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“We Are the Heartbeat of the Town”

Indiana’s Giant 96 is a radio station that aims to make a big difference



The station has hosted the local Cornstock festival/benefit on several occasions.

STATION PROFILE

BY DONNA L. HALPER

One in a series of profiles of successful stations in all market sizes.

It was 1 a.m. on a Friday in January, but Tyson Conrady, program director of “Giant 96: Real Radio” in Shelbyville, Ind., was wide awake, out covering a news

story for the station’s morning newscast.

It’s typical of how he sees his job. Like others on the staff, he handles a variety of duties: He is not only the afternoon drive announcer, but he also does production and engineering; and he reports on breaking news, whenever and wherever it occurs.

“People come to us for local news,” he said. “People trust us. They may also listen to the Indianapolis stations, but they know us, and they know we can give them [the information] they need.”

Giant 96 is about 30 miles from Indianapolis, market No. 38, and the station is within Nielsen’s Indianapolis metro. But the station does not pay much attention to what’s going on in the Indianapolis market. Like other successful small-market stations, Giant 96 has found a formula that works for it, seeking to be hyper-local and super-serving its community by covering local news and local sports; telling the audience about openings of new stores; providing important information for farmers; and broadcasting from local festivals and fairs in and around Shelby County. (“We can go live from just about anywhere,” Conrady says. “We use a refurbished Marti. It’s ‘Old Reliable.’”)

SMALL, DEDICATED TEAM

The station began in 1961 as a directional AM daytimer with call letters WSVL and the slogan “The Giant of the Blue River Valley.” Today, WSVX(AM),

(continued on page 8)

Delilah Thrives on Instant Connection

NAB celebrates syndicated personality with Hall of Fame induction in April



NABSHOW

BY SUSAN ASHWORTH

From a very early age, Delilah has had a lot to say. And for more than 30 years, radio has been her ideal place to share it.

It is that gift of conversation — coupled with her honest take on relationships, her open personality and her ongoing contributions to the radio industry — that leads the syndicated radio

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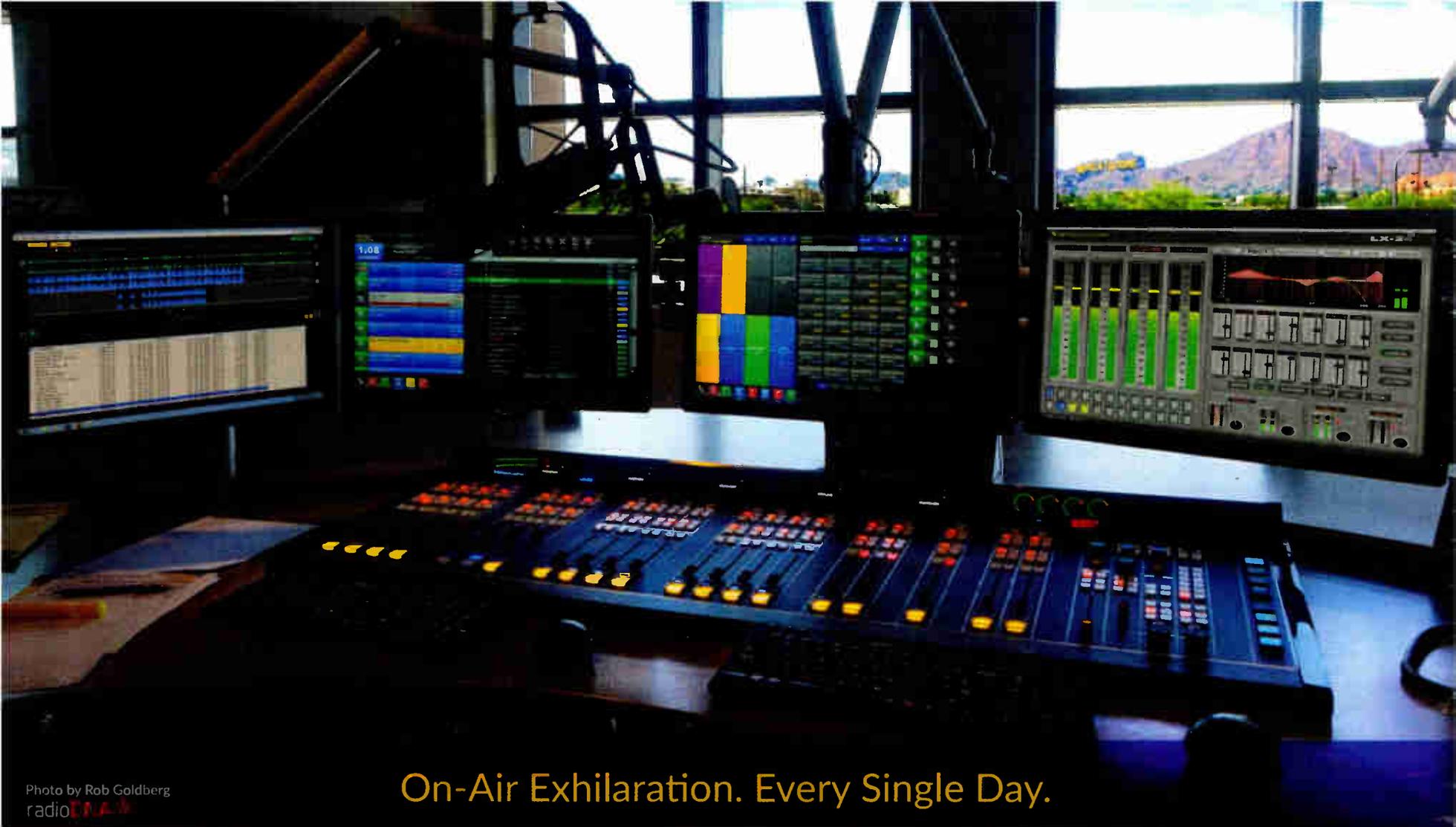


Photo by Rob Goldberg
radioDNA

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Pai: Radio Is Social, Local, Mobile and Vital

"Under my chairmanship, radio won't be neglected"

In one of his first appearances as chairman of the FCC in February, Ajit Pai delivered a ringing endorsement of radio as a "social, local, mobile and vital" medium even in the face of an explosion in other high-tech options. Here are excerpts of his remarks at the North American Broadcasters Association's Future of Radio and Audio Symposium in Washington.

In the midst of this high-tech revolution, where the Internet and mobile have seemingly changed everything, broadcast radio continues to thrive. ...

So what's behind radio's enduring appeal? Why does radio continue to matter so much today? One of the best explanations I've heard comes from an unlikely place: Silicon Valley. A few years ago, legendary venture capitalist John Doerr suggested that the future of digital media is being defined by the convergence of

town of Parsons, Kan. ...

Third, radio is mobile. A big part of radio's appeal over the years is that you can enjoy it wherever you are — at home, in the car, at the office, or on a walk. As consumers increasingly expect to access their favorite content whenever they want, wherever they want, the fact that radio is a mobile medium becomes an increasingly important strength. And it's not just listening on the car radio. Radio stations are leveraging new technologies to connect with listeners. These days, I often use TuneIn's mobile app to tune in to my hometown KLKC. With two young children and a job that keeps me pretty busy, being able to listen to local programming on-the-go has been a godsend.

I'd also like to highlight a fourth fundamental strength: radio is vital. When disaster strikes, often knocking out cell networks and Internet service, over-the-air radio is a lifeline, providing

"When it comes to fighting for a vibrant broadcasting industry, I take a back seat to no one at the FCC."

three forces: social, local, and mobile. He argued that whoever can harness these three forces would be best positioned to succeed in the digital future.

Now, when you think about social ... local ... mobile, that's radio! Here's what I mean.

First, radio is social. Tom Poleman of iHeartMedia once said, "Radio is the original social medium ... the beacon for communities." I agree with this. We all have an innate desire for human connection, and there is something incredibly intimate about the relationship between a talented on-air personality and his or her audience. And while each audience member experiences that connection personally, it also becomes a shared experience within the community, as any so-called "Little" who followed Tony Kornheiser's radio show knows well. Moreover, radio provides a forum for robust discussion and debate. ...

Next, radio is local. Good radio broadcasters know better than most the communities they serve. They've always delivered local news, local sports, local weather and local politics. I have seen this firsthand in my travels across the country, from KZPA in Fort Yukon, Alaska to KDKA in Pittsburgh, Pa. And I experienced it myself growing up in the small

the latest weather forecasts or directions on where to seek shelter or relief assistance. After hurricanes or tornadoes or fires or floods, time and again, we see an exponential surge in radio audiences.

So: social, local, mobile and vital. Those are the reasons *why* I believe radio can thrive in the future.

"CLEAR SUCCESS"

Let me talk a bit about *what* we can do to promote the vitality of radio. ...

When you are a minority commissioner, some ideas you propose catch fire, while others fizzle. But revitalizing AM radio resonated. Thanks to the support of countless people throughout our country who made their voices heard at the FCC, we finally made it happen. After a lot of hard work, the commission unanimously adopted an initial set of AM radio reforms in late 2015.

And the response in the marketplace to our reforms has been tremendous. Last year, for example, the FCC gave AM stations more latitude to move an FM translator purchased in the secondary market. And as a result, over 1,000 AM stations have already obtained FM translators to grow their audience. That's more than 20 percent of AM stations in the United States. ...



Source: NAB

Our efforts have been a clear success, but we've also heard from broadcasters that the FCC's rules can make finding a location for these translators unnecessarily challenging. That's why we've proposed a new reform that my fellow commissioners and I will vote on next week. This measure would give AM stations greater flexibility in siting their translators. It's a small step that would be a big help to AM broadcasters. [It subsequently passed. — Ed.]

This year, we also plan to open two new windows in which AM stations that still don't have an FM translator can apply directly to the FCC to get one authorized. And we'll keep working on ways to improve signal quality on the AM band and reduce AM broadcasters' operating costs. ...

FM CHIPS

That brings me to the issue of FM chips in smartphones.

Simply put, the world is going wireless. And if you're in the content business, you need to be exploring every way possible to make your content available on people's smartphones. ...

As you know, the vast majority of smartphones sold in the United States do, in fact, contain FM chips. The problem is that most of them aren't activated. As of last fall, only about 44 percent of the top-selling smartphones in the United States have activated FM chips, and the percentage is lower in Canada. By comparison, in Mexico that number is about 80 percent. So it's not just that the United States and Canada could be doing better. We could be doing a lot better.

It seems odd that every day we hear about a new smartphone app that lets you do something innovative, yet these modern-day mobile miracles don't enable a key function offered by a 1982 Sony Walkman.

You could make a case for activating chips on public safety grounds alone. ... Moreover, most consumers would love to access some of their favorite content over-the-air, while using one-sixth of the battery life and less data. As more and more Americans use activated FM chips in their smartphones, consumer demand

(continued on page 6)

DELILAH

(continued from page 1)

personality to the doors of the NAB Broadcasting Hall of Fame. The National Association of Broadcasters will induct Delilah Rene at its Radio Luncheon on April 25 in Las Vegas.

EIGHTH GRADE

She was studying for a career as a doctor and working part-time at a local station when she had her “ah-ha” moment, discovering the delight and sense of community to be found in radio. Why, she wondered, was she putting in backbreaking hours at school when the career she really wanted was in front of her?

But she actually first became interested in broadcasting when two radio execs came to judge a middle school speech contest and found, hey, here was a girl who really, really liked to talk.

Jerome and Steve Kenagy, owners of KDUN(AM), along with engineer Wes Lockard gave Delilah the opportunity to share school news and sports reports on the Reedsport, Ore., station.

“My mom started to apologize on my behalf [after the speech contest], saying ‘We try to get her to be quiet.’” Delilah said with a laugh, “but they said ‘Wait, this is a good thing.’ They taught me how to do school news and sports, how to sell commercials and how to get my first class broadcast license.” At the time, she was the youngest person in the state of Oregon to earn that license.

In 1996, her syndication career took off. Mike McVay was consulting with WVOR(FM) in Rochester, where Delilah was working at the time and where Ken Spitzer



The syndicated host, who lives near Seattle, is also an animal lover; she owns six horses.

was general manager. They found three more stations to air her program, including WSSH(FM) in Pittsburgh and KSNE(FM) in Las Vegas. A year later, she and her team had landed 12 affiliates and sold the distribution rights to Broadcast Programming in Seattle.

Since 2004, the program has been owned by her

company Big Shoes Productions and distributed by Premiere Networks, part of iHeartMedia.

“SIGNIFICANT” VOICE

From the beginning, radio sparked a passion in her that she couldn’t find anywhere else: a sense of community, a sense of connection, a medium that would allow her to spread her gospel of self-respect and acceptance.

“Radio is what I love,” she told Radio World. “It is fulfilling. There is an immediate feedback when working in radio; you don’t have to jump through a thousand hoops — you turn on the microphone and talk to people. There’s that instant connection.

“I love the fact that it’s very transparent. I’m the same person on the air and off the air.”

The honest and genuine nature in which Delilah conducts herself at home and on the air may explain her ongoing popularity. Her adult contemporary radio show audience is 8.3 million Americans each week on 155 stations across the country and on the Armed Forces Network around the world. That has made her the most-listened-to-woman on radio in the United States, according to the NAB.

NAB Executive Vice President of Radio John David has described her as “one of the most significant voices in American radio,” a status sometimes that brings unusual attention.

She received headlines last year when her show was the focus of a 2016 Bloomberg BusinessWeek story about the perceived impact of the Portable People Meter ratings system on format data and programming decisions. Bloomberg reported that she’d lost more than 50 affiliates from a peak of 225 eight years before, and it

Upgrade Your ARC-16 Fast!

From: Joshua Smith
To: Matt Leland <matt@burk.com>
Subject: My Burk ARC-16 to ARC Plus Touch transition experience

Matt,

I found my transition from the ARC-16 to the ARC Plus Touch remarkably simple, helped along greatly by the Plus-X Dual IP8 Adaptors which allowed me to re-utilize all my existing wiring. Configuring the equipment took very little time, a marked improvement from struggling with serial ports.

The fact that all the equipment communicates over an IP network is so convenient and easy to deal with. That also really helps with management as I can hop on AutoPilot using my laptop on the office network rather than having to plug in directly.

I like that macros and calendars can be stored directly on the ARC Plus Touch. This is very helpful for procedures such as AM power change, as macros function without a computer. A computer failure won't leave my AM blasting all night!

I've been a big fan of Burk for a long time and the ARC Plus Touch is a worthy successor to the venerable ARC-16.

Joshua C Smith - CBT, CBRE, CEA, CBNT
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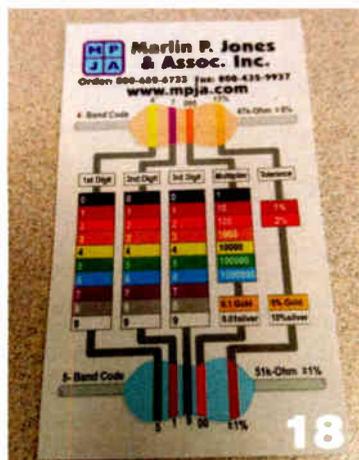
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NEWS

quoted her putting the blame on unintended consequences of the PPM: "It's destroying radio in general, and especially shows that don't play for the meter."

But she carries on, always with her trademark warmth and strong enthusiasm for the radio industry.

REAL RELATIONSHIPS

Delilah, 57, uses two studios, one in the basement (not the barn) of her century-old farmhouse and another in West Seattle, equally equipped to create her nighttime program. Premiere Networks built the studios for her.

She revels in her work because of the instant connection she makes with listeners via a medium she calls the most vital, alive, wonderful in the world.

"It's the most-listened-to medium — it always has been, always will be. With all the technological advances and all the changes we've seen ... nothing else even comes close.

"People can connect with you," she said. "There's nothing more important than real relationships. And so I talk about my life and reflect that back to my listeners."

What attracts listeners to her program is trust, she believes.

"I made a promise to my listeners that this show is not about politics, it's not about beating you up; they know they're being respected and honored."

In return, listeners share stories that dovetail with milestones in Delilah's own life: The reality of living in foster care. The pain of dissolved marriage. The desire to connect.

"I'm not there to take a moral stand," she said. "It would be much easier to do it the other way, and go for the ratings. If

you could hear some of the calls I take, it would be easier to mock someone and turn it into huge joke." But that's not Delilah's way.

Her delicacy when it comes to handling raw emotions with openness has affected her own career track as well. She attributes her success partly to a knock-down-but-get-back-up mentality, alluding to an incident of harassment at a radio station earlier in her career that might have sent some running out the studio door.

"I took a breath and got back my feet," she said. "In radio you're only as good as your last [ratings] book; you don't have the luxury of leaving and coming back to it."

She's stayed with the medium because of the daily calls and life-changing experiences that have come from working on the air.

"Just yesterday I got an email from a man in prison who said my program has helped keep him sane," she said. "He paid the price [for his mistakes] with four years in prison, has since reconciled with his family, and said 'Your program has kept me sane.' When you get a confirmation like that, I know I'm in the right place every night ... There's no way you can get that [immediacy] on TV!"

GRAVING GOOD CONTENT

What does she see when she looks ahead to radio's future? Whatever changes do come, in terms of delivery systems or new technology, the key remains delivering good content.

"People still crave good content. In my mind, it doesn't matter how that is being delivered," she said.

What she'd like to see change, how-



At WVBF(FM) Boston in the early 1990s with John Davidson.

ever, is radio's approach to recruitment.

"I'd love to see radio leadership find a way for young talent to develop their skills," she said. "One of the things that's happened with consolidation and syndication is we no longer have weekend slots [for young people] to develop their talent. I'd love to see radio leaders take that on."

Where to look? To high school and college. "We need to go into high schools and colleges and find those kids that are quirky, that have passionate insights, that have the gift of being able to connect with listeners."

Her on-air goal every evening is the same: To reach those who need it. "If that's one person, great. If it's 100 people or if it's 8.5 million, fabulous," she said. "When you finish interacting with me, when our conversation comes to a close, I want you to feel enriched. I want to be in the addition column, not the subtraction column. To add wisdom and add insight."

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Wheatstone Brings Back the PR&E Brand

Manufacturer acquires former console competitor; GatesAir focuses on "transport and transmit"

BY PAUL McLANE

Expect to see PR&E-branded equipment at the NAB Show, with more new consoles planned that will bear the familiar name.

Wheatstone Corp. seeks to revive one of radio's more recognizable console brands after acquiring the assets and intellectual property of Pacific Research & Engineering from GatesAir. "Our intention is to not only restore the PR&E brand, but to grow it and give existing as well as new customers the mobility to easily transition to IP networking," Wheatstone President/CEO Gary Snow said.

GatesAir, the former Harris Broadcast, had owned PR&E since 1999 and lately marketed the products under its own branding. The purchase included audio consoles, a PR&E networking system, its furniture lines and "all designs, trademarks, engineering files and tooling, effectively restoring the PR&E console brand under the Wheatstone umbrella."

Terms were not announced. A week later Wheatstone named SCMS as the exclusive U.S. distributor for PR&E, a role it had played for GatesAir.

TIMELINE

Pacific Research & Engineering, once called Pacific Recorders, was founded in southern California in 1969 by Jack Williams; for years it was known for its consoles, turnkey high-end studio installations and cart machines.

In 1999 Harris Corp. acquired PR&E, which by then was publicly held and financially challenged, in a deal that valued PR&E at about \$9.5 million, including assumption of debt, according to RW reporting. That moved Harris into audio console and networked audio manufacturing and, for a while, gave it a West Coast base of operations. (The Gores Group later acquired Harris Broadcast in 2013 and subsequently split it into siblings called GatesAir and Imagine Communications.)

PR&E has been operated in recent years out of GatesAir facilities in Quincy, Ill., and Mason, Ohio. Wheatstone has moved the assets to its headquarters in New Bern, N.C.

Snow said that at one time, PR&E was "considered the Mercedes Benz of consoles ... and today, the name PR&E still stands for quality." The deal had been in the works since last summer, though the actual negotiations were relatively brief. He said he's had his eye on the line for

some time. "When we started out, PR&E was the number one brand. Auditronics was the [No. 2] brand under them, and we were the newbies." Wheatstone acquired Auditronics in 1999.

Its radio/TV products also include audio processing, Audioarts Engineering consoles and VoxPro software, recently acquired from Audion Labs.

"FEEL THE LOVE"

Non-networked models in the PR&E lineup include Oasis and StereoMixer Digital consoles, Edge devices, headphone distribution and control panels. Networked products include RMX Digital and Netwave consoles and the VistaMax audio management frame. PR&E furniture lines are called QuickLine and SmoothLine.

Snow said current PR&E orders would be filled by Wheatstone. There are some 3,500 PR&E boards installed, he said, including at a number of notable large talk-format radio stations. He said GatesAir had been "keenly concerned" that its PR&E customers continue to receive good support after the acquisition.

Looking ahead, PR&E will be "a standalone product line that's going to feel the love. Consoles is what we do." This includes plans for new consoles eventually. In the shorter term, he noted that Pacific Research consoles are standalone products that can be fitted with a network interface card. "We will be introducing interface cards that will go in in lieu of the current product, and make the consoles WheatNet-IP and AES67-compatible."

This will allow stations who wish to do so to grow an IP network incrementally. Customers, he said, "can upgrade each studio one at a time, placing our Blades in the engineering room and provide a hard interface between the old router and the new router. So a large facility can change out one room at a time, take the card out, put the new card in, use the Cat-5 wire that's there and use it to talk to the WheatNet-IP Blade system."

TRANSPORT AND TRANSMIT

SCMS will be the exclusive U.S. distributor for the Pacific Research & Engineering product line, as announced by Snow and SCMS President Bob Cauthen. This marks a return to a broader relationship between two companies with longtime connections but that also have competed at times.

Southern Coastal Marketing Services was one of the first Wheatstone

dealers. More recently it carried the Pacific line for GatesAir, thus competing in some situations with Wheatstone consoles, though SCMS also has been and remains a non-exclusive dealer of Wheatstone's audio processing and Audioarts console lines. "It's a good



feeling to be back as a full member of the Wheatstone family," Cauthen stated.

Meanwhile, the sale takes GatesAir out of networked audio management. GatesAir Chief Product Officer Rich Redmond, who negotiated the deal with Snow, called the move "an opportunity to create some focus" for his company.

"The thing we've always done best is building the best radio and TV transmitters. ... We're really in the transport and transmit business for radio and TV." Those products, including its Intraplex

PAI

(continued from page 3)

for smartphones with activated FM chips should continue to increase. I'll keep speaking out about the benefits of activating FM chips.

Having said that, as a believer in free markets and the rule of law, I cannot support a government mandate requiring activation of these chips. I don't believe the FCC has the power to issue a mandate like that, and more generally I believe it's best to sort this issue out in the marketplace. ...

That brings me to one last point. When it comes to fighting for a vibrant broadcasting industry, I take a back seat to no one at the FCC. I think Senator Smith and others in the room who have worked with me during my time at the commission will back me up on that. Under my chairmanship, radio won't be neglected. I will work aggressively to cut unnecessary red tape, modernize

line, are not affected.

Redmond described PR&E as "a great product line, and we've tried to be a responsible steward of the brand for a long time. It's important to find someone who was able to take it to the next level."

It was not immediately clear if the move would involve staff reductions or changes. Redmond referred questions to

Wheatstone. McVicker said, "It's important to Wheatstone that we maintain PR&E continuity in sales and product support. Product support is our highest priority, and that means we'll be keenly interested in staffing issues."

Snow said he expected that at least some GatesAir employees would make the move, though details were not set in late February. "We have an agreement with Gates that we're entitled to talk to anyone who has been involved with that product line."

our rules, and give you more flexibility to serve your audiences. Our regulations should reflect the marketplace of today, not the marketplace as it existed 30 or 40 years ago.

That applies to any sector and any company, by the way. I'm a fierce believer in the power of competitive, free markets to maximize consumer welfare. And as FCC chairman, I have no intention of putting my thumb on the scale for any segment of the communications industry. Instead, I see it as my job to ensure a level regulatory playing field. It then falls to American consumers to decide who wins and loses with their ears, their eyeballs, their clicks, and their wallets.

In a competitive marketplace like that, there will no doubt be challenges ahead for broadcast radio. There are more audio choices and business challenges than ever, as you well know. But I'm optimistic that radio will continue to succeed, for you've defied the odds before.

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GIANT 96

(continued from page 1)

owned by 3 Towers Broadcasting Co., is 260 watts non-directional by day with 4 watts at night, but also covers the entire county via an FM translator it acquired in 2008. So now Giant 96 is heard on both 1520 kHz and 96.5 MHz. Conrady believes the station was the first AM in Indiana to obtain an FM translator, a strategy that has since boomed in popularity around the country.

With only four full-time staff members and one part-timer, Giant 96 is able to serve its target audience in Shelby (population 18,000) and Shelby County (40,000). The station has no syndicated programming. While it does use some voice-tracking, it is live and local during most of the broadcast day, and it will readily break away from voice-tracking for an important story. In winter, that means keeping listeners updated about potential weather emergencies like ice storms.

Giant 96 has owners who live in the community and work at the station: Scott Huber is general manager, and Johnny McCrory is the news and sports director.

Huber, 47, was raised in Shelbyville; he worked for the local newspaper and he ran a printing and office supply store before coming to Giant 96 in 2001. McCrory, 45, came to the area after working in college radio in Carbondale, Ill., and at several small-market stations; he joined what was then WOOO in 1998. Two other members of their original business group, Douglas Raab and Todd Glidden, have since died.

Owning a small-market radio station has had its challenges at times, but Giant 96 has surprised a lot of people. Huber remembers their early conversations about buying the AM, which by 2005 was failing, its owners ready to give up on it.

"People thought I was crazy to want to buy it. [The station] was losing money hand over fist. But I didn't want to see it go dark. Back then, nobody thought we'd last two years, let alone 10. But we've more than doubled our revenue from when we bought the station. The economy has had its ups and downs, but our revenue has been very steady."

Huber declined to state the station's revenue but said Giant 96 has been consistently profitable, and he praised area businesses — especially the local hospital, several car dealerships and several banks — that have been consistent advertisers.

Typically, Giant 96 runs between 10 and 12 half-minute spots per hour. Huber says, "There are lots of packages for events like high school sports." The station has found another revenue stream with its website, where online



Penny Lane talks with Paul Gable from Helping Hands for Freedom.



Above: Then-Governor Mike Pence and wife Karen pose with Giant 96's Tyson Conrady shortly before Pence was named as Donald Trump's running mate.

Left: Johnny McCrory interviews a nurse at a local hospital.

ads now generate between 8 and 10 percent of its sales.

Huber sees being in a smaller market as a benefit.

"Small markets perform very well in tough economic times. [Stores] want to bring in customers, and they're looking for people to help them grow their business. [Radio] can help them with that. Because we're in a small market, we can stay ahead of the curve, and react to new trends." Having the translator, he said, helped the station through the hardest part of the recession and also to keep up with an audience moving to FM.

The station is unrated, by choice. "It's not worth it for us," Huber said. But he can sense that the community pays attention to what Giant 96 is doing. "We measure by interactions on social media. We get 70,000 views a month on our web page, and we have about 80,000 followers on Facebook and YouTube ...

We're not just on the air; we can use our website and social media to enhance our on-air product." The station also has a mobile app that allows listeners to hear it anytime from anywhere.

Co-owner Johnny McCrory hosts the morning show and covers local sports, including play-by-play of such key events as the Shelby County basketball tournament and covering Shelbyville High School football. McCrory is also actively involved in the station's day-to-day operation. He's up early to prepare for the morning show, and on many nights, he's working late broadcasting the games. He rewrites the latest news stories so they can be posted to the station's website, and like several others on the staff he sometimes blogs.

While such work keeps him constantly busy, McCrory says he loves every minute of it. He's proud of the station's reputation. "I want people to

hear a station that comes from a small community but doesn't sound like a small [market] station," he says.

On a recent February day, top stories on the station website included a fire at Fairland First United Methodist Church; the death a local restaurant owner; and the hiring of a vice president/agricultural manager at a local bank. The site also featured a section called "Giant 96 TV," which had a number of video interviews with local newsmakers, done by station staff.

MUSIC MIX

The AM airchain includes a Harris Gates One transmitter, Orban processing, EV microphones, Dynamax console and iMediaTouch automation; critical FM components include a Crown

FM300 transmitter, Omnia processor and Jampro antenna. The station's 343-foot tower, located in its backyard, serves both the AM and FM signals.

Giant 96 has a top-40 format and uses MusicMaster to schedule songs. It airs its own unique version of top 40.

"We don't live and die by the [pop] charts," said Conrady. "We try to play the songs that are right for our audience. We know we are competing with Spotify and Pandora, so it's important for us to play the very best songs. We play some local music, and some national hits. We'll even play country if it fits."

The variety of music on the station means mid-day announcer Penny Lane Diersing can play some blues. In fact, she takes her show to Memphis for live coverage of the annual International Blues Challenge. She is also known for her interviews with local and regional

(continued on page 10)

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GIANT 96

(continued from page 8)

musicians, some of whom have played live, acoustic sets on her show.

Whether she is interviewing a musician or talking to a community leader, "I'm always trying to create a connection with the audience," she said. "It's like [they are] sitting on the couch listening to the stories the guests are telling, or listening to musicians playing live." In addition to her air shift, she does some sales, a job with which she is familiar. Prior to working at Giant 96, she sold cars; and she and her husband



Above: Mitch Columbe signs up a listener for a drawing at the Shelby County Fair.

Left: The Giant 96 Real Radio "Action Trailer" is a full broadcast studio.



ran a business that trained people in how to sell.

Working for a small station often means long hours, and everyone at the station acknowledges they could make more money in a larger market; yet the staff express loyalty to Giant 96. Penny

Lane said, "I would never want to work for a corporate station. I have more freedom here."

Huber understands that feeling. "We can't offer huge salaries, but we're very family-oriented. We're there for them when they need us."

And people do stay for long periods of time. "General Sales Manager John Schoentrop has been here off and on for 20 years; and his mom used to work here ... People want to feel like they're a part of something, that they have a say in how the company goes forward."

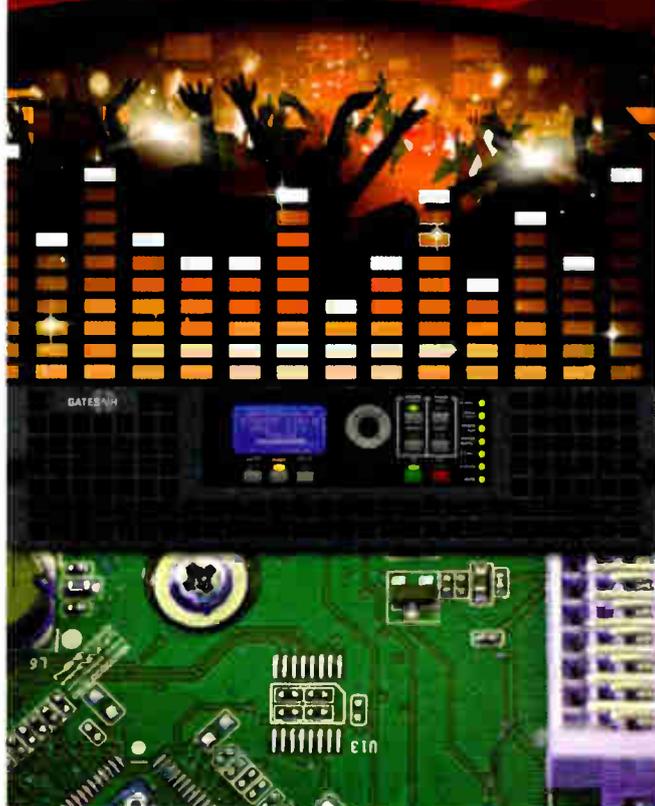
The sense of involvement in the station's future is important to the staff; so is being able to interact with the audience. Tyson Conrady, who would like to work in politics someday, loves Shelby County. "I can walk into a local store and people know me, and I know them."

Terrestrial radio is changing, he acknowledges. "But I think there will continue to be a place for local radio — we are the heartbeat of the town."

Donna Halper profiled WATD(FM) in Marshfield, Mass., in the Jan. 4 issue; read it at radioworld.com/watd.

Got a suggestion for this series? Tell us why you think a station or group is noteworthy as an example of radio success. Email radioworld@nbmedia.com with "Station Profile" in the subject line.

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On-Demand Is in Demand

Radio industry puts a spotlight on podcasting and its potential

NABSHOW

BY JAMES CARELESS

According to Edison Research, 21 percent of Americans aged 12 or older said they had listened to a podcast in the past month during 2016 — up from 12 percent three years before.

This works out to U.S. podcast listening growing by 25 percent annually, a startling trend by anyone's measure. This is why the 2017 NAB Show is putting podcasting in the forefront (see sidebar below) including a session titled "Today in Podcasting: A Radio Station's Guide to Metrics, Reach, Distribution and Monetization."

CONSUMER CONTROL

The explosive growth in podcast listenership reflects the fact that "on-demand is in demand," said Rob McCracken, a director in the E.W. Scripps Company's Digital Solutions Group.

"Today's consumers want control over their listening experience. That means listening to what they want, when they want, on the device that's most convenient to them at the time."

In particular, the younger audience prefers to listen to audio on demand rather than sit passively and let radio stations choose what to play them.

"If you have kids, it's an easy answer: Are they listening to the radio?" said Todd



Rob McCracken:
"Podcasters don't work under the regulations that broadcasters do, and they don't have to adhere to a broadcast clock."



Todd Cochrane: "Audiences are shifting. It is a good idea for radio to start investing in digital, to hedge the changing world we live in."



Cochrane, CEO of the podcasting company RawVoice/Blubrry. "As a radio person you may be forcing it on them, but the youth and millennials have been trained for on-demand with the DVR at

home," he said. "So they listen to content the same way."

These facts compel radio entities like iHeartMedia — which four months ago created a new position called senior vice president of podcasting — to expand offerings to build an audience base among youth and millennials.

"Podcasting offers radio stations the ability to create new content from a known host that will offer additional stickiness for the listeners," said Rob Walch, VP of podcaster relations at the podcast hosting/publishing company Libsyn and moderator of the convention session.

Such "stickiness" gives listeners a reason to download podcasts from radio websites, he said, with the stations reaping the benefits of their page views (for selling online advertising) and providing young listeners with the motivation to tune in to these stations' broadcasts.

PODCAST SPOTLIGHT

The Business of Broadcast program at the NAB Show includes five Podcast Spotlight sessions including the one in the accompanying article. Podcasting also pops up in the Digital Strategies Exchange for Radio (DSX4r), the first one listed:

"Looking (And Listening) Ahead:

The Podcast Landscape in 5 Years"

Mon. April 24, 12:05–1:05 p.m.

Speakers from Variety 411, HowStuffWorks, AdsWizz and New York Public Radio. Part of DSX4r.

"Today in Podcasting — A Radio Station's Guide to Metrics, Reach, Distribution and Monetization"

Wed. April 26, 10:30–11:30 a.m.

See above article.

"Practical Podcasting — Podcasts Your Radio Station Can Launch Next Month"

Wed. April 26, 11:40–Noon

Seth Resler of Jacobs Media.

"Podcast Content That Builds and Audience and Sells"

Wed. April 26, 12:05–12:50 p.m.

Speakers from Geller Media International, KAMP(FM)/The PHP: Paris Hilton Podcast and Financial Survival Network.

"Roadmap to Revenue: The Multiple Ways a Radio Station Can Monetize a Podcast"

Wed. April 26, 12:55–1:10 p.m.

Produced in partnership with the Radio Advertising Bureau.

"Finger Food and Networking"

Wed. April 26, 1:10–2 p.m.

"Light lunch fare and intimate discussions on podcasting and its symbiotic relationship to radio."



Rob Walch: "The biggest thing radio stations need to know is podcasting is exactly opposite of how radio works."

MULTIPLE BENEFITS

Producing podcasts benefits broadcasters in other ways.

"Podcasts give a radio station an additional outlet for spoken-word audio content," said Walch. "This can be content that might not be right for the airwaves, but that listeners want to hear, even if they've moved outside the station's coverage area. Podcasting also allows employees to create their own shows and trial them as podcasts first, so that station management can see what works and what might do well on air — or not."

Podcasts are a good way to repurpose the best content from a station's on-air shows, in easy-to-access, short-form versions.

"Remember, not everyone can tune in for the full morning and evening drive, so they may miss the best parts of their favorites," said Cochrane. "Podcasts can make sure they hear those bits, building their loyalty during the day at work and keeping them connected to your radio-branded content rather than Pandora or some other streaming service."

This said, podcasting is a different beast from broadcasting. "The biggest thing radio stations need to know is podcasting is exactly opposite of how radio works," said Walch.

How? "Podcasts live forever, while radio transmissions are only at the moment. Users can control the playback of podcasts. Radio playback is controlled by the radio station."

Further, radio is local, while podcasts have a potential global audience, Walch said. As well, radio "tends to be more broad in audience appeal, subject-wise. Podcasting tends to be very niche-oriented for subject matter. Also there are no licenses that cover music — ever. Podcasts are downloads, and legally a download is a mechanical copy."

As for what to offer? Anything is possible, said Cochrane, but it shouldn't be just hours of unedited radio recycled online.

"Podcasts can include coach interviews, celebrity interviews, community calendars and original content," he said. "But republishing three to four hours of drive is worthless: You need to make sure your audience gets the juicy bits, not the fill chatter."

McCracken added, "Beyond that, podcasters don't work under the regulations that broadcasters do, and they don't have to adhere to a broadcast

clock. These freedoms alone lend themselves to greater creativity."

The moral for radio broadcasters, as far as these experts are concerned, is that now is the time to get serious about podcasting.

"Audiences are shifting," said Cochrane. "It is a good idea for radio to start investing in digital, to hedge the changing world we live in."

"Stations and personalities," said McCracken, "need to look at podcasts as being additive, not subtractive, to their brands. Done right, podcasts can be a powerful extension of the branded

production that stations are creating every day for their radio audience. Best yet, podcasts can grow a larger monetizable audience outside the geography of a radio station's local market."

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“Where It’s Headed for Everyone”

At the NASH campus, video is a regular daily feature

VISUALRADIO

BY SCOTT FYBUSH

Up on a hill just south of downtown Nashville, the “NASH Campus” of Cumulus Media has been demonstrating the future of radio and video integration for more than three years now.

The former home of two local FM stations, WKDF(FM) and WGFX(FM), the building was gutted and extensively rebuilt in 2013 as the new national headquarters for the company’s country music programming.

Three studios were purpose-built to house the national “America’s Morning Show” (recently renamed “Ty, Kelly and Chuck”), “NASH Nights Live” and country star Kix Brooks’ “Kickin’ it with Kix” and “American Country Countdown.” Each was built from the start not only to handle the radio broadcast but to be future-proofed for video.

“Every studio is equipped with five stationary video cameras,” says NASH Program Director John Shomby. “Anyone who comes in knows there’s always video being taken. When the mic’s open, the video’s running.”

“PART OF THEIR ONA”

Each of the three studios at NASH was designed to project a specific image on video.

Brooks’ corner studio was built to look like a living room and office, with comfortable sofas and chairs in the center of the room, guitars along the walls ready to be grabbed and played, and a desk and table in the corner adorned with Brooks’ music memorabilia.

Down the hall, the morning show studio puts the hosts and guest on a small stage with audience seating in front of them. And just off the lobby, the “NASH Nights” studio looks most like a traditional radio studio but with plenty of custom lighting and fun visual details such as guitar bodies in place of the usual legs that support the console and desk.

The ORAD camera system at NASH depends on voice activation to direct most of the video switching, automatically choosing video shots based on who’s speaking in front of which mic in each studio.

For Shomby, though, what matters about the visual radio aspect of the NASH campus isn’t the technology but the programming. The veteran programmer says he’s seen a big change in just a few years in how “radio” talent adapt to performing for video. Today, he says, being video-friendly is an

essential part of being on the air at a national level.

“I don’t think I have to do anything [to train them],” he says. “Today’s talent is already in that mode. I don’t have to remind them to do video; they just do it. They’re on Facebook Live, they’re on Snapchat, it’s just part of their DNA. Maybe five years ago I would have had

That’s changed what Shomby looks for when he’s seeking out new talent.

“You have to think about what someone’s going to look like in front of a camera, how they act, how they communicate socially, all of those things wrapped into one,” he says. “That’s all part of the package. You’re not just doing bits anymore.”



Control room for “Ty, Kelly and Chuck.”

Scott Fybus

an issue with it but not now. The talent that’s at a network level has already been through that change. When we brought Ty Bentli on for the ‘Ty, Kelly and Chuck’ show, (his video skills) were very important.”

Shomby says it’s no longer a question of whether video and other digital content helps the bottom line; it’s simply a part of doing business in today’s media environment for talent and management.

“They know it’s part of the job description now. What goes on the radio is always first priority, after that comes everything else, but it’s all a part of it. It all supports what you’re doing on the air and helps your ratings. In the old days, a personality came in and did the show, maybe they answered request lines, but not much else. Now you’re a multifaceted personality.”

Shomby says this means being comfortable in front of hundreds of thousands of people on a daily basis, which comes more naturally to younger talent.

“You have to be comfortable with it, and those are the ones who succeed,” he said, “but those are also the ones who grew up in front of cameras. The generation that’s coming up now, my 18-year-old is the IT person at home. People are so used to the technology that it’s a part of their life. If we threw them in a studio and took everything away and told them just do a [radio] show, they’d be lost. The older people like me know they’ll be left behind if they don’t learn it.”

morning co-host Chuck Wicks. With the cameras rolling, Brice picked Clemson to win, while Wicks picked Alabama. If Alabama had won, Wicks challenged Brice to come back to the show wearing an Alabama jersey and sing “Sweet Home Alabama.” (Alas, Clemson won.)

“I can guarantee you right now, Rihanna wouldn’t do that,” Shomby says. “The country artists definitely have a spirit of cooperation, and there’s a spirit of camaraderie between the labels and the artists that doesn’t exist in other formats.”

MORE TO COME

The NASH campus makes it easy for artists to get ready for the video spotlight with some features that weren’t part of traditional radio studio design. There’s not only a green room but a makeup area where visiting performers can make sure they’re camera-ready.

For now, the video that’s generated isn’t seen in real time; instead, digital producers edit shorter bits of content that appear on each show’s social media outlets and can be used by affiliate stations. Shomby says that will change soon, with live streaming in the works.

Later this year, he’s planning to roll out podcasts, which he says will be more than just replays of live show content. “It has to be more than just putting show stuff up on a podcast,” he says. “It’s showing other things that person can do, too.”

Also expect to see some views from above. “I’ve got a drone sitting in my office right now with a GoPro camera sitting on top of it,” Shomby says. “I don’t know yet what we’re going to do with that.”

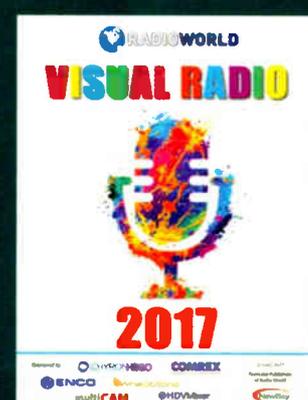
It’s all part of a future that’s much more than just radio, as Shomby sees it.

“When people walk in here, I try to tell them it’s not a radio station, but what you’re seeing here is really the future of radio,” he says. He arrived at NASH in 2016, after the campus was completed, and praises the facility designers. “They had the vision of what radio is going to be 10 years from now, cameras in every studio, very expensive lighting, that’s where I think it’s headed for everyone.”

RADIO LEARNS TO BUILD ITS VIDEO PALETTE

The accompanying story is excerpted from the Radio World eBook “Visual Radio.” Video elements are no longer a novelty for a growing number of radio broadcast operations. These professionals use streaming and social media video tools to diversify their platforms and create new touch points with consumers. How are they doing it and what can we learn from their experiences?

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Consider ESR When Troubleshooting Audio Circuits

Be aware of the internal resistance between component leads, plates and electrolyte

WORKBENCH

by John Bisset

Read more Workbench articles online at radioworld.com

Broadcast consultant Tom Osenkowsky recently constructed a panel with two vu meters and a DPDT switch. The switch allows him to configure the meters to display conventional Left and Right channels or Left-Minus-Right and Left-Plus-Right signals. Tom used a Gentner routing distribution amplifier to serve as the electronics to feed the meters.

Upon connecting the meters and attempting to calibrate them, Tom realized that what he was hearing and what

he was seeing were inconsistent. Upon examination, he discovered defective coupling and other capacitors in the RDA. The coupling capacitors are non-polarized electrolytic, with values of 1 μF , 10 μF and 100 μF . Capacitors in the level indicator circuits were common polarized electrolytic types. Tom decided the amplifier was worth repair, from both technical and financial perspectives.

When one tests capacitors, two common measurements are value and leakage. A third and important test is for equivalent series resistance or ESR. This refers to the internal resistance between the component leads, plates and the electrolyte.

Some circuits, particularly those used in high frequencies, can be grossly affected by high ESR. Many of today's switching power supplies operate at high frequencies, and are subject to self-heating when high ESR develops in filter capacitors.

Fig. 1 shows a Sencore LC75 Z Meter 2, which can test for ESR as well as capacitance value and leakage. In the RDA, Tom found some capacitors had deteriorated to values in the pF (picoFarad) range, and one had a measured ESR of 841 ohms! Replacing all the capacitors restored normal operation with wide frequency response and proper level indication.

Some circuits are sensitive to capacitor ESR.

ESR can be measured in several ways. A small amount of current is passed through the capacitor under test. The capacitor will not be fully charged. The ESR will be the voltage across the capacitor divided by the current (Ohm's Law).

Another method is referred to as "waveform analysis." This test employs a trapezoidal waveform, composed of a square wave and a saw tooth wave used as a ratio of resistance and capacitance. This method is employed in the Sencore LC75.

As mentioned, it has been Tom's experience that some circuits are sensitive to capacitor ESR. Tom says he's also found it critical to use low ESR capacitors in the Harris MW-1 transmitter audio board. There are a number of test instruments capable of measuring ESR. As a troubleshooting tool, the Sencore Z Meter is a wise investment, in Tom's opinion.

Jim Otte, a volunteer engineer for Radio Esperanza in Edinburg, Texas, noted our mention of the Marlin P. Jones and Associates website and wanted readers to know about its seven divisions. Displayed in Fig. 2, the divisions provide a selection of parts useful to the broadcast engineer.

On the flip side of the laminated card is a visual image for determining resistor color code values. Seasoned engineers probably have the color-code memorized, but those new to the busi-



Fig. 2: A listing of divisions of Marlin P. Jones and Associates comes on a small card ...



Fig. 1: The Sencore LC75 can be used to test for high equivalent series resistance.

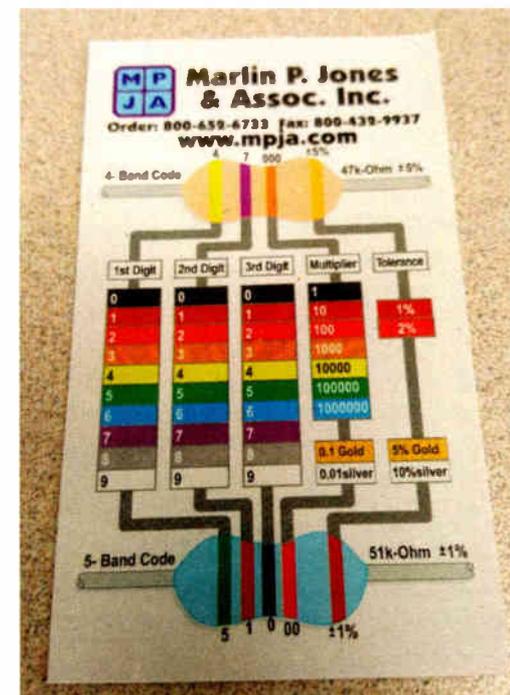


Fig. 3: ... and the reverse side displays the resistive color code.

ness, or from the IT field, may find this little card useful. It's available free from the Marlin P. Jones and Associates Co. (www.mpja.com).

In response to our Workbench column "Is Your Transmitter Starving," Roberta X writes that we seem to have omitted the old-fashioned filtered out-

(continued on page 20)

WORKBENCH*(continued from page 18)*

side air intake.

The simplest version uses a very large opening with a good filter, keeping air infiltration via other paths down to a minimum, by reducing pressure differential to whatever is normal for the transmitter itself. More advanced versions add an intake fan, moving enough air to maintain slight positive air pressure. Adding cooling coils will lower humidity, as well as providing temperature control in warm weather.

Transmitter exhaust can be recycled in colder months to “temper” incoming air. While it is never as clean as a closed system, an open cooling system can be cheaper to operate. Sophisticated open cooling can cost as much as a sealed system to build but can be implemented gradually with careful planning.

In the heyday of tube transmitters, some collocated, small-market stations incorporated the transmitter room and airflow through the transmitter into their HVAC return-air loop.

The important takeaway is that air has to come from somewhere, and go

somewhere — either moved in a closed loop through the HVAC, or into the building through an air intake and back out via the transmitter exhaust. Too often, we try to cool equipment by blowing cold air on it and ignore airflow.

For stations looking to add a text-in request line, Iowa’s Coloff Media Engineering and IT Manager Lewis Callaway says look no further than Google Voice. For the monthly cost of \$0, you can get a phone line for listeners to text to. You get a nice web interface that the DJs can log into and respond to

listeners’ text requests.

To set it up, you need to sign up for Google Voice. In Lewis’ case, he created a new Gmail account for each station, which kept it simple. For Google Voice to give you a new number, you have to connect your cell phone to the account to “verify” that you aren’t just some spammer. (You will want to delete this phone number later, so you, personally, don’t get every text coming in to the station on your smartphone!)

Then you can choose a new number. For Lewis’ stations, he was able to get a vanity number with their call sign or station slogan.

Now you can go to hangouts.google.com for the account you just set up and go to the settings. On the settings page of Hangouts, turn on the option to send SMS with Hangouts. Any time you get a text to the number you setup, it will show up on Google Hangouts, and your jocks can interact with your listeners.

You can also use Google Voice as a virtual voicemail, where you can download MP3 records of any voicemail left when people call your number. Another station Lewis works for has used this service as a birthday and anniversary line, and more recently as a news hotline. It works great and sounds as good as a phone call can sound.

I received a note from Jim Gorman of Gorman-Redlich Manufacturing regarding Dayton Industrial receivers: Jim bought the last of Dayton Industrial’s inventory when they were closing and can supply engineers with most anything you need made by Dayton Industrial.

Head over to www.gorman-redlich.com or contact Jim Gorman in Athens, Ohio, at (740) 593-3150.

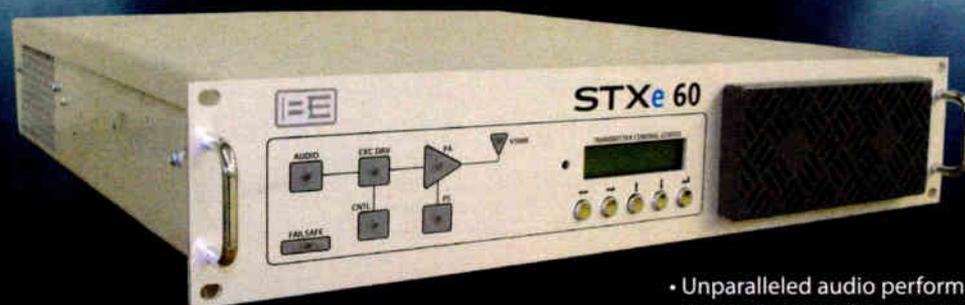
Contribute to Workbench. You’ll help your fellow engineers and qualify for SBE recertification credit. Send Workbench tips to johnpbisset@gmail.com. Fax to (603) 472-4944.

Author John Bisset has spent 48 years in the broadcasting industry and is still learning. He handles West Coast sales for the Telos Alliance. John is SBE certified and is a past recipient of the SBE’s Educator of the Year Award.

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Don suggested the BE STXe 60 as an inexpensive backup for our sick FXi 60 and got one out the door to us fast! Well, as a famous NFL quarterback once said, “Never let your backup see the field.” Once we heard the STXe 60 on the air, game over! The STXe 60 is now our starting exciter and the repaired FXi 60 is now the backup. The STXe sounds awesome on the air with incredible detail. You can hear every instrument! The voices jump out of the radio, too!

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WORKBENCH
by John Bisset

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Zimmer Radio Group Powers Up With GatesAir

FAX10's compact size and cooling requirements please Missouri broadcaster

USERREPORT

BY DAVE OBERGOENNER
Corporate Director of Engineering
Zimmer Radio Group

JOPLIN, Mo. — The blueprint for transmitter design is changing for the better. While transitioning from tubes to solid-state has long provided operational and maintenance advantages, in recent years the cost, size and efficiency benefits of solid-state transmitters have escalated quickly.

As our previous solid-state transmitter at KXDG(FM) in Joplin, Mo., started failing, we knew it was time to look at the latest offerings from other manufacturers. Upon surveying the landscape, it became clear that GatesAir's Flexiva FAX air-cooled range encompassed all of the aforementioned benefits we sought in a 10 kW transmitter.

COMPACT DESIGN

It's never a given until the transmitter lands at your feet, but we liked the FAX10's compact design right away. This is significant given that KXDG shares a transmitter site with other stations, which limits our real estate in an already space-constrained building. The FAX10 takes up approximately a third the floor space of our previous transmitter. It's so small in fact that we positioned it at the end of our designated area, leaving plenty of space to operate our existing transmitter as a full-power backup.

Installation and setup were simple. Beyond the light weight that comes with its smaller footprint,

the process was basically twofold: Run power to the transmitter, and run coax from the transmitter switch. Adequate grounding with strap and surge protection on incoming power provides extra on-air and operational safeguards.

We connected a few basic remote control channels, but we're finding that the FAX10 offers such a clean and intuitive web interface that we rarely use the remote control. We pull all pertinent readings without needing to dial in remotely, and can look at every parameter down to how each fan is running. The FAX10 automatically fires off emails or text messages if the transmitter were to fall out of tolerance.

Speaking of fans, cooling requirements have decreased considerably. We previously required two continuously running, 7.5-ton air conditioners to cool the building. If one failed, the building temperature grew worrisome since the previous transmitter cranked out a far greater amount of heat. The FAX10 requires only a single air conditioner to maintain a comfortable building temperature.

That efficiency extends to long-term cost-savings. While we don't yet have figures to compare, there is little doubt that the efficiency figures of the FAX operating at 7.1 kW versus the previous transmitter at the same power level are far different. Beyond cost, that power and energy efficiency offers a greener solution to minimize our carbon footprint.

Opening up the transmitter makes clear how well thought-out the design is from a maintenance standpoint. Modules are easy to reach and replace. Repairs, should they be needed, will be quick and painless. Whereas our previous transmitter ate up half a day to replace a failed power supply, the modular design of the FAX10 will allow replacement within minutes. Given we are 30 minutes each way between the studio and transmitter site, reducing on-site labor time is a valuable ROI in terms of engineering resources.

We find the FAX exciter to be stable and easy to configure, and working in tandem with the FAX10 our



signal is as clear and powerful as ever market-wide. Our program director commented that the station sounds better and the coverage is broader.

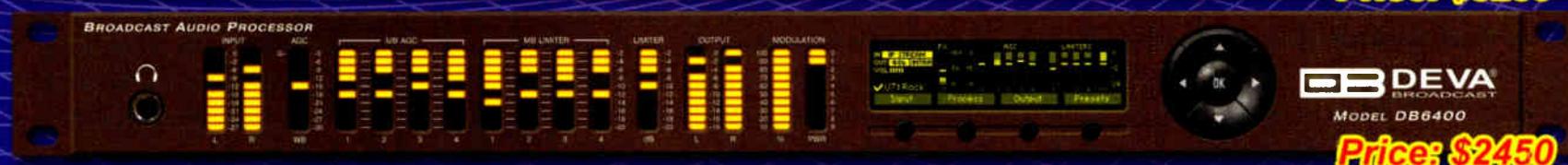
We recently had to turn off our HD Radio signal due to the older transmitter being unable to make full analog TPO with the HD sideband operating at

(continued on page 26)

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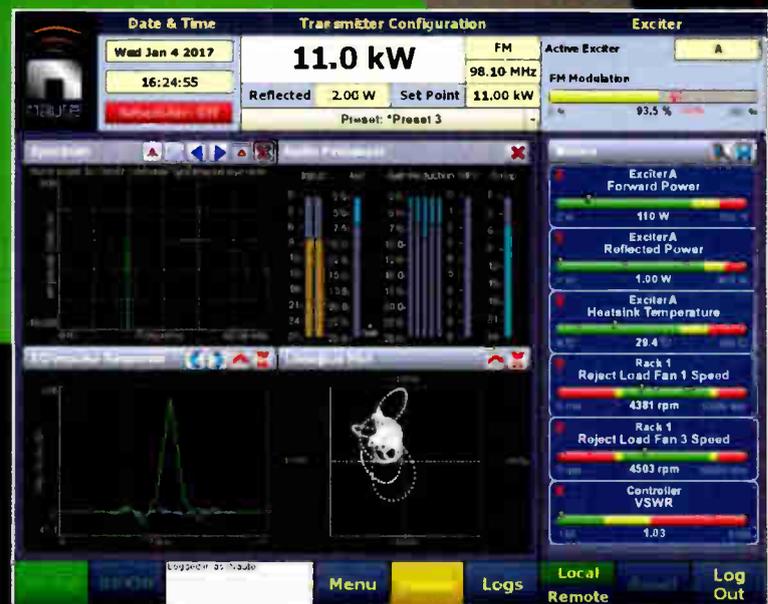


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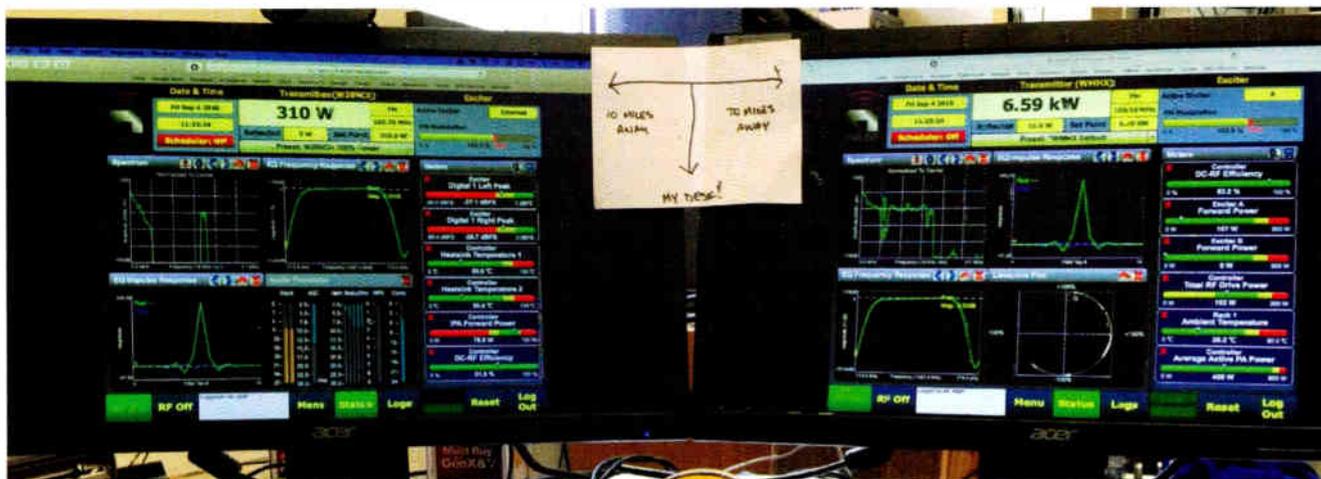
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Advanced User Interface saves time and effort on solving problems

USERREPORT

BY CHRISTOPHER TARR
Director of Engineering
Entercom/Madison, Wis.

HALES CORNERS, Wis. — I oversee six radio stations in two markets, with the two farthest transmitter sites over 90 miles away from each other. To say that I need all the help I can get is an understatement.

I have four Nautel transmitters with Advanced User Interfaces: an NV7.5LT at WMHX(FM) in Waunakee (Madison), Wis.; a GV20 at WOLX(FM) in Baraboo (Madison); a GV7.5 at WMMM(FM) in Verona (Madison); and a VSI at W289CB in Milwaukee.

In Milwaukee, I use the VSI for a translator carrying the programming of our AM station. We needed to get this station on the air quickly and reliably. Nautel was the best option, specifically because of the AUI and the VSI's big transmitter features. Typically I feed the programming to the VSI via a TI line; however, I wanted to provide a backup feed in case the TI or IP link went

down. The AUI provides for creating a "failover" preset that can be activated after a certain amount of silence. This preset can play a local playlist of files or even connect to a Shoutcast server.

In my case, I created a Shoutcast server at the studio, and if the TI goes down, the VSI automatically connects through its backup internet connection to the server, putting us back on the air. It's kicked in a few times in the past year, and the best part? It's a complete backup to our audio path, and it's free — built right into the AUI. How cool is that?

In the case of the Madison transmitters, the decision to install Nautel transmitters was a no-brainer. My "home base" is 60 miles from Madison, and about 90 miles from WOLX in Baraboo. When there's an issue, I often need more information than "Plate Voltage, Plate Current, and Power Output." I need to know if this is a minor issue or a major headache. I need to know if there's something I need to bring with me to the site. In short, I need all the data I can gather. The Nautel AUI, and all of the information it provides is critical in

a remote installation such as these.

Any time, even a few minutes, that I can shave off my tasks is a win. Today's engineer doesn't have any time to waste, and I'm always looking for ways to save even five minutes. Nautel's AUI provides me with all of the information I need to assess a given situation. In fact, with Phone Home I can get an email from Nautel before I know there's an issue. No more wondering what I'm going to find at the transmitter site — I know ahead of time what is going on before I walk in the door. In some cases, that can save me hours of driving. The ability to receive an email from your transmitter with alerts is a game changer.

One of the questions Nautel asked me is how the AUI has "saved the day." It's kind of a different answer for me. I use the AUI on my transmitters all the time, to the point that it's become routine. I find myself wishing everything in my life had one! So really, it saves me time, which saves the day every day.

For information, contact **Wendell Lonergan at Nautel in Nova Scotia at (902) 823-5131 or visit www.nautel.com.**

TECHUPDATE

ELENOS ADDS DIRECT DIGITAL MPX TO ETG SERIES TRANSMITTERS

Elenos introduced direct digital MPX input to its ETG series with a new Direct to Channel ETG transmitter.

The company says it has placed more than 40,000 transmitters in more than 100 countries and that the ETG series has proven popular for its compact design, lower energy consumption, sound quality and reliability.



Features include intelligent system protection, ICEFET technology, Ecosavings energy efficiency and Lifextender performance efficiency algorithms, as well as the company's own power supply design for performing in extreme conditions.

Audio performance is ensured by advanced digital signal processing technology (e.g. 2.4 GHz clock, 24-bit analog converter). Elenos highlights the transmitter's sound fidelity, purity and the absence of microphonic noise over the entire band.

The Direct to Channel ETG transmitter offers MPX inputs, MPX over AES, AES/EBU input, analog inputs, stereo generator, RDS encoder, audio over IP support, internal storage for MP3 audio/playback in the event of total STL failure.

Integrated SFN functions, integrated web server, SNMP and transmitter control and transmitter status board provide for traditional remote control and telemetry.

The transmitter is available in 20, 150, 500, 1,000 and 2,000 watts in two rack units, and 3,500 and 5,000 watts in a 4 RU package.

For information, contact **305 Broadcast, an Elenos Company, in Florida at (855) 305-3058 or visit www.305Broadcast.com or www.elenos.com.**



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Bradley Division
800-732-7665

TECHUPDATES**TRANSRADIO TRAM LINE ADVANCES WITH DMOD3**

Operated with the optional DMOD3 DRM exciter, Transradio's TRAM line medium- and longwave transmitters are reliable and field-proven DRM transmitters. Since all TRAM line transmitters are prepared for DRM operation, the DMOD3 to the transmitter can be to them added at a later date.

In combination with a TRAM series transmitter, the DMOD3 offers automated functions to pre-equalize the transmit signal in order to reduce out-of-band emissions. In this case, equalizer adjustment can be performed automatically just by pushing a button.

The DMOD3 auto-adjust of the equalizer offers automatic initial equalizer adjustment; equalizer optimization during DRM operation; and adaptive equalization and optimization of all crucial parameters like time delay, DC offset and envelope frequency response.

Transradio's Digital Power Enhancement feature applies signal processing algorithms reducing the crest factor of the DRM signal in the digital domain while the peak level stays the same, this way enabling higher average power.

Thanks to Transradio's equalizer adjustment and DPE technique, TRAM line transmitters offer a DRM power typically equal to 80 percent of the AM carrier power with MER >30 dB and signal quality parameters as per ETSI EN 302 245. This allows the operator to benefit from energy savings while offering the best possible broadcasting coverage in digital mode.

For information, contact Transradio in Germany at +49-30-339-78-501 or visit www.transradio.de.

BEXT DELIVERS XL 6000 FM TRANSMITTER

Bext's XL 6000 is a compact FM solid-state transmitter in the company's XL Series line of broadcast equipment. In a height of four rack spaces it offers 6 kW of power.

The company says reliability in challenging environments is ensured by use of the latest generation of rugged MOSFETS. Like other

Bext transmitters, the XL Series offers energy efficiency, with minimal heat generated by the unit.

In addition to standard analog audio inputs and AES-EBU digital audio inputs, streaming audio can be fed to the unit. The firmware can switch to a secondary, alternate audio source if the primary incoming audio feed fails.

The user manual is stored in digital format inside the transmitter, and can be accessed using a laptop connected to the transmitter through a USB port on the front. This function is active even when the transmitter is not operating and/or disconnected from the power line.

For information, contact Bext in California at (888) 239-8462 or visit www.bext.com.

GATESAIR

(continued from page 22)

-14 dB. Our plan is to turn that signal back on in the future, and the FAX10 will be able to accommodate these requirements.

When we started looking at transmitters, we decided to talk to other engineers in the field. When we spoke to GatesAir FAX customers, they claimed to not know much about the transmitter — because it never breaks

down. We considered this high praise, as engineers typically learn the most about a transmitter when it fails. Since turning on the transmitter, we have had no performance issues whatsoever. Support has been excellent when needed, and we've been pleased to the point where we recently decided to install a GatesAir Flexiva FAX 1 kW translator system. We look forward to installing more.

For information, contact Keith Adams at GatesAir in Ohio at (513) 459-3447 or visit www.gatesair.com.

**BW BROADCAST OFFERS ALL-IN-ONE TRANSLATORS**

BW Broadcast thinks that one box is better than two. Instead of a receiver and a transmitter, why not combine them into one unit?

It offers the TR300 V2 and TR600 V2 translators. The company says that courtesy of a built-in DSP receiver the TR300 V2 and TR600 V2 pulls in weak signals. A modulator with very low distortion means the signal rebroadcasts with clarity, even at challenging translator sites, it adds.

It can also be used as a standalone transmitter, with analog, digital and MPX inputs, built-in four-band DSP audio processor and stereo generator.

Intelligent email alarms, SNMP, Telnet, UDP and local SD card logging keep users informed while a remote control app allows for remote access and control from wherever a connection can be established.

Quick-change parts such as dual hot-swappable slide-in power supplies keep the TR300 V2 and TR600 V2 on the air while allowing engineering personnel to change parts quickly without powering down the translator or requiring tools. Units have fault detection/protection for temperature and VSWR. An intuitive menu system navigated through the front display makes setup easy.

BW Broadcast says that its products are designed by engineers with over 20 years' experience, manufactured and rigorously tested in the U.K. Full 24/7 technical support, free software upgrades for life and a two-year warranty are included.

For information, contact BW Broadcast at (888) 866-1612 or visit www.bwbroadcast.com.

ROHDE & SCHWARZ OFFERS HIGH-POWER HD RADIO TRANSMITTER

The THR9 family of high-power FM transmitters from Rohde & Schwarz includes the fourth generation of HD Radio technology. The company says this helps operators of digital stations reduce energy, maintenance and leasing costs over the lifecycle of their transmitters.

Rohde & Schwarz introduced a liquid-cooled HD Radio transmitter that it spotlights for its performance in a small footprint. The R&S THR9 achieves up to 24 kW RF power in hybrid mode and 40 kW in analog FM mode, all in a single 19-inch rack and up to 80 kW in FM in a two cabinet configuration. It notes the FM transmitter's amplifier and system design focused on efficiency and reliability. All RF power components, including the power combiner and the RF rigid line, exhibit minimum attenuation, the company says; as a result, the transmitter system achieves efficiency of up to 75 percent in analog FM mode and up to 57 percent in hybrid mode.

The company features a more compact design in its new generation of transmitters. A variety of additional components can be integrated into the rack, further reducing space requirements. Possible configurations range from single transmitters with built-in pump unit to multiple transmitter systems in a single rack. By making it possible to integrate high-output power as well as multiple transmitters, the R&S THR9 offers the highest power density on the market, according to the company, making it suitable for transmitter sites requiring high output powers in tight spaces.

For information, contact Rohde & Schwarz in Maryland at (410) 910-7800 or visit www.rohde-schwarz.com.



Antenna Hungária Puts Ecreso to Work

Compact design, reliability and remote features keep client happy

USERREPORT

BY VENCEL DOBI
Operations Engineer
Antenna Hungária

BUDAPEST — Nowadays price is an increasingly important factor in the FM transmitter market and it can be a challenge to find a suitably affordable system that offers the quality and reliability, as well as the remote control features that we need. I believe that we have found a good solution with the compact Ecreso FM transmitter range.

At Antenna Hungária, we operate a nationwide network of more than 150 FM radio transmitters broadcasting five national and several local radio programs. So we have considerable experience in testing and selecting new equipment. As an operations engineer, I participate in the procurement of radio transmitters but I also support the day-to-day operation of our FM radio network; I have a vested interest in the decisions because I will be working with the equipment on a regular basis.

Over the last few years, we have added smaller sites to our network and therefore needed to source some lower-power (up to 2 kW) FM transmitters for these locations. Many of these sites are unmanned, thus it was essential to have a high level of redundancy as well as remote control and monitoring capabilities on the systems selected.

We were persuaded to go with the compact Ecreso

FM system chiefly because of the transmission quality, which was guaranteed by a digital FM modulator. The built-in protection limiter was a major plus as we operate an MPEG program distribution chain.

The Ecreso FM systems offered nice remote control and monitoring features via SNMP and the useful Advanced Metering Interface. Specifically helpful in times of troubleshooting, the AMI offers a comprehensive overview of the transmitter's status, which allows us to check the parameters of the whole system from the inputs to the transmitted signal.

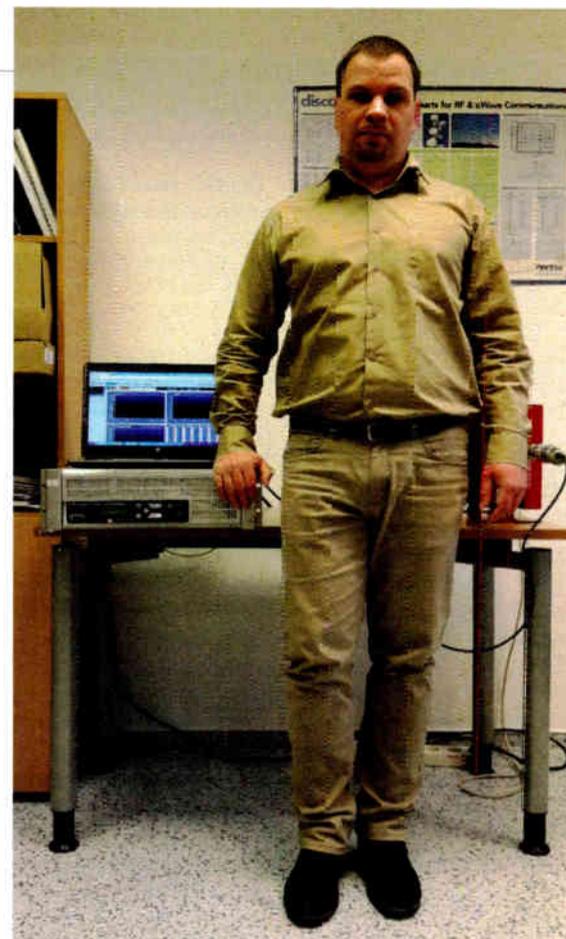
In order to maximize the redundancy available on these remote sites, we opted for 1+1 reserve systems on the majority of our five Ecreso sites. Most of these units were installed in 2016 but we do have Ecreso FM transmitters that have been in our service since 2013 and remain happy with their operation.

We have our own service team at Antenna Hungária so we usually install the transmitters ourselves. To do this successfully, it is important for us to count on good support from the manufacturer and easy-to-use user manuals. If we have questions or problems, we need to get useful answers quickly.

With the Ecreso FM transmitters the installation process was easy and problem-free. When a minor issue arose, it was dealt with quickly by the WorldCast support team.

Likewise, when the FM limiter function in the first FM transmitters we ordered from WorldCast Systems didn't operate as we required, we fed this info back to the team and we were issued with a new version of firmware which met our needs exactly. It is currently the only built-in FM limiter which we accept in our network.

In addition, the Ecreso FM transmitters were available at a reasonable price. It's nice to know that we do not need to choose between affordability and reliability — the Ecreso compact systems offered us both.



Although we don't have much long-term experience with Ecreso transmitters, the experience of the past few years leads us to believe that we have made a good decision in choosing this equipment.

Overall, I can say we are very satisfied. We have had no hardware issues and have found the software stable. The transmitters themselves offer good audio quality, comprehensive remote control and monitoring capability and we have had good support and response from WorldCast Systems.

For information, contact Tony Peterle at WorldCast Systems in Florida at (305) 249-3110 or visit www.worldcastsystems.com.

TECHUPDATE

ONAIR MEDYA OFFERS HOST OF FEATURES

OnAir Medya highlights its FTC4K 4 kW FM transmitter. Among the benefits of the newer model is less heat produced and a smaller amount of power consumed than its previous 1 kW model.



The FT4K is designed with LDMOS transistors and a DDS (Direct Digital Synthesis) modulator. The transmitter features a 25 W exciter with an RDS encoder; it is fitted with a 4

kW power amplifier section and makes use of BLF178XR LDMOS transistors.

The FTC4k transmitter has built-in RDS, and can be programmed from the front keys of its exciter or over RS-232 with a computer. A GPIO switch runs an air conditioner and an alarm function to stop the transmitter, and it records event logs. A GSM modem can be added optionally to control, monitor and listen to sound levels from over the internet.

For information, contact OnAir Medya in Turkey at +90-532-452-0730 or visit www.onair.com.tr.

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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.

Wanted: real plate reverb. abgrun@gmail.com.

AUTOMATION EQUIPMENT

WANT TO SELL

DIY-DJ Version 2.0 is now available. Over 500 copies of DIY-DJ, a Linux based radio automation system, have been distributed and now version 2.0 is available. Voice tracking, join satellite feeds, do unattended sports and remote events, tem-

MICROPHONES/ HEADPHONES/ SPEAKERS/AMPS

WANT TO SELL

1934 RCA 77A double ribbon microphone, originally used by Arthur Godfrey at WFBR Baltimore. 100% perfect condition. Contact Bill Cook, 719-684-6010.

WANT TO BUY

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

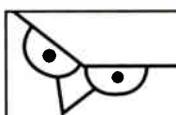
MISCELLANEOUS

WANT TO SELL

I'm selling between 150 and 200 cassette tapes that consist of old-time radio shows, sports shows, some local New York radio talk shows, etc... Must take entire collection and the price is negotiable. Please call me for details and, my phone number is 925-284-5428.

Radio broadcasts of Major

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League Baseball, NFL, and some college football games that are on cassette tapes, approx 100 to 125 games, time period of entire collection os from the 1950's - 1970's, BO. Must purchase entire collection. Contact Ron, 925-284-5428 or ronwtamm@yahoo.com

WYBG 1050, Messina, NY, now off the air is selling: 8-channel Harris/Gates console; 250' tower w/building on 4 acres; collection of very old 78s dating back to 1904; 12' satellite dish on concrete base; prices drastically slashed. 315-287-1753 or 315-528-6040

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 or ilg821@aol.com.

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

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

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

Looking for a broadcast excerpt of a San Francisco Giant's taped off of KSFO radio from 1959, interviews with Willie Mays, Dusty Rhodes & some play by play excerpts,

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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 KTIM FM radio shows from 1981-1984 if possible unscoped. R Tamm, 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.

RECEIVERS/ TRANSCIVERS

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Johnson Electronic SCA880 module, 67/92 Khz, 417-881-1846.

WANT TO BUY

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READER'S FORUM

CAR NOISE

Concerning poor car antennas and car computer noise:

One exception is the Prius. The Prius does have just a small antenna that does triple duty for AM/FM/Sirius, but the AM reception is so clean, that I can (and do) use the AM radio in my Prius to listen to fringe and DX on AM, as I have in all three Prius cars that I have owned.

So I wonder just what the engineers at Toyota are doing so well in what "should" be one of the noisiest cars with all of those hybrid circuits, but isn't! And why the other car manufacturers can't supply a good AM experience.

William Pietschman, R.N. (W8LV)
Circleville, Ohio

USER EXPERIENCE

Responding to "Website Development 101" (RW March 2, 2016):

A few website comments as a user:

Keep text contrast high. Don't use gray text. It looks like my printer ran out of ink and is hard to read.

Don't bury your content with a pop-up ad. This generally causes me to immediately close the tab and go elsewhere. Relevant static ads beside the content are fine.

Don't autostart audio or video. Another great reason to close the page immediately and never come back.

Use HTML5 audio and video so no plug-ins are required and the content can be viewed on a variety of platforms.

For broadcast stations, *make it easy to find your schedule and frequencies.* I'm amazed that a local TV station does not have a link to their schedule on their home page.

Avoid clutter. Though this is not print, graphic designers for print have done a great job making pleasing pages through use of white space, organization, easy-to-read text, etc.

Harold Hallikainen
Engineer
Arvada, Colo.

LOCAL RADIO SUCCESS

Radio as it should be! Your article on WATD Radio in the Jan. 4 issue ("WATD(FM): Live, Local and Relevant for 39 Years") was a game plan for success for any small town station ... and I should know.



Except for the location and call letters, it could have been the station in which I was the principal stockholder for over 25 years — WKUL(FM) in Cullman, Ala. I sold my interest six years ago and they are still "live and local" — and successful.

Don Mosley
Sound of Birmingham
Birmingham, Ala.

LOUDNESS WARS

Having been involved in radio and television audio in the U.S. for over 40 years, and often a reluctant soldier in the loudness wars, I was naturally drawn to Jon Schorah's article on normalizing radio audio (*radioworld.com*, keyword "Schorah").

The loudness objectives of radio and TV are actually quite different.

Radio program directors have always been keen to have their station "pop" on the dial, and radio sales managers expect to have the commercial content as loud as possible. Therefore, the processing objective has typically been to maximize the loudness of all programming as a real or imagined competitive necessity. Over the years, the sophistication of radio processing has reached a very high level and amazingly clean and loud audio can be produced.

TV is a whole different story. Normal program audio ranges from single voice dialog most of the time to wide dynamic range for drama, particularly that originally produced for the movies. In between and there is a relatively small amount of music programming. For decades, it was a given that the commercials would be at maximum normal VU levels, and everything else went down the line the same way it, all subject to the station and/or network compression for leveling etc.

With the advent of stereo TV audio and increased dynamic range of typical program content, normalizing everything to uniform VU levels resulted in increasing viewer complaints about loud commercials, hence the eventual shift to the CALM ACT and real loudness standards. In 2013, I wrote two articles for Broadcast Engineering covering various aspects of this transition period. Although there are odd cases of level problems and the FCC still gets occasional complaints, the TV loudness problems are mostly solved.

Radio has a different set of objectives and selection-to-selection loudness matching is not one of them.

First of all, with radio formats in the US, all the selections in playlist are of similar dynamics. Also most stations are playing recorded playlists on automation systems and tracks are leveled in production. As for station-to-station loudness, it's simply not a problem. We're down to the last dB of possible loudness enhancement, and the loudness wars are waning.

The introduction of digital has created two new challenges: time matching the analog and HDI digital signals and optimizing audio processing for each output. Since the main analog signal is the fallback for the HDI digital, it should ideally sound as close to the digital audio as possible, but that's often not a practical goal because of the analog's need for competitive processing. With today's relatively low digital penetration, the analog processing requirement are still king. The sophistication of radio audio processing has taken another step forward with designs that handle both the analog and digital so each processing section can know what the other is doing.

With all of the challenges facing radio engineers in the US, I doubt that there is much enthusiasm for normalizing audio levels. The programmers want the music loud, the sales managers and station managers want the commercials lou, and the stations aren't getting listener complaints about levels.

Dennis R. Ciapura
President
Performance Broadcasting
Helena, Mont.

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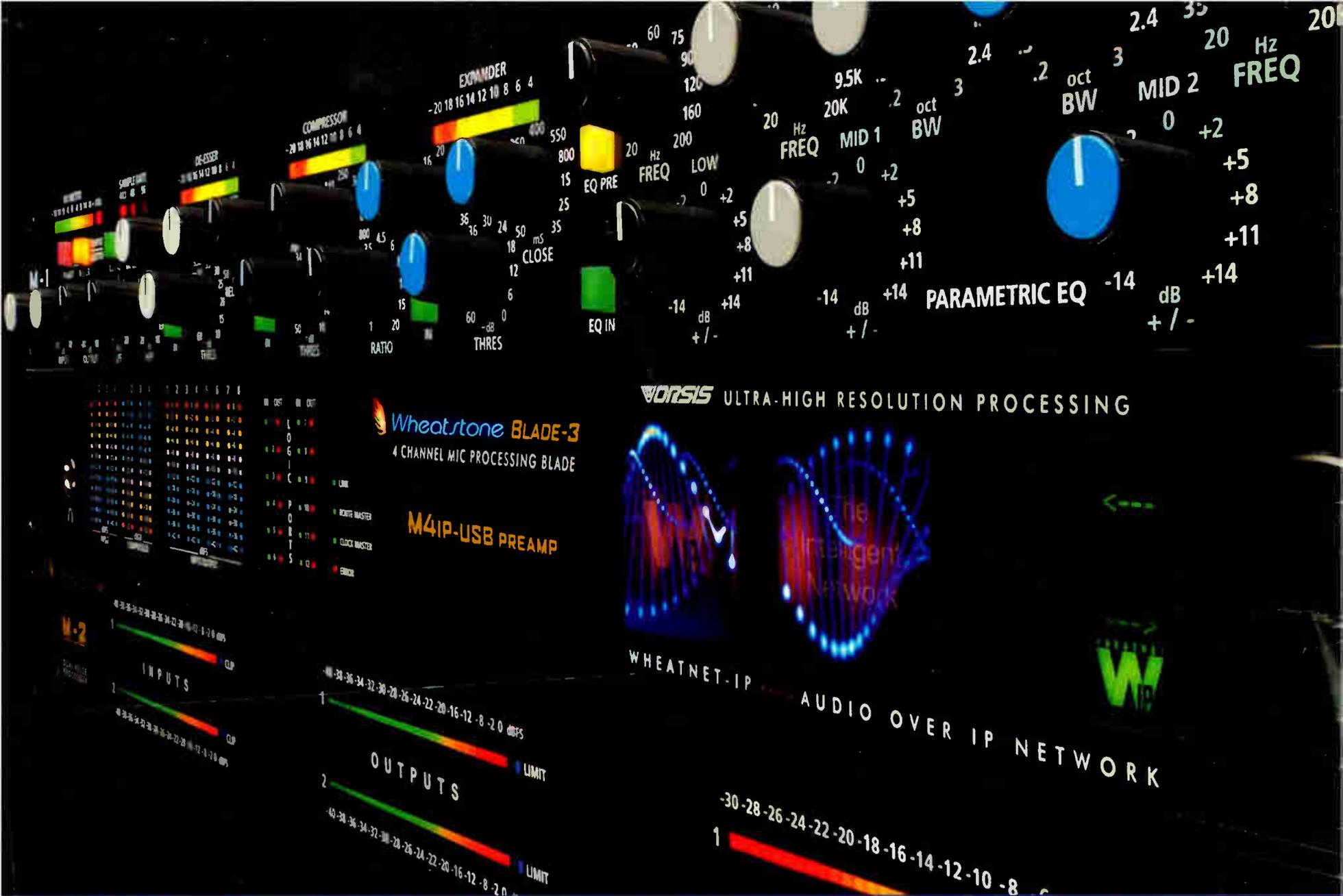
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3	10.0		3	85
4	12.5		4	80
5	15.0		5	75
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