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CES 2007 Report

By David J. Weinberg



It has been several months since the 2007 International Consumer Electronics Show (CES, www.CESweb.org)—the 40th CES—and I still don't have a firm grasp on my experience there. I don't know whether it's because there's so much to see and hear, I've become jaded, I am less tolerant of the hype, I'm tired of seeing so many video displays incorrectly calibrated, or whether so much that is claimed to be new is merely a fresh coat of paint or an R&D project that the consumer might never see.

VENUE

When CES was still held in Chicago, it was small enough that I could, and often did, walk past every exhibit with time to visit those of interest. That is no longer possible. The Consumer Electronics Association (CEA, www.CE.org) boasted that this year there were more than 65 miles of aisles.

CES has become overwhelmingly huge, like a World's Fair or the Olympics, making it impossible to see it all, or comprehend its scope. Thus it is extremely difficult to get more than a hint of the prospective economic and technological impact of the presentations and products.

Effectively covering CES takes more effort and planning than I expended for final exams! I arrived in Las Ve-

gas a day before the first press conferences and received the updated list of press events and exhibitors.

Press events occur throughout the day and evening, before and during the show. The CEA's press events' scheduling is pretty good, although as with everything in life, it could use a little improvement. They try to minimize travel between successive events, and provide transportation to some of those away from the Las Vegas Convention Center (LVCC).

To attend the subset I am interested in, I produce a time-sequenced list for each day. I still can't get to all of them, due to overlaps and other priorities, but it enables me to make better use of my time. It helps that those first two days, before the exhibits open, have become fully scheduled press event days; that gets much of it done without conflicting with exhibit visits.

This year the CEA also provided large, but manageable, exhibit floor maps, which were great—much better than the small foldouts in previous years' exhibitor guides. After checking off exhibits of interest, I marked up the floor maps to minimize wasted travel time. Once my homework was done, I got some sleep in preparation for the marathon.

Consumer electronics is a diverse

category, growing broader as so much of our lives—at home and on-the-move—has become PC/Internet-centric. The CEA seems to be embracing as much of it as possible, inviting ever more manufacturers to display products that offer adjustment or control of every conceivable function of our existence (about the only item I haven't seen at CES is the Toto Washlet, a high-tech toilet with more electronics than in my first radio). This year there were 2700 exhibits over about 1.8 million ft² of floor space in four venues: the LVCC, the Las Vegas Hilton Hotel, the Sands Convention Center, and the Venetian Hotel.

Because CES now fills the entire LVCC (if it gets any bigger it will need its own Congressional representation), I understand the need for additional exhibit space such as the Sands, but rather than put the audio exhibits in the Venetian (moved this year from the Alexis Park), I would prefer they use the Renaissance, or more suites in the Hilton, each of which is next to the LVCC. This would make getting there less time consuming.

This doesn't include manufacturers who exhibited separately from CES. THE Show (www.THEShowLasVegas.com), with almost 200 exhibitors focusing on high-end audio, was held during, and independent of, CES. In addition, several major manufacturers set up shop in other venues, such as the Hard Rock Café or one of the major hotel/casinos. There are several more press events separate from CES: Lunch@Piero's, where a small number of OEMs can talk to us with less bustle and background noise; Digital Experience, and Showstoppers, each an evening event held in a large hotel ballroom, with about 100 manufacturers' exhibit tables. My interests and needs led me to sample a broader as-

sortment of booth categories than in past years.

VIDEO DISPLAYS

CRT-based direct-view and projection displays have all but disappeared. There were many plasma and LCD panels, growing larger (what are they *feeding* them?) and costing less, but so what. That's evolution of a technology that has wide consumer appeal, like the DVD. DLP seems to lead the pack in front- and rear-projection sets. I didn't bother to look at most of them. For one thing, the high ambient light-level and color make proper setup impossible. Regarding the displays themselves:

- Fill factors are up (less space between pixels).
- Black levels have improved, although they're not yet as low as from good CRT projectors.
- The LCD latency effect on motion artifacts is substantially reduced, even if it's not insignificant for critical viewers of high-speed motion video.
- As reviews show, most panels and micro-displays (front- and rear-projectors that use a lamp illuminating one or more chips to generate the image) still have RGB primaries that differ from SMPTE "C" (for NTSC and SD) and ITU-R BT.709 (for HD). [Note that with the proper choice of R, G, and B primaries, and the use of DSP, it is possible for a single display to match both SMPTE "C" and ITU-R



PHOTO 1: Samsung projection unit.

BT.709. Samsung's SP-H700AE (\$4000 srp) and SP-H800BK (\$6000 srp) offer this capability, and maintain proper gray scale, too (*Photo 1*.)]

- Generally, displays I viewed appeared to be straight out-of-the-box (not correctly calibrated), just as in most large retail stores, plus the source material seemed carefully selected, perhaps to hide known problems. Thus it was impossible to see just how good or bad the picture could be, particularly with regard to scaling, de-interlacing, motion compensation, and other parameters that substantially affect image quality.

NEC exhibited a 26" LCD PC monitor with a locked-in sequence of images, but no text, making it impossible to evaluate.

SED (surface-conduction, electron-emitter display), two prototype panels of which were exhibited last year, was not present. Apparently Toshiba and Canon have become embroiled in a legal problem that has effectively stopped them from developing the technology into a marketable product, possibly permanently.

Of course, Blu-ray and HD DVD faced off, each claiming to be victorious and superior—neither is, and neither is. If they don't settle their war soon, they'll be made irrelevant as soon as solid-state memory devices become capacious enough, and cheap enough, to replace them. Intel announced a chip that holds much more data than currently available. Meanwhile, holographic data storage technology (www.DisplayTech.com), which already holds huge amounts of data at high resolution, deep color-bit-depth and high frame rates, could be ready for consumer HD data storage devices, without lossy data compression, by the next decade.



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AUDIO

Dolby® seems to be acknowledging that content producers and broadcasters aren't properly setting the Dolby Digital DialNorm parameter, so they have developed a single-ended solution to be included in TV sets and A/V receivers. Dolby Volume does not ignore the DialNorm parameter, but additionally adjusts the level based on computed perceived loudness such that changing channels, or going from program to commercial, doesn't dramatically change apparent volume levels. It is based on the Dolby technology used in their LM100 Broadcast Loudness Meter (*Photo 2*), which processes measurements using the Leq(A) (IEC 60804) algorithm with their proprietary Dialogue Intelligence Algorithm to compute perceived volume. Will we be able to defeat the function in the



PHOTO 2: Dolby's LM100 Broadcast Loudness Meter.

receiver for classical music broadcasts, for which serious listeners prefer its wide dynamic range, and long periods of low levels intentionally contrast passages at fortissimo?

Dolby and DTS each showed off their higher quality sound technologies—Dolby TrueHD and Dolby Digital Plus, DTS-HD Master Audio, and DTS-HD High Resolution Audio.

I don't listen seriously to speakers because there are too many variables (including sound levels, room acoustics, speaker placement, and source material) for me to make a fair judgment. However, it is always good to see Poh Ser Hsu (www.HsuResearch.com), whose subwoofers I and many others have long held in high regard (I own two TN1220s), and whose reasonably priced new HB-1 horn-based satellite speakers (*Photo 3*) should be considered for smaller rooms.

NXT (www.NXTSound.com), developer of distributed-mode loudspeaker technology (flat panels with one or more precisely located vibrating modules), showed units from several vendors. Products included speakers

built into panel displays, one-piece multi-channel speaker systems to be mounted below video panels, and laptop screens that are the speakers. The best sound was from a prototype small white box with a flat 5.25" diameter driver, using what NXT calls a balanced radiator design. None sounded as though they could replace great speakers, but seemed fine for confined spaces (including cars), and for non-critical PC/iPod and other desktop sound systems.

Smyth Research is making progress with its Smyth Virtual Surround (SVS) Headphone technology that lets the



PHOTO 3: HB-1 Horn Bookshelf speaker.

listener calibrate his own earphones to present essentially the same sound as heard from his speakers (mono, stereo, or 5.1-channels) at his prime listening position. Yamaha is incorporating a simplified version in a consumer product that is expected to sell for a few hundred dollars.

Car audio, with a little satellite radio, filled the LVCC's north hall. As I walked through the hall, the sound was some of the loudest and most distorted possible. I wore earplugs.



PHOTO 4: Among the interesting sights at this year's CES was Honda's sprightly Asimo robot.

Also in the north hall, Honda exhibited their walking, running, dancing Asimo robot (*Photo 4*). I've seen better ones by Toyota, at the Aichi Expo in Japan two years ago. They still don't have positronic brains, programmed with Asimov's three laws of robotics.

CEA announced its High Performance Audio subdivision to market what they're calling HD Audio (www.GreatAudio.com), further confusing the consumer with something else called HD that he doesn't understand and isn't clearly explained. During the press conference they tried to demonstrate the difference among MP3s, CD-audio, and so-called high-definition audio.

While the sound system consisted of fairly expensive reasonably well designed products, the air handler generated so much hum and hiss that even gross differences were impossible to hear unless you sat front-row center. I cannot fathom how they

could expect to impress us under these conditions. High fidelity used to mean an attempt to bring the most accurate reproduction possible of the recording to the home listener, and in recording to capture as much of the concert experience as possible. No new marketing initiatives are needed, just a return to that concept.

WRAP-UP

Consumer electronics is much more than audio and video. Most of the show made that very clear. PCs, iPods and copies, cellphones that try to do everything (I just want one that works *as a phone* everywhere I need it, without dropping the audio), plus a plethora of software, peripherals, and accessories, all seemed to cover acres.

Naturally, Microsoft, with a booth big enough for a mini-convention of its own, was pushing Vista with the intensity of Sherman marching through

Georgia.

No doubt I missed something, but nothing struck me as both truly new and of real value.

CES is a trade show; it is not for the consumer. Its primary purpose has always been for distributors and retailers to learn first-hand about manufacturers' new products, and to make decisions about what to carry during the coming year. It still provides a centralized site to talk with manufacturers' experts about products' technical aspects and provide feedback, one-on-one, regarding design issues and field problems. Exhibitors have private meeting rooms where they talk with buyers, but from the products we see and customer service we experience, I wonder whether the manufacturers take as much advantage as they could of the valuable feedback available.

With fewer small retailers, and the commoditization of consumer elec-

tronics, some wonder whether CES's value is diminished. There are even those who have questioned the validity of continuing to hold the show. With around 5500 press/analysts and 150,000 total attendees, and given the high attendee/exhibitor costs, CES obviously offers value, because each of us makes some type of investment-payback choice with respect to the show. I always find CES quite useful and informative. Being able to talk face-to-face with manufacturers' representatives helps me solve problems, get answers about products, and learn about the technology more easily than if it didn't happen.

The CEA provides to the press a resource without which covering the show would be just about impossible: the press support staff and the press room. Jamie Lilly and her staff are tireless beyond belief in support of the army of press and industry analysts that descends on CES. I cannot thank them enough for their assistance and kindness during what are certainly trying and exhausting days for them and us.

I guess I'll recover in time for next year's show. **M³**

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