



RADIO WORLD

JUNE 16, 2010 | The News Source for Radio Managers and Engineers | \$2.50 | RADIOWORLD.COM

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Gear Up for Summer



Photos by Kovacs/Dawley: TC Smith tests a Shure mic; Nancy Black of Bird shows off wideband power sensors; Randy Lawry and George Eignor flex muscle at Hannay Reels; Ellie Brito checks out cabling at Belden.

Inside:
Our Big Summer Product Preview & NAB Show Wrapup

Radio Is More Prepared This Time

Copper Thefts: 'The Bad Guys Appear To Have Retreated, at Least for Now'

BY RANDY J. STINE

Scrap metal prices have jumped the past six months and overall metal theft alerts have increased dramatically in the first part of this year compared to 2009.

But anecdotal evidence suggests these trends haven't translated to an increase in copper thefts from radio stations.

NEWSANALYSIS

Broadcast tower sites are like gold to copper thieves. Particularly attractive are AM transmission facilities that often feature extensive copper grounding systems. But engineering leaders for several radio groups said that while copper theft is still occurring, it's not as dramatic as it has been.

These executives think that's mostly attributable to the theft deterrents many broadcasters have put in place since 2008

when metals prices soared and thefts skyrocketed. A spate of brazen copper thefts from broadcast sites nationwide — which included HVAC units, copper buss bars, copper grounding straps, coax, conduit and antennas — forced broadcasters to take action, industry observers said.

Broadcaster anti-theft efforts include motion-sensitive remote surveillance, security alarms, better lighting and additional fencing at remote transmission sites.

While other metals are at risk of being stolen, copper seems to be the main quarry of thieves at telecommunication sites nationwide. Its filching has gained notoriety from media coverage of the occasional high-profile theft.

For example, KMBC(TV) in Kansas City was knocked off the air in April when vandals cut away and stole a large section

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COPPER

(continued from page 1)

of 2-inch conduit from the side of a transmitter building. The tubing was part of the transmitter's cooling system, according to reports in the Kansas City Star.

Recycled copper averaged \$3.50 per pound in early May. Not since 2008, when copper hit a record \$4 a pound, have prices been this high for scrap copper and other non-ferrous metals. Copper prices plunged in late 2008 as the world-wide economy tanked but apparently climbed of late thanks to the improving economy and an increase in demand from markets like China and India.

Radio industry observers say thieves often cause property damage that far exceeds the actual value of the copper stolen. In fact, scrap recyclers typically pay thieves a rate that is significantly lower than market value.

THEFT ALERTS UP

Aside from the occasional copper theft report, "the bad guys appear to have retreated, at least for now. We've added more



Dave Chambers, who works in engineering and IT for Clear Channel in Orlando, monitors transmitter site surveillance cameras.

periodic fence inspections," said Marty Hadfield, corporate engineer for Alpha Broadcasting, which owns six radio stations in Portland, Ore. "It's been nothing like what (the radio industry) saw in 2008."

That rash of copper thefts spurred lawmakers in Washington to propose the

Copper Theft Prevention Act of 2008. The bill, which failed to gain support in that year's lame duck session of Congress, called for better record-keeping by copper recyclers and prohibited cash payments of more than \$500 at one time. The bill would have provided for a civil penalty

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'MAKE THEM UNCOMFORTABLE'

While larger broadcasters have the resources to combat metal theft, small-market broadcasters often are at high risk because they lack the resources to add layers of defense at transmitter facilities.

"The object is to make it as difficult as possible for thieves to strike," said Gary Bush of the Institute of Scrap Recycling Industries.

"You want to slow them down and make them uncomfortable. It costs money for silent sensors and surveillance cameras, but adding signage that says 'this area under video surveillance' doesn't cost much and the bad guys won't know that it isn't."

Something else small broadcasters can do is to contact their local law enforcement agencies and ask them



Chief Engineer Bob Stroupe at Clear Channel's KPRC(AM) in Houston adjusts surveillance cameras at the transmitter site.

for after-hours patrols, Bush added.

"They will normally do it as a courtesy if they have the manpower to do so on the roads."

Finally, he said, small broadcasters can consider a low-cost alarm system, which "would pay for itself if it prevents even one copper theft."

— Randy J. Stine

of up to \$10,000. Industry observers said it is unclear whether such legislation may someday be re-introduced.

The Institute of Scrap Recycling Industries has launched a website — www.scraptheftalert.com — aimed at tracking metal thefts. The group, which consists of companies that process and broker scrap commodities, said the number of theft alerts through the site have increased.

"There was a total of 643 alerts in 2009, while so far this year we are already at 525 alerts," said Gary Bush, director of materials theft prevention for ISRI. "That could be in part attributable to more law enforcement becoming familiar with the site, too."

By ISRI's count, 47 states have metal purchase record-keeping laws, which require scrap recyclers to log the name and address of sellers. Only North Dakota, Iowa and Alaska do not have such laws. Especially vulnerable to copper theft are

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QSL From Long Ago, And Far Away

FROM THE EDITOR

Paul McLane



Our story about AM DXers in the April 21 issue was a hit, as you'll see on the letters on page 33 of this issue. One reply came from David Ricquish, chairman of the Radio Heritage Foundation in New Zealand.

In preparing his letter for publication I asked David if he could supply a sample QSL reply from his collections. He sent this image, and I felt it was worth sharing close-up.

"I've chosen WLCX La Crosse for a number of reasons," David wrote.

"First, WLCX no longer exists, so this is a good example of a silent call. Secondly, the personal letter from Joseph H. Rohrer exemplifies how one individual could be president, manager, chief engineer — 'that was my voice you heard making the station break' and 'I sweep the place out sometimes too' — which captures the radio spirit of those times almost 50 years ago.

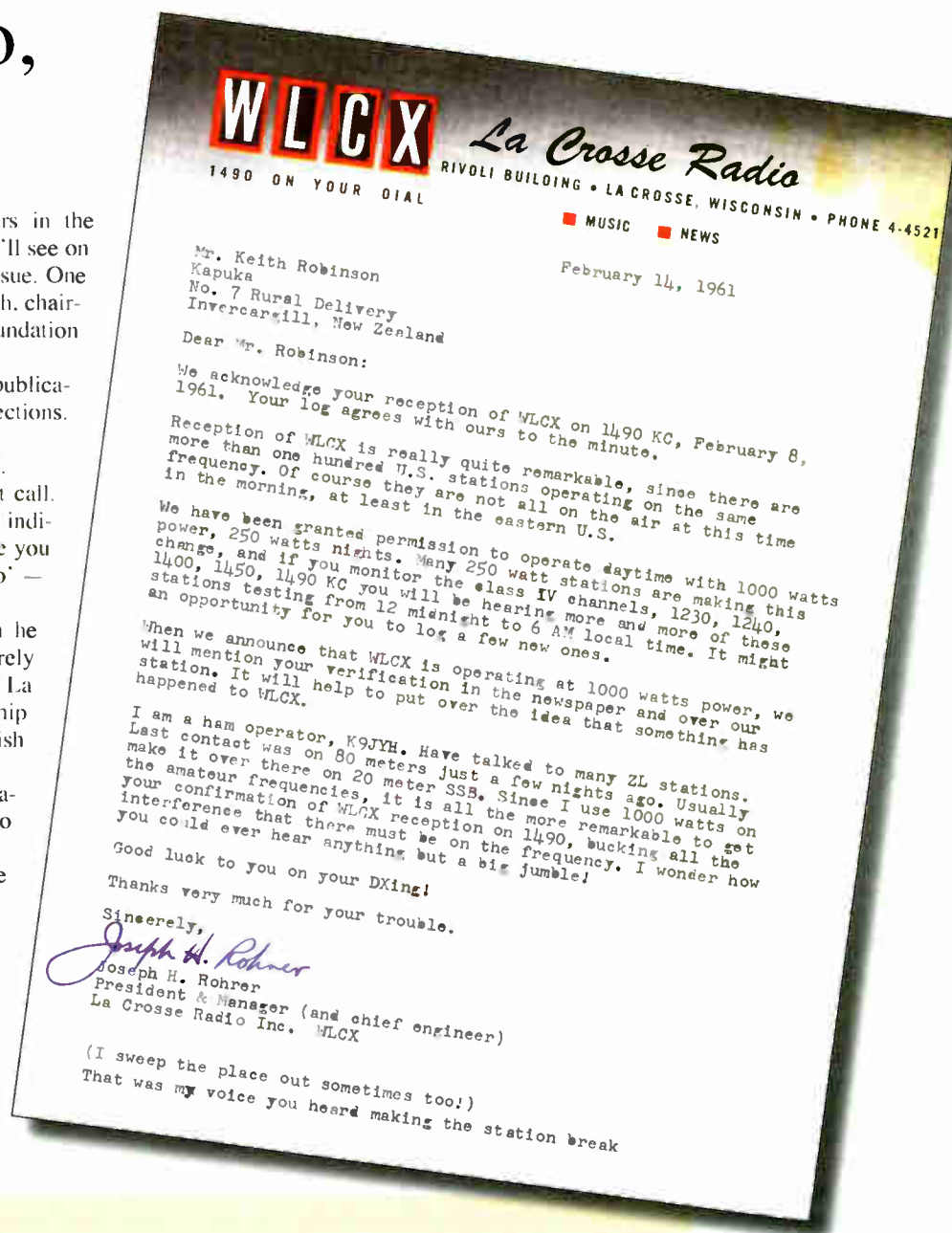
"Thirdly, I did a little research on Joseph and found that although he died in 1977, by then he also owned WLXR(FM); so his radio world surely prospered. He found time to be Festmaster-Oktoberfest in 1971 and the La Cross Kiwanis honored his memory with an industrial technical scholarship at Western Technical College in La Crosse that still exists today," Ricquish continued.

"Fourthly, in his letter he talks about the period when local 250 watt stations were increasing their daytime powers to 1 kW, a little snippet of radio industry information as it was happening.

"Fifthly, he was also an amateur radio operator, something many of the earlier generation of radio engineers did as a matter of course.

"And, finally, WLCX was a tiny 250 watt station on that most crowded 1490 AM spot on the dial, yet the signal reached all the way down from Wisconsin to the South Pacific; and Keith Robinson, a New Zealand listener, bothered to listen for the signal, to write to WLCX and keep the reply, and make it available to us here at the Radio Heritage Foundation.

"Paul, it just sums up a time in radio that is long gone, but we honor the memory as best we can. Every station and broadcaster has a story, and if we can just keep those stories alive for future generations, then it's worth all the effort."



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NEWS**Meyer Approaches Audio With Care**

Lifelong Interest in High Fidelity and Commitment To Excellence Have Defined Career of Arno Meyer

BY TOM VERNON

For more than 45 years, Belar Electronics Labs in Pennsylvania has sought to raise the bar in standards of monitoring technical parameters of broadcast signals, whether AM, FM or TV.

NEWSMAKER

Its president and founder Arno Meyer developed an interest in electronics and high fidelity at an early age. He earned an undergraduate degree in physics from the University of California at Santa Barbara, and later attended classes at the Moore School of Engineering at the University of Pennsylvania in Philadelphia. While attending school, he worked part-time for Jerrold and B&W.

Despite the early interest in broadcasting and high fidelity, Meyer never got involved with college broadcasting adding, "I've never worked for a radio station."

THE BIRTH OF FM STEREO

Meyer's first job after school was at ITA, which at the time was involved in military, shortwave, industrial and broadcast electronics. He was hired by Bernie Wise, who is now the president of Energy-Onix, to develop a special transmitter for NASA's Nimbus project, which involved remote sensing of the Earth with satellites.

"The project involved modifying a 5 kW FM broadcast transmitter to operate at 150 MHz with AM modulation," recalls Meyer. "Eimac had no test data for the transmitter's 4CX5000 final tube with those parameters, and basically said 'Let us know how it works out.'" With some careful design and tweaking, the transmitter worked and was accepted by NASA.

ITA eventually was purchased by Triangle Publishing, a media conglomerate that owned TV Guide and a host of radio and TV stations. The company's focus shifted more towards broadcasting, and Meyer's next assignment was to develop the electronics for the ITA Documentor.

"The Documentor was one of the first program audio logging devices," he said. "It would record 24 hours of audio on a 9-inch disc. Ten years' worth of these Micro Discs could be stored on a bookshelf five feet long." One of the most challenging aspects of the design was creating a ceramic cartridge with a 1 mil stylus. Meyer worked with ITA's mechanical engineer Buddy Wagner on

stereo broadcasting was authorized by the commission.

Meyer's next assignment at ITA was to develop an FM stereo generator. The ITA SG-1D was the result. The 10-1/2-inch rackmount unit used a balanced-bridge modulator circuit with 15 vacuum tubes.

In the process of designing the stereo generator, Meyer had to redesign the ITA FM-10 serrasoid exciter to widen the multiplier bandwidths. As Meyer recalls, "The project was a great success. The stereo generator had a separation greater than 40 dB, from 50 to 15 kc, with the very low audio distortion characteristic of serrasoid exciters."

With this project, Meyer's interest in FM stereo was piqued, and he proposed to Roger W. Clipp, vice president of Triangle/ITA Electronics, that the company pursue the wide-open FM stereo monitor market. To his dismay, Clipp informed Meyer he had no interest in continuing in broadcast electronics, and

(continued on page 6)

Arno Meyer, left, and Mark Grant, designer of Belar's FMCS-1, at a recent NAB convention.

the project.

In the mid-1950s, interest in FM multiplexing or stereo broadcasting had reached the point that the FCC allowed these transmissions on an experimental basis. In the following years, a standard was adopted, and on June 1, 1961, FM

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MEYER

(continued from page 5)

in fact wanted to sell the company. Clipp could find no buyers, and ITA went out of business shortly thereafter.

BASEMENT START

Meyer decided it was time to give notice and set out on his own. In 1964 he founded Belar Electronics Labs in the basement of his Drexel Hill, Pa., home. He explains the origins of the company name. "Belar is a combination of bel — my wife's name was Isobel — and my name, Arno."

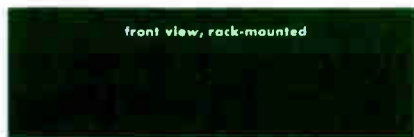
The company's first product, the FMD-1, was a tunable FM detector, which demodulated the FM signal to baseband and also had an AM detector for noise measurements. Revenues from the detector were used to fund the development of his first FM monitors, the FMM-1 and FMS-1.

With working prototypes of his FM monitors in hand, Meyer faced his next hurdle.

"All RF monitoring equipment had to have type approval from the FCC before it could be sold to broadcasters." It turned out he had nothing to worry about. A call from Larry Miller at the FCC's Laurel, Md., facility confirmed that the Belar monitors not only passed



front view, rack-mounted



top view, extended from rack

Meyer designed ITA's documentor, one of the first program logging devices.

the tests but were better than the commission's measuring equipment.

Meyer recalls his first sale. "It was to Dave Kurtz at WDVR. It was a huge leap of faith, because he paid in advance for the monitor and didn't know what he would get."

With an established product, Belar moved out of Meyer's basement into manufacturing facilities in Upper Darby, Pa. The product line soon expanded to include AM and TV monitors.

At the time that Belar FM monitors received FCC type approval, monitors from Collins Radio and McMartin Industries had already been approved by the commission. A deadline had been set by the FCC for all stations broadcasting FM stereo to have type approved monitors installed.

Meyer did some calculations and found the deadline to be unrealistic. "We had an attorney present our case to the commission — that two manufacturers could not possibly build enough monitors to meet the deadline, but three manufacturers, with more time, could." The FCC agreed, and the deadline was pushed back.

It is a testimony to the quality of



The ITA SG-1D stereo generator was designed by Meyer during his time with ITA.

design and workmanship of the FMM-1 and FMS-1 that many remain in service after 40 years, and regularly return to the Belar factory for repair and recalibration.

Meyer notes that with the passing of time, however, some repairs are no longer possible. "We can't get the crystal ovens, power transformers or variable capacitors for the VCOs anymore. The original meters are still available from API but cost around \$800, so we won't replace them."

In the late '70s, Belar partnered with RCA to develop an AM stereo standard, using the RCA Ampliphase exciter as a test bed. Meyer developed both the generator and decoder, which was shown at the NAB show in Chicago. RCA eventually dropped out of the AM stereo

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race, but the standard continued as the Belar AM-FM stereo system.

As the business expanded, Belar outgrew the facilities in Upper Darby and moved to the Devon plant where it is today. Until recently, all manufacturing was done in house.

"We have our own sheet metal shop, and used to do our own circuit boards, which were plated to a mirror brilliance. All manufacturing is done in small lots, and circuit board assembly was done by

NAB's Radio Engineering Achievement award, which is given to industry leaders for significant contributions that have advanced broadcast engineering. He also is a member of the Institute of Electrical and Electronics Engineers.

Meyer sums up what he sees as key factors in his company's success: "Care. Care in design, care in manufacture, care in testing and care in customer service." Twenty employees work at the privately-held company.

Asked what product he is the most proud of, Meyer points to the company's most recent, the FMCS-1, which uses direct sampling of the RF signal. He adds that the product is the culmination of 20 years of research. "The advent of DSP chips allowed us to replace many of the analog functions in our monitors with DSP processing. It facilitates a much greater degree of accuracy and permits software upgrades."

The FMCS-1 combines the functions of the FMCA-1, SCMA-1 and RDS-1 stereo, SCA and RDS monitors, along with the frequency agile RFA-4 RF amp.

Will terrestrial FM radio go the way of the dinosaur as Internet-based broadcasting gains in popularity? Meyer is quick to reply. "No, because serious music listeners can hear the differences between the two mediums and will stay with FM."

COPPER

(continued from page 6)

telecommunication sites, utility companies and railroads, Bush said.

TARRING COPPER

"We haven't had any issues with copper theft in the past year that I know of," said Milford Smith, vice president of engineering for Greater Media, which has 23 radio stations. "These things seem to be driven by the state of the economy and the price of copper, but we have stepped up efforts to prevent illegal activity."

Smith said Greater Media lost more than \$40,000 in copper strap, wire and screen to thieves from an AM transmitter site near Philadelphia in 2008.

Clear Channel, with its 850 or so stations, has instituted policies aimed at minimizing copper theft while providing for the safety of employees, said Gil Garcia, technical director for Clear Channel, Austin.

"Each market is very different, with some markets seemingly more vulnerable to copper theft; but we haven't had many issues lately corporate wide, which tells me what we are doing is working," he said.

Garcia also serves as national disaster coordinator for the company. He said Clear Channel has resorted to tarring copper in some markets as a means to make it a less desirable target for bandits.

"I have even looked at materials to place a specific chemical DNA on copper so it can be identified at scrap metal recyclers, but that was really cost-prohibitive. There is also a spray you can use to cause a horrendous stink on copper to scare away thieves."

Another option is painting exposed copper with grease and graphite, said Dave Remund, vice president of engineering for Townsquare Media, formerly Regent Communications Inc., which owns 63 radio stations.

"Not only does it make detection harder, but once (thieves) touch it they soon realize how much of a mess it makes and usually leave to find an easier target," he said.

Townsquare Media had not suffered a copper loss due to vandalism since 2008 as of May.

Citadel has gone so far as considering using some tin-plated materials at broadcast installations hoping to lower scrap value to thieves, said Martin Stabbert, vice president of engineering for Citadel Communications and its 228 radio stations.



Belar Lab's first product was the FM detector model FMD-1.

hand." The complexity of today's multi-layer circuit boards has necessitated that their manufacturing be outsourced.

In 2001 Meyer was presented with the

LIVE & LOCAL



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Snake vs. Transmitter, Guess Who Wins?

Patrick Parks is engineering manager for Univision Radio in Dallas/Ft. Worth. He's been at the facilities since 2000 and involved in most every aspect of broadcast engineering since 1986.

WORKBENCH

by John Bisset

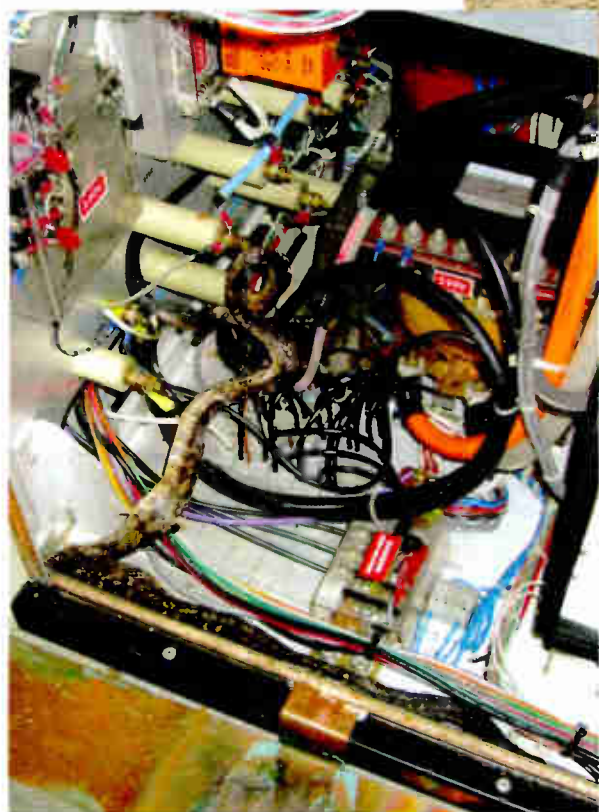
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KFZO(FM) is in Denton, Texas, with a transmitter out in the LBJ Grasslands north of Decatur, a rural area. The station recently moved into a new building that



Fig. 1 (above): A smoked snake is an effective electrical conductor.

Fig. 2 (left): Patrick Parks thinks the snake routed the plate voltage to other elements of the tube.



still lacked some finishing work — such as seals to the HVAC ductwork and other openings to block critters.

Well, Patrick got such a visitor, shown in Fig. 1, a common water snake that took down his Harris HT 35 transmitter.

The snake apparently had been seeking warmth

on a cool morning. It entered an unsealed cable access port and got across the B+ and/or the screen and/or bias supplies. It met its doom — and created a lot of hassle.

Patrick suspects the real damage may have occurred after the initial kill and transmitter shutdown, when he tried subsequent restarts. Once he was on site and reset the overloads, Patrick heard a loud bang or two on restart.

The cooked snake (Fig. 2) apparently was a decent conductor. Patrick thinks the snake routed the plate voltage to other elements of the tube. Damage included blown bypass caps and RF chokes on or headed for the tube grid.

It took some time to find and replace all the failed components; and working in that tight spot was no fun. You need a mirror, small hands and a bright light.

Things are back to normal, and Patrick's got everything sealed tight. Patrick Parks can be reached at patparks@k5rn.com.

Milan Chepko is with Veni Vidi Video in Austell, Ga. He commented on the use of the stainless steel oxygen/acetylene tip cleaning wire discussed in an April 21 tip by Hall Communications' Dennis Snyder. You'll recall these wires are inexpensive and work well to clear solder from Printed Circuit Board holes.

Stuck without such a tool? Milan writes that for close to 50 years, his favorite "tool" for this job has been a moist wooden toothpick.

He keeps a couple in his wallet for their intended purpose. If he needs to clear a printed circuit board solder pad hole, though, he holds one end of the toothpick in his mouth to get it damp while he sets up the soldering iron. Then he puts the wet tip of the toothpick against the pad and touches the metal with the hot iron. As the solder softens, the pick pokes through the hole, clearing the solder hole without any chance of damaging something.

Milan's favorites are round toothpicks because they have a sharp tip, but almost any will do in a pinch.

Damp toothpicks also are handy for clearing solder bridges between traces on printed circuit boards. The melted solder won't stick to them, and they won't damage the board. Great idea, and the price is right, too.

Reach Milan Chepko at parrot33@hotmail.com.

In addition to a mirror as mentioned earlier, Paul Sagi adds a jeweler's eye loupe to the list of custom tools an engineer should have on hand.

This small magnifying glass may only give 5X or 10X magnification; but for fine work — like checking for solder trace bridges or working with the fine

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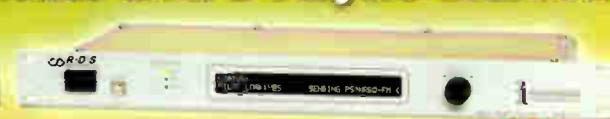
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WORKBENCH

(continued from page 8)

wires used in some miniature microphones or headsets — it's a "must have."

Paul cautions beginner engineers that fine wires like these may be enameled. This enamel coating keeps them from shorting together. You must scrape the enamel coating off before resoldering. A small piece of crocus cloth or very fine sandpaper, gently rubbed on the wire, will remove the enamel so it can be resoldered.

These repairs are an exercise in

patience. Take it slow and be careful that you don't nick or damage the wire.

Paul Sagi is a broadcast engineer in Kuala Lumpur and can be reached at pkasagi92@gmail.com.

Jerry Arnold is director of engineering for Midwest Communications in Terre Haute, Ind. Jerry sent in some comments on the tower site "problem photo" in the March 24 *Workbench*.

He points to the ATU supporting framework. In the photo, it appears that the steel framework supporting the ATU is bolted to the concrete tower base

directly. If the ATU is struck by lightning, the surge likely would explode



Fig. 3: Jerry Arnold points out that the steel framework supporting the ATU is bolted to the concrete tower base directly. If the ATU is struck by lightning, the surge could explode the concrete base.

the concrete base, perhaps causing the tower to fall.

Jerry also noted that this steel frame is sitting on the 2-inch-wide copper grounding straps. A dissimilar metal galvanic action is possible and, at the least, could hasten the copper's demise. At worst, this effect could cause quite a "diode" action with the AM signal, which might end up producing spurious emissions. Great points, Jerry.

Jerry Arnold is at k9af@aol.com

John Bisset marked his 40th year in radio recently. He is international sales manager for Europe and Southern Africa for Nautel and a past recipient of the SBE's Educator of the Year Award. Reach him at johnbisset@myfairpoint.net. Faxed submissions can be sent to (603) 472-4944.

Submissions for this column are encouraged and qualify for SBE recertification credit.

W(19" / 2) x 14 + 8W = C11

**You don't know
what that means?**



It's not rocket science, the C11 Audio Codec is compact, versatile and extremely energy efficient.

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Moreover, there is a unit which contains a redundant power supply unit with two Hot Swap PSUs in 19" supporting up to 8 C11 devices. Technical adaptability is a key highlight: whether a G.711/22, Layer 2/3, Eapt-X or an AAC HE and ELD, even linear and AES/EBU transparent, all these formats are available. Besides Ethernet, there is 4 BRI ISDN, ASI, 2nd Ethernet, UMTS/3G and POTS/PSTN, depending on the model. All advanced versions offer storage capability on an SD card or USB stick, e.g. for logging, warning signals or regionalization.

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North American Business Development
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www.mayah.com

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OPPOSITION POURS IN OVER POWER INCREASE

It's now easier to notify the commission you've raised your FM IBOC power. But it's possible some tweaks may come to the order down the road because a major can of whoop-a** was filed into the IBOC docket at the commission.

These filings do not stay the effectiveness of the FM IBOC elevated power order. However, the FCC will need to do something with the oppositions or reject them at some point, and the agency said in its January decision that if it has to come back and tweak the power increase order, it will.

Alan Jurison takes issue with the NPR data in its study, saying results restricted how many FMs could really raise their digital power.

Mullaney Engineering wrote "It is an insult to the existing FM licensees ... to pretend that IBOC does not cause interference to existing analog FM service areas because vested interests in iBiquity's IBOC radio system have negotiated or redefined the definition of what is 'objectionable' interference."

Prometheus Radio Project said the Media Bureau decision ignored the potential effect higher-power FM IBOC operation would have on LPFMs.

Press Communications wrote "To suggest that a broadcaster would have to aggregate six continuous complaints and then have to wait months for the complaints to be remediated is ridiculous."

Peter and John Radio Fellowship, licensee of WRBS(FM), Baltimore also opposed the power increase.

IBIQUITY, NAB ASK FCC TO DISMISS POWER INCREASE OPPOSITION

iBiquity Digital Corp and NAB oppose a full commission review of the FCC's Media Bureau order allowing the FM IBOC power increase. They asked the commission to dismiss the objections.

In comments filed with the commission in late May, both iBiquity and NAB argue that the Media Bureau provided adequate opportunity for public comment on the NPR Labs Advanced IBOC Coverage and Compatibility Study and the commission did not need to seek separate comment on the research. They noted that all comments to the docket on the study are available to the public.

SMART:



JetStream MINI IP Audio Networking System



Logitek Jetstream IP audio networking is smart and our lineup of surfaces gives you more choices. JetStream MINI covers all your console and routing options whether it's for a large standalone console, a smaller desktop control surface or a space-saving virtual controller. You decide what's best for your operation. With JetStream IP audio networking, it's all about smart choices.

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CHOICES:



Artisan



Mosaic



Remora



Pilot



vScreen

Gear Galore!

Here's a look at new and recent product introductions for radio broadcast users, as featured at "radio's biggest toy store," the spring NAB Show. Radio World highlighted winners of our "Cool Stuff" Award last issue.

Contributors to this section are Paul McLane, Brett Moss and Tom Osenkowsky.

Aarlon: IP-Based, GUI-Driven Site Control

Aarlon is a remote control and data acquisition system, accessed by a browser, telephone and/or the GUI client application. It can check an individual meter, inspect status



indications, test temperature channels, ensure power line conditions, verify backup battery, confirm wind condition and control up to 32 Form "C" relays.

Assign Aarlon a static IP address and manage your site via browser or the separate application. Click any of the assigned eight up/down command channels or any of

the assigned 16 on/off command channels. Access is password-controlled.

Features include remote messaging; video and real-time audio available via browser; power-line voltage and frequency monitoring; backup battery voltage and amperage monitoring; wind speed and direction indicators; and on-board weather station (wind speed/direction, outside temp, 30-day log).

Info: Bill Cordell, (713) 722-0169, aarlon@aarlon.com or visit www.aarlon.com.

Aldena Has New Radio and TV Antennas

Aldena of Italy has two new antennas along with an upgraded version of the EMLAB antenna system/RF propagation software package.

The ATS0807920 and AQP0404410 are new antennas. The ATS0807920 is an omnidirectional "turnstyle" type quad dipole for UHF band IV/V DVB-T/H duties. The AQP0404410 is a directional dipole panel antenna for VHF band III radio (DAB) and TV broadcast. They are stackable for medium- and high-power operations.

The EMLAB antenna design/RF propagation software package sees an arrival of version 2. Version 2 is multiprocessor and 64-bit compatible.

Info: aldena@aldena.it or visit www.aldenatlc.it.

APT Astral: IP Codec With a Difference

APT launched the WorldCast Astral, described as the first IP codec to offer remote control capabilities and audio backup from a streaming server.

It is an IP STL platform offering professional algorithms including Enhanced apt-X, Linear, MPEG L3, MPEG L2, G.711 and G.722.



If the main IP link goes down, the Audio Back-Up package allows a station to continue to broadcast from files on an SD card or from a SHOUTcast stream. The user can manage 10 playlists, schedule files to play at specific times and use contact closures to trigger file layout.

It comes with Codec Management System Software and can be used with optional browser accessible through a separate IP link. Using Scripteasy V2 software, Astral enables remote control of SNMP-enabled equipment at the transmitter. The graphical interface enables creation of scripts and automatic routines to monitor devices and trigger changes on other equipment. Astral offers an optional algorithm pack including MPEG 4 AAC LD, MPEG 2/4 AAC LC and AAC HEv2.

Sister company Audemat added to its facility management products with Mini Control Silver. The IP-based unit offers eight digital inputs, eight analog inputs and eight contact closures: it supports Scripteasy, enabling engineers to benefit from scripting, telemetry and SNMP technology. The unit is supplied in the DIN format used in PBX or IT rooms.

Audemat showed a new version of its HD modulation monitor, the GoldenEagle HD V2. It adds analysis of RDS groups distribution, AID monitoring and the remote streaming of raw RDS data; the ability to monitor new HD data signals such as UFID (iTunes HD Tagging), IBOC BER and PAD; and support for Scripteasy V2.

GoldenEagle V2 offers a new HD tuner enabling detailed HD data monitoring such as presence of services and MIME types as well as enabling the streaming of raw HD data.

And the company introduced iMasterview, a new application for Scripteasy software. It consists of ScriptEasy Designer, which supports development, and the MasterView module, which allows real-time status display and management. The user has access to the Masterview application on an iPhone or 3G-enabled device to see at a glance the status and performance of a network.

Info: Christophe Poulaine at (305) 249-3110, poulaine@audemat.com or visit www.worldcastsystems.com.

Arrakis Adds to Accent

The new Accent line of component studio furniture for radio by Arrakis attempts to bring art and function together. The metal structure is integrated into the visible design decor of the cabinetry, creating a durable and attractive studio, the company says.



Accent uses a contemporary blend of brushed metals, pleasing colors and interesting textures. Cabinetry and electronic equipment complement each other to create a bold visual environment for talent, guests and clients.

Accent is available in standard models as well as custom configurations. The hybrid metal frame and structural panel design combined with Arrakis' computerized manufacturing systems tailor the product to fit a studio's size and shape.

The company also won a "Cool Stuff" Award for its ARC-8 console; see previous issue.

Info: Ben Palmer, (970) 461-0730, benp@arrakis-systems.com or visit www.arrakis-systems.com.

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AxiaAudio.com/iQ/

SUMMER PRODUCT PREVIEW

ATI Clocks In

Audio Technologies Inc. now has a Series 3 line of products.

The first are the MCDA-208/WC106 and the DDA-416/WC106. Decoding the ATI model numbers, the MCDA-208/WC106 is a master clock generator with dual 1 x 4 AES/EBU digital audio distribution amps and a 1 x 6 clock distributor.



The DDA-416/WC106 is as a quad 1 x 4 AES/EBU distribution amp with a 1 x 6 clock distribution section.

The MCDA-208/WC106 generates sample rates from 44.1 kHz to 192 kHz with 16-, 18-, 20- and 24-bit word lengths. The unit can rely upon the internal clock or distribute an external clock feed. It has a fail-over mode. Input sample rates run from 32 to 192 kHz. Nonvolatile memory stores settings. Loop-throughs are available for

AES sync or word clock.

The DDA-416/WC106 has many of the same features, excluding only the clock generator.

Info: Art Constantine (856) 626-3480, info@atiaudio.com or visit www.atiaudio.com.

Audioarts Takes the AIR

Audioarts introduced the AIR-3 tabletop radio console, promising advanced power at an economical price point. It provides 12 stereo input fader channels (A and B inputs on each channel), 13th phone caller fader



with TB and auto MXM to caller, remote Start logic for each fader, two mic preamps, two program busses with balanced outputs

(switchable stereo or mono mode), control room monitor, split cue, cue speaker, studio output with independent source selection and CR to studio TB button and an external input that feeds the monitor section (for live air or pre-delay air monitoring).

The USB connection is patchable to any input fader and internally DIP-switchable to pick up program 1 or program 2 output mixes. This lets the AIR-3 interface with a desktop computer for news and music sweetening functions, or to stream audio mixes from and to the console.

Info: Jay Tyler at (252) 638-7000, jay@wheatstone.com or visit www.audioartsengineering.com.

AudioScience Signs Junior Partners

Featured by AudioScience at the spring show was the ASI564x series, described as "junior partners" of the ASI6600 series of PCI Express sound cards, used in radio station automation.

The cards retain features such as +24 dBu balanced analog audio with 110 dB dynamic range, and AES/EBU digital I/O with hardware sample rate converters on all inputs. Multi-channel support is standard.



Using the surround sound extensions (SSX), streams of up to eight channels may be played, recorded and mixed. These cards are suitable for applications such as radio production and automation systems that do not require DSP-based MPEG compression.

AudioScience talked about the ASI2416-1147, an IP broadcast switcher that supports switching multiple inputs to multiple outputs as well as GPIO.

Also featured were the ASI8914, a universal PCI card that contains four HD Radio/AM/FM tuners. Each tuner may be set to an independent analog or HD Radio station. The audio from each tuner is presented to the computer host as a mono or stereo record stream that may be accessed through a 32-bit PCI bus master interface. Each tuner can also decode and stream the HD Radio Program-Associated Data (PAD) data and RDS/RDBS data for analog FM. HD Radio multi-cast is supported, allowing the audio and PAD stream to be switched between the Main Program Service (MPS) and Secondary Program Services (SPS) under software control.

And the company showed the ASI6585, which merges Axia's Livewire with

advanced audio processing on one adapter.

Info: Stephen Turner, (302) 324-5333, salesasi@audioscience.com or visit www.audioscience.com.

A-T BPHS1 Has Closed Cups, Gooseneck Mic

The BPHS1 is a stereo broadcast headset from Audio-Technica, introduced in recent months and designed for on-air news & sports broadcasting, announcing and interviews.

A-T promises "natural, highly intelligible and focused vocal reproduction," closed-back circumaural ear cups to keep out noise and a high-output dynamic microphone on a flexible gooseneck boom.

The mic has a cardioid polar pattern tailored for pickup of speech with maximum voice intelligibility over a range of frequencies.

It is more sensitive to sound originating directly in front of the element, making it useful in reducing pickup of unwanted sounds.

The flexible gooseneck boom swivels for easy positioning on either the right or left side.

The manufacturer also showed the new AT4080 Phantom-powered Bidirectional Ribbon Microphone, which it says solves problems of fragility and low output that have historically plagued ribbon mics.

Info: (330) 686-2600, sales@atus.com or visit www.audio-technica.com.



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WORKBENCH

by John Bisset



EVERY ISSUE
RADIOWORLD

The system uses an Advanced Echo Cancellation algorithm by Fraunhofer. Each rackmounted input component offers a microphone and speaker while the Element



2.0 console-based input devices use the Element's operator mic for input and console speaker for output. As part of the Livewire network, interfacing is obtained by Cat-5 cabling. The Axia Audio IP-Intercom system also can work independently of a Livewire network, as a straightforward Ethernet-based intercom system.

Axia Audio is now shipping its X1, X2 and XY Router Control panels, new additions to its lineup of rack- and turret-mounted control panels and console drop-in modules

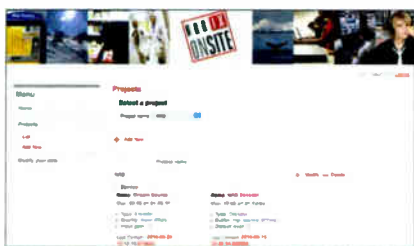
Also featured was the Telos iQ6 Telco Gateway, which adds a multi-line broadcast phone system to Axia's new iQ broadcast console with one cable connection.

The company's Axia iQ console, Omnia.11 processor and Telos VX talk-show system won "Cool Stuff" Awards; see the June 2 issue.

Info: Marty Sacks at (216) 241-7225, marty@axiaaudio.com or visit www.axiaaudio.com.

Barix Reflects on Service

IP audio distribution pioneer Barix's latest offering isn't a new IP audio encoder or decoder box but rather a service. The Reflector Service is a dedicated connection service to facilitate and optimize connections between Barix's boxes.



The Reflector Service claims to be a cut above and different from a SIP-style server initiated audio.

CEO and founder Johannes G. Rietschel explained: "Many of our customers who use a basic Internet connection to transport point-to-point audio have had challenges getting past firewalls and setting up static IP addresses. The Reflector Service essentially auto-configures the devices over the Internet and serves as an intermediary; the encoder forwards the program audio to the server and the decoder pulls the stream.

Barix is also offering an STL "kit" consisting of a pair of Exstreamer 500

encoder/decoders and several months of free Reflector Service.

Info: Andy Stadheim, (866) 815-0866, info@barix.com or visit www.barix.com.

BDI Keeps an Eye on Power

The DPS-100D from Broadcast Devices is a self-contained digital RF power monitoring device that can be used alone or as part of an integrated monitoring and protection system for master antenna systems or general-purpose RF site monitoring.

True RMS measurements of analog or digital signals are provided with an accuracy of ± 5 percent of reading in single or multicarrier systems. Forward and reflected power and line temperature are displayed



on an easy-to-read illuminated LCD display, along with external temperature and line pressure measurements from optional external sensors and up to six switch closure inputs.

Multiple sensor systems may be configured using the fault-tolerant CAN bus. Ethernet, USB and RS-485 interfaces are provided for local or remote monitoring. The network-ready DPS-100D supports most popular protocols including SNMP, SMTP, TCP, UDP, SNTP and HTTP.

Info: Richard Almeida at (914) 737-5032, sales@broadcast-devices.com or visit www.broadcast-devices.com.

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"PR&E® NetWave™ consoles and the VistaMax™ audio management system have long offered the premier platform for radio studios. For many smaller facilities, however, digital audio networking has been cost-prohibitive.

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Joe Marshall, Product Line Manager for Radio Studio Solutions at Harris Broadcast Communications, is a key member of the PR&E product design team — and is also on the front line, helping customers choose the best systems for their needs.

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SUMMER PRODUCT PREVIEW

BE AudioVault Gets New Tools

Broadcast Electronics showed new tools for its AudioVault automation platform. The AudioVault Flex gets an improved segue editor along with a new user interface that allows for customized screens for individual shows or talent.

AudioVault adds tools for synchronizing schedules and inventory across multiple AudioVault sites. AudioVault's logger has



band power levels.

The approach combines a new crest factor reduction scheme and real-time distortion pre-correction to yield up to 7 percent additional transmitter efficiency and another

new metadata capabilities including podcast, PPM and RDS metadata.

BE also introduced Vector Power Enhancement (VPe) technology, which it says is capable of improving transmitter efficiency and output for elevated HD Radio side-

band power levels. BE says, "With this new technology, BE FMI tube and solid-state transmitters for HD Radio will realize optimum linear performance affecting their power class rating, thereby reducing hardware cost, heat loss and overall cost of HD Radio adoption at higher -14 dBc or -10 dBc injection levels."

The company showed a 2 kW version of the STX LP low-power, solid-state transmitter line, which is scalable from 1 kW to 5 kW and comes with built-in exciter, emergency backup controller and IP connectivity. Prices start at \$7,000 for 1 kW version.

Also from BE are new functions in the

Message Manager suite, part of The Radio Experience line. TRECast is a tool for creating unscheduled messages such as news alerts and weather warnings that can be redistributed on RDS, HD Radio, the Web or Twitter. New social network tagging capabilities give listeners the ability to receive a station's now-playing data as well as earmark songs for purchase through the station's Twitter or Facebook feeds.

And BE demo'd its new logger for the AudioVault automation system. The logger includes podcast, PPM, RDS and other metadata capabilities.

Info: Ray Miklius, (217) 224-9600, rmiklius@bdcast.com or visit www.bdcast.com.

Broadcast Tools 'Switches' the Web

WebSwitch from Broadcast Tools is designed for remote reboot or remote control of equipment over the Internet. It is self-contained and includes a Web server and internal power supply.

Each of the two outlets can be configured for "Standard" mode or "Automatic Reboot" mode.

In "Standard" mode, users can remotely control each outlet. In "Automatic Reboot" mode, WebSwitch will ping a specified IP address and "power-cycle" that outlet if a number of pings fail. It also offers password-protection.

WebSwitch has templates for configuring common operations and requires no programming skills. Its outlets are 120 V/10 A and the unit is desk or wall-mountable.

The Site Sentinel 16 is a Web-based 16-channel site remote control system. Four temperature probe inputs are available as well as an internal temperature monitor, stereo silence sensor, 100-event scheduler and power failure input. Each input channel and all relays can be controlled and/or monitored over an IP network or the Internet via a Web browser or Web-enabled mobile device. Recipients may be notified via e-mail when alarms are detected.

Info: Don Winget at (360) 854-9559, btj@broadcasttools.com or visit www.broadcasttools.com.



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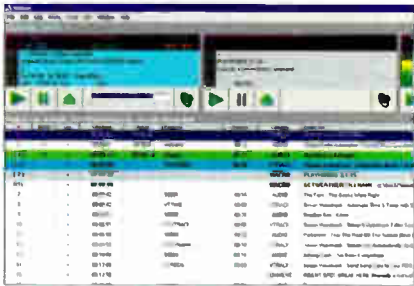
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BSI Simian 2.0 Lite Is for Webbers

BSI's Simian 2.0 Lite is designed for use by Internet broadcast professionals, providing them with a professional-grade automation system.

Features include automated program log playback, the ability to import logs from major third-party log-generating applications, the ability to create logs from within



Simian, outgoing serial communications (output metadata via COM port to your streaming hardware), configurable pass-through mixer, voice tracking function for voice-overs, event logging to track played items, 39 available automation macros and an improved CHAIN macro.

Info: Marie Summers at (888) 274-8721, msummers@bsiusa.com or visit www.bsiusa.com.

Burk Fits Into a Size Plus-X

Burk debuted the Plus-X Integrated Input Unit and Plus-X Integrated Command Relay Unit at NAB.

These use IP to bring I/O channels into the ARC Plus system, rather than requiring a hardwired serial connection like other units.



This allows broadcasters to add remote control channels anywhere. "Customers find this especially useful for studio I/O, auxiliary sites and translators, as IP-based I/O allows cost effective expansion without having to add entire remote control systems," according to the company's Jonathan Burk.

The rear panel of the Integrated Command Relay Unit is shown.

The company also earned a Radio World "Cool Stuff" for its Autopilot 2010 with Jet Active flow charts.

Info: Jonathan Burk, (978) 486-0086, jonb@burk.com or visit www.burk.com.

Comrex Appoints Christenson

Comrex named Dave Christenson to be responsible for its sales efforts in the Asia Pacific region.

In addition to founding a U.S. rep firm and advertising agency, Christenson has held senior broadcast sales positions with Sony, SSL, Euphonix and Loud Technologies, parent company of the Mackie, Ampeg, EAW and Alvarez brands.

Comrex won a Radio World "Cool Stuff" Award for its ARC Access Reporter codec for Android, as reported in our previous issue.

It also told convention attendees



about how Bio Bio La Radio in Chile used its new IP audio codecs to air critical information after the earthquake in February. Journalists Maria Carrasco, Richard Jimenez, Rodrigo Pino and Jorge Muñoz used Access Portable codecs to report on the devastation from Concepcion, Santiago, Talcahuano and Dichato.

Bio Bio also has used Access codecs to report on the Chilean presidential elections and for coverage of the national soccer championships on ESPN Radio Bio Bio Sports.

Info: Chris Crump, (800) 237-1776, ccump@comrex.com or visit www.comrex.com.

Dawnco Navigates Birdland

The DawnLink from Dawnco lets satellite users navigate a maze of digital channels to identify any satellite.

Users can peak their dish for maximum performance. A full-screen spectrum analyzer lets you aim the dish for best carrier-to-noise ratio. You can confirm that you are on the proper bird with the MPEG2 satellite receiver, to view unencrypted sat channels on the DawnLink's




Photo by Jim Peck

color LCD display. Peak when dish adjustments show up clearly in the Constellation View dot pattern display of a digital channel. You can watch for text that comes directly from the digital channel data stream, to identify the satellite name and channel. Includes carrying case, neck strap and LNB powering from the DawnLink.

Info: John Joslin, (800) 866-6969, johnj@mail.dawnsat.com or visit www.dawnco.com.

Where Great Radio Begins

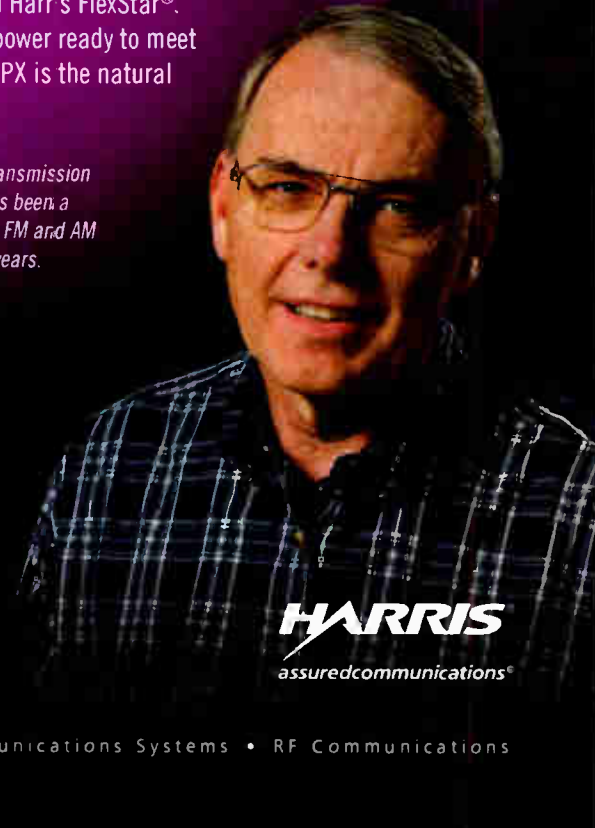
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Geoff Mendenhall, Vice President of Transmission Research and Technology at Harris, has been a key part of countless, groundbreaking, FM and AM transmitter designs for more than 30 years.



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SUMMER PRODUCT PREVIEW

Davicom Adds Features to MACs

Remote control system developer and manufacturer Davicom has upgraded its MAC unit firmware and the overall MacNet network software.



MAC unit firmware is upgraded to 5.40. New features include MODBUS sensor interfacing, the ability to attach XML to alarm e-mails, upgraded logging tools and USB "reach-through."

The MacNet multisite alarm management software has been upgraded to 5.30. It included Unicode support for GUIs to support multiple languages, a BitMap display option, improved map display features and improvement in alarm redirection performance and options.

Info: Guy Fournier, (418) 682-3380, guyfournier@davicom.com or visit www.comlab.com.

DaySequerra Shows Diversity Delay Monitor

DaySequerra's M2DDM follows in the footsteps of the M4DDM Diversity Delay Monitor.

The M2DDM is larger at 2 RU but contains an improved feature set. Like its sibling, the M2DDM uses a proprietary DSP-based algorithm called Time-Lock to measure the HD Radio analog and digital program diversity differential with accuracy to one audio sample. Using a selective off-air tuner, the M2DDM measures the MPS analog and HD1 digital audio diversity; calculates the number of audio samples that must be added or subtracted to synch the two audio streams; determines the level offset required; and generates a continuous stream of correction vectors to keep the analog and digital audio time- and level-aligned.

The correction vectors can be processed internally by the M2DDM to delay the digital program audio or sent via Ethernet to an Embedded Exporter or audio processor to provide the necessary adjustments to the analog audio delay.

The M2DDM also comes with DaySequerra's DDM Remote Dashboard, a Web-based remote monitoring and control application capable also of issuing alarms via e-mail and SMS.

Info: Brittney Day at (856) 719-9900, brittney@daysequerra.com or visit www.daysequerra.com.

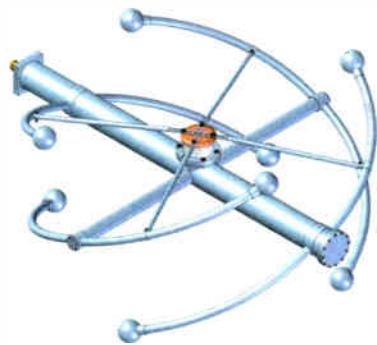
Dielectric Unveils High-Power Antenna

Dielectric introduced the DCR-S/HDR-S circularly polarized FM antenna.

Designed for high-power operation, each

bay is capable of handling 28 kW, making it ideal for multiplex situations.

Radomes or integral deicers are optional where ice formation is common. VSWR is field adjustable via a fine matcher. The design, with four dipoles per element, offers



a more symmetrical azimuth pattern and H/V ratio than two-dipole design.

Special applications such as directional antenna, reduced downward radiation, beam tilt and/or null fill are possible. The DCR-S model is right-hand CP, the HDR-S is left-hand CP.

Info: Matt Leland, (207) 655-8152, matt.leland@dielectric.spx.com or visit www.dielectric.com.

Digigram Names Master Distributor

Digigram, which makes PC audio interfaces and networked audio devices, changed its distribution in North and South America.

Point Source Audio becomes Digigram's master distributor here. PSA will take over distribution and will be the main point of contact for Digigram's representatives and resellers.



James Lamb, Digigram's business development manager for the Americas for 10 years, is with PSA. He made the announcement with Digigram President/CEO Philippe Delacroix.

Digigram also continues to expand the IQOYA line of codecs, this time with a simple, pared-down, decode-only variation on the *Link, the Link/LE.

The Link/LE supports G.711/G.722, MPEG 1/2, Layers II and III, AAC and standard PCM. Enhanced apt-X is available as an option.

Link/LE uses Digigram's FluidIP codec engine for more reliable IP performance across two RJ-45 connections. For audio fail-over, an SD card or backup IP address can provide backup audio. Link/LE is N/ACIP and SNMP compliant.

Also new from Digigram is a pair of audio cards from the LoLa line, the 16161

and the 881. The 16161 is a 16-channel card while the 881 is an eight-channel card. Both provide duplex AES/EBU digital audio (8 x 8 or 4 x 4 for the respective cards). Both operate up 192 kHz and will sync to word clock or video sync.

Info: info@digigram.com or visit www.digigram.com.

HotShot Featured at ENCO

The latest version of HotShot, the ENCO dedicated "button box" multichannel instant playlist appliance, was on display, along with an iPad interface, allowing control of the system from the Apple iPad.



ENCO Systems also featured the newest DAD and Presenter, version 10.0, which includes a number of user-requested features and enhancements both in the user interface and the underlying DAD audio and control engine.

"We also informally debuted the forthcoming music scheduling system within DAD called Ensemble," the company's Don Backus said. "We also showed RAMA, the Remotely Administered Metadata appliance, and PADapult, our software only solution for metadata distribution for HD Radio, RDS and Web."

Info: Don Backus at (248) 827-4440, backus@enco.com or visit www.enco.com.



ERI Adds a Four-Bay Axiom

Electronics Research Inc. has made available a four-bay version of its Axiom side-mounted master FM antenna for the full FM band.

The four-bay is available in configurations capable of handling input power levels of up to 112 kW, for single or combined FM signals. The design is based on the Rototiller Series FM element and offers an affordable option for main or auxiliary applications.

It features rigid interbay transmission lines that resist ice and severe weather. Axiom FM antennas are available with optional electrical deicers or radomes. The Axiom master FM antenna is available in higher-gain six-, eight-, 12- and 16-bay configurations.

ERI also introduced a broadband 3-1/8

inch four-port motorized coaxial switch. The Model CS300 is for VHF or UHF broadcast application from 54 to 862 MHz. The switch is a coplanar design that simplifies interconnecting transmission line requirements and allows for more compact equipment configurations with fewer expensive elbows. The CS300 is available with a 110 or 240 VAC drive motor and control voltages of 12 or 24 VDC.

ERI introduced a new type of its MACXLine Rigid Coaxial Transmission Line, a 50 ohm version of its 8-3/16-inch rigid transmission line. It has special application as a main transmission line for master FM Antenna systems, which ERI says have been forced to use dual line runs of 6-1/8-inch rigid line. A run of MACX850 rigid can handle more than 280 kilowatts of combined FM power.

Also new is the CD324-8DB FM IBOC Hybrid Injector, intended for use by FM facilities increasing IBOC injection to -14 dB (4 percent). ERI also showed a line of fixed directional couplers for FM radio and VHF/UHF television that can be used with ERI's PWR-100D Power Monitor and its companion VPS-100 VSWR Monitoring and Protection system, produced with Broadcast Devices, or as standalone test ports or in applications such as providing a modulation monitor sample.

Info: Bill Harland at (812) 925-6000 x 214, bharland@eriinc.com or visit www.eriinc.com.

ESE Gives a Time Check

The ES-110 master clock, from time and signal distribution equipment manufacturer ESE, uses the GPS system to derive its central clock data rather than an internal crystal or some other source.



It will output a 10 MHz signal in square or sine waves. It also outputs ESE TC90 Time Code for remote time displays and a standard 1 PPS clock signal. Internal DIP switches allow configuration of timecode, time zone, antenna cable length compensation and the satellite tracking mode.

The front panel of the aluminum desktop box has an LED that indicates when a stable GPS lock has been obtained while another LED marks power.

There is a TNC antenna input as well on the back panel for the included 16-foot antenna or an optional "high-performance" GPS antenna.

Info: Monica Trotter at (310) 322-2136, mtrotter@ese-web.com or visit www.ese-web.com.

LIVE REMOTES VIA INTERNET? Z/IP MAKES IT POSSIBLE.



GET A PAIR OF Z/IPs FOR JUST \$5,995. BUT HURRY – SUPPLIES ARE LIMITED.

High-speed Internet connections are everywhere. Wouldn't it be great to use them for broadcast remotes? Telos Zephyr/IP makes it possible.

The heart and soul of Z/IP is the amazing Agile Connection Technology from FhG. ACT combines state-of-the-art loss detection and concealment with dynamic buffering and adaptive bitrates. Your Z/IP will intuitively use every digital trick in the book to ensure audio gets to your studio with the lowest possible delay.

Not only is the audio incredible, but using it couldn't be easier. Z/IPs can find each other, even behind firewalls and NATS, thanks to a network of distributed servers. Z/IP can even connect to calls from PBXs that use the SIP standard. And users love the big, color display that can even show their connection being routed around the world.

Unless you're broadcasting from the moon, you'll probably find Internet just about everywhere you'll want to do a remote. IP is everywhere. And Z/IP is the best way to hear from everywhere.

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Radio Never Sleeps. Neither do we. We're here for you, anytime, with free round-the-clock, 24/7 technical support. Call +1-216-622-0247.

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Eventide Broadcast Delay Upgraded

Eventide has announced the Version 1.6 software upgrade for its broadcast delay units, the BD600 and the BD600E.

Available as a free download, the upgrade affects the functionality of the BD600 series in two key areas.



In "MicroPrecision" mode, the delay now extends to 20 seconds. This mode can be used for synching analog with digital signals in an HD Radio broadcast chain, or for delaying the signal to compensate for satellite delay on TV simulcasts. The delay is adjustable in subsample increments and is tweakable in real time, while on-air, with no audible artifacts. For compatibility with certain excitors, 1,200 baud support has also been added.

The digital BD600 and its sibling, the BD600E with expanded control ability, offer 80 seconds of 24-bit profanity delay protection, with an adjustable delay buffer in 0.5-second increments from 1 second to 80 seconds, and feature Panic mode, where if the maximum delay buffer has been deployed, a WAV file can be played from an inserted Compact Flash memory card while the buffer is rebuilding in the background.

Info: Ray Maxwell, (201) 641-1200, audio@eventide.com or visit www.eventide.com.

Gorman-Redlich Ready for EAS CAP

Gorman-Redlich introduced the CAP-to-

EAS Decoder System, which does not require the purchase of a new EAS encoder-decoder.

It will interface with Gorman-Redlich and all other EAS manufacturers' units. The single-rack standalone unit translates received



CAP alerts into EAS headers and digital audio converted to analog for transmission into the station's existing EAS encoder/decoder equipment.

Alert reports may be printed to a USB or network printer. Additional features include on-board storage capacity of 500+ MB for log files and message/audio archives, RS-232 serial port, up to eight USB ports for attaching printers, external storage devices or network adapters, 10/100/1000 GB LAN connection with built-in firewall and codecs for decoding/playing MP3 or OGG Vorbis alert audio. Software may be updated via LAN or optional USB KVM switch. The unit is powered by a 1.6 GHz dual core Intel Atom 330 processor and has 1 GB of RAM.

Info: Jim Gorman, (740) 593-3150, jimg1937@yahoo.com or visit www.gorman-redlich.com.

Harris Diversifies Distributed Audio Options

Harris rolled out a range of PR&E studio products promising low-cost, distributed audio options for radio.

The VistaMax audio management system is the centerpiece of the PR&E range of studio systems and consoles. Three new VistaMax systems provide entry-point audio networking and/or lower the cost of studio and automation system integration. The

company said the expanded VistaMax range will appeal to smaller studio facilities and operations that previously found distributed audio access models cost-prohibitive.



VMConnect provides an easy means of networking consoles and other VistaMax devices through local I/O (input/output) sharing. It establishes a low-cost distribution audio access model for up to 12 studios and enhances control between each networked device.

VMXpress delivers distributed I/O (16 or 32 inputs/outputs) at a low competitive entry point. It provides an audio and logic access point from anywhere in the studio with minimal cable requirements and is suitable for point-to-point applications.

VMQuadra provides an interface between VistaMax digital studio networks and radio automation systems. It's a foundation for new media workflows in the studio, and provides up to four stereo inputs and outputs each for up to four automation computers.

Harris also showed studio-to-transmitter solutions and introduced the Intraplex CM-30 module for converting existing Intraplex T1 and E1 systems to IP.

The Intraplex CM-30 network card plugs into installed Intraplex multiplexer frames for conversion to IP. Intraplex says this provides reliability in transport approaching the levels of T1/E1 with lower recurring costs. Signal quality and feature sets of T1/E1 systems are retained while migrating to lower-cost, high-performance IP networks.

Also shown were Intraplex NetXpress Audio over IP platforms, including the new NetXpress LX, a 1RU IP audio codec capable of carrying up to four bidirectional stereo audio programs.

Harris also demonstrated its HPX high-power tube transmitter with the latest FlexStar HDI-100 Importer (v4.3), featuring new software code from iBiquity. It is believed to be the first Importer capable of supporting HD Radio quad-channel broadcasts.

Info: (800) 231-9673 or visit www.broadcast.harris.com.

Henry Multiplies Port Options

The MultiPort from Henry Engineering is a rack-mounted, multi-format audio interface panel.



It will handle analog and digital (AES/EBU and S/PDIF) audio through RCA, XLR, 1/8-inch and 1/4-inch connectors and offers the option of adding RJ-45, USB or FireWire connectors. Onboard circuits provide conversions.

Also new for Henry is the PowerClamp Series 10 Transient Voltage Surge Suppressor (TVSS).

The largest PowerClamp made, the Series 10 is able to handle a whopping 200,000 surge-amps and are designed for sites susceptible to lightning damage. The PowerClamp uses multiple surge attenuation circuits and sine wave tracking to perform its magic and "will attenuate power line spikes and surges to within a few volts of the AC sine wave," according to a press release.

It has 1-2 nanosecond response time and should be maintenance-free and non-degrading. They meet UL-1449 and ANSI/IEEE C62-41 1980 guidelines.

PowerClamps are available for single-phase and three-phase electrical systems.

The PowerClamp is made by Sine Control Technology and distributed by Henry Engineering.

Info: Hank Landsberg at (626) 355-3656, henryeng@aol.com or visit www.henryeng.com.

RDS Is Highlighted at Inovonics

Inovonics' Model 730 is the newest product in a line of RDS/RBDS encoders.



It features Tagging and RT+ technology, along with dynamic scrolling of song title, artist information and station ID. With an easy-to-read LCD display, a jog wheel and three ways to connect (USB, RS-232 and IP),

Pinching shouldn't be painful.

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the 730 is convenient to set up and easy to use.

The company says the 730 connects with virtually any playlist system, integrates with popular third-party software systems, displays incoming data from automation "on the fly" and shows outgoing scrolling messages exactly as they are seen by listeners.

Info: Lukas Hurwitz, (831) 458-0552, Lukas@inovon.com or visit www.inovon.com.

International Datacasting Flexes Its Muscles

International Datacasting's (IDC) SuperFlex DVB-S/S2 satellite receivers are available in two- and four-stereo channel models.

The SuperFlexes offer significant Web control for remote operation, monitoring and scheduling and insertion duties. Performance includes bit-rate agility and MPEG Layers II and III, MPEG 4 and AAC.

The SuperFlex line is also scalable for use in network centers and will work with LANs and automation systems. Options include encryption, additional remote operation controls, failover options and multiple input choices.

Info: (613) 596-4120, sales@datacast.com or visit www.datacast.com.

JK Audio Debuts BlueDrivers

New from JK Audio are the BlueDrivers, a pair of Bluetooth interfaces that utilize XLR connectors.

The BlueDriver-F3 is designed to plug onto a dynamic microphone or into a mic level output of a mixer and interface with a

Bluetooth-enabled cell phone or headset, thus acting like a Bluetooth-based wireless transmitter. A

1/8-inch output can be routed to a recorder. The

BlueDriver-M3 plugs into the mic input of a mixer and will receive a Bluetooth signal from a cell phone or headset. A 1/8-inch input on the BlueDriver-M3 will accept an input from a mixer headphone output and duplex transmit it to the cell phone or headset.

JK Audio's Universal Host is a digital phone hybrid aimed at duty in small studios and production rooms.

The Universal Host can interface with traditional PBX and IP phone systems. It offers 16-bit/48 kHz audio recording capability. Onboard DSP separates signals and cancels echo and other unwelcome noise.

Level controls are provided for both send outputs, caller and headphones. A mini USB jack connects to a computer to make the Universal Host act as a sound card for inputting audio into a computer. The front panel offers a 1/8-inch-3.5 mm headphone jack. An RJ-22 jack is used for phone connections. A 1/8-inch-3.5 mm jack on the rear panel

handles a stereo line output.

Info: Joe Klinger at (800) 552-8346, info@jkaudio.com or www.jkaudio.com.

Pilot Steers Logitek Booth

Logitek featured its small, flexible Pilot surface, which works with the JetStream Mini console engine and IP networking platform.

The Pilot has access to any audio source in the facility. Frames are available to accommodate six, 12, 18 or 24 faders; selection of program and three Aux busses is available over each fader. Provided with each fader is a



dedicated Cue button with cue speaker; new sources may be selected for any fader via its Change button and a central Select knob.

Wide-angle displays below faders provide 16 characters of text and support Unicode

characters; clearly labeled monitor controls are provided along with headphone jack. An optional meter bridge provides two stereo LED bargraph meters with tally LEDs.

The company also exhibited its JetStream Mini IP console engine and IP networking system; and it announced the recent sale of console systems to KACU(FM) in Abilene, Texas; WXPN(FM) in Philadelphia; Chinese Community Radio station 3CR in Melbourne, Australia; the Connecticut Network; and Georgia Public Television.

Info: Frank Grundstein at (800) 231-5870, frank@logitekaudio.com or visit www.logitekaudio.com.

Digital I/O (Without the side effects)

At Lynx Studio Technology, we make it a habit to be uneffected. That is, our line our PCI and PCI Express audio cards have no Digital Signal Processing (DSP) effects added to them. No EQ, no limiting or compression, no time-scrunching, no loudness processing - nothing. So the sound you put into them is the sound you get out of them.

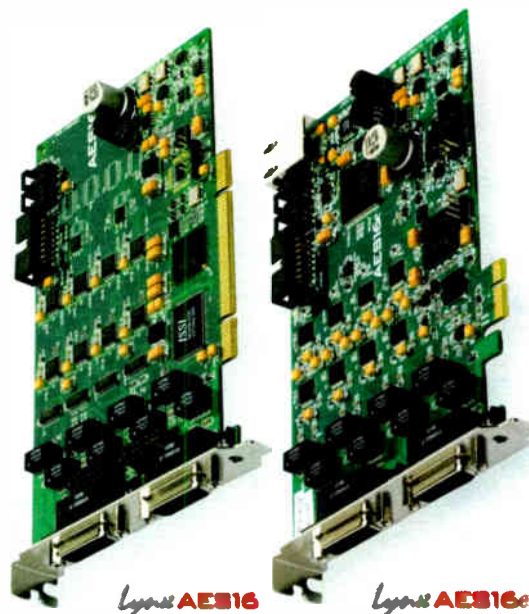
Why is this important to you? First, most of the audio applications that power your radio stations now have extensive DSP built into the app or available as plug-ins. These software tools give you more control, customization and recallability than

comparable hardware tools. Plus they are easily updatable.

Second, how would we know what DSP would be ideal for you? AM, FM, online, digital, analog, talk programming, type of music genre? You have all those answers, we don't.

Third, why should you pay for the cost of DSP that you probably don't need and won't use? At least that's what they think at companies like Dalet, Harris Broadcast, Sirius/XM Radio, National Public Radio, HBO, CBC (Canada), TSA Telefonica (Spain) and many, many others. Lynx audio cards' sound quality, driver stability and rock-solid reliability are the crucial elements for these discriminating customers.

The AES16 and AES16e digital audio cards offer 16 channels of pristine AES/EBU digital input and output at sample rates from 44.1 to 192 kHz. Sixteen channels of reliable, clear digital audio. Optional sample rate conversion and AES50 connectivity starting at \$695 US suggested retail price.



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SUMMER PRODUCT PREVIEW

Mayah SIPs With Other Codecs

German codec maker Mayah Communications' new version 4.0 firmware for the C1191 codec supports dual audio streaming over IP with redundant streaming capability along with WLAN/Wi-Fi support. Version 4.0 firmware for Sporty and Flashman II now supports WLAN/Wi-Fi



along with ISDN, POTS, IP, 3G, BGAN and SIP. All three units offer SIP and N/ACIP support with ACC for IP communications with non-Mayah audio codecs with SIP compatibility, real-time audio recording during transmission and playback to SD or USB memory storage.

Mayah also recently announced that its SIP server has proven to be compatible with Tieline and Comrex SIP-compatible codecs. SIP-compatible servers are designed to allow codecs from competing manufacturers to be compatible with each other.

A test using the Mayah SIP server, conducted between WAMU(FM) in Washington and a Mayah codec in Washington state, was successful.

Mayah is a founding member of the Audio-

via-IP Experts Group that sets standards for codec IP performance and compatibility.

Info: Dan Loeffler at (360) 618-1474, dloeffler@mayah.com or visit www.mayah.com.

Musicam Rolls Out New Roadwarrior

Musicam's new battery-operable Roadwarrior XL is a two-channel codec with four mic/line inputs and one line-only input; four headphone outputs and two auxiliary line outputs.

The two channels can be mixed and have compressor/limiters on them. The unit offers IP and POTS connections with full duplex performance. Options include 3G and ISDN.

Supported codecs include G.722, MPEG 1/2, Layers II and III, AAC-LC, AAC-LD, HE-AAC, apt-X and standard PCM. Monitoring tools allow for jitter, bandwidth and delay control.

Info: Alvin Sookoo, (732) 739-5600, info@musicamusa.com or visit www.musicamusa.com.

Nautel Ships VS Line, Connects With Axia

Nautel announced it is shipping the VS

line of low-power FM transmitters. Among the features are IP-connectivity options and compatibility with Axia Audio's Livewire network protocol.



Nautel's John Whyte stated, "Even though the VS Series is an entry-level, low-power transmitter, it probably has the largest brain of any transmitter we've ever produced. Its whole front end is IP-based; that means IP audio streaming in, for example Livewire or Shoutcast, and the same AUI control interface that we build into our flagship NV Series transmitters." AUI is the company's Advanced User Interface.

The analog VS line is available in 300 W, 1 kW and 2.5 kW powers with an HD Radio/DRM add-on available. Filters and many parts are field-replaceable with access via common tools. An onboard exciter is included.

According to Nautel the VS units are designed to handle the often less-than-optimal conditions of low-power facilities.

Nautel and Axia Audio teamed up for a studio-to-transmitter digital link demonstration. Using Axia's Livewire network scheme and Nautel's VS transmitters, the companies showed how audio can be run throughout

a studio via the Livewire Ethernet-based digital audio network and then sent to a Livewire-compatible transmitter over IP. The transmitter can also be controlled by Livewire over same IP link.

Nautel also showed a production version of an integrated Orban audio processor in the company's VS Series transmitters, in the form of a plug-in DSP card.

Info: Chuck Kelly at (902) 823-2233, info@nautel.com or visit www.nautel.com.

OMT Debuts iMediaTouch Version 4

A new version of the iMediaTouch automation suite is available from automation software developer OMT Technologies.

The highlight of Version 4 is a new graphical user interface, which according to the company will provide "greater user defined flexibility and feature access."

The new version also claims a "new multi-blade design with a more dynamic segue editor and enhanced air studio recorder."

A new feature is the ability to place a station's logo on the main on-air screen. Added also have been new keyboard shortcuts for additional control of the voice track module. A back-time feature in the voice track module now allows for calculating time remaining.

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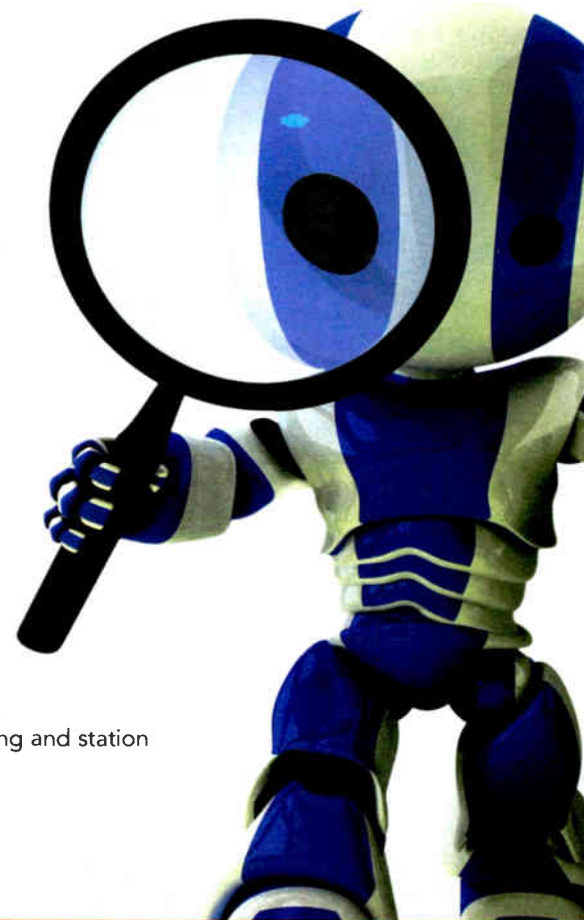
Not everyone has the time and resources available to see everything presented at the annual NAB Show in Las Vegas. Yet, keeping up with the news and significant technology introductions is vital to your job and career. We can help.

Join us for a FREE executive briefing, originally presented June 2nd, on the *25 Things You Might Have Missed at the NAB Show*. The Radio World editorial team traveled the sessions and exhibit floors of the Las Vegas Convention Center to find the people, news and technology certain to have an impact on radio broadcasting and station operations throughout the coming year and beyond.



With Radio World's
Paul McLane, Leslie Stimson
and Brett Moss

Brought to you by:



TO VIEW THE RECENT ARCHIVE, VISIT: <http://radioworld.com/webinars/8/>



Radio Systems Builds a Platform

Radio Systems has a new console coming in the second half of this year called the Platform.

The system is built around IP and "lives on the Ethernet," President Dan Braverman says. All devices are Ethernet connected. The user can connect multiple surfaces, screen-based clients and remote set-up and control screens, by LAN, WAN and the public Internet.

An internal LAN connects the physical and "glass" surfaces; multiple engines con-



nect via MADI and IP and VoIP standards. The system uses a card frame engine that has your DSP and processor cards, as well as the audio I/O and the power supply.

A notable feature is the touch screen for

control of various functions, as well as the ability to add downloadable apps like a "shot box."

It's built on Linux and priced for the broad range of middle-market stations. The Platform supports the StudioHub Cat-5 wiring standard, as well as Ethernet, 48 Volt Power over Ethernet and the LiveWire IP network protocol from Axia. It also adheres to the CopperLan standard, as recently described in a commentary in the Radio World opinion section.

Info: Dan Braverman, (856) 467-8000, dan@radiosystems.com or www.radiosystems.com.

A drag-and-drop function has been added to the show log page. Other enhancements affect the search function in the on-air library.

OMT Technologies also announced that the latest versions of iMediatouch On Air and iMediaLogger provide a new level of control using the Wheatstone WheatNet-IP systems.

Info: Jackie Tetlock at (204) 975-0794, jtetlock@imediataouch.com or visit www.imediataouch.com.

Orban Puts More Into Less With 5500

Orban showed the Optimod-FM 5500, which puts five-band and two-band Optimod processing into 1RU at affordable pricing.

The 5500 replaces the 5300 and 2300,



offering the functionality of both in a new, cool-running package. The company highlights the unit for quality sound for a polished, professional presentation regardless of format and source material.

The 5500 can also be used as a stand-alone stereo encoder with latency as low as 2 ms and full overshoot limiting in both the left/right and composite baseband domains. When used in this mode, the 5500 must be driven (usually via an STL) by a full-featured FM audio processor (like Orban's 8600) that incorporates preemphasis-aware HF limiting and peak control.

In both modes, the 5500's stereo encoder helps deliver a transmitted signal that's clean and peak limited, with spectral protection of subcarriers and RDS/RBDS regardless of the amount of composite limiting.

Orban says the processor is suitable for network broadcasters who process with Orban's flagship Optimod-FM 8600 at the network origination point and who need a processor at every transmitter to eliminate STL overshoots (using the 5500's stand-alone stereo encoder mode) and/or to process local insertions while also eliminating network STL overshoots (using the 5500's audio processor / stereo encoder mode).

The 8600 earned a Radio World "Cool Stuff" Award; see last issue.

Info: David Rusch at (480) 403-8300, drusch@orban.com or visit www.orban.com.

Analog and Digital I/O (Pure and Simple)

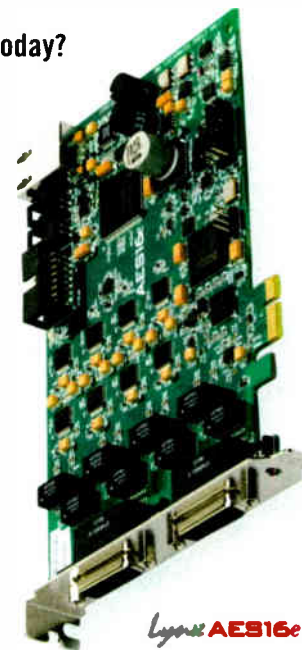
So what are you looking for in a broadcast audio card today?

Reliability?

Compatibility with your software?

Pristine sound quality?

Did we mention reliability?



Since 1998, Lynx Studio Technology has been dedicated to providing analog and digital audio cards to meet your stations' needs. As to reliability, many of our early models have been in continuous use for over 10 years.

We also want to give you the best bang for your buck. No expense is spared in hardware or software design, component selection, US-based manufacturing or product support. The cost of Lynx audio cards is further optimized by not adding expensive DSP and other features that you may not want or need.

LynxTWO and L22 PCI cards offer analog and digital I/O with high quality AD and DA converters on-board. These cards, starting at \$749 US suggested retail, have proven that computer cards can indeed provide world-class audio. The AES16 (PCI) and AES16e (PCI Express) digital audio cards offer 16 channels of pristine AES/EBU input and output at sample rates from 44.1 to 192 kHz. Sample rate conversion and AES50 connectivity are optional, with prices starting at \$695 US suggested retail.

This is why Lynx products have been the choice for Dalet, Harris Broadcast, Sirius/XM Radio, National Public Radio, HBO, CBC (Canada), TSA Telefonica (Spain) and many, many others. Lynx audio cards' sound quality, driver stability and rock-solid reliability are the crucial elements for all of our discriminating customers.

Lynx Studio Technology

pure and simple... your best choice for broadcast sound cards.



www.lynxstudio.com

AVAILABLE AT



RCSnews Remote Is a Streamlined Client

RCSnews Remote is a streamlined version of the RCSnews client.

RCSnews Remote will allow for access from locations remote to the main database via a Web service in order to create, review and file stories with audio. The remote access function will allow the RCSnews client in location A to browse the authorized data in location B, and pull across the needed data without requiring a full client or another SQL database installation.

RCSnews is a radio newsroom system, providing solutions for a news operation from newscast gathering, writing and editing to actual on-air broadcast (with teleprompter function) and story archiving.

The company also highlighted Media Monitors Feature Tracker, a way to view in more detail the switching that occurs in your PPM panel.

A station can examine listener behavior during a series of features, morning show bits, spot breaks, promos, contests or any program item that repeats over time. With Feature Tracker you can select a feature or spot break and track listeners tuning in and tuning out to these events.

"What makes this service unique is the ability to set up a date range that contains multiple occurrences of the feature to give you a broader sample for your analysis," the company says. "You can also filter by days or select specific hours to give you 'finely tuned' data mining."

Info: Diana Stokey, (914) 428-4600, dstokey@mediamonitors.com or visit www.rcsworks.com.

Sage Uses Flash to Update Coder

The Sage Digital Endec received several new software features this spring, including additional GPIO uses for automation and remote control interface, interface to BDI's multi-station digital audio switch and more logging options, reducing and spreading out logging traffic for large station groups that use a low bit-rate shared VSAT uplink.



These features were added by user request, the company said; and Sage is taking advantage of the flash software upload capabilities of the Endec. It said it welcomes user requests for new features. "Sage is also staying on top of CAP issues, participating in the FEMA interoperability demo at the April NAB show and the pilot conformance test in March," according to the company's Harold Price.

"Sage has deployed CAP to some early adopters in the U.S., and a CAP-CP (Canadian Profile) version to users in Canada."

Info: Harold Price at (914) 872-4069, hprice@sagealertingsystems.com or visit www.sagealertingsystems.com.

Sonifex Mixes It Up

Whether it's called a "commentator unit" or a "fancy remote broadcast mixer," the CM-CU21 from Sonifex offers a lot of features for a little box.

Sonifex says it has turned what is usually a simple, functional piece of equipment into a multitasking audio router.



Nominally a two-channel unit, it offers a third "guest" location input. The CM-CU21 can handle dynamic mics, condenser mics and ribbon mics. It offers two talkback channels per channel. Channels, inputs, talkback options and selected outputs can be ganged in numerous ways.

A 1 kHz tone generator is included. Other features include 48 V phantom power, a limiter and a security lockout. Many of the touchpads light up in various colors, reflecting different operations, status or parameters; a tricolor main LED meter adds to the light show.

Also new is S1, a small-format mixer designed for on-air use, especially at small stations. Though it is small, useful features include 10 input channels, fader start for peripherals, telco inputs, talkback functions along with high-pass and low-pass filters per channel.

Physical features include a rotatable I/O panel, analog and digital I/O, 100 mm ALPS faders, host and guest headphone controls and tricolor LED meters.

The S1 can be flush-mounted or rack-mounted. It offers scribble strips on channel strips and aux and ext loops. An integrated power supply keeps the whole package compact.

Info: Fraser Jones at (207) 773-2424, info@independentaudio.com or visit www.sonifex.co.uk.

Staco Unveils Double-Conversion UPS



Staco Energy Products unveiled the FLU-10S 10 kVA three-phase UPS.

The FLU-10S is a true online, double-conversion UPS designed to provide computer-quality AC power. The FLU-10S is a second generation of

the FirstLine 10 kVA three phase UPS. Featuring low weight and small footprint, the standard runtime is nine minutes with optional batteries for longer times.

In addition to the UPS function, power conditioning is provided by double conversion. This process protects against power line sags, swells, harmonics and voltage imbalances without switching to battery operation. Front-end harmonic correction eliminates the need for additional filtering.

A control panel on the front provides alarm and remote monitoring via an RS-232 connection. FirstLine models are intended for applications with input voltage of 208, 220 and 480 VAC and a range of +10/-20 percent (166-229 VAC). Input frequency is 60 Hz \pm 5 percent. Full load walk-in from 25 to 100 percent of rated load in 10 seconds. Inverter output distortion is \leq 5 percent THD for non-linear loads and \leq 2 percent THD for linear loads. Output voltage is regulated to \pm 1 percent of nominal at full load.

Info: (866) 261-1191, sales@stacoenergy.com or visit www.stacoenergy.com.

Superior Has New Stabiline Voltage Regulator

Superior Electric has created a new voltage regulator family for the Stabiline AC automatic voltage regulator series, the BVR line.

The systems will handle voltage sags, surges, under-voltages, over-voltages and most any voltage irregularity likely to be encountered at a transmitter site.

The BVR units, housed in NEMA 1 enclosures, use a patent-pending solid-state "step" regulating design to eliminate full load carrying transformers and servo-motor control schemes.

Units are three-phase and available (208Y/120 VAC, 60 Hz) in amperages of 100 A, 200 A, 400 A and 600 A and (480Y/277 VAC, 60 Hz and 415Y/240 VAC, 50 Hz) in amperages of 100 A, 200 A, 400 A, 600 A, 800 A and 1200 A.

All BVR series feature Individual Phase Control for maximum protection of connected loads. Input voltage range connection styles are \pm 15 percent for 1 to 3 percent adjustment and \pm 30 percent for 2 to 6 percent adjustment.

Info: Mike Miga at (800) 787-3532, mike.miga@superiorelectric.com or visit www.superiorelectric.com.

Telos Adds a Little Z/IP

Telos Systems debuted the Z/IP One, shown, a lower-cost (\$1,995), slim IP codec designed to maximize audio qual-

ity from public IP networks and mobile phone data services, including connections behind NATs and firewalls. It uses Agile Connection Technology; when network conditions become challenging, it lowers the bitrate and increases buffer length to ensure that the best audio gets to the studio with the least delay.



Telos showed the Nx6, a smaller version of the Nx12 telephone system. It is contained within a 2 RU box and will support six analog (POTS) or digital phone lines. Each onboard hybrid has an adjustable Omnia Audio Smart AGC and a noise gate. The Nx6 also uses Telos Digital Dynamic EQ. Also onboard is echo-cancelling and pitch-shifting DSP to improve call performance.

The Nx6 works with Telos phone hardware such as the Desktop Director and software such as the Assistant Producer. It is remotely controllable via IP and the Web. A turnkey package of one Nx6, a Desktop Director controller and Assistant Producer software will retail for under \$4,000.

Telos also named UK-based Broadcast Bionics as a software development partner for its phone systems.

Info: (216) 241-7225, inquiry@telos-systems.com or visit www.telos-systems.com.

Tieline's Bridge-IT Feature List Expands

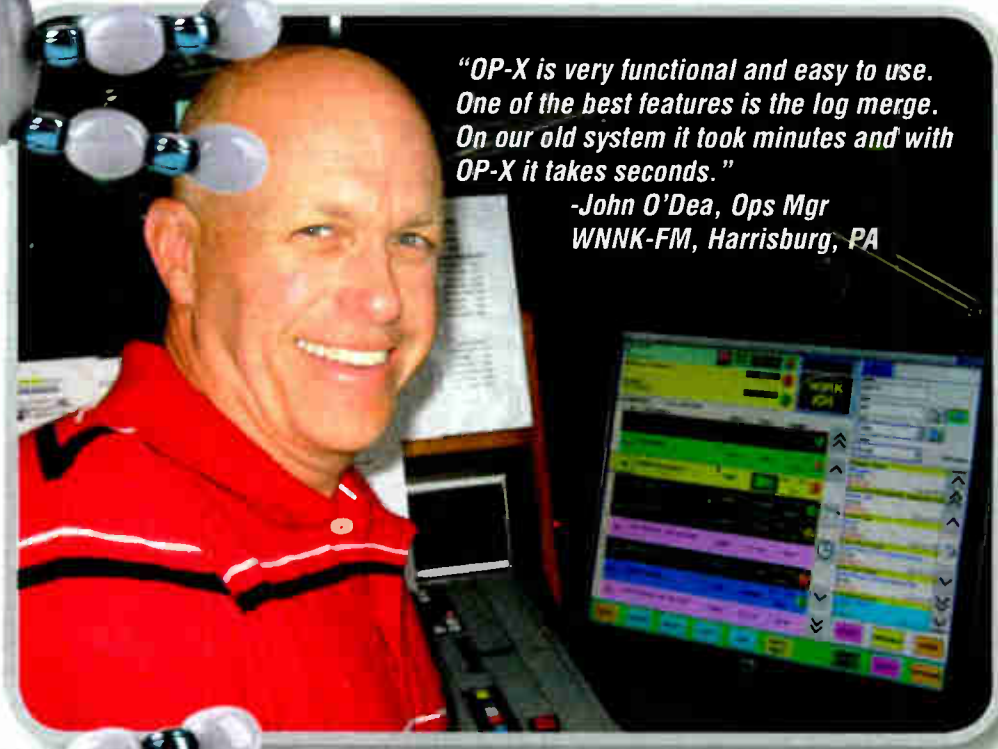
New features developed for Tieline's Bridge-IT IP audio codec and launched at NAB include support for AAC-LC, AAC-HE v.1 and v.2 algorithms, and multiple uncasting.



Bridge-It is now capable of sending up to six 384 kb stereo audio streams over IP from one Bridge-It to six separate Bridge-Its and enables broadcasters to achieve significant audio distribution and monitoring cost savings.

Bridge-It will also enable high-quality low-delay linear audio G.711 G.722, MPEG Layer 2, plus low-delay Tieline Music and MusicPlus algorithms; simultaneous analog and digital AES/EBU outputs; automatic fail-safe SD/SDHC card connection failover; Web-GUI for remote control and configuration; TieServer for automatic firmware upgrades; and Tieline's QoS Performance Engine for automatic management of IP connection streaming.

Info: Kevin Webb at (888) 211-6989, sales@tieline.com or visit www.tieline.com.



"OP-X is very functional and easy to use. One of the best features is the log merge. On our old system it took minutes and with OP-X it takes seconds."

*-John O'Dea, Ops Mgr
WNNK-FM, Harrisburg, PA*

- Modular Operation in Op-X allows for a tiered system at a fraction of the cost of it's competitors.
- Each studio client is capable of accessing all Audio Server modules on the network.
- Remote voice-tracking allows for creation of content for remote studios also running Op-X.
- The revolutionary design of Op-X's clock builder turns the previous task of scheduling satellite programming into a few simple clicks.
- Share serial devices from any machine using the Op-X Serial Server.
- Importing logs now gets its own module that takes confusion out of the process.
- Engineers will enjoy Op-X because it's easy to install, maintain, and has automatic backup features.



AUTOMATION

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Not since Axia audio-over-IP was introduced to the broadcast industry have we at BGS been so excited! It is with great enthusiasm we'd like to invite you to take a look at the new Op-X Radio Automation delivery system for any single or multi-station cluster. Op-X's versatility allows it to operate seamlessly with either Axia IP-Audio networks or legacy audio consoles.



**Broadcasters
General Store**
352-622-7700
www.bgs.cc

SUMMER PRODUCT PREVIEW

Stretching or Shrinking Time With 25-Seven

The 25-Seven Systems Program Length Manager (PLM) promises to expand or shrink program time imperceptibly.

Through digital processing, the PLM uses algorithms to extend or shrink a program. Onboard solid-state memory allows for building a buffer, which can then be run down as a program plays out.

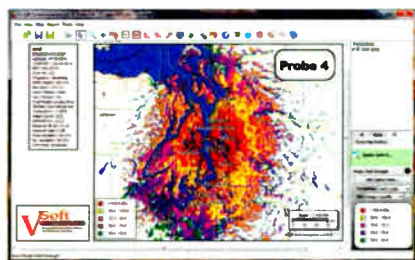
A buffer+play function allows the insertion of content while a program spools and then is released. The algorithms then compensate during playout, eventually bringing the program back onto the clock.

The rackmountable PLM can be remote controlled via the Web or operated from its front panel.

Info: Rick Sawyer at (360) 319-2355, sawyer@25-seven.com or visit www.25-seven.com.

V-Soft Probe 4 Upgraded

The Probe 4 signal propagation program from V-Soft Communications has been updated. The program update includes several new tools and program enhancements.



A new Calculation Engine takes advantage of multiple computing cores for faster calculation times. The updated Profile Tool makes units, line types, number of divisions and other setting user-configurable. Also new is the display of the path broken into multiple line-of-sight paths, multiple Fresnel zones and the ability to edit the hard-copy output to add custom user labels, arrows, legends and logos.

Other updates include display enhancements, improved search functions, IBOC interference tools and expanded plotting and contour displays.

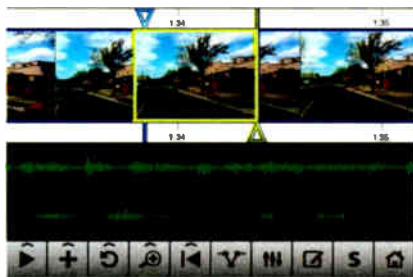
Probe 4 is bundled with a variety of database information as well.

Info: Doug Vernier at (800) 743-3684, info@v-soft.com or visit www.v-soft.com.

VeriCorder Adds Video App

VeriCorder has introduced 1st Video Net, a portable audio and video editing app for iPhones available by subscription. Editing features include three-track audio editing, drag and drop interface, volume curve, volume tools, multitrack mixing tools and automatic cross fades. Video resolution is 640 x 480.

For the professional user 1st Video Net allows the journalist in the field to record, edit



and send broadcast- and podcast-ready audio and video from an iPhone 3GS. More than just editing on a mobile phone, VeriCorder's Net versions can be integrated into networks, podcasting servers, programs such as Apple's Podcast Producer and newsroom automation systems such as DAVID, ENPS, Burl and Octopus. It will also allow users to distribute content automatically to websites, YouTube, RSS feeds, iTunes, IPTV, iTunes and other destinations.

Info: Gary Symons, (250) 448-4954, gary.symons@vericorder.com or visit www.vericorder.com.

Wheatstone Enhances Vorsi Offerings

The Vorsi division of Wheatstone unveiled the FM-4, a digital FM audio processor targeted for budget-conscious applications. With four-band AGC and limiter, it is suitable for stations looking for "no-frills" FM-only processing. It includes stereo generator and has analog, digital and SCA inputs.



Vorsi also upgraded the VP-8 to the VP-8 Plus; it adds audio processing functions for greater audio consistency, clarity, overall loudness and lower distortion, and offers front-panel menus for quick setup without a PC. And the company introduced VP GUI-LITE software, shown, for interfacing with and modifying the performance of VP-8 Plus and FM-4 processors; it's for stations that want to "look under the hood" and go beyond the processors' preset lists.

Wheatstone introduced the ip88CB integrated I/O Mix Engine Blade, an all-in-one approach for control surface mixing and audio input/output. It is designed to work with the WheatNet-IP networking system and provides audio I/O with appropriate connectorization and DSP Mix Engine functions for Wheatstone surfaces. Paired with the new E-1 surface, it provides a standalone/networkable solution for under \$10K.

Wheatstone introduced the WheatNet-

IP Scheduler software application, designed to provide X/Y control of a WheatNet-IP matrix. The "Cool Stuff" Award-winning AirAura and E-1 console were described in the June 2 issue of RW.

And it announced the addition of Scott Johnson to its headquarters. His job will entail engineering, technical marketing and technical writing. He most recently worked for Klotz Digital as director of engineering for the U.S. division.

Info: Jay Tyler at (252) 638-7000, jay@wheatstone.com or visit www.wheatstone.com.

New Jack Panel Options for WhisperRoom

There are those in pro audio, usually engineering types, who believe that one can never have enough audio jacks. WhisperRoom, maker of portable and stationary sound isolation enclosures, agrees. It has developed the Audio Jack Panel (AJP).



The AJP is a 40-inch wall panel component that features an audio jack panel, a cable passage and a window. The jack panel can be mounted as interior or exterior. The panel is also available in two sizes: six-jack or 10-jack. The six-jack panel has four 1/4-inch stereo jacks and two RCA jacks while the 10-jack panel has eight 1/4-inch jacks and two RCA jacks.

The AJP option works with all WhisperRoom enclosures except the smallest, the MDL 4230.

Info: Debbie Sweany, (800) 200-8168, info@whisperroom.com or visit www.whisperroom.com.

WideOrbit Has an Integrated Solution

WideOrbit featured WO Automation for Radio 2.0, which introduces complete integration with WO Traffic, the company's traffic software for radio.

The integration allows customers to edit



automation logs directly from the traffic system and provides real-time reconciliation of events, as well as other features to streamline station operations.

WideOrbit also demonstrated the patent-pending Leader & Follower feature, which allows two or more radio stations to share common programming like music, but split apart for different commercial breaks. The system ensures that breaks are the same length on all stations. The system also lets more than one radio stations share a single computer to reduce hardware costs.

The system features a customizable workspace for managing the tools a jock needs on the job, including unique widget-based interfaces with EAS encoders, mixing consoles, telephone systems and music schedulers.

A Web-based configuration allows you to manage the automation system remotely. The user can flexibly manage playlists with the ability to create and edit from anywhere. You can track operations with Web-based reports that show system status from anywhere, and protect against unauthorized system access with full security.

WO Automation interfaces with Ando Media, Stream On, Liquid Compass and Abacast.

Info: Mike Zinsmeister, (404) 378-3381, mikez@wideorbit.com or www.wideorbit.com.

Yellowtec Highlights Handheld Recording

iXm is a handheld field recorder with microphone from Yellowtec.

One-button recording allows simple operation; silent keys keep it quiet. Up to 48 hours can be recorded on one SC card. The REC key both starts the recording and adds markers to the audio file.



Intelligent Levelling assures the right level so reporters can concentrate on the interview; there's no need to check levels. The algorithm combines a slow-acting gain leveller with a lookahead peak limiter and avoids ADC distortion by converting the analog microphone signal twice.

Six mic heads are available including omnidirectional, cardioid and supercardioid pickup patterns in electret or dynamic versions, most of them designed by beyerdynamic. Each mic head is sensed for automatic gain and DSP adaption.

Operating time is eight hours using the built-in battery. Three AA batteries double the operation time. Audio files are stored as WAV, MP2 or BWF.

Info: Michael Bartsch, mbartsch@yellowtec.com or visit www.yellowtec.com.

FINALLY...FAILSAFE NETWORKED AOIP. WHEATSTONE E-SERIES & WHEATNET-IP ARE YOUR BEST CHOICE BY A LONG SHOT.



When it comes to networking your facilities, there's only one best choice. Wheatstone. For years, we've been the network/control surface choice of top broadcasters. And with good reason – we care.

Wheatstone's Audio-Over-IP product is the best in the business. Here's why:

1. WheatNet-IP is easiest for a station to implement and configure. It is, hands down, the easiest in the industry. No need for Wheatstone to provide factory on-site assistance unless you really WANT us there. The manual and app notes will have you up, running and stable in less time than any other system.

2. WheatNet-IP is a natural for large facility multi-station networking (and for smaller facilities too!). It uses the IGMP features of Ethernet Layer 3 switches to identify a multicast packet, see which ports are requesting that packet, and send it only to those ports. Traffic control is maintained and system bandwidth is optimized.

3. Redundancy is critical. A typical WheatNet-IP installation has multiple levels of redundancy. Each BLADE holds the complete map of the entire system within its onboard memory – we call it distributed

intelligence – a system with 50 BLADEs has 49 backups with failover in the event of a failure. Cisco Stackwise technology provides redundancy in the central core TOC switch. A WheatNet-IP/E-Series console studio complex can stand alone, even if the TOC goes down, with backup analog or digital program audio feeding a back end router independent of the core Gigabit infrastructure.

4. Modular is better. Why would you want to combine your switch, mix engine and I/O into one box? Beats us. With WheatNet-IP, you install only what you need, where you need it. We believe in not overselling.

5. Manufacturing quality is very important. Wheatstone is proud to have the best track record in the business for build quality, reliability and intelligent functionality. With far more up-and-running installations than anyone else, this is where we really shine. An investment in WheatNet-IP and E-Series control surfaces today will reward you with a future-proof, failsafe networking/control environment that's infinitely updatable and in for the long run.

6. WheatNet-IP has an advantage.

Take a look at your entire environment. Wheatstone is a perfect partner because we are always there, always innovating. Built into every WheatNet-IP BLADE are features others just didn't think of – handy utility mixers, silence detection, crosspoint routing control, headphone monitoring of any source, lots of logic GPIO, and comprehensive metering of audio I/O, not just signal-presence indicators. And, in the hugely unlikely event that a BLADE needs to be replaced, you just plug in a new one and enter the BLADE number. That's it.

7. Wheatstone is local. WheatNet-IP and the E-Series, just like ALL Wheatstone products, are designed, engineered and built from start to finish in our New Bern, NC USA facility. Everyone who works on our products is 100% knowledgeable and immediately available. You can relax – as with the famous insurance company, you ARE in good hands.

With WheatNet-IP, we think we've done our homework. In fact, we know we have. And we're happy to say that we've got the best product on the market. To learn more, and there's a LOT more, get us on the phone or visit us on the web. We'll be happy to meet with you and get you everything you need.



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World Radio History

Broadcasting? Or the New Guys?

Since the Arrival of So-Called 'New Media,' Radio Has Permitted Itself to Be Redefined

I received a comment from reader Ray Ross after I wrote about broadcasters' obsession with social media. It speaks

PROMO POWER

Mark Lapidus



to the heart of an issue that we need to address internally and externally:

"Right or wrong," he said, "as broadcasters, we have allowed (and I supposed trained) our up-and-coming personalities [to imagine] that radio is insignificant."

Younger on-air personalities have come of age in a time when radio and TV have been defined primarily by print and online journalists as the opposite of what they term "new media."

"New media" typically refers to communication transmitted via online or by mobile devices. Once something is accepted as "new" by society, then by deduction, other devices in that same category become "old," "traditional" or even worse, "outmoded."

Since the arrival of so-called "new media," the radio or television industries have permitted themselves to be

redefined. This is especially sad because we have the means at our disposal to communicate to larger groups of people than any other form of transmission.

Part of it is that we have our own websites and mobile methods of dissemination, so it's easy to feel as if we are part of the new world that is touted daily by media pundits everywhere. In allowing others to redefine us, we are accelerating our own devaluation.

However, it's true that we must not deny the amazing one-on-one power of online and mobile communication.

USE YOUR POWER

We belong in this space, too, and can generate audiences and revenue beyond most non-media entities. For the foreseeable future, online and mobile sites are brand extensions for us and not our core business.

Advertising executives, media buyers and even people in radio and television too often seem to forget that mass local audiences are currently listening to and watching broadcast, satellite or cable stations — and will be for the foreseeable future. If a retail advertiser wants

day on the station Facebook and Twitter accounts — but 10 minutes on show prep! They were quite taken aback when I questioned their priorities.

It's management's role to make sure talent understands something: When Facebook says you have 4,000 friends, or people of who "like" your station, that's the whole number. These 4,000 people all joined, one time. A fraction of them are on that Facebook page at any given moment. Some join and never pay much attention again.

Conversely, we are in the mass communication/big numbers business. The vast majority of broadcast outlets will reach 4,000 people in a given moment or, for smaller stations, in a short time period. We "broadcast," while online and mobile "narrowcast."

THE POWER TO DRIVE

So how can broadcast properties work on what's beginning to look like an inferiority complex?

For starters, we must remind our audiences how significant we are in their lives via our own airwaves.

Locally, we must challenge our creative directors to put "cool," "relevant" and "cutting edge" back into our brands.

Nationally, we need the smartest minds at our big companies and associations to address how we must position

(continued on page 29)



When Facebook says you have 4,000 friends, that's the whole number. The vast majority of broadcast outlets will reach 4,000 people in a given moment. (Shown: Facebook page of WXLK(FM) in Roanoke, Va.)

to move a product in a local market, is it possible to buy enough media on local websites to do the trick? Likely not!

Because broadcast talent is so accustomed to mass communication, many falsely believe that they have huge audiences spending large time periods on their Facebook page, Twitter account or their station website. I had a discussion recently with some air talent who were spending an average of an hour a

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Looking Up, I Noticed I Was Late

A Day in Your Life Can Help Break a Case of Writer's Block

BY JEFFREY HEDQUIST

*Woke up, got out of bed
Dragged a comb across my head
Found my way downstairs and
drank a cup
And looking up, I noticed I was late*

As Lennon and McCartney show us, a day in your life provides almost endless opportunities for commercial ideas.

Describe all the activities in an ordinary day and you'll find stories that can be adapted to advertisements for many advertisers. Here are some of the activities in a typical day of a mythological person in Anytown, USA:

✓ Alarm goes off. You get up and talk to yourself, or listen to the thoughts in your head: "List of things to do today — visit advertiser ..."

✓ Do you sing in the shower? "Sing (briefly) about anticipating today's adventure, augmented by the benefits of the advertiser's services."

✓ Prepare breakfast. We overhear kitchen conversations: "Family discussion, kid's demands, spouse's remarks about a problem that can be solved by the advertiser."

✓ Get kids ready for school: "Kid's complaints, excitement, teasing siblings — poking fun at problems or even the advertiser."

✓ Check voice mail: "Messages from friends, co-workers, teachers, boss, clients, relatives who talk about problems or advertiser solutions."

✓ Check e-mails: "Talk to yourself as you read through them, listen to part of a podcast talking about the advertiser."

NEW MEDIA

(continued from page 28)

broadcasting as the mass communication medium that most Americans still rely on to provide entertainment, news and information.

While much of this battle can be fought with proper marketing, public relations and advertising, broadcasters realistically have to continue to deliver on our promises. The creation of the best possible on-air content must be our number one priority, followed by how we provide service to our communities



Stuck for ideas for your commercial copy? Any single slice of the day could be the basis for a spot.

✓ Listen to radio: "We overhear a news story, traffic or weather report, commercial, talk or sports show that ties in with the advertiser."

✓ Watch TV: "We overhear snippets of various programs while clicking through channels."

✓ On the school bus: "Driver as spokesperson, reacting with kids as conversation participants or background sounds."

✓ Car pool: "Driver and passenger discussion about news, days events, traffic, family — all opportunities for promoting advertiser benefits."

✓ Drive to work alone: "Talk to yourself on the way? Interactive conversation with the radio."

✓ Interact with other drivers: "Cut me off if you want, but I'm goin' to happy

to do the most possible good work.

We must examine staff consolidation to determine if we've gone too far in eliminating positions that remain key to our success. We must not reject online and mobile but harness their power to augment broadcasting.

Remember: Broadcasting, especially at the local level, remains the best form of mass communication with the power to drive immediate action.

The author is president of Lapidus Media. Read past articles at radioworld.com under Columns. Contact him at marklapidus@verizon.net.

hour at the Dew Drop Inn when I get off work!"

✓ Greet fellow employees: "A variety of moods are possible here."

✓ Hear a telephone recording: "We are experiencing temporary work stoppage since all our customer representatives are at the annual clearance sale at _____. Please call back during non-sale hours."

✓ Lunch break: "Discussion about where to go, who wants what, food costs, time, preferences, convenience, diets, etc."

✓ Phone calls: "To and from clients, to and from family. Planning activities — advertiser involvement."

✓ Water cooler conversations: "Talk about work, after work activities, family — more opportunities for advertiser discussions."

✓ End of day — riding elevator with co-workers: "Jokes, work-related stories, complaints, successes."

✓ Dinner: "Preparing a home cooked meal, heating up leftovers, micro waving frozen entrees, ordering out, jumping in the car to head to a restaurant — each are opportunities to talk about an advertiser."

✓ Social night out: "club, movie, coffee with friends, bar, seminar, reunion, surprise party — endless possibilities for stories to promote advertisers."

✓ Helping kid with homework: "Discussions about future applications of knowledge, your own education, school, careers, persistence, values — applications for many types of advertisers."

✓ Drifting off to sleep: "Reviewing the day's events, planning for the next day, intimate spousal conversations about finances, love, health, kids, retirement, etc."

Try this exercise too with an atypical day — a watershed event, a vacation, first day at school or a new job, or an adventure of any kind — and you'll add even more scenarios.

Any single slice of the day could be the basis for a spot ... or combine 'em. Now you have more opportunities to laugh in the face of writer's block.

Finding ways to break writer's block is all in a day's work at Hedquist Productions. What's your day like? E-mail Jeffrey@hedquist.com. He'd like to know.

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how the system is perform-
ing and let us know how you
are using it. DIY-DJ, is a Linux
based radio automation system
and now sports a record sched-
uler (DIY-DJ-RECORDER) which
allows you to schedule the
recording of a network or any
other program for replay later
as well as a basic logging sys-

tem. Beside these additions the
system schedules music, does
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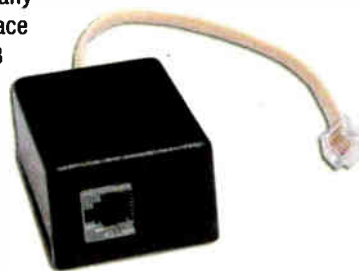
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I Remember the Power of Nighttime Radio

After the Sun Set, How Wonderful It Was To Experience the Magic of Skywave Listening

COMMENTARY

BY JAMES E. O'NEAL

James Careless' piece on AM DXing in the April 21 issue of *Radio World* brought back a lot of memories about the magic of long-distance radio that I experienced in growing up in the 1950s and '60s in a small southern town.

It's difficult for many of today's readers to imagine the cultural isolation that existed half a century or so ago in America's smaller rural communities.



A young James O'Neal poses circa 1958 with his Christmas present bicycle. It was nice, but what he secretly longed for was a Huffy Radio Bike — the one that came equipped with a tube-type AM radio built into the bicycle's tank.

There was, of course, no Internet, no 24/7 TV and no HBO, CNN or other specialty cable networks. My little burg sported a single 250 Watt AM station that kept "specified hours" (meaning a nominal sign-off at 6:30 p.m., unless a sporting event or other activity ran past that time).

How wonderful it was — once the sun went down — to reach out through the magic of skywave radio and sample what the nation's clear-channel stations had to offer. It certainly was not the packaged schlock that universally passes for programming in this day and age.

PEANUT WHISTLES AND BORDER BLASTERS

During the school term, I had a daily routine of starting my homework with music provided by the local "peanut whistle" that operated on 1490 kc. After they played the national anthem and hit the plate switch, it only took a slight nudge of the dial to locate Nashville's WLAC ("a broadcast service of the *Life and Casualty Insurance Company*") on 1510 and hear the likes of "John R" or

"Hossman Bill Allen" pounding out a variety of music that wasn't mainstream at the time: rhythm & blues. I still recall all those jive-talk spots for Randy's Record Shop located in Gallatin, Tennessee, Silky Straight hair pomade and White Rose petroleum jelly.

If I tired of John Lee Hooker, B.B. King and the rest of the R&B crowd, I could move down the dial a bit and snag the latest in top 40 from Chicago's WLS and Dick Biondi, who made cracks about everything including the WLS "Radar Eye" (a hole in the wall, according to Biondi).

If the wind wasn't blowing quite right to bring in Chicago, it was an easy change to 710 and WHB ("home of the *World's Happiest Broadcasters*") where I could catch Johnny Dolan ("you're rollin' with Dolan") and his record show.

The only other top 40 available at night was from WNOE, which broadcast from "529 Bienville Street in the French Quarter in New Orleans." However as NOE operated on 1060 kc and ran a puny 5 kW at night, the signal wasn't always the best. Actually, it frequently was drowned out by the adjacent-channel (1050) border blaster XEG, which ran well beyond the 50 kW cap on U.S. stations.

XEG could be entertaining, with offers of "baby chicks delivered COD right to your door," religious nostrums such as splinters from the cross, miracle anointing oils that cured anything from gout to cancer, and just about anything else that might appeal to the gullible.

If I tired of this, I could try 870 and find another Deep South station, WWL, "broadcasting from the *Roosevelt Hotel in the heart of colorful old New Orleans*." This was not your typical teenager's station, as it featured live jazz or big band music from the hotel's Fountain Lounge and Blue Room nightclub.

Even if "atmospherics" created a less-than-perfect radio night, San Antonio's WOAI at 1200 always boomed in loud and clear. I spent parts of many evenings with the station's Charlie Dennis, who began his record show appropriately enough with "San Antonio Rose." I have a special memory associated with Dennis — I took time out to pen him a letter about the show and he actually read it on the air and sent me some records, to boot!

And it wasn't all just music that bounced around on the ionosphere. Imagine my excitement one night when I discovered Kansas City's KMBC rerunning some classic radio drama: "The Third Man" with Orson Welles recreating his screen role, "The Adventures of Captain Horatio Hornblower" and another BBC series,

"The Black Museum."

I was reached too by the "50,000 red-hot Watts" of KMOX in St. Louis. That station stoked my desire for radio drama by running rebroadcasts for a time of "The Shadow" on Sunday evenings (a particularly dull time in a small town in the 1960s).

Possibly the most interesting programming came from Chicago's WGN. The station's Franklyn MacCormack hosted "The Meister Brau All-Night Showcase," which began shortly after 11 — just in time for me to wrap up my homework and settle in for the night.

Now the "All-Night Showcase" was not your typical fare for a teenage boy, but I did enjoy it and have many memories of dozing off and then waking up in the wee small hours to MacCormack's soothing voice as he spoke of nostalgia, played soft music and occasionally pulled a book from the "old study" and read a poem. The show lasted until 5:30 the next morning.

Looking back from a perspective of 50 years, the whole concept seems a bit odd. The musical selections and MacCormack's soft delivery were tailor-made to lull listeners to sleep, the poetry appealed to lonely hearts — all sponsored by a beer company that apparently didn't care if many of the station's listeners slept through its commercial mentions.

Would it work today? Probably not, but it was great during its 12-year run and I still have my memories (and a lifelong habit of falling asleep with the radio on).

RADIO FROM AFAR

Being an inveterate DXer, sometimes I didn't really stop and listen to the wealth of programming that poured into my bedroom at night. Some evenings I was more interested in how many distant stations I could find.

Denver's KOA and Salt Lake City's KSL provided my most westerly radio connections. Tulsa's KVOO could nearly always be counted on, as could WHO in Des Moines, and two more Chicago powerhouses — WMAQ and WBBM.

For quite a while, Rochester's WHAM was my northeastern-most radio boundary, until one winter night I discovered something under the noise on 880: New York's WCBS. I bragged about this to a buddy who scoffed at the idea that I could be receiving a station more than 1,200 miles away, even after I'd invited him over to listen. It was only after the station ran a local news story mentioning Mayor Wagner that he became a true believer in the magic of skywave DX.

Such was the power of nighttime radio. It's a shame that it can't be like that anymore.

James O'Neal is technology editor for TV Technology and a frequent Radio World contributor.

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Radio World Founded by Stevan B. Dana

Radio World (ISSN: 0274-8541) is published bi-weekly with additional issues in February, April, June, August, October and December by NewBay Media, LLC, 810 Seventh Avenue, 27th Floor, New York, NY 10019. Phone: (703) 852-4600, Fax: (703) 852-4582. Periodicals postage rates are paid at New York, NY 10079 and additional mailing offices. POSTMASTER: Send address changes to Radio World, P.O. Box 282, Lowell, MA 01853.

REPRINTS: Call or write Caroline Freeland, 5285 Shawnee Rd., Ste. 100, Alexandria, VA 22312-2334; (703) 852-4600; Fax: (703) 852-4583

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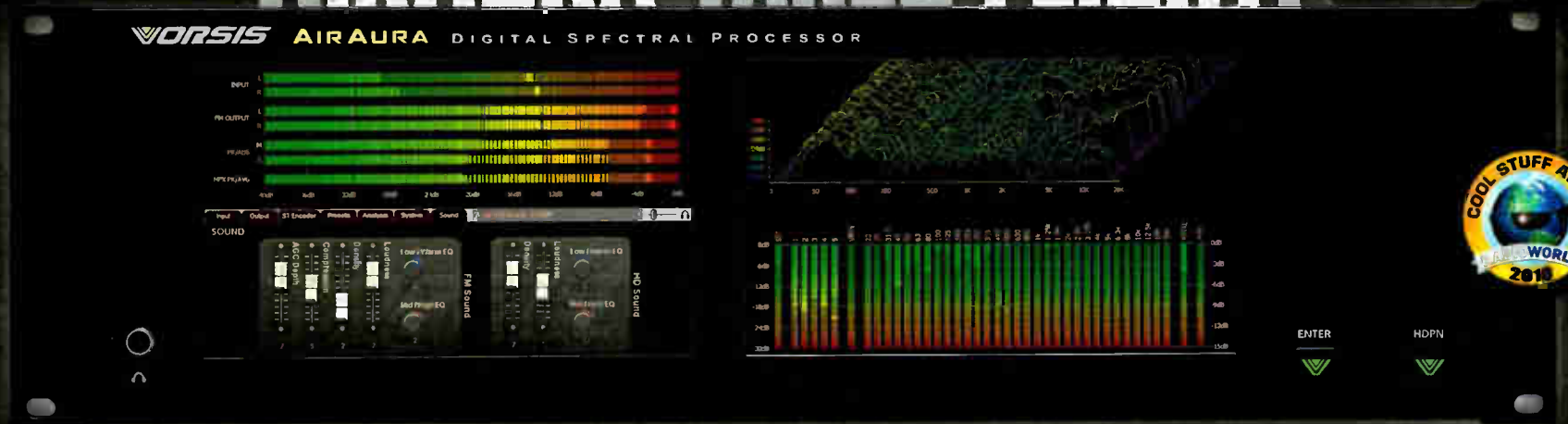
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The new AirAura™ audio processor features proprietary “AirAura” final clipper technology for cleaner, clearer, more natural mid and high end detail without smearing, dulling and other artifacts commonly associated with managing the FM pre-emphasis curve. Its advanced multiband AGC/SST (Sweet Spot Technology) delivers incredibly smooth and unobtrusive gain and spectral control during widely varying incoming program levels, and the AGC boasts separately adjustable low and high inter-band coupling algorithms for serious sonic sculpting. AirAura also offers the latest Vorsis Bass Management System (VBMS) with new Texture control for fine-tuning on-air bass. Dual front panel ‘widescreen’ displays show extensive detail about the processor’s operation. In addition to real-time measurement of input, output, and RMS (loudness) output levels, its comprehensive metering also shows all gain reduction activity. Specialized analysis functions exclusive to Vorsis offer an astonishing overview of input or processed audio. And for ultimate flexibility, AirAura gives you remote processor control via wired Ethernet or integrated WiFi connectivity. Completely made in the USA and available TODAY!

AIRAURA
SUPER DIGITAL AUDIO
SPECTRAL PROCESSOR

- New proprietary “AirAura” final clipper technology
- Advanced multiband AGC/SST (Sweet Spot Technology)
- Latest Vorsis Bass Management System (VBMS)
- Dual front panel ‘widescreen’ displays
- Remote processor control via wired Ethernet or integrated WiFi connectivity
- Specialized audio analysis functions, including FFT and oscilloscope analysis of input or processed audio, Energy vs Frequency display of input or processed audio, 3-D plotting of audio spectral content vs. time, Spectral Dynamic Range metering, and activity display of clipper’s distortion masking algorithm

MORE BRAND NEW STUFF FROM VORSIS! AVAILABLE TODAY!

VP-8 PLUS

The new VP-8 PLUS takes our popular and acclaimed VP-8 and adds a slew of new features for even greater performance. Advanced processing for greater audio consistency, clarity and overall loudness with lower distortion. Includes Vorsis GUI-LITE software for taking the VP-8 PLUS anywhere you want to go.

FM-4

The new FM-4 is a no-frills FM-only audio processor that gives you those great presets Vorsis is famous for. Plus, it comes with Vorsis GUI-LITE for tweaking those presets to get your signature sound.

VORSIS

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