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INSIDE

AFTER NAVY YARD

• Has your local management team discussed and implemented a security emergency plan? — Page 20



VOICE OF AMERICA, ETC.

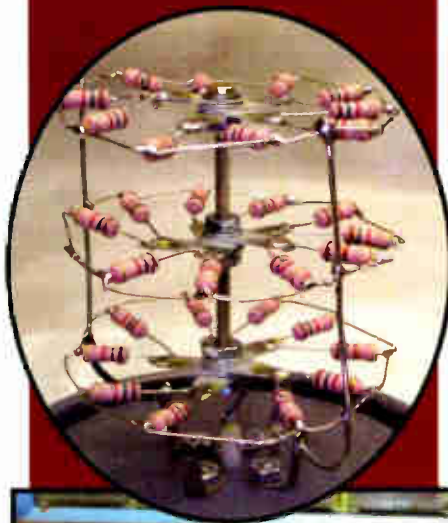
• A commentary from CUSIB's Ann Noonan on what direction the BBC management should take. — Page 29



CUSIB meets with BBG Chair Jeff Shell.

Special DIY Issue:

Check out these projects in Workbench and Studio Sessions.



Joe Snelson Is New SBE President

He pledges that the society's education efforts will continue to grow

NEWSMAKER

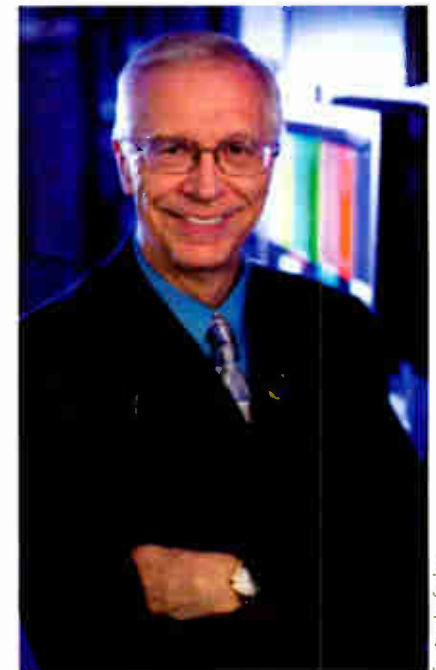
BY RANDY J. STINE

INDIANAPOLIS — Joe Snelson never envisioned himself in the role of party planner, but the new president of the Society of Broadcast Engineers will have a big hand in preparing that organization's biggest celebration when it marks its 50th anniversary in 2014.

Snelson, vice president of engineering at Meredith Corp., begins his term with a clear focus on education. He will be inducted as president during SBE's Annual Membership Meeting in Indianapolis at the end of October.

SBE is the professional organization of engineers in radio, television and related fields; it has approximately 5,300 members in 114 chapters across the United States; its footprint includes Hong Kong, Puerto Rico, Saipan and the U.S. Virgin Islands. The society also has affiliations with broadcast engineering groups in South Korea, Mexico, Brazil, the Philippines, India, Pakistan, Uruguay and Canada.

Snelson succeeds Ralph Hogan, who will remain on the board as immediate past president. Hogan told Radio World, "As I complete my tenure as SBE president, the biggest challenges that face SBE's new president and essentially all broadcasters are the National Broadband Plan, spectrum auctions and the loss of retiring engineers from the



Courtesy Joe Snelson

industry at an alarming rate."

The 63-year-old Snelson, who also chairs the SBE Frequency Coordination Committee and serves on the organization's National Certification and Government Relations Committees, said education will draw a lot of his focus during his 12-month term.

"I agree with Ralph on the three challenges he identified," he said. "One of my goals is to explore how we can get newcomers into the broadcast engineering field. But it's not just getting newcomers into the business, but ensuring they can receive proper training in

(continued on page 6)

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Colleagues Recall Kinsley Jones

Former radio jock found his niche in engineering and equipment sales

BY SCOTT FYBUSH

DALLAS-FT. WORTH —

Kinsley Jones was hardly alone in getting hooked on radio in the 1960s. As a young man, he worked his way “town to town, up and down the dial” as an itinerant DJ in the Pacific Northwest, starting in his hometown of Yakima, Wash.

But unlike so many jocks of the era, Jones segued into broadcast engineering and then into equipment sales. It’s in that role that he’s being fondly remembered after his death in August.

“He was just a real pro. He understood the business and was in it for a long time,” said Bill Harland, vice president of marketing at ER1, where Jones held the same position from 2002 until 2007.

Most recently, Jones was a partner in the consulting firm ChurchillTerry.



Kinsley Jones

elite gear to outfit its new affiliate uplink center in Charlotte, N.C., according to Harland. “That was a big project. Scientific-Atlanta was the big supplier at that point, and that really put Andrew on the map.”

During his ER1 years, Jones played a key role in master FM and TV antenna projects at 4 Times Square in New York City and at the Senior Road tower site in Houston. At ChurchillTerry, one of Jones’ major consulting clients was Myat Inc., manufacturer of transmission system components.

PROBLEM SOLVER

“Kin was incredibly smart,” Terry said. “People would present him with a problem, whether it was an engineering problem or a business problem. Kinsley

Jones and his son Brian stopped and bought a ball of twine that they passed through the wiper arms and into the front windows on each side of the car. “Whenever they needed the wipers, Kin would pull on one end and Brian would pull on the other to move the wipers back and forth!”

Earlier in his career, Jones had also been a recording engineer who’d worked on sessions with the Carpenters during his days in Los Angeles. His day job in the early 1970s was as chief engineer of KIQQ(FM), according to Terry.

Jones was notable for his commitment to boosting the careers of women, even as far back as the 1970s. “There are any number of women who would stand up and say Kin helped advance their careers,” Terry said.

Kin Jones was diagnosed with cancer in late January. “When he was first diagnosed,” Terry said. “I asked him



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Principal John Terry recalled him as a “brilliant salesperson, but not the Herb Tarlek type.”

“Kin genuinely liked people,” Terry said. “He liked customers, he liked solving problems, and I think every company he ever worked with saw an increase in sales when he was there.”

Jones died a few days short of his 64th birthday, Terry said in an email.

There were plenty of companies on Jones’ résumé, according to his LinkedIn profile: He worked in sales for Harris from 1975–1980, moved to the now-defunct transmitter manufacturer McMartin, then to Mosley, Townsend (later merged into today’s Larcant-TTC), Omega Industries, Andrew and Comark-Thales before arriving at ER1. At ChurchillTerry, one of Jones’ major consulting clients was Myat Inc., the New Jersey-based manufacturer of transmission system components.

At Andrew, Jones was instrumental in landing a big order from NBC for sat-

had this ability to very quickly analyze the situation, analyze the people and come up with a solution. He was an absolutely brilliant negotiator. Any time we had any sort of negotiation, I’d hand it over to Kin.” Jones also earned a business certification from Southern Methodist University in 2012.

Away from the negotiating table, friends remember him as a man of many interests.

“He had a collection of antique radios he worked on, but his big passion was antique cars,” Terry said. “His dad was in the auto parts business, and he had probably six or eight cars. He had a place up in Missouri where he kept them. He told me a story about going to Oregon to get a car, and he and his son were driving back across the country when the vacuum pump went out, so no windshield wipers.”

When it started raining, Terry said,



Kinsley Jones at a station in the Pacific Northwest in the early 1970s.

what he wanted to do, and he said I want to keep working for as long as I can, and he literally did. He was meeting with clients two weeks before he passed away, and was e-mailing me” the night before he was taken to the hospital. “I hope I live my life half as well as Kin lived his,” Terry said.

Jones is survived by his wife, Barbara; by two daughters and two sons from two marriages; and by several grandchildren and great-grandchildren.

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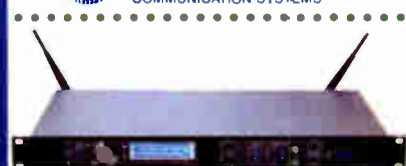


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'Radio Is No Longer Spinning a Dial'

Broadcast and streaming sessions at AES explore new angles on familiar problems

David Bialik has done his usual fine job of assembling sessions at AES to catch the eye of the audio technologist or radio guru.

The convention takes place this month in New York; we told you last issue about some of the show's themes, and we noted some promising products. Here, let's focus on broadcast and streaming media sessions, which Bialik organizes.

Among the highlights is a Thursday discussion about **"Listener Fatigue and Retention,"** moderated by Dick Burden and including panelists Frank Foti of the Telos Alliance, Greg Ogonowski of Orban, Sean Olive of Harman International, Robert Reams of Psyx Research and Grammy-winning producer/engineer Elliot Scheiner.

When I asked Bialik what's new in the area of listener fatigue, he replied, "What *isn't* new? It's the never-ending battle to have our audience last longer, and to keep them." He joked that even "Star Trek" was only supposed to be a five-year mission.

Avoiding listener fatigue, he said,



"is a never-ending battle," not just for broadcasters but for consumer electronics manufacturers, music producers and even cellphone carriers.

Bialik himself will chair the session **"Loudness Control for Radio and Internet Streaming,"** featuring Frank Foti of Telos, John Kean of NPR, Thomas Lund of TC Electronic, Jan Nordmann of Fraunhofer and Bob Orban of Orban. Isn't the loudness war over? Well, the answer isn't as simple as you might think, given that Internet streaming has brought a new playing field into the discussion.

"Radio is no longer spinning a dial," Bialik said. "You're typing in digital numbers. ... It's going to be a major

issue, because now you have stations that have their audio content injected from various sources, as well as Internet streaming coming into the car. Do you have to standardize on loudness? Do you want commercials that are 3 or 6 dB louder than the content, and shakes you up while you're driving? Will there be a new loudness war?"

NO MORE MP3?

Then the track turns to the provocative question **"Is it Time to Retire the MP3 Protocol for Streaming?"** Ray Archie of CBS chairs a group that includes MP3 innovator Karlheinz Brandenburg of Fraunhofer along with John Kean of NPR, Jan Nordmann of Fraunhofer, Greg Ogonowski of Orban and Greg Shay of the Telos Alliance.

According to the abstract, "It has been over 25 years since the MP3 codec was introduced to the audio community. With lossy audio encoding, such as an MP3, there is a not so fine balance between audio quality and file size. With the ever-increasing availability of bandwidth, file size has diminished as a consideration for audio streaming and codec related loss in audio quality is much more apparent."

FROM THE
EDITOR

Paul McLane



Also of interest is a Friday session chaired by Glynn Walden of CBS about **"Broadcasting During a Disaster."** We've seen a number of panels over recent years about how stations can best prepare for, and get through, emergencies. The discussion becomes even more important now that the radio industry is leaning so hard on the idea of being "first informers" (yes, radio always has delivered that service; but politically this aspect of radio is a big point right now).

The specific subject of the panel is Hurricane Sandy, which spun up almost exactly a year ago. Panelists include Rob Bertrand of CBS, Howard Price of ABC/Disney, Tom Ray of Tom Ray Broadcasting Consulting and Richard Ross of WADO/Univision.

"Content Delivery and the Mobile Initiative" is the subject of a session chaired by Neil Glassman of Whiz-BandPowWow. With consumer use of mobile on a dramatic up-curve, content providers face big challenges; what does it mean to your business that smart-

(continued on page 5)



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THIS ISSUE

OCTOBER 9, 2013

NEWS

- Joe Snelson Is New SBE President 1
- Colleagues Recall Kinsley Jones 3
- 'Radio Is No Longer Spinning a Dial' 4
- News Roundups 6, 8



FEATURES

- Build a Low-Power Dummy Load 10
- HEAR Now: A Little Taste of Everything 14
- People News 18



GM JOURNAL

- Stations Should Prepare for the Worst 20

STUDIO SESSIONS

- Curt's Gyraf Audio G7 Tube Mic 22

OPINION

- How We Sound to the World 29



(continued from page 4)

phones and tablets have become critical consumption tools, and that legacy radio receivers are no longer the only consumer option in the car?

Participants are Stephen Baker of Ramp, Karlheinz Brandenburg and Jan Nordmann of Fraunhofer, John Kean of NPR, Damon Love of SiriusXM, Leigh Newsome of Targetspot and Greg Ogonowski of Orban.

Tackling “Modern Audio Transportation Techniques for Remote Broadcasts” are Chris Crump of Comrex, John Kean of NPR, Greg Shay of the Telos Alliance and Chris Tobin of Musicam USA. That session is chaired by Herb Squire. Radio World explored this topic in our eBook “Fall Remote Season Planner” last year; see radioworld.com/ebooks for all of our eBook titles.

Another subject well familiar to our readers is “Maintenance, Repair and Troubleshooting.” Chairing an AES session on that topic is ace troubleshooter John Bisset of the Telos Alliance, who for years has collected and shared your engineering tips in our *Workbench* column at Radio World. Helping him in the discussion will be Michael Azzarello of CBS and Bill and Kimberly Sacks of Orban/Optimod Refurbishing.

Valerie Tyler of the College of San Mateo will moderate “HTML5 and Streaming.” This is the fifth revision of the Hypertext Markup Language standard.

“One feature is the media player and how it handles media being downloaded or streamed,” according to the summary. “This session will look into the technical considerations for media to be played back as well as the user interfaces.” Speakers are Jan Linden of Google, Greg Ogonowski of Orban and Charles Van Winkle of Adobe.

And a Saturday session on “Facility Design” will look at the audio planning aspects within two notable recent projects: ESPN’s new production complex in Bridgeport, Conn., and QTV in Doha, Qatar. Sergio Molho of Walters Storyk Design Group chairs the discussion, which includes his colleague John Storyk as well as Jim Servies, vice president, technology planning at ESPN.

Bialik — whose day job is streaming project manager at CBS — likes to emphasize that AES broadcast and streaming tracks are intended to be educational, not sales pitches. And New York is a good market for this content; so many media are centered there, so many commercials are created there.

He says attendees have gotten more sophisticated in recent years, whether they work as radio engineers, DJs or voiceover talent. “It’s interesting how many more come in, some with garage studios, some with big studios — but they all have studios. It’s an audience



ESPN Vice President of Technology Planning Jim Servies, in yellow vest and seen through rows of waiting racks, conducts a construction tour of facilities in Bristol, Conn. He will speak about audio considerations of the project at the AES show in New York.

that’s much more educated than ever.”

For the list of broadcast and streaming sessions see www.aes.org/events/135/broadcast/. More topics of interest on that page cross over from AES tracks in Live Sound, Network Audio and other topics. And the convention agenda has

many other sessions that you might find interesting. (Want photos from the “Sgt. Pepper” sessions? A glimpse of the studio of the future, circa 2050? A tour of WNYC and the show “Soundcheck”? An evening of live audio/radio drama? Check, times four.)

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SNELSON

(continued from page 1)

all facets of broadcast engineering they will be dealing with at a station.”

Challenges for members include the increasing importance “for broadcast engineers to stay current on all the technologies used for content delivery as well as how to improve the legacy over-the-air facility.”

He noted that SBE offers a diversity of educational materials ranging from publications to webinars and online classes. “Many of these have been added over the last several years. Keeping our educational program current and relevant serves as a good resource for newcomers into this business as well as those that have been in it for a while.”

Dissemination of information to chapters will also be a priority, as will the rollout of a mentorship program.

ENGINEERING EXPERIENCE

Snelson has a limited radio background — he was chief engineer of KCMO(AM) and KCEZ(FM) in Kansas City for about two years until Meredith sold the stations to Fairbanks in 1983 — but has a wealth of television engineering experience with Meredith. The broadcaster owns 11 full-power television stations and one low-power television station in various top 100 markets.

He began his broadcast engineering career in Los Angeles in the early 1970s at KHOF(TV). He graduated from Los Angeles City College with an Associate in Arts degree in broadcasting technol-



Courtesy Joe Snelson

ogy. He joined Meredith in 1980 at KCTV(TV) in Kansas City.

SBE continues to work on objectives laid out at a strategic planning meeting in June 2012. These include the need to revise its youth outreach; a possible rebranding of the organization; and ways to better train chapter leadership. Various committees are meeting to discuss which changes to adopt, he said.

The rebranding committee, chaired by Snelson, is considering ways to reflect changes in technology that affect the role and skill sets of a broadcast engineer. Snelson declined to comment on the committee's work because it is ongoing; once the discussion on branding is concluded, a report will be submitted to the board of directors.

Of technological changes, Snelson

sees the continued digital conversion of television and radio as a critical issue facing engineers.

“On the studio and delivery side it is crucial to construct infrastructure that can support future upgrades, higher bit rates and multi-channel operation. Without a doubt it is challenging to balance technology and a budget. It is not

(continued on page 8)

NEWSROUNDUP

LPFM: The FCC is confident it can open the application window for new low-power FM stations on time. FCC Audio Division Deputy Chief of Engineering Jim Bradshaw told the September commission meeting that the division has processed thousands of FM translator filings over the past few months. The result could be the authorization of some 1,700 new FM translators in 2013, he said, a roughly 30 percent increase over the previously licensed total. The agency needed to process more than 13,000 translator applications filed in Auction 83 to help prepare to open the LPFM application window. In February the division identified 700 “singletons,” FM translator applications where there's no competing interest. The dismissal of some 4,000 Auction 83 translator proposals cleared space for new LPFMs, the FCC said, and hundreds of LPFM applicants have begun the application process. The commission plans to open an LPFM application window Oct. 15. Acting Chairwoman Mignon Clyburn said, “We don't know today whether 1,000 or 10,000 applications will be filed in the LPFM window, but we must be prepared either way.”

NIELSEN-ARBITRON: Nielsen CEO David Calhoun told investors the company plans to expand its cov-

erage of consumer purchase behavior globally, as well as measure more ways that consumers spend time with media, after its \$1.3 billion purchase of Arbitron. Nielsen's coverage will now span TV, cable, online and radio. The company estimates U.S. consumers spend an average of eight hours a day with those media, including two with radio. Adding radio to its measurement platform will help prove radio's return on investment to advertisers, he said; and with Arbitron — now called Nielsen Audio — in the fold, Nielsen can include radio listening in its reports, including “in car” listening, which tends to be done near retail. The Federal Trade Commission signed off on the deal on condition that Nielsen make Arbitron PPM data available to comScore for an ESPN PPM cross-measurement platform-related project for up to eight years.

EAS: The FCC's Public Safety & Homeland Security Bureau is asking for public input on equipment and operational issues identified after the national EAS test two years ago. Some encoder/decoders delayed releasing the alert for three minutes; the agency is asking manufacturers to describe how their devices handle the header codes. The FCC is also asking whether a location code must be part of presidential alerts and how long future national tests should last. The commission sees the comments as starting a dialogue with the EAS commu-

nity to develop recommendations for commission action, if needed. With that in mind, the agency may issue a Notice of Proposed Rulemaking later. Comments to EB Docket 04-296 are due Oct. 23 and replies on Nov. 7.

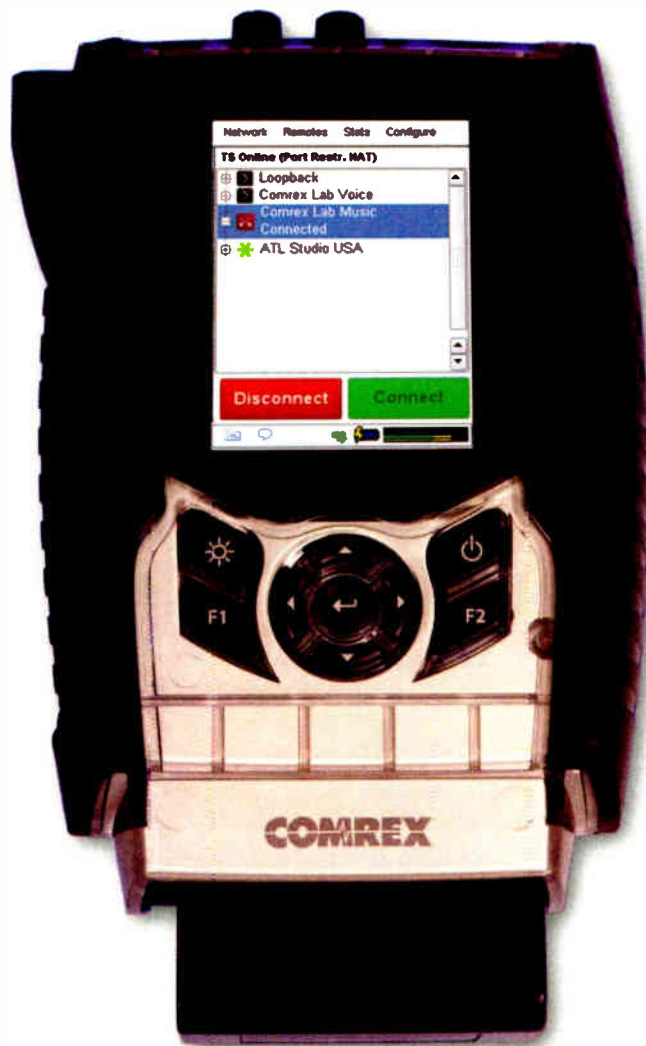
RF DEVICES: The FCC's Enforcement Bureau cited a California company, FCCFrequency, for marketing unauthorized RF devices. The company came to FCC attention when the agency inspected a pirate station in Arleta, Calif. The operator showed

agents a purchase contract for a 100-watt transmitter he bought for around \$6,000 from FCCFrequency in March. The non-certified AAREFF brand transmitter is model 100WPLLS19P and manufactured in the Dominican Republic. FCCFrequency specializes in LPFM equipment sales and installation, according to its website, www.fccfrequency.com. The company has until Oct. 25 to respond. The commission said the company can challenge its version of the facts but must confirm that it has stopped marketing and selling unauthorized RF devices.



A website screen image from the company FCCFrequency.

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SNELSON

(continued from page 6)

always easy trying to persuade non-technical management not to sacrifice the permanent on the altar of the immediate, especially when it comes to funding.”

Changing consumer consumption patterns, while not necessarily an engineering issue, mean broadcast engineers must be prepared to adapt and provide content accordingly, Snelson said. “This is why it is important to have a studio and delivery infrastructure capable of future changes.”

Meanwhile, industry discussion of AM revitalization has gained the attention of the society’s leadership.

“We have several radio broadcast engineers on the board of SBE who closely follow this subject, and we will be discussing how SBE can support AM radio revitalization initiatives that are in the best interest of the industry and ultimately our membership,” Snelson said.

Asked whether AM/FM radio should consider a mandated conversion to digital, Snelson said he lived through the mandated digital TV conversion and thinks any decision has to be made in the best interests of broadcasters.

“When government mandates are proposed, one needs to look closely at whom and what is driving it. Was it driven by an industry effort or was it due to political or budget pressures? ... I consider myself privileged to have worked with some of the sharpest engineers in this business as we worked through the issues involved with conversion. It was through that input to the FCC that made the DTV conversion mandate a success.”

Snelson also said he has served on enough SBE committees to understand the demands on broadcast engineers facing limited budgets while juggling multiple facilities.

“Whether it is radio or television, we are seeing individuals having to operate or maintain multiple facilities. Some of our educational offerings talk about this subject. For example, I was a co-author of the revised Television Operators Handbook. We wrote a section in it that address automation and centralized operations.”

Radio and television both face increased regulatory and technical challenges such as increased noise floors

and interference; he said engineers work constantly to provide reliability and high-quality service to their listeners/viewers and remain compliant with FCC regulations. Education and information-sharing can be helpful to those that face changing rules and regulations, he said.

LAS VEGAS SBE

Snelson, a member of the Las Vegas chapter, hopes to nourish local chapters during his tenure. “It’s part of our strategic planning. The strength of SBE lies in our chapters. Growing our local chapters and seeing increased participation from the local members is important.”

As for attracting newcomers, Snelson says, “Even with regulatory and business challenges facing our industry, this can still be a rewarding business.” However, drawing fresh talent remains difficult and complex.

“While SBE cannot control economy or station ownership decisions, we can and do provide various opportunities engineers can take advantage of to further enhance their self-development and potentially gain recognition from their employers. I am referring to the educational offerings, information sharing

and networking through local chapters and the SBE program of certification in which an individual’s skills and expertise are recognized.”

tifications lapse between January 1999 and January 2012 to re-instate their certification without taking an exam. The organization plans to use the anniver-

It is not always easy trying to persuade non-technical management not to sacrifice the permanent on the altar of the immediate, especially when it comes to funding.

– Joe Snelson

SBE also recently created a mentoring sub-committee with the goal of allowing newcomers an opportunity to link up with a mentor to help them develop their careers, Snelson said.

The organization will release plans for its golden celebration in the months to come, according to Snelson. It will include an amnesty program for those that may have let their SBE certification lapse. The certification committee is allowing those who have let their cer-

sary to demonstrate the significance of member contributions to broadcasting. A special anniversary logo and slogan are also possibilities, the group said.

Snelson, a Certified Professional Broadcast Engineer and 8-VSB Specialist through SBE, relocated to Las Vegas in 2003 and maintains an office at Meredith’s television station in Henderson, Nev. He added that the location makes attending the NAB Show “a dream, as I get to sleep in my own bed at night.”

NEWSROUNDUP

FORD-LIVIO: Ford has acquired software developer Livio, which becomes a subsidiary of the carmaker. Livio will function as a separate department within Ford Electrical/Electronic Systems Engineering, while integrated into Ford’s overall connectivity operations. The deal gives Ford access to application developers, while enabling Livio to maintain an independent and entrepreneurial approach, according to the companies. They haven’t disclosed financial details of the transaction, though CNET pegged the value at less than \$10 million.

Livio

Ford Global Technologies President/CEO Bill Coughlin said Ford is acquiring Livio “to advance connectivity for our customers and to lead the way in in-vehicle connectivity for the entire automotive industry.” Livio co-founder and CEO Jake Sigal told Radio World the purchase allows the companies to share technologies, intellectual properties and engineering talent as they work toward an industry standard for in-car connectivity and smartphone-to-vehicle communications. “This news is all about accelerating a standard for the automotive industry to help content get into cars,” said Sigal.

NPR: National Public Radio seeks to trim staff by about 10 percent over the next year, through voluntary buyouts. The broadcaster said it has an operating cash deficit of \$6.1 million, or 3 percent of revenues. NPR has a payroll of about 840 people. NPR approved a budget for fiscal 2014 that includes operating and investment revenues of \$178.1 million, and expenses of \$183 million. The Washington Post calls the planned cuts one of the largest staff reductions in NPR’s history. In 2008, NPR laid off 64 employees and cut two programs to save money.

CUMULUS-RDIO: Cumulus has partnered with subscription music service Rdio in a deal that involves content,

promotion and advertising. Cumulus is getting what it calls a “significant” equity stake in Pulser Media, Rdio’s parent, in exchange for exclusive content, media and on-air promotional commitments over five years. The companies say the arrangement gives Cumulus a financial interest in the larger digital music ecosystem and allows Rdio to launch free, ad-supported products while accelerating activation of new users and subscribers. CEO Lew Dickey said the agreement “uniquely positions us to compete aggressively against all digital audio services for the benefit of our entire platform.”

APPLE: Nissan said it would be the exclusive automotive partner for the launch of Apple’s iTunes Radio, taking advantage of new creative formats, including audio and video, across Apple TV, iPhone, iPad, iPod touch, Mac and PC. Among the first Nissan vehicles to be highlighted with iTunes Radio ads are the upcoming 2014 Nissan Rogue, Versa Note and Leaf EV. Marketing efforts for the Rogue are designed to drive reservations for the vehicle, which goes on sale at dealers in November. The Nissan-Apple agreement runs through the remainder of 2013.

BMI: Broadcast Music Inc. posted revenues of \$944 million for the fiscal year that ended June 30. The music rights management company said revenues increased by \$45 million, a 5 percent gain over the prior year. BMI cited consistent building of diverse revenue sources, coupled with cost reductions, for the rise. The organization distributed \$814 million to its affiliated songwriters, composers and music publishers. Royalty distributions increased by \$64 million or 9 percent compared to the previous year.

ONLINE LISTENING: Internet radio is now used by the majority of Americans who are online (53 percent), and total time spent with audio is expanding. The latter is because people are now enjoying more audio from more devices. Those are conclusions from a new study from Edison Research commissioned by Pandora, Spotify and Tuneln.



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Build a Low-Power Dummy Load

Here's a DIY project of particular help for translator and LPFM users

WORKBENCH

by John Bisset

Read more Workbench articles online at radioworld.com

I sold low-power FM transmitters in a former job, and one of the things I learned is that most customers lacked a suitable dummy load for testing. In new LPFM or translator applications, you can save a lot of time if you have a way to confirm proper operation.

Remembering the days of the Heathkit "Can-tenna," which mounted the necessary load components in a paint can, I contacted RW contributor Buc Fitch, who frequently describes useful modifications and upgrades in our pages. Buc recently developed a dummy load of his own that mounts in an empty quart paint can (the kind of can you can buy at Lowe's or Home Depot).

Fig. 1 shows the needed parts. Visit your hardware drawer for brass bolts,



Fig. 1: Shown are the parts to construct your 50-watt dummy load.

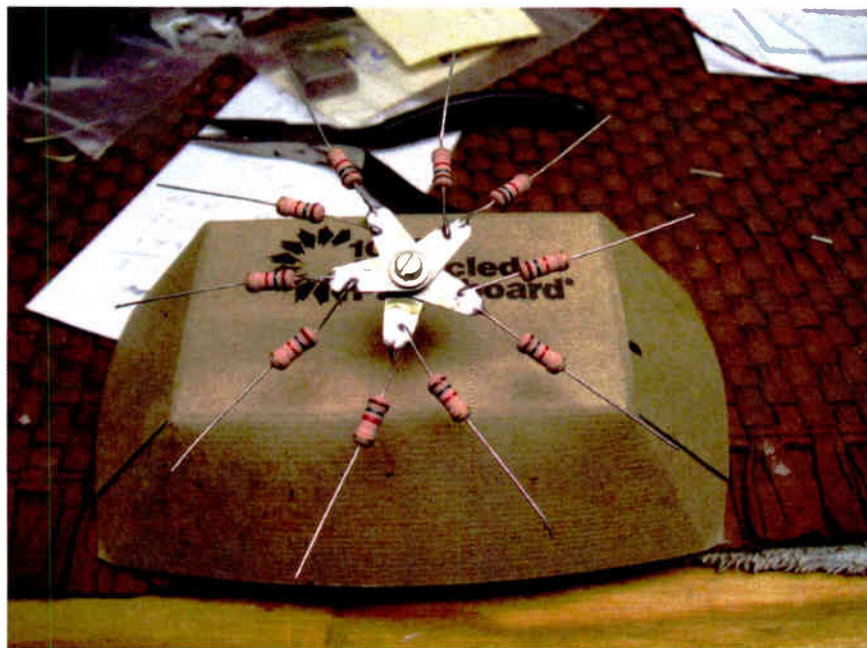


Fig. 2: Solder the resistors to the lugs to form a circle.

washers and nuts. You'll also need 15 dual-hole solder lugs for the resistors, using five for each of three layers, with two resistors on each lug. A total of three single-hole lugs will also be needed. These tie the center pin and ground connector leads to the resistor stack. (Head to radioworld.com/links for a URL for solder lugs from Digi-Key.) You'll need 30 dummy load resistors — 1.5k-ohm, metal film, 2-watt resistors soldered in parallel. You choose the RF connector; type N or UHF female are the

most common and flexible. You'll need a small 3/8-inch rubber grommet, to serve as a vent, as well as about two feet of #18 tinned solid wire.

Sort your parts and you're ready to go. Here are the steps:

1. Take a long, 4-40 brass bolt and slip five dual position solder lugs onto the bolt moving them up against the bolt head. Thread a 4-40 hex nut onto the bolt and spin it down until the five solder lugs are snug.

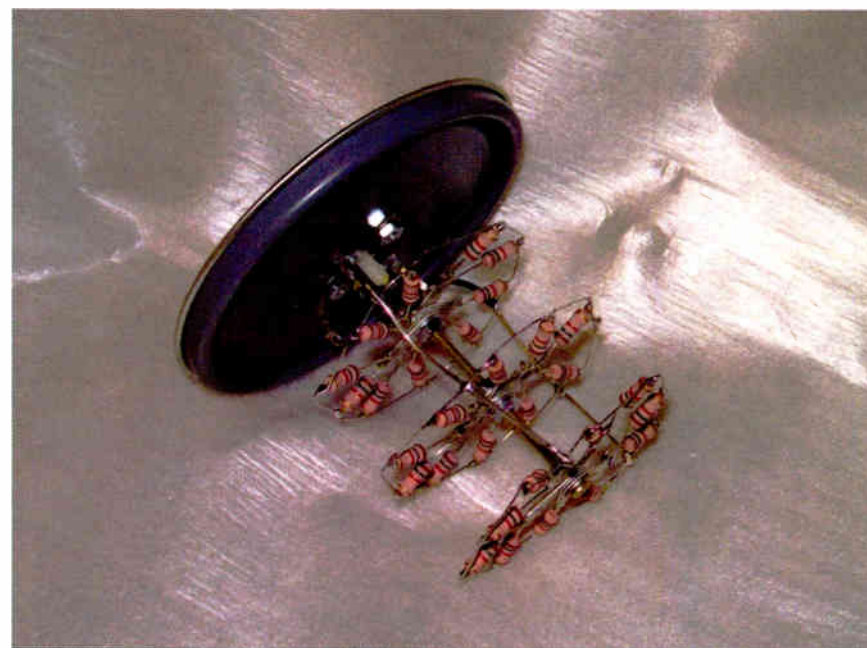


Fig. 3: View of completed assembly.

2. Position the five lugs into a "star" configuration, with each lug offset in an approximately 72-degree azimuth. Refer to Fig. 2 to see what this looks like.

3. Holding the lugs roughly in position, tighten down the nut. Select two of the thirty 1.5k-ohm, 2-watt resistors, confirm that the leads are clean by scraping each resistor leg with a razor blade knife until they shine. Cut off one end to a 1-inch length, and 3/4-inch length on the second.

4. Mechanically attach the two resistors through the lugholes by bending the short end at 90 degrees. The lead with the 3/4-inch length should be attached to the far hole and the 1-inch lead to the solder hole nearest the bolthead.

5. Position angularly as indicated in the photos and solder the resistors to the lug.

6. Bend the uncut end in imitation of the assembly in Fig. 2, such that a common circular "ring" will be created when all 10 of these resistors are soldered together.

7. Solder the tip of the 1-inch cut resistor to the 3/4-inch cut resistor.

8. Repeat this procedure on the next lug in clockwise rotation and continue through the next three lugs until all 10 resistors are installed.

Important: Even with the best effort, sometimes there is insufficient lead length to make a perfect common circle. Use small pieces of the bus wire to complete a uniform, even and professional-looking circle.

9. Thread a 4-40 hex nut onto the bolts, and spin down to just about 3/4-inch from the bolt head.

10. Slip five dual position solder lugs onto the bolt, moving them to the end against the nut threaded in Step 9.

11. Thread a 4-40 hex nut onto the bolt and spin down, until the five solder lugs are snug.

(continued on page 12)



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WORKBENCH*(continued from page 10)*

12. Once again, position the five lugs into a "star" configuration with each lug offset in an approximate 72-degree azimuth pattern.

13. Rotate this lug cluster so that it is positioned with the lugs between the first set and, holding the lugs roughly in position, tighten down the nut.

14. Repeat Steps 5 through 11 above on this set of lugs.

15. Thread a 4-40 hex nut onto the bolt and spin down to just about 1-1/2 inch from the bolt head.

16. Slip five dual position solder lugs onto the screw moving them to the end against the nut threaded on in Step 12.

17. Thread a 4-40 hex nut onto the bolt and spin down, until the five solder lugs are snug.

18. Once again, position the five lugs into a "star" configuration.

19. Rotate this lug cluster such that it is positioned with the lugs in-line with the first set and holding the lugs in position, tighten down the nut.

20. Repeat Steps 3 through 8 above for this set of lugs.

21. Choose a place on the outer circle nearest the bolt head

between the resistors and attach a length of bus wire about five inches long.

22. Route the bus wire on the outside of the middle resistor group circle and inside the final circle common section.

23. Solder the three connection points on the three circles. See pictures for routing detail.

24. Repeat Steps 21 through 23 on the opposite side of the common circles.

25. At the very end of the bolt, thread a 4-40 hex nut onto the bolt and spin down to just about 1/4-inch from the bolt end.

26. Slip a single solder hole lug onto the bolt.

27. Thread a 4-40 hex nut onto the bolt and tighten.

28. Measure the diameter of the center assembly of the chassis-mounted female N connector.

29. Select a drill bit and drill a hole into the center of the lid to accommodate the connector.

Important: The can is very thin sheet metal; for optimal results, mark the hole using a small drill bit such as 1/8-inch. Using this first hole as a guide, progressively and carefully enlarge the hole until the hole is the required size.

30. Insert the connector and mark at least two of the four holes. If only two are used they should be diametrically opposite.

31. Drill the holes for 4-40 bolts (approximately 1/8 inch in diameter).

33. Drill out the hole for the rubber breather grommet progressively, as outlined above, for best results.

34. Mount the RF connector using a 4-40 nut/washer/and bolt. Place a solder lug under the two diametrically offset bolt positions mentioned above.

35. Bend down the solder lugs under the connector.

36. Bend the one single position lug at the end of the bolt into a half circle such that the open lug hole will mate with the wire end of the N connector, position the bus wires such that they are in line with the connector solder lugs and solder.

37. At this point the crenelated resistor assembly is attached to the connector at a single point, so carefully thread the two common bus wires through the connector lugs and solder in imitation of the pictures.

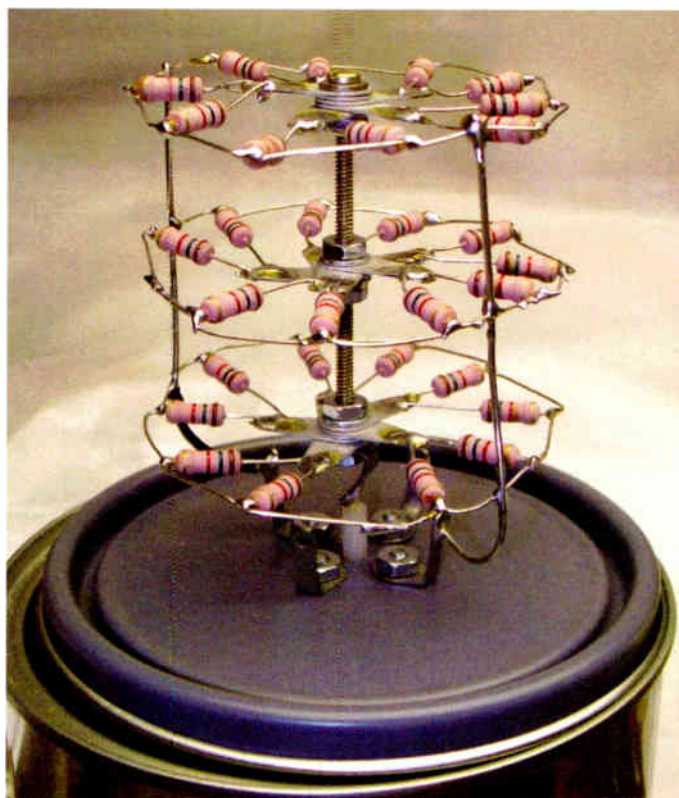


Fig. 4: The finished product.

32. Mark the top for the "breather hole," which should be eventually 3/8-inch. This hole should be approximately 1 inch from the lid outer edge.

38. Cut off excess bus wires. The unit is complete.

39. Distilled water may be used as a coolant for testing and measurement but empty the dummy after each use to limit rust and deterioration. Mineral oil is a good permanent coolant; just keep the load upright so no coolant escapes the breather vent.

40. Enjoy your dummy, but always make certain that there is coolant in the can, the lid is on tight and the breather unclogged.

Buc measured this load flat out to beyond the 160 MHz RPU band, with a power handling capacity of 50 watts. The parts for the load cost about \$20.

Reach Buc Fitch at fitchpe@comcast.net. Thanks, Buc, for a great project.

Contribute to Workbench. You'll help your fellow engineers, and qualify for SBE recertification credit. Send Workbench tips to johnpbisset@gmail.com. Fax to (603) 472-4944.

Author John Bisset has spent 44 years in the broadcasting industry and is still learning. He handles West Coast sales for the Telos Alliance. He is SBE Certified and is a past recipient of the SBE's Educator of the Year Award.

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HEAR Now: A Little Taste of Everything

Festival offers a buffet of contemporary audio storytelling from around the country

BY SUE ZIZZA

An award-winning audio drama producer shares her experiences of the first U.S.-based festival showcasing audio drama and more.

This summer in Kansas City, Mo., the National Audio Theatre Festivals (NATF) launched HEAR Now: The Audio Fiction and Arts Festival to celebrate the modern art of audio drama, audiobooks and the many other forms of "sonic storytelling."

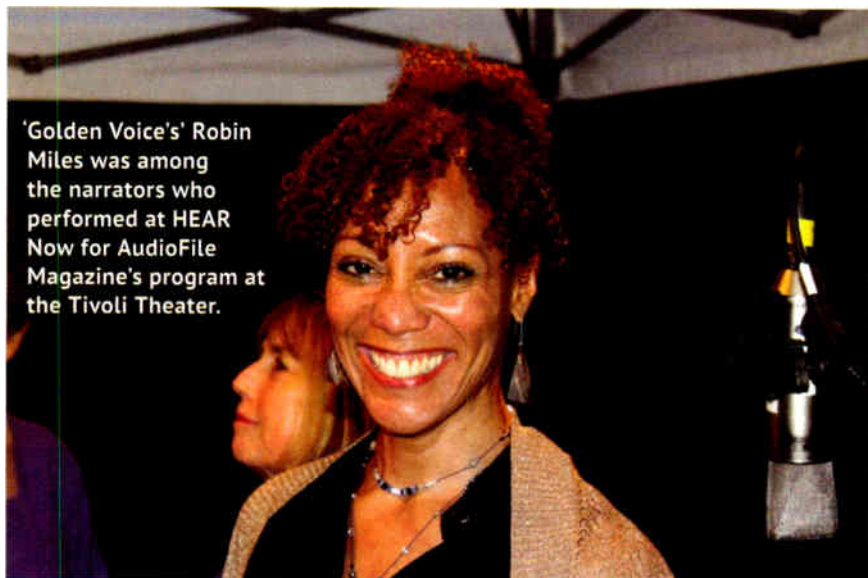
HEAR Now is the audio equivalent of a film festival. You've got a bit of it all: live and scripted solo performances, multi-voiced productions, classic radio drama, experimental narrative and much more.

This four-day festival gave fans, performers and producers the opportunity to come together and share a variety of program genres and styles through both live performances and listening. Guest

and personal listening devices, there are more people than ever before listening to audio storytelling, so they decided to launch this new festival to celebrate this unique and wholly American art form."

LET'S GET IT STARTED

HEAR Now kicked off on June 20, a Thursday, with a special listening session that featured Neil Gaiman's "Neverwhere," which was completed only weeks before by director Dirk Maggs for BBC Radio. This high-quality production features an all-star cast that includes Benedict Cumberbatch, James McAvoy, Natalie Dormer, Anthony Head and many more. Special remarks recorded by Gaiman and Maggs were heard just prior to the playing of the first 90 minutes of the three-hour program, while the balance of the series was heard throughout the



'Golden Voice's' Robin Miles was among the narrators who performed at HEAR Now for AudioFile Magazine's program at the Tivoli Theater.

performers such as Phil Proctor of the Firesign Theater shared stories and performed.

"There has never been anything like this before in the U.S.," said Festival Director Cynthia Allen. "NATF recognizes that with the Internet, audiobooks

Festival weekend.

Programming presented from the world of audio drama included work from producers like Tom Lopez of ZBS Foundation, the best of the last 15 years of the Mark Time and Ogle Awards hosted by Great Northern Audio Drama's Jerry Stearns and Brian Price, Audie award-winning drama from SueMedia Productions, new work from FinalRune and many others.

"We were delighted by the number of works submitted for the first year of the Festival," said Allen. "The Festival was able to showcase award-winning work by established artists, as well as new productions from emerging artists, in moderated 'listening' sessions."



Barbara Roseblat and Melinda Peterson perform in an original comedy skit called 'Best Friends for Never.'

Submissions from all over the U.S. were heard in high-quality theaters, giving fans the chance to fully experience the work. HEAR Now's "Podcast Palooza," which ran online throughout the festival and until the end of August, in conjunction with programming from the Atlanta Fringe Festival in June, gave those who could not attend the opportunity to be part of the fun.

Live readings hosted by AudioFile Magazine and Editor Robin Whitten presented "Golden Voice Narrators" Dion Graham, Katherine Kellgren, Robin Miles, Barbara Rosenblat and Stefan Rudniki reading works of the "Jazz Age" and the "American West," bringing the art of narration to the HEAR Now Festival.

In addition to recorded audio drama and live narration, each night of the festival featured a live performance at the University of Missouri Kansas City's Spencer Theatre.

The next evening, June 21, featured "Audio Vaudeville," where solo and group performers from around the country came together in a live show. "Audio

Vaudeville" featured storytellers, poetry, sound art, narrators, fully produced live radio plays and sketch comedy. The Audience Favorites of the night were New York City's VoiceScapes first place win, with an original play called "It Always Feels Like Monday"; the second place Audience Favorite was a dark comedy about 'problems in a nuclear power plant'; and third place went to a short comedy featuring Barbara Rosenblat and Melinda Peterson as "best friends forever."

Saturday night saw the local Kansas City Group "Right Between the Ears" win the overall Festival Favorite trophy with their fast-paced sketch comedy group featuring guests Phil Proctor and Barbara Rosenblat.

"It was a great show," said Allen. "'Right Between the Ears' has been producing live audio programming and shows for public radio for over 25 years in Kansas City, so it was great to see the hometown favorite win."

FROM DETECTIVES TO DISCO

Randy Thom of Skywalker Sound hosted a live teleconference session from his offices just outside of San Francisco that showed how feature-length animation uses audio drama techniques to begin the production process. Sennheiser's "Silent Disco Headphones" were used to showcase special binaural recordings like "Myst" and "The Maltese Goddess," from the ZBS Foundation.

Throughout the festival, Kansas City residents got to hear live readings of Mark Twain on the radio by Audie -winning narrator Robert Fass, as well as at onsite readings throughout the town, by aspiring voice actors Sue Bilich, Donna Postal, Diana Dorman and Mac Chamblin.

To ensure a next generation of listen-

(continued on page 18)

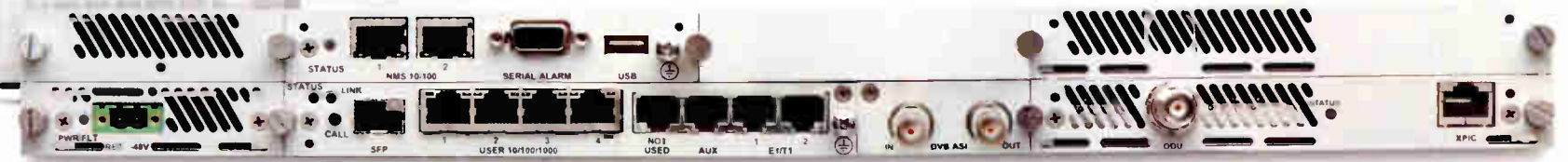
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Your Digital Reality Check

What to expect from the all-digital chain and why what happens in the processor is more important than ever

Digital, like certain politicians, needs a reality check every now and then. As an industry, we tend to expect more out of digital than it can possibly deliver. It's easy to do because digital signal processing has been a good friend to us.

But let's be clear here. The all-digital air chain can't solve all our problems any more than our politicians can. It can't add frequencies where there aren't any and nor can it make up for crummy source material.

Get the whole story here: october13INN.wheatstone.com



M-4IP: Four Channels of Famous Wheatstone Mic Processing

Wheatstone's M-1 Mic Processor is a broadcast standard, making more voices sound the best they can, day in and day out. The new M-4IP gives you four channels of that famous processing, controllable on the WheatNet-IP Intelligent Network.

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Moving Along

Seven Clear Channel San Diego studios get LX-24 Consoles

It's hard to find a broadcast engineer these days who isn't on the move.

The closest candidate is John Rigg, director of engineering for Clear Channel in San Diego. And by move, we mean actual address move - as in, moving the studios to a new location. Otherwise, we're sure that Rigg is constantly on the move with seven stations and 40 studios under his care in one of the nation's top rated markets.

What we find unique about Rigg, besides his acute sense of humor, is that he's updating Clear Channel's broadcast facility on Granite Ridge Drive one studio at a time. More often, we find that broadcasters make sweeping routing and console changes only when they build out an entirely new facility in a new location. But not Rigg.

Get the whole story here: october13INN.wheatstone.com



Compact control surface descended from flagship LX-24...

Meet the all new L-8

There's always a small space that can benefit from having a top-of-the-line piece of gear. The L-8 is exactly that - not dumbed down in any way.

This cousin to the popular LX-24 is big in capability but scaled for news production, voiceover work and all those applications requiring a solid control surface that will deliver under deadline. The L-8 is based on all the same design principles as the LX-24 - a precision-built, low-profile, tabletop IP control surface that offers assignable sources to any fader and with not-swappable individual fader modules.

Each fader provides access to four stereo busses, a stereo cue bus, and its own individual Bus-Minus. An LED source name display, an A/E source selector, and one programmable soft button are also available. and a SET button provides access to assignable controls in the master section. Snapshots of the L-8's configuration can be saved and recalled at the touch of a button, making setup for different working sessions a snap.

Get the whole story here: october13INN.wheatstone.com

HEAR NOW

(continued from page 14)

ers, more than 30 children were treated to a special tour of the Kauffman Stadium, where the book and audiobook "The All-Star Joker" by David A. Kelly takes place. Children ages 6–8 received copies of the book, as well as listening CDs courtesy of the author and Random House Listening Library. Audible also donated downloads of the audiobook for the children to hear after the tour.

The "Roots" of the art form were recognized and celebrated when long-time radio drama producer Himan Brown (1910–2010) was posthumously given NATF's Norman Corwin Award for Excellence in Audio Theatre for his more than 65 year career, during which he produced more than 30,000 radio



Children visited the Kauffmann Stadium, where 'The All-Star Joker' was set.



The late Himan Brown, right, is shown with granddaughter Melina Brown, who accepted the NATF Corwin Award during the closing ceremonies at the HEAR Now Festival on behalf of her grandfather.



'Golden Voice' narrator Dion Graham reads an original poem he wrote during 'Audio Vaudeville.'

programs, including "The Adventures of the Thin Man," "CBS Radio Mystery Theater," Dick Tracy, Flash Gordon, Grand Central Station, Inner Sanctum Mysteries, Joyce Jordan, M.D and numerous daytime soap operas.

A special session hosted by his granddaughter, Melina Brown, showcased a video tribute to Himan, featuring actors Tony Roberts, Patricia Elliot, Bob Kaliban, Russell Horton and Jada Rowland. Additionally, Kaliban and Horton were on hand to be part of a panel and share stories of their many days in the studio working with Himan.

Unique programs, like tours of the University of Missouri Marr Sound Archives, showcased the early history of recording and sound archiving. The Marr Sound Archive comprises a range of historic formats, including LPs, 78s, 45s,

cylinders, transcription discs, instantaneous-cut discs and open-reel tapes that let us listen to more than 300,000 recordings of jazz, blues, country and popular music, historic voices and authors reading their own works, vintage radio programs and more.

When Sunday rolled around, "Workshop 101" presented work written and created onsite throughout the festival by a small group of first-time audio drama artists.

"NATF wants to maintain its educational mission. Being able to offer a small group an intensive hands-on workshop was an important goal for the festival and one we plan to grow into multiple smaller workshops throughout next year's Festival," explained Allen

And don't forget the after-parties, hosted by Tantor Media (audiobooks),

Audio Cinema Entertainment and SueMedia Productions, which gave attendees a place to gather at the end of each day and toast their many accomplishments.

WHAT'S ON DECK

To keep the "party" going, The HEAR Now Festival will be presenting another Audio Vaudeville type performance as part of the upcoming Audio Engineering Society (AES) Convention, with help from SueMedia Productions.

This will be an evening of live contemporary audio/radio drama, along with narrative readings in the spirit of celebrating the art of modern sonic storytelling.

Hosted by Bob Kaliban (CBS Mystery Theater) the show will feature performances by Audie Award and Golden Voice-winning narrators Katherine Kellgren, Robin Miles and Barbara Rosenblat, and the award-winning New York based audio drama troupe VoiceScapes Audio Theater.

The performance, which will take

place on Oct. 18 at 8:30 p.m. at the Paley Center for Media, is free to anyone with an AES Conference Pass.

And given the success of the first HEAR Now Festival, NATF is planning events for the next one, June 19–22, 2014, in Kansas City. For more information visit www.hearnowfestival.org or write to hearnowfestival@gmail.com.

Sue Zizza is the owner of SueMedia Productions, a full service audio production company. She is an audio producer, director, writer and sound designer. She also teaches audio arts and sound production at New York University's Kanbar Institute for Film and Television at the Tisch School of the Arts.

PEOPLENEWS

Barix has appointed **Ronni Guggenheim** as CEO, based in Zurich.

Mark Bolke has joined broadcast software provider **RCS** to manage corporate programming sales for the Americas and serve as national software sales manager.

AdsWizz has hired **Don Albert** as president of its North American efforts.

Radio personality **Louie "Manno in the Morning" Manno** and longtime **Hall Communications** Vice President and General Manager **Dan Dubonnet** will be inducted this year into the **Vermont Association of the Broadcasters Hall of Fame**. **Jeff Shapiro**, owner of **Great Eastern Radio**, has been named the VAB Broadcaster of the Year. The 2013 edition of the Distinguished Service awards will be presented to **Ross Sneyd** of Plainfield and **Brian Colamore** of Rutland. **Judy Anderson** of **WJJR(FM)** in Rutland will also receive a VAB Community Service Award for her work in raising money and awareness in the fight against cancer. The VAB's third Community Service Award goes to Morrisville's **WLVB(FM)**.

Clear Channel Communications has added **Michael Kassin** as a special advisor to Clear Channel's chairman. In other news from Clear Channel, **Derrin Woodhouse** has joined Clear Channel Media and Entertainment to take on the position of national entertainment director for national programming platforms.



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World Radio History

Stations Should Prepare for the Worst

Have a station emergency plan in place in case sudden attacks should occur

As I listened to radio reports coming in from the tragedy unfolding at the Washington Navy Yard on Sept. 16, I couldn't help but ponder the significance of yet another senseless, brutal attack on United States soil. The greater the frequency and breadth of attacks, the more we will worry about our safety.

While sudden emergencies certainly affect on-air content, we'll discuss that another time. For now, I'd like concentrate on security in our own radio station workplace.

TALK NOW

Has your local management team discussed and implemented a security emergency plan? Heaven forbid you ever have to use such emergency tactics at work. But with every workplace tragedy reported, your employees will be increasingly anxious for you to deliver a plan.


Again, the odds of your facility being attacked remain low, but who among us doesn't want to feel safe at work? That old adage about finding your perfect



mate can be also ring true as a sad statement of our own vulnerability: All it takes is the one.

I've heard from several friends who have already gone through "shooter in the building" exercises at work. They

learned where to hide, how to improvise a weapon and how to exit a building safely. One told me that he was instructed to exit a building under attack by holding his hands above his head, so the police wouldn't shoot him by accident. That action would never have occurred to me.




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PROMO POWER



Mark Lapidus

agency is vital and smartphones have made it simple and fast. Android and iOS have apps that enable group messaging, so you can send text messages to your entire staff with one click. The trick is setting up a group in advance. While this sounds simple, it will take time to collect everyone's mobile numbers into a database, dump them into the app and then test.

You'll also want more than one manager to have this capability, so you'll need to do the install on several phones. Because employees may change staff positions (or phone numbers), this information does require regular updating.

BUSINESS CONTINUITY

If your station has to be evacuated, what should be broadcast when nobody is in the facility? It's a rare station today that doesn't have an automation system, but this one should be on your checklist so that there's no doubt about what goes on the air during what could be an extended period of time. You may decide

I've heard from several friends who have already gone through 'shooter in the building' exercises at work. They learned where to hide, how to improvise a weapon and how to exit a building safely.

If your corporate headquarters is not sending you an emergency plan to implement, you will have to construct one in-house. Nearly every city has security experts in police departments, FBI offices or military installations that can assist you in preparing a plan localized to your needs.

You've probably worked at stations where it was easier to get into the control room than into your own home, so your first action is to have an assessment done of your building to determine security risks. Who's got keys and passes? Are the key cards or locks changed when employees leave the company? Are there security cameras (with someone monitoring them) posted in your parking lot, garage, lobby and hallways? How do people exit the building and when they do, where should they go and who should they contact to let everyone know they are safe?

Communication during any emer-

to simulcast another radio or TV station in an emergency (with pre-permission).

Does your staff know who to call after they've called 911? Seems like everybody should have the boss's mobile phone in his or her contacts list, but if they don't call him regularly, the average employee may not know the number after leaving the facility.

These suggestions are not intended as a complete blueprint for your emergency plan. I submit them to you merely to get the process started. The cynical among us will no doubt comment about how ridiculous it is for us to worry about such detail for any given business that is unlikely ever to be attacked. I don't know about you, but when I'm the manager, I want my staff to feel safe and prepared so they can concentrate on being top performers.

Mark Lapidus is president of Lapidus Media. Email him at marklapidus@verizon.net.



TO SAY THIS AUDIO PROCESSOR MULTITASKS
 WOULD BE AN UNDERSTATEMENT



Curt's Gyraf Audio G7 Tube Mic

Our intrepid engineer decides to build a fancy, high-end microphone

DIYPROJECT

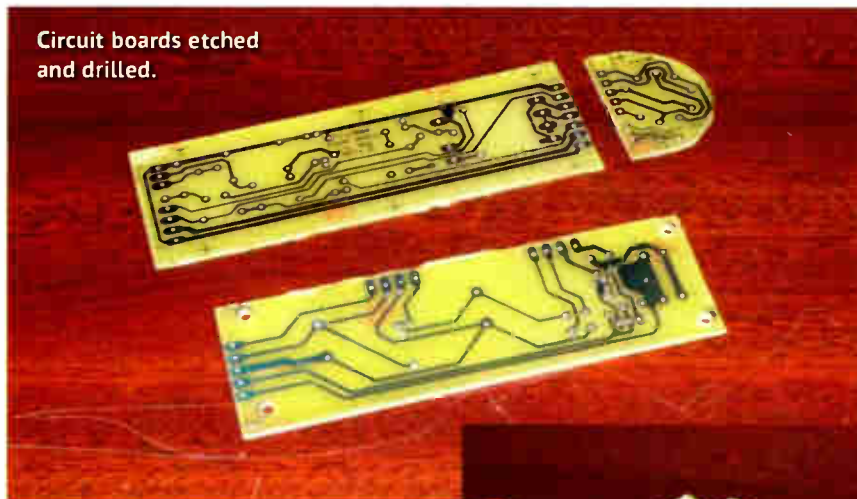
BY CURT YENGST

Audio engineers the world over appreciate the sound of vintage tube microphones like the Neumann U 47 or the AKG C12, but the cost can easily run to several thousand dollars, leaving them beyond the reach of all but the biggest studios (or well-heeled dilettantes). What if I were to tell you that, for under \$600 — and with a bit of labor — you could enjoy a taste of that vintage sound?

Aarhus, Denmark, is home to Gyraf Audio, a small boutique audio manufacturer specializing in tube preamps and other processors. Their website, www.gyraf.dk, features a DIY section showcasing several projects, some based on products they produce. They don't provide kits, but each project includes schematics, parts lists and PCB layouts. One such project is the G7 Tube Microphone. I recently took on this project, and here I share my experience and the extremely gratifying results.

DANISH MODERN

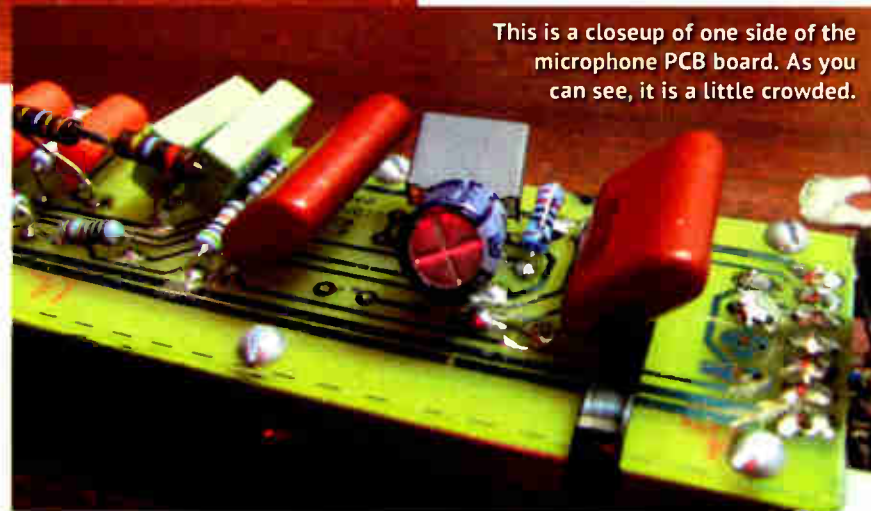
According to Gyraf's Jakob Erland, the mic's designer, the G7 inspired by the Neumann U 47 and U 67. It is a multipattern mic, capable of omni, cardioid and figure 8 patterns. It uses a Peluso Labs CEK-12 capsule, modeled after the AKG CK12 large-diaphragm capsule, the same used in AKG's C414 and the legendary C12. The tube is an EF86 pentode, and the audio output is transformer-balanced.



Circuit boards etched and drilled.

To start, I had to etch three small circuit boards; one for the power supply, one for the mic circuit and one for the tube socket, which mounts to the mic PCB. I used MG Chemicals' (www.mgchemicals.com) positive presensitized process with a 4-by-6-inch board. I went through a few very tiny bits drilling the holes. Fortunately, the local hobby store sold them in packs of six.

Sourcing the parts, most came from Mouser Electronics (www.mouser.com), with a few from Newark Electronics (www.newark.com) and Allied Electronics (www.alliedelec.com). The capsule and its mounting saddle were purchased from Front End Audio (www.frontendaudio.com), and the Russian-made Electro-Harmonix EF86 tube and the socket were found at The Tube Depot (www.tubedepot.com). One important detail about populating the mic PCB — all components except for the tube and



This is a closeup of one side of the microphone PCB board. As you can see, it is a little crowded.

transformer are mounted on the trace side of the board. This was a bit confusing at first and made soldering a bit of a challenge as the board became more crowded.

The audio transformer is a Lundahl LL1538, available from K&K Audio (www.kandkaudio.com). The mic PCB can accept this transformer directly.

cutting two "windows" into the sides of the pipe, about one centimeter from one end, with about one centimeter of metal left on each side. This is where my Dremel tool got a workout. Once I successfully cut the openings, I measured about 9-1/2 inches down from that end of the pipe and cut it off with a pipe cut-

(continued on page 24)



Success! The mic head's windows are cut out.

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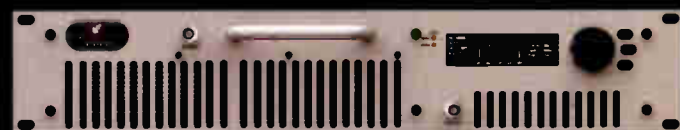
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G7*(continued from page 22)*

ter. I did it in this order so if I botched the "window" cutting, I could just trim off the mistake and start over.

Then I had to make the chassis that would fit inside the body and support the PCB, tube and capsule. This was created using a pair of 2-inch fender washers and a length of 1/4-inch square aluminum bar stock from Home Depot. It was all held together using small 90-degree brackets, screws and nuts. The bottom washer was drilled out to accept the XLR-7 jack for the mic output and power input. The edge of each washer had to be ground slightly to allow it to fit snugly inside the pipe. On the top washer, a small metal bar with two rubber grommets provided a mount for the capsule saddle.

The grille of the microphone was made from a piece of brass mesh. In my case, my father happened to have a small roll of fine brass mesh given to him by a guy



The mic body's main metal body materials are pictured.



The mic PCB with the Lundahl transformer installed.



The mic PCB with the cheaper OEP transformer attached with tie.

who used to work for Mack Truck. They used it to make fuel filters. A company called McMaster-Carr (www.mcmaster.com) sells brass mesh of varying sizes in small quantities.

A Hammond 1411Q, 7-by-5-by-3-inch box would house the power supply. It needed to be drilled out for two XLR jacks, a couple switches and a power cord.

In order to keep the cost down, and make parts easier to source, the power supply was designed using two inexpensive toroidal transformers rather than a bulkier, multiwinding transformer that is often found in tube gear. A tube power supply has to provide a low-current/high-voltage rail for the tube plate, and a low-voltage/high-current rail for the filament. In this case, the low voltage is obtained from the 9V secondary on one transformer. For the high voltage, the second transformer is actually wired "backwards," connecting its 15V secondary to the secondary of the first transformer, thus getting about 140VAC on its primary (which is now its secondary).

Finally, the cable from the mic to the power supply was made using a length of 10-conductor cable. Only

seven wires are actually needed, so I just cut off the unused wires.

THAT SINKING FEELING

Once it all was assembled, it was time for the smoke test. I tested the power supply first, without the mic attached. The three polar patterns are created by sending different voltages to the capsule — 0VDC for omni, 80VDC for cardioid and 160VDC for figure 8. With all voltages looking healthy, and no shorts, it was time to test the mic itself. It's recommended to test the mic with the chassis inserted into the body with the grille in place, since it provides electrical shielding as well as physical protection.

You can imagine the sinking feeling when I heard nothing. After checking voltages at several key points and checking components, I discovered the problem. A lead on one of the capacitors on the trace side of the mic PCB was poking through and touching the shield can of the OEP transformer.

It worked like a charm and was very quiet (the good

(continued on page 26)

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Element modules are machined aluminum with wear-resistant Lexan inserts for long life. We've even designed custom-molded guides to prevent tears around the fader slot. No "ouchies" here.

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Some console makers give you "switched meters" to save costs. iQ does away with that annoyance: high-rez OLED displays meter all 4 buses at once.

A low price shouldn't mean "cheap".

Other companies cut corners on their low-cost consoles. Axia packs in as much as possible. Real conductive-plastic faders, machined-aluminum work surfaces, anodized rub-proof markings, aircraft-grade switches. At a price less than some analog "bargain" consoles.

Rack 'em up.

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Unlike those other guys' small consoles, DESQ has an event timer and an NTP-capable clock — built-in, not extra-cost. Because time is money (pardon our pun!).

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World Radio History

G7

(continued from page 24)

kind of quiet, not the "I can't hear anything!" kind). Using the Lundahl transformer made it sound even better.

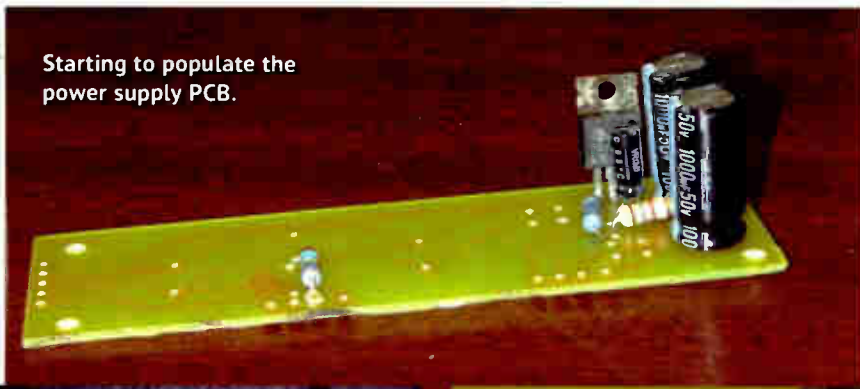
The only other hurdle was building a suitable shockmount for it. Most are too small to accommodate such a wide, heavy microphone. I ended up making my own out of some 1/8-inch flat bar stock and nylon tie-wraps. As a finishing touch, I used inkjet printable water-slide decals to apply graphics to the power supply and a nice logo to the mic body, followed by a few coats of clear lacquer to hold the decals and protect the metal from tarnishing.

I've used this mic with excellent results on several projects. It's become one of my go-to mics for lead vocal tracks. I loaned it to a friend who does VO work, and he wanted me to build him one (until I told him how much my labor would cost!).

As far as labor goes, it was a labor of love. It was very satisfying watching it come together over several months, solving problems of fabrication, hunting down parts and even chasing my tail a little in troubleshooting. I gained an intimate knowledge of how it works and what it can be made to do, as well as some new skills and some improvement in old skills.

Should you feel brave enough to undertake this project yourself, the plans, schematics, design notes and layouts are available at www.gyraf.dk/gy_pdlg7gic.htm. I've posted my own parts list at www.radioworld.com/links under the Oct. 9 issue. For construction and trou-

Starting to populate the power supply PCB.



The guts of the power supply inside the box.



The finished power supply.



The completed G7 microphone with the tube/transducer side of the mic board PCB (left) and the back of the mic board PCB facing the viewer (right).



The finished products, all assembled.

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- www.frontendaudio.com
- www.mcmaster.com
- www.tubedepot.com
- www.kandkaudio.com
- www.groupdiy.com

leshooting help, www.groupdiy.com is an indispensable resource. Jakob Erland is a regular there. He and others provided tons of useful hints.

Curt Yengst, CSRE, wrote about the Plugin Alliance in the Sept. 11 issue. He is assistant engineer at WAWZ(FM), Star 99.1, in Zarephath, N.J.

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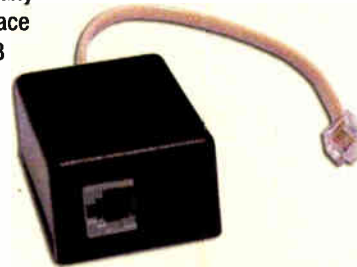
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Looking for a broadcast excerpt of a San Francisco Giant's taped off of KSFO radio from 1959, interviews with Willie Mays, Dusty Rhodes & some play by play excerpts, also features a homerun by Willie Mays and Felipe Alou stealing second base, running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

Looking for KFRC signoff radio broadcast from 1930 Andy Potter, running time is

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

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How We Sound to the World

U.S. international broadcasting needs new vision and better management

COMMENTARY

BY ANN NOONAN

Ann Noonan is executive director of the Committee for U.S. International Broadcasting.

We all know that there are many parts of the world where people continue to beg for words — words about the current state of affairs, words about respect for human rights, words about the gift of hope. People are hungry for freedom of expression and for unbiased information. People everywhere want access to uncensored news, and they themselves want to be heard.

There's also a strong global drive, especially among younger and more educated citizens, to move the message of human rights from words to deeds. That drive is equally strongly resisted by various governments, which fear that words can lead to successful actions in support of freedom and democracy.

At the same time, large numbers of people abroad support ideas that most Americans would find troubling. We cannot pretend otherwise and be indifferent to these issues. America's security and economic prosperity depend on how its own message and its image are presented abroad, and whether U.S. international broadcasting can deliver

credible news and opinions to those who need them most, especially in countries without media freedom and among people who are suspicious of America's intentions and who have doubts about democracy.

MANAGERIAL CRISIS

The free flow of information is a cornerstone of democracy and human rights. That is why American taxpayers have supported the different missions of the Voice of America, Radio Free Europe/Radio Liberty, Radio and TV Martí, Radio Free Asia and the Middle East Broadcasting Network (Radio Sawa and Alhurra TV). Each one of these taxpayer-funded media entities with a goal of serving foreign audiences is an important national asset that needs to be protected and supported.

Ultimately, this kind of radio programming is one of America's best and least costly investments in national security. U.S. international broadcasting can save American lives. It is tragic that it has fallen into a state of deep managerial crisis.

In an effort to bring U.S. international broadcasting out of this crisis, the Committee for U.S. International Broadcasting was pleased to meet in New York with Jeff Shell, then presi-



Ann Noonan

dent of NBC Universal International, during his first full business day as the Broadcasting Board of Governors chair. (He subsequently has been promoted to president of Universal Filmed Entertainment.)

This meeting gave hope to CUSIB that the lines of communication are again open and that taxpayers will be able to make sure that America is making

wise choices in its international media outreach. We were also encouraged by Mr. Shell's subsequent statements about how the best way to showcase freedom and democracy is through free media.

During his meeting with CUSIB, Mr. Shell heard firsthand accounts about how Iran's democracy-seeking youth rely upon accurate information from the U.S. to be shared with them on their smartphones. He heard about the importance of radio broadcasts to Tibet, where the number of self-immolations continues to rise as a desperate attempt to bring awareness of the plight of the Tibetans. He met with a CUSIB member who spent five years in Laogai, China's archipelago of forced labor camps, because of her support for democracy.

Further, Shell listened to another CUSIB member discuss Cuba, the great lengths Cuban dissidents will go to in order to get information, and the risks they face just to make sure their plight is known. Afterwards, one CUSIB member stated: "I trust that Mr. Shell left this meeting deeply impressed with the weight of his responsibility." CUSIB also looks forward to meeting with Ambassador Crocker and Matthew Armstrong, the two other new BBG members. CUSIB also intends to meet with Kenneth Weinstein, who has most recently been confirmed by the Senate to serve on the BBG.

SEEK NEW VISION

CUSIB works hard to protect journalists in nations where media freedom does not exist. Our members are all volunteers. This assures that we are beholden to no one. We are also non-partisan. We were honored to welcome former BBG member Ambassador Victor Ashe to CUSIB's board, and we have had useful exchanges with two outstanding BBG members, Susan McCue and Michael Meehan, who together with Victor Ashe had made strong initial progress to re-establish public oversight and control over the government bureaucracy that has made U.S. international broadcasting nearly "defunct" and "dysfunctional," to use former Secretary of State Hillary Clinton's words.

Our NGO makes no efforts to impact the particular content of news stories transmitted by the Broadcasting Board of Governors, but we do make every

(continued on page 30)

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NOONAN*(continued from page 29)*

effort to support the journalists who report about human rights and other issues. We want to be sure that they are treated properly by the management and have sufficient resources to do their important jobs.

We are one of the few organizations in the U.S. that specifically cares about and supports U.S. international broadcasting, and we believe that a new strategic vision needs to be articulated for it.

Neither CUSIB nor American taxpayers want the BBG to tailor its program content to become a commercial success, which seems to be the direction the bureaucracy has taken the BBG — but failed to deliver even on these faulty goals. That is not why U.S. international broadcasting was created by Congress.

We expect the BBG to specialize in reporting news and opinions that audiences abroad cannot get from other sources, particularly their own media, and to report and deliver such news and opinions to people in places like Cuba, Iran, Russia and China. CUSIB is seriously concerned that this strategic vision has been compromised by years of neglect and wrong choices by the central Washington administration, which has little connection to foreign audiences.

We have seen the weakening of news reporting and the loss of specialization by various BBG entities as a result of mandates imposed on them from above. We have seen also-important language services and their programs being eliminated or proposed for elimination while the central administration continued to grow.

Officials now propose even more centralization and more central planning. These proposals must be resisted.

USE ALL MEANS

Contrary to promises made by the BBG, elimination of broadcasts and reduced original news reporting have not resulted in greater audience engagement through social media.

This is particularly evident at the Voice of America, which has fallen far behind BBC, Al Jazeera and Russia Today in every measurable category. Because of our particular concerns with underserved, poor and repressed audiences, we are committed to the use of all means of reaching them, not just through the Internet, but also relying on short-wave radio broadcasts where they are still needed, direct-to-home satellite television and other creative technologies.

We believe that individual BBG entities are in the best position to decide what mix of new and traditional media works best for their audiences in various countries. We believe strongly in the primacy of the news and delivering the news through multiple media. We see

radio and television news journalism not as obstacles to progress but as important contributors of multimedia content.

The merging of traditional and new media has been one of the IBB bureaucracy's biggest failures. This problem must be addressed by the new board as soon as possible.

Nobel Peace Prize recipient Aung San Suu Kyi underscored the importance of VOA and RFA radio for freedom advocates in oppressed nations, including her homeland of Burma, during a visit to the BBG office in Washington on Sept. 18 last year.

Blind Chinese human rights advocate Chen Guangcheng also publicly expressed his appreciation of the value of radio broadcasting to China. Radio can be the lifeline for poor people in many places in the world who do not have television or Internet access. Radio is cheap, and unlike those who use computers, radio listeners cannot be monitored. We hope that Mr. Shell and the BBG board will work to strengthen both radio and television broadcasting as important news generating assets of a multimedia expansion strategy.

CUSIB believes that the BBG is not designed to run as a business. It is not expected to provide soft news and entertainment to achieve maximum ratings or to appease repressive governments. It requires good management and public oversight.

This concern was highlighted this past June by Rep. Ted Deutch (D-Fla.) at a House Foreign Affairs Committee hearing when he asked, "What has to happen so that [the BBG] actually behaves like a news network so that the Iranian people can get good, can get clear, real news from this outlet?"

EMPLOYEE MORALE

CUSIB will support any effort by Mr. Shell and other BBG board members to change the management culture at the International Broadcasting Bureau and the Voice of America, to improve employee morale, and to make news reporting a priority.

Attacks on free expression, intimidation of employees, illegal firings, refusals to answer questions from journalists and attacks on journalists by government executives in charge of managing the agency must be stopped. It is the first step to reforming U.S. international broadcasting.

CUSIB appreciates the importance of both Voice of America and surrogate broadcasting and hopes that under Mr. Shell's tenure, their roles will be supported. CUSIB does not accept the myth that these different missions duplicate each other. VOA Cantonese, Mandarin and Tibetan services provide news and opinions from the United States as mandated by the U.S. Congress in the Voice

of America Charter.

Radio Free Asia has a separate congressional mandate and does tremendous work with local journalists. Voice of America's identity and success abroad are tied to being identified with the United States. VOA cannot be a successful surrogate broadcaster, just as RFA cannot be a successful representative for all of America.

Unlike many of the European nations, the U.S. does not have a tradition of government-supported domestic media. Such a concept is alien to most Americans. NPR and PBS get only a small fraction of their funding directly from Congress.

Our constitution specifically says that the government shall not restrict free media. The concept of domestic government media repels a lot of Americans. We saw it with the harmful and unnecessary media controversy over the Smith-Mundt Modernization Act, around which the BBG's executive staff did not predict the fallout and as a result had no plan to deal with it. It is one of the many examples of the agency being badly led at the bureaucratic level.

It seems to us that all too often, the Washington-centered bureaucracy cares little about specific audiences abroad and even fails to understand American politics. It is highly unlikely that U.S. international broadcasting would ever emerge as another global, "BBC-like" public media outlet serving both the U.S. and audiences abroad, with American taxpayers gladly paying for it with their tax money.

Americans are generous and humanitarian-minded people willing to support a well-defined and targeted U.S. international broadcasting mission abroad that has a strong media freedom and human rights purpose. CUSIB hopes that the new BBG board will work to advance such a mission under the leadership of its Chairman Shell.

We may not agree on everything, but we fully share his statement that the BBG "has a lot of very good people who work for this organization." We must not let them down. We owe it to them and to the American taxpayers to support highly-specialized U.S. media outlets, which international audiences will turn to as sources of needed and trusted news and opinions.

We live in a troubled and often dangerous world where freedom of the press is still rare and attacks on freedom all too common. The mission of U.S. international broadcasting is indeed to show freedom and democracy at work through courageous and unbiased journalism.

CUSIB describes itself as a non-partisan, nongovernmental organization working to strengthen free flow of uncensored news from the United States to countries with restricted and developing media environments.

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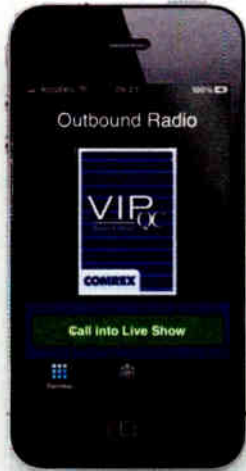
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