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Consumerism to the Nth Degree: CES 2006

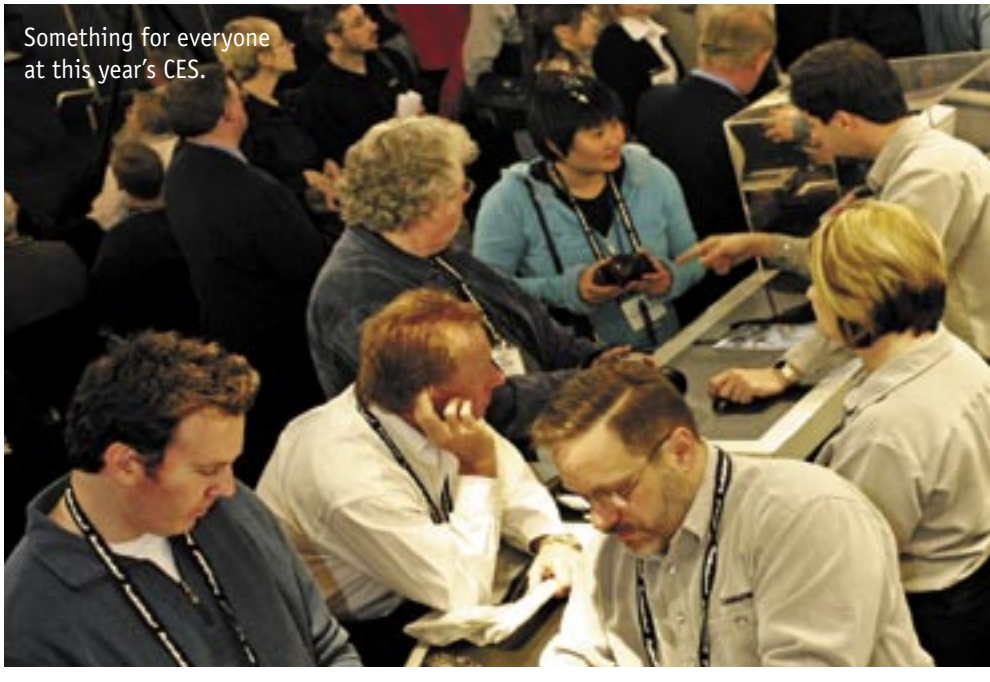
By David J. Weinberg

CES 2006 is done, and so am I! This show has gotten entirely too big. In addition to the three zip codes of the Las Vegas convention center (LVCC), Hilton hotel suites and ballroom, Renaissance hotel suites, and the high-end audio exhibits at Alexis Park, CEA has added a large exhibit area in the Sands convention center.

Wiley Publishing, known for its ". . . for Dummies" books, had a booth in the Sands. They handed out a pocket-sized 16-page pamphlet—"Surviving CES for Dummies" that provided rudimentary guidance for novice attendees, such as anticipate long cab lines, be flexible about lunch (lines will be long), wear comfortable shoes, use convention shuttle buses, and so on. Those of us with experience smiled knowingly.

TO THE SHOW

The Home Recording Rights Coalition (www.HRRC.org), with a booth centrally located in the LVCC, is still quite active, seeking support for the Digital Media Con-



Something for everyone at this year's CES.

sumers' Rights Act of 2005 (House Resolution 1201) that would help protect our fair use rights. They are also trying to prevent the enforced "down-rez" of high definition programs just because a consumer's device connection *could* be used for copyright infringement purposes—guilty until proven innocent.

It's clear from magazines and the devices on exhibit that companies are certain consumers want portable devices that link wirelessly to home networks and perform a wide assortment of functions, such as cell phones that offer Internet access, streaming video, MP3 record/play, dictation, paging, instant messaging and, oh yes, make a phone call (sometimes).

Parrot (www.parrot.biz) exhibited automotive bluetooth devices that link to cell phone products, a GPS that integrates with cell phones, and an in-dash MP3/CD receiver (which also communicates with cell phones).

The Parrot 3400 LS-GPS

Just in case you needed more proof that consumer electronics has become specialized computers in various guises, CES has become ever more computer-centric.

Linspire (www.Linspire.com) showed inexpensive PCs running Linux and their open-source desktop software that offers high compatibility with Microsoft file formats, and doesn't involve Microsoft's costs, security problems, or control of our computers.

Netmax (www.NetMax.com) displayed their Web Vault digital filing station (probable $400 srp; projected Summer 2006 availability) for home and business use that runs Linux and networks with MACs, PCs, and wireless devices including PDAs, mobile PCs, and most USB cameras. Its unique feature is inherent security and gateway functionality to provide some firewall capability to a network.

ArcSoft (www.ArcSoft.com) announced Backup & Burn ($50 srp), a Windows application claiming to make it relatively easy to backup files; burn CDs with MP3, WMA, and WAV files; plus burn DVDs from unencrypted sources.

With computers migrating into the listening room, lowering equipment noise is more important than ever. CoolIT Systems (www.CoolITSystems.com) showed a high-powered gaming PC (over-clocked processor with two video cards) running full-bore, with the chips kept cool via CoolIt's very quiet liquid refrigeration system. Most liquid-based chip coolers merely pump fluid through pipes across the chip and through a heatsink. CoolIt's systems are based on a solid-state refrigeration device that truly chills the cooling fluid, reducing the heatsink needs.

PhoneGnome (www.PhoneGnome.com) is a VoIP box ($120 srp) that integrates with existing home-wired phone service, and using those same phones offers free calling via the Internet, free voicemail, free conference calls, free call forwarding, free call transfer, and other free functions—no monthly fees.

Skype (www.Skype.com) is another VoIP service, but isn't free, and requires PCs running Windows 2000 or XP.

Thomson's press conference highlighted their entry into the IP video-on-demand server, wireless 802.11g, home networking, and VoIP.

All this expensive equipment in your home and car needs protection. LaserShield (www.LaserShield.net) offers "Security in a Box" ($200 srp), a plug-n-go (no installation) wireless security system for home or car that includes infra-red motion detection, sounds an alarm, and with service activation ($20/month) can call a security monitor when triggered. Additional wireless monitors that work with the main system are $60 srp.

LaserShield security system

Broadening the application of wireless, Infra-com Technologies (www.Infra-Com.com) "is a fabless semiconductor company that focuses on the development and marketing of low-cost chipsets for short-range wireless communications." One potential application is building them into consumer devices such as MP3 players or TVs to feed sound to an HTIB. Infra-com also sees their usefulness in the healthcare, automotive, and defense markets. They demonstrated an infrared system feeding audio to powered speakers in a surround configuration, eliminating wires around the room. Because they use diffused IR transmitter technology, line-of-sight isn't required for reliable communications. However, as I pointed out, a flat-black room will likely cause problems.

Pioneer must think their position in home entertainment is secure, as their press conference focused on car navigation and entertainment systems that include ripping CDs to MP3 files at faster-than-real-time, blue-tooth links for cellphones, iPod support, and XM/Sirius satellite radio capability, with emphasis on connectivity and control.

The iPod is in full force, with a wide array of accessories as companies jump on that fast-moving bandwagon. One that gives the appearance of bridging six decades is the iDream iPod docking station (www.iDreamUSA.net; projected $140 srp; Summer 2006 availability) with AM/FM alarm-clock radio, 5W per channel amp and built-in speakers, an S-video output, AUX input, and most impressively, four LED-based lamps along the front that look and glow like power-output vacuum tubes.

Newpoint (www.Newpoint.com) has a different solution for the pile of wall-warts that don't fit on conventional outlet strips: the PowerSquid, which is an extension cord to a hub that splits into six short outlet cords of three different lengths so the bulkiness of the wall-warts aren't side-by-side. Some of the models include transient suppression; several in-

clude phone-line protection, too. Prices range from $30–70.

For those who carry an assortment of portable devices everywhere, and need to use them anywhere, Blackstone International introduced MFuel (www.MFuelDirect.com), a line of digital power products including power adapters, chargers, universal Li-Ion batteries, international power adapters, and other accessories for portable electronics. The top-of-the-line is the Universal Power Bank, a charger/battery-pack that operates off wall-outlets world-wide, has multiple voltage outputs and a 9200mAH Li-Ion battery so you only need to carry the one device instead of a bag full of wall-warts, wall outlet adapters, and battery packs. It comes with 27 adapter plugs that connect to just about every device imaginable.

In an astonishing example of miniaturization, Shure (www.Shure.com) has expanded its in-canal earphone line with the new, top-of-the-line $500 E500, a three-way model—very small woofer, midrange and tweeter, indeed!

I rarely look at speakers, but Jim Thiel (www.ThielAudio.com) presented his new CS3.7 Coherent Source speaker that incorporates some intriguing developments: all four drivers have metal diaphragms of unusual shapes to reduce "cone" resonances; the 5″ midrange has a 4″-O.D. ¾″-wide doughnut-shaped, radially-ribbed, generally flat (not conical) diaphragm surrounding the 1″ dome tweeter; a cabinet shaped and sized to reduce edge diffraction and built to reduce sympathetic vibrations; plus the bowl-shaped woofer and flat passive radiator are radially ribbed and located near the floor to reduce the Allison effect. Thiel used short-coil/long-gap motor systems as part of increasing linearity and the efficiency of the speaker to 90dB/2.83V RMS/1m. When I asked about the problem of dramatic radiation-pattern change at the crossover frequencies, Thiel said that the gentle slope of the crossovers results in a lot of overlap in driver output through the crossover range, ameliorating the problem.

Thiel's CS3.7

VIDEO DISPLAYS

I finally have seen panel displays that looked decently set up: Brillian and Vizio.

Brillian (www.SyntaxBrillian.com), whose sister brand is Olevia, highlighted two displays, the 6501mFB 65″ 1280 × 720 LCoS RP monitor ($6000 srp; no tuners) and a 6580iFB 65″ 1920 × 1080 LCoS RPTV ($8000 srp), which includes NTSC/ATSC/clear-channel-QAM tuners. In their Hilton suite was a prototype 6580mFB monitor, designed to be used with the customer's choice of external video processors, which exhibited a few minor problems that will likely be cleared up in release and weren't visible on the 6580iFB. The default setting on all their displays is pixel-perfect, but adjustments for overscan and underscan are included. Brillian includes, with each purchase, an in-home calibration by an ISF-certified technician. They claim to be evaluating and selecting specific technicians in each of their sales areas.

The real surprise is Vizio (www.Vinc.com), from the same company that offers the highly regarded Bravo DVD player. Their displays are sold at Costco and Sam's Club! Of the five panels on display in their Hilton suite, the P55HDTV 55″ plasma TV (NTSC/ATSC/clear-channel-QAM tuners; 1366 × 768; projected $3000 srp; Fall 2006 availability), the P50HDM 50″ plasma monitor (no tuner; 1366 × 768; $2500 srp), and the L32HDTV 32″ LCD panel (with NTSC/ATSC/clear-channel-QAM tuners; 1366 × 768; projected $1000 srp; Spring/Summer 2006 availability) looked quite good and appeared properly set up. Vizio's model numbering scheme is straightforward: P for plasma, L for LCD; the # is the diagonal size in inches; M for monitor (no tuners), HDTV if it includes at least NTSC/ATSC tuners. All of their displays include one-year in-home warranty service.

Toshiba and Canon each displayed an SED (Surface-conduction Electron-emitter Display) panel, approximately 37″ diagonal, claimed to be 1280 × 768; in a dark room. In each case, the image looked OK, with solid blacks and strongly saturated colors, but showed a faint cloud of white, like light-leakage, around the white letters on a black background. There was no fast motion in the program, so the presence of motion artifacts could not be determined. The quality of the image can also be attributed to the source material. The strength of the colors might have been too high, but without knowing the program, it is not possible to be sure.

Vizio's P50HDM 50″ plasma monitor

There are a couple factors that appear to be ignored by many reviewers:

First—Overscan on pixelated displays. It is well-known that conventional CRT-based TV sets are overscanned—the image extends outside the visible screen area—by up to 5% so picture edge imperfections don't show up. It is rarely reported that most pixelated displays do the same thing, although usually by no more than

1%. However, it is more of an issue with pixelated displays.

For example, ABC and Fox transmit a 1280 × 720-pixel high-definition image, which is shown on many 1280 × 720-pixel displays. If the display is overscanned by 1% on each edge (top, bottom, left, and right sides), that means that about 1254 × 706 of the transmitted pixels must be stretched to fill the 1280 × 720 pixel area of the display, requiring some fairly complex interpolation. The same will be true with 1920 × 1080 displays, which in the case of 1% overscan means that 1882 × 1058 pixels must be stretched to fit. Most displays seem to do this fairly well, but the picture would look better if it is "pixel-perfectly" displayed.

Second—Pixel counts. The HDTV resolutions specified in the appendix of the FCC's DTV standard are 1280 × 720 and 1920 × 1080 pixels, with an aspect ratio of 1.78 (16:9). Any variation from either of these pixel counts requires complicated interpolation that can lead to compromised image quality, if only slightly. In addition, only with square pixels do the HD pixel counts correlate with the shape of the image. If either the horizontal or vertical count is different, and the ratio of horizontal-to-vertical counts isn't 1.78, then the pixels must be rectangular for the shape of the image to be correct, leading to other image quality compromises. This is why 1280 × 768, or 1366 × 768, and others, can look very good, but are not pixel-perfect with either HD resolution.

Also, the 768 vertical pixel count relates to the PC's XGA and WXGA resolutions, not HD. This should lead to the question of whether improper gamma correction is used in the display's processor, which would cause incorrect gray scale tracking. An additional reminder is that while the CEA has specified that only the line count (720 or 1080) is required to advertise a display as high-def, there is an associated horizontal pixel count that is needed for the display to show all the picture detail. Thus, 1024 × 768 PC-oriented displays can be advertised as HD, but throw away 20% of the horizontal resolution in the program.

BACK TO THE SHOW!

BenQ exhibited a display that was supposed to show off their motion compensation function, which was to reduce motion-induced artifacts in their pixelated displays, particularly from interlaced program material. They had two identical monitors, one with the function active, on which the motion artifacts were noticeably worse than on the unprocessed display. I easily saw bleeding colors along moving vertical edges.

Sharp has a new Aquos 57˝ LCD ($18,000 srp) that had problems—the fill factor was not high enough (too much black space between pixels), there was some color fringing, and the sense of pixel framing (the edge of the pixels producing artificial image edges) was subtle, but present.

In a dark room, Sharp exhibited a display claiming a million-to-one contrast ratio. The blacks were crushed (no dark area detail), and similar to the SEDs there was a cloud of light around the candle flames. The image was not nearly as good as on the SEDs, although with different source material and conditions a fair comparison could not be made.

So many products labeled HD don't deliver HD, and interoperability has become such a large problem, that Simplay Labs (www.SimplayHD.com) has produced an equipment testing and certification program for consumer electronics manufacturers. "In order to earn the Simplay HD mark, a product has to prove that it meets the highest standards for aquiring and sharing a high-definition digital signal. Our laboratories also test products for interoperability, to make sure all certified devices work together flawlessly. . . Testing encompasses HDCP functionality in conjunction with HDMI, as well as compatibility (plug-testing) between devices from different manufacturers." They list the products they have certified, and the general guidance on their website seems adequately accurate.

During LG's press conference, an official spoke of ease of use—the ability to pick up a device and intuitively know how to use it. I'm still waiting, and not only from them.

And now to recuperate . . . M³

David J. Weinberg *(Tobias Audio, Silver Spring, Maryland) is an engineering consultant and technical journalist in audio, video and film technology. He provides audio and home theater engineering consultation and professional on-location digital recording services to companies, radio stations and individuals. He brings to his work an MSEE, a First Class Radiotelephone license and over 30 years of continued study and active involvement in the audio, video and computer industries. He is a member of the Audio Engineering Society and of the Society of Motion Picture and Television Engineers. David has authored a number of articles on various phases of audio for video and film, and is also the Membership Officer of the Boston Audio Society and editor of its journal* ***The BAS Speaker****. He can be reached at (301) 593-3230 or at WeinbergDa@cs.com.*