

multi media manufacturer

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Manager's Guide to AV Design and Development

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CES 2008

Is Anything Truly New?

By David J. Weinberg

For this year's cross-country jaunt to the International Consumer Electronics Show (CES) in Las Vegas, I enjoyed the singular distinction of flying on a US Air jet piloted by Capt. Rhett Butler. Yes, it is his name, having legally changed his first name to Rhett. He even looks the part—tall, with the mustache, but older and with a bit of a paunch. Scarlett, an honorary designation selected from among the crew, worked in coach. While we didn't land at Tara, CES can boast at least as much green(backs).

PRESS CONFERENCES

With a minor exception, I heard nothing new at the press conferences I attended (there are some I had no interest in, and conflicts prevented covering others).

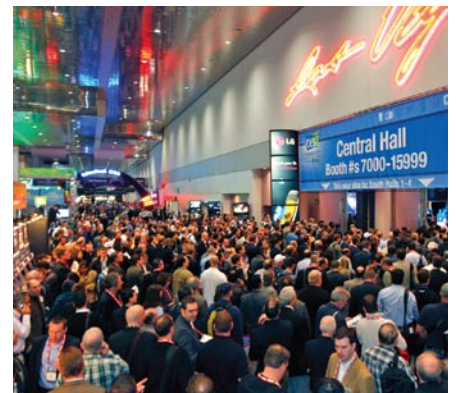
While the philosophy of content made available anywhere at any time on any device continues to grow rapidly, this year's themes seemed to be green, video/audio quality, and simpler operation. Show me!

Green. "Green" is impossible to judge from CES exhibits; you just have to take it on faith.

Video Quality. Given the booth lighting and how poorly the displays were set up (with the usual very few exceptions), image quality is impossible

to judge. Some displays, such as Joe Kane's Samsung SP-H800BE (\$7000srp) and a few others, were in black-curtained rooms, facilitating better judgment of image quality, if the display was set up properly. Technologies such as OLED claim to have 4-5-digit contrast ratios, and exhibit vivid images. However, due to the source material, it is impossible to judge quality beyond the image being visually exciting.

Audio Quality. The acoustics of the rooms are unknown. The source material is unknown, and often very carefully selected to sound nice. Thus, it is also impossible to determine true sound quality. I can only decide whether the speaker sounds bad or nice, either of which is affected by other factors, especially because with tube or switch-mode amps the sound



tends to be more sensitive to amp-speaker interaction.

SIMPLER OPERATION AND BEYOND

LG trumpeted “understanding the customer is key,” though the key to what was left for our interpretation. Certain of their video panels are ISF-ready (a specific set of adjustable parameters and memories are included to make it easier to properly calibrate them) and THX-certified. They announced that Mark Levinson is now their audio consultant. LG offers wireless video links to reduce the number of wires running to the display, and has partnered with Netflix for downloads without a computer.

LG sees weather, traffic, and local-live programs as key to the success of over-the-air (OTA) broadcasting to mobile receivers. They claimed that this would require a simple hardware addition, and would use a small part of the 19.39Mbps OTA broadcast channel bit stream. They bragged about having “mobile-pedestrian-handheld digital TVs able to receive ATSC broadcasts at up to 140mph” (though no suggestions of where that might be useful or usable). LG has partnered with Kenwood to offer mobile video/audio systems. They said Nielsen will be monitoring LG mobile system use once the product line is launched in 2009.

Toshiba’s primary theme was “environmental consciousness.”

Two days before Toshiba’s press conference, Warner announced their commitment to Blu-ray at the expense of HD DVD. This added excitement to the press corps’ anticipation of the Toshiba press conference, because they are a founder of the HD DVD Promotion Group, a primary HD DVD technology patent holder, and widely considered the leader against the Sony Blu-ray onslaught.

Toshiba’s representatives handled the situation with aplomb and consummate professionalism. They addressed the issue at the start of their press conference, and said all the right things. Toshiba’s CEO expressed his “disappointment” at the “recent decision,” which partially masked how perturbed he really was. That Warner’s announcement affected them was apparent when their press conference ended more than 15 minutes earlier than scheduled, an occurrence I’d never encountered. Clearly they weren’t able to present some of what they had planned.

Further fallout from Warner’s announcement came later that day, when we heard that the HD DVD promotion group’s press event, planned for the next evening, had been summarily canceled.

The general conclusion is that HD DVD is now effectively dead. We’ve seen Sony single-handedly keep the minidisc on life support long after it had been generally deemed no longer viable. We’ll have to wait and see how the HD DVD Promotion Group responds. After all, Microsoft, Intel, HP, and the DVD Forum are also members.

Toshiba’s Regza-series panel displays boast 1920 × 1080 native resolution, selectable pixel-perfect (0) overscan (many panels default to 1-2% over-

scan, and some can’t be set to pixel-perfect), 120Hz refresh rate with motion interpolation, and on the XV540 series, wireless HDMI.

Panasonic claims to be “focusing on the needs of consumers,” and includes ecological considerations in product design and manufacturing. Their new series is the Viera (VISual ERA). Their marketing concept is that HD tech-



nology (cameras and displays) “brings families together.” They announced a 32GB SD card that stores up to 5.5 hours of HD video, which computes to about 13Mbps (compared to OTA broadcast maximum of about 18Mbps for the video), not taking any audio or error correction into account. I don’t know what data reduction technology they are using, and cannot comment on the potential quality of the image.



Panasonic also announced the HDC-HS9 (\$1100srp) 3-CCD high definition (1920 × 1080) camcorder with a 60GB HDD that can store up to 22 hours of 1920 × 1080 HD video (in HE mode; their website claims 6Mbps VBR; it notes AVCHD recording mode, which I assume means H.264 AVC, which could yield a reasonably good picture at that bitrate). Lens quality will have a substantial impact on image quality.

Sharp’s panels are slimmer and light-



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er—one of their themes. They said that OLED is about four years away from being a consumer display product. The company still needs to improve the economics of manufacture, and to build larger panels cost effectively. They talked about the importance of gaming in the consumer market, their effort to reduce operational complexity, plus ecological considerations in design and manufacturing. Aquos models have an Ethernet connection with direct limited Internet access for remote diagnostics and set adjustment. Sharp's power line networking products comply with the HomePlug protocol.

Samsung's credo-of-the-year: "Connectivity, Content, Creativity," as well as operational simplicity and wireless camcorder playback: "Life. . . made simple." They spoke of IPTV and RSS (Really Simple Syndication—traffic, news, weather, and so forth on your TV without a computer). There is an Ethernet port on some displays, and a USB connector on some TVs.

Sony talked about mobility, creativity, and environmental concerns: "Anytime. Anywhere. Any Screen." Regarding mobility, they focused on smaller devices: E-readers, Walkman TV, GPS, cell phones with lots of ancillary features, and more. For creativity, they brought out HD-cams, digital SLR cameras, Blu-ray, TVs offering IPTV with no separate PC, and wireless HDMI. Sony, too, claims to be "listening to their customers."

All the companies are claiming 4-5-digit dynamic contrast ratios. This doesn't correlate with real-world high-quality images, for which dynamic contrast adjustment (whether by iris or adjusting the back-light) should not be used.

VIDEO

SpectronIQ 3-D (www.SpectronIQ3D.com) demonstrated a consumer 3D HD LCD panel prototype. Their system uses a standard 46" LCD glass, but replaces all the electronics. The viewer needs to wear cheap specially polarized glasses to see the effect, which I understand is generated by interlacing two images viewed through circularly polarized glasses (for more information on 3D cinema, see my write-up of the SMPTE

conference in the March/April 2008 issue and in this issue, p.13). They are shooting for a mid-2008 release, and estimate the retail price will be about double the cost of a standard LCD panel of the same size.

Vizio's booth is the only one I visited in which all the displays appeared similarly adjusted. While offering both LCD and plasma panels, Vizio is bullish on plasma. Many of their displays have unusual pixel counts. Some match the ATSC-recommended 1920 × 1080, but at least one is 1024 × 720 (which, thanks to the CEA, can still be called a high definition display, even though it is short of 1280 × 720). Others have computer-based pixel counts, such as 1366 × 768.

These oddball pixel counts result in rectangular pixels to achieve the 16:9 screen aspect ratio, and put the burden on the internal scaler to make all images fit. One of their panels was in special split-screen mode to show off their motion blur-reducing circuitry; when the source changed from a fairly static image to one of high motion, it took nearly 1/2-second for the blur-reduction to take effect.

As to display calibration, even NBC/Universal didn't get the aspect ratio properly set on their large panel monitor set up to show attendees what they were shooting on their stage. The image was horizontally stretched.

AUDIO

Dolby Virtual Headphone (DVH) is supposed to take 2.x-channel or 5.x-channel source material and produce a surround sound field through two-channel earphones. I listened to a demo in Dolby's booth, switching the function in and out. The source material included "Aguilera in CanCun" and one of the Spider-Man movies. With DVH engaged, and compared with the two-channel sound, I heard a quieter and defocused center-channel, the frontal (L-C-R) image through the center of my head (not in front of me), an increased sense of space (though rather vague), and no center-rear sounds. I was disappointed.

For comparison, I listened to DTS's competitive product: DTS Surround Sensation Headphone. In this case,

the center level remained the same, the L-C-R ran through the center of my head, although there was a wider left-to-right spread, the left-rear and right-rear images seemed more definite, but there was no center-rear sound.

I prefer the DTS effect over Dolby's. However, because virtual surround effects depend on the HRTF (including the pinnae), and because a function such as either Dolby's or DTS's requires a single normalized HRTF, perhaps my HRTF (head-related transfer function) is too different from the "norm" to produce a convincing surround image with either product. I have reported more than once on Mike Smyth's virtual surround processor that is calibrated to my ears with in-ear mikes and works exceptionally well. Thus, I know the effect is possible.

Denon/Marantz offers a variety of home theater receivers, plus new two-channel products to a market they consider still substantial. There are so many logos (Dolby, DTS, and so on) on the front panel of some models that there's almost no room for the buttons and display!

Boston Acoustics, now owned by D&M Holding, displayed a new model of computer speakers (MM 226; \$180/pr with no bass box) that generate a pseudo bass and sound pretty good, considering.

I've been following NXT (www.NXTsound.com) for more than a decade, since their Distributed-Mode Loudspeaker™ (DML) technology was only research. This year DML is in more products than ever, including the Gateway One desktop PC, which splits the screen into left and right channels above the bass, which radiates from the panel below the screen. NXT technology is used in photo-frame speakers; small speakers under brands including Rasonic, Teac, and Advent; KEF's KIT 120, 140, and 160 instant theatre system speakers; several TDK systems including the iSlim; Toyota's Voxy and Noah car models; Clarion's SRK650 automotive center-channel speaker system; XOUNTS' obelisk-shaped table top lamp/speakers that look like the next generation lava lamps; the LG HT752TP home theater speaker system; Bluetrek's Surface-

Sound Duo hands-free speaker; Hallmark's "Cards with Sound"; even in a MeadWestVaco backpack.



APART FROM CES

Poh Ser Hsu (Hsu Research) did not exhibit as part of the CES, due to cost considerations. His company's room was at THE Show, where he demonstrated improved HB-series speakers, with a better horn tweeter resulting in more high frequency extension. Hsu now has a 15" driver that will be in a new subwoofer later this year.

THE Show is not part of CES. This year they boasted 165 exhibitors at the St. Tropez and the Alexis Park. Its exhibitors are mostly aimed at the high-cost esoteric audiophile niche market. However, because it costs much less to be one of their exhibitors, some mainstream-oriented companies, such as Hsu Research, choose that venue.

Also in town during CES was Storage Visions (www.StorageVisions.com), a focused conference, with exhibits, that explores (from their website) "the impact of digital storage on content creation, distribution and consumer electronics. The pre-CES 2008 Storage Visions Conference brings together technologists, vendors, retailers and users to explore the pod-, web-, life-casting consumer revolution and how you will preserve, protect, and search your life on Digital Storage. Conference sessions explore key storage technologies, privacy protection, home and mobile storage, next generation user needs and business opportunities."

At Storage Visions, Data Drive Thru (www.DataDriveThru.com) showed their iTornado (www.iTornado.com; \$80srp), a device to relatively simply transfer files between PCs/Macs without loading software on either machine. They also offer a line of retractable cables, a series of retractable

earphones (\$20srp), retractable LAN (\$10srp) and VGA (\$25srp) cables, retractable USB mice (\$15srp), and a 65W universal notebook PC power adapter (\$100srp).

MISCELLANEOUS

As prominent a position as video and audio hold in consumer electronics, there is much more to CES.

Digital Freedom (www.DigitalFreedom.org), which had an informative booth in the convention center concourse, deserves our support as they continue to try to protect our fair-rights use of recordings we have purchased.

SiliconDust (www.HDHomerun.com and www.SiliconDust.com) introduced its HD Home run, which can "transform any computer in to a home entertainment system." The box includes two ATSC/QAM tuners, Ethernet connectivity, two RF connections, and proprietary software to provide the tuner/DVR functions through your computer, either Windows or Mac.

Digeo (www.Digeo.com and www.Moxi.com) showed its improved Moxi networked digital multimedia management products. It is a TiVo-competitor.

Via Technologies (www.Via.com/tw) specializes in PC platform miniaturization "designed for a new digital world where small is beautiful." They showcased "high-performance ultra-mobile devices, and eco-friendly PCs."

Everex (www.Everex.com) also focuses on making very small full-function PCs that run an open-source operating system.

gOS (www.ThinkGOS.com) has written and markets an open-source Linux-based operating system that is delivered on Everex PCs. It is available for other hardware.

Kingston (www.Kingston.com) continues to improve and increase the various memory modules needed by almost everything. I used their 4GB kit (2 — 2GB SO-DIMMs) to upgrade my Apple MacBook Pro. It was easy to install, and worked as advertised.

Lexar (www.Lexar.com) is making its solid-state drives (SSD) "more durable, rugged and reliable than traditional hard disk drives."

D-Link (www.DLink.com) introduced products that they claim will make "the digital networking experience easier for consumers."

Belkin (www.Belkin.com), well-known for its extensive line of PC accessories, showed new products including a nicely designed backpack for laptops.

Symantec demonstrated their Norton 360 All-In-One security software that they claim is not as intrusive and controlling as I found earlier versions to be.

For those who want higher-than-dialup-speed Internet connections, and don't want, or have access to it, via cable or telco, HughesNet (www.HughesNet.com) offers "broadband unbound" satellite service.

miRoamer (www.miRoamer.com) (from their website) "is a one-stop-shop for all of your Internet radio needs. After setting up a personal account, you can access all of your favorite Internet radio providers, stations, and streams, as well as numerous other features. You have the ability to select from hundreds of providers, tens of thousands of free Internet radio stations, and a vast array of premium content, producing custom playlists from those stations. miRoamer also allows you to add media that is not currently offered here, by simply providing the URL. miRoamer allows users to login and manage all of their content and settings from the same place."

Aqua Power Systems, Japan, specializes in an "electricity generation system by water"—a line of batteries, including AA and AAA, that become active when water is added. They have obtained patents in China, Germany, Japan, Taiwan, the UK, and the US. They see this technology as a more acceptable replacement for fuel cells, which might be barred from airplanes, and dry-cell and lithium batteries, which they note contain "harmful substances and are on the way to being reduced and abolished from the point of view of global environmental conservation." This product line is not yet ready for market, but because they are backed by the Mitsubishi-Tokyo-UFJ bank, someone believes in their future.

Penton Overseas (www.PentonOverseas.com) offers French, German, Italian, and Spanish teaching programs specifically designed for MP3 players and the iPod. They even have an iVideo version for the iPod.

Motorola's large booth was home to their wide array of cell phones, PDAs, and accessories.

OpenMoko (www.OpenMoko.org) is enthusiastically pursuing open source software-based cell phones.

AliphCom (www.JawBone.com) has a new wireless Jawbone (\$120srp) cell-phone Bluetooth headset that has received mixed reviews among people I know who have tried it.

Otter Box (www.OtterBox.com) has expanded its line of "rugged protection" waterproof cases for PDAs, smartphones, laptops, iPods, and even cigars.

ClipHanger (www.ClipHanger.com) has a clever belt-hanger for cell phones and other such devices. It comes in two forms: a plastic clip that sticks to the back of your device, or a minimalist shell that allows operation without removal. Instead of hooking the phone/PDA over your belt, simply hook this through a belt-loop. Now the device is much less likely to get jammed into your hip or pop off when sitting down.

Neutrano (www.neutrano.com) has a couple of unusual watches. The analog WatchLight series has a white LED flashlight built in. The digital Photo-Watch comes with a USB cable through which you can download up to 100 images from a PC/Mac to be background pictures on the watch's 128 x 128-pixel display.

La Crosse Technology (www.LaCrosseTechnology.com and www.WeatherDirect.com) offers various table-top models of "Internet-powered, satellite-assisted" weather monitors and forecasters, including some that show-and-tell you the weather. You can program it for any of several hundred cities. Some units come with a wireless outdoor sensor. It requires a high-speed Internet connection to its wireless gateway (a small separate module).

Luminus (www.Luminus.com and www.PhlatLight.com) has developed

an LED-based edge light for LCD panels. Their claim is that their PhlatLight (PHotonic LATtice) combined with Global Lighting Technology's processing reduces the chipsets needed for panel "back" lighting from hundreds to eight, while maintaining "adequate brightness and uniformity," reducing cost and complexity. Edge-lighting facilitates thinner panels. Samsung is using PhlatLights in some of its DLP TV models. PhlatLight can also be used in front projectors. They partnered with X-Rite for color management.

Mtech Fuel Saver (www.MoleTech.com) makes a series of kits that claim to improve automotive fuel economy by about 5-15% with their Molecule Reaction Technology, which is not clearly described in their documentation, or on their website. The kits are not cheap (about \$200-400 depending on the kit). Each kit consists of a small module or two that goes in the fuel tank (not an easy task with the serpentine pathways from the filler cap to the tank), one module that attaches to the radiator hose, and another that goes inside the air intake in front of the filter. Mtech claims the kit remains effective for at least 10 years. They have a November 2007 "Assessment of Mtech Fuel Saver" white paper authored by an associate professor at Murdoch College, but I remain unconvinced by the report. Oh, well.

OVERALL


Attendance was cited as 130,000, lower than last year's 145,000, with 4500 press and analysts, down from last year's 5400. The migration of magazines to the Internet has led the Consumer Electronics Association to establish a separate press category for bloggers.

CES hosts about 230 keynotes, industry sessions, seminars, training, and conference sessions. MobilTape (www.MobilTape.com) offers CD-ROM audio recordings of any presentation or the whole set.

Among the approximately 2700 exhibits were more high-walled, house-sized booths than I have seen in many years. When between two of these behemoths, it was difficult to see what else was nearby.

CES is a good venue for retailers and distributors to see and select product lines to carry for the coming year, which was the show's original *raison d'être*.

Many think that with so much data readily available on the Internet, CES isn't very useful to the press. I disagree. It is a single location where I can talk face-to-face with manufacturers' representatives and get, or arrange for, detailed answers that would be much more difficult to pursue otherwise. It's also a concentrated cross-section of the industry and interested parties that gives us a snapshot of what those participants believe to be important to their success. For example, Internet and wireless distribution of content has become significant, with many products vying for consumer dollars.

CES is exhausting. For next year I need better walking shoes, or a sherpa to carry *me* around the show. 

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