BUYER'S GUIDE: CONSOLES & ROUTERS

NewBay Media

RADIOWORLD

JULY 1, 2010 | The News Source for Radio Managers and Engineers | $2.50 | RADIOWORLD.COM

INSIDE

NEWS & ENGINEERING

OPINION

Fall Radio Show Gets an Overhaul

Convention Takes on a Different Form As It Comes to Capitol Hill's Front Door

BY RANDY J. STINE

WASHINGTON — The annual national fall radio convention, co-produced this year by the National Association of Broadcasters and the Radio Advertising Bureau, will look a bit different when it opens on Sept. 29 at the Grand Hyatt in Washington.

Gone is the traditional technology exhibit area, replaced with vendor tables located near session areas. Attendees can expect additional sessions on sales and marketing. And the name of the convention now is simply "The Radio Show."

Planners of this year's event hope to see more attendees in the aisles after years of declines. The annual convention, which drew just over 2,500 a year ago in Philadelphia, has seen attendance dip nearly 20 percent since 2006, and turnout is well below numbers from a decade ago.

The decline in attendance had led some in the industry to speculate once again about the future of the fall show, a conversation that has been going on for years in one form or another.

RADIOSHOW

Produced by RAB and NAB

Some observers wondered to Radio World how long NAB would be able to fund a costly radio-only convention. However, NAB show planners say the trade organization has never lost money on past NAB Radio Shows. NAB does not release profit/loss totals from its conventions.

COMBINED EVENT

The combined involvement of NAB and RAB will further guarantee the future of the convention, said Dennis Wharton, NAB executive vice president of media relations.

The RAB's annual Sales, Marketing and Management Conference saw attendance figures hold steady around 1,200 the past three years, according to a

(continued on page 8)

FCC Is Asked To Stretch The 'Clock' For EAS-CAP

Filers Say FEMA/FCC Isn't Sufficiently Considering Delays

BY LESLIE STIMSON

WASHINGTON — A number of broadcasters and equipment manufacturers have told the Federal Communications Commission that more time than currently proposed will be needed to manufacture, deploy, install and test new encoders/decoders for the new, upgraded EAS.

Earlier this year, the commission sought industry input on what changes might be needed to its Part 11 EAS rules to accommodate the Federal Emergency Management Agency's introduction of the Common Alerting Protocol. CAP is a data interchange protocol developed by the emergency management community and is used to distribute all-hazard safety notifications and emergency warning information.

The comments to FCC Docket 04-296 were due to the FCC June 14. A dozen parties filled initial comments and 10 filed replies covering a range of topics.

In addition to extending the proposed 180-day deadline to have CAP-compliant EAS gear in place by an

(continued on page 3)

WHEATNET

E-1 IS PURE GENIUS!

COOL STUFF AWARD 2010

2010 PICK HIT Radio

The compact E-1 Control Surface Console and associated ip88cb Console Audio Blade provide all the networked control, mixing, and I/O needed for small to mid-sized studios at a price comparable to similar sized standalone analog consoles. The E-1 features an integrated LCD Monitor for metering and control, a streamlined user interface with password protected access to complex functions via LCD display and touchpad, and 4 Main Mix busses as well as Control Room and Studio Monitor outputs with selectable sources from the audio network. Complex Mix Minus setups are made simple thanks to per channel Mix Minus outputs with selectable reference mix and talkback interrupt. You also get auto switching between off line Mix and on line Mix Minus per channel. The E-1 features 99 show presets and a programmable per-channel A-B Source/Select switch which emulates traditional broadcast consoles. Of course the E-1 will work just fine with Wheatstone TDM products, too! Completely made in the USA and available TODAY!

- **Digital Control Surface in new compact frame**
- **Integrated LCD Monitor for metering and control**
- **Monitor / Channel Display area is angled for better ergonomics and display view**
- **Streamlined user interface with password protected access to complex functions via LCD display and touchpad**
- **4 Main Mix Busses**
- **Control Room and Studio Monitor Outputs with selectable sources from Audio Network**
- **Per Channel Mix Minus Output with Selectable Reference Mix and Talkback Interrupt. Complex Mix Minus setups made simple.**
- **Auto Switching between Off Line Mix and On Line Mix Minus per channel**
- **99 Show Presets**
- **Incredible new price!**

With the brand new ip88cb Console Audio Blade, a complete standalone/IP-Networkable Wheatstone console is well within the reach of any studio. And with the E-1's integrated LCD monitor, all functions are immediately viewable and editable with no additional hardware needed.

E-1 CONTROL SURFACE CONSOLE

Wheatstone

AUDIO NETWORKING-SIMPLY EVOLVED

phone 1.252.638-7000 | www.wheatstone.com | sales@wheatstone.com

EAS

(continued from page 1)

additional six to 12 months, other common themes emerged.

There was broad support for a national, nationwide EAS test annually. However commenters differed over how much notice participants should have before the test. Most disagreed with the FCC over how much data from those tests should be reported to the commission, and whether and how much of that information should be made public. There was support for suspending EAS enforcement during the national test as well.

Several said the federal government should fund EAS training for state and local governmental EAS message originators to understand the next-gen alerting system, as well as for stations, to encourage more participation in alerting.

Many supported adoption of a CAP-to-EAS implementation guide developed by a coalition of equipment manufacturers, software/service providers and broadcasters, and recommended that either the FCC or FEMA adopt the guide; see *www.eas-cap.org*.

Here are excerpts of some of the more noteworthy comments.

EXTEND TIME FOR STATIONS TO INSTALL NEW EAS GEAR

Several executives contributed to the NAB filing. Heading the list was Jane Mago, its executive vice president of legal and regulatory affairs, who wrote:

FEMA may not announce the final details of the CAP standards until close to its publication of those standards in September 2010. Vendors will need sufficient time to incorporate those details into their software products before design of the products can be finalized. ...

Manufacturers will need to perform tests on the end products of their design, including conformance testing at a certified lab to obtain commission certification. ... Accordingly, NAB encourages the commission to reconsider the existing 180-day deadline for EAS participants to accept CAP-based messages, as it may be inadequate to allow a smooth transition to next-generation EAS.

The commission should inject flexibility into this obligation, either by extending the timeline to a full year, or perhaps resetting the trigger for the 180-day timeline to an event other than FEMA's publication of CAP standards, such as a finding that tested and certified CAP-compliant products are abundantly available in the market for purchase and installation by EAS participants.

Jim Heminway, president of Monroe Electronics, told the FCC:

Launching such a new and technically involved architecture is sure to hit snags. This is an unnecessary time period. The system will not work better simply because we desire it to be implemented faster. Better to do this systematically and correctly, allowing time for a smooth transition. ... Many of our customers will not put any product, not just EAS, into their systems until it has gone through their testing and approval. This includes both software and hardware. This alone may take up to 180 days.

From TFT Inc. and its SVP Darryl Parker:

The limited number of manufacturers available to produce this type of equipment may ... inhibit implementation of this 180-day deadline. With approximately 30,000 EAS participants and relatively small sized manufacturers with limited production capabilities, the design-approval-purchase-delivery-installation cycle could run well beyond 180 days.

Once approved equipment is delivered by a manufacturer to an EAS participant, personnel will necessarily need time to install, test and train. Another difficulty in installation of CAP decoding equipment will be Internet connections and availability of CAP servers with emergency information for a particular EAS participant's area of influence. Not all locations with EAS encoder/decoders or decoders (only) have access to the Internet. Facilities, sometimes at additional expense, may have to be constructed by third-parties under contract to EAS participants.

OPPOSED TO CLOCK EXTENSION

This comment is from Sage Alerting Systems co-founders Gerald LeBow and Harold Price:

Some comments, both in these proceedings and in public forums, have implied that the industry is not ready to produce equipment, and that a period of research and development must begin after FEMA's announcement of its acceptance of the various definition documents. This is not the case.

CAP 1.1, and the modest changes in the CAP 1.2 specification, as well as the IPAWS Profile 1.0, have been known since last year. Indeed, the EAS-CAP Industry Group used these documents as the basis for its recommendations for a CAP EAS Implementation Guide. Implementations of CAP 1.2 exist. ...

Another argument is that industry will not be able to produce the necessary hardware, and a delay in the start of the clock is needed. Speaking for Sage, we have been producing the hardware and software since 2008. ... Sage does not plan to build thousands of units, place them in the warehouse, then sit back and hope for the best. Sage will maintain a reasonable inventory, and build as orders arrive. There is no advantage to delaying the start of the clock from our point of view — no manufacturer is going to stockpile large quantities of product in advance of need.

By broadcast engineer Gary Timm, a prominent participant in national EAS discussions:

I agree with Sage. ... It is very important that EAS participants not be allowed

(continued on page 6)

FROM THE EDITOR

Paul McLane

Our webinar "25 Things You Might Have Missed at NAB," sponsored by Nautel, was a big success. If you haven't viewed it already, you still have a chance to catch it; just register for free at *radioworld.com* and watch the one-hour program online. (Click on Resources, then Webinar Archive.)

You Can Still Catch What You Missed

Webinar Explores Tech Issues, Using Spring Convention to Provide a Snapshot

The name actually is a bit misleading. Our subject in the webinar really is anything that's going on in radio engineering and regulation, using the recent spring convention to provide a snapshot. So regardless of your interest in the show itself, or whether you attended, this is a useful tour through radio's technology issues and news headlines.

Some nuggets:

A paper by Dave Hershberger at Continental Electronics came up in the webinar; he advises engineers to be aware of possible unintended consequences before they increase HD Radio power.

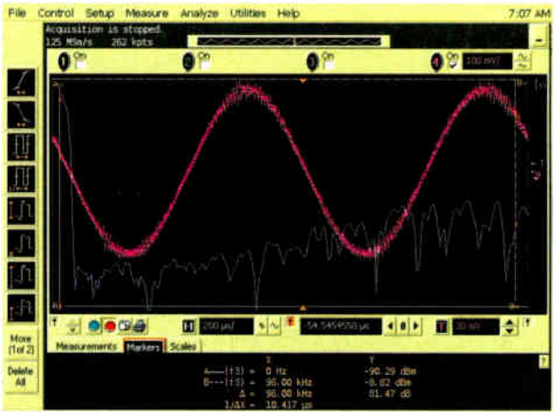
Apart from adjacent-channel interference, which tends to get a lot of attention, is the topic of interference to your own analog signal, or self-interference. Hershberger says this will be aggravated by increased digital power.

The level of self-interference will depend on several factors including receiver bandwidth, extended hybrid mode and multipath propagation. The problem affects primarily SCA subcarriers and stereo reception. Self-interference is also a function of analog deviation.

He discussed other consequences to increased digital power, which we touched on in the webinar. His most controversial conclusion is that increasing peak-to-average ratio, or crest factor, reduction may have the unintended consequence of "pinching off" the analog signal in certain receivers.

He thinks increased crest factor reduction, as proposed by some manufacturers, might be good for the transmitter, allowing higher analog TPOs; but he says it is potentially very bad at the receiver by causing digitally induced analog signal "pinchoff."

His point is that since most broadcast revenue derives from the analog signal, it should be protected. Hershberger will be writing about it in an issue of Radio World Engineering Extra.



A graphic from Dave Hershberger's NAB presentation addressing the issue of increased analog self-induced noise with increased HD power. This was among the topics discussed in our webinar.

An interesting trend is that more U.S. manufacturers seem to be using offshore labor — and making no bones about it.

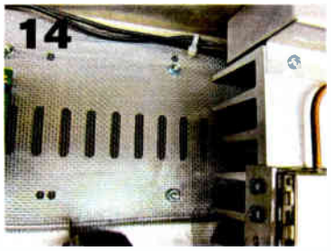
Radio Systems used a team of engineers in India on its new Platform console project, complementing its own designers. Similarly, Axia built its latest console in China.

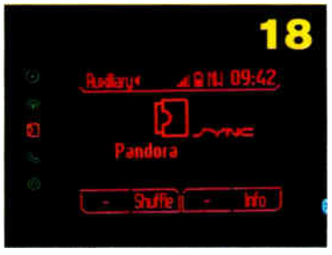
This makes sense given the nature of the global economy and the ease with which the Internet lets us do business anywhere; and these certainly aren't the first products taken to other countries to be designed or built. But I've worked in

(continued on page 5)

THIS ISSUE

JULY 1, 2010





WEBINAR

(continued from page 4)

the equipment industry for many years and don't remember a time when U.S. companies were quite as forthright about the international approach they take to product building.

A stigma that at one time may have met a U.S. company building a product offshore seems to have evaporated.

Also of note is how standards are becoming more and more a part of the "pitch" for manufacturers.

The aforementioned Radio Systems Platform features not only the company's own StudioHub Cat-5 wiring standard, but also Ethernet, 48 Volt Power over Ethernet and the LiveWire IP network protocol from Axia. That's on top of the CopperLan system, a kind of "MIDI for Internet" that you read about in our May 19 issue's opinion section.

"Interoperability" and "ecosystems" are related to this concept, and we saw such an approach at work with Nautel, which at NAB emphasized its use of, or compatibility with, technologies from Orban, Livewire, DRM and ShoutCast.

I asked David Antoine, chief engineer for big public station WBGO(FM) in Newark, N.J., what he thought was most notable at the convention. He named "Audio over IP applications that are available now, and the potential they hold for the 21st century broadcast studio."

David notes, "On the studio side there are newer packet-based consoles that use Ethernet and IP infrastructure to interconnect and manage audio and logic paths in the studio plant. On the STL side, IP transport boxes are becoming more reliable for full-time STL. IP paths via the phone networks are becoming more widely available and more reliable. And there are several options as far as equipment to choose from."

Voice over IP is coming into the realm of being more user-friendly, as far as phone systems and their integration in studios. A couple of manufacturers have new products coming out that will allow broadcasters to take advantage.

David said that this is really important, with phone companies threatening to pull the plug on PRI and BRI services. If so, AoIP and VoIP may be all that is left for broadcasters to work with.

Geoff Mendenhall at Harris — who was honored for best paper at the Broadcast Engineering Conference and is a past NAB Engineering Achievement Award winner — felt that among the most important themes in engineering right now is the push to offer broadband connectivity to mobile and handheld audiences.

This is notable in light of the FCC's new National Broadband Plan. It has the potential to speed up availability of low-cost Internet connectivity, and Geoff thinks this could really change the landscape of radio and TV broadcasting.

He notes the research that's going on in ways to improve HD Radio coverage, including hybrid crest factor reduction, asymmetrical sidebands and HD gap fillers. Also in the news for engineers is the conversion of "split-level" HD Radio transmission systems to unequally combined, common amplification — so stations can use existing equipment to elevate their HD sideband levels.

Geoff also thinks mobile DTV is important — for one thing, because it has the capability to deliver a large number of "radio-like" audio services to all the new devices out there.

That's just a sampling. We also heard about "Modified MA1," the updated iBiquity transmission configuration for AM IBOC intended to help provide signal-to-noise improvement in analog radios. We took a brief look at a range of interesting new products, learned about Journaline and LED lighting on broadcast towers, heard about what the NRSC has been up to and summarized headlines that had radio engineers and managers talking this spring and early summer. Some of it has been covered in Radio World; much of it has not.

The breadth of topics also points up how much important information is packed into the spring show each year. Watch the webinar online while you munch on your lunch. It's an hour worth spending.

NEWSROUNDUP

SBE SEEKS INCLUSIVENESS: The Society of Broadcast Engineers protested not being invited to speak at a TV-related FCC Broadcast Engineering Forum related to the broadband rollout. In a letter to Chairman Julius Genachowski, SBE leaders asked to be included in the forum, have the meeting be opened to the public or have the meeting postponed until the event is changed to include "a broader and more representative group of broadcast engineers."

REVENUE CLIMB: SNL Kagan predicts radio revenue will climb 6.4 percent in 2010. This includes online ad spend for stations, which is projected to gain 15 percent to $552 million. In its latest financial outlook, Kagan writes: "After dropping 17.7 percent to $16 billion in 2009, SNL Kagan projects radio station ad revenue will recover to $17.1 billion in 2010, the highest annual increase since 2003." Increased spending on political and auto advertising, tighter inventory and growing rates are also expected to drive revenues.

MEDIA OWNERSHIP: Comments in the FCC's media ownership proceeding (MB Docket 09-182) are due July 12.

EAS

(continued from page 3)

to lag in their equipment upgrades, so any system improvements made by FEMA can be ensured to be installed by all EAS participants within a defined window.

SEVERAL DISTRIBUTION METHODS NEEDED

Jim Heminway of Monroe Electronics also wrote:

The broadcast daisy chain method of EAS distribution, while having limitations, has served us well. It has the ability to deliver alert audio information in detail, yet in its current form severely limits the amount of text information that is available.

For audio-only forms of communication this is not an issue. However, those communication technologies that provide visual alerts ... are unable to provide important detailed alert information. This becomes especially critical in systems where only text is provided (i.e., digital signage and cell phone text messages) and to people who are hearing impaired. ...

While we have delineated some of the deficiencies in the current broadcast distribution system, we believe it is a valuable redundancy to the proposed next-generation system and should be maintained. In most natural disasters the broadcast medium is the last system standing and is unparalleled in the "one-to-many" message distribution.

Relying on any one method, such as IP, is not in the nation's interest. We believe strongly that the new Part 11 rules define acceptability of a multimodal distribution architecture that includes broadcast, IP, datacast and satellite. This allows states to employ such technologies as they may require or already have in place.

FEDS SHOULD FUND TRAINING FOR ALERT ORIGINATORS

This comment is from Texas Association of Broadcasters President Ann Arnold:

Tragically, we have found too many situations in Texas and in other parts of the nation where local authorities do not even know what EAS is, much less how to take advantage of this unique tool to warn citizens of approaching wildfires or other life threatening challenges.

So as our first recommendation for rules changes to accommodate EAS, we recommend specific strategies be adopted to educate officials at all levels of government about the benefits available under the new Common Alerting Protocol and steps be taken to make sure they actually are utilized.

Eventually authority should be requested from Congress to make utilization of CAP a requirement for state and local governments to continue to receive federal funds for disaster planning and damage mitigation. Optimally, training should be offered at the federal, state and local levels to make sure officials not only know of the existence of EAS but, also how to use it to save lives and protect property.

... AND TO ENCOURAGE STATES TO ADOPT NEXT-GEN EAS

From Gary Timm:

I agree with the comments of Ann Arnold of the Texas Association of Broadcasters that federal funding is needed to encourage states to update to next generation EAS. I would add that a problem some states are having with the current FEMA grants that can be applied to EAS improvements is that FEMA will award those grants only to state and local government agencies.

While that may work in some locations to get funding for EAS needs, as Ann Arnold points out some states such as hers do not have an EAS-engaged state government. Thus such states will never pass on these FEMA grant monies to SECCs or others to carry on EAS improvements. The FCC needs to either establish funding itself, or needs to work with FEMA to open up their grants, to allow SECCs and other crucial non-government entities to access any monies that are intended for EAS improvement.

> **It is very** important that EAS participants not be allowed to lag in their equipment upgrades.
>
> – Gary Timm

SBE: NATIONAL 'TEST' SHOULD BE CALLED 'EXERCISE'

Also commenting was the Society of Broadcast Engineers, with President

Vincent Lopez and General Counsel Christopher Imlay:

The SBE is supportive of national EAS tests. The utility of EAS has been questioned from time to time by some in the broadcast industry, and successful national tests may quell some of that controversy. ...

SBE recognizes that effective EAS performance necessitates scrupulous compliance by broadcasters with certain EAS regulatory requirements and careful attention to accurate monthly EAS tests, etc. However, the commission's history of zealous enforcement in this area, and the fact that EAS tests have been a frequent source of monetary forfeitures for the commission's Enforcement Bureau, serve as a discouragement to broadcast station participation in EAS.

For these reasons, SBE recommends that national EAS tests should be viewed by the industry, and the commission should treat them, as national "exercises," rather than as "tests." The emphasis should be on encouraging participation, and as a public/private "partnership" of entities involved in a program for the common good, not as a program that will result in commission sanctions for relatively minor errors or omissions by participants acting in good faith. ...

REIN IN REPORTING REQUIREMENTS

Cox Media Group and attorney Scott S. Patrick of Dow Lohnes wrote:

Cox opposes the proposed reporting provisions as being unnecessary for an effective and properly functioning EAS. ... Routine equipment testing by broadcasters is sufficient to ensure the public receives alert and warning messages in an accurate and timely fashion. ... To the extent the commission nonetheless wishes to adopt some type of formal reporting requirement, Cox believes such reporting should be web-based and limited to those EAS participants whose particular tests reveal some type of anomaly.

Cox also has concerns about the commission's proposal to make public numerous details of the operations of EAS participants. The commission has acknowledged in the past that it must keep EAS secure and impervious to malicious activities and threats. Given the importance of EAS as a means of quickly providing accurate information to the public, any attacks on or unauthorized use of EAS could be devastating. Cox accordingly urges the commission to account for security issues when weighing the benefits of publicizing EAS operational details.

AN IP-BASED SYSTEM IS NOT THE ANSWER

Broadcast engineer Michael G. McCarthy told the FCC:

[M]any ground-level folks charged with implementing CAP/EAS-II in broadcast and cable operations carry grave concerns regarding IP message relay and retrieval robustness. ... CAP's reliance on the public and station/facility wired IP infrastructure is fraught with fragile and unrecoverable weak links. ...

And then there is the all-too-common radio station out on the forgotten rural road served by 40-year-old copper through 100 aged and infested splice pedestals. ... In many operations, that weakest link is exhibited by an end user (least-cost) DSL or T-1 circuit riding a conventional [Bell Operating Company] 40-year-old last mile POTS copper pair fed from an underground service expansion terminal. ...

The bottom line is simple: Aside from the fact CAP-compliant EAS-II is an unfunded mandate imposed on the stakes holders, message dissemination, access and retrieval by the public web and station IP infrastructure is a distribution linking system predisposed to fail in any type of local, regional, or national crisis. ... Radio systems can be hardened quite effectively. Unlike wired IP, radio (analog or UPD) survives catastrophic events with little remedial attention if the infrastructure is so hardened.

CONDUCT 'PRE-TEST' FIRST

Maine State Emergency Communications Committee Chair Suzanne Goucher offered this:

The commission raises questions about the capability of various manufacturers' ENDECs to process [Emergency Action Notification] messages, and queries whether the difference in how ENDECs are programmed could "impact the relay of an EAN test message during a national EAS test." One simple way to answer these questions would be for the commission to conduct a closed-circuit test of all ENDECs currently available on the market, prior to conducting a national test.

This would give ENDEC manufacturers and programmers an opportunity to address any hardware or software issues that arise, regardless of the code used, and would allow them to notify EAS participants of any needed upgrades. Presumably, ENDEC manufacturers have a vested interest in ensuring that their equipment functions properly ... so it can be surmised that they would welcome the opportunity to test their equipment in controlled circumstances in order to ensure proper operation.

RADIO SHOW

(continued from page 1)

spokeswoman. Elements from that conference will be incorporated into the Radio Show, according to RAB. Its most recent sales management conference was in March 2009 in Orlando.

For its part, RAB believes combining its sales conference with the NAB Radio Show is the culmination of a cooperative effort between the organizations that began in 2007.

"This is really what we set out to do. This was the eventual reality we knew was coming. A combined show in a smaller venue that integrates our RAB sessions with what NAB has always done so well," said RAB President/CEO Jeff Haley.

RAB presented several revenue-focused sales and marketing sessions at the NAB Show in Las Vegas in April, Haley said, and has done so for several years.

For some equipment manufacturers and other vendors who help underwrite the fall convention with their exhibitor fees, the Radio Show has long been viewed as an important networking tool, though a common conversation among exhibitors in the aisle of past shows is whether a separate fall convention is in fact necessary given the scope of the spring show.

"Our goal is for a more integrated show experience for attendees," Wharton said. "We've had an overwhelmingly positive response from vendors who are excited about the integration of exhibits with the educational sessions. We are confident this approach will enhance the Radio Show experience for vendors and attendees."

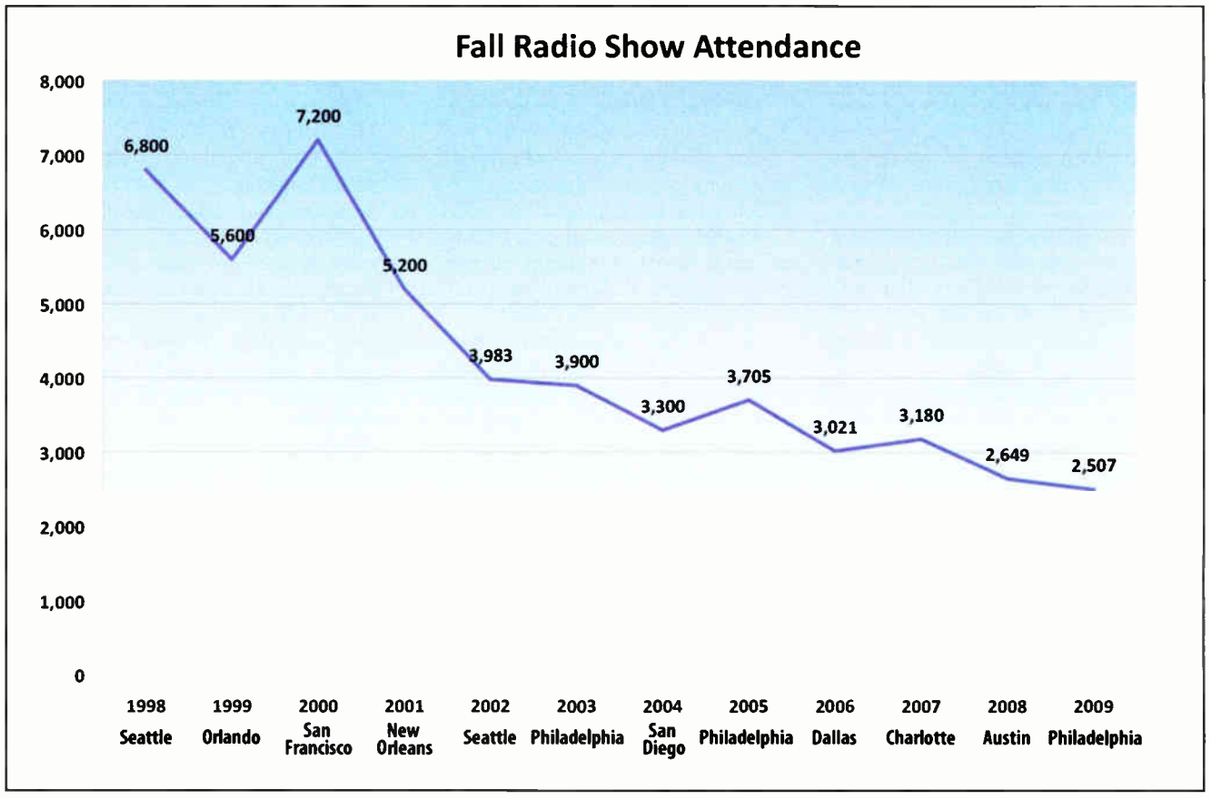
Whether the new tabletop display areas will satisfy vendors is unknown. Wharton said as of early June, 60 vendors had committed to take space this fall, with additional booths being sold on an ongoing basis. "We remain optimistic that we will match the 71 exhibiting companies we had at the 2009 Radio Show."

According to the Radio Show website, *www.radioshowweb.com*, the prices for a tabletop exhibit in June was $3,500 for an NAB/RAB member exhibitor, $4,000 for non-member. Prices were scheduled to increase $500 as of July 1. Wharton would not disclose how much vendor space cost last year on the exhibit floor at the NAB Radio Show in Philadelphia.

Gone this year are the free exhibit-only passes that vendors could share with their customers, he said.

"Because our exhibitors will be fully integrated with Radio Show session rooms, there will no longer be an exhibit-only registration."

Several radio equipment manufacturers contacted for this story said they are glad to see NAB trying something different with the Radio Show and are confident the new format will benefit all involved.



Attendance at the NAB Radio Show has declined over the past decade. Recent totals are from NAB. Earlier data are according to Radio World stories at the time, using NAB estimates. (RAB said attendance at its annual Sales, Marketing and Management Conference saw attendance figures held steady at around 1,200 from 2007 to 2009.)

EQUIPMENT CONSOLIDATION

"Over the years the market has changed along with how the market works. The fact that [NAB] is trying a new format bodes well for the long-term survival of the show," said Rich Redmond, director of strategic marketing and business development for Harris Broadcast Communications.

Harris plans to have a similar presence at this year's show as it had in 2009.

"We haven't finalized our layout yet. We envision doing something more than just a table," Redmond said.

NAB's Wharton said some vendors likely will pay for additional meeting space in suites adjacent to session venues. Exhibitor meeting rooms are available at the Grand Hyatt for $15,000, according to the show's website.

The Radio Show's exhibition area has already been dramatically reduced over the years, Redmond said, partly because technology has consolidated.

"The days of (Harris) bringing in a whole studio with furniture and equipment have gone away. We simply do not need as much space (for exhibits)," he said. "Technology allows for more capability in a smaller space."

Broadcast antenna manufacturer Electronics Research Inc., would prefer a traditional display area but considers the Radio Show worthwhile regardless, said ERI President Tom Silliman.

"There are so many opportunities to meet potential clients away from the floor area anyway, whether it's at sessions, the luncheon" or the National Radio Systems Committee meeting, said Silliman. "I'm not too upset by the reduction in display floor space."

PROGRAMMING-FOCUSED

Marty Sacks, spokesman for Axia Audio, said the fall Radio Show has always focused more on programming and sales than engineering and equipment, and he expects the format change will result in more of the same.

Axia Audio has shared booth space with Broadcaster's General Store the last several years and will do so again, Sacks said, in addition to other marketing.

"Most of the attendees are more focused on content than on delivery methods. For this reason we participate in a manner more appropriate for the audience. We send some of our people

(continued on page 10)

TECHNICAL SESSIONS AT THE RADIO SHOW

This year's Radio Show in Washington will feature some sessions specifically for radio engineers. The NAB Science and Technology Department has developed a series of sessions called "Ask the Experts," which the association says will focus on high-level technical advancements and put attendees face-to-face with equipment manufacturers.

Ask the Experts will create "the perfect environment to interact with major broadcast suppliers" and put attendees "directly in front of those who are changing the rules, crafting new ones and enforcing compliance," according to the NAB Radio TechCheck newsletter.

Sessions include "Building a Radio Station," which will address streamlined radio facilities, and "AM/FM/Digital Transmitter Manufacturers," which will focus on new technology, digital radio power levels, remote control, safety issues and preventive maintenance.

Audio processing, HD Radio and AM antenna modeling will also be discussed during specific sessions. Visit *www.radioshowweb.com* to learn more. Radio World will publish a convention preview special in early September.

— *Randy J. Stine*

If money is no object, this console is for you.

(It's also for those who live in the real world.)

Introducing iQ™. The brilliant new IP-Audio console from Axia.

AXIA
A TELOS COMPANY

AxiaAudio.com/iQ/

RADIO SHOW

(continued from page 8)

to give papers and often display a bit of equipment in one of our resellers' booths for those who might be interested in equipment."

The largest contingent of attendees at the Radio Show is "management-level radio executives, including CEOs, corporate and station-level managers," NAB's Wharton said.

"We didn't break it down from 2009, but we did get a large number of radio professionals from engineering, programming and sales," he said.

Some vendors said they are bypassing this fall's Radio Show for a variety of reasons.

"The Radio Show has not proven to be very helpful in recent years, and because of that we have no plans to exhibit at this time," said Tom King, president of AM broadcast antenna manufacturer Kintronic Labs. "It has not facilitated our networking with new customers."

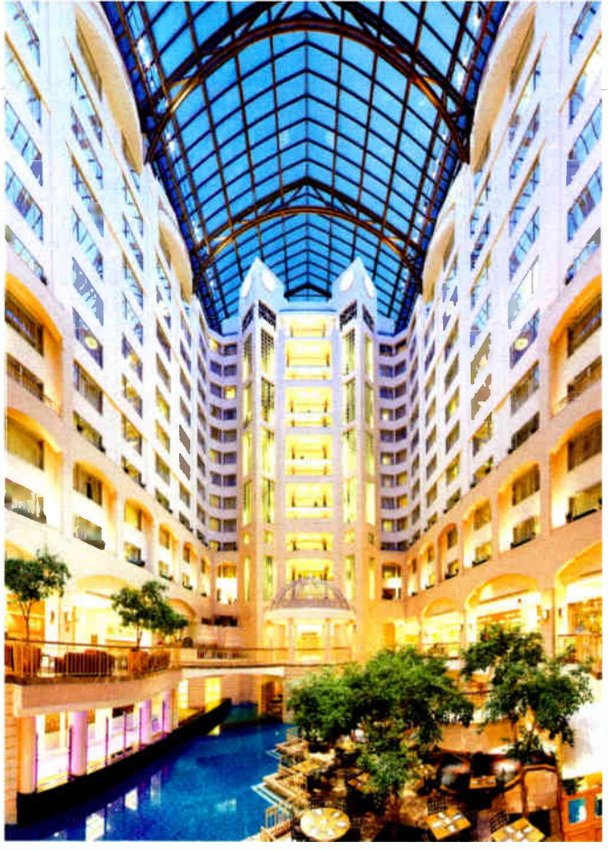
One manufacturer in the emergency alerting sector plans to be at the show but questions whether the tabletop display format will be good for vendors.

"We've been told most of the displays will be four tables back-to-back in a square, with no popup displays and only signage. There won't be much room for equipment. If customers can't peek and poke at the equipment, we might as well to stay home and work the phones," this source said.

Another show vendor said only half-jokingly that with the exhibit format change, "NAB will effectively kill off what is left" of the annual Radio Show.

Radio still needs and deserves a standalone show.

– Dennis Wharton



Washington's Grand Hyatt will host the fall show.

EVOLUTION

NAB has experimented over the years with various forms of a radio-centric show.

The first radio-focused NAB gathering, dubbed the NAB Radio Programming Conference, took place in Chicago in 1978. Six years later, the NAB Radio Programming Conference joined with the National Radio Broadcasters Association's annual convention, according to previous Radio World reporting.

By 1995 the annual conference was called the World Media Expo and was sponsored by four organizations — NAB, the Society of Motion Picture and Television Engineers, the Radio-Television News Directors Association and the Society of Broadcast Engineers. NAB and the former Radio & Records magazine co-located their radio conventions in 2006.

Despite a significant decline in attendance over a decade (see graph), Wharton said doing away with the annual Radio Show has never been discussed within NAB.

"We have never debated that behind the scenes. There had been talk of making it a part of the spring show in Las Vegas, but radio still needs and deserves a standalone show," Wharton said. "We just want to make it more of an effective show. Co-sponsoring with the RAB should put the show on very stable footing for the future."

This year's enhanced Radio Show will include financial and general management topics as well as a specific radio engineering session track called Ask the Experts. The show also will address many of the regulatory issues facing the radio industry, with Washington serving as an appropriate backdrop, Wharton said.

"Like it or not, policymakers have a huge impact on our business. Pending legislation on the performance tax and the FCC re-opening media ownership proceedings will get a lot of attention. Washington was chosen for this year's Radio Show because it is the center of so many things that affect the radio industry."

NEWS ROUNDUP

ASYMMETRICAL SIDEBAND MANDATE: Press Communications CEO Robert McAllan thinks the FCC should mandate asymmetrical sideband transmission for FM IBOC stations that raise their digital power, to reduce the interference potential to nearby analog Class A FMs. The licensee of five Class A FMs in New Jersey believes a 6 dB digital power increase will "cause massive amounts of new interference to analog Class A stations that are minimally or short-spaced," Press argued in a recent filing.

IBOC POWER: The so-called Joint Parties — 16 radio groups, four transmission equipment manufacturers and the Broadcaster Traffic Consortium — have asked the commission to dismiss opposition to the FM IBOC power increase. In comments filed with the commission, the Joint Parties say the opposition comments by iBiquity Digital, NAB and NPR in response to requests to overturn the increase "effectively and completely overcome the objections that have been raised" about the digital power increase.

SMART: CHOICES:

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.

Next generation 'smart' IP audio. JetStream supports the latest IP and Ethernet protocols for affordable, easy and ultra-fast audio networking.

More I/O choices for all sources and destinations. Just one JetStream MINI handles 64 digital or analog inputs/outputs of your choice and up to four Logitek control surfaces or vScreen virtual controllers of your choice. **Choose what you need.** Everything you need is in one user-configurable, 64-channel node. Your JetStream can have mic inputs, line-level and digital I/O, built-in EQ, dynamics and mic processing, profanity delay, GPI/O, Internet codecs, WAN support, automation interface, battery power and a whole lot more.

No computer science degree needed. JetStream IP audio networking is super easy to set up with built-in memory and automatic configuration. Just plug in and let JetStream do the rest.

Affordable and flexible. Regardless of studio size, Logitek's smart architecture allows you to get more done for less. Complete systems start at under $6000.

Artisan

Mosaic

Remora

Pilot

vScreen

Logitek Electronic Systems, Inc. | Phone: (713) 664-4470 | Toll Free: (800) 231-5870 | www.logitekaudio.com

Logitek

Forgotten Technology Kills the Buzz

A Tip of the Hat To the Western Electric 111C Coil

Chuck Bullett is the market engineering manager for the Cumulus cluster in San Francisco. Chuck has a station event/remote broadcast to produce every spring that has always presented a problem.

WORKBENCH
by John Bisset
Read more Workbench articles online at radioworld.com

This year, old technology brought a solution.

The broadcast position for the event is more than 1,300 feet from the sound stage at an outdoor festival. KFOG(FM) produces the festival every year as a gift to the city of San Francisco.

The problem is that they need to send the FOH (Front of House) position an analog feed from their broadcast position for the culminating event: an extensive fireworks display syncopated to a special music montage that station production specialist Jeff Schmidt scores against a MIDI track beforehand.

A sidebar story is that the MIDI track, which is scored on an eight-channel ADAT tape against the music montage, is then fed as an AFSK feed over a coordinated RPU frequency via an old Marti transmitter to a compatible receiver. The receiver is an old Motorola HT200 handheld on the pyrotechnics launch barge, located safely offshore out in San Francisco Bay.

The number of public agencies involved in the event totals over 20 and includes the U.S. Coast Guard, San Francisco P.D., California Highway Patrol, Fire Department, numerous production companies for the bands, the San Francisco 49ers facility staff, and many, many, more. You now get the idea. This is a big event!

Because the FOH and broadcast stage are so far apart, it is nearly impossible to get the two locations equalized to the same ground potential. This results in tremendous artifacts in the audio feed over a multi-pair snake. The artifacts usually manifest themselves as a nasty buzz. To complicate things further, the two production positions are not on the same generator.

Fig. 1: Kill the hum using old WE111C repeat coils.

Fig. 2: The coils mount neatly to a rack panel.

The technical specs of the transformers are tremendous considering their age and makeup.

Initially, Chuck considered using a digital snake to conquer this problem, either purchasing or renting one. In the end, it really wasn't in the budget, so Chuck and his engineering team got creative.

He headed to his AM transmitter site and gave the problem a good old chin scratch while looking at a shelves of spare parts that have been gathered on site over 80 years of broadcast operations.

What caught Chuck's eye were a number of old Western Electric 111C coils that had been removed from service well over 20 years ago.

The transformers' technical specifi-

(continued on page 14)

PAY FOR AN OMNIA 5FM GET THE TOP-OF-THE-LINE OMNIA 6EX

Omnia's loud clean processor that's winning major market ratings all around the world

A $3,900 savings (MSRP)
Offer ends August 25 2010

Omnia
A Telos Company

24/7 SUPPORT
+1-216-622-0247

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.

A Case of 1900 MHz Interference

BY MARK PERSONS

As frequencies are reallocated and the RF spectrum becomes more crowded, we run into problems.

Case in point, I was called to analyze what was going wrong at a radio station where a wireless provider was complaining of interference to their equipment. When I got there, a technician from NewCore

TECHTIPS

Wireless was using a 1900 MHz Yagi antenna to search for the source of RF. It reminded me of fox hunting in ham radio.

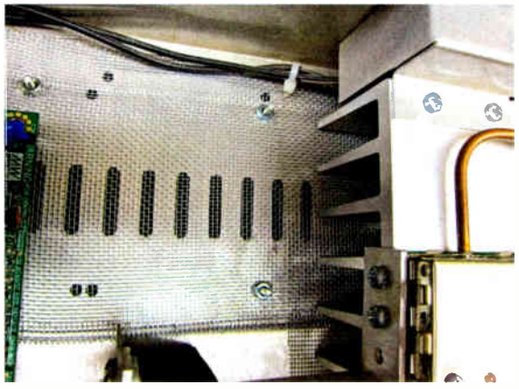
NewCore is a cell phone and wireless Internet provider in St. Cloud, Minn. The technician identified the problem as unwanted 1900 kHz signals coming from five 950 MHz band STL transmitters, which a local radio station uses to send audio to transmitter sites from the same tower.

LIVING IN HARMONY

The relationship between 950 and 1900 MHz is that 1900 MHz is the second harmonic of 950 MHz. Yes, all transmitters emit second, third, fourth and so on harmonic radiation. It is just a matter of how much.

I measured the second harmonic on those STL transmitters at about 65 dB below the 950 MHz carrier. From the 944.5 MHz to 951.5 MHz band, those second harmonics range from 1889 to 1903 MHz. That includes all of the 1895 to 1900 MHz receive band that the wireless Internet company was using in offering their service to local customers.

Look at it this way, customers' home and mobile



modems are flea-powered transmitters and are as much as a few miles from the site. Those signals are trying to compete with 10 watt STL transmitters with, say, –65 dBc harmonic signals at 1900 MHz that might be many times stronger. Ouch!

No wonder they were having problems. The wireless provider was expecting to use their equipment right down to the noise floor at –110 dBm too.

What was the broadcaster to do? The answer was a two-pronged approach.

I verified that the STL transmitters were in specification before adding RF shielding inside the STL transmitter cabinets. In this case, most of the transmitters were Marti STL-10, but two were of a newer vintage with internal rather than external heat sinks. A photo shows the inside of one. I chose aluminum window screen because the STL cabinet parts are aluminum and it could be purchased at a local hardware store inexpensively.

The best way to do this was to empty the transmitter cabinet of the sub-assemblies and install the screen, holding it down with existing hardware and some additional bolts through the cabinet. The goal was to cover 1 inch long or longer ventilation holes that are 1/8 wavelength or more at 1900 MHz. That took care of most of the cabinet radiation.

The second part of the equation was to install low-pass filters in the STL antenna lines. I found that

The technician identified the problem as unwanted 1900 kHz signals from five 950 MHz band STL transmitters.

Telewave (*www.telewave.com*) has some nice TLF-860 filters, which can be factory tuned to give a whopping 45 to 60 dB attenuation at 1900 MHz. Loss in the 950 MHz band is less than 0.25 dB. They are just 4 x1.5 x 1.25 inch boxes with N connectors at each end. At $212 each plus shipping, it was a bargain.

So far the system is working. It will probably continue to work until some other factor like corrosion on the tower might become a place for RF mixing and harmonic generation to take place.

See you further down the road. I'll leave the soldering iron on for you.

Mark Persons, WØMH, is certified by the Society of Broadcast Engineers as a Professional Broadcast Engineer and has more than 30 years experience. His website is www.mwpersons.com.

WORKBENCH

(continued from page 12)

cations are tremendous considering what they really are (iron and copper), and how old they are. The aged, trusty 111C coil provides for an honest and balanced 600/600 ohm connection that is guaranteed to block any hum or noise source.

Engineers familiar with the 111C coils will recall that depending on how they're jumpered, a 600/150 ohm, 600/600 ohm or 150/150 ohm match is available. Plus, they'll ring out to well past 15 kHz. Bill Whitlock's "Handbook for Sound Engineers, 3rd Edition" extols the virtues of the Western Electric 111C Telephone Repeat Coil, and provides plenty of design data for anyone wishing to experiment in more modern applications.

But rest assured, the venerable 111C coil will exceed your expectations and preserve your maintenance and repair budget. You won't have to invest in any of the numerous hum and buzz eliminators that are available on the market.

Fig. 3: Mounted in an Anvil case and ready to knock out some buzz!

Cumulus San Francisco Transmitter Supervisor and Chief Engineer John Buckham quickly soldered up appropriate XLR termination pigtails for each transformer, as seen in Fig. 1. Meantime, Chuck drilled out an old rack panel and mounted each repeat coil on it as shown in Fig. 2.

The panel was put in an old, forgotten Anvil road case to give the assembly the mechanical and electrical stability required for its mission, an intensive season of broadcasts from music festivals throughout the Bay Area. Fig. 3 shows the finished product in the case.

The result? About two hours of some shop time yielded five channels of extremely robust hum and buzz elimination, and at least $300 or $400 saved in the maintenance budget.

Chuck encourages readers to Google the Western Electric 111C coil. You'll be amazed at the information you'll find.

Chuck Bullett, CSRE, can be reached at *chuck.bullett@cumulus.com*.

Tom Norman is a senior engineer with Burst Video; he writes relative to the May 5 *Workbench* comment by Paul Sagi regarding grounding conductors.

He says everything written was correct, but notes that parallel conductors have lower bulk resistance and lower bulk inductance than single conductors.

Tom has used this principle to good effect in providing isolated grounding systems for rows of equipment racks, for example. Not every lesson learned in RF has applications restricted to RF!

Two runs of #10 round wire would have greater surface area and less inductance than a single run of #10 square conductor, for example, and it would be available locally, and virtually anywhere.

Tom Norman can be reached at *tomn@burstvideo.com*.

John Bisset marked his 40th year in radio in broadcasting 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.

REPORT-IT LIVE TO BRIDGE-IT

Bridge-IT IP Audio Codec

Turn your iPhone* into a IP audio codec with Tieline's Report-IT Live App. Connect Live to our affordable Bridge-IT codec in the studio and deliver FM-quality wireless remote broadcasts today!

REPORT-IT LIVE

- Connect live over WiFi or 3G to an IP Tieline codec.
- Bi-directional, 15kHz, low delay audio.
- Record locally and FTP files to the studio.
- Edit recordings and develop playlists.
- Play pre-recorded playlists while broadcasting live.
- Perfect for live on location reporting.

2010 Pick Hit Radio

Cool Stuff Award Radio World 2010

Available on the App Store

www.tieline.com/report-it

BRIDGE-IT

- Economical studio IP audio codec.
- STLs, backup audio links, IP audio distribution and remotes.
- Point to multi point links (6 destinations)
- Broadcast quality analog and digital audio connectors.
- Connect over LANs, WANs, internet, satellite IP, WiMAX and WiFi
- Now available with optional AAC LC and HE AAC

2009 Pick Hit Radio

Cool Stuff Award Radio World 2009

www.tieline.com/bridge-it

sales@tieline.com

Tieline®
www.tieline.com

800-750-7950

*iPhone and App Store are trademarks and/or registered trademarks of Apple Inc., registered in the U.S. and other countries

Don't Buy an Expensive Doorstop

Thinking of Buying Used Equipment? Comrex Corp. Offers Some Tips

COMMENTARY

BY JOHN ANDREWS & CHRIS CRUMP

The authors are with Comrex Corp.

Comrex has been making equipment for the broadcasting and professional audio industry since 1961. Since that time, we have sent tens of thousands of various pieces of Comrex gear out into the world to be used for a variety of applications.

As our 50th anniversary approaches, it is gratifying to know that many of our earliest products are still in regular use.

Our popular Comrex Buddy, for example, was (and still is) such a hit with customers that we still get regular inquiries from customers wanting to buy one. But while it is a great piece of gear, it certainly doesn't have the portability of our new Access Portable IP codec.

So, as many Comrex owners desire to upgrade to the latest in technological advances, it is no surprise to us that many used Comrex products regularly turn up on dealers' shelves and in online auctions.

LOOK UP THE NUMBER

One of the main things we pride ourselves on is our commitment to customer service. That isn't limited to customers who bought a piece of our equipment shiny and new in the box. We are always happy to help people using our gear, and Comrex support and repair services don't depend on whether you are the original owner.

So, whether you are considering plunking down some cash on a Hotline that you found on eBay or you found a used Nexus on a dealer's website, we do have some tips for those thinking of purchasing used Comrex equipment. These may also be helpful for anyone who is pondering the purchase of used gear, regardless of manufacturer.

• All Comrex products, with the exception of some of our older telephone voice couplers, have serial numbers. If you are considering purchasing a unit that does not have a serial number, or if the seller is unwilling to provide that information, be very cautious.

Older products like these Hotlines may be offered from eBay or a broadcast dealer. Is it safe to buy?

This may indicate that a present or past owner of the gear did not obtain it legitimately and may be trying to cover their tracks. Whenever a customer calls us to let us know about a lost or stolen unit, it's logged in our database. (Another lesson here: Log the serial numbers of products you already own.)

• If you can obtain the serial number of a Comrex product, contact our Tech Support Department and they will gladly check our records on the unit. We may have information on the identity of the last known owner, and we will certainly have a record of any repairs or upgrades that were done by Comrex. Equipment that has been declared "non-repairable" following severe lightning (or similar) damage occasionally reaches the second-hand market. A call to the manufacturer might save you from buying an expensive doorstop.

• We will provide updates and evaluations of current Comrex products for free. Updates and checkups of discontinued products are subject to a small charge; contact Tech Support for information. Our warranty and repair policies don't depend on original ownership.

When shopping for any used gear, you may wish to ask the original manufacturer about its policies for updates, checkups and transference of warranty.

• Comrex has an excellent record of being able to repair our older products, but there are limitations. Parts do get discontinued, and if our stock is exhausted, the gear may be non-repairable.

It's generally worth a try to have us look at the item, however, as we have some creative minds who may be able to work around the problem. It's highly recommended that you give us a call to make sure what options are available for your particular piece of Comrex gear. Most responsible manufacturers will echo this advice.

• Comrex Corp. never made computer printers. There was an Asian company that used that name for a while, but they are long gone, having been purchased by Epson. We don't make pneumatic staplers or nail guns, either!

So, unless you need to literally "nail up" a circuit, these Comrex products from a Taiwanese company won't provide you with high-quality audio transmission. Similarly, make sure the product you are considering buying really is from the company you think it is from.

• Comrex purchased the marketing and support for several Gentner/ClearOne products in 2002. Comrex did not purchase Gentner but simply a few specific products, and as such the only Gentner equipment we support or repair is the DH20, DH22 and DH30 telephone hybrids. We did provide support for the Gentner TS612 talk show system but are no longer able to repair any TS612s that were sold prior to our acquisition of the line in 2002.

Our Tech Support department can discuss repair options prior to you sending in the unit. If you are considering purchasing any other second-hand Gentner product other than those listed above, please be aware that Comrex does not have parts, manuals or support information available for any other Gentner product and is unable to repair or support those units.

Many manufacturers have acquired product lines in this way. The lesson is to call the factory and to ask good questions. The company should be happy to help you.

• Over the past several years, broadcasters have turned to equipment vendors and consignment "shops" to help sell their Comrex equipment to help offset the cost of upgrading to the latest Comrex technology. Recently, we've seen many of our customers offering their Hotline, Nexus and Vector codecs through various sources that include eBay, Craig's List, Kitmondo and some Comrex dealers that take Comrex gear on trade-in.

Here is a list of some places where you might find used our equipment from a trusted (and vetted) source. Companies that buy and sell used Comrex gear include Pressman Engineering & Technology (*www.pressman.net*), Bay Country Broadcast (*www.baycountry.com*), S.C.M.S. Inc. (*www.scmsinc.com*), Tucker Broadcast Surplus (*www.tuckerbroadcastsurplus.com*), Big "D" Broadcast Exchange (*www.bigdmc.com*) andThe Broadcast Store (*www.broadcaststore.com*).

Roy Pressman of Pressman Engineering Technology offers used Comrex gear but takes on the extra added expensive of shipping it back to Comrex to be "factory re-certified" prior to posting it on his website. As mentioned, this is a service that we provide to all Comrex customers either at no cost (for current products) or for a nominal fee for legacy products. But please keep in mind, if you send us a unit that has been reported to us as stolen, you might not get the unit back right away until we verify ownership.

The above is not a comprehensive listing of used equipment vendors and it should be noted that their product offerings change on a daily basis.

The tip here is that your manufacturer may be able to provide a list of trusted, vetted sources of used equipment.

Our overall goal is to make sure you have a great experience with your Comrex equipment. If you have any questions or if we can provide any assistance, feel free to contact us at the factory. We think that's a good policy to follow when buying used gear, regardless of manufacturer.

Contact information for Comrex can be found at www.comrex.com.

RW welcomes other points of view.

Carmaker Gets in Sync With Pandora

Ford Pursues a Gateway Model In Exploring the 'App Space'

BY JAMES CARELESS

Ford's new Sync AppLink — offered in the 2011 Ford Fiesta, and coming to other Sync-equipped Fords — will allow drivers to access and control Pandora Internet radio directly in their cars.

No longer will drivers have to plug their Androids, BlackBerrys and iPhones into their car stereo systems, then control their functions on these devices while trying to drive. Instead, by using Bluetooth connectivity, Sync AppLink-equipped drivers will be able to control Pandora using their car's voice recognition system or manual steering wheel controls. The idea is that Internet radio should be as easy to use for these drivers as AM, FM and Sirius XM are now.

So does the advent of such in-car Internet radio spell the doom of traditional radio broadcasters?

IN-CAR CONNECTIVITY

Not at all, says Julius Marchwicki, Ford Sync AppLink Product Manager.

I contacted him on assignment from Radio World to see what he and Ford are thinking right now about this question.

"I am seeing a lot of traditional broadcasters who have staked out territory in the app space, thus allowing themselves to compete on wireless devices," he told me.

"For instance, Clear Channel has an app that allows you to access 750 of their stations on your iPhone. So just because Internet radio is now easier to use in the car doesn't mean traditional radio broadcasters have to suffer — as long as they keep up."

Ford's Sync application is designed to allow drivers to access their wireless smartphones, MP3 players and in-car functions safely, using voice or steering wheel controls. Devices that are separate from the car are linked using Bluetooth wireless to the Sync system. In this way, Ford is providing a common voice/manual interface system that

The 2011 Ford Fiesta will be first to receive Sync to smartphone apps including Pandora Internet a Twitter client.

can connect to any Bluetooth-enabled device, as long as its software contains the necessary programming code.

The carmaker's decision to use this common gateway approach, rather than install vendor-specific Internet radios and the like, is a response to the impermanence of Internet-focused companies.

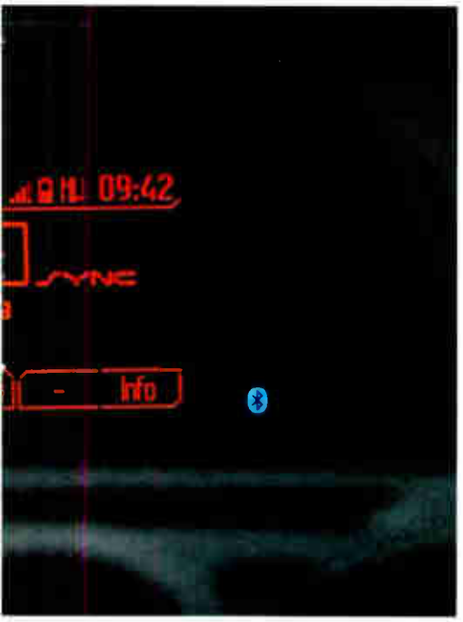
"A vehicle development cycle takes about four years," Marchwicki says. "To have included a specific Internet radio for 2010, we would have had to partner with whatever Internet radio manufacturer appeared dominant in 2006. Well, most of the companies who were big then are not now, while Pandora only came into its own in the last year. This is why we prefer to use the gateway model, because it is relatively future-proof."

To encourage companies such as

Julius Marchwicki of Ford. 'Just because Internet radio is now easier to use in the car doesn't mean traditional radio broadcasters have to suffer — as long as they keep up.'

Pandora, podcast site Stitcher.com and Twitter to develop Sync-accessible apps. Ford makes its code to trusted partners and developers.

"Sometimes we approach certain developers; sometimes they approach us," says Marchwicki. "In either case, the code is there for them to incorporate into their apps. This makes their apps more market-



AppLink capability, applying voice control adio, Stitcher smart radio and OpenBeak,

able — because they can be used in Sync-equipped Fords — while giving car buyers more reasons to buy our products."

Ford has just launched a website specifically aimed at developers. "We let them post information about their products and services, so that we can contact those who might be able to develop more Sync-compatible apps," he says.

BENEFIT OR THREAT

There seems no doubt that adding extra in-car listening options could threaten traditional radio's listenership. But the critical word here is "could," because the arrival of in-car Internet radio does not have to be a threat to radio. In fact, it could be a benefit.

"What makes services like Pandora attractive to drivers is that it allows them to hear the music they like and skip the music they don't," Marchwicki told me. "This is due to the two-way interactivity not just of Pandora, but web-based entertainment media as a whole. In contrast, traditional radio is very much a one-way experience. The most choice the driver has is to change the channel."

Based on Marchwicki's responses, I am led to a few inescapable conclusions: First, for traditional radio to compete with Pandora, radio's iPhone apps need to offer the same level of choice and interactivity — and then some.

This means leveraging traditional radio's local edge to offer services that a national service like Pandora can't, such as access to hyper-local news, weather, sports and community events. It also means making it easy for fans of WCBS-800 New York, for example, to hear it via Android, BlackBerry or iPhone anywhere they go — while still receiving relevant news and traffic information for the actual area they are driving through.

A third insight regarding radio and the Web that I draw from Marchwicki's views: Two-way interactivity with traditional broadcasters is a must, so that listeners will have some say in what they're hearing. Otherwise, they will simply tune over to Pandora, where they do have such clout.

"Those radio broadcasters who are launching their own wireless apps are seeing their audiences increase, not decrease," Marchwicki concludes. "This is why I don't think in-car Internet radio spells the doom of traditional radio. If anything, it is proving to be a new opportunity for those broadcasters savvy enough to seize it."

Comment on this or any story. Write to radioworld@nbmedia.com.

Axia Gets the Job Done for 'Ramsey'

Engineer Appreciates Combo of Technology and Ease of Use

USERREPORT

BY MATT AARON
Director of Engineering
"The Dave Ramsey Show"

NASHVILLE, TENN. — I think everyone, at one time or another, has wanted and purchased the latest gizmo with flashing lights, bells, whistles and other "sensory engineering." Sometimes I wonder whether it is the light show or the performance claims that pull us in — a promise of increased ease of operation, or just the desire to own the latest technology.

The answer to this question lies in those situations that prompt us to create workarounds to avoid the routine but often overly complicated steps required for everyday implementation of our latest piece of new tech.

In these cases, we may find ourselves reverting to older technology, something simple that lets us get the job done easily and in a minimum amount of time.

TECHNOLOGY INTERSECTION

Luckily there's usually a place where sophisticated technology and ease of use intersect. In the world of audio consoles and studio implementation, that place is Axia Audio.

Axia brings to the table audio mixing and studio routing powerful enough to handle any studio situation but simple enough for a student board operator to comprehend and use at an expert level; and they do so at budget prices.

I've got a good point of reference for stating this, as I worked with equipment from a number of Axia's major competitors before I discovered the Axia system.

One of the systems I worked with, let's call it System A, required me to jump through hoops each time I needed to add a source to a studio or reroute audio to a different destination. Once I had made the changes I wanted, System A required what was referred to as a soft reset. Each soft reset killed the audio to all six radio stations on the system.

When any changes were needed, I was forced to do the soft resets after-hours to prevent knocking off the entire radio group during the broadcast day. This also meant that I couldn't change routes or configurations during broadcasts, something any router should be able to do easily.

When I called support to ask whether there was a way around this, they told me, "It should not do that, but you might have an older system." (The system was only two years old.) And System A provided no tech support after 5 p.m. or on weekends.

I also worked with System B. If you like lots of cool blinking lights and complicated menus in small fonts, you might do okay with System B.

The Axia system used by the "Dave Ramsey Show" stands in sharp contrast. One of its major advantages, in fact, is its simplicity.

Our system went on the air in 2006. With it, I'm able to change audio paths and configurations on the fly. I can also easily take advantage of advanced features essential to making our show happen.

For instance, I can take multiple audio streams and combine them using VMix (a virtual mixer built into our Element console), then assign each one to a board fader or feed an IFB. It's a straightforward process accomplished in software with a few mouse clicks, using my computer browser.

With Axia, it is also a simple task to

(continued on page 22)

TECHUPDATE

A NEW PLATFORM FOR RADIO SYSTEMS

The Platform broadcast console from Radio Systems is, according to the company, visually stunning and offers a new approach to on-air mixing and production, befitting its "Platform" name.

The sleek control surfaces link to the engine mainframe via one Ethernet Cat-5 cable, which also supplies power. Up to four surfaces (of four to 24 channels) can be connected via a standard Ethernet switch to a single engine, lowering the system-wide cost.

The 7-inch touchscreen controller avails the operator of current and upcoming "apps" including scene settings, aux bus settings, audio processing and digital audio storage playback.

Under the hood, DSP SHARC technology provides horsepower including 128 x 128 matrix switching, dozens of mix-minus and virtual mixer busses and an "event engine" for remote and facility control.

Connectivity is via StudioHub+ plug-and-play cabling with every RJ-45 jack powered for support of StudioHub+ active peripherals. In the tradition of StudioHub+, Platform uses multiple industry standards including Ethernet, CopperLAN control and POE, which add to console performance and flexibility while increasing compatibility and lowering costs.

Unique as well to The Platform is the no-cost inclusion of software clients that allow users to run virtual and operational "glass-screen" versions of console surfaces in neighboring talk, production and edit studios and anywhere there is an Internet connection.

For information, contact Dan Braverman at Radio Systems in New Jersey at (856) 467-8000 or visit www.radiosystems.com.

Web Images more

clear crisp bright sound Search

Results 1 of 1

OPTIMOD - FM 8600

COOL STUFF AWARD
RADIOWORLD
2010

The new clear starts here.

Processing that optimizes the sound of your FM channel while punching remarkably crisp, clean, CD-like audio through to your digital channel audience.

The most powerful and effective on-air FM processing system Orban has ever created.

SCMS INC.
YOU KNOW WE KNOW RADIO!

Contact SCMS to discuss Orban products and the

OPTIMOD 8600

www.scmsinc.com
1-800-438-6040
sales@scmsinc.com

Mid South:	1-877-391-2650
Central:	1-731-695-1714
West Coast:	1-866-673-9267
Mid West:	1-513-899-3036
South Atlantic:	1-770-632-1295
North East:	1-315-623-7655
South West:	1-877-390-7267
North Central:	1-513-376-8600
Pro Audio:	1-877-640-8205
Latin America:	1-760-650-1427
Bradley Div.:	1-800-732-7665

orban

www.orban.com

Wheatstone Wins for NASCAR

Design Team Adds Two Radio Studios at the NASCAR Hall of Fame

USERREPORT

BY STU ALBERT
President
Albert Broadcast Services

CHARLOTTE, N.C. — As an engineer, I've been fortunate to have a relationship with the NASCAR Media Group (NMG), the sports media, content and production group of NASCAR, that goes back more than two decades.

When the broadcast design team decided to add two radio studios to the extensive television facilities at the NASCAR Hall of Fame, they called me to ask if I'd shepherd the project, working with integrator Communications Engineering Inc., and I readily agreed.

NMG's state-of-the-art complex spans an entire city block in downtown Charlotte, N.C., providing compelling content for not only NASCAR fans but also clients outside motor sports. It consists of three television studios and control rooms, two radio studios and more than two dozen tapeless, nonlinear video and audio editing suites. Sirius XM Radio is the anchor tenant, and they broadcast "Tradin' Paint," a NASCAR-themed radio show, Monday through Thursday from 11 a.m. until 3 p.m.

FLEXIBILITY

When we designed the rooms, versatility was made the keystone.

We would have to accommodate a range of uses, from simple one-mic breakaway remotes to fully produced call-in shows. Each room would be fitted with a large complement of telephone and ISDN gear, and would provide for a host plus five guest microphones. The facility was going to need a lot of mix-minus capacity that could be reconfigured quickly for different shows. Reliability was an important consideration as well. Failure was not an option.

Based on the features in which NMG's clients had expressed interest, I chose two Wheatstone Evolution-6 (E-6) consoles for this project.

I'd worked with Wheatstone equipment, and knew that installing and setting up the system would not be a problem, even on a tight schedule. The EN-8 Audio Network Switch and E-Series Satellite I/O frames were easy and quick to set up with Wheatstone's X-Point network configuration and monitoring software, and provided the redundancy needed to head off on-air faults. The intuitive console setup interface made it just as easy to set up the control surface characteristics.

Our time frame, already tight, got tighter at the last minute. The radio facilities, originally slated to open in June, would be needed for the NASCAR Hall of Fame grand opening, three weeks sooner.

We burned some midnight oil getting things ready. We had little need for support from the manufacturer, but when we did have questions or concerns, we received quick answers the same day. We never had to wait for crucial information. We preset a configuration for the "John Boy and Billy Big Show" that would use the studios in the morning hours, and one for Sirius XM Radio's mid-day programming needs.

The day of the grand opening was a busy one, to say the least. Dignitaries such as the mayor of Charlotte and the governor of North Carolina were in attendance, along with many of NASCAR's most storied former drivers and champions. Two thousand people and dozens of TV crews were in the plaza as Sirius XM Radio and other radio broadcasters floated among them, doing interviews and live reports. The "John Boy and Billy Big Show" was on the air.

Suddenly, at 9:45 a.m., Mother Nature decided to make our day more interesting.

The heavens opened up, sending soggy people dashing for the nearest shelter. Sirius XM Radio's team, in need of a dry place to work, requested to use the studios as the morning show ended.

With a one-button reconfiguration of the console, it took only moments to reroute all of the mix-minus feeds and sources, and the three-hour "Trading Paint" show went on. Later, the Motor Racing Network (MRN) also asked to use the studio for guest interviews, and with XPoint, I was able to rapidly reconfigure the console to accommodate that as well.

This flexibility and the E-6's ability to provide a mix-minus for every source on the console (plus four dedicated mix-minus buses and four auxiliary buses) got us through this clutch and made the day a success.

The system is a joy to work with, flexible and easy to operate, and the staff has commented on its clean look. For my part, with the Glass-E remote surface control software and the net configuration interface, I can do anything from remotely pushing a button on the console to reconfiguring the entire system from my home computer.

The customer is planning to expand the system with an E-6 console for a TV news studio, taking advantage of the feeds we already have in place for radio. Overall, I can say that we're more than satisfied.

For information, contact Jay Tyler at Wheatstone in North Carolina at (252) 638-7000 or visit www.wheatstone.com.

AXIA

(continued from page 20)

instruct someone, over the phone, how to change a source, add EQ, pan left to right. The learning curve for the engineer is minimal — and when compared to Systems A and B, it is almost nonexistent. If you are an engineer with average IT skills, you will be able to implement and operate an Axia system with ease.

Also in contrast to other systems I've worked with, Axia has technical support available not just after hours, but on weekends, holidays and overnight, every day of the year.

Without Axia's flexibility and easy operation, I believe I would have not been able to accomplish what was needed for a rigorous live show.

As an engineer, I do not have the time to toil over the configuration and operation of hardware. In today's broadcast world, where time and money both run in short supply, Axia steps up and performs beyond top-of-the-line levels with accuracy, ease and simplicity. To date Axia has been my choice and I have recommended it to a number of broadcast facilities that I deal with on a daily basis.

For information, contact Axia Audio in Ohio at (216) 241-7225 or visit www.axiaaudio.com.

TECHUPDATES

ONAIR 2500, DIGITAL 'ALL IN ONE'

Studer's new OnAir 2500 digital "all-in-one" console uses established software technology derived from the popular OnAir 3000 console to deliver what the company calls a high standard in ease of use for radio broadcast.

Three standard configurations with 12, 18 and 24 faders are available, with motorized channel faders as an option.

The Studer OnAir 2500 is a self-contained system and builds upon the operational concepts of its predecessor, the OnAir 2000. With the OnAir 2500, the control surface, I/O breakout, DSP Core and power supply are integrated within a single compact chassis.

The OnAir 2500 provides the user with a large number of inputs and outputs in many standard signal formats. As well as interfaces on XLR and D-sub connectors (microphone inputs, headphone outputs, line and AES I/Os), the internal audio system offers interfaces to digital multichannel formats such as MADI, ADAT and IEEE-1394 FireWire.

The fader strips include a graphical OLED screen, which contains a channel

label, level and gain reduction meter and parameter readouts, adjustable via a rotary encoder and two push-buttons below the display. OLED screens have a wider viewing angle than LCDs and much higher definition, so operators can immediately see information much more clearly.

A large TFT color touchscreen uses Studer's Touch'n'Action system, where only the most important functions have hardware control elements in the channel strip. Studer says this makes operation of the console simple and stress-free.

The OnAir 2500 can support I/O sharing via Studer's proprietary networked technology, allowing it to share signals with other Studer devices.

For information, contact Studer North America in California at (818) 920-3206 or visit www.studer.ch.

CRYSTAL IS FOR ON-AIR AND EDIT SUITE APPLICATIONS

Lawo's crystal is a digital audio console designed for radio on-air and edit suite applications, promoted by the company for its ergonomic design and affordability.

The console has an easy-to-operate surface with a manageable amount of control elements and displays, helpful to keep training time down. To ensure short start-up times and to save costs, the board is delivered with a choice of configurations for standard application; it also offers the possibility to be custom configured and to be adapted to user workflows.

Starting from around $7,000, crystal provides the functionality of a conventional four-fader mixer, plus an integrated matrix of up to 288 I/Os, flexible network configuration and intelligent networking with other consoles and matrices.

The crystal comprises the tabletop control surface and the base unit, a 19-inch chassis that houses I/Os, signal processing and the control system. They are connected via CAN bus (Cat-5 cable).

For information, contact Michael Mueller at Lawo in Ontario at (203) 920-4909 or visit www.lawo.ca.

JetStream Serves 'El Vampiro' & Crew

Florida Station Turns to Logitek for New Studio Facility Studios

USERREPORT

BY BILL SULLIVAN
Contract Engineer
WLCC(AM)
Tampa, Fla.

ORLANDO, FLA. — WLCC(AM) is a regional Mexican-format station serving the Tampa Bay area. Earlier this year our lease ran out on our existing studio facility, which gave us the opportunity to move to a better location about a mile away.

Since we had to move the studios, we decided this was the time to upgrade our air studio from its old analog console to a modern digital system. At about the same time, Frank Grundstein, director of sales for Logitek, came to Orlando, where I'm based, to do an SBE presentation on their new JetStream system.

The JetStream is an integrated console engine with IP audio networking in a small package. A single unit can handle up to 64 channels of analog I/O, digital I/O and microphones, and offers onboard audio processing and profanity delay plus GPI/O.

I was impressed by its size; this complete IP audio system has the same footprint as a standard audio processor. I also liked the fact that it could be installed using the StudioHub+ standard. I had decided to use StudioHub for wiring at the new facility and this made the JetStream as close to "plug and play" as you could get with a console system. With the new studio installation being done by one person (me), ease of installation was critical.

THE DEMO

At the SBE meeting, Frank also did a demo of Logitek's new Pilot control surface. The Pilot is an inexpensive, modular console that connects to the JetStream with a single cable. It's available in multiple sizes and has a simple tabletop design.

After I saw the products at the SBE meeting, I went to station management with a recommendation that they purchase the JetStream and Pilot for WLCC. As I was showing them the Logitek options, we went over Logitek's vScreen utility which, among other things, can provide a "virtual console" for control of the JetStream. The GM said, "If we can do this virtually, why do we need a physical console?" So when we placed our order with Logitek, we just ordered a JetStream with vScreen control. But after a couple weeks of operation, WLCC's PD and operators convinced the GM that they really needed a physical surface in front of them, so I called Logitek again and ordered a Pilot-12 to go with the JetStream.

WLCC host Sonia works at the Logitek Pilot control surface.

Our installation couldn't have been easier. A couple of weeks after placing our initial order, I received a small box from Logitek containing the JetStream Mini. I couldn't believe we had this much capability in such a small unit.

The JetStream was placed in the TOC right next to the AudioVault automation system. Microphones, mic processing, two computers and the CD players in the studio were wired back to the TOC via StudioHub, with everything connecting to the JetStream with RJ-45 connectors. Monitor, cue and headphone feeds were wired back to the studio in a similar manner. A few weeks later, when we received our Pilot-12 surface, installation took less than five minutes. We connected the cable to the JetStream and plugged in power, and we were up and running.

Right now we are using the JetStream in a non-networked mode. Our production rooms, which are still using Mackie 24.8 consoles and Digidesign Pro Tools equipment, feed the JetStream as single I/O paths. However, it's nice to know that when we are ready to network our studios, we will have an inexpensive upgrade path via JetStreams and Logitek control surfaces.

Remote access to our JetStream-based studio is great. Our PD and afternoon personality, Luis "El Vampiro" Briceño, hosts a weekly remote broadcast which is transmitted to the studio from his PC using Windows Media Encoder, where it is received on a PC in the studio. We use Symantec's pcAnywhere remote program to control the studio PC as well the AudioVault AVAir screen. A Comrex STAC with Web interface controls the phones, and he connects with Logitek's vMix to the JetStream for a complete remote without a local board operator. The really cool thing is the remote can be anywhere in the world where there's a reliable Internet connection.

When I first saw the JetStream, I knew this was what I wanted for WLCC. I didn't even look at other options. It was the right size, right price and right type of installation for us. As far as I'm concerned, the Logitek JetStream is a real winner.

For information, contact Frank Grundstein at Logitek in Texas at (610) 642-2487 or visit www.logitekaudio.com.

TECHUPDATE

ARRAKIS SYSTEMS SETS THE MARC

The MARC-15 analog console from Arrakis Systems is part of the Arrakis Advanced Radio Console (ARC) family, which supports USB digital integration to PCs with both play and record, RJ-45 connectorization for Cat-5 analog wiring and AARC-NET Ethernet audio networking.

The MARC-15 has a low-profile tabletop design. It is modular and features up to 15 inputs channels with 30 source inputs. It has three stereo output busses, three sets of VU meters and a cue speaker.

There are five types of modules: mic, stereo line, PC USB, telephone (up to two modules with conferencing) and studio monitor. Mic and stereo line inputs are A/B selectable for a total of up to 30 inputs per mainframe.

The PC USB module connects to any Windows or Mac computer to record and play audio digitally via the user's favorite software. Multiple modules can be used to support multiple PCs. Digilink-Xtreme Studios Mode radio automation software is included.

For reliability, the MARC console uses LED lighting on its switches. Also, audio switching is electronic (no audio on the switches) for long life and audio performance.

Installation is made easier with standardized RJ-45 connectorization and 10 foot cables included (terminated on one end with an RJ-45). Cable and trim adjustments are provided under the hinging VU meter panel. Modules can be replaced with two screws and a simple plug-in connection, while the board is hot.

As part of the Advanced Radio Console family, the MARC-15 integrates with Arrakis ARC-8, ARC-10 and ARC-15 series consoles.

For information, contact Ben Palmer at Arrakis Systems in Colorado at (970) 461-0730 or visit www.arrakis-systems.com.

AIRAURA TAKES FLIGHT!

COOL STUFF AWARD

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!

- **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**

AIRAURA
SUPER DIGITAL AUDIO SPECTRAL PROCESSOR

MORE BRAND NEW STUFF FROM VORSIS! AVAILABLE TODAY!

VORSIS

IT'S TIME YOU WON THE RATINGS WAR.™

phone 1.252.638-7000 | www.vorsis.com | sales@wheatstone.com

Radio One Catches a NetWave

Cleveland Facility Upgrades Studio With Harris Networked Digital Audio

USERREPORT

BY GARY ZOCOLO
Chief Engineer
Radio One/Cleveland

Gary Zocolo is all smiles with his Harris console system.

CLEVELAND — Radio One Inc. is one of the nation's largest radio broadcasting companies, and the largest that primarily targets African-American and urban listeners. Radio One owns and/or operates 53 radio stations in 16 urban markets in the United States.

One of our key markets is Cleveland, where we undertook an extensive studio upgrade. The Radio One/Cleveland facility had been a patchwork of legacy Harris PR&E and other digital consoles that had been repurposed quickly in the days of frenzied consolidation. Operators were faced with learning entirely different layouts from studio to studio, with no two having similar functionality. And the fast-paced timing of stations populating the building — bringing with them their various levels of complexity — did not allow for a unified yet flexible plan.

A PLAN

We chose to upgrade to Harris Netwave 16-input digital audio consoles, and the consoles went on the air and into production rooms between October of 2008 and January 2009 with the assistance of Director of Engineering John Soller and Corporate VP of Engineering John Mathews.

We maintained operations in our four on-air studios and production rooms, while shuffling station operations around into the first two studios to be completed. We moved a largely automated station into a temporary studio, which allowed us to work on two studio upgrades concurrently.

The studio construction included massive infrastructure improvements and new studio furniture from Studio Technology of Philadelphia. Vince Fiola, manager of Studio Technology, provided consultation to help maximize available space in an ergonomic design.

The routable and scalable nature of the Netwave consoles expanded by magnitudes the flexibility, versatility and inter-studio compatibility of the overall operation. Suddenly, resources such as satellite receivers, remote codecs and program feeds that formerly were mission-specific became available everywhere with Netwave.

That improvement multiplied the options available to the four stations, each with specific needs and missions. Mix-minus feeds for remotes and essential fast-paced telephone interaction with listeners and recording artists improved in function and reliability.

The Netwave consoles are laid out in a traditional fashion, and the operation is intuitive for anyone who has ever operated a linear fader console. The reduced footprint of the consoles allows for plenty of workspace for on-air personnel, co-hosts and guests compared to previous generations of consoles.

Many operational features stand out.

The heads-up mirrored metering is easy to read, along with the clock and timers. The dual metering system is bus-selectable, which is convenient for setting up remote and other external feeds. The autocue metering function also gives an accurately calibrated view of any source before it hits the air.

The headphone, cue and studio monitor controls are selectable, and the dual external monitor busses conveniently allow for both real-time in studio monitoring and confidence monitoring of the profanity and HD delayed air signal. Switching back and forth between them is quick and easy. The nature of the mixed digital and analog environment is accommodated easily due to the console's versatility.

On-air sources for the console include four mics in each control room studio, three channels of the digital content delivery system, two CD players in each studio, telephone interfaces, a workstation PC with a professional audio card and a dedicated telephone feed editing PC with professional audio card. The production rooms maintain some legacy devices, such as MiniDisc recorders/players and DAT machines, for the occasional content that arrives in those formats.

NETWORKED

The consoles are networked into a Harris VistaMax Envoy system. Source sharing was one of the giant leaps forward with the routing system on these consoles. All networks, codecs and other remote feeds are available in all studios, which enhances production ability and versatility with interview capability.

The Radio One studios have been host to numerous national talents doing network shows from the Cleveland facility, at times in an air studio running totally separate programming on the local airwaves. The networking ability of the VistaMax consoles has proven useful during a digital delivery failure in one studio, and operations were switched with ease to a production studio while the content PC was repaired.

VistaMax also has greatly simplified individual source wiring between studios. Since all inter-studio/TOC audio is digital and utilizes a segregated Ethernet for audio transport, the need for large trunks of various sources was eliminated, which also helped the speed of the installation.

We get an overall analysis of system health, along with detailed routing audit trails and text-based routing tables, with the VistaMax Control Center software and the Community Monitor software. The VistaMax command client allows for remote access and PC routing if the need arises. It also is a handy resource in switching monitor feeds in listening areas. Radio One Cleveland also uses two independent source/destination selectors in both TOC and the engineering office suite for convenient access and monitoring of all signals.

Overall, the Netwave and VistaMax installation at Radio One/Cleveland has facilitated a huge step forward for us. We're reaping the benefits of a high-quality, reliable, efficient and versatile operation, both on the air and in our production studios.

For information, contact Paul Barzizza at Harris Broadcast in Ohio at (513) 459-3400 or visit www.harris.com.

TECHUPDATE

ALLEN & HEATH XB-14 HANDLES MANY STATION SIZES

Allen & Heath says its XB-14 is designed for a range of applications from small radio or Internet broadcast studios, to larger studios with multiple rooms, hospital radio, university radio and community radio.

The XB-14 is equipped features such as telephone communication modules for telephone callers, mic fader start sensing for external connection and internal automatic muting of the speaker outputs, stereo channel start/cue outputs for CD deck transport control, separate headphones mix and outputs for guests and an audition bus.

For information, contact Allen & Heath/American Music & Sound in California at (800) 431-2609 or visit www.allen-heath.com.

- 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.

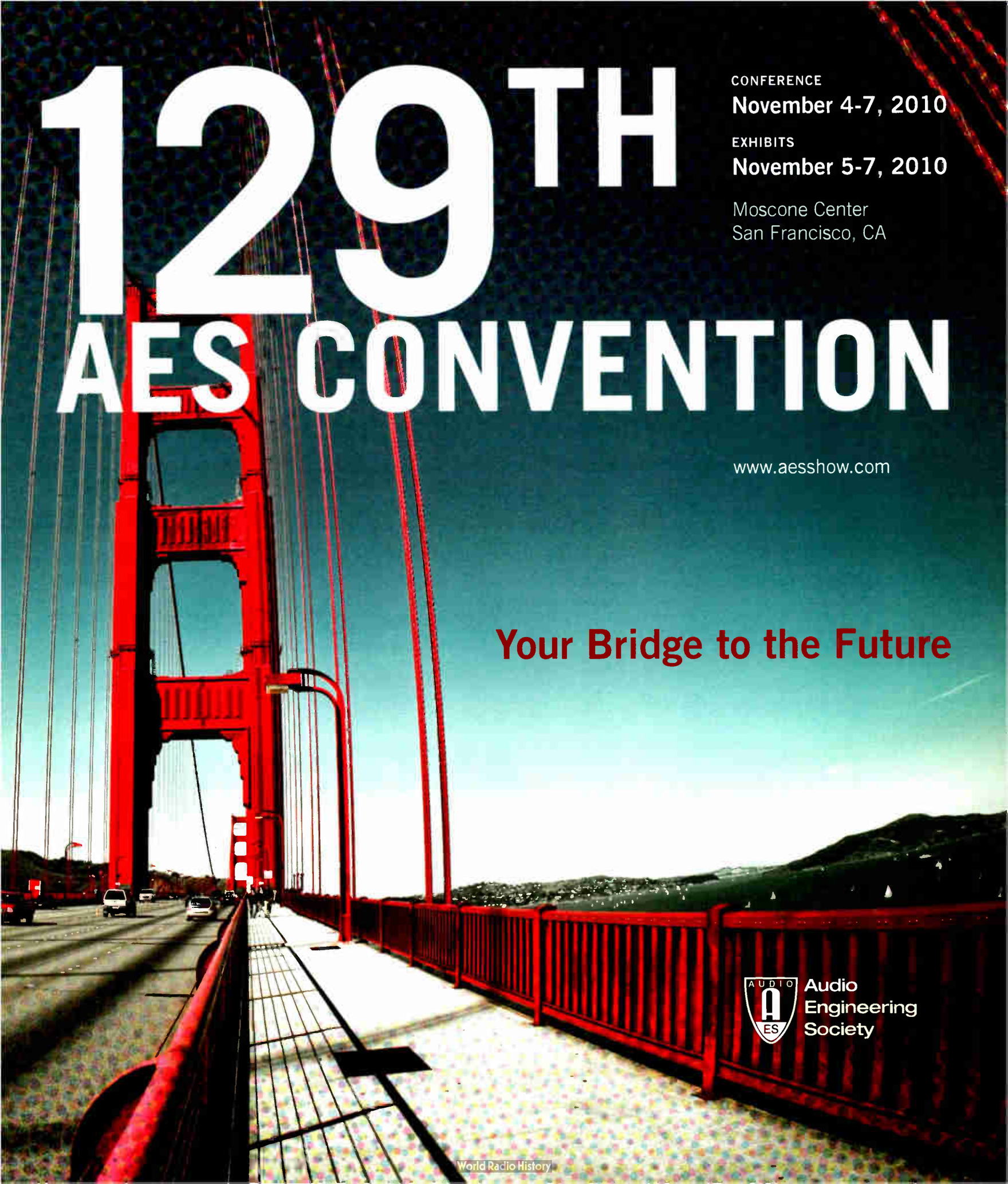
Op-X
RADIO AUTOMATION

AUTOMATION

SIMPLE • POWERFUL • REDUNDANT

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



Sonifex S1 Fits the Niche

Studio Builder Finds 'Little Brother' To Be the Right Fit for Small Studios

USERREPORT

BY RICHARD LAWLEY
Director and Technical Consultant
Radio Studio Services

SURREY, ENGLAND — The new Sonifex S1 compact professional mixer fills a gap in the market that previously had been addressed only through one of a number of compromises — sometimes ones that cause considerable confusion among users.

When Radio Studio Services is building small radio stations, we often are presented with the challenge of providing adequate facilities in a newsbooth or editing bay without spending a fortune. The S1 covers many of these needs by offering a wealth of options in an elegant package — and as usual, Sonifex has thought through what users need in a range of situations.

The mixer's 10 input channels can be configured to offer users the combination that they need.

Using the software provided by Sonifex, the engineer can enable or disable inputs and functions to reflect the application of the studio, and reduce the risk of disruption when nontechnical users press the wrong button (as always happens, usually at the most inconvenient time).

RIGHT FIT

The inputs offered include virtually everything we have installed in any recent studio (albeit in limited quantities): balanced line level, balanced mic with phantom power, phono inputs with an extra 10 dB of gain, stereo unbalanced on a 1/4-inch TRS jack, stereo on a 3.5 mm jack, S/PDIF and TOSlink. The only things missing are an RIAA phono input and AES/EBU digital, but neither of these is normally found in the small booth that is likely to be the home for the S1. (However there is an AES/EBU output, which can be internally or externally clocked.)

The Sonifex S1 installed at Radio Plymouth.

The configurability extends to the outputs and monitor section as well, giving you the choice of VU or PPM characteristics on the LED meters, monitor sources locked on or off, and so on.

There are mono and stereo feeds, as well as a stereo aux output (which you can program to be pre- or post-fade in the software), and separate presenter and guest headphone outputs — so a small booth can have the features you'd expect in a large broadcast studio.

It's well built, too. The 100 mm faders and pushbutton switches are the same quality as are used in the "big brother" S2 mixer; the frame is solidly constructed; and there's a useful feature enabling you to rotate the rear panel to put the sockets on the bottom rather than the rear of the mixer. It looks good too, so users don't think the small booth is the poor relation in a studio complex.

So when we were building Radio Plymouth — a small city station in Devon, with one on-air studio plus a small newsbooth — the new S1 was the obvious choice for the booth to complement the Sonifex S2 that we were putting into the main studio. It's not perfect; for instance there are no inserts on the input channels so you can't easily insert any processor in a mic input. But I had one of the first production models, which was released before the full manual had been printed, so it's probably much nearer to being perfect than I realized when I was installing it. Now that I have the manual I've found a few more neat features — but the users seem pretty happy with it already.

For information, contact Fraser Jones at Sonifex/Independent Audio in Maine at (207) 773-2424 or visit www.independentaudio.com or www.sonifex.co.uk.

TECHUPDATES

AEQ INTRODUCES THE FORUM

The new AEQ Forum digital audio mixer is a self-contained, standalone digital control surface that can be configured with four, eight or 12 physical stereo faders; it has 14 slots on its rear that will accommodate analog inputs and outputs, digital inputs and outputs, telco hybrids and mic/line I/O modules.

It can be configured as all-analog, all-digital or any combination of the two audio formats.

The Forum has a significant amount of functionality built into its mainframe, including a cue monitor speaker, dual stereo VU meters, OLED displays, opto-isolated GPIO and relay outputs. The Forum has internal routing of 64 x 64 channels, and an addition 64 x 64 via its MADI interface.

Basic functions, such as setup, audio level and routing, have their own specific control for each channel. Any signal present in the system may be assigned to any control channel using configuration tools on the surface.

Two Ethernet ports enable remote maintenance, monitoring and control.

Each channel's OLED display shows channel name, status and balance/audio levels. Each channel module has four routing buttons.

External time sync is done via a rear-panel port. Clock, timer and stopwatch functions are standard, as are sample rate conversion on digital inputs, cough mute, on-air signaling, fader start, remote PFL, talkback and speaker muting. Two digital telephone hybrids and four dual mic/line modules may be installed.

Selection of mic or line, and phantom mic power are switch-selectable and conveniently located on the module. The Forum may be countersunk into a tabletop or placed on top of it. The Forum is designed to interface with other AEQ systems via the industry standard AES10 MADI bidirectional fiber-optic interface, as well to any other manufacturer's equipment that supports this protocol.

For information, contact AEQ in Florida at (954) S81-7999 or visit www.aeqbroadcast.com.

NEW FEATURES FOR SAS

Sierra Automated Systems now includes silence detection on its Rubicon, Rubicon SL and M-Class consoles with SAS 32KD and RIO DSP engines.

The SAS 32KD distributed and multiple-DSP digital audio network now comes with silence detection and peak level detection available on every output.

Using the SAS network configuration software, an engineer can specify the definition of silence parameters. Silence level threshold and length of time the audio signal is below the threshold are used to define the silence. A length of time can be entered to define the "return of audio" before signaling that the audio signal is back, or "audio return."

The silence detect and audio return can be annunciated by individual relay closures, logged messages and e-mail. Additionally a set of macros can be executed to remap sources to destinations and automatically bypass the "silence," or essentially remap the transmitter air chain.

Also, available now on all SAS 32KD and RIO DSP engines are EQ and dynamics processing software plug-in algorithms.

From a pool of DSP processing functions such as three- and four-band equalizers, compression, limiting and AGC, any source, mix and output signal can be routed through the selected DSP processing as desired. A simple GUI interface allows the user to point and click to select the DSP plug in functions desired. The system will automatically route through the processing statically, or an "insert processing" button can be programmed on the console.

For information, contact Sierra Automated Systems in California at (818) 840-6749 or visit www.sasaudio.com.

ACOUSTICS

AUDIO PROCESSING (INCLUDES ON-AIR)

WANT TO SELL

Omnia 6 EX HD+FM 2001-00125-000, Serial # 4700JN2169, gd cond, $6200; Omnia 6 EX HD+FM 2001-0012-000, Serial # 4700GT5742, gd cond, $6200; Omnia 6 EX H+FM, 2001-00125-000, Serial # 4700GT5747, gd cond, $6200. J Gregg, 760-256-0326.

WANT TO BUY

Teletronix LA-2A's, UREI LA-3A's & LA-4's, Fairchild 660's & 670's, any Pultec EQ's & any other old tube compressor/limiters, call after 3PM CST - 214 738-7873 or sixtiesradio@yahoo.com.

AUTOMATION EQUIPMENT

WANT TO SELL

It's free and it has been expanded. The only cost is to keep us informed as to how the system is performing and let us know how you are using it. DIY-DJ, is a Linux based radio automation system and now sports a record scheduler (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 system. Beside these additions the system schedules music, does voice tracking (ALWAYS hit the vocal), create a shell, live assist, exact time events, join satellite feeds, automated temperature announce, do unattended remote events and more. Call (406) 679-0527 or email krws@digitaldevelopment.net for a copy today.

COMPLETE FACILITIES

RADIOWORLD
Equipment Exchange

CONSOLES/MIXERS/ ROUTERS

WANT TO BUY

ADM (audio designs and manufacturing) 70s era consoles and parts. Al @ agrunwel@twcny.rr.com.

MICROPHONES/ HEADPHONES/ SPEAKERS/AMPS

WANT TO BUY

RCA 77-DX's & 44-BX's, any other RCA ribbon mics, on-air lights, call after 3PM CST, 214 738-7873 or sixtiesradio@yahoo.com.

MISCELLANEOUS

WANT TO BUY

Collector wants to buy: old vintage pro gears, compressor/limiter, microphone, mixing consoles, amplifiers, mic preamps, speakers, turntables, EQ working or not, working transformers (UTC Western Electric), Fairchild, Western Electric, Langevin, RCA, Gates, Urei, Altec, Pultec, Collins. Cash - pick up 773-339-9035

2" plastic "spot" reels 6.5 or 8" diameter, as used for quad video. Wayne, Audio Village, 760-320-0728 or audiovlg@gte.net.

Equipment Wanted: obsolete, or out of service broadcast recording gear, amplifiers, preamps, outboard, radio or mixing consoles, microphones, etc. Large lots acceptable. Pickup or shipping can be discussed. 443-854-0725 or ajkivi@gmail.com.

I'm looking for San Francisco radio recordings from the 1920's through the 1980's. For example newscast, talk shows, music shows, live band remotes, etc. Stations like KGO, KFRC, KSFO, KTAB, KDIA, KWBR, KSFX, KOBY, KCBS, KQW, KRE, KTIM, KYA, etc, I will pay for copies... Feel free to call me at 925-284-5428 or you can email me at ronwtamm@yahoo.com.

Looking for a broadcast excerpt of a SanFrancisco Giant's taped off of KSFO radio from 1959, interviews with Willie Mays, Dusty Rhodes & some play by play excerpts, also features a homerun by Willie Mays and Felipe Alou stealing second base, running time is 18:02, also looking for SF Giants games and/or highlights from 1958-1978 also taped off KSFO Radio. Ron, 925-284-5428 or ronwtamm@yahoo.com.

Looking for KFRC signoff radio broadcast from 1930 Andy Potter, running time is 0:22 & also the KLX kitchen the program guest is Susanne Caygill, a discussion of women's affairs with a long promotion for Caygill's appearance at a local store. Anne Truax, Susanne Caygill, running time is 13:44. Ron, 925-284-5428 or email ronwtamm@yahoo.com.

Looking for KTIM FM radio shows from 1981-1984 if possible unscoped. R Tamm, 925-284-5428 or ronwtamm@yahoo.com.

RECORDING & PLAYBACK HARDWARE

WANT TO BUY

Large or small collections of 16" transcriptions or 12" transcriptions, not commercial LPs. Bill Cook, 719-687-6357.

Schnader telescriptions 16 mm musical films produced in the early 50 s. Bill Cook, 719-687-6357.

Standard Short-tune series. Bill Cook, 719-687-6357.

REMOTE & MICROWAVE

STATIONS

WANT TO SELL

AM Station in Rome, NY, $100K, FM xlators in Jacksonville, NC, Taylorsville, IL, Hopkinsville, KY. mraley@bbnmedia.org.

FM CP's: sell, trade, or lease: Athens, GA, Greensboro, GA, San Antonio area, Robbins, NC, C2: Placerville, CA. CPRradio@bellsouth.net.

TAX DEDUCTIBLE EQUIPMENT

Donations Needed: All Volunteer, Non-profit Low Power community radios stations need Equipment. Will offer tax deduction letter, You determine donation value, We will pay shipping. Equipment shared between three Wisconsin stations. Looking for Mics, Mixers, field equipment, etc. You name it. Email: Dan@WIECradio.org.

TRANSMITTERS/ EXCITERS/TRANSLATORS

WANT TO SELL

Selling Harris SX1A AM 1kW xmtr, recently removed from service, call for details. R Matheny, WMOA Radio, 740-374-8637 or mathenyr@marietta.edu.

CCA AM 10,000 D – Call John KQSS 928-595-0263 between 10 & 6 PM Pacific Time.

CONSULTANTS

EMPLOYMENT

POSITIONS WANTED

Dedicated, fun, optimistic, outgoing, dependable Production/On-air talent, creative copywriter and Proficient digital editing with CoolEdit, Magix, Studio 8, and Fruity Loops. Andre, 972-748-1923 or andrecwood@yahoo.com.

Enthusiastic On-Air talent willing to take on new adventures. On-Air/digital production. Experience with Adobe 3.0/DRS2006 Radio Broadcast software. Think outside the box. Bruce, brucekenneth68@yahoo.com or 806-637-2844.

Excellent on-air, voice over, board-operations and communication skills, modeling experience. Professional attitude, computer savvy. Exceptional ability to work in fast-paced environments. DeAndrea, 817-262-2624 or Andreamechol@aol.com.

Fantastic, fearless, female, radiant ball of energetic spontaneity. Proactive, articulate, and willing to shine "day, or night." Proficient in production, news, copywriting. Stephanie, texdaydj@yahoo.com or 682-465-1939.

Great stage presence, Journalism/Mobil DJ experience. Technical/computer savvy: Adobe Audition, CoolEdit, PC & Mac computers. Proficient copy/news writer. Funny, and friendly. Seth, 903-563-0516 or sethalexander@yahoo.com.

Multi-talented broadcaster!! ALL FORMATS!! (Adobe Audition 3.0 and DRS 2006), Awesome Personality On/Off Air! Reliable, Works well Under Pressure, versatile!! April, 803-370-2263 or april.anthony17@yahoo.com.

Well absorbing mind, excellent penmanship and writing, specialties include: Copy/show prep, ProTools/CoolEdit, exuberant voiceover talent, along with motivated will to achieve! Ben-Jamin, 469-323-9443; album-musicproductions@yahoo.com.

Friendly, pleasant personality, programming/promotions. Good on-air, boards, events or behind the scene guy. Respectful, easy to work with and loves a challenge! Chase, 817-275-9396 or leechase39@yahoo.com.

C.E. position wanted: will work for one-half of normal wages. Certain conditions must apply. Let's talk! (217) 363-1855.

Multi-talented manager available for your family-friendly station or group. More than 30 years experience in many areas including: management, announcing, engineering, webmaster, IT, sales training and coaching. Send details about your mid or upper level management opening to: president@sonshinemedia.net.

Are you a small market station needing a good nuts & bolts engineer in the Los Angeles area? I will make your station shine! CET, fully FCC Licensed. Available for Full/Part-time/Contract work. Available immediately. Mitchell Rakoff, 917-324-8466 mitchellrakoff@yahoo.com.

Multi-talented manager available for your family-friendly station or group. More than 30 years' experience in many areas including: management, announcing, engineering, webmaster, IT, sales training and coaching. Send details about your mid or upper level management opening to: president@sonshinemedia.net.

Extremely knowledgeable and articulate racing writer/talk show host Adam Amick is available for shows, correspondent, features, etc. Check out www.bleacherreport.com for samples. Call 214-384-5812 or email: adam@rubbinsracing-show.com.

TUBES

DISTRIBUTOR DIRECTORY

The following distributors serving the broadcast industry would be glad to help you with any of your requirements.

READER'SFORUM

FM DX

This is in regard to your Feb. 1 story about the former WTOP(FM), now WHUR, at 96.3 in Washington, with its antenna mounted inside the tower, and a followup letter by Jim Manning in the April 21 issue.

Well, I received the station 60 years ago, in 1950, when, as I learned from the article, it transmitted from Virginia. This was before it embraced its inside-tower location in the District.

You'll note that one of the persons mentioned in the article, Clyde M. Hunt, director of engineering, was my pen pal. He wrote a letter July 24, 1950 verifying my report of WTOP(FM) reception in Duluth, Minn.

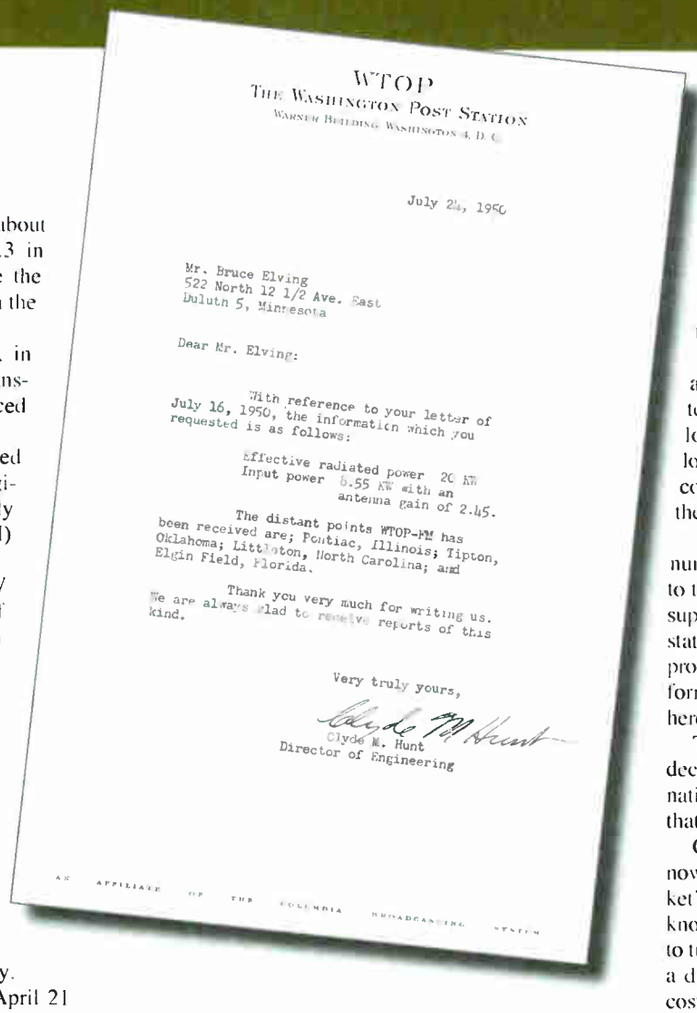
At that time, the FM station had 20 kW effective radiated power with an input power of 8.55 kW and antenna gain of 2.45. Polarization would have been all horizontal in those days. Hunt mentioned receiving DX reports for the FM station from Pontiac, Ill., Tipton, Okla., Littleton, N.C., and Eglin Field, Fla.

You'll note from the copy of the letter, enclosed, that WTOP was owned by the Washington Post, it was in postal zone 4, it was affiliated with CBS and no phone number is shown on the letterhead.

I am sure the Washington Post regretted taking WTOP(FM) off the air, and subsequently donating the facility to WHUR, now a top-rated station owned by Howard University.

I enjoyed the article about AM DX in the April 21 issue. This letter might bring to light a long-time interest of mine in FM DX listening.

Bruce Elving
Esko, Minn.



WTOP
THE WASHINGTON POST STATION
WARNER BUILDING, WASHINGTON 4, D. C.

July 24, 1950

Mr. Bruce Elving
522 North 12 1/2 Ave. East
Duluth 5, Minnesota

Dear Mr. Elving:

With reference to your letter of July 16, 1950, the information which you requested is as follows:

Effective radiated power 20 KW
Input power 8.55 KW with an antenna gain of 2.45.

The distant points WTOP-FM has been received are; Pontiac, Illinois; Tipton, Oklahoma; Littleton, North Carolina; and Elgin Field, Florida.

Thank you very much for writing us. We are always glad to receive reports of this kind.

Very truly yours,

Clyde M. Hunt
Director of Engineering

AN AFFILIATE OF THE COLUMBIA BROADCASTING SYSTEM

OUR COMPETITIVE LANDSCAPE

Much has been written about in your publication regarding the future landscape for radio.

Living in Las Vegas I have had the opportunity to attend both CES and NAB regularly and am always amazed at the ingenuity on display. That is why I am surprised that corporate owners seem to continue to miss the boat when it comes to adapting for what is coming.

With wireless networks now offering 3G widely and 4G coverage quickly coming along, as well as technologies like the Sync blazing the way for technologically driven entertainment options within vehicles, local radio stations have to be keenly aware that their competitive landscape is about to change vastly. Yet they can survive and do well.

Local TV has been doing it for decades even with the numerous alternatives satellite and cable offer. The key to their survival, of course, has been local programming supplemented by network-unique programming. Local stations, though, may face a challenge with network programming, as I can stream the same CBS-provided format out of a dozen markets that I can get over the air here, all in my car.

Though an argument may be made that you may decrease your local listenership while expanding your national one, it's hard to get Sam the Sales Guy to use that as a pitch for Joe's Local Sandwich Shop.

Corporate owners need to relinquish more control now to a trusted group that understands the local market's demands and can program accordingly. They will know how to establish a faithful base that will continue to tune them in after the transition. Unfortunately, saving a dime with automation and canned formats now may cost much more than a dollar down the road.

Frank Mueller
Operations Manager
KUNV(FM)
Las Vegas

ADVERTISER INDEX

This listing is provided for the convenience of our readers. Radio World assumes no liability for inaccuracy.

PAGE	ADVERTISER	WEB SITE/URL
28	AES	www.aes.org
17	Arrakis Systems Inc.	www.arrakis-systems.com
20	Audio Technica	www.audio-technica.com
9	Axia - A Telos Company	www.axiaaudio.com
5	Barix	www.barix.com
29	Broadcast Tools, Inc	www.broadcasttools.com
27	BSI	www.bsiusa.com
3	BSW	www.bswusa.com
6-7, 35	Comrex Corporation	www.comrex.com
1	Continental Electronics Corp.	www.contelec.com
22	Grace Broadcast Sales	www.gracebroadcast.com
19	Harris Corporation	www.broadcast.harris.com
33	Heil Sound, Ltd.	www.heilsound.com
4	Henry Engineering	www.henryeng.com
12	Inovonics Inc	www.inovon.com
23	JK Audio	www.jkaudio.com
11	Logitek	www.logitekaudio.com
18	Lynx Studio Technology	www.lynxstudio.com
16	OMB America	www.omb.com
13	Omnia - A Telos Company	www.omniaaudio.com
10	Progressive Concepts	www.progressive-concepts.com
21	SCMS	www.scmsinc.com
15	Tieline Technology	www.tieline.com
2, 25, 36	Wheatstone Corporation	www.wheatstone.com

OPINION

Why We Need a New Public Media

When It Comes to Better Local Journalism, There Is a Solution Right Under Our Noses

BY CANDACE CLEMENT

The author is an outreach manager for media reform organization Free Press.

It's no secret that journalism, one of the cornerstones of our democracy, is in crisis.

Decades of bad business decisions and disastrous media policies have pushed the news industry to the brink. Newspapers are closing up shop and broadcast stations are consolidating operations and laying off staff. And while there may be a lot of exciting, innovative and entrepreneurial reporting projects springing up in communities across the country, they won't do enough to fill the growing void for local and investigative journalism.

This is not hyperbole. Half the states no longer have a single newspaper covering Congress. The number of statehouse reporters has declined rapidly. Specialty beats, such as arts, science and suburban government, have been slashed. Nearly one-third of all journalism jobs were lost in the last decade. The news industry is hemorrhaging.

Here's the daunting reality: There is no longer enough private capital — in the form of advertising, subscriptions, philanthropy and other sources — to support the depth and breadth of quality local, national and international news reporting that our communities need. To build a media system that sustains democracy in the 21st century, smart changes to public policy are necessary. That means the government will have to be involved.

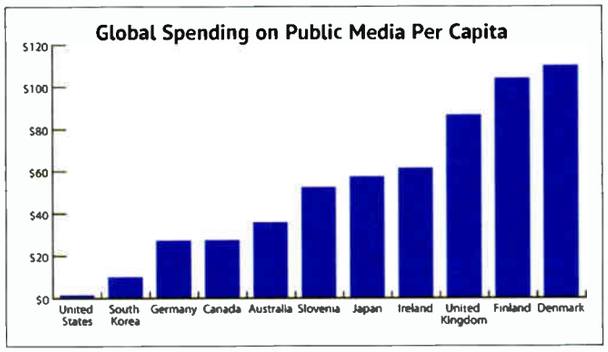
BREAK THE CYCLE

But government involvement does not mean government gate-keeping or censorship. A complex web of policies and regulations has always surrounded the media industry. Postal subsidies in the 18th and 19th centuries helped ensure that newspapers and magazines were able to reach Americans across the nation with a diversity of viewpoints. Broadcasters have been given exclusive rights to utilize the public airwaves. And phone and cable companies have enjoyed massive subsidies in the form of tax breaks and the exclusive rights to dig up our streets.

When it comes to better local journalism, there is a solution for today's problems right under our noses: a newly revitalized public media system in America.

The current public broadcasting system was designed and established by legislation that was written in the late 1960s. In its 40-year history, public broadcasting has earned considerable accolades and soars ahead of the military, the courts and Congress in terms of public trust.

Despite their chronically underfunded state, public broadcasters have been able to accomplish a great deal in the past 40 years. A national network of noncommercial television stations bring quality children's and cultural programming into homes in nearly every corner of the country for free. Public radio has become a leader in providing news and public affairs programming. But in the 21st century, the role of public broadcasting must evolve.



Our public investment in public media pales in comparison to our need. The federal government allocates a measly $1.43 per person each year to the entire public broadcasting system. Compare that to spending in other nations like Denmark or Finland, where they spend more than 70 times that per capita. If the United States spent as much as these other nations, public media's annual budget from the federal government would be over $30 *billion*.

The paltry amount of money devoted to U.S. public broadcasting is one problem; the source of that funding is another. Funding for public broadcasting comes directly from federal appropriations each year. This creates a perpetual cycle in which public broadcasters must participate in an annual song-and-dance with congressional appropriators to stay in their good graces.

A MEDIA REBIRTH

At Free Press, we are not advocating that the government write a blank check for the Corporation for Public Broadcasting, NPR and PBS. Instead, we believe that the CPB should be reborn as the Corporation for Public *Media* (CPM) and be refocused on providing communities with the kind of local, national and international journalism that is so desperately needed in today's crashing commercial journalism market.

The leadership of this system should be made up of representatives from the public media world, instead of political appointees made by the White House. And there must be a strong firewall in place to prevent any meddling with content.

New criteria should be developed to ensure that funds from the CPM are distributed to organizations, individuals and entities across the country that are doing high-quality public media work — whether that be local public access stations that provide residents with media training or independent, noncommercial journalism websites that have stepped up to fill a void where the local papers have vanished. This money needs to be used to build a public media system that is more diverse and more responsive to an individual community's needs.

For any of this to be possible, public media will need a lot more money. Our latest study, "New Public Media: A Plan for Action," lays out a series of concrete proposals for the creation of a trust fund that would get public media off the dole once and for all. That trust could be seeded in a number of different ways, which are explored in detail in the report.

There a few ways to do it, including charging fees to broadcasters for using the public airwaves; auctioning off spectrum to support better public media; placing a tiny tax on advertising; changing the way advertising is treated in the tax code to support the public good; or instituting a small assessment on consumer electronic devices. All these proposals move the system from its approximate $420 million year to annual budgets in the billions.

The exact details still need to be worked out. Determining exactly which mechanism can fund a public media trust is the next step. The first is recognizing that the crisis in journalism is real and that our public media system will be critical in solving it.

Candace Clement of Free Press is co-author of "New Public Media: A Plan for Action" which can be read in PDF form at http://tinyurl.com/rwpublic.

RADIOWORLD

Vol. 34, No. 17 July 1, 2010

Next Issue of RADIO WORLD July 14, 2010
Next Issue of ENGINEERING EXTRA August 18, 2010

E-mail: radioworld@nbmedia.com
Web site: www.radioworld.com
Telephone: (703) 852-4600
Business Fax: (703) 852-4582
Editorial Fax: (703) 852-4585

For address changes and subscription renewal, please visit radioworld.com and click on the "Subscription" button. To submit letters or story proposals, to request writer's guidelines, or for other editorial matters, e-mail the editor at radioworld@nbmedia.com.

EDITORIAL STAFF
EDITOR IN CHIEF, U.S. Paul J. McLane
NEWS EDITOR/WASH. BUREAU CHIEF Leslie Stimson
GEAR & TECHNOLOGY EDITOR Brett Moss
TECHNICAL ADVISER Thomas R. McGinley
TECHNICAL EDITOR, RWEE Michael LeClair
PRODUCTION EDITOR, RWEE Karen Lee
CONTRIBUTING EDITOR John Bisset
INTERNATIONAL EDITOR IN CHIEF T. Carter Ross
LATIN AMERICA EDITOR IN CHIEF Rogelio Ocampo
LATIN AMERICA EDITOR Karina Gerardi
MANAGING EDITOR, WEB Brian Smith
EDITORIAL ASSISTANT, MILAN Peter Finch

EDITORIAL CONTRIBUTORS
W.C. Alexander, Steve Callahan, James Careless, Harry Cole, Mark Durenberger, Charles Fitch, Ty Ford, Harold Hallikainen, Craig Johnston, Paul Kaminski, Peter King, Mark Lapidus, Daniel Mansergh, Sharon Rae Pettigrew, Carl Lindemann, Ted Nahil, James O'Neal, Tom Osenkowsky, Ken Deutsch, Rich Rarey, Tom Ray, Randy Stine, Richard Strickland, James G. Withers, Tom Vernon.

ADMINISTRATION & PRODUCTION
PUBLISHER John Casey
EDITORIAL DIRECTOR T. Carter Ross
PRODUCTION DIRECTOR Davis White
PRODUCTION PUBLICATION COORDINATOR Karen Lee
ADVERTISING COORDINATOR Caroline Freeland

CIRCULATION
ASSOCIATE CIRCULATION DIRECTOR, AUDIENCE DEVELOPMENT Tracey Dwyer
CIRCULATION MANAGER Kwentin Keenan
CIRCULATION COORDINATOR Michele Fonville

SUBSCRIPTIONS
Radio World, P.O. Box 282, Lowell, MA 01853
TELEPHONE: 888-266-5828 (USA only 8:30 a.m.–5 p.m. EST)
978-667-0352 (Outside the US) FAX: 978-671-0460
WEB SITE: www.myRWNews.com
E-MAIL: newbay@computerfulfillment.com

CORPORATE
NewBay Media LLC
PRESIDENT AND CEO Steve Palm
CHIEF FINANCIAL OFFICER Paul Mastronardi
CONTROLLER Jack Liedke
GROUP CIRCULATION DIRECTOR Denise Robbins
VICE PRESIDENT OF WEB DEVELOPMENT Joe Ferrick

VIDEO/BROADCAST GROUP
EXECUTIVE VICE PRESIDENT Carmel King
VICE PRESIDENT / SALES DIRECTOR Eric Trabb

ADVERTISING SALES REPRESENTATIVES
US EAST & LATIN AMERICA: John Casey, jcasey@nbmedia.com
T: 212-378-0400, ext. 512 | F: 330-247-1288
US WEST & CANADA: David Carson, dcarson@nbmedia.com
T: 212-378-0400, ext. 511 | F: 866-572-6156
SOUTHERN EUROPE, AFRICA, MIDDLE EAST:
Raffaella Calabrese, rcalabrese@broadcast.it
T: +39-02-7030-0310 | F: +39-02-7030-0211
UK & IRELAND, CENTRAL & NORTHERN EUROPE:
Graham Kirk, g.kirk@audiomedia.com
T: +44-1480-461555 | F: +44-1480-461550
JAPAN: Eiji Yoshikawa, callems@world.odn.ne.jp
T: +81-3-3327-5759 | F: +81-3-3322-7933
ASIA-PACIFIC: Wengong Wang, wwg@imaschina.com
T: +86-755-83862930/40/50 | F: +86-755-83862920
CLASSIFIEDS: David Carson, dcarson@nbmedia.com
T: 212-378-0400, ext. 511 | F: 866-572-6156

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.

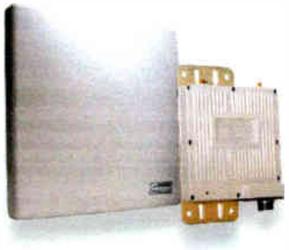
REPRINTS: Call or write Caroline Freeland, 5285 Shawnee Rd., Ste. 100, Alexandria, VA 22312-2334; (703) 852-4600; Fax: (703) 852-4583

Globe graphic ©iStockphoto.com / Edward Grajeda

Comrex BRIC-Link

provides reliable, high quality, cost-effective IP audio transmission over dedicated links.

plus



ISM Band 5.x GHz IP Radios

from Trango Systems, Tranzeo, Motorola, Tsunami and others available at BGS provide a low-cost, unlicensed, line of sight data link.

equals

Perfect, low cost STL solution

Use with BRIC-Link's linear and FLAC modes for full bandwidth audio with minimal delay. Easy to set up. Low operating cost.

Available from:

Broadcasters General Store

www.bgs.cc • 352-622-7700

BRIC Link

Put Comrex on the Line

COMREX

www.comrex.com

IP AUDIO MASTER'S DEGREE BUILT IN.

WHEATNET-IP KNOWS WHAT TO DO...SO YOU DON'T HAVE TO

Whether you're networking two studios in the same building or two buildings across town, award-winning WheatNet-IP has you wired. It's as simple as plug and play – drop a BLADE and a control surface wherever you need a networked console or drop a BLADE wherever you need to route audio or automation data. WheatNet-IP configures itself and you're up and running. Since the core of every BLADE contains the DNA of the entire system, you have the ultimate redundancy right out of the box. Simple. Ultra reliable. AND – this may surprise you – WheatNet-IP is the most economical professional system you can get. Each WheatNet-IP system is made in the USA and is backed by the years of experience that have made Wheatstone the number one name in networked audio. If you're thinking IP, think WheatNet-IP. Only from Wheatstone.

COOL STUFF AWARD Radio World 2009

2010 PICK HIT Radio

Wheatstone

AUDIO NETWORKING-SIMPLY EVOLVED

phone 1.252.638-7000 | www.wheatstone.com | sales@wheatstone.com