Program 8) Sound Events Audio Enhancer for Windows 9) MIDI Screen Saver Music Enhancement for Windows Screen Saver 10) Level Controller Instant Access Audio Volume Controller MIDI Orchestrator™ MIDI Music Arranger WINDAT™ OLE Digital Audio Editor Sound Script for Windows Multimedia Authoring Program
Minimum Requirements	1) Win95/98, Win NT 4.0 2) Pentium 100MHz(200MHz MMX for A3D)



**Yamaha WaveForce 192XG PCI Sound Card
(YAMAHA YMF724 (XG) Audio chipset)**

Sound Card Specifications	
Interface	PCI 2.1
Model	Yamaha WaveForce 192XG
Wavetable Synthesis	128-s/w (64 wavetable)
General Features	Wavetable size : 4MB
	Physical Modeling : 1 Voice (S-VA)
MIDI Modes Supported	General MIDI, TG 300B (GS Emulation),XG
Digital Audio	16 Bit DAC, 16 Bit ADC, Full Duplex
Software Compatibility	Direct X Version 5 or later,
	DirectSound, DirectSound 3D
	Sound Blaster Compatible
Effects	REVERB, 8 Types; Chorus, 8 Types; Variation, 36 Types; Echo for MIC-in
System Requirements	Window 95/NT 4.0 or later (Windows 98 required for DLS); Pentium 120 Mhz or better, Pentium 233 Mhz or better for S-VA Synthesizer,32 MB System Memory
CPU Support	IBM PC and Compatibles, Intel Pentium and Pentium II,AMD K5,K6,K7,Cyrix M2

Review's Directory

This is probably the most exciting section of the whole review. Simply because this is the directory of what to expect from here onwards. Do not miss any details of this very detailed review.

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