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Dueling DTV Bills

Lawmakers vie to end analog TV

by Deborah D. McAdams

WASHINGTON

Ending analog television is becoming the Holy Grail of secondary issues on Capitol Hill. In between judicial appointments, John Bolton, the Patriot Act and the "memo," lawmakers jockeyed to introduce DTV bills.

In the House, draft legislation for a Dec. 31, 2008 date continued to circulate while Sen. John McCain (R-Ariz.) recycled his SAVE LIVES Act, which calls for the analog broadcast spectrum to be available as of Jan. 1, 2009. Meanwhile, Senate Commerce Committee Chairman Ted Stevens (R-Alaska) was expected to unveil a DTV bill of his own.

McCain, who has long vilified the broadcast industry, reintroduced SAVE LIVES at a press conference where he linked broadcasters to 9/11 casualties. Because broadcasters failed to turn over their transition spectrum according to schedule, first responders had inadequate communication links on that day, he said.

"Firefighters inside the towers were unable to get transmissions to evacuate the building," McCain said.

In his statement on the Senate floor, he was far more conciliatory.

"I continue to believe that broadcast television is a powerful communications tool and important information source for citi-

BILLS, PAGE 6



IPTV Atop SuperComm Agenda

Telcos challenge cable on franchise regulations

by Gary Arlen

CHICAGO

Charles Dolan, smiling despite his mega-million losses at the recently shuttered Voom direct broadcast satellite venture, was studying the Internet Protocol Television exhibit at the Scientific Atlanta booth within the sprawling SuperComm tradeshow in early June.



Ivan Seidenberg,
Verizon chairman

"I'm trying to figure out IPTV," the Cablevision Systems mogul said. In his quest, Dolan was joined by many of the more than 30,000 other SuperComm attendees. IPTV—the competitive video component of the telephone industry's "triple play" (bundled with voice and high-speed data delivery)—was a pervasive factor in dozens of exhibits and countless SuperComm speeches.

For example, Verizon Chairman Ivan Seidenberg, during a briefing after his keynote address, concentrated on his company's video agenda, including a feisty competitive stance against cable TV.

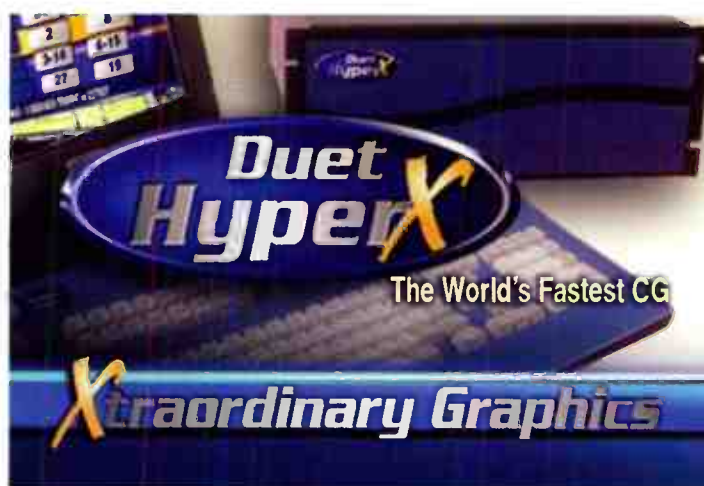
Verizon will carry "significantly more HDTV channels and integrate [services] of TV and PC within a short period of time," Seidenberg said, offering no details about such services. He pointed to the planned video-on-demand channels as delivering "additional gaming and information services."

'INSURGENT' TELCOS

As did many other telephone industry executives here, Seidenberg focused on the regulatory hurdles facing IPTV and telco's moves into video delivery—especially in the wake of a recent Texas regulatory set-back for them. (The state denied Verizon and SBC's quest for a statewide franchise, rather than the locality-based franchises required of cable systems).

Seidenberg characterized as "bizarre" the demands that tele-

IPTV, PAGE 10



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EQUIPMENT REVIEW

Equipment and product reviews from professionals in the video industry

NLE SOFTWARE

Media 100 sw NLE Software

by Michael Hanish

A good editing interface is a thing of beauty and a well-crafted and designed tool. It should be easy to learn and operate, quick and efficient, easy on the eyes, flexible, and should not require multiple or confusing steps to accomplish common tasks. For many editors, Media 100 has been such a tool. Several years ago, on the verge of releasing a next generation application for HD, Media 100's parent company imploded and was purchased by a temporary white knight, Optibase. That team was able to bring the HD product to market, but unable to sustain the effort. The company was sold again to a worthy developer, Boris FX.

Media 100 sw, Companion version 1.0, runs on Mac OS X 10.4 (Tiger) or better, on G4 or G5 processors, with a G5 recommended. Unlike previous versions of Media 100i, this software version (and the Media 100 HD product) is not based on a PCI card for handling all processing functions, but rather is powered by the host system's processor. The faster the host processor, the better the overall performance and number of real-time effects that can be achieved without rendering. Media storage requirements depend on the nature of the media in the project. A GB of RAM is required for operation, with 2 GB recommended for HD work.

It is important to note that this version does not have input and output features. It functions as an editor only. FireWire I/O, at an expected price of \$695, is anticipated. However, do not think of this software as in any way crippled—it has all the features of Media 100 HD except I/O, and can edit, color correct, composite, title, perform aspect ratio and sample rate conversions, as well as import and export.

FEATURES

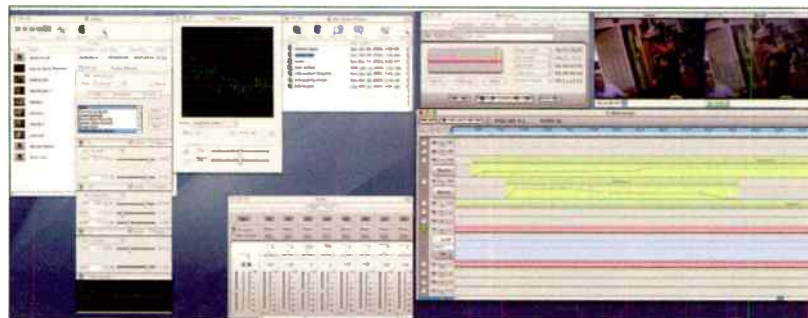
As you can see in the accompanying illustration, the software interface is almost identical to that of Media 100i, except for the addition of a number of features and functions. It is file-compatible with all previous versions of Media 100 and virtually all QuickTime codecs. This means that bins, programs, and projects will import with all edits, effects, color correction and titles intact. Codecs, frame sizes, and aspect ratios

can be mixed in a single timeline, with very fast rendering on import required for up- and downconversions. The V (master video) track contains the typical Media 100 A/B edit configuration: two tracks with a transitions between. The software allows creation of as many as 99 video overlay tracks above the V track. These have opacity levels suitable for keyframing purposes. The host processor's speed determines how many overlay tracks can play in real time.

Below the timeline video tracks there is provision for a total of 24 real-time audio tracks with EQ, level and pan automation and a master audio track for global levels, dynamics, EQ and reverb. The program ships with Boris Graffiti for real-time static titles, and is fully compatible with Boris Red, FX and

important, because the Media 100 sw is not backwardly compatible with older versions of Media 100. This means that you can easily open an older project with all details intact, but once saved, it can only be opened (project, programs and bins) with the sw or the HD version. The sw project I created to import into used the Media 100 HD codec. Using the Conform command, I re-framed the 4:3 material into 16:9 and resampled (on import) the 44.1 kb audio to 48 kb. The entire timeline was conformed in one step in a very fast render.

The ability to easily work with multiple video layers in the timeline is one of the biggest revelations in this version. I tested the Media 100 sw on both dual G4 and dual G5 processor machines.



The Media 100 sw user interface is nearly identical with that of Media 100i.

Continuum Complete. There are integrated color correction controls and a keyer with RGB, YUV and HSL controls, both of which work in SD in real time and in HD with a fast render. All features and functionality of Media 100i are available, along with some extras.

The Media 100 HD codec is fully scalable between SD and HD frame sizes and aspects and supports 8-bit and 10-bit uncompressed video, with or without an alpha channel. Working in this codec and converting all files to it on import provides maximum flexibility and quality, along with the highest system efficiency and performance.

The real value lies in the workflow. You may ask what is the value of a software-only editor that can't capture or output? Quite substantial, it turns out.

IN USE

I opened a copy of a recent Media 100i SD project—a performance video about a jazz duet, piano and electric guitar. Opening a project copy was

The G5 obviously had much better real-time performance. I could work with up to five additional video layers in real time without rendering. When I started looking for limits by adding more layers, the software requested fast renders for the topmost layers only. On the G4, all layers required rendering for full motion playback, though I could easily see the frame-by-frame compositing. Depending on the sort of workflow you have and the kinds of projects that you do, this capability is huge. Media 100 has always had great interoperability with After Effects and other QuickTime applications, and the sw version still does. However, the ability to do compositing and keying directly in the timeline can be a great time saver.

Audio mixdown is a pleasure. EQ, dynamics and reverb filters sound great and can be adjusted and auditioned in real time. Audio playback is through the system, meaning that you can listen either through the Mac's built-in audio or through an assigned and installed

FAST FACTS

Application

Editing tool for SD and HD

Key Features

Large feature set; fast

Price

\$395

Contact

Boris FX

888-772-6747

www.media100.com

audio card or outboard device. There are two missing features—OMF import/export and a usable audio scrub. I hope that these omissions are addressed soon.

The final step with this software version is to export the finished video and audio program to any Media 100 or QuickTime codec for output to tape or to compression for DVD or the Web, or perhaps even to After Effects for further compositing and effects work. The result is a single video track, along with stereo audio tracks. The obvious missing piece of workflow at this stage of the software's development is the ability to do color correction work with a video monitor. However, this will be addressed when I/O features are added.

SUMMARY

The Media 100 sw Companion is an excellent value and a very welcome editing toolset addition, especially for a first version. It greatly expands the workflow and offers the possibility of low-cost, high-quality (and high-definition) production. For those of us who still have an investment in Media 100 programs, this new software release provides a lower-cost means for accessing the features of Media 100 HD, and is an affordable step into the future. I applaud Boris for undertaking the challenge of keeping an excellent editing and post system alive and well and advancing, and would encourage anyone who enjoys working in the Media 100 space to take a serious look at the direction the development of this fine tool is headed.

Michael Hanish runs Free Lunch, a video/audio/multimedia production house near Guilford, Vt. He may be contacted at mhanish@sover.net.

CLOSED CAPTION SOFTWARE

MacCaption Closed Captioning Software

by Michael Hanish

With the recent FCC mandate now in effect, closed captioning is a hot topic. To encode closed captions into your video, you can either send it to a service (at an average cost of between \$700 and \$1,000 an hour) or acquire the necessary tools to do it in-house. Until now, the do-it-yourself option involved a substantial investment in a hardware encoder to insert the closed caption information into line 21 of the analog video signal, as well as the software necessary to generate the captions for insertion.

FEATURES

Computer Prompting and Captioning Co., a long time expert in captioning, has a software solution to closed captioning that allows encoding to be performed without hardware. The program is MacCaption for Macs. There's also a parallel products line, CaptionMaker, for Windows.

The workflow starts with a transcription of the video, which must then be broken into two to three line segments of text, each of which gets cued to appear and disappear at specific timecode locations in the video.

Finally, the caption file has to be encoded into the video file. This can basically be done in one of three ways: by producing one of the myriad closed caption formats for import into a DVD authoring program or other encoding system; by producing a new, self-contained digital file, in any codec, that holds the captions; or by producing a caption file that can be used in virtually any of the current NLE systems, for output to tape or encoder.

The most expensive MacCaption package, which was chosen for this

review, contains all the above features. It has the ability to organize a text file into discrete captions, to assign them to specific timecode points, and to output a caption file, encoded digital file, or caption file suitable for NLE use.

The price goes down as feature sets are stripped away, until the least expensive package provides just basic encoding of an already prepared caption file into a self-contained digital file.

MacCaption takes the plain text transcription file, and on import, breaks the text into discrete caption according to Preferences settings, making text cells of two lines for "pop-up" captions or one line for

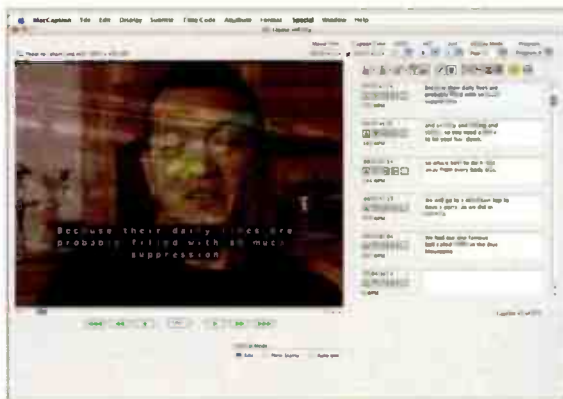
system can. Below the window are the playback controls, and below those are the three control modes: Edit, Time Stamp and Autosync. Time Stamp plays the movie, and as you hear each hit point for a caption, you simply hit the "+" key and the caption is time stamped. In Edit mode, you can adjust any of the caption's parameters (start and end time, placement, composition, line break); Autosync plays the movie and sound, while displaying the captions for proofing.

When everything is as it should be, it's time to export the captions. Depending on what the final project is, there are numerous export options, including the possibility to do closed and open captions and subtitles. This is yet another area in which MacCaption really shines.

You can export a caption file in any one of a number of formats, including files for Scenarist, Spruce, DVD Studio Pro and industry standards .scc and .on1, for both closed and open captions. As another option, closed or open captions can be

encoded directly into a DV format movie, which can be printed to video via FireWire, from the MacCaption application.

CPC has also developed an ingenious method for outputting closed-caption-encoded video directly out of just about every nonlinear editor, including Avid, Media 100, Final Cut Pro, Matrox and Pinnacle, or any



Buttons on the MacCaption GUI allow you to adjust the captions by pushing or pulling words between captions, splitting or combining caption cells, or inserting or deleting cells.

"roll-up". You can see these caption cells along the right side of the window in the illustration. Buttons allow you to adjust the captions by pushing or pulling words between captions, splitting or combining caption cells, or inserting or deleting cells.

On the left side of the illustration is the movie window; MacCaption can open and play any movie your

FAST FACTS

Application

Closed captioning generation and encoding for broadcasting purposes

Key Features

Does open and closed captioning, as well as subtitles; requires no line 21 hardware encoder.

Price

\$995 to \$6995, depending on features, functions and capabilities.

Contact

Computer Prompting and Captioning Co.
800-977-6678
www.ccaption.com

other editor that supports 720x486 frame size. This method involves exporting a QuickTime movie with only black content, and containing the closed caption information on line 21, out of MacCaption, then importing it into the NLE of your choice and applying it to the picture track as either a picture-in-picture or crop effect, at very specific settings so that only the caption-bearing lines are revealed. Then, you just record to tape directly out of the NLE as you normally would.

IN USE

I had the pleasure of using MacCaption to create closed captions for a documentary I edited a couple of years ago. Somehow, in the madness of the late stages of post, we had updated the working script to some-

MACCAPTION PAGE 90

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Production

CONTINUED FROM PAGE 38

In the news production world, much of this information will come from your newsroom system. The MOS protocol has many object messages—object slug; slug name; object type: still, video, audio (to see more go to: http://www.mosprotocol.com/mos_2_x.htm).

You will need to work with your assignment desk and news managers to develop standards for metadata. You can get a lot of metadata from your assignment grid.

STORAGE SPACE

Before purchasing a server of whatever format, you must know your storage requirements. You need to calculate how much you shoot, edit and archive, as well as factor in the "I'll just save everything" element. Whenever I've installed a server, within two months of putting it on air, we were having the out-of-space discussion. When you have a server, people tend to save everything. This can be good, especially if you are planning to produce content for multiple programs or outlets.

Another thing to consider before you install a server system is how you will archive your work. Content storage options ranging from datatape to DVDs can create valuable archives for future stories and a potential source of revenue in selling your content.

One of the first things you need to do is look at how your media is cataloged and stored to determine what information you are capturing.

Having the right naming conventions and metadata is very important when setting up an archive. In addition, you should decide whether you will need to restore the whole clip or only part of it. You also should consider how you will view the contents of the archive. There are many ways to do this.

ASSET MANAGEMENT

This is probably the most confusing and misunderstood concept in our industry. Whole days could be spent exploring the intricacies of true asset management, but I'll be brief.

Assets include video, graphics, audio tracks, scripts, images, etc.; management is how you organize these assets and work with them. Asset management also includes workflow. You can create automated processes to manipulate the content you are ingesting. For example, if you are recording a show in the studio and you want a low-resolution copy for the Web, you can create a process (provided you have the right hardware) to make the copy based on the asset type.

You can also create automated processes for removing items from the server or moving them to the archive. For example, each Sunday night, you could remove all the ingested field mate-

rial that wasn't used in an edit. There are many rules that you can create.

Some asset management systems have these workflow engines; others require external automation systems.

Many vendors can help you design a proper system. There are also many consultants who can do the same. The more planning and investigating you do, the more likely your project is to be successful.

The current format war between Sony and Panasonic for field acquisition has left many people wondering what to do. In addition, other technologies such as "DTE" from JVC allow you to record to a hard drive in the native file format of your nonlinear editor.

Many nonlinear edit vendors will support multiple file formats for editing, including the new consumer HD standard called HDV. What this means is that

if you are unsure of what file format you are going to use for field acquisition, you can choose an editor that gives you the option to use multiple formats.

I'll explore more of the technical issues of servers and editors in my next article. ■

Harlan Neugeboren consults for senior management of media companies. He can be reached at harlan@harlann.com

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BUYERS GUIDE

Mobile, Remote and Satellite

USER REPORT

Telecast Speeds HD for Corplex

by Dave Greany
Vice President of Engineering and
Remote Operations
Corplex

NORTHFIELD, ILL.

Corplex is in the business of remote broadcasting, with a fleet of three trucks that we rent out to networks for a wide range of events nationwide.

In July 2004, we acquired our Platinum HD truck, which was originally built in 2000 to televise "Monday Night Football" games. Although it has since been retired from MNF service, the NFL is still very much a part of the truck's service.

For the latest football season, we contracted with CBS Sports to provide the Platinum HD for its crew to use in televising "B-level" games, the lower-profile games that are generally of regional interest. A 53-foot triple-expanding high-definition unit, Platinum HD is equipped with 12 Ikegami HDK79-series HD cameras that use SMPTE fiber and hybrid optical fiber/wire interfaces.

While the cameras are top quality, football stadiums and other facilities aren't pre-wired with SMPTE cabling; stringing SMPTE cable at these installations would require a huge, time-consuming effort. It would also be risky, because if one of the bulky SMPTE cables were to be damaged during installation, it couldn't be repaired in the field.

ALREADY WIRED

Nearly every facility is already wired with triax cable, which has been the standard remote camera cable for years. Many have more recently been wired with single-mode fiber, which better supports the high-quality signals that are necessary in professional football broadcasts.

Fiber cabling is inexpensive and easy to use in the field. What we needed was a solution that would allow us to connect to existing fiber installations with our Ikegami SMPTE-hybrid cameras.

We found the answer in Telecast's SHED family of products. An acronym for SMPTE Hybrid Elimination Devices, SHED consists of two adapters that convert signals from hybrid wire/fiber cables with Lemo connectors to standard all-fiber cables and connectors. The adapters allow the camera and base station to communicate on two ordinary single-mode fibers while maintaining a pure optical



Corplex's HD truck uses Telecast SHED camera systems.

path from camera head to mobile unit so that the video originated by our Ikegami cameras remains pristine.

The SHED units can also provide power to the cameras. We always have the ability to use local power from an AC supply or camera battery. However, it's nice to have the option of providing power through an HDX box, which is a powered version of the passive SHED adapters.

UP TO A KILOMETER

An HDX unit can power a camera using up to a kilometer of hybrid cable, deriving power through an AC mains

source or, with two HDX boxes, from existing triaxial cable in the venue. Telecast will be adding a new feature to our SHED units that will allow us to turn off the HDX boxes remotely, giving us the ability to shut down cameras from the mobile unit.

That HDX remote shut-down feature is one that we requested from Telecast and the company responded quickly. Telecast's support has been

wonderful and the SHED family continues to receive upgrades and enhancements.

In February, we used our Platinum HD truck with the SHED units at the International Auto Show in Chicago. This particular job would not have been feasible without the SHED/HDX and the Telecast Adder system. The Auto Show this year spanned both the north and south halls at Chicago's mammoth McCormick Place Convention Center and the only connectivity between the two halls was dark fiber.

At the mobile unit, we started with SMPTE fiber and DT-12s. We then tran-

sitioned to single-mode fiber with the SHED for our cameras and a Telecast Adder system for audio and communications.

In the north hall, we broke out with the HDX into an Ikegami Mongoose (which converts SMPTE to triax) and connected it to triax that we had run earlier in the month, which—if damaged—could be field repaired. Telecast's products make remote television possible in places where technical or budgetary limitations had previously prohibited.

We're thrilled with how Telecast's SHED adapters have eliminated a lot of time and energy that would have been required to use SMPTE hybrid cabling. Telecast's excellent customer support and willingness to continually improve upon its technologies has given us complete confidence in the company, and we look forward to using SHED and HDX units at our many and varied events to come. ■

Dave Greany is the vice president of engineering and remote operations for Corplex and can be reached at dave@corplex.tv. The opinions expressed above are the author's alone.

For more information, contact Telecast at 508-754-4858 or visit www.telecast-fiber.com.

USER REPORT

Will-Burt Gets News to KTIV

by Terry Hasebroock
Management Information Systems
KUSO-FM

NORFOLK, NEB.

I have been with KUSO-FM since its inception in May 2000. I'm involved in all technical aspects of remote broadcasting and editing, and I have worked in the industry for more than 30 years.

In addition to running a country-music radio station, we also do several remote TV news broadcasts each week for KTIV in Sioux City, Iowa. With our Hummer H2, we use a Marti radio for live radio remotes, and microwave gear and monitors for basic video capabilities. The mast on our truck was the most economical choice.

Prior to deciding on a Will-Burt mast



KUSO's truck handles both mobile FM and TV with a Will-Burt mast.

system, we sought advice from KTIV. The station had been using Will-Burt masts and confirmed that the company had a solid reputation and a quality product.

A Will-Burt 7-42 pneumatic mast was installed in our truck in October. We chose the 42-foot mast because although the terrain is relatively flat, there are

many tall trees and large buildings. The mast height was necessary.

This January, we placed a service call to Winemiller Communications about what we thought was a defective seal in the mast. Six days later, Will-Burt had a service technician at our station and exceeded our service expectations.

We have been very pleased with our Will-Burt mast and the company's response to our needs. We have an excellent relationship and would recommend Will-Burt masts to other stations. ■

Terry Hasebroock is responsible for management information systems at KUSO-FM. He can be reached at terry@us92.com. The opinions expressed above are the author's alone.

For more information, contact Will-Burt at 330-682-7015 or visit www.willburt.com.

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The following is a compilation of opinions solicited from users of the month's featured product, as well as general specifications and other pertinent information.

KEY FEATURES.....

- Vehicles with analog and digital equipment
- Four-wheel-drive trucks available
- Satellite and microwave facilities
- Live feed or remote production



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|--|--|---------------------------------------|--|---|
| WHAT MODEL(S) DO YOU HAVE? | NT7 (two) and NT8 (one) | Sprinter | Custom satellite truck | NT8 |
| HOW IS IT USED? | Satellite uplinking of events | Multicrew ENG remotes | Live news and advertising remotes | Satellite uplinking of events |
| HAS IT PERFORMED AS EXPECTED? | Yes | Yes | Yes | Yes |
| WHAT FEATURES DO YOU LIKE THE MOST? | Built to my specifications | Spacious; extra rack space | Automatically finds satellites using BT system | Great for small productions; looks nice; sturdily built |
| WHAT FEATURES DO YOU LIKE THE LEAST? | None | Compressed air system is noisy | None | Want more "belly-box" space |
| HOW LONG HAS IT BEEN IN SERVICE? | Seven years | 10 months | Six months | Six months |
| HAVE YOU HAD ANY EXCESSIVE MAINTENANCE PROBLEMS? | Occasional jack problems | No | Minor vehicle steering adjustment | No |
| HOW WOULD YOU RATE THE MANUFACTURER'S SERVICE/SUPPORT? | Excellent | A+ | Excellent | Good |
| WHERE WAS THE EQUIPMENT OBTAINED? | Manufacturer | Manufacturer | Manufacturer | Manufacturer |
| WHAT WAS THE DECIDING FACTOR FOR YOUR PURCHASE? | I trust the company | Long experience with Frontline | Could use a non-technical operator | Price; impressed with Frontline |

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USER REPORT

Golden Eagle Soars With Tandberg

by Bill Lee
Director of Engineering
KGEb/Golden Eagle Broadcasting

TULSA, OKLA.

Oral Roberts University is an inter-denominational Christian liberal arts university and home to a rich broadcasting history. Oral Roberts Ministries oversees and maintains Golden Eagle Broadcasting and its flagship station, KGEb, from the university campus.

Although KGEb broadcasts on local analog and digital channels, Golden Eagle Broadcasting distributes programming nationally via satellite. In July, we converted our satellite uplink to digital; Tandberg Television provided the digital SNG encoders and modulators that comprise the heart of the system.

Satcom Resources, a satellite systems integrator, worked closely with us to evaluate our options. The proposal included a new digital video uplink with 1:1 redundancy, on-site survey and complete installation. In addition to equipment procurement, Satcom Resources handled the digital uplink installation and ensured the system worked as specified prior to its first uplink.

Golden Eagle Broadcasting provides a single-channel free-to-air feed over satellite and wanted an efficient and high-quality digital SNG encoder. We ultimately decided on Tandberg's Voyager E5714 DSNG encoders.

REDUCED COST

The Voyager E5714 provides the MPEG-2 compression needed to reduce our transponder costs. The transition to digital has lowered our monthly operational costs from six to five figures, which will pay back our investment in less than one year.

Two redundant Voyager E5714s are connected with a Newtec 70 MHz IF switch that automatically enables the

backup encoder when required. The E5714 outputs 6 Mbps MPEG-2 video and audio that looks amazingly clear.

Internal pre-processing is responsible for eliminating artifacts from the bit stream prior to satellite uplink. A Tandberg TT1220 IRD provides confidence monitoring of the satellite return.

The Voyager E5714 is a 1RU device featuring a Web browser that lets us remotely monitor the performance of the internal QPSK modulator. This immediately decreased our costs and increased our operational efficiencies compared to our analog uplink, which required an external master control system to monitor amplifiers within the uplink.

A Tandberg TT4030 MPEG-2 stream analyzer was also purchased to monitor PSIP information and analyze jitter in and out of the ASI stream prior to reaching the uplink. An optional QPSK demodulator on the TT4030 allows ASI stream monitoring at the downlink. In addition, an ATSC option allows us to



Golden Eagle Broadcasting uses Tandberg encoders for distribution.

connect a SMPTE 310 output from an ATSC demodulator to monitor ATSC PSIP information.

The E5714 also enables pass-through closed-captioning to comply with FCC

mandates. Live captioning is added to composite video on line 21 and seamlessly transported through the encoder along with audio and video.

Setup and maintenance is simple. Initial configuration included the MPEG rate and IF bandwidth's center frequency. The E5714 supports four audio channels; since we only use two channels, we turned off the other two during configuration.

The analog to digital transition has brought an enormous cost reduction along with increased reliability to our satellite television service. Tandberg Television and Satcom Resources are directly responsible for our newfound efficiencies and improved broadcast quality. ■

Bill Lee is director of engineering for KGEb and Golden Eagle Broadcasting and can be reached at blee@oru.edu. The opinions expressed above are the author's alone.

For more information, contact Tandberg Television at 407-380-7055 or visit www.tandbergtv.com.

USER REPORT

BMS Extends Reach of KHON2

by Norris Tanigawa
News Operations Manager
KHON2

HONOLULU

Emmis Broadcasting Corp. owns and operates KHON2, which has been on the air in Honolulu since 1952.

The KHON2 news department does numerous live shots that often require extensive setups. Some of the "lives" that we wanted to do have proved impossible to set up due to physical logistics and safety concerns.

After some research, we realized that the BMS Carry-Coder wireless camera

system would be a solution for many of the difficult situations we encounter. We currently have the BMS units installed in each of our live trucks.

The Carry-Coder provides us cable-free transmission for up to several blocks from our camera to the ENG truck. This enables the operator to park the ENG vehicle in safer and more convenient spots than previously possible.

In addition to saving valuable setup time, the elimination of cables to the camera is a major safety enhancement during live operations. We are also able to consider other live locations not formerly considered, such as from

upper floors of buildings and other structures where dropping cables would be unfeasible.

Our Broadcast Microwave Services gear is used for practically every show every day. We are extremely satisfied with the product and its performance. ■

Norris Tanigawa is the news operations manager for KHON2 and has been with the station for more than 30 years. He can be reached at ntanigawa@khon.emmis.com. The opinions expressed above are the author's alone.

For more information, contact BMS at 858-391-3050 or visit www.bms-inc.com.

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USER REPORT

Vista Uplinks With SES Americom

by Roy Liemer
President and Founder
Vista Satellite Communications

SUNRISE, FLA.

Staying one step ahead of the unpredictable worlds of broadcasting and video production is no easy day at the office.

However, delivering breaking news coverage, ensuring a CEO's live state-of-the-business address reaches every employee, brokering the bandwidth for HD and expanding the audience for some of the world's biggest events is our passion and the drive behind Vista Satellite Communications. Last year, we sold 23,000 hours of occasional use satellite space segment alone, for everything from

red-carpet standups at award shows to on-the-scene hurricane coverage.

LARGEST OPERATOR

SES Americom is the largest satellite fleet operator in the North America and also a provider of domestic and international occasional broadcast services, including much needed C- and Ku-band capacity. SES Americom's recent

acquisition of Verestar has sweetened the pot, enabling the company to expand on its portfolio of space, tele-port and fiber solutions.

One of the crown jewels of the Verestar purchase has to be the Washington International Teleport (WIT). If you've been in this industry for long, you've used WIT to get terrestrial and satellite-based broadcasts in and out of the nation's capital. On February 13, WIT played an instrumental role in Vista's 16th consecutive international distribution of the Grammy Awards.

We took the Grammy's live feed straight from Staples Center in Los Angeles and broadcast it around the planet. The worldwide distribution and the nationwide affiliate live remotes came off like a smooth saxophone singing out some great jazz.

Although Vista's customers may see me as the front man, my one-stop performance depends on our professional staff and trusted partners. In the case of SES Americom, with much of its distribution platform 22,000 miles up in the sky, trust has been earned in a relationship that began 17 years ago in the early days of Vista.

In this industry, we're only as good as our last performance. Whether it's SD, HD, SNG, sports, business or special events in the United States and everywhere else, SES Americom is always on with the advanced solutions to meet our unique broadcast challenges anytime, anywhere. ■

Roy Liemer is president of Vista Satellite Communications and a 28-year veteran of the broadcasting industry. He can be reached at roy@vistasat.com.

For more information, contact SES Americom at 800-243-1995 or visit www.ses-americom.com.

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BUYERS BRIEF

The RFX Clip-On from RF Central is a camera-mounted COFDM microwave transmitter that gives the camera operator mobility for distances up to 1/4 mile. No direct line of sight is needed between the Clip-On transmitter and receiver.

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For more information, contact RF Central at 717-249-4900 or visit www.rfcentral.com.

COMPANY PROFILE

MRC Puts 'Mobile' in Microwave

by Bob Kovacs

BILLERICA, MASS.

A lot has changed in the 42 years that Microwave Radio Communications (MRC) has been in existence.

Founded as a division of M/A-COM, the company has from the beginning served the broadcast market with microwave products for point-to-point signal transport. British manufacturer Vislink, which complements MRC's product line with an array of on-camera radios, now owns MRC.

In the early days of MRC, the company quickly established itself as a major supplier of microwave radios for mobile applications. One of the original MRC products was the 2T2 2 GHz analog ENG radio, which dates back to the mid-1980s. In the late 1980s, the MRC branched out to radios for fixed applications, such as studio-to-transmitter links (STLs) and

regional networks.

MRC prepared for the advent of digital TV by developing its TwinStream system in 1998.

"TwinStream was designed specifically for the DTV rollout," said Tony Finizio, president of MRC. "It allows you to carry both an analog and digital signal in [a single] 25 MHz channel of a traditional STL."

By combining digital and analog signals into the single 25 MHz channel, a station with a TwinStream does not have to change its STL microwave license to add digital.

"We've had extremely good success with [TwinStream] during the DTV rollout," Finizio said. "It was a broad-based product that was accepted by all."

In addition to providing both digital and analog feeds to the transmitter location, the TwinStream also has a 1.5 Mbps (T-1) side-channel that can be used for control and communications. The product supports a variety of modulation schemes, including analog NTSC and

PAL, as well as QPSK and 16QAM.

MRC has other fixed-link radio systems, including the Pro-Line for the 18 and 23 GHz bands, and the DAR series that can be supplied in 2 GHz to 23 GHz versions.

MOBILE BACKGROUND

Its original background in ENG and mobile applications has not been forgotten; MRC has a range of microwave products for gathering news and establishing temporary links.

CodeRunner is available in analog and digital versions, with the latter using COFDM modulation. CodeRunner also can be delivered for use on either the 2 GHz or 7 GHz bands.

"It's the most popular [microwave] product for ENG applications," Finizio said.

The Strata line from MRC is intended for portable applications that require a temporary link. Strata products are avail-

able in both analog and digital versions, with systems that work on the 2-, 5-, 7- and 13-GHz bands. The digital versions can be fed with an MPEG signal.

In addition to the company's radio products, MRC manufactures modems for carrying data, including ATSC data for digital television.

Although the TwinStream line has a limited international market, other MRC products do well overseas. Speaking of overseas, MRC's parent, Vislink, just acquired Link Research, including the latter's line of mobile and on-camera microwave radio products.

When it comes to knowing its customers, MRC has its eyes on the broadcast industry, even as it keeps its options open.

"I think we have the most complete line of radios for the broadcast industry," Finizio said. "Broadcasting is our core market but we recognize this technology is applicable to other markets." ■

USER REPORT

Scopus Scores for NBC in Athens

by Matthew Adams
Director of Technology
NBC Olympics

NEW YORK

Broadcasting the Olympics is a large and complex undertaking. At NBC's transmission area in the Athens International Broadcast Center we terminated 28 of the network's own venue circuits, 40 additional feeds from different venues and a separate fiber network built to connect the satellite farm, the main stadium, and the gymnastics and swimming venues. We also established 12 main circuits going outbound and had seven coming back from the United States and additionally put up six circuits locally in Athens for coverage and closed-circuit viewing of U.S. broadcasts for production and executive viewing.

Scopus E-1000 SD encoders were used for all 12 NBC transmission circuits back to the United States. Each main transmission circuit had two signals on it, which we achieved with Scopus RTM-3300 multiplexers. In addition to these six circuits transmitted on three paths via satellite, we

used four circuits multiplexed on a DS3 for terrestrial backup.

On the receive side, Scopus IRD-2800 4:2:2/4:2:0 receiver decoders were used at individual U.S. downlink sites for the six NBC networks: NBC, MSNBC, CNBC, USA Network, Bravo and Telemundo. We installed additional Scopus systems in Athens for confidence monitoring and return circuits. For these non-broadcast circuits, we used Scopus' E-900 encoders and IRD-2600 decoders.

The selection of compression equipment for complex events such as the Olympics has less to do with just the technology itself and more to do with its ease of use and stability. The bottom line is trust.

The beauty of the Scopus equipment was that you turned it on, it worked, it looked great, and it kept on working. Not once did we have a Scopus failure and in a show as complex as Athens, we could not afford to be chasing transmission failures.

EASY CONFIGURATION

Although we found that Scopus' solutions provided a good-looking

SCOPUS, PAGE 50

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USER REPORT

AVS Soars With Link Research

by Randy Hermes
Founder and President
Aerial Video Systems

BURBANK, CALIF.

Aerial Video Systems is a specialist video company providing point-of-view cameras; helmet cameras and other miniaturized camera solutions, as well as providing aerial video services using our own airplane. We are geared towards high-end broadcast television customers and do a lot of live sports.

The greater part of our work, including our work with the plane, requires wireless camera systems and the changeover to digital wireless camera systems has been a big improvement. It means that we don't have to worry about aiming antennas and it gives the wireless camera systems much more mobility and flexibility than we could get with the analog systems.

More importantly, we get better picture quality and we do not require a direct line-of-sight transmission path.

MAJOR EVENTS

Some of the biggest assignments where we used the Link Research LinkXP system have been major news events. We were there at the recent political conventions leading up to the presidential elections. The LinkXP systems also have been booked out to MTV for a long-term reality show.



Randy Hermes of Aerial Video Systems uses Link Research LinkXP systems to get wireless video from aircraft and other vehicles.

I like the compactness and low latency of the LinkXP. When using the genlock feature in the receiver, we can nearly approach the delay of an analog system/frame synchronizer combination. Also important to us is the unit's diversity reception.

UNIQUE THINGS

We plan on doing all sorts of unique things with the kit. We have a reputation for doing things that are "out-of-the-box," so people come to us with their "crazy" ideas; maybe they want to put a camera somewhere that sounds

quite impossible but we'll find a way to do it. Challenges like this are what make the job fun, although tight deadlines

sometimes obscure just how much fun we're having.

We rely on the LinkXP system completely and it works every time. It has really simplified the use of RF cameras in broadcasting and it has made it much easier to use them on live TV shows.

I also have to say that the support we've received from the team at Link has been great.

Looking ahead, we plan to do a lot more with the LinkXP. For example, the system is a natural for stadiums.

We are so happy with the performance of the Link Research systems we own, that we plan on adding three more systems to our inventory in the immediate future. ■

Randy Hermes is the founder and president of Aerial Video Systems, which provides aerial and other specialized videography. He can be reached at avs-burbank@aol.com.

For more information, contact Link Research at 562-698-8560 or visit www.linkres.co.uk.

USER REPORT

Nucomm Cuts Through for NY1

by Gerry Gallagher
Field Operations Manager
New York One

NEW YORK

New York One News is Time Warner Cable's 24-hour local news channel. We cover the five boroughs of New York City and use our ENG capability daily to provide live coverage and quick turnaround of stories throughout the city.

When NY1 began operations in 1992, we had one Wolf Coach Benchmark 1 ENG van and a receive site at the Empire State Building using a manually steered receiver. Although this provided coverage from most locations, there were some exceptions and City Hall—a location we went to almost daily—was one of them.

Located at the intersection of Park Row and Broadway in lower Manhattan, City Hall presented a real challenge for analog microwave. We could establish a broadcast-quality signal from one corner for a reporter's stand-up but parking in a location that allowed us to wire the Mayor's briefing room for live events always left the

ENG truck operators struggling to tune in.

To resolve this, we installed a steerable receiver across the Hudson River in Jersey City with a line-of-sight to City Hall. This worked well for several years, providing coverage of City Hall as well as adding to our coverage from Brooklyn, Staten Island and Manhattan's west side.

HIT BY THE BOOM

Unfortunately, the real estate boom of the late-1990s was not helpful to the ENG landscape. Our Jersey City receiver sat on top of a high-rise that was soon obscured by newer, taller buildings on both sides of the river. Even our Empire receive site was losing coverage from new buildings around the city.

Additionally, in the wake of the Sept. 11 tragedy, increased security at City Hall and One Police Plaza, as well as state and federal courts led to growing restrictions on ENG truck parking. This further reduced our newsgathering abilities.

When COFDM transmission became a practical reality, we began to

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The Reference Guide is a selected sampling of current products. Specifications and prices are supplied by the manufacturer and are subject to change without notice.

REFERENCE GUIDE

| MANUFACTURER | MODEL | OUTPUT FREQUENCY RANGE | MODULATION TYPE | VIDEO ENCODING FORMAT | TYPE OF INPUT | NUMBER OF A/V CHANNELS | FEATURES | SIZE & WEIGHT | PRICE |
|---|-----------------------|---|--|---|----------------------------------|---|---|---------------------------|------------------|
| Link Research 562-698-8560 www.linkres.co.uk | L1000 | 65-75 MHz | DVB-T COFDM and DVB-S QPSK, 8PSK 16QAM | MPEG-2 4:2:2/4:2:0 | SDI, NTSC and PAL | 1 video, 2 analog or digital stereo audio pairs | Under 20W power, low delay, BISS-1/E | 1 RU or small form 3 lbs. | Call for pricing |
| Radyne ComStream 858-458-1800 www.radynecomstream.com | HE4000 | ASI, SMPTE-310M, G.703, 70/140 IF, L Band | QPSK, 8 PSK, 16QAM, DVB-S2 | 4:2:0 MP@ML, 4:2:2 P@ML, 4:2:0 MP@ML, 4:2:2 P@HL, | Composite PAL/NTSC, SDI, HD-SDI | Dolby AC3 2.0 Enc, Dolby AC3 & E pass-through | HD/SD simultaneous encoding, front panel confidence monitors | 2 RU 28 lbs. | Call for pricing |
| Scientific-Atlanta 770-236-5000 www.sciatl.com | Originator D9150 | 52-88 MHz; 104-176 MHz | QPSK, 8PSK, 16QAM DVB-compliant | 4:2:0, 4:2:2 | Analog, digital or both | 1 video/4 mono audio or 2 stereo pairs audio | On-board audio and video mod.; optional C/A and scrambling | 2 RU, 40 lbs. | Call for pricing |
| Scopus 609-987-8090 www.scopusamericas.com | E-1720 | 70-140 MHz | IF, 920-2150 MHz L-band output, L-band output for monitoring | 4:2:2 MP@ML | 4:2:2 | MP@ML optional | SDI and composite analog inputs, up to 4 stereo/8 mono, analog | 1 RU, 10 lbs. | Call for pricing |
| Tandberg Television 407-380-7055 www.tandbergtv.com | Voyager E5788 HD DSNG | 50 - 180 MHz, L-band 950-1750 MHz | QPSK, upgradable to 8PSK/16QAM | 4:2:0 MP@ML, 4:2:0 MP@HL, 4:2:2 MP@ML | SDI, HDSDI and analog CVBS, NTSC | 1 video, 8 audio | HD or SD encoding, HD bit rates up to 90 Mbps, Dolby E pass-through | 2 RU 26 lbs. | Call for pricing |

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Scopus

CONTINUED FROM PAGE 47

image, we were most impressed with its easy configuration and the availability of tech support if we encountered any problems. Scopus support staff was located in Athens and also at Rockefeller Center in New York for the month of the Games, but we had few problems.

We found that the small footprint of the Scopus equipment helped us in certain situations. All the gear fit easily into two small satellite vehicles we used in Athens and our crew was able to load the equipment without a lot of trouble even though we were working on tiny back streets with no parking whatsoever. We also appreciated that the products allowed us to use digital video with embedded audio.

NBC's coverage of the 2004 Olympic Games included more than 1,200 hours of programming, nearly three times the coverage we provided for the 2000 Games in Sydney, and by all accounts it was a success for the network. We were very pleased with the results.

Even as NBC's coverage of the Olympics continues to grow, we are committed to a high broadcast standard. Scopus offered out-of-the box solutions with

the quality, reliability, flexibility and ease-of-use that allowed us to maintain that standard. ■

Matthew Adams is the director of technology for NBC Olympics and can be reached at matt.adams@nbcuni.com. The opinions expressed above are the author's alone.

For more information, contact Scopus Network Technologies at 609-987-8090 or visit www.scopus.net.



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BUYERS BRIEFS

The CoaxLink coax camera control system from Telemetry provides power and remote control capabilities at distances of more than 1,500 feet from the base station. The system works with a single coax cable and the camera coax adapter docks directly onto the camera.

For more information, contact Telemetry at 201-848-9818 or visit www.telemetryinc.com.

N Systems Inc. (NSI) offers a variety of products for the ENG industry, including its Silhouette and Stiletto dish antennas. Available for operation at 2 GHz, 7 GHz, 13 GHz and 15 GHz as well in single, dual and triple band versions, these antennas have several polarization options.

The Stiletto is a high-gain version of the Silhouette antenna and offers a 3 dB increase in gain over the Silhouette.

For more information, contact NSI at 410-964-8400 or visit www.nsystems.com.

Radyne ComStream's new DMD20 satellite modem includes IDR, IBS and DVB standards, and supports data rates up to 20 Mbps in a 1RU enclosure. Additional hardware options such as Turbo, interface expansion, high-stability and DC operation are available.

For more information, contact Radyne ComStream at 602-437-9620 or visit www.radn.com.

The Expedio from Moseley Associates offers digital modulation, with automatic selection of power and frequency. In digital mode, users can select MPEG rates between 4 and 32 Mbps, and 4, 16 and 64 QAM modulation.

The product also features a fractional N synthesizer for COFDM operation.

For more information, contact Moseley at 805-968-9621 or visit www.moseleysb.com.

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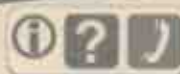
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Nucomm

CONTINUED FROM PAGE 48

look into upgrading our ENG vans to digital transmitters. We were very excited by the possibilities of having more reliable coverage from more locations.

The obvious choice for our digital microwave provider was Nucomm. NY1's relationship with Nucomm

began right after 9/11, when we needed to establish a point-to-point microwave link between the temporary Office of Emergency Management headquarters and our studio to cover the daily updates. The company provided us with an unprecedented level of hardware and engineering support, so when the time came to consider digital microwave, we naturally went with Nucomm.

FIRST ENDEAVOR

Our first endeavor was to add another receive site that was digital ready. Due to the cost of real estate, we decided to put the digital receiver on the roof of our facility at 75 9th Avenue in Manhattan. We installed a steerable Ellipse digital-ready receive antenna that feeds a Newscaster digital-ready analog receiver with a Newscoder RX1 demodulator/decoder.

With a building height of only 10 stories, it might not seem like an opportune location for a receiver. Despite having no line-of-sight beyond a few city blocks, we can consistently receive feeds from City Hall, Times Square, Battery Park, the financial district and Manhattan's upper west side. In comparison, these areas had trouble establishing an analog signal with a receiver located on the 79th floor of the Empire State Building.

Due to this success, we are currently installing four sector antennas on the Time Warner Center at Columbus Circle that will feed four more Newscoder RX1's. Our expectation is that this will significantly increase our effective coverage area and video quality. ■

Gerry Gallagher is the field operations manager for New York One and can be reached at gerry.gallagher@ny1news.com. The opinions expressed above are the author's alone.

For more information, contact Nucomm at 908-852-3700 or visit www.nucomm.com.



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The Camplex CP-301B universal camera adapter system consists of a lightweight camera adapter and rack-mountable control unit that provides for remote control of a camera over long distances. The CP-301B allows the use of lightweight, flexible coax instead of heavy multicore or expensive triax cables.

The system supplies bidirectional video and audio, including return video, IFB and intercom feeds over a single coax cable. An optional PDC-340B camera power adapter lets the Camplex system power the attached camera, viewfinder and lens using the same coax cable.

For more information, contact Camplex at 620-342-7743 or visit www.camplex.com.

The FSS-95F4T LNB fiber link L-band system from DAWNco uses a fiber optic transmitter attached directly to the dish-mounted LNB. With this system, there is no need for a long coaxial cable run between the LNB and fiber optic transmitters.

This fiber system connects a satellite antenna to its receiver over long distances without loss and it reduces the possibility of lightning damage. It can also provide high signal levels to feed many receivers without need for amplification.

For more information, contact DAWNco at 248-391-9200 or visit www.dawnco.com.

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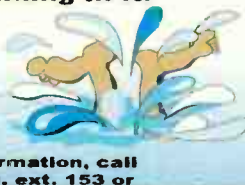
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Purchasing Authority (check one only) ☐ 1. Recommend ☐ 2. Specify ☐ 3. Approve

II. Job Function

- ☐ A. Corporate mgt ☐ E. News mgt or staff
☐ B. Engineering mgt ☐ G. Training
☐ C. Engineering staff ☐ F. Other (specify)
☐ D. Prod/oper mgt or staff

WTS ☐ WTB ☐ Category: _____

Make: _____ Model: _____

Brief Description: _____

Price: _____

WTS ☐ WTB ☐ Category: _____

Make: _____ Model: _____

Brief Description: _____

Price: _____

WTS ☐ WTB ☐ Category: _____

Make: _____ Model: _____

Brief Description: _____

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*Listings close every other Friday for the following month's issue. All listings are run for one issue only.

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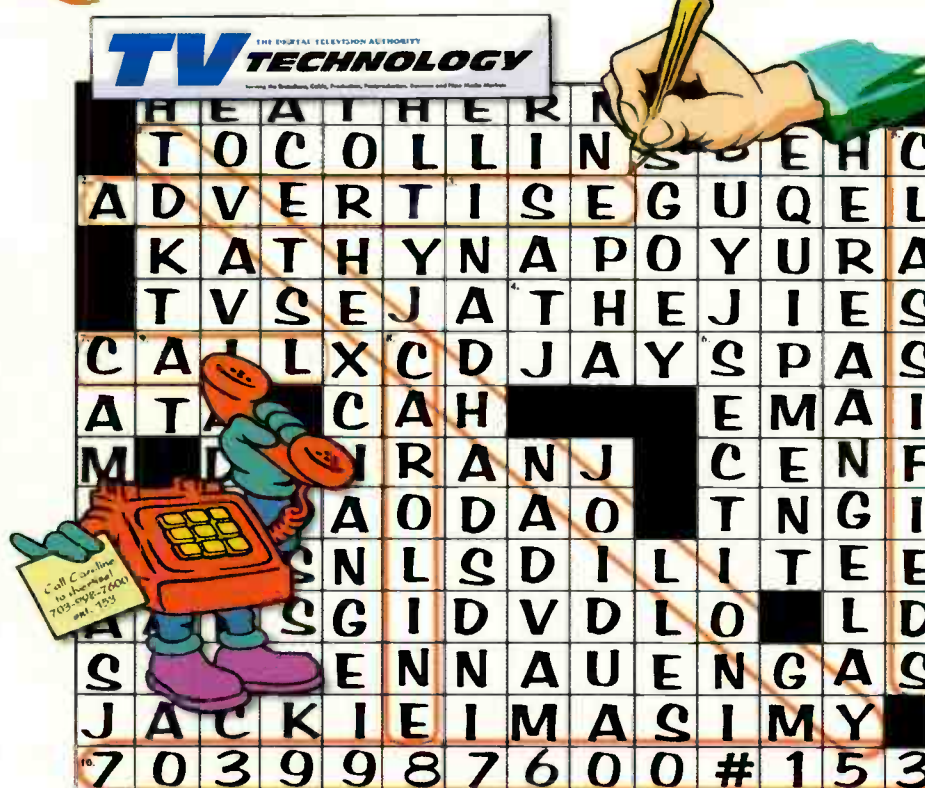
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Sony UVW-1800, 1w hrs \$5500; Sony PVW-2800, \$6000; Sony PVW-2800P, \$6500; Sony BVW-70 from \$6500; Sony BVW-75, \$6500; Sony BVW-65, \$2000; Sony BVW-60 from \$2000; Sony DSR-2000, new, \$11500; Sony DSR-1800 DVCAM rcd, 1w hrs, \$8500; Sony DSR-1500A, new, \$5250; Sony DSR-85 w/SDI, \$8500; Sony DSR-45, new, \$3995; Panasonic AJ-D950 DVCPRO 50 rcd, new heads, \$8500; Sony VO 9850 w/timecode, \$1200; Sony VO 9800 w/timecode, \$1200; Accom WSD Xtreme, \$3500. 818-788-4700 or www.tvprogear.com.

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TV TECH BUSINESS

Business News

Pinnacle Sells Team Sports Assets

Pinnacle Systems recently sold its Team Sports assets to XOS Technologies.

XOS Technologies develops performance analysis products for sports teams and with the purchase will continue to expand into the college and professional markets for all sports.

Pinnacle's Team Sports division is comprised of former coaches, players and general managers that manufacture sports-related media products.

The terms of the deal have not been disclosed, although Dan Aton, president and CEO, XOS Technologies—based in Sanford, Fla.—said that the company experienced a significant capital increase as a result of the deal.

There will be no immediate layoffs but Aton said that there is some staff overlap.

The goal for XOS Technologies is to expand the technology from the locker room out to the fans, making content available via streaming video on the Internet and to build upon coaches' analysis of games.

Ciprico Acquires Huge Systems

The Ciprico acquisition of data storage manufacturer Huge Systems is complete.

The deal included \$1.3 million in cash and \$300,000 in seller notes as well as contingent consideration based on the performance of the business over the next year. Sales, engineering and technical support groups will remain in the Aguora Hills, Calif. headquarters of Huge Systems. Huge has 14 employees.

Ciprico will continue to invest in the entry-level RAID technology that Huge has created in addition to its own line of performance-based RAID and DiMedia Network Attached Storage products.

"In just three years, Huge has grown at least 100 percent per year to become a leading supplier of entry-level data storage solutions for desktop video production based on its exclusive technology and extensive network of dealers across North America, Europe and the Pacific Rim," said James Hansen, president and CEO, Ciprico.

ATI Acquires Terayon Cable Modem IP

Markham, Ontario-based ATI Technologies is buying cable modem silicon technology from Terayon Communication Systems for \$14 million in cash. ATI develops and manufactures 3D graphics technology and Mac and PCI cards; Santa Clara, Calif.-based Terayon specializes in digital video and home access technology for cable, satellite and broadcast markets.

As part of the deal, approximately 25 employees from the Terayon design team will work for ATI, which has shipped more than five million digital TV chips in 2004 to Sony, JVC, Panasonic, Thomson and other leading consumer electronic companies.

BDL-Autoscript Updates Name, Management

Teleprompting technology provider BDL-Autoscript has shortened its name to simply Autoscript and has added two new teleprompting specialists to its employee roster.

Brian Larter and Michael Accardi have joined Autoscript-based in London—as new managing director and president of the U.S. division, respectively. Larter kicked off his career at Autocue, where he worked in sales and rental. Twenty-year industry veteran Accardi most recently served as vice president of sales and operations for prompter system supplier QTV.



TV Tech STOCKS as of Feb. 4

| Company Name | 52-Week Range | Jan. 21 | Feb. 4 | % Change |
|--------------|---------------|---------|--------|----------|
| Avid | 38.43 - 65.04 | 59.44 | 64.75 | 8.93% |
| Ciprico | 3.15 - 7.21 | 4 | 4.03 | 0.75% |
| Harmonic | 4.86 - 13.75 | 10.98 | 11.39 | 3.73% |
| Harris | 42.37 - 69.15 | 54.11 | 64.24 | 18.72% |
| Leitch | 4.80 - 11.2 | 8.96 | 7.8 | -12.95% |
| LSI Logic | 4.01 - 11 | 5.45 | 6.03 | 10.64% |
| Pinnacle | 3.25 - 9.91 | 4.47 | 4.27 | -4.47% |
| Sci. Atlanta | 24.61 - 36.50 | 29.3 | 31.06 | 6.01% |
| SeaChange | 11.22 - 20.53 | 15.75 | 13.92 | -11.62% |
| Tektronix | 26.26 - 35.00 | 28.14 | 28.79 | 2.31% |

Broadcast STOCKS as of Feb. 4

| Company Name | 52-Week Range | Jan. 21 | Feb. 4 | % Change |
|---------------|---------------|---------|--------|----------|
| Acme | 5.50 - 10.21 | 5.71 | 5.92 | 3.68% |
| Belo | 18.00 - 29.90 | 23.67 | 23.2 | -1.99% |
| Emmis | 17.30 - 27.92 | 17.6 | 17.18 | -2.39% |
| Entravision | 6.85 - 11.14 | 7.54 | 8 | 6.10% |
| Fisher | 45.02 - 52.50 | 49.4 | 50 | 1.21% |
| Gray | 11.20 - 16.19 | 13.88 | 14.98 | 7.93% |
| Hearst Argyle | 22.57 - 27.93 | 25.53 | 25.49 | -0.16% |
| Nexstar | 6.54 - 14.10 | 8.85 | 8.59 | -2.94% |
| Lin TV | 17.41 - 24.41 | 18.23 | 18.5 | 1.48% |
| Paxson | 0.90 - 4.24 | 1.69 | 1.23 | -27.22% |
| Sinclair | 6.12 - 14.20 | 8.24 | 8.15 | -1.09% |
| Liberty | 38.50 - 51.79 | 40.4 | 39.45 | -2.35% |
| Univision | 26.42 - 37.57 | 26.71 | 26.27 | -1.65% |
| Young | 9.29 - 22.30 | 10.22 | 9.97 | -2.45% |
| Tribune | 38.74 - 52.98 | 40.21 | 40.6 | 0.97% |
| Meredith | 46.91 - 55.94 | 51.76 | 47.51 | -8.21% |
| EW Scripps | 44.73 - 54.65 | 48.51 | 46.64 | -3.85% |

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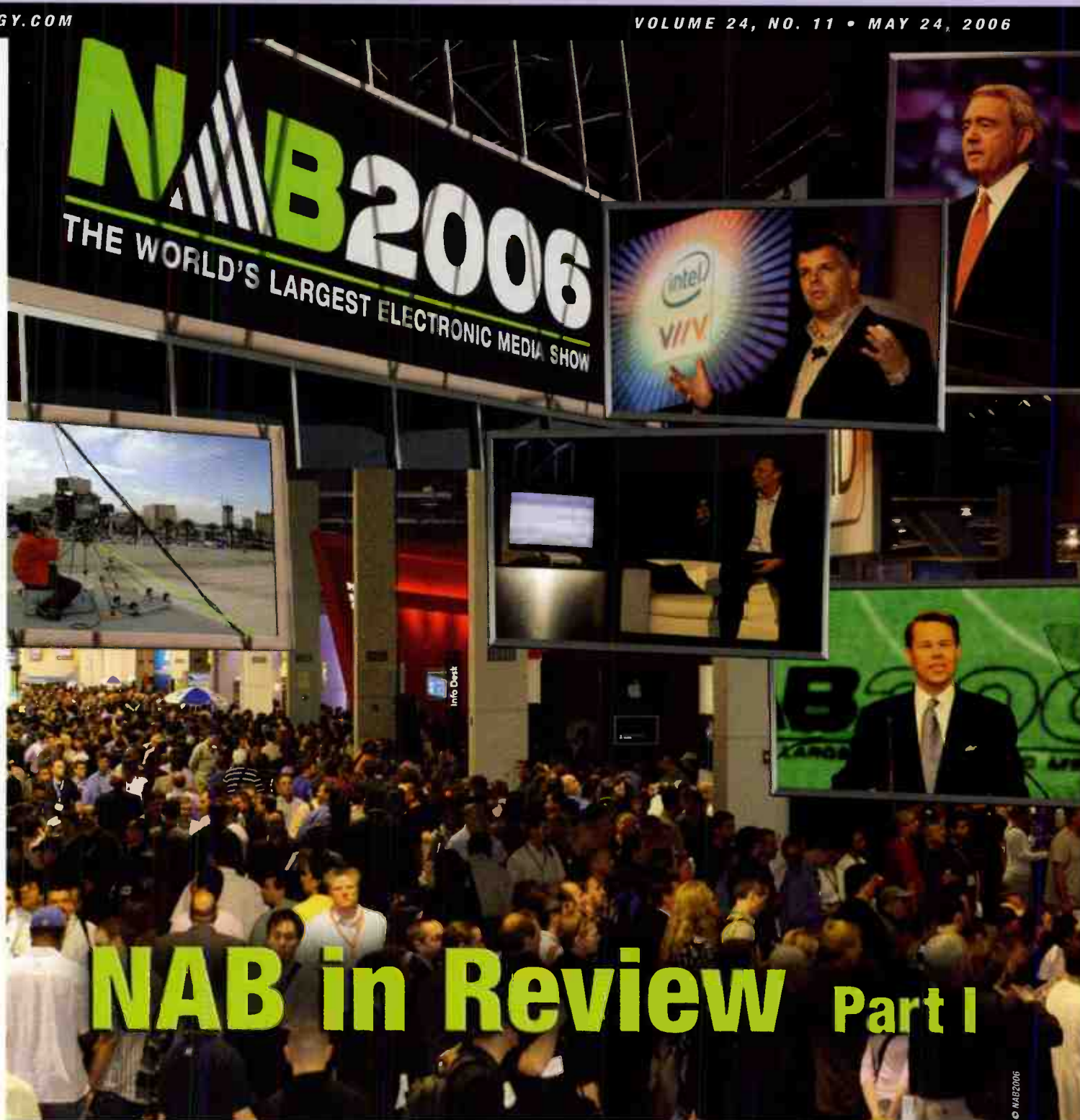
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HDTV: MAKING IT HAPPEN
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Gary Arlen
Tuning In



Lucky you! If you live beyond the reach of Washington, DC, television stations, you may have avoided this spring's bombastic barrage of TV commercials about the future of TV. According to this endless bombardment of advocacy ads, TV's future depends largely... p. 72

Craig Johnston
Production Manager



There are a lot of reasons an attendee at NAB is plenty busy shopping for the here-and-now. The halls are humongous, companies aren't sending as many people to the show, and the here-and-now needs are plenty big by themselves. But two products... p. 76

André V. Mendes
Count on IT



Recently, after talking at a conference, I was approached by a young man who asked me for some pointers on becoming a CTO. Frankly, I am convinced that my impromptu answer was almost completely worthless but the question certainly started... p. 76

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FROM THE EDITOR

Déjà Vu at NAB2006

As I wandered the show floor at NAB2006, I got a real sense of déjà vu—like it was 2000 all over again.

You remember those days, don't you? Back at the turn of the century, the show was abuzz about the promise of the Internet. IP technology was going to revolutionize the industry and the PC and the TV would no longer be separate items in the household, but would instead morph into an all-in-one entertainment media hub.

Reality soon set in, and with the collapse of the Internet boom, 9/11 and the resulting recession, the industry was forced to scale back its expectations. We've been slowly recovering

from that era, to where we are now witnessing another predicted boom, the promise of mobile TV.

It was everywhere at the show; you couldn't miss it if you tried. And yet, I felt that the hype was a bit overwhelming and it reminded me of 2000. The only difference was that back then, everyone seemed to have a business plan. But with broadband still in its infancy, the technology just wasn't quite there yet. In 2006, we have the technology, but we're still looking for a business plan.

Which business plan (or plans) will succeed is anybody's guess. But the NAB show is still one of the best places to explore the direction of the industry and discuss what works,

what doesn't, and what could.

In part 1 of our NAB2006 coverage, we take a look back at what the major players and pundits were saying about our industry and what we should look for in the days ahead. We also review what the manufacturers were saying about the state of current technology. In our next issue, we will take a look at the vast array of new products that were rolled out. As I said, the show just keeps getting bigger, and so does our coverage.

Tom Butts
Editor
tbutts@imaspub.com

LETTERS

Send to Editor, TV Technology at e-mail tvtech@imaspub.com

Skills and Knowledge

Dear Editor:

I was forwarded an e-mail from a colleague that contained information from your "Sharpshooter's Tips" weekly newsletter from TV Technology magazine. The article was about white balancing methods for shooters. It was so good to see some definitive procedures and explanations, that I shared it with our chief photographer.

I know it may sound strange, but in these days of decreased pay-scales I am finding that the skill and knowledge level of the photographic staff we (and other news organizations) hire is less than adequate. Simple, basic tenets of photography and videography are not being taught to people who use newsgathering equipment in the "Communications" or "Broad-Comm" programs at most colleges and universities. We have found that our engineering staff has to train many of our photographic staffers in such simple procedures of white balancing, viewfinder set-up, proper use of "Zebras" etc.; all of which one would expect a shooter to know prior to working in a top-10 market.

I get the feeling that our organization is not alone in this dilemma. The advent of cameras with so many "Automatic" functions has lulled today's users of photographic and video equipment into complacency. The four-year institutions who graduate these operators without adequate technical knowledge and skills also are to blame. The educational period in a person's professional life is so crucial in instilling the theories and practices needed to build one's future professional development. Not knowing how to read a waveform monitor or understand what is represented on a vectorscope are not very admirable omissions in a video professional's credentials.

Just some thoughts and feedback from out here in the trenches.

Gregory M. Roehr
Newton, Mass.

The 'P' Problem

Dear Editor:

I am happy to see Mary Gruszka's ongoing articles on microphones. I would like to see the series include some real-world testing.

Sometimes I think microphone manufacturers have no idea what they're unleashing on consumers, as well as the broadcast industry. My pet peeve on microphones is their lack of internal filters. Specifically, to limit the popping of "Ps."

On one occasion, I made a comment to our local Board Of Supes at city hall. Though my face was a full 12 inches away from the microphone, every time I uttered a "P", I could hear it pop loudly in the PA speakers.

I won't tell you the brand name, but apparently that same mike, or one similar to it, found its way to a major San Francisco network's local newscast. Their news anchor has been popping Ps intermittently for about a year now, with the broadcast engineers apparently oblivious to the noise!

But what irks me the most is the cost of equipping a microphone with an internal wind screen to prevent this problem: About a nickel!

Consider this: at one point I was doing a remote baseball broadcast from San Francisco, noted for its strong winds. Gusts were about 40 mph, and the crowd noise sounded more like a gale. To give you an idea of the wind's strength, it hindered your progress if you were walking toward it. If you turned 180 degrees, it had the force to push you forward. But I found an easy fix. I went to a nearby supermarket and bought an ordinary sponge. I had my choice of colors, I picked yellow. I wrapped it around the mike with twist ties.

Total cash outlay: 69 cents, and it worked perfectly.

My question is: If I can make a mike work in 40 mph gusts, why can't a microphone manufacturer equip their broadcast mike to withstand someone uttering a "P"?

I would welcome an article that tests various mikes in real-world conditions.

Bro Duke
Santa Rosa, Calif.

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World Radio History

HD UVA Flight Demo Completed

VIENNA, VA.

Global Microwave Systems has successfully completed an unmanned aerial vehicle flight demonstration of an HD video wireless link. The company said it is the first known successful flight demonstration of an HD link on a UAV platform, which paves the way for real-time HD long-range aerial filming for the movie and broadcast industries.

GMS, an engineering and development subsidiary of The Allied Defense Group Inc., partnered with Flying-Cam of Belgium to complete the demonstration held last month at GMS facilities in Carlsbad, Calif., by using a GMS High-Definition Messenger Link mounted on a Flying-Cam UAV platform. The GMS HDML includes the High-Definition Messenger Transmitter, the six-antenna diversity Messenger Smart Receiver, the optional Messenger Antennas Array for long-distance coverage and an HD MPEG-2 decoder.

The success of this flight also opens up the capability for opera-

tional deployment of HD UAV platforms in critical surveillance and covert applications that require high-resolution images, according to the company.

Sam Nasiri, president of GMS said, "This is a significant achievement at a point where the whole world of video is in transition from



Flying-Cam UAV with GMS HD Messenger Link

'standard definition' to 'high definition.' Now we cannot only read a license plate on a car traveling at 65 mph, we can see it from 2,000 feet in the air with greater brightness, clarity, and color definition—all unmanned."

Aerial HD

ESPN, ABC Take Home Sports Emmys

NEW YORK

ESPN and ABC Sports took home a combined total of 13 Sports Emmy Awards May 1, including a win in the first-ever new media category. The companies said this brings the overall total for ABC Sports to 155 Sports Emmys since they were first given in 1980, and 110 for ESPN during its 19 years of eligibility.

This year, ESPN had three of the four nominees in the new media category, "Achievement in Content for Non-Traditional Delivery," which was awarded to ESPN.com's "Off Mikes" featuring ESPN Radio's Mike Greenberg and Mike Golic.

Two ESPN networks were honored with Sports Emmys for signature shows: ESPN "SportsCenter" took home the "Dick Schaap Writing Award" for a piece written by Schaap's son, Jeremy, entitled "Finding Bobby



Fischer."

ESPN Classic's "SportsCentury" was named "Outstanding Edited Series," its fourth win in the category since the show's 1999 debut. ESPN Original Entertainment was also recognized with five awards, including two for "Cinderella Man: The James J. Braddock Story."

ABC Sports received three Sports Emmys, including the 15th victory for Monday Night Football's John Madden in the "Event Analyst" category and honors for the "Best of Winter X Games Nine" and the "Indianapolis 500: Speed City" tease.

ESPN took home two other technical achievement honors, both for the World Figure Skating Championships.

Awards

CBS Launches New Broadband Net

NEW YORK

CBS Corp. recently announced the launch of "innertube," a new broadband ad-supported channel offering a variety of free entertainment programming on the 'Net.

"This online channel presents exciting creative possibilities and great business opportunities for CBS," said Nancy Tellem, president of the CBS Paramount Network Television Entertainment Group. "Creatively, we want this platform to be a content playground where new talent and ideas are discovered, and proven talent can bring their passion projects—whether complementary or different to what's on the Network."

The service premiered May 4 with a lineup of origi-

nal series specially produced for Internet viewing, along with additional new shows that are companions to popular CBS fare. In the months ahead, "innertube" will also carry encores of CBS primetime shows and library content, which encompasses about 2,600 titles and 100,000 hours of programming.

The new service can be accessed at CBS.com. Initial plans are to stream three shows daily, with one new program being posted each weekday. Programming is archived and can be accessed with the "innertube" browse function.

Internet TV

'Mother of TV' Dies at 98

BOUNTIFUL, UTAH

Elma "Pem" Farnsworth, aged 98 and widow of television pioneer Philo Farnsworth died April 27 in Bountiful, Utah.

Ms. Farnsworth is generally believed to be the first person to have her image transmitted live via an electronic television system.

She married Farnsworth in 1926. He gave the first demonstration of an all-electronic television system the following year. It was based on Farnsworth's "image dissector" pickup tube technology.

During the next decade, Ms. Farnsworth worked closely with her husband and brother, Clifford Gardner, in developing an all-electronic television system.

Philo Farnsworth died in 1971, and afterwards, Ms. Farnsworth devoted much of her time in making sure that he was given credit for his



Elma "Pem" Farnsworth at 37

invention. As a result of this effort, Farnsworth was honored in 1983 with a U.S. postage stamp recognizing his work, and was also inducted into the Inventor's Hall of Fame. In 2003, an Emmy award named after Farnsworth was presented for the first time—The Philo T. Farnsworth Award for Technical Achievement.

She published a book about her husband's work in 1990, "Distant Vision: Romance and Discovery on an Invisible Frontier."

Passage

Dielectric Marks DTV Antenna Milestone

RAYMOND, MAINE

Dielectric Communications, a provider of high-power broadcast antennas, has reached a company milestone by selling its 1,000th DTV antenna.

The milestone came when longtime customer Belo Corp. had Dielectric DTV antennas installed for each of its 19 stations located throughout the country.

Russ Abernathy, director of television and technology for WKNO-TV, a public broadcaster serving the Memphis, Tenn. area, said Dielectric's antenna installation and service was "first class."

Dielectric helped WKNO find a way to replicate coverage of its ana-

log transmissions on a DTV antenna. Dielectric installed a patented TUV Series antenna for the broadcaster. By allowing WKNO to place both a VHF and UHF antenna in the same aperture at the tower top, the Dielectric TUV Series allowed the station to line up its antenna patterns, the company said.

Dielectric vice president of sales, Jay S. Martin, said, "The milestone of supplying DTV antenna systems to 1,000 stations is a strong indication of the broadcast industry's commitment to Dielectric, something of which we are extremely proud and appreciative."

DTV

Blackmagicdesign



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WHYY Taps SeaChange for VOD

PHILADELPHIA

PBS member WHYH is venturing into video-on-demand and pioneering a new business model for public broadcasting. In addition to repurposing its own programming for VOD, the station is acting as a service bureau for other PBS member stations entering the VOD arena.

"On-demand television is quickly growing into a important venue for intriguing, educating and inspiring public television viewers," said William J. Marrazzo, president and CEO at WHY. "WHY's on-demand content has increased dramatically since we started offering programs through On Demand from Comcast Digital Cable in 2004."

At the core of WHYY's VOD offerings is the QuickSilver Agility VOD workstation from SeaChange. The workstation, developed jointly with Anystream Inc., allows broadcasters

to produce standards-based VOD content without tying up non-linear editing suites.

In repurposing content developed for traditional broadcasting, WHYY was faced with adding new bumpers and breaks, as well as the addition of metadata, branding, underwriting acknowledgements and promos. Traditionally, this would have been accomplished in edit bays.

"Preparing content for on-demand distribution had been an exhausting, resource-intensive process and the SeaChange QuickSilver Agility VOD workstation removes the bottleneck," said Bill Webber, WHYY chief technology officer and vice president for content distribution.



LPTV/Translator Filing Window Moved

WASHINGTON

The FCC has set June 19-30, 2006 as the new filing window for LPTV and TV Translator operations seeking digital expansion channels.

Previously, a window had been set for May 1-12, 2006 and included a freeze on LPTV, TV Translator and Class A changes and conversions.

That freeze is extended until June 30 in the new filing window notice. In the freeze notice, the FCC has made provision for stations demonstrating imminent disruption of service to request special temporary authority to continue operations.

During the filing window, any LPTV, TV Translator or Class A licensee or permittee may file an application for a second television channel to initiate digital broadcasting operations. The granting of the companion channel is conditional on return of one of the channels at a yet to be determined future date.

In lieu of requesting a second channel for digital television, current licensees and permittees may request a "flash cut" to digital operations on their present analog channels.

Applicants for companion channels must file a short-form application and accompanying engineering data, using FCC forms 346 or 301-CA, as appropriate. After the filing window closes, the commission will use this data to identify mutually exclusive applications. Applications that are deemed mutually exclusive will be notified and will have a limited period in which to use engineering solutions and settlements to resolve conflicts.

As the full power post transition DTV Table of Allotments is not finalized, it is possible that some of the channels, which now appear available for DTV expansion, may not be usable once the final allotment table is released.

SENATE INTRODUCES TELECOM BILL

WASHINGTON

Earlier this month, the Senate Commerce Committee drafted a bill proposing the most significant changes to the telecom industry since the landmark Telecommunications

Act of 1996

The draft, which is given little chance of passing in this shortened election year Congressional session, includes provisions for video and audio flag content protection technology, network neutrality, municipal broadband, unlicensed wireless devices, child porn, emergency communications, increasing payments to the Universal Service Fund that provides financial support for broadband deployment in underserved areas, as well as new rules for the DTV transition.

Broadcasters oppose rules that would allow the use of unlicensed devices in so-called “white spaces” those portions of the broadcast spectrum not used by TV broadcasters. Although the proposed legislation does allow for such a provision, the bill also calls for the FCC to take steps to protect TV broadcasters and other licensed services “from harmful interference” caused by the use of such devices, including the establishment of a certification and testing process that would demonstrate compliance with FCC standards.

The bill also requires consumer electronics manufacturers to place labels on any TV sets currently on the market without a DTV tuner, warning that the set would no longer be able to receive over-the-air broadcast signals after analog TV is scheduled to be terminated in February 2009. In March, the Consumer Electronics Association proposed a voluntary labeling effort, but the proposed legislation would codify the practice. Another proposal strongly opposed by broadcasters would allow cable operators to down-convert broadcasters' DTV signal.

The Senate plans to hold hearings on the bill this summer. The bill joins similar proposed telecom reform legislation in the House, which focuses primarily on video franchising.

Trailing Edge of Technology Celebrated

HILLIARD, OHIO

Following on the heels of the super high-tech NAB is another annual conference devoted to slightly more mature technology, the "Early Television Convention" held in this western suburb of Columbus, Ohio.

The conference, organized by the founder of the Early Television Museum, Steve McVoy, is devoted to technical papers and presentations tracing and commemorating modern television's long history.

Among this year's presentations were "RCA and the Innovation of Electronic Television," 1923-1945 by Alex Magoun; The 1937 Russian TK-1 (RCA RR-359) Television Receiver by Darryl Hock; and a live demonstration of mechanical television by Peter Yanczer, featuring a 60-line mirror screw display device.

Donald McLean, author of "Restoring Baird's Image," was on hand to mark the 80th anniversary of John Logie Baird's first successful transmission of a television image. McLean has been involved in locating and restoring the world's earliest video recordings for more than 20 years. Baird did these on 78 rpm phonograph records in a process he termed "Phonovision" and patented in 1926.

"Baird claimed to be able to record both audio and video using vertical and horizontal recording head motion," said McLean. "This predates Alan Blumlein's first stereo recordings by eight years."

Baird was working with 30-line images and a four image-per-second field rate,

so the video signal produced could be contained within the limited frequency response of sound recording apparatus.

McLean used computer animation to represent the rather large video scanning and recording device used by Baird. The scanner's 30 lenses (one for each line) were mounted in a spiral on a large disk set into a wall, with a mechanical coupling to drive the disc recorder.

McLean explained why Baird didn't use his "normal" rate of 12.5 fps.

"We did the math," he said. "At four frames per second, there is a 40 G-force on the lenses. If [the scanner] were spun up to 12.5 fps, the force increases to 400 Gs."

McLean has used computer processing to "clean up" and stabilize images from all of the remaining recordings, and presented several examples of his work for the audience.

Baird apparently envisioned consumer acceptance of television recordings and also patented a self-contained video player and display device, the "Phonovisor."

The Early Television Conference is held each spring at the Early Television Museum, which features a very large working collection of mechanical and electronic television apparatus. For additional information, visit the museum's Web site at www.earlytelevision.org.

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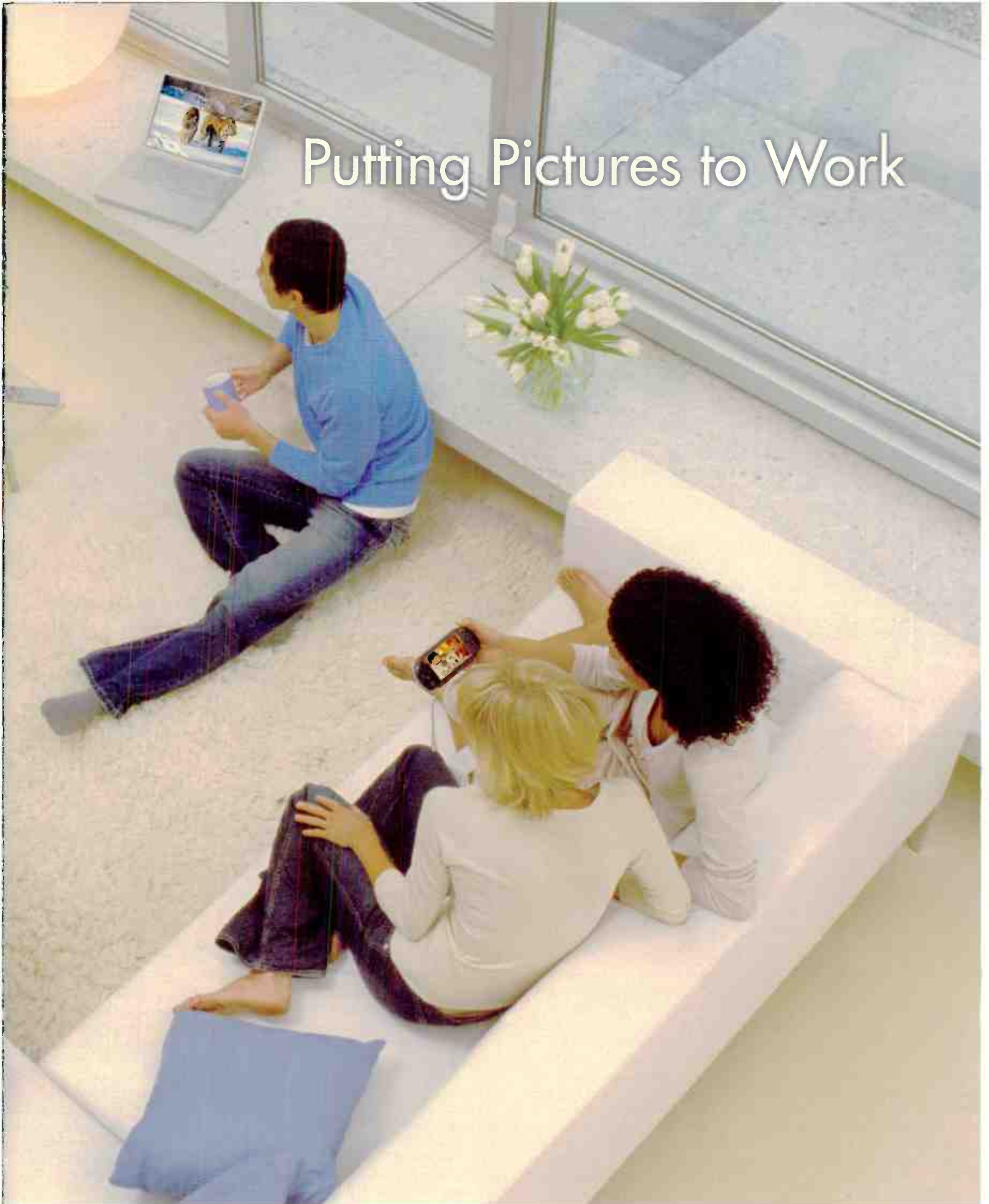
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InfoComm Expands A/V reach

Annual confab to include behind-the-scenes tour of SeaWorld

by Susan Ashworth

ORLANDO, FLA.

They are scorned A/V geeks no more. In fact, the annual gathering of professionals from the audio and video industry is expected to be a throng of 75,000 strong, who will descend on the Orange County Convention Center in Orlando, June 3-9. They come in part to celebrate an industry that has survived the instability of sluggish sales and a recovering national economy, due in part to the breadth of the technology's reach across myriad markets: corporate, education, government, health care and beyond.

"This is the place for content, education and networking for the A/V industry," said Jason McGraw, senior vice president of expositions of InfoComm.

The 2006 convention will illustrate just how far the A/V industry has evolved, with 120 sessions on issues such as business practices and education, and 775 exhibitors on more than 425,000 square feet of exhibition space. The show is also an international fete, McGraw said, as attendees from 80 countries are expected to attend.

APPLICATION SHOWCASE

The show is best described as an "application showcase," McGraw said, as well as a place to see how the professional audio/video industry has undergone a horizontal growth over the last few years. "We've seen a lot of new market segments appear," he said. "We've gravitated toward the integration of [new and existing] technology solutions for those different market segments," such as homeland security, he said.

Take for example the rapid expansion of digital signage. It's no longer uncommon to see a three-foot-long electronic sign—beckoning a customer to try the coffee or buy one and get one free—in both a small mom-and-pop stores as well as large retail chains.

"No matter where you have A/V, you use the same technologies," he said, which helps account for the industry's continued growth and expansion.

The industry has also seen increased interest from some traditional high-end broadcast equipment manufacturers.

Grass Valley is one company that has expanded its presence at InfoComm over the last few years, and will have a significantly larger booth with new product lines specifically targeted toward the prosumer A/V industry at InfoComm06, said Mike Wolschon, director of strategic marketing for Grass Valley.

"Pursuing the pro AV industry has been a strategy under development for some time," he said. "When we decided to enter this market, we already had a lot of higher-

end knowledge about how the production process works. We can now bring the same high-end user interface and workflows to this market at a lower price point."

The company hopes to see a 40-percent increase in revenues from the A/V market over the next four to five years. As part of its ongoing interest in the A/V industry, the Grass Valley also will continue to look for strategic partnerships that bolster the company's role in this marketplace, such as its recent acquisitions of ParkerVision and Canopus, which both offer a line of A/V prosumer-friendly solutions.

FOCUS ON AUDIO

Over the last year the A/V industry has also seen particular growth in digital content creation, lighting and staging, and

InfoComm will also usher in a new host of sessions and conferences, including a revamped lineup of audio events, featuring 12 audio demo rooms highlighting technology from companies like JBL, AKG, Soundcraft and others. An audio pavilion will showcase the offerings of more than 250 companies including Sennheiser and Telex Communications. Also new this year: a four-day audio conference by Synergistic Audio Concepts, who will cover the fundamentals of room acoustics and sound system design.

The organization is also offering new InfoComm Academy courses in areas such as AV/IT, homeland security and project management, designed to offer new skills and provide certification testing to beginning, intermediate and advanced professionals.

Sound and Tandberg Television.

Attendees will also be able to take advantage of the collocated EduComm conference, a national education conference, whose keynote speaker will be Steve Wozniak, cofounder of Apple Computer.

For the religious community, a "Technologies for Worship" conference will feature a pavilion on the exhibit floor with mixing classes, location lighting sessions and discussions on issues such as creative uses of broadband distribution for worship.

InfoComm also is partnering with the ESTA Foundation this year to provide a round of workshops and demonstrations to focus on issues such as rental and staging management and operations. Designed to illustrate safe rigging practices, these sessions will show how truss, motors, lights,



Infocomm will offer its attendees a tour of "Blue Horizons" which uses motorized rigging to allow for acrobatic tricks over the water.

HD conferencing. The industry is also seeing a boom in the integration of A/V and IT networks, creating a new breed of "networkable systems that can be controlled and accessed remotely," McGraw said.

McGraw also sees the boost in digital signage as a sign of things to come. "Many companies are moving away from traditional print [advertising] toward digital, and tying many of those technologies into IT networks," he said.

Attendees will get a glimpse of what the future holds from seminars such as "Introduction to Streaming Media Video Production Strategies" and "Migration from ISDN to IP," on topics that range from audio and digital signage to networking and project management.

"We've seen a lot of new market segments appear... We've gravitated toward the integration of [new and existing] technology solutions for those different market segments."

—Jason McGraw, Infocomm

And InfoComm is introducing a new system programming and GUI design gallery this year, which allows members to delve into complex system design and programming using 15-inch Creston touchpanel computers. The gallery is designed to give visitors insight into the confusing world of design and

programming, where designers must ensure their work is appropriately integrated while simultaneously allowing the end-user to easily navigate the system.

An expanded video focus includes the Large Venue Display Gallery, the Digital Signage Pavilion, the Digital Content Creation Pavilion and the Projection Summit, which will look at the newest technology advancements and market forces impacting the large-screen display market.

IN ON THE ROUNDTABLE

Eschewing the typical keynote address, attendees can instead sit in on the InfoComm manufacturer's forum, a roundtable discussion about the state of the industry with CEOs from AMX, Barco, JVC, Meyer

line arrays, LEDs and safety harnesses are used to prepare for a big event. Other sessions include "Working Successfully with Labor" and "Entertainment Electrical Power Distribution & Safe Practices."

One of the key draws of the convention is the series of AV Tech Tours that show the inner A/V workings of various local locales. Attendees will get a behind-the-scenes look at how cutting-edge technology and the antics of sea animals are combined into daily exhibitions during a tour of SeaWorld Orlando. The tour will include SeaWorld's Blue Horizons event, a show that uses motorized rigging to allow for acrobatic tricks over the water. Attendees will also get a first-hand look at the A/V magic put to work in the Cirque du Soleil La Nouba show. This non-traditional circus troupe uses a range of computer-controlled technologies through SeaWorld's audio, lighting and automation department. A third tour will take InfoComm attendees through the University of Central Florida's Rosen College of Hospitality Management where they will get a tour of the campus' interactive television capability, multimedia equipment, digital signage, wired and wireless networking, and VoIP system.

More information on InfoComm06 can be found at www.infocomm.org. ■

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Rehr Looks Ahead; Honors Broadcast Vets

Big Three anchors receive Distinguished Service Award

by Susan Ashworth

Addressing the packed house at the NAB2006 All Industry opener, lobby chief David Rehr said he wanted to avoid talking about past problems and focus instead on the direction the NAB should be heading.

"We need to move away from being seen as an organization that's always on the defensive," Rehr said to immediate applause. "We need to be seen as one that's on the offensive. We shouldn't be protecting the status quo, but need to be an organization that embraces change."

"We can transform our reality," he added, "and we need to start today."

Rehr readily admitted the broadcast industry was facing its share of competition, from cable and satellite to the Internet. But broadcasting has a solid base of strength that the industry needs to exploit and build upon. "We still have the eardrums and eyeballs," he said, and the industry can take even further advantage of that with the onset of HDTV and HD Radio.

He also gently chided the audience

about reluctance to change.

"For the first time in the history of media, the customer is in charge," referring to the whenever and wherever proliferation of media. But rather than fearing that evolution, the industry should be excited about the opportunity, he said, suggesting a five-pronged approach beginning with exploiting every new technology on every new platform available.

**"TV and radio
were wireless
before it was cool."
—NAB President and
CEO David Rehr**

"Broadcast signals need to go everywhere, to everyone, to every device," he said. "After all," he said, "TV and radio were wireless before it was cool."

The industry also needs to more heavily promote the benefits of DTV and HD Radio. Both TV and radio are at the verge of the greatest transformation in history, he said, and many Americans don't truly understand what either

"I think today's broadcasters will open the windows for my children as they did for me," he said.

Three of the best-known of those broadcasters were then honored by Rehr as he awarded the NAB Distinguished Service Award to CBS anchor Dan Rather, NBC anchor Tom Brokaw and the late ABC anchor Peter Jennings. Having largely defined evening news



NAB President David Rehr with former NBC anchor Tom Brokaw and former CBS anchor Dan Rather at the NAB2006 Opening.

of these technologies mean.

"It's our responsibility to let them know the benefits, and not leave it to our government, our competitors or the guy who sells TVs at Best Buy," he said.

In addition to encouraging competition with cable, satellite and telecom, and better empowering parents to control content that comes into the home, Rehr said the industry also must adopt a proactive attitude with the local community and the government.

"We need to step up our advocacy to educate local communities and Washington about our work," he said.

As a young child in Illinois, Rehr remembers how his local radio and TV broadcasters opened up the world to him—introduced him to the big city of Chicago, the state of Illinois and eventually the rest of the world.

for the last 20 years for millions of Americans, the three men were honored by the NAB for their significant and lasting contribution to American broadcasting.

"I've seen many changes in broadcasting, and broadcast news again finds itself in a period of change," Rather said. "That's good, and inevitable. But one thing that hasn't changed is that news needs to serve the public interest as its primary goal. The faces will change, but the commitment to the news will remain the same."

NEW IS PARAMOUNT

Upon accepting his award, Brokaw recalled the event that changed the life of his South Dakota farmer grandfather: owning a radio. It gave him access to life outside his hardscrabble farm, "and made him a citizen of the world."

Though there are now countless new tools to receive news of the world, it's the integrity of the news that matters more than any device, he said. The tools are but an extension of news itself.

"There's no delete button for hate or poverty, no help button for a disaster," Brokaw said. It is the news itself that must remain paramount.

Both Rather and Brokaw took time to honor the late Jennings, who was awarded posthumously with the Distinguished Service Award, and was recognized by his colleagues for his contributions to broadcasting as well as his humanitarian efforts. ■

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