NewBay Media

RADIOWORLD

SEPTEMBER 23, 2009 | The News Source for Radio Managers and Engineers | $2.50 | RADIOWORLD.COM

INSIDE

TECH TALK

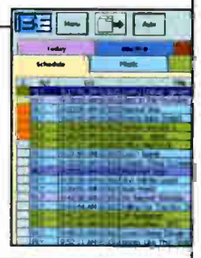
- Gary Cavell says aggressive radio operators are using this time to 'shore up' weaknesses in their coverage. — **Page 4**

DIGITAL RADIO

Photo by Ira Wilner

- What FM HD Radio do you hear when you drive around Boston? — **Page 8**

BUYER'S GUIDE



- Program automation, scheduling, traffic and billing. — **Page 22**

IS ANYONE LISTENING?

- An owner/broker considers who will win and who will lose in the 'coming restructuring' of radio. — **Page 34**

Barry Thomas: It's Time to Address Thorny RDS Issues

BY BARRY THOMAS

The author writes in his role as head of the National Radio Systems Committee's RBDS Subcommittee, which meets at the NAB Radio Show in Philadelphia this month.

The Radio Data System has undergone a significant renaissance in the last few years. Thanks to consumer expectations, local FM radio stations have

COMMENTARY

deployed RDS for program-associated data such as "song title and artist" displays. Its use has also been expanded to "song tagging" and even as a text companion to advertising messages.

With the emergence of the Broadcaster Traffic Consortium, Total Traffic Network and Microsoft's MSN Direct, traffic data has also emerged as a significant use. An informal NAB poll

(continued on page 3)

WUVT Looks Up, And Ahead

New RF Plant Now Serves Campus Station At Virginia Tech

BY RANDY J. STINE

BLACKSBURG, VA. — With help, perhaps unprecedented, from major radio broadcast groups and equipment suppliers who donated loads of broadcast equipment and services, Virginia Tech's noncommercial WUVT(FM) now is ready to usher in a new broadcast era.

Pending only last-minute equipment fixes, the student-run station expected to begin broadcasting at 6,500 watts with a new transmitter and antenna on nearby

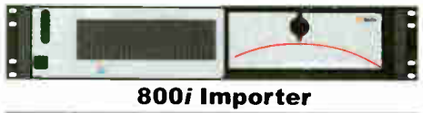
(continued on page 6)

WUVT's Dan Caughrin, Jared Thomson and Kevin Sterne, right, watch as a crew from Duley's Electric Communications Site Services hangs WUVT's antenna on the tower for Cumulus-owned WBRW(FM), Blacksburg, Va. ERI tuned the WUVT antenna and conducted a structural analysis of the tower.

Photos by John Kayrouz, WUVT

TOM MILLER 159
ARIZONA BROADCAST SERVICES
2033 S AUSTIN PL
TUCSON AZ 85710 7905
6115

HIGH POWER FM & HD SOLUTIONS - SIMPLY THE BEST, FROM CEC



800*i* Importer

800E[x] Embedded Exporter

802E[x] Digital Exciter

10KW TO 30KW ANALOG
10KW TO 60KW ANALOG/HD

HD Radio Licensed Manufacturer

www.contelec.com

Continental Electronics

sales@contelec.com

(214) 381-7161

HD Radio Licensed Manufacturer

World Radio History

"WOW, I COULDA HAD A VP-8!"

VORSIS VP-8 IS THE BEST AUDIO PROCESSOR FOR UNDER $3K. PERIOD.

The Vorsis VP-8 Digital Audio Processor delivers clean detailed sound at a great price. In fact, you can easily spend two to three times more and still not match the VP-8's performance.

Installation and setup takes only minutes. The VP-8 is loaded and ready to go for FM, AM, FM-HD, AM-HD, streaming, and studio processing. It's great sounding presets are carefully tailored for your format and media. No need to spend endless hours tweaking, the VP-8 will make your station sound great, right out of the box.

For FM stations, expect a sound that easily holds its own with your high-power major market competitors. Listeners comment that with the VP-8 they now hear the rest of the music! AM stations often experience a dramatic increase in coverage area along with greatly improved intelligibility and sound quality.

The VP-8 is also ideal for streaming audio, studio processing, as a versatile backup processor or as an STL protection limiter.

Of course, if tweaking is your thing, VP-8 lets you under the hood with a complete toolset – in the VP-8, nothing is hidden. With its 4-band AGC/compressor and 8-band limiter, the VP-8 boasts more bands than any other processor in its price range to give you a very clean, loud, competitive sound that doesn't destroy the music.

It also includes features rarely found even on top-of-the-line processors: a reference-grade stereo encoder for FM, built-in test oscillator, diversity delay, multi-point headphone monitoring, and extensive metering.

The bottom line? The Vorsis VP-8 gives more bang per buck than any other audio processor in its class (and then some). And since Vorsis is designed and built by Wheatstone here in the US, you know it'll hold up and be supported 24/7 for years and years.

Intrigued? Call us or visit us on the web to learn more or set up a demo. You'll be happy you did. Vorsis—more listeners listening more.

See us at NAB Radio 2009 Philadelphia, booth 415

WHEATSTONE VORSIS®

Radio has evolved. Your sound should too.™

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

World Radio History

RADIO DATA SYSTEM

(continued from page 1)

conducted late last year suggested that in some major markets, 80 percent or more of stations are transmitting RDS information of some type.

A number of factors have combined to make RDS increasingly relevant to station presentation: availability of connectivity, ubiquitous use of digital playout devices, increasing sophistication of station data networks and the introduction of new, inexpensive FM receiver chips that include RDS.

Simply put, in the past, many stations either did not have connectivity or even the playback sophistication to provide the data for broadcast over RDS. Recently RDS encoder manufacturers have developed products that continue to make it easier than ever to broadcast data. At least one company still provides a turnkey approach and others integrate display services with emergency information data.

Oddly enough, we may be able to thank HD Radio technology for this RDS renaissance. As broadcasters build out HD Radio implementations, they have had to solve a limiting problem for any data-related service and establish a viable data path from end to end — a studio source of data and the infrastructure and connectivity to get that data all the way to the FM transmitter site. The needs of HD Radio technology have presented a framework that makes enabling RDS for PAD an easy next step.

Photo by Barry Thomas

Barry Thomas writes that as we learn to exploit a larger data channel, we are discovering how to better use the existing RDS capability.

RESILIENCE

While higher-capacity data services will be available through HD Radio technology, there is still little match for the resilience of the RDS data stream. The pleasant side effect of providing for a good HD Radio data platform is an exceptional RDS data platform. As we learn to exploit a larger data channel, we are discovering how to better use the existing RDS capability.

Also, although HD Radio systems have been widely deployed and new and exciting HD Radio receivers are hitting the market on a regular basis, it would seem that analog FM radio will be with us for some time to come. All the while, however, listeners are expecting more from their experience ... like artist and title displays when songs are being played.

This change in RDS usage literally has happened over the past two years. During this time the National Radio Systems Committee's RBDS Subcommittee, the NRSC group with responsibility for RDS-related activities, has been on hiatus. With these and other new developments there is a need to address the changes and a seemingly bright future in RDS, and consequently the NRSC has reactivated the RBDS Subcommittee and asked me to serve as its chair.

This is an unexpected and unique opportunity, maybe even a "second chance" opportunity to take the lessons we've learned over the past 10 years about data broadcasting and provide assistance and guidelines for broadcasters implementing RDS, developers who are creating applications and manufacturers who are designing RDS-capable receivers.

We potentially have a great deal on our agenda, including the following:

Updating the Standard: The RDS Forum in Europe has submitted a revised version of the RDS Standard to the International Electrotechnical Commission (IEC), which is voting on it this year. NRSC-4-A, the NRSC's RBDS standard, is based on the IEC RDS Standard although it departs in some important ways. The RBDS Subcommittee will evaluate the new RDS Standard and determine if and how it impacts the NRSC Standard, considering any potential changes that might be necessary or desirable.

The most visible change to the RDS Standard is inclusion of a powerful new data protocol called RadioText+ (RT+). This new development has an impact on how broadcasters feed PAD via conventional FM Radio while maintaining the original RadioText capability. It is through the addition of RT+ that many new capabilities, like song tagging, may be accommodated.

We'll also want to take this opportunity to consider elements of the NRSC-4-A Standard that might need to be deleted or altered, such as the AM RDS "placeholder" which has never borne fruit. The NRSC is made up of broadcasters, representatives of consumer electronics companies and manufacturers, and others with a material interest in the activities of the committee. Input from all sides will be critical to develop a forward-looking standard.

RT+ Usage Guideline Development: We need to evaluate execution of the RT+ and maybe even RadioText itself with the objective of developing some best practices for implementation. These best practices can provide a consistent

(continued on page 6)

broadcast gear from people you trust
BSW
Lowest Prices and Largest Inventory on EVERYTHING For Broadcast
BSWUSA.COM 800-426-8434

27,832 products in stock at press time!
Maximize Your Potential with BSW!
Win the Ratings War (and save a few bucks, too)
Vorsis VP-8 Broadcast Audio Processor
• 6 built-in processing modes FM, AM, MPEG3, HE-AAC, HDC, and VoIP
• 4-band parametric EQ
• Precision 8-band multiband limiter
• 4-band linear phase crossover with adjustable crossover points
• Exclusive Vorsis Multiband Dynamics Processing
• Separate audio input gains for analog and digital inputs
VP-8 List $2,995.00
Call BSW For Lowest Price: 800-426-8434
WHEATSTONE VORSIS

Arrakis Xtreme-Complete Loaded PC-Based Automation Workstation!
• Cost-effective, easy-to-use system
• Simultaneous On-air playback, recording, production, scheduling, and logging
• Dell Optiplex PC
• 19" LCD monitor, keyboard, mouse
• Arrakis Xtreme Bridge hardware
• Arrakis Xtreme software
XTREME-COMPLETE List $6,500.00
Call BSW For Lowest Price: 800-426-8434
arrakis SYSTEMS INC.

broadcast gear from people you trust
BSW
Broadcast Supply Worldwide
Knowledgeable Sales Staff
BSW's sales professionals have decades of real-world broadcast and recording experience to offer expert help with your purchase.

World Radio History

WUVT

(continued from page 1)

Price Mountain by mid-September. The station submitted radiofrequency radiation exposure measurements to satisfy the Federal Communications Commission in August and received commission approval shortly afterwards.

WUVT made headlines in April of 2007 when then-Chief Engineer Kevin Sterne was among those shot by Seung-Hui Cho in the worst mass shooting in U.S. history. Sterne, 24, survived multiple gunshot wounds to his legs.

Sterne's story of survival also brought attention to his radio station's plight. Faced with malfunctioning equipment and unfulfilled plans for a power increase, the radio station was in need of aid.

In stepped numerous organizations including the Society of Broadcast Engineers, which spearheaded much of the assistance efforts. Clear Channel Radio loaned the school a Harris ZX-3500 transmitter in the months after the shooting to keep the station on the air after its 24-year-old transmitter failed. Harris donated a Flexstar exciter during the equipment pinch.

Photo by Kevin Sterne

Lynchburg Crane delivers a Rohn concrete communications shelter donated by the Virginia State Police.

> **Short-term fixes** allowed WUVT to broadcast at its licensed 3,500 watts across the New River Valley until early this summer.

The short-term fixes allowed WUVT to broadcast at its licensed 3,500 watts across the New River Valley until early this summer. At that time the station was forced to operate at significantly reduced power — about 25 watts — after renovations at Lee Hall required a temporary move of its antenna to the Squires Student Center, where the station has its studios.

In addition to equipment needs, the station, at 90.7 MHz, had several other hurdles to clear before work on the transmitter project could begin this year.

POWER INCREASE

When WUVT filed an application with the FCC for a power upgrade to 10 kW in 2008, a co-channel FM in Emory, Va., licensed to Emory & Henry College, also filed for a power increase from its original 500 watts to 10 kW. Negotiations ended with WUVT accepting a power increase to 6.5 kW to eliminate the contour overlap.

Meanwhile, WUVT also had to acquire a noncommercial FM waiver for protection from WVVA(TV), Channel 6 in Bluefield, W.Va. Doing so earlier this year allowed WUVT to modify its FCC application to use a circularly polarized antenna donated by Clear Channel. The four-bay rototiller antenna has been factory retuned by Electronic Research Inc.

WUVT is collocating at an existing tower site, approximately five miles south of Blacksburg in Christiansburg, Va., with Cumulus Media's WBRW(FM).

Physical work on the project began earlier this year when the Virginia State Police donated a 16-by-9-foot Rohn concrete communications shelter. It was moved to the transmitter site in January, Sterne said.

"Nothing happens as quickly as you would like. It was cool and damp in early summer, which hindered some work at the site," said Sterne, who serves as an engineering consultant at WUVT and assisted in the upgrade project. WUVT's current CE is Chris Anna.

In late summer the station was trying to get an A/C unit to work and finish some painting.

STUDENT AID

WUVT officials estimate they have secured nearly $150,000 in equipment donations since the campus shootings. They've concluded that volunteer labor brings that total to approximately a quarter of a million dollars.

Specifically, Sterne acknowledged the work of the SBE, Steve Davis, vice president of engineering at Clear Channel Communications and Dane Ericksen, consulting engineer with Hammett & Edison.

Clear Channel donated a Harris Z5CD transmitter with DigitCD exciter to be used at the new transmission site, a Kohler generator and 150 feet of Andrew flexible air dielectric cable, WUVT officials said.

The goodwill of broadcasters and suppliers was overwhelming, Sterne said. He said Orban donated an Optimod 8500 audio processor, Burk Technology donated several items and Cumulus Media donated the tower space on Price Mountain.

"Time and time again people would step up when we asked for help, or even when we didn't. This has been quite an experience," Sterne said.

Ericksen, who conducted the channel study and completed much of the application preparation, said it is somewhat unusual for the FCC to require actual RFR exposure measurements.

"However, the WUVT antenna is unique because it has 0.968 wavelength interbay spacing and 1.8 degrees of electrical beam tilt since the antenna was originally designed for a different FM channel," Ericksen said.

Considering the circumstances of the collocation, he said a "measurements condition" was not completely unexpected for the multi-user site.

WUVT officials said they have money budgeted for the RFR field measurements.

Sterne, who joined the radio station as an undergraduate in 2003, expects to graduate with a master's degree in electrical engineering in December.

"I have no plans beyond graduation just yet. Graduation is next on my agenda," said Sterne.

RADIO DATA SYSTEM

(continued from page 3)

display experience, resulting in a more attractive feature for consumers and receiver manufacturers.

In this same way, we have an opportunity to establish guidelines for emergency messages, news crawls, RSS feeds, sports scores … essentially everything we had hoped RDS could provide in the first place.

Receiver Implementation Issues: There are thorny issues that beg to be addressed including:

Radio format codes — The original European RDS standard did not consider the vast array of diverse radio program formats available in the U.S. and, as a result, created a relatively short list of Program Type (PTY) codes, the codes an RDS-capable receiver uses to find a station by format. The NRSC-4-A Standard included many more format descriptions.

This difference between the standards, however, has sometimes presented confusion when listeners encounter a receiver that uses the RDS standard for format lists as opposed to NRSC-4-A standard. Since the RDS Standard was originally adopted, the number of European formats have grown and now more closely resemble U.S. formats.

As a result, the RDS Forum has updated the PTY list in the latest version of the RDS Standard. There may be an opportunity for greater harmonization of the PTY code lists in the NRSC and European standards as a result.

Best practices/use guidelines — Although manufacturers and others have made it much easier to implement RDS, there are steps that could be made to make it even easier. There's also a wide variety in how RDS data is deployed by broadcast stations, resulting in a disparity between how stations appear on consumer RDS radios. A best practices or guideline document could address these issues and help the industry improve RDS implementations.

It's already known that receivers widely vary in how RDS is used and displayed. Unfortunately, with no consistency among broadcasters, encouraging receiver manufacturers to use a consistent display convention is difficult unless there is a consistent format of data to feed it. The committee may also address this issue.

These are but a few issues the RBDS Subcommittee may be addressing.

In creating standards and developing guidelines, much of the work within the NRSC is done by dedicated industry professionals working in subcommittee sub-groups. Along with the reactivation of the RBDS Subcommittee, Steve Davis of Clear Channel Radio has agreed to lead a sub-group specifically to begin to address some of the issues mentioned and help to chart the greater subcommittee's agenda.

As a radio broadcaster, your participation is encouraged. We invite you to participate with the NRSC and this subcommittee and help with the work on advancing this important technology. For more information, go to *www.nrscstandards.org*.

Barry Thomas, CPBE, CBNT, is president of the Society of Broadcast Engineers and vice president of engineering in the radio division of Lincoln Financial.

RW welcomes other points of view to radioworld@nbmedia.com.

World Radio History

LIVE&LOCAL

Your Audience Is Out There

Grab Them LIVE with ACCESS!

The air is fresh and outside there's SO much going on! Street Fairs. Music Festivals. Sporting events. And everywhere there are people just dying to talk to you, ready to BE your audience!

Whether it's breaking news or a party breaking out, there's your story. And you don't need a full crew to grab it. As fast as you can get there, you can be live on the air, creating pinpoint, relevant programming that keeps an ever-growing number of listeners glued to their radios.

ACCESS PORTABLE lets you send studio-quality live audio, real time to an ACCESS RACK at your studio over POTS, DSL, Cable, Wi-Fi, 3G cellular (EVDO/UMTS), 4G WiMax, satellite and more to make any remote broadcast really stand out.

There's nothing more immediate than local— connect with your audience from anywhere with the easy to use, handheld ACCESS PORTABLE!

Put Comrex On The Line.

COMREX

19 Pine Road, Devens, MA 01434 USA Tel: 978-784-1775 Fax: 978-784-1717 • Toll Free: 800-237-1776 • www.comrex.com

World Radio History

FM HD Radio in Boston: What I Heard

Freq	Station	Licensee	HD Found	Format listed	Format found	PAD/Text (second run)	Notes
88.9	WERS	Emerson College	Yes	Variety	Eclectic	Slogan but no now playing	HD-1 much hotter than FM!
88.9-2				AAA	Repeat of FM	None	
89.7	WGBH	WGBH Edu Foundation	Yes	Clas, Jazz, News	Clas, Folk, News	None	
89.7-1				Clas	Clas	None	
89.7-3				News	NPR, News, Talk	None	
90.5	WICN	WICN Public Radio	Yes	Jazz, Folk	Jazz	Slogan	Worcester station not on iBiquity list; very weak in Boston
90.9	WBUR	Boston University	Yes	NPR, News, Talk	NPR, News, Talk	None	Slight blend error comb filter effect
91.7	WNEF	Umass	No	Folk	Not Heard		
91.9	WUMB	Umass	Yes	Folk	Folk, Eclectic, Alt Rock	Now playing	.2 second delay error
92.9	WBOS	Greater Media	Yes	Modern Rock	Modern Rock	Slogan & now playing	Poor blend, obvious comb filter effect
92.9-2				Radio You Boston	Album & Classic Rock	Now Playing	Not as clean sounding as HD-1
93.7	WMKK	Entercom	Yes	Rock AC	AC	www.HD-Radio & now playing	Very good blend
93.7-2				Rhythmic AC	Rhythmic AC	now playing	
94.5	WJMN	Clear Channel	Yes	UrCHR/Rhymc	UrCHR Hip Hop	Slogan & now playing	Good blending
94.5-2				Classic Hip Hop	Jammin funk, Urban	Slogan & now playing	
96.9	WTKK	Greater Media	Yes	Talk	Talk	Slogan, weather, now playing	
96.9-2				The Irish Channel	Boston Irish Channel	Slogan, now playing	
97.7	WKAF	Entercom	Yes	Rock	Simulcast of WAAF	Now playing	Digital reception spotty on Insignia
97.7-2				Live Rock	Simulcast of WAAF HD-2	Now playing	
98.5	WBMX*	CBS Radio	Yes	AC*	AC variety 70s-90s*	Slogan, now playing	Digital reception spotty on Insignia; good blending
98.5-2				The 80s Station*	Classic Hits*	Slogan, now playing	Dead air hum on Sunday
98.5-3				Psychic Radio*	Psychic Radio, Talk, etc.*	Slogan	
99.5	WCRB	Nassau	Yes	Classical	Classical	Now playing	Good blend
100.7	WZLX	CBS Radio	Yes	Classic Rock	Classic Rock	Slogan & Now playing	Pronounced dip on blend - out of phase?
100.7-2				Radio Mojo Blues	Radio Mojo Blues	Slogan & Now playing	
102.5	WKLB	Greater Media	Yes	Country	Country	Now playing, Save radio campaign	Digital reception spotty on Insignia; blend with dip
102.5-2				Classic Country	Classic Country	Now playing	
103.3	WODS	CBS Radio	Yes	Oldies	Oldies	Slogan, now playing	
103.3-2				Soft Hits-Love Songs	Soft Hits-Love Songs	Slogan, now playing	
103.3-3				WBZ-AM simulcast	WBZ-AM Simulcast	Slogan	Sounds a bit harsh and clipped
104.1	WBCN*	CBS Radio	Yes	Alternative*	Alternative Rock*	Slogan, now playing	Delay has .2 sec. error
104.1-2				Indie & Ultra New Rock*	Free Form*	Slogan, now playing	
104.1-3				None*	Album Rock, etc.*	Slogan, now playing	
105.7	WROR	Greater Media	Yes	Classic Hits	Classic Hits, Gold	Slogan, now playing	Slight dip on blend
105.7-2				Nothin but the 70s	70s Classic Hits	Now playing	
106.7	WMJX	Greater Media	Yes	AC	AC	Slogan, now playing, temperature	Slight dip on blend
106.7-2				Smooth Jazz	Classic Hits, Smooth Jazz	Now playing	
107.3	WAAF	Entercom	Yes	Rock	Classic Rock	Slogan, now playing, www.HD-Radio	
107.3-2				Live Rock	Urban, Album Rock	Slogan, Now playing	
107.9	WXKS	Clear Channel	Yes	CHR	CHR	Slogan, now playing	Blending error dip
107.9-2				Hot Spot	New CHR, etc.	Now playing	Sponsored stop sets on HD2

For my drive- and walk-around, I used a list from HDRadio.com, which shows FM stations believed to be on the air in the Boston metro area. That list is maintained by iBiquity based on information gathered from stations; it also has listening stations in several markets to check broadcast quality. It invites updates to stationoperations@ibiquity.com.
(*) Note that CBS subsequently changed format at W8MX, which is now W8Z(FM) and airing sports, and W8CN, now airing Hot AC. Shown are conditions as of my test drive.

BOSTON

(continued from page 8)

ing in downtown Boston I could hold onto HD carriers with few or no dropouts. But moving a few miles further out along Route 2 put the kabosh on most of the HD carriers in the Boston market.

Selected data in Radio World is from BIAfn's MEDIA Access Pro™.
BIA fn Financial network MEDIA ACCESS PRO
www.bia.com

INSIGNIA HD

To check reception in downtown Boston and to test the concept of a battery portable HD Radio receiver that did not run hot enough to scorch your hand, I brought along a brand-new miniature Insignia HD shirt pocket radio. Most miniature pocket radios fall far short of the mark with FM reception.

My trusty old Sony AM-FM Stereo Walkman SRF-A1 is very deaf. When I mow my lawn it constantly mutes on even the strongest signals, none of which are city-grade at my rural home.

So I was pleasantly surprised to find the sensitivity of the Insignia to be far greater. It not only held the strong FM signals flawlessly, it also held HD lock much of the time.

From my room on the seventh floor of the Boston Park Plaza hotel, most stations were rock-solid in HD. The same was noted while walking through the park.

Not surprisingly, several of the stations operating from towers not in town were problematic. Not only would I lose HD lock, I'd lose FM analog too!

The position of the headphone cord/antenna was critical. The Insignia was being overloaded by signals from "The Pru." Scrunching up the cord into my hand helped as it reduced overall RF. A quick check of the FCC database for the adversely affected stations showed them to be operating from the suburbs and at much lower power than the in city stations. Still, under those demanding circumstances I have to give the Insignia a thumb's up.

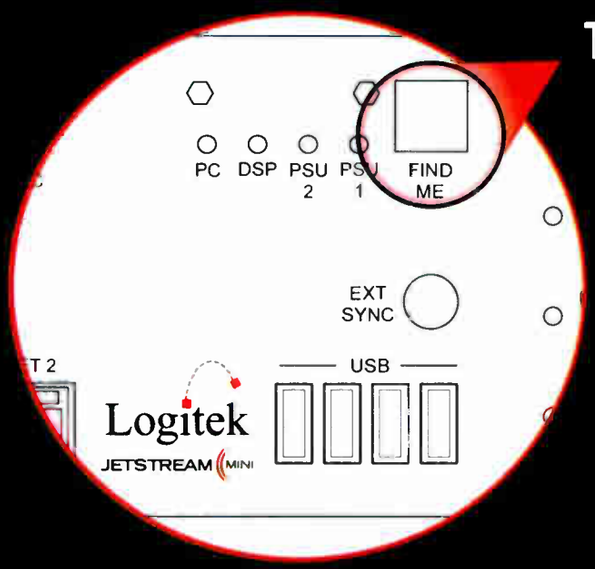
The Insignia radio has a wonderful feature. One display mode provides three lines of Program Service Data, one for

(continued on page 12)

World Radio History

Is setting up IP Audio networking tables a bit frustrating?

COOL STUFF AWARD
Radio World
2009



Try the One-Second JetStream approach.

Press one button to find other JetStream units on your network andautomatically configure your system.

You'll save time, money and rack space, while enjoying the convenience of Logitek's next generation IP audio routing solution.

Call today **800.231.5870** for more information or to schedule a demonstration.

JETSTREAM MINI

©2009 Logitek Electronic Systems, Inc.

Next Generation IP Audio

logitekaudio.com

Logitek
Console Router Systems

See us at NAB Radio Show Booth #516

World Radio History

Selected content from Radio World's "The Leslie Report" by News Editor/Washington Bureau Chief Leslie Stimson. To receive the free, bimonthly e-mail newsletter, subscribe at www.radioworld.com/subscribe.

NO FREEZE ON CH. 5/6 LPTV APPS

The Aug. 25 deadline for those seeking an LPTV CP in rural areas came and went without the FCC acting on a request for a freeze on the use of Channels 5 and 6 for digital full-service television, LPTVs and TV translators.

The Broadcast Maximization Committee, made up of mostly engineers, made the request, saying, "It's unfair to NCE stations that this spectrum is being made available for application for new TV services," as full-service TV stations vacate analog Channel 6 in the DTV transition, and yet "NCE stations must continue to protect these former analog Channel 6 stations which no longer exist."

BMC a year ago also proposed alternative uses for analog Channels 5 and 6 to extend the low end of the FM band.

NPR supported a freeze and stated in a filing, "It is imperative that the commission not complicate a future reallocation and transition by inviting scores of new Channel 5 and 6 applications." A freeze, wrote NPR, would "maintain the status quo, prevent speculative applications by those seeking to operate LPTV stations as radio stations," and avoid further disadvantaging non-com FMs in the reserved band.

NCE FMs are between a rock and a hard place in the age of so-called "Franken FMs," which are LPTVs really operating as radio stations at the lower end of the band, because the commission in April put out a notice that basically said NCE FMs have to continue to protect analog Channel 6 — until the agency says they don't.

"Pulse 87" in New York is perhaps the most well-known of these LPTV stations that are pushing the envelope of their spectrum authorizations and really operating as radio stations. But unless the FCC puts a freeze in place, more applicants will follow. It's apparent that the analog TV spectrum adjacent to the FM band has greater economic value for radio than for television.

The BMC proposal would re-purpose TV analog Channels 5 and 6 for AM, some FM and LPFM allocations. The FCC needs to impose this freeze and take a hard look at BMC's proposal. There's still time. While the new digital-only LPTV and TV translator window opened for rural applicants only Sept. 25, it opens for everyone in January.

CALL IT 'THE 7-11 OF SOUND' INSTEAD

I got a kick out of reader comments posted online below my story "It's 'Rat Shack,' Thank You Very Much," about RadioShack changing its branding to "The Shack."

The company said the idea is to "contemporize" the brand. One reader wrote that cell phones are used on radio frequencies and are really portable radio transceivers tied into a phone network. Maybe the change is a ploy to get rid of all their cables, batteries, parts and radios and become a cell phone store only, this person mused.

Another poster wrote: "We always called it Radio Shaft, sometimes also known around here as the '7-11 of Sound.' Nobody calls it 'The Shack.'"

BOSTON

(continued from page 10)

each HD channel. You can see at a glance what's playing on all three and use up/down buttons to select one instantly. That more closely emulates what the digital crowd expects from their multi-media players.

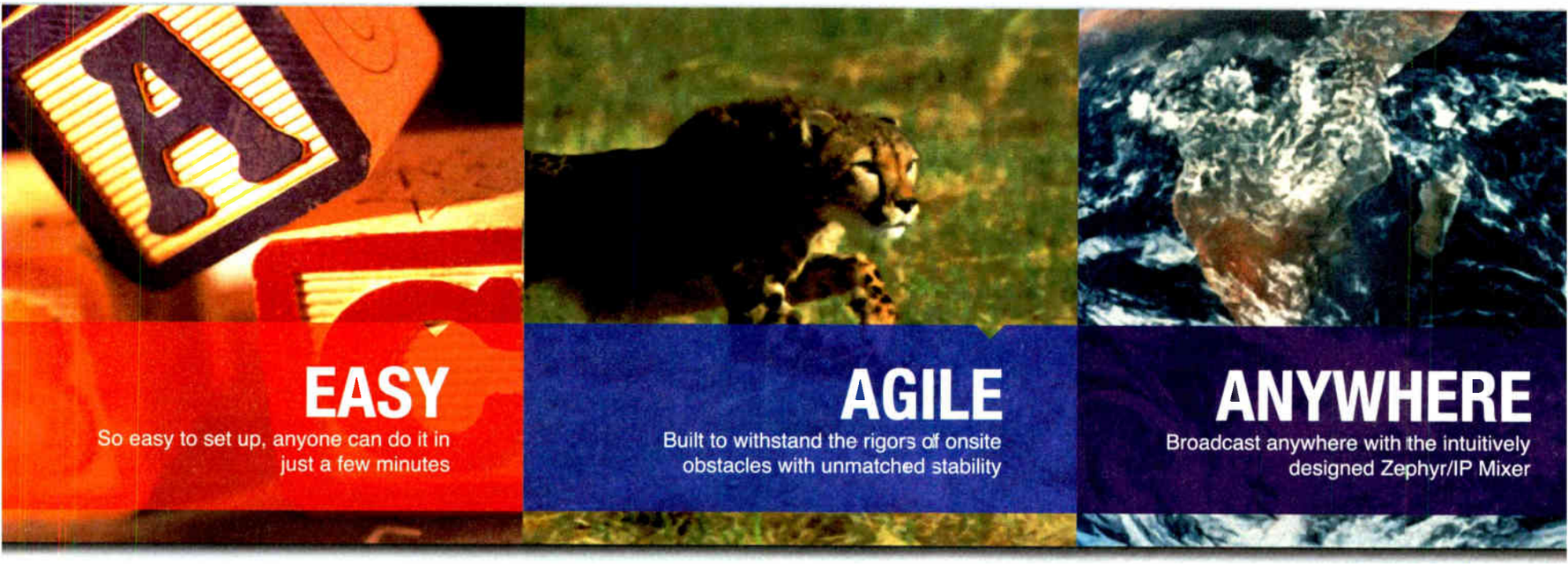
Imagine if you could scroll through a list of all of the PSD across the entire FM/HD band without having to retune your radio. That would be similar to what DTV tuners now provide for TV viewers.

Ira Wilner is chief engineer of the Monadnock Radio Group in Keene, N.H. where he gets to play with four HD Radio-equipped radio stations that are not part of the Boston metro.

The author used a list posted at HDRadio.com *of stations believed to be on the air; the list is maintained by iBiquity based on info from stations and its own listening posts. It invites updates to* station operations@ibiquity.com.

Wish to do a drive-around in your market? Write to Lstimson@nbmedia.com.

World Radio History



Locks In Your IP Connection Where Others Fail

Engineered to use public IP networks and mobile phone data services, the Z/IP Mixer combines the excellent performance of the original Zephyr/IP with the convenience of a digital four-channel stereo mixer. Designed to deliver high-quality audio transmission with low delay, even over less than perfect networks. Enclosed in a road-ready portable chassis, built to go wherever the action is.

Z/IPMIXER: Lock it in.

Telos
AUDIO | NETWORKS

Telos-Systems.com

Telos and Zephyr are registered trademarks of TLS Corp. ©2009. All Rights Reserved.

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.

World Radio History

PowerStation: the new console system from Axia.

COOL STUFF AWARD Radio World 2009

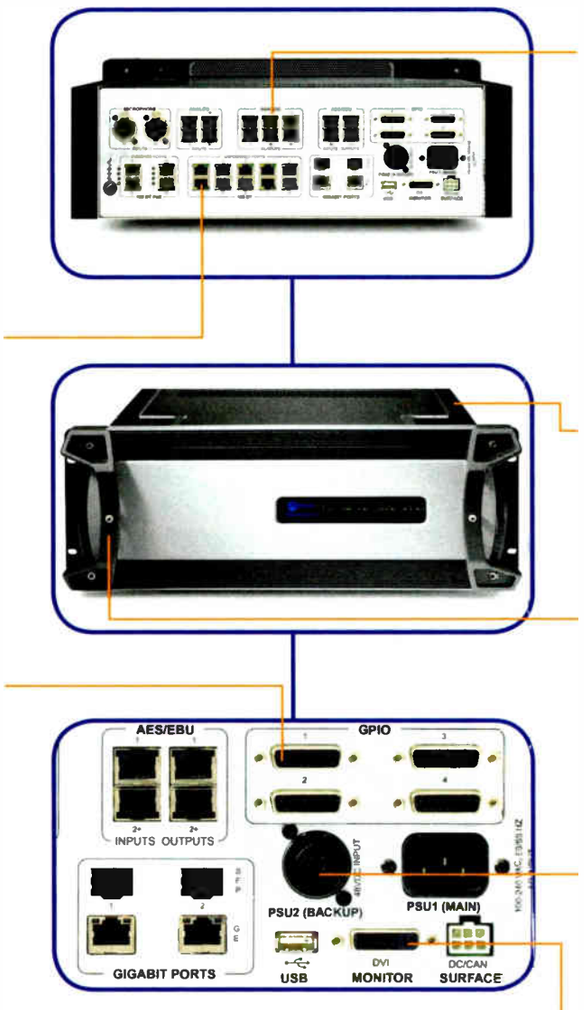
Because there's no such thing as too much uptime.

All stops removed • Twenty years from now, you'll have forgotten this ad. But you'll still have your PowerStation, the full-featured one-box IP-Audio console/router system hardened with **industrial-grade components** and redundant power capabilities. Tough enough to take a football to the groin and keep on going. PowerStation **minimizes setup** and **maximizes "bang for the buck."** Engineered without compromise for broadcasting without interruption.

Easy as π • PowerStation combines a console DSP engine with audio and logic and a network switch, **all in one box.** As its name implies, there's a whole lot o' muscle inside that burly frame, but that doesn't mean it's complicated. In fact, setting up PowerStation **couldn't be easier:** connect your studio gear with standard CAT-5 cables, connect your console with just one cable, name your sources and set preferences with a browser, and you're ready to rock. PowerStation makes building studios about 3.14 times easier than ever.

GPI 0h! • **GPIO ports are built in** to PowerStation — no breakout boxes or add-on converters needed. One day, you might not even *need* logic ports: more and more products from companies like 25-Seven Systems, Audio Science, ENCO, Google Radio Automation, International Datacasting, Omnia Audio, Radio Systems and Telos (to name just a few) use the Livewire™ standard to send their audio and logic control directly to Axia networks over a **single CAT-5 connection.**

Everything's included • Yeah, we said *everything*: PowerStation combines half-a-dozen essential tools into one compact unit. No hidden extras to buy, no "gotchas" after purchase. Inside that muscular chassis you'll find a **bulletproof mixing engine** capable of handling consoles up to 40 faders, a beefy power supply (with optional **redundant power**), machine control ports, and **audio I/O**, all in one box. And of course, since it's from Axia, the IP-Audio experts, a studio built with PowerStation can stand alone — or it can become a part of a large network quite easily. Thanks to **PowerStation Simple Networking**, you can daisy-chain up to 4 PowerStations directly for easy multi-studio installation without the need for a separate core switch. Just another way Axia makes IP-Audio easy.



You're covered • Axia has the most comprehensive warranty in the industry — **5 years parts and service**. And (not that you'll need it), **free 24/7 technical support**, 365-days-a-year. We've got your back, my friend.

E-I-E I/O • Finding space in the equipment racks is like living in a barnyard: too many chickens, never enough coops. So our team of obsessive designers fit **an entire studio's worth of inputs, outputs, logic and network connections** – plus an advanced DSP mixing engine and a massive console power supply – into just 4 RU. There's inputs for 2 mics, 4 analog inputs and 2 AES/EBU inputs, with 6 analog and 2 AES outputs. 4 GPI/O logic ports round things out. Want even more? Just connect the PowerStation Aux to instantly *double* the I/O — or plug some Axia Audio Nodes into its **built-in Ethernet switch.**

Fan free • PowerStation is **silent and fanless.** Because studios today are already full of PCs, laptops and playout servers clicking, whirring and generating heat — who needs more of that? Not only is there no in-studio noise with PowerStation, those **big extruded heat sinks** are just plain cool. No pun intended (or maybe it was. We're like that, you know).

Built like a tank • Remember when consoles were built to last? We do. At Axia, we're all about the long haul. **There are no compromises:** PowerStation uses only best-of-the-best components. Like studio-grade Mic preamps and A/D converters. A rigid, steel-framed, EM-tight chassis that shrugs off RF like Walter Payton brushing off tackles. An industrial CPU designed for high reliability in harsh environments. Beefy extruded heat sinks. Big, brawny handles to make rack-mounting easy. (And it looks cool, too.)

Redundant power redundancy • The power supply is the heart of any broadcast equipment, right? That's why PowerStation is **hardened against failure** with a **super-duty power supply** that sports enough amps to power an arc welder. And for those of you who like to wear a belt *and* suspenders, there's even a connection for **redundant auxiliary backup power** – with automatic switchover, naturally – that kicks in if it's ever needed.

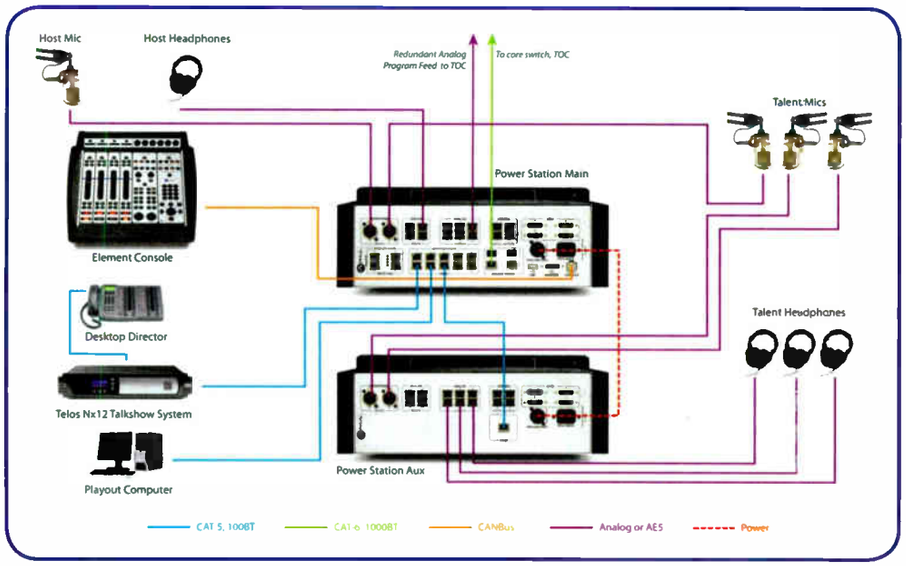
Screen play • Yep, that's a DVI connector. **Your favorite monitor** – standard or widescreen – plugs in to present the console operator with Axia's "so easy an overnight jock could do it" **info-center display.** Meters, timers, fader assignments, mix-minus settings and more, all on-screen, on-demand.

World Radio History

Element 2.0 • With more than 1,000 consoles already on the air, Element is a huge hit. And now, thanks to suggestions from our clients, it's better than ever. Element 2.0 has cool features like Omnia™ **headphone processing** presets to give talent that "air sound", **super-accurate metering** with both peak and average displays, **one-touch phone recording** with automatic split-channel feed, **automatic mix-minus** for every fader, an eight-channel **Virtual Mixer** that lets you combine multiple audio streams and control them with a single fader, and metallic bronze or silver module overlays. And we haven't even begun to tell you about Element's **Show Profiles** that instantly recall talent's favorite settings, its **built-in Telco controls**, fully-integrated **talkback/IFB** and **Mic processing** by Omnia. And durable? Element is nearly indestructible, ready to take whatever pounding ham-fisted jocks dish out and keep going. You want examples? Element's **avionics-grade switches** are rated for more than two million operations. What look like ordinary rotary controls are, in reality, **bullet-proof optical encoders** — no wipers to wear out or get noisy. The silky-smooth **conductive-plastic faders** actuate from the side, not the top, so dirt and grunge stay out. The **high-impact Lexan** module overlays have their color and printing applied on the back, where it **can't wear or chip off**. The frame is made from **thick aluminum extrusions** that are stronger than truck-stop coffee. To find out even more about Element, visit AxiaAudio.com/Element/ . Grab some coffee and prep for a good, long read — remember, our marketers get paid by the word.

Come together, right now • Now that you know what you can do with PowerStation, let's build a studio. The diagram below shows how a typical Talk Studio might look. Mics and headphone feeds plug into the built-in Mic inputs and Analog outputs... your playout PC, using the **Axia IP-Audio Driver** for Windows®, connects to a built-in Ethernet port... and so does the Telos Nx12 Talkshow System (which sends 12 lines of caller audio, mix-minus and take/drop/next commands over **one skinny CAT-5 cable**). Send a **backup audio feed** to your TOC for extra peace of mind. And after all that, there's still plenty of I/O left to plug in the turntables for the Saturday night Oldies show.

The standalone network • You want your console to be more than just reliable — you want it **built like a battleship**. You want the absolute peace of mind that comes from knowing your gear will **never let you down**. And if you take one studio down for maintenance, you want the rest to be completely unaffected. So we designed PowerStation to be the world's **first networked broadcast console that doesn't need a network**. It's completely self-contained: sure, it plays nice with others, but unplug its network cable and it keeps right on truckin'. Build just one studio, or a dozen, at any pace you choose — your PowerStation network is ready to expand when you are.



AXIA
A TELOS COMPANY

AxiaAudio.com

©2009 TLS Corp. Axia, Element, PowerStation, Telos, Omnia, TLS and TLS Corp

World Radio History

Radio Applies the Pogo Principle

'We Have Met the Enemy, and He Is Us.' Walt Kelly's Dictum Has Never Been More Apt

THE BIG PICTURE

Skip Pizzi

In case you hadn't noticed, this is not a happy time for our industry.

The vitriol spewing forth from radio's trenches toward its own executives sounds like a town hall meeting on health care. Meanwhile, the industry's leadership continues to take a Cheney-esque stand against the music industry with which it once enjoyed such cozy relations.

Oh, and there's the economy, causing many to amp up their fears of the new media bogeyman as cause for all the industry's current ills.

Nothing good will likely come of all this negativism, leading one to conclude that broadcast radio today has more to fear from its own actions (recent and future) than from any new competitors.

While many in the industry point fingers elsewhere, it's becoming clear that what radio itself does over the next few years will have more impact on its prospects than will the undertakings of third parties.

The predicament is of course more evident on the commercial than the noncommercial side of radio right now. Yet none is immune to the same consequences, if they partake in the behaviors that have wrought such malaise: Hubris, imprudence, lack of foresight and generally poor business judgment.

Meanwhile, out of the spotlight, some radio operations continue quietly to churn out successful business, while dabbling in the new media environment, even under such harsh current conditions. Generally, these are the broadcasters whose leadership largely avoided that list of nasty attributes over the past decade or so, and for whom those good practices now provide safe haven.

> **Radio today** has more to fear from its own actions than from any new competitors.

SIX SIMPLE RULES

Hindsight is 20/20, of course, and there's not much to be done retroactively for those that suffer consequences of such past action.

But some things are becoming evident that can right the ship, or keep on course through the storm.

Here is a distillation of such learning to date:

1. Focus on news/info/sports services, where radio still has strong appeal for its immediacy, access to high-value content and wide service availability.

Yes, these are relatively expensive services to provide, but the old adage that you get what you pay for certainly applies to radio format selection today.

2. Along those lines, if you want to provide music service, it had better be of very high quality and value.

Find something fresh or unique, and do it really well, or don't bother. Music formats probably are going to inherently become more expensive soon, anyway, so you might as well make it worth your while by investing in curatorial excellence.

(This is perhaps the area in which new media competition has indeed had some real impact on radio, as younger listeners turn to music blogs, online streaming, iTunes and other Internet services for music discovery.)

3. Maintain or expand connections to the local market. This does not just mean doing local news, but rather implies true community engagement, awareness, events, outreach and other constant involvement. New media competitors generally have no foothold in this area, so it's a slam dunk opportunity for local broadcasters.

4. Use the radio station as a base for building out an agile, locally focused media empire. This includes new media elements like streaming, podcasting and mobile, as appropriate, but can also involve investments in "old media" like print and events, as well as acquisition of additional radio stations in the market or region, as regulations permit.

It also implies the development of technical infrastructures that are easily adaptable to changing requirements (e.g., IP-based systems).

5. Don't place much hope for early financial salvation on HD Radio. This is not to say it shouldn't be implemented, or maintained and expanded if already in place, but it should be considered as one spoke in a large wheel of assets.

Consider HD Radio as the long-term, speculative play in the portfolio, and balance it with other components on a faster and more likely track to new media ROI.

6. Think more about metadata. Radio's business is and will

(continued on page 21)

WORKBENCH

(continued from page 14)

He considered other forms of plastic. Hal sought a material that was easy to install, that would not attenuate C band signals or get brittle in the Minnesota winters, one that would resist deterioration by the sun and weather. The commercial replacement cap had holes in it, so whatever material he picked, it would need to breathe.

The material Hal chose was Tyvek brand house wrap. He picked up more than a lifetime supply of Tyvek at a local lumber store for a few dollars. Hal used multiple small stainless-steel band clamps (hose clamps) in series to circle and fasten the Tyvek to the feed horn. The materials are shown in Fig. 4, including the blue plastic cap, which wasn't used.

Since the original installation, Hal located a 7-inch band clamp in the HVAC section of a large home builders store chain. This repair has been in use for many years now, and has held up with no problems. The finished cover is seen in Fig. 5.

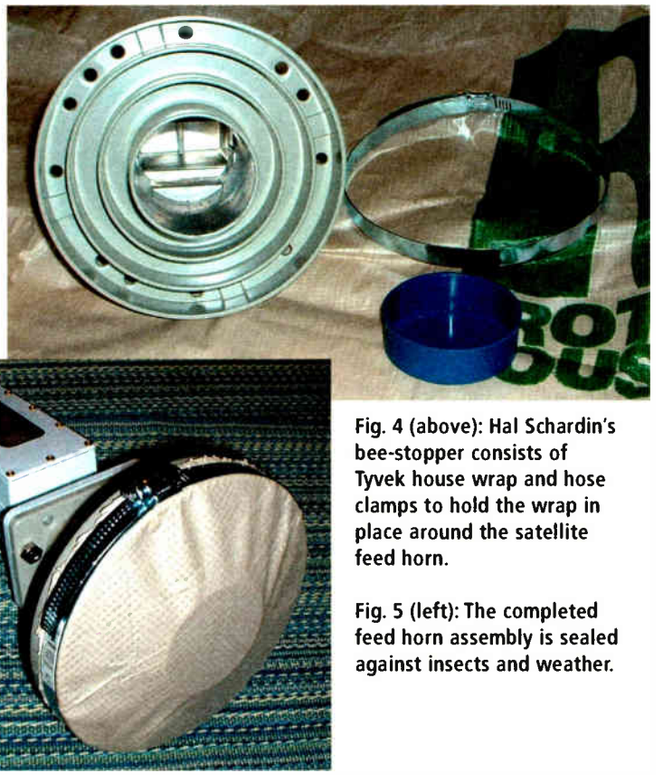


Fig. 4 (above): Hal Schardin's bee-stopper consists of Tyvek house wrap and hose clamps to hold the wrap in place around the satellite feed horn.

Fig. 5 (left): The completed feed horn assembly is sealed against insects and weather.

Now is the time that bees sense the change of seasons. A little preventive maintenance can keep you on the air.

Are you a contract guy? Figure out your costs for implementing this fix and offer the "Bee Stopper" to your contract clients. They can pay for the modification now — or they can pay you later when they are off the air while you remove the bees and then install the covering.

Most smart station owners will see the value of this preventive maintenance. Plus, offering this kind of value-added service to your clients helps them see that your focus is on keeping them on the air — not just putting out fires.

Thank you Hal for a great tip to keep stations on the air and reduce the potential for engineers getting stung.

Hal Schardin, CPBE, can be reached at *hal.schardin@state.mn.us.*

John Bisset has worked as a chief engineer and contract engineer for 39 years. He is international sales manager for Europe and Southern Africa for Nautel and a former 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.

World Radio History

The Remote Badge Of Honor. Go Ahead...Wear It Proud!*

JK Audio's BluePack™ Delivers Incredible Performance Using Your Cell Phone and Bluetooth™

Remote Scenario One - On Scene Interview Live To Station:

You're at the game - any game...Pop Warner, High School, College, Pro...and you're calling it from the sidelines, live on the air with nothing but your Bluetooth-equipped cell phone, a mic, headphones and BluePack! You sound great and are able to actually hear the station cues above the crowd noise.

Remote Scenario Two - Phone Interview From Anywhere:

It's the morning after the game. You're doing a post-game wrap up interview for tonight's news from the comfort of your hotel, home, car - heck, you might even still be in bed. Grab your Bluetooth-equipped cell phone, headphones, mic and BluePack and bam! You're recording the interview to your recorder of choice using the world's handiest pocket digital hybrid!

READ THIS FIRST!

Info About BluePack and Bluetooth:

BluePack is compatible with all Bluetooth-equipped cell phones and makes it a snap to connect – just press a button and go – no confusing and unreliable cables. Bluetooth Wireless Technology provides a substantial improvement in audio quality by letting us send digital audio through the phone, bypassing all signal processing in the phone. This results in transmission better than any cell phone call you've ever heard.

Bluetooth®

COOL STUFF AWARD Radio World 2008

2008 ART AWARDS Radio

*BluePack has a clip that lets you easily wear it on your belt

JK Audio

TOOLS FOR SUCCESSFUL BROADCASTS

jkaudio.com

JK Audio, Inc. Sandwich, IL 60548 USA • Toll Free: 800-552-8346 • Tel: 815-786-2929 • Fax: 815-786-8502 • info@jkaudio.com

World Radio History

AES Ramps Up for New York Show

RCA and Bell Labs Are Among Featured Historical Sessions

BY BRETT MOSS

Amidst the chaos surrounding many industries these days, industry conventions seem like luxuries — often first to walk the plank of disposable indulgences.

The audio profession is not an exception as radio and TV broadcasters and recording studios feel the heat, though some parts of the live performance market have been prospering.

Organizers of the 127th annual Audio Engineering Society Convention hope to attract 20,000 audio practitioners to the Jacob K. Javits Convention Center in New York City on Oct. 9–12.

KEY SPEAKERS

This year's keynote speaker is a change of pace. Bill McGlaughlin is the host of "Exploring Music," an educational classical music program following the path of Karl Haas' long-running "Adventures in Good Music." McGlaughlin is a composer, conductor and musician; his speech is titled "Talent Doesn't Push Buttons." He will examine the teamwork required to put together quality radio programming.

Opening day at last year's show. Inset: Keynoter Bill McGlaughlin

McGlaughlin won a Peabody Award in 1996 for public radio's "Saint Paul Sunday," which he hosts and on which he is music director. In 2003 he began hosting "Exploring Music," a daily show on WFMT(FM) in Chicago. He has co-hosted "Center Stage From Wolf Trap" since 1999 and hosted "Concerts from the Library of Congress" series since 2007.

Convention Chair Agnieszka Roginska said, "While the focus of our conventions are largely technical in nature, we are delighted to provide our attendees with an opportunity to enjoy a discourse by a broadcaster celebrated for his performance behind the mic rather than behind the control room window."

Legendary Grammy Award-winning record producer Phil Ramone will deliver this year's Heyser Lecture.

As traditional, a large number of technical papers, more than 150, will be presented, covering a variety of audio aspects.

Of interest to everyone should be a number of "future" papers and workshops concerning future standards or practices.

Notably, Peter Firth will examine methods such as how more efficient codec designs and amplification circuits can lower power consumption/increase battery life in portable audio devices. That could include portable HD Radio receivers.

Not surprisingly the places that audio can make itself heard are multiplying, including "games." Paul Lehrman will deliver a paper investigating the use of the Wii game remote as a controller for music generation, while Nikolaos Moustakas will discuss his development of an "audio game" that relies upon real-time sound synthesis created within an "acoustic environment" of "virtual sound objects."

In fact, the game audio convention track has expanded into one comparable to others such as broadcast and live sound. It offers 10 additional sessions beyond the two mentioned (which are actually listed as general paper sessions).

Various sessions and workshops are devoted to honing studio recording skills, audio processing tips and mastering strategies. With digital radio, the old phrase "Good enough for radio" just isn't good enough any longer. That's true for digital and analog audio.

For instance, German microphone builder and modifier Dirk Brauner will hold a master class. Mixing engineer Kevin Killen's master class will be devoted to high-quality mixing on a budget. Killen has mixed albums for artists including U2, Tori Amos, Jewel, Shakira, Elvis Costello, Peter Gabriel and Sugarland.

SPECIAL EVENTS

Several tours are scheduled.

There will be a visit to New York University's Steinhardt School of Culture, Education and Human Development to learn about that educational program.

For those with an interest in history, a tour of Sterling Sound is on tap; the recording studio traces itself back to 1969 and has been involved in hundreds of gold and platinum albums.

Less glitzy but possibly more practical is the visit to Industrial Acoustics Corp., a studio design firm.

For those sticking to the convention center, several special events are available. Among choices, Dave Moulton will give one of his familiar "Golden Ears" classes while Grammy-winning mastering engineer Bob Ludwig will tell those in attendance how he does it.

Other events cover significant historical ground such as Ashley Kahn's look at Miles Davis' "Kind of Blue," and Jason King's discussion of Motown's golden anniversary. Brian Kahew and Kevin Ryan will examine the recording of the Beatles' "Sgt. Pepper's Lonely Hearts Club Band" album.

Recording engineer Tom Fine will revisit the technical triumphs and techniques of Mercury Records' "Living Presence" series. His father, Bob Fine, was chief engineer for the series.

Noah Simon of NYU wants to transport his session's attendees back to the beginnings of Bell Labs in 1915.

IF YOU GO

What: 127th Audio Engineering Society Convention

Where: Jacob K. Javits Convention Center, New York

When: Oct. 8–12

How: *www.aes.org/events/127*

How Much: Full-program advanced registration for AES members is $345, for non-members $465; both are higher on-site. Exhibits-only registration, student discounts and other programs are available; see Web site.

Broadcast and Streaming Events Chair David Bialik will examine the technical contributions of a small company called RCA.

There will be an expected 350 or so exhibitors, offering products from the latest digital gear to finely crafted analog hardware with assorted services squeezed in between. A Career Fair may be of particular interest given the recent economy.

Sessions in the Broadcast/Media Streaming track are listed in the accompanying box. This year's show also will host a Society of Broadcast Engineers Certification Exam session on Monday, Oct. 12, the first time an SBE exam session has been available at an AES Convention. The certification application is at *www.sbe.org*.

And the day before the convention starts, Oct. 8, there will be a nearly day-long surround sound symposium that will include a look at surround sound for radio broadcasts.

BROADCAST/MEDIA STREAMING SESSIONS

For more, see Paul McLane's Aug. 12 article about the AES broadcast sessions. Visit *radioworld.com*, keyword AES stream.

Friday, Oct. 9
9–11 a.m. *Studio Design and Acoustics: A Case Study*

11:30 a.m.–1 p.m. *Innovations in Digital Broadcasting*

5:30–7 p.m. *Signal Management for Digital Television: Will Ratings Data Save DTV Audio Quality and Other Ponderings on a Process Gone Wild*

Saturday, Oct. 10
9–10:30 a.m. *Digital Audio Networks in the Studio*

10:30 a.m.–12 p.m. *IP Audio — Out of the Studio: Connecting Anywhere*

12–1 p.m. *Mobile TV*

2–3:30 p.m. *Audio for News Gathering*

Sunday, Oct. 11
9–10:30 a.m. *Lip Sync Issue*

11 a.m.–1 p.m. *Listener Fatigue and Longevity*

2:30–4 p.m. *Audio Processing for Internet Streaming*

4–5:30 p.m. *Loudness and Audio Processing for Broadcast*

5:30–7 p.m. *Production of a Soap Opera*

Monday, Oct. 12
9–11 a.m. *Sound Effects: Recording and Mixing for Different Media*

11:30 a.m.–1 p.m. *Stream Playback and Distribution*

World Radio History

POGO

(continued from page 18)

remain primarily — but no longer exclusively — audio. A little text on the side is becoming increasingly important, and is particularly appreciated, if not expected, by younger audiences.

Ultimately, the target zone will expand to include other forms of non-aural content such as graphics and video, but start with text today. Emerging consumer devices can make even simple text content look pretty good on their GUIs and bright, high-resolution displays.

OUR MANTRA

While implementing these processes, keep in mind a few other high-level precepts — which you've likely heard before in this column and elsewhere, but they bear repeating in this context.

• Broadcasters' traditional business actually occupies a space that has become two different businesses in the digital age: a) Content, and b) Service (i.e., signal delivery).

This is an enviable position, but broadcasters need to think and act that way — as if they are operating two different component companies — because in digital terms that's how the market works.

So sometimes a broadcaster should think/act like a content-only company (e.g., streaming, podcasting), and sometimes as a service-provider only (e.g., datacasting), while the core business (OTA radio) remains both content + service. New growth can come in all three domains, and management's key challenge is optimizing that triple play. "Manage change, or change managers."

• Broadcasters can enter the online world at will, but online media companies cannot enter broadcasting as easily.

There are costs to do so either way, of course, but barriers to entry are much higher (and far less incremental) for the online side to cross over into broadcasting than in the opposite direction. This is a big advantage for broadcasters, and makes the old-to-new media transition their game to lose.

• Without government mandates, any old/new media transition is by definition a long, slow, crossfade, in which the old may never completely fade out. Consider that the AM-to-FM transition continues, more than a half-century on. By any definition, then, we are still experiencing near-field effects of the HD Radio transition, so no reliable trajectories can yet be charted.

• The days of an easy path to high profitability for radio are ending.

This doesn't mean the end of the business — only that its purveyors will have to work harder and smarter going forward. Unlike newspapers, radio's core value proposition remains relatively high. But music formats in particular, which have enjoyed uniquely high profitability due to low operational costs, will require fundamental reevaluation due to the tandem impact of new competition and possible new copyright regulation.

• Finally, the multiple service opportunities open to broadcasters by traditional and new media must be adapted to their best respective applications. For example, while online services can offer great choice and flexibility to individual users (and thereby expand the audience one listener at a time), FM remains the best service for large local audiences to hear the same content simultaneously and in real time.

Understanding of these revised fundamentals will be key to radio's getting out of its own way and renewing its value in the new media age.

Skip Pizzi is contributing editor of Radio World. Follow him on Twitter at http://twitter.com/skippizzi.

"The Big Picture" and other Radio World columns are archived at radioworld.com. *Click on Columns in the top navigation bar.*

World Radio History

Crista Embraces ENCO's DAD

Northwest Broadcaster Puts System to Work At Three Stations With 12 Workstations

USERREPORT

BY BRYAN HUBERT
Chief Engineer
Crista Broadcasting

SEATTLE — In 1994 Marv Mickley and I attended the NAB convention in Las Vegas. Marv managed our sister station KWPZ in Lynden, Wash., near the Canadian border, and did the afternoon drive shift. Our goal was to find a digital audio delivery system for Crista Broadcasting's three radio stations, KCMS(FM) and KCIS(AM) in Seattle and KWPZ(FM) in Lynden.

At that time there were 25 systems to choose from, all working on different platforms like Windows 3.1. We kept coming back to ENCO, where they addressed our many concerns including serving audio real-time over a 10baseT network and having a central storage system as well as backups.

OFF-THE-SHELF

We were able to buy off-the-shelf Dell personal computers, servers and Antex audio cards along with ENCO's DAD software with no licensing or proprietary hardware. It's an affordable, reliable audio storage and playback system.

Now it's 15 years later and ENCO is still completely meeting the needs of our three radio stations in two locations with 12 workstations.

Our ENCO system can use audio cards with audio over IP but our stations are still running analog with analog consoles including 66-style block wiring.

We use the ENCO Gateway utility to move music and commercials back and forth between studio locations, using specific cut ranges to identify what audio files to move back and forth.

Bryan Hubert, shown at the Seattle facility, is chief of Crista Broadcasting.

We receive much of our program content as MP3s. ENCO's Dropbox utility imports and converts audio from different sources, converting sample rates, changing levels and adding compression. Still, much of the content of our AM station is background recorded with more than 85 events a day. ENCO's DAD controls the Wegener Unity 4000 satellite receiver, switching the satellite channels and controlling our Broadcast Tools audio router, selecting different audio sources.

The new Amb-OS satellite system, developed by Focus on the Family and Ambassador Inspirational Radio, sends us audio files rather than continuous audio. The Amb-OS AMR-100 receiver/FTP server receives a program file, stores it and transfers it automatically to ENCO's storage server, a Snap Server NAS.

Streaming the stations presents the challenge of replacing the over-the-air spots with streaming spots. Using different audio outputs on the DAD-fed Digigram audio cards allows us to split the audio feeding the stream at the beginning of a spot set and send a different set of commercials to the Web. We use Ando Media to manage the audio buffering for seamless rejoining of over-the-air audio. Switching and buffering of audio is accomplished with DAD command cuts.

Addressing the Now Playing information was a bit challenging.

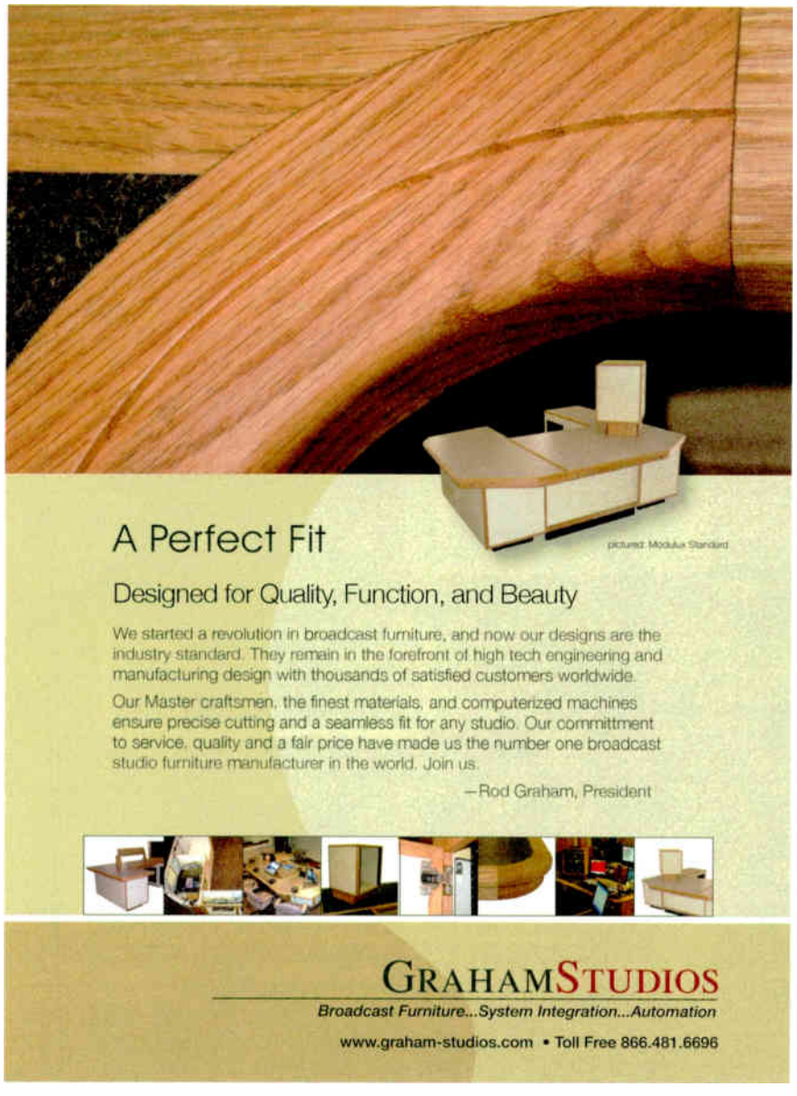
ENCO's PADapult would have certainly handled our needs for sending the correctly formatted "Now Playing" content to the Web page, HD and RDS, but several years back my college-aged assistant, Christopher, wrote a program he calls RadioPlus that essentially does the same thing. I think we're on version 12 version of his program.

For a long time incoming EAS alerts simply interrupted the audio over the air, playing the message as it came in. When the spot rates went from $50 to $300 a spot after our ratings climbed to put us in the top 10 in the Seattle market it became important to not interrupt them.

Tim, my other genius assistant, designed a circuit that interfaces with DAD. The circuit handshakes the GPI/GPO card with the TFT EAS unit, switching DAD to manual, playing the alert, then putting DAD back into auto mode and resuming programming. A live announcer always gets surprised watching DAD switching back and forth and it takes a bit of training to get them to leave it alone until the process is complete.

I like the ENCO support staff. I like their knowledgeable sales staff, and I love never losing spots. I love systems that run consistently without constantly rebooting them. I love how it interfaces with RCS and WideOrbit and reconciles logs. Most of all, I appreciate Tim Vik, my assistant who has made this whole complicated computer "conglomeration" so reliable. Any system is only as good as the engineer who puts all the pieces together.

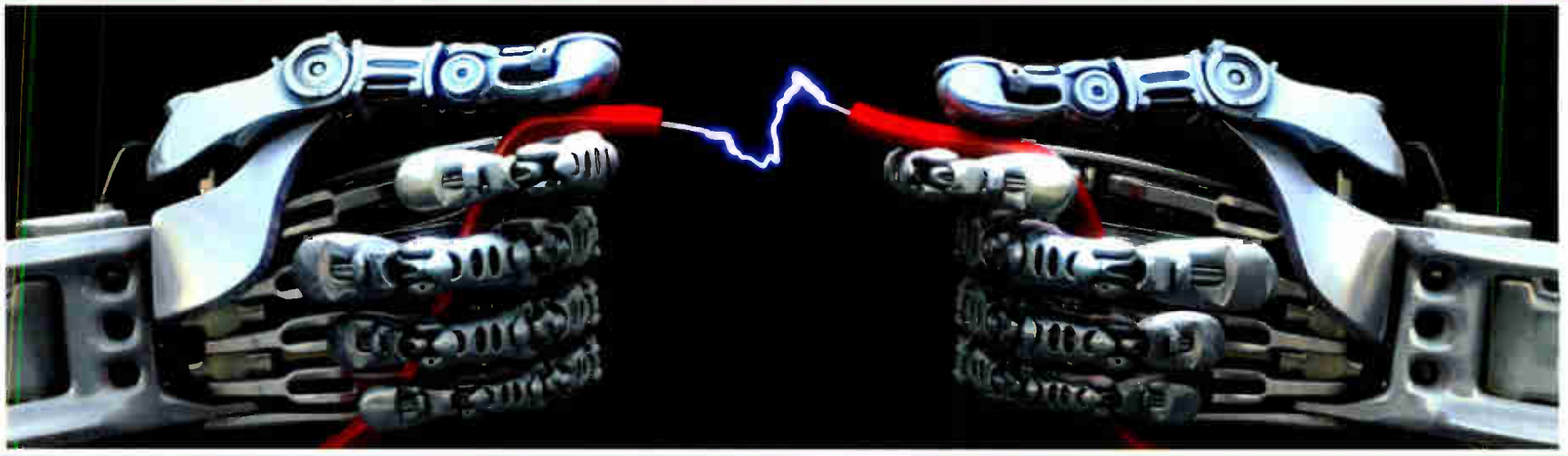
For information, contact ENCO Systems at (248) 827-4440 or visit www.enco.com.



World Radio History

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 works seamlessly with Axia IP-Audio networks or as a stand-alone system.

*"The merging of traffic and music logs takes a mere :30 seconds, making it among the easiest I have ever worked with. Once you get used to your adjustable personal color scheme, everything is pretty easy to follow. The best part about this system is the LACK of "dead air" or "hangups" during automation. PD's will breathe a sigh of relief at this. Another thing that stands out is the absolute ease with which you can build your personal hot keys for each air talent. If you organize your show properly ahead of time and know where you are going, this system will make your show much easier and let you concentrate on *sounding good* on the air. "*

~ Jim Franklin, Program Director
WVBO, Appleton/Oshkosh - Wisconsin

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

~ John O'Dea , Operations Manager
WNNK FM, Harrisburg - PA

"A fast paced station needs a system that can keep up and is easy to use. Op-X gives us the tools we need to deliver the sound Houstonians have come to expect from KRBE."

~ Leslie Whittle, Program Director
KRBE, Houston - TX

If you're looking for an audio delivery system~ you owe it to yourself to find out more about Op-X. Give us a call or email info@bgs.cc!

Broadcasters General Store

352-622-7700 • www.bgs.cc

BGS

Op-X RADIO AUTOMATION

BSI

AXIA

World Radio History

Findlay Upgrades Its Vault

Midwest Broadcaster Has Long History With BE

USERREPORT

BY KURT HEMINGER
Vice President
The Findlay Publishing Co.

FINDLAY, OHIO — Broadcast Electronics is celebrating its 50th anniversary and The Findlay Publishing Co., like a lot of other broadcasters, has been along for a good part of that journey.

Over the years, we have had in service BE cart machines, consoles, transmitters, Marti systems and of course automation systems. Our introduction to the latter was the Control 16, a fairly unique product at the time in that it was the first microprocessor-based program control system that utilized tape cartridges and open-reel hardware. We purchased two in the late 1970s and they served us for many years. One unit even survived a severe studio fire. We still use a C-16 relay panel for certain remote control functions.

In 1992, WFIN(AM) and WKXA(FM), our radio stations in Findlay, Ohio, moved to a new facility, which began our group's transition to AudioVault. We started with BE's first AudioVault system, the AV90.

Initially, we had some, shall I say, challenges in getting the AV90 online. The system just wouldn't work for us. Nothing we did would let us get past that big red "Abort" error message. We still laugh at how many times BE techs asked us to "ohm your cables." BE sent a replacement, and as luck would have it, the unit booted right up.

Once we had Findlay set up, we replicated this configuration at our Columbus, Ind., facility for WCSI(AM) and WKKG(FM) in 1993. At the time, we interfaced our AV90s to our C-16s, allowing the C-16 to control our various satellite feeds with the AV90 handling all local audio. As clunky as this seems now, it was state-of-the-art back then and the configuration worked well.

TECHNOLOGY CHANGES

By 1995, though, and with technology rapidly changing, it was time to upgrade to BE's then-current AudioVault platform, the AV100.

At that time, the AV100 was light years ahead of anything else on the market. The AV100 architecture was based on a BE-manufactured proprietary ISA audio card, and included on-card digital signal processors, dedicated memory and dual SCSI controllers.

This system was remarkable because it off-loaded audio processing functions that would have overloaded the PCs in use at the time. It connected to dedicated SCSI hard drives that ran a BE-proprietary advanced file system that included error correction and other features that no one else had.

Our primary motivation for upgrading to the AV100 was the ability to cost-effectively mirror our audio and data to two servers. With general hardware costs dropping and our system's hardware age increasing, we upgraded various hardware components in our workstations and servers in 1999 and again in 2002. This also helped support new studio demands as a result of adding stations WNVI (AM) and WINN(FM) to our Columbus, Ind., group and WRBI(FM) in Batesville, Ind., in 1997 and WWWY(FM), also Columbus, in 2001. Certainly, AudioVault software demands required these hardware upgrades as well.

Kurt Heminger, left, is shown with Dennis Rund, corporate chief engineer of Findlay Publishing Group at the WKXA studio.

Our next major upgrade took place in 2005, replacing our AV100s with AudioVault VaultXpress, which was the next step up in "networkability."

At that time, we upgraded our two Findlay stations as well as all our Indiana stations. There were several driving forces behind this upgrade: Hardware age of our existing systems, the AudioVault's ability to connect our three locations' systems via a secure WAN and virtual private networking (VPN) for voice-tracking, off-site file storage and the ease in sharing audio files from location to location. VPN also allows for remote access for IT, engineering maintenance and troubleshooting.

What was significant about this next AudioVault platform is that it allowed for even greater use of off-the-shelf audio cards (although a higher-end shelf) and relied more on standard Windows components than AV100 could. These audio cards were able to share the audio processing load with the PC's CPU, which in itself was now finally powerful enough to keep up with the demands of radio.

In addition, as a Windows platform, it offered far more hard drive options to run the kind of operation we needed. Whereas files created with multitrack editors or other non-AudioVault sources had to be imported and converted to the AV100 format through the AV100 hardware, our newer AudioVault system could take linear or compressed WAV or MPEG files.

A direct benefit was that the upgraded AudioVault system was far more modular, which meant that we could purchase only the application modules we needed, saving some money in the upgrade.

The system has a great deal of capability. For example, by defining classes for file categories, we control what files are copied across our WAN. Obviously, we don't copy temporary files across the WAN or other noncritical files. But all music, commercials, imaging (jingles and liners), etc. files are copied to our other locations for back-up purposes. We also back-up these files nightly to an external hard drive.

This may seem overzealous, but we recognize these audio and data files are our livelihood. They are mission-critical and we can't run our business without them.

USEFUL TOOLS

We've added AudioVault tools to allow us to operate our stations efficiently as time goes on. With these, several of our on-air staff members perform not only a daily live on-air shift, but a daily voice-tracked shift for another station as well.

Additionally, our individual station program directors typically voice-track a portion of their daily shift. This allows them to contribute on-air and be engaged in the on-air product while voice-tracking provides time-efficiencies for them to work on other important tasks.

AudioVault has allowed us to automate most of our syndicated programs, including news and entertainment network programming as well as college and professional sports. We also use AVNet, an AudioVault utility program, to record network feeds automatically for later playback.

With today's importance on interactive media, another tool, AVImport, assists us in "posting" hourly news and other AudioVault audio directly to our Web site servers. AVImport converts our AudioVault audio files to MP3s, then using a simple batch file and Windows Task Scheduler, these files are posted online. AVImport is also used by our producers to import outside-created audio files to AudioVault. A real time-saver.

For information, contact Broadcast Electronics at (217) 224-9600 or visit www.bdcast.com.

TECHUPDATE

WEGENER IPUMP 6420 OFFERS SHOWSHIFTING FOR BANDWIDTH SAVINGS

Wegener notes that new file-based distribution systems give network operators the ability to insert local advertising and station promotions into affiliate broadcasts and subscription services. They combine the efficiencies of large network operations with the customized listening experiences of localized content.

Wegener's file-based distribution system is based on COMPEL network control, iPump 6420 professional media servers and Unity 4600 professional media receivers. Designed for localizing affiliate radio broadcasts, the Wegener iPump 6420 media server generates a custom audio channel by transitioning between live and stored audio programs, advertisements and liners.

ShowShifting is a customizing feature of the Wegener system. The station user (or network operator) may specify when specific programs are to play out of its iPump 6420 media server.

Show shift definitions are flexible, allowing playback to occur on different days, even to the point of spanning a weekend. "Disaster scenarios" are handled without operator intervention by replacing episodes of lost signal or power with "evergreen" material.

Activity associated with that program (internal or external ad insertions, liners, PAD data, etc.) is captured and used in the correct manner, at the precise relative times, as the show is later played out.

For information, contact Wegener at (770) 814-4000 or visit www.wegener.com.

World Radio History

GOING IP - AUDIO? GET AXIA

AND GET A FREE PHONE SYSTEM

Everyone is thinking about upgrading to IP-Audio. If you are, too, choose Axia. Why? Axia invented IP-Audio; others are just imitations. So it's not surprising that they're the most successful IP-Audio company, with over 1,500 Axia consoles and routers on the air. No one else even comes close!

- Axia consoles are rock-solid, and they automatically take care of operating details (like generating mix-minuses), freeing talent to concentrate on making great radio.
- Axia networks are easy to install and operate.
- You can quickly examine and modify any part of the system using a web browser, without leaving your desk or home office.
- Axia is the only IP-Audio company with dozens of hardware and software partners – playout systems, codecs, profanity delays, audio processors, phone systems, satellite receivers, even transmitters – whose products feature single-cable network connection, eliminating setup time and expense.
- And Axia is part of Telos. With free 24/7 tech support and a 5-year warranty no one else can match. You can feel safe choosing Axia.

- And for a limited time let us sweeten the pot:
Buy an Element 2.0 console with power supply and mix engine, and at least one audio node, and we'll give you a Telos Nx12 12-line Talkshow System - Telos' most advanced multi-line phone setup, worth $4,480.00 MSRP - absolutely free.

Ready for real IP-Audio? Experience counts.

Call us and let's talk Axia!

Broadcasters General Store

352-622-7700 • www.bgs.cc

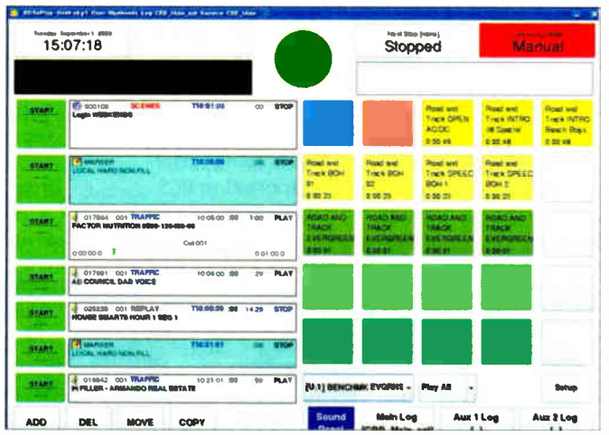
World Radio History

Rivendell Takes On the Big Guys

Can an 'Open Source,' Inexpensive Automation System Really Work?

USERREPORT

BY ALAN R. PETERSON
Assistant Chief Engineer
Radio America Network



ARLINGTON, VA. — The Rivendell Radio Automation suite from Paravel Systems is the industry's first complete, user-friendly audio management and playback environment designed from the start under the stable and robust GNU/Linux operating system.

Several prominent radio facilities and networks are Rivendell users, including Radio Free Asia in Washington, numerous Salem Communications stations around the U.S., and a long list of independent users and college radio stations.

Besides being enthusiastic Rivendell users here at the Radio America Network in Arlington, Va., we are also a beta test site for new innovations and features. Fred Gleason, lead developer for Paravel Systems, is our chief engineer.

Gleason, along with business partner and longtime radio automation guru Scott Spillers, saw the need for a "broadcast appliance" approach to radio storage and playout; one that could handle a diversity of formats and lengths with precision, and one that could be created as open source software so numerous developers could contribute to the project based on their needs.

The result is a line of Rivendell workstation products, starting at $3,995, scalable for anything from the smallest operations up to major studio facilities.

OPERATING SYSTEM

Linux is small and fast, crash resistant, very often free, and is used in numerous consumer products such as the Garmin Nuvi GPS navigator and in TiVO brand set-top boxes.

Hardcore Linux users speak in mystic Unix commands inside magical "shells" to get their tasks done. Rivendell conceals the magic behind an air-friendly GUI with all the functions expected by broadcast users, along with a powerful set of editing and configuration tools. As the developers themselves say, Rivendell was developed "by radio people for radio people."

All modules needed by today's broadcaster are available in Rivendell without having to obtain expensive optional packages.

The AirPlay interface is where operator and computer come together. The playlist is shown to the left, while the right side switches between the editable log and a multipage, 25-key "instant play" Sound Panel. More than just a cart replacement panel, buttons can be assigned to execute additional external functions, such as "delay start" and stop, "reconfigure console" and more.

Gleason says, "Rivendell *will* start your coffee for you."

AirPlay also simultaneously plays three logs at one time. For our purposes, one log handles audio and a second fires off relay closure commands for affiliate commercial breaks.

The RDCatch module is a multifunction audio grabber that can record simultaneous net feeds and aircheck entire programs, configurable by GPI or clock time. RDCatch grabs those delayed weekend shows when your board-op forgets to.

RDCastManager is the module that takes care of podcast RSS feeds. Rivendell automatically generates and uploads podcasts with minimal human intervention, save titling and description if desired.

Rivendell also interfaces well with Logitek and Axia audio engines, to name only two; and with dozens of third-party switchers and routers.

In single-station automation, it is not uncommon for Rivendell system to go several months without a reboot. And on top of it all is its immunity to typical PC viruses.

IN ACTION

Radio America runs multiple instances of Rivendell in several studios simultaneously, for crash-resistant playback and turn-on-a-dime log changes. All pull audio from a server in the rack room.

The main control room unit admirably handles audio playback and relay closures for the five-person "Doug Stephan Good Day Program" in morning drive, automated playback of "The Steve Gill Show" in PM drive and automatic overnight playback of select hours of daytime shows.

That means playback of full one-hour programs without drifting, glitching or stuttering. Rivendell was designed for long-form program playback and it shows.

Suggestions come in frequently for new Rivendell features. Some take work, others are implemented fairly quickly. For example, our system has been tweaked to sound a silence sense alarm over the telephone paging system. And intermediate upgrades are rolled out frequently instead of having to wait eight months for "the next product cycle."

Live Assist users that mostly play music will probably miss the alphanumeric fast search keys typically found on classic Scott systems. And there is no phone-bit editor to be had. But Rivendell does come with a robust voicetracking module for full walkaway operation.

For dedicated software tweakers or broadcasters on extreme budgets, it should be noted that standalone Rivendell software is available for free on the Internet, and help comes from an online users group instead of phone support.

A live bootable demo CD can be found at *www.rivendellaudio.org/rivendell/download.shtml* to try the program out. And some knowledge of Linux commands is always helpful to get the most out of Rivendell.

For information, contact Paravel Systems at (877) 447-2728 or visit www.paravelsystems.com.

TECHUPDATES

PRISTINE SYSTEMS PLANS CDS32 UPDATE

Pristine Systems is preparing for the fall release of CDS32 version 6.0. The update to the on-air playout and automation system includes support for many additional Internet streaming services to deliver "now playing" data and allow for easy Internet spot insertion. New interfaces will be incorporated for additional RDS encoders connected via RS-232 or TCP/IP. A number of maintenance and compatibility updates are also to be included.

For information, contact Pristine Systems at (310) 831-2234 or visit www.pristinesys.com.

OP-X IS BSI'S NEW KID

Op-X is Broadcast Software International's new broadcast automation package.

Its automatic networking features make it simple to set up in a single-station studio or a multistation cluster. Its Clock Builder module makes it easy to do satellite rebroadcasting and background recording functions.

Audio switching and closure devices are handled easily and can be shared between multiple stations using the Serial Device Server module.

A station's audio files can be backed up automatically using the File Sync module. Remote voicetracking and log editing are simple affairs. Music and traffic logs are importable from popular third-party log generating apps, or logs can be created manually using Op-X's Import-Merge utility.

Op-X File Server can be managed from any machine on a network using the File Manager utility to copy and move audio files or generate and view playback reports.

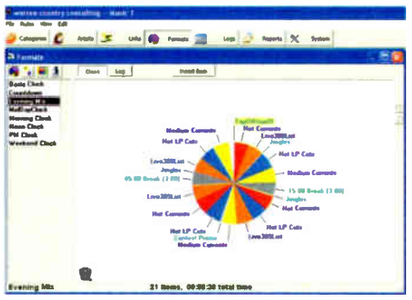
According to BSI, the Op-X Studio Client is installed in studio and production machines to handle on-air control or production functions for a consistent user experience no matter where the user is, further enhancing Op-X's built-in redundancy. Op-X users can control their on-air studio from anywhere in the building if the need arises.

For information, contact Broadcast Software International at (888) 274-8721 or visit www.bsiusa.com.

World Radio History

TECHUPDATES

MUSIC1 SCHEDULES THE TUNES



Music 1 is a Windows music scheduling application. It has built-in interfaces for most widely used automation systems.

Music 1 schedules all content including jingles, liners, links, voice tracks, long-form programs and automation system commands. These functions are incorporated into the application. Additional software or plug-ins are not required for scheduling nonmusic units.

The software is networkable and portable. The company says radio programmers who use any remote-access software should experience no problems when working with M1 remotely. Additionally, users can install it on their laptops (no additional fee) and can take it with them on the road, do their scheduling from anywhere and then e-mail or FTP the automation playlists back to the station.

A built-in auditioning player has been added allowing a music director to click and hear any song as they work with M1. The player is incorporated into the M1 scheduler itself and is not dependent on any automation system.

There are three editions of Music 1. Version 6 is the most advanced edition and is leased software. Music 1 LE/Legacy Edition is a full-function buy-out software. These two are for broadcast radio. Music 1 SE is a special edition for Webcasting and HD applications. It is also a buy-out.

For information, contact Music 1 at (512) 392-2415 or visit www.gomusic1.com.

RADIOTRAFFIC.COM, BUILT ON THE LATEST CODE

RadioTraffic.com is from Dave Scott, founder and CEO of Scott Studios.

This is traffic, billing, order entry, client notifier and sales management software. It speeds and simplifies commercials and nontraditional revenue.

According to the company, order entry is faster and easier in RadioTraffic.com for several reasons. All source code is new within the past few years, not created on older versions of Windows. The database is Microsoft's SQL Server 2008, the same used by the NASDAQ Stock Market to process 5,000 transactions per second, the company says.

RadioTraffic.com can handle an unlimited number of stations, users and transactions. It has the clean look and feel of Mac software, although it runs on Windows.

RadioTraffic.com is Internet-based, so traffic people can work from home when weather is bad or if they have a sick child. Sales people can enter copy and orders from client locations or anywhere. If new orders are approved by management, which can be done from a cell phone or any Internet computer, orders don't need to be retyped to get spots on the log.

RadioTraffic.com interfaces with various sales management systems, including In A Box, and comes with its own contact manager and sales calendar. Each desired report is included for sales and accounting; most reports automatically display charts and graphs so they're easier to understand. It also reconciles automatically with all brands of studio automation. Advertisers can get automatic notification when tomorrow's spots will air without requiring station staff time and effort with RadioTraffic.com's Text My Times module.

National, regional and local multistation orders only need to be entered once to air on any or all of a group's RadioTraffic.com stations, in the cluster or elsewhere.

For information, contact RadioTraffic.com at (888) 888-7234 or visit www.radiotraffic.com.

NETIA WORKS WITH MANREO

Netia's new Radio-Assist 8.0 range of digital audio automation software interfaces with the company's Manreo media asset management system, providing users with access tc all types of media, whether archived or online.

As a result, media ranging from audio and video to images and text are available for immediate review and subsequently can be restored for repurposing and delivery to broadcast and/or broadband/mobile channels.

The integration supports three publishing models to help users optimize workflow in providing media to the right audience in the right format. A convenient tab allows the operator to publish audio-only content and metadata; audio and associated media, such as video, text, and images; or a group of items for automatic conversion and publishing to multiple destinations.

Netia's Radio-Assist family of digital audio software programs covers each part of the production and broadcast workflow, allowing users to record, edit or prepare a playlist.

In addition to new browse and publishing tools for multimedia functionality, the software features tools for acquisition, sound-file editing, commercial and music production, newsroom systems, scheduling, multicasting and administration.

For information, contact Netia at (888) 207-2480 or visit www.netia.com.

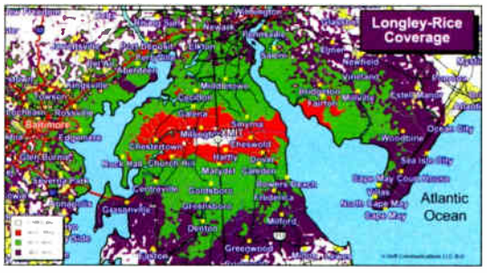
PRODUCTS & SERVICES SHOWCASE

World Radio History

BROADCAST EQUIPMENT EXCHANGE

VSoft COMMUNICATIONS RF Communications Software and Engineering Consulting

The Leader in Broadcast Engineering Software



Professional Software packages for FCC applications and predicting coverage.

- Create stunning "real-world" coverage maps and interference studies using Longley-Rice, PTP, FCC, ITU-R P.1546-1, and Okamura/Hata with Probe 4™
- Search for FM channels under spacings and contour to contour protection using FMCommander™
- Prepare AM skywave and groundwave allocation studies and map FCC contours with AM-Pro 2™
- Plot STL paths over 3D terrain with Terrain-3D™

Quality custom mapping and FCC engineering consulting available.

www.v-soft.com (800)743-3684

ACOUSTICS

AcousticsFirst™ Toll-Free Number **888-765-2900**

Full product line for sound control & noise elimination.

www.acousticsfirst.com

ANTENNAS/TOWERS

WANT TO SELL

FCC COMPLIANCE
TOWER SIGNS
AM & FM Tower Signs
ASR-Tower Registration
Standard & Custom signs
Guy Wire Protectors - Ant. Tags
ANTENNA ID PRODUCTS
antennaID@msn.com
Free Catalog
610-458-8418
www.antennaID.com

AM Ground Systems Co.
Ground System Construction, Evaluation & Repair
1-877-766-2999
Complete AM Radio Ground System Services
www.amgroundsystems.com

AUDIO PROCESSING (INCLUDES ON-AIR)

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

NEW OR USED COMPLETE PACKAGES

STUDIO/STL/TRANSMITTER /ANTENNA OR ANY COMBINATION OF ABOVE
-LEASE OPTIONS-
-EMERGENCY RENTALS-
-REMOTE BROADCAST RENTALS-

SCMS, Inc. (800) 438-6040
"You Know We Know Radio"

RADIOWORLD *Equipment Exchange*

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.

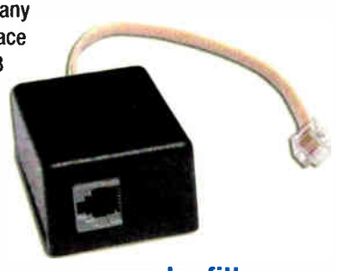
MISCELLANEOUS

ROTRON BLOWERS AND PLATE BLOCKERS, new & rebuilt for Elcom, Harris, CCA, CSI, McMartin, Goodrich Ent. 11435 Manderson St. Omaha, NE 68164 **402-493-1886** Email: **CGoodrich@tconl.com**

Buying Or Selling Used Equipment?
You're in the right place!
RADIOWORLD

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.

STOP
AM RADIO INTERFERENCE
with a plug-in modem/telephone RF filter from:
K-Y Filter Company
3010 Grinnel Place
Davis, CA 95618
(530) 757-6873



www.ky-filters.com

Model AM-1 is for AM Broadcast Band radio interference.
Model RF-1 is for Short Wave, Ham Radio, CB etc.

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

Looking for highlights or games of the San Francisco Giants taped off of KSFO radio from 1958-1959 and 1976-1978. Ron, 925-284-5428 or ronwtamm@yahoo.com.

Looking for radio shows prior to World War II on radio transcription disc or 78 RPM records. Ron, 925-284-5428 or ronwtamm@yahoo.com.

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

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.

RECORDING & PLAYBACK HARDWARE

WANT TO SELL

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.

WANT TO BUY

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

REMOTE & MICROWAVE

WE RENT FOR LESS

Blueboxes	FM Exciters
Zephyrs	FM Power Amps
POTS Codecs	STL's
RF/Audio Gear	Test Equipment

If we don't have it, we will get it!
SCMS, INC. (800) 438-6040
"You Know We Know Radio"

SATELLITE EQUIPMENT

WANT TO SELL

3.8 Meter Patriot Satellite located on Cape Cod, good shape, BO & pick up. J Peden, 508-362-7070 or jpeden@songtime.com.

SOFTWARE

High School Radio Station looking for a donation or willing to purchase Prophet System MusicGen Music Scheduling software to work with our NextGen Systems. Please contact Coach John S. Ashley, Cypress Creek High School, Orlando, FL. 407-852-3400 x.2236 or ashleyj@ocps.net.

STATIONS

WANT TO SELL

For Sale: AM in Rome, NY, xlators in Enid, OK, Jacksonville, NC, Temple, TX. Email mraley@bbnradio.org.

Oregon CP, 161191. 775.317.7887 vernongsnyder@hotmail.com.

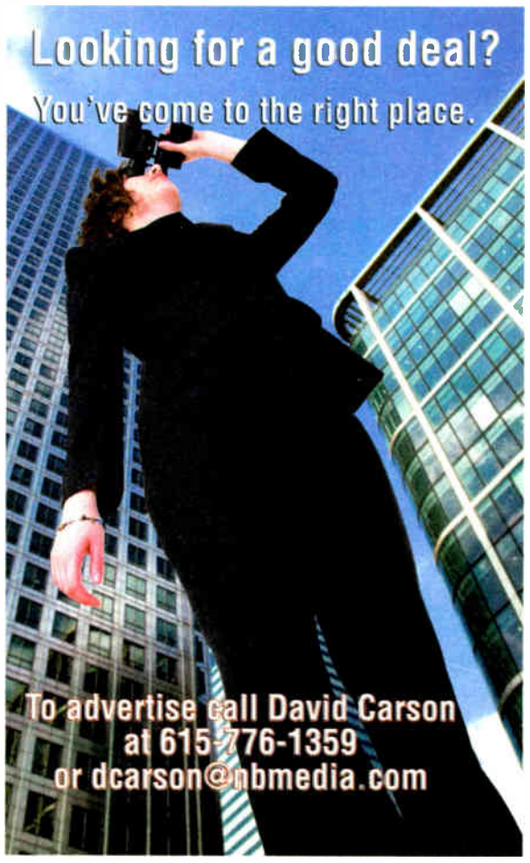
TAX DEDUCTIBLE EQUIPMENT

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.

TELEPHONE EQUIPMENT/HYBRIDS

WANT TO SELL

JK Audio Desktop, new JK Audio Broadcast Host desktop digital hybrid, $350. M Taylor, 417-451-5636.



Sign up for the digital version of Radio World. Visit www.radioworld.com

World Radio History

CONSULTANTS

OWL ENGINEERING, INC.
Consulting Communications Engineers
5844 Hamline Ave. N., Shoreview, MN 55126
651-784-7445
- AM/FM/NCE Applications
- Allocation and Upgrade Studies
- Pre-Purchase Inspections
- ANSI and NRSC Measurements
- Tower Detuning
- Intermodulation Studies
- Radiation Hazard Evaluation and Measurements
- AM Directional Array, Design, Tuning and Proof using Method of Moments

Fax (651) 784-7541 E-mail: info@owleng.com "Member AFCCE"

M. Celenza
Communications Consultant
AM-FM-LPFM-TV
$250.00 FM Frequency Studies
Applications, Amendments, Allocations
PHONE: (631)965-0816
FAX: (631)403-4617
EMAIL:
mcelenzacommunicationsconsultant@yahoo.com

GRAHAM BROCK INC
BROADCAST TECHNICAL CONSULTANTS
Full Service From Allocation to Operation AM/FM/TV/AUX Services; Field Work; Antenna and Facilities Design
Over 45 years engineering and consulting experience
912-638-8028
202-393-5133
www.grahambrock.com

AW Online
Advertise your employment ad on our web site for only $2 per word!
radioworld.com
Call David for all the details at 615-776-1359

cmbe
(processing)

FASTER... MORE ACCURATE RADIO COVERAGE
- Real Time 3-D Displays
- Interference calculations
- Cost effective mapping
- Fully integrated databases
- Used by the FCC
- Latest standards built-in

RADIO SOFT

Mullaney Engineering, Inc.
Serving Broadcasters Since 1948
9049 Shady Grove Court
Gaithersburg, MD 20877
(301) 921-0115
Fax (301) 590-9757
Member AFCCE
mullaney@mullengr.com

EMPLOYMENT

Comical, innovative announcer seeking the opportunity to demonstrate my natural abilities. Digital production (Adobe Audition 2.0), Streaming Broadcasting, Copywriting experience. Determined, multifaceted performer. Janean, 706-627-5354; janean_williams@yahoo.com.

Proficient creative writing/copy skills. Strong on-air abilities. Passionate, lots of energy. Dedicated and diligent worker. Extremely loyal. Boisterous, outgoing and fun! Amanda Villa, 817-420-3497; amandavilla82@yahoo.com.

Radio personality proficient in copywriting, newscasting, and commercial production. Ready and willing to relocate to bring your company the best. DeMarlo "The Radio Hustla" 214-636-3375 or Deboll75@yahoo.com.

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.

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@rubbinsracingshow.com.

Very good digital/computer skills. Creative copywriting plus good on air talent and delivery. Loves a challenge. Friendly/team-player. Enjoys theater, singing, and performing. Mandy, 504-390-3360 or djmandiek@gmail.com.

SPACE IS AVAILABLE • Call David • 615-776-1359

DISTRIBUTOR DIRECTORY

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

CORNELL-DUBILIER MICA CAPACITORS
FROM STOCK
JENNINGS VACUUM CAPACITORS
FROM STOCK
HIGH ENERGY CERAMIC CAPACITORS
SURCOM ASSOCIATES
5674 El Camino Real, Suite K
Carlsbad, California 92008
(760) 438-4420 Fax: (760) 438-4759
e-mail: link@surcom.com web: www.surcom.com

TUNWALL RADIO
SWITCH AND TRANSMITTER CONTROLLERS

The TRC-1P: featuring plate on/plate off function for both transmitters

AM/FM/MULTI-SWITCH AND CUSTOM DESIGNS
330.995.9642 www.tunwallradio.com

INGENIERÍA EN RADIODIFUSIÓN Y TELECOMUNICACIONES
www.radiodifusion.com.mx
- Diseño de Estaciones de AM,FM,TV.
- Auditorías Técnicas en Radio y Telecomunicaciones
- Recomendación y Venta de Equipo
- Asesoría y Gestoría Legal - Técnica
- Peritajes Técnicos, Planos de Ubicación
- Estudios de Propagación, Frecuencia

Libertad 1822 2do Piso Col. Roma Monterrey N.L. C.P 64700 México. Tel y Fax +52 81 83 58 30 27
etamezescamilla@yahoo.com.mx
etamez@att.net.mx

World Radio History

ECONCO NEW TUBE

NEW

ECONCO NEW TUBES

New tubes are now manufactured by ECONCO at our award winning facility in Woodland California! Of course, we continue our 34 year tradition of high quality power tube rebuilding.

TEL: 800-532-6626
INTL: +1-530-662-7553
FAX: +1-530-666-7760
www.econco.com
SE HABLA ESPAÑOL

ECONCO NEW TUBE

TRANSMITTERS/EXCITERS/TRANSLATORS

TRANSCOM CORPORATION

Serving the Broadcast Industry Since 1978

Transmitters and Broadcast Equipment for Radio & Television

Used FM Transmitters

1	KW	2009	Crown FM1000E (demo), solid state
2	KW	2004	Crown FM2000E, solid state
5	KW	1991	Harris HT5
14+5	KW HD	2005	BE Fmi1405 (IBOC), solid state
20	KW	2005	BE FM20S, solid state
20	KW	1985	Harris FM20K
27.5	KW	1984	Continental 816R-4B
30	KW	1982	BE FM30 (new IPA)
30	KW	1994	Harris HT30CD
30	KW	2003	Harris HT30CD
50	KW	1982	Harris Combiner w/auto exciter-transmitter switcher

Used AM Transmitters

5	KW	1982	Harris MW5A
5	KW	1987	Harris MW5B
5	KW	2002	Nautel ND5, solid state
5	KW	1987	Harris SX5A, solid state
10	KW	1985	Continental 316F
50	KW	1989	Nautel Ampfet 50, solid state

Exciters

New 30W Synthesized exciters
Used Harris Digit 2nd Generation exciter
Used Nautel NE-50 exciter

Please visit our website, www.fmamtv.com, for additional listings.

BE
Continental Electronics
CROWN BROADCAST
HARRIS
nautel

New TV Transmitters- Analog and Digital
OMB, Pineapple and Technalogix
VHF and UHF (10 W to 10 KW)
TV Antennas
TV STL

800-441-8454 • 215-938-7304 • FAX: +1-215-938-7361
www.fmamtv.com • E-mail: transcom@fmamtv.com
RETUNING & TESTING AVAILABLE • CALL US FOR A QUOTE!

TUBES

POWER Eimac YOU CAN TRUST

ISO 9001 Certified

The Choice of Successful Broadcasters Since 1934

NEW POWER TUBES
Triodes
Tetrodes
Pentodes

NEW SOCKETS & REPLACEMENT PARTS

Worldwide Availability

Made in U.S.A.

CALL 800-414-8823
Int'l (650) 592-1221
Fax (650) 592-9988

Visit our Web Site at www.eimac.com

CPI Communications & Power Industries division

FOR THE BEST PRICE
& 24 Hr service on transmitting tubes & sockets/parts, new & rebuilt call Goodrich Ent. at 402-493-1886 day or night, www.goodrichenterprises.com.

D And C Electronics
An International Distributor of RF Components

Tubes
NEW & REBUILT

TRANSMITTERS, STUDIO EQUIPMENT, STLS, ANTENNAS, RADIO DATA SYSTEM (FOR CAR RADIO DISPLAY) EXCITERS-TRANSMITTERS, TRANSLATORS, MIXERS-CONSOLES, RADIO LINK RPU, MOSFETS, VACUUM CAPACITORS, SOCKETS

Eimac CPI Communications & Power Industries Pro-Tek®
SVETLANA EEV BROADCASTING USA DISTRIBUTOR

BEST PRICES FROM OUR STOCK

To Order:
1-800-881-2374
Outside U.S. (352) 592-7800
Se Habla Español

P.O. Box 6409
Spring Hill, FL 34611
BEST SERVICE
352-592-7800
Fax 352-596-4884
Website: www.dandcelectronics.com

RF PARTS™ CO.
Se Habla Español We Export
EIMAC • TAYLOR • SVETLANA
New & Rebuilt Tubes - Same Day Shipping
Motorola • Toshiba • SGS • Thomson & Mitsubishi Semiconductors
800-737-2787 760-744-0700
rfp@rfparts.com www.rfparts.com

WANT TO SELL

OFF THE AIR?
Emergency Back-up Rentals
FM Exciters - STL's -
FM Pwr Amps - Antennas -
Studio & Test Equipment
SCMS Inc (800) 438-6040
"You Know We Know Radio"

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

FM Translator at 104.5 – Manchester, KY Call Joey Kesler 606-843-9999.

WANT TO BUY

AM Phasors, Phasor Parts, Phase Monitors, Rf Switches, AM Transmitters. Continental Communications 314-664-4497, Contcomm@Sbcglobal.Net

RADIOWORLD *Equipment Exchange*

You're Here!

...and so are the potential buyers for your products and services.

Radio World is a great place to find things for your business, and a great place for prospects to find you!

To advertise, call David at:
615-776-1359
or e-mail: dcarson@nbmedia.com.

ADVERTISE YOUR EMPLOYMENT AD ON OUR WEB SITE FOR ONLY $2 PER WORD!

ADS GET POSTED THE NEXT BUSINESS DAY AND WILL RUN FOR A FULL TWO WEEKS!

COMBINE THIS WITH AN AD IN OUR RADIO WORLD NEWSPAPER EMPLOYMENT SECTION AND REALLY COVER THE BROADCAST INDUSTRY AND THEN SOME!

www.radioworld.com

Call David Carson for all the details at
615-776-1359
dcarson@nbmedia.com

World Radio History

READER'S FORUM

RADIO IS RED HOT

As we have noted before, when Radio World arrives, it means that all is right with the world.

We not only look forward with eager anticipation to each new issue of Radio World, but we also read, analyze and inwardly digest every article and also every advertisement, on every page from front to back.

It is with some interest, Mr. McLane, that we read your readers' evaluation of your superb new format, layout and paper stock.

We should like to recommend for your consideration the suggestion that you emphasize the RADIO part of your masthead. After all, one thing upon which all your readers agree is that RADIO is — more than ever before — a red-hot medium. And Radio World certainly is the premier broadcast business and engineering periodical.

A rough example of what we have in mind, a slightly revised Radio World masthead, is below.

Be of good cheer.

F. Keith Trantow
President
Rawhide Communications
Tucson, Ariz.

THUMBS UP, BUT KEEP THE NEWS

Paul, congratulations on the new format for Radio World!

Like you, I had gotten used to the old, especially the use of old-fashioned newsprint stock. The new coated stock kinda gives Radio World a "magazine" feel, whereas the old seemed to say "newspaper." This of course could be a double-edged sword: Most folks view a magazine as entertainment and a newspaper as (as its name implies) news. So I hope the new paper choice will not make readers think it is just "fluff"" — and with you at the helm, I think you will not let that happen.

I do have one question: You stated, "This is particularly important when introducing RW to new readers and new advertisers, for whom our familiar retro logo wasn't meaningful or could even be confusing." Please explain how it would be "confusing"? Your new banner still says Radio World (albeit in a different font) and you still have a small globe.

All in all, I like the new format. One reason I do is from a physical standpoint. Our fine postal employees, when folding the older version to fit in their delivery bags, quite often would mangle or tear pages. I think with the new coated stock and size, the chances of that happening, while not eliminated, will be reduced.

Jerry Arnold
Midwest Communications
Terre Haute, Ind.

Paul McLane replies: By "confusing" I meant that for someone not familiar with RW, the older logo with its retro feel might not give the correct impression about our coverage of new media and new technology along with our reverence for radio's history and lore.

REED

(continued from page 34)

- Break rules. If a listener just wants more hits, she'll get an iPod.
- Use the social networks to inform the tribe that you have something new.
- Get radio on all appliances. Have you seen the selection of radios at Target lately? Compare to the iPhone.
- Get the kids involved again. Listeners and staffers. Are the "kids" on your air staff all in their 30s? Newsflash: they're not kids!

Twenty years ago, every radio station broker knew 10 GMs working to own their own station. Today, those same GMs simply want to make it to retirement (if they haven't already been fired). There is no "bench," no farm team. We are living a brain drain, or more accurately, a leadership and creativity drain.

"What's hard now is breaking the rules. What's hard is finding the faith to become a heretic, to seek out an innovation and then, in the face of huge amounts of resistance, to lead a team and to push the innovation out the door into the world."
— "Tribes," Seth Godin, 2008

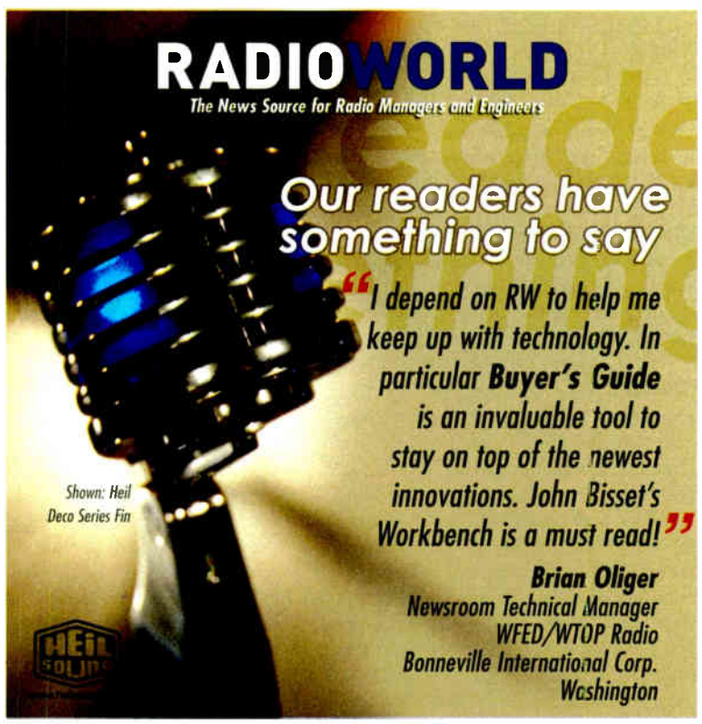
Like it or not, the radio industry will restructure. The open question is whether our industry leaders will take this opportunity to remake the business and take us to a whole new level of relevancy.

George Reed is managing director at Media Services Group, a media brokerage and consulting firm. He owns and operates stations in Charlottesville, Va. (Monticello Media) and San Juan (MSG Radio). Write him at george@mediaservicesgroup.com.

ADVERTISER INDEX

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

PAGE	ADVERTISER	WEB SITE/URL
4	Altronic Research	www.altronic.com
5	ATI - Audio Technologies Inc.	www.atiaudio.com
15-17, 25	Axia - A Telos Company	www.axiaaudio.com
29	Bext, Inc	www.bext.com
23	BSI	www.bsiusa.com
3	BSW	www.bswusa.com
7, 35	Comrex Corporation	www.comrex.com
1	Continental Electronics Corp.	www.contelec.com
8	DaySequerra/ATI	www.daysequerra.com
26	Grace Broadcast Sales	www.gracebroadcast.com
22	Graham Studios	www.graham-studios.com
33	Heil Sound, Ltd.	www.heilsound.com
21	Henry Engineering	www.henryeng.com
14	Inovonics Inc	www.inovon.com
19	JK Audio	www.jkaudio.com
11	Logitek	www.logitekaudio.com
9	Omnia - A Telos Company	www.omniaaudio.com
12	Pulsecom	www.pulse.com
26	Radio Sales Café	www.radiosalescafe.com
13	Telos Systems - TLS Corp.	www.telos-systems.com
2, 36	Wheatstone Corporation	www.wheatstone.com



World Radio History

Restructuring Radio: Is Anyone Listening?

An Owner/Broker Considers Who Wins, Who Loses in the Coming Restructuring

BY GEORGE R. REED

The radio industry will undergo a complete financial restructuring in the next 12 to 24 months. It has already begun. A massive amount of debt will be converted to equity and/or written off. Yet there will be winners and losers. A lot is at stake for radio's employees, lenders, investors and suppliers.

COMMENTARY

Much like the early 1990s, "workout" is now a prominent term in the broadcasting industry vernacular. A workout refers to a non-performing loan that has been moved into a lender's "workout" department for collection.

The process is usually resolved in one of two ways: 1) the loan is restructured under more lenient terms, or 2) assets are sold to repay the outstanding debt. As you might suspect, borrowers and lenders have very different perspectives of the workout process.

BROADCASTERS

The broadcaster wants to restructure the loan(s) on terms that allow him to pay back the obligation from the business' free cash flow. Generally, they want to buy time. This often means deferred payment terms, a lower interest rate, debt forgiveness, equity infusion and possibly asset sales. An alternative (but a difficult one when credit is "frozen" as it is now) is to simply refinance the loan with a new lender.

The broadcaster takes the position that the current problems are a "bump in the road," and given time, effort and flexibility on the part of the lender, everything will work out just fine.

If the lender refuses to negotiate acceptable restructured terms, the war escalates. A Chapter 11 bankruptcy filing is in the broadcaster's arsenal to stave off foreclosure (at least temporarily).

LENDERS

Lenders simply want their money back. And they don't much care how it happens. Ideally, they would like to see the borrower/broadcaster refinance their debt with a new institution. Failing that, they want the assets sold — immediately. If the broadcaster refuses to cooperate (in their view), the lender might take steps to have a receiver appointed, charging the receiver to liquidate the company.

If the lender believes that the problems are temporary, they may agree to restructure the note, generally collecting fees for the restructure agreement, and usually with provisions that they will be made "whole," perhaps getting additional security.

Lenders often (but not always) want to avoid the bankruptcy court. At times, they can negotiate a forbearance agreement with the borrower to agree to allow a receiver to be appointed, perhaps with the broadcaster's agreement as to who the receiver will be.

I believe that broadcast companies will be divided into two distinct camps by their lenders: 1) Good operators with bad balance sheets; 2) Bad operators with bad balance sheets.

Fortunately, there are a few operators with good balance sheets, but very few.

For good operators with bad balance sheets, excess debt will be converted to equity; remaining debt will be restructured with payment terms matching the companies' ability to pay. Owners will keep a stake and management will keep their jobs and be incentivized to perform under the new arrangement.

> **Radio was** Facebook and Twitter before there was an Internet.

For bad operators with bad balance sheets, lenders will adopt a "throw out the bums" mentality. Assets will be liquidated, or in some cases, sold to entrepreneurs (and financed by the lender) who know how to make the business work.

So who are the winners and losers?

WINNERS

- Lenders who stay calm, carefully analyze their problems and possible solutions.
- Existing broadcasters without a leverage problem, particularly if they want to grow their business.
- Existing broadcasters who become proactive in dealing with their problems.
- Entrepreneurs who know how to operate (and have been patiently waiting for a window to get in).
- Attorneys and smart, experienced broadcast restructuring consultants.
- Smart distressed debt buyers who pair up with entrepreneurial operators.

LOSERS

- Over-leveraged and under-operated broadcasting companies.
- Lenders who panic.
- Investors who bought into the over-leveraged and under-operated broadcasting companies.

So much for the financial restructuring. How will we fix the business itself?

CHIPPING AWAY

Radio was Facebook and Twitter before there was an Internet.

It connected. It was one-on-one between the DJ and his/her listener. It set the tone for a community's entertainment and informed it of the day's news. It introduced new music. It *was* Facebook. It was fun and exciting. The DJ was "My DJ."

But radio lost its focus: "Just play the hits ... do what's safe." "No one wants local news anymore; besides, it is too expensive." "Let's voice track the shift and save a few bucks; no one will notice." "Flying the morning show to the movie premier (or awards show, or NASCAR race, or fill-in-the-blank) is too expensive."

And if that weren't enough, we ran too many spots. Way too many spots.

Little by little, we chipped away at the cherished, intimate connection with our listener. And then it was gone. We became jukeboxes. Satellite radio won a PR war that radio didn't even know it was fighting, repositioning the entire radio medium as "old" and "over." My own teenage daughters prefer their iPods; I bet that yours do too.

Radio is boring. It is time to reconnect with our listener, with our tribe.

Here are some suggestions to station operators (and their owners):

- Bring back the stars. Find and hire talent; nurture them.
- Take chances. Try something. If it doesn't work, try something else.

(continued on page 33)

HOW TO

Send a letter to the editor:
E-mail *radioworld@nbmedia.com* with "Letter to the Editor" in the subject field. Please include issue date.

Contribute freelance articles:
E-mail *radioworld@nbmedia.com* and request our Writer's Guidelines.

RADIOWORLD
Vol. 33, No. 24 September 23, 2009

Next Issue of RADIO WORLD October 7, 2009
Next Issue of ENGINEERING EXTRA October 14, 2009

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
CONTRIBUTING EDITOR Skip Pizzi
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 Anne Drobish
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: 330-342-8361 | F: 330-247-1288
US WEST & CANADA: David Carson, dcarson@nbmedia.com
T: 615-776-1359 | F: 866-572-6156
EUROPE, AFRICA, MIDDLE EAST: Raffaella Calabrese, rcalabrese@broadcast.it
T: +39-02-7030-0310 | F: +39-02-7030-0211
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: +86-755-5785161 | F: +86-755-5785160
CLASSIFIEDS: David Carson, dcarson@nbmedia.com
T: 615-776-1359 | 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

Copyright 2009 by NewBay Media, LLC.
All rights reserved.
Printed in the USA

World Radio History

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

World Radio History

FINALLY...FAILSAFE NETWORKED AOIP.

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

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

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

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

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

3. Redundancy is critical. A typical WheatNet-IP installation has multiple levels of redundancy. Each BLADE holds the complete map of the entire system within its onboard memory – we call it distributed intelligence – a system with 50 BLADEs has 49 backups with failover in the event of a failure. Cisco Stackwise technology provides redundancy in the central core TOC switch. A WheatNet-IP/E-Series console studio complex can stand alone, even if the TOC goes down, with backup analog or digital program audio feeding a back end router independent of the core Gigabit infrastructure.

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

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

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

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

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

Wheatstone

Audio Networking—Simply Evolved

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

World Radio History