



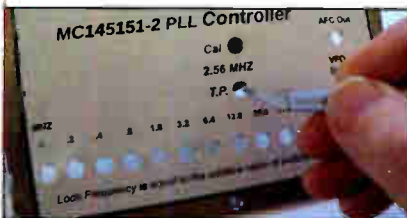
# RADIO WORLD

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A reader remembers the portable open-reel Nagra, and its departed inventor, fondly. — Page 29



## Wireless Serves Inaugural Coverage

### Security, logistics, telecom define technical event logistics for radio

BY RANDY J. STINE

WASHINGTON — Security, logistics and telecom connectivity are three of the biggest concerns for radio networks when planning inauguration day coverage in the nation's capital, according to broadcast engineers "in the know."

The availability and reliability of 4G compared to four years ago allowed network engineers more flexibility in their remote plans in general, including locations such as the West Front steps of the U.S. Capitol and then along the parade route before ending at the White house. But ISDN continues to play a key role.

As President Obama took his oath for the second time, there was plenty of pomp and circumstance, as required of such events. A collection of radio news networks — America's Radio News Network, C-Span Radio, NPR, Voice of America, CBS Radio News and many more — captured the pageantry in audio: Beyoncé's national anthem, Richard Blanco's poem, the oath and inaugural address.

The use of social media platforms like Facebook, Instagram blogging and Twitter by terrestrial radio broadcasters grew significantly from four years ago.

In addition, many network affiliates offered streaming audio feeds.

Dry air and somewhat mild temperatures in the 40s presented mini-

mal weather challenges in covering the 57th Presidential Inauguration, according to broadcast engineers and techs

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## A Look Back as Harris Looks Forward

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World Radio History

# DAB Plans Affect Euro Automakers

Automotive workshop focuses on end user, DAB updates

## DIGITALRADIO

BY DAVIDE MORO

While automakers in the U.S. are focusing on the connected dashboard as a way to lure youth, especially, into buying cars, and HD Radio increasingly is a part of large-screen entertainment screens in the dash, in Europe, automakers are getting schooled in the latest updates to DAB digital radio.

Digital Radio U.K. Director Laurence Harrison says in 2013, his country's government will announce a switchover date from analog to digital.

"We launched a conversion working group to make recommendations on how to fully convert all the vehicles to digital at the point of a switchover," said Harrison. "This working group will develop annual conversion targets as well as a



The panel featured, from left, Sebastian Kett of ARD, Lindsay Cornell of the BBC, Steve Tomlinson of IMDA, Ralf Hinz of Daimler and Carsten Friedrich of Frontier Silicon.

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viable plan to meet them, identify the main barriers to conversion, draft and manage a vehicle conversion risk register, identifying the appropriate mitigations," he said.

Harrison spoke at the 14th WorldDMB European Automotive Workshop in Berlin. The aim was to give car manufacturers an overview of the state of digital radio and perspectives in each market, to permit the digital radio industry to network with the car industry and for the industries jointly to discuss options for new services to air.

The U.K. news was big; this is the first time a European country with a population of more than 60 million has taken such a step. Previously Norway had announced it would switch off FM in 2017, and Denmark did the same, fixing its deadline for 2019. Both Scandinavian countries have a population of approximately 5 million.

U.K. digital radio listening is the largest in Europe, and Harrison shared the

country's experience with attendees.

"Motorists who pioneered the digital radio age are highly satisfied with digital radio in their car and would recommend to others," he said. "Most of them listen only to DAB digital radio or listen to it more than to FM/AM radio. Reception and coverage have improved, and most people with a DAB radio in their car say they get consistently good reception."

Harrison then directed his discussion toward the car manufacturers: "In-car DAB digital radios are perceived to increase the value of a vehicle. And half of in-car DAB digital radio owners in the U.K. said they would be disappointed if digital radio wasn't available for their next car," he said. "Digital radio as a selling point is a disruptively new point of view."

German-based car manufacturers had the highest automotive attendees at the DAB event with registered delegates coming from the VW Group, Daimler (Mercedes), Ford and Hyundai

Motor Europe, headquartered in Germany. Attendees also came from French manufacturer Renault.

Today, radio broadcasters are seeing many of the major car manufacturers offer DAB/DAB+ as standard in their newer models sold in Europe, and as an option in the majority of the rest of their models, in key markets.

### STAYING ATTENTIVE

Frontier Silicon automotive marketing manager Carsten Friedrich focused on digital aftermarket radios for existing cars: "For almost every car, there is a reasonable offer already available, and more will come soon. In Germany, they will need nearly 12 years to replace all existing, non-digital, car radios merely relying on standard vehicle turnover," said Friedrich.

"We must tell consumers that it is possible to integrate new digital radios in existing cars; the cost and efforts

(continued on page 5)

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# AM 'Revitalization' Steps Into Spotlight

The knotty problem of how to help is about to move toward the forefront

The question of AM revitalization is on my mind today.

A reader appreciated Chris Imlay's commentary in the Jan. 16 issue. Imlay, he emailed me, "was right on the mark regarding interference below 30 MHz by the electronic devices out on the market today."

But, he continued, "all the writing on it seems to fall on deaf ears. Why doesn't the FCC realize what they have done by allowing so many devices that interfere with services? ... It seems the FCC does not care about frequencies below 30 MHz when it comes to interference. Chase a pirate on FM, find a beacon light out on a tower, public files not in order at a station ... but interference from a device?"

He continued, "They don't hear the plasma TV noise, electric machine noises, PC interference, cellphone interference, CFL light bulb interference, overhead light rail lines interference, etc., etc., etc. interfering with the AM radio."

He concludes: "Surely somebody at the FCC must say, 'We need to look

into this.'"

Well, somebody has.

## LET'S HEAR THE OPTIONS

To be clear, the FCC explicitly acknowledged AM's issues years ago, writing in its AM translator rulemaking that "the combination of higher-fidelity alternatives to AM radio and increased interference to AM radio have caused an erosion of the AM radio audience and loss of young listeners to other programming outlets."

Yet frustration about AM's situation is common in our industry, and the sense of urgency is growing.

You'll recall that Radio World featured a series of articles about it starting in 2009, with a front-page story titled "Is AM Radio Still Relevant?" That headline startled a lot of people, and some criticized the underlying assumptions; but to me, the need for a broad industry discussion about AM's situation was obvious. Since that time, we have published several commentaries and stories exploring various angles, including the

matter of device interference.

AM regulatory options also have been a focus of discussion by the new NAB Radio Technology Committee, reporting to the NAB Radio Board.

These welcome talks unfortunately have taken place out largely of the public eye. Details of the committee's "AM Engineering Study" — authorized by the radio board in late 2011 — have never been published.

I reported then that committee would look into options involving the technology of content delivery, regulation and frequency band rules; I speculated that it might explore options like moving AMs to frequencies shared with TV; allowing AMs to make more use of translators and FM IBOC multicasts; and taking advantage of less-discussed options like mobile DTV.

My hope is that whatever ideas the committee developed, its ideas will be put forth publicly, so that the industry at large can debate them and benefit. (An NAB spokesman told me recently the report was for the board's internal use only, and was not intended to be published.)

We know that one idea is to let AM stations turn off their analog and broadcast entirely in digital. As RW has reported, there has been a bit of testing of this, with more anticipated. The National Radio Systems Committee received a briefing on the tests at the recent CES, and we expect to hear more about that project at next month's NAB Show.

But whether the all-digital path is a practical one is anyone's guess. My own speculation is that, faced with a menu of improvement options, AM broadcast owners would probably prefer more limited regulatory tweaks first. Yet there hasn't been sufficient industry debate over what those other options might be.

## REGULATORY HELP?

One person pushing the issue is, in fact, quite prominent at the FCC.

Commissioner Ajit Pai wants the FCC to help AM.

"Specifically, we should conduct a comprehensive review of all our AM radio rules," he said at last fall's Radio Show. "We should focus on one basic question: Are there regulatory barriers we can remove to help this sector rebound?"

He is well aware of the problems mentioned by our reader above.

"One notable change is that AM reception has gotten worse," Pai said then. "The causes of interference to AM signals have only expanded in the last two decades. If you've tried flipping through the AM dial recently, you know what I'm talking about."

Pai even acknowledged a "wide-

## FROM THE EDITOR

Paul McLane



spread perception that today's FCC is largely indifferent to the fate of [broadcasters'] business."

Pai is about to take an even more visible role. He will lead a session on this topic at the NAB Show — an unusual, maybe unprecedented, decision for a commissioner. I think it's a great idea.



**Commissioner Ajit Pai is taking an unusually prominent role, for a commissioner, on the matter of AM revitalization.**

According to NAB, "This session, held within the Broadcast Management Conference, will address possible options for sustaining and enhancing AM radio as a unique entertainment medium."

I hope the session will get specific. I hope Pai will delve into some other improvement options he mentioned in passing last fall, such as a possible across-the-board power increase for AM stations, the use of synchronous AM transmission systems and development of "anti-skywave antennas" so that some stations wouldn't have to go dark at night.

Regardless, we need to keep up the momentum on this. We live in a world where spectrum is highly sought after; if a critical mass of influence makers were ever to perceive that the senior radio band truly was vulnerable, you could expect someone to make a play for it. Even putting that possibility aside, consider what Ben Downs of Bryan Broadcasting Corp., who sits on the NAB Radio Board, told me in late 2011: "I truly believe if we do nothing, we'll have no AM band in five to 10 years. We have very little of one now."

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Photo courtesy of Janet Gates Conover

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required for such upgrades is reasonable," he said, especially when dealing with do-it-yourself adaptors or window antennas.

Peter Fuhrmann, chief executive officer of the European Mobile Media Association, made up of luxury car audio installers, explained that there are still some issues to overcome for the aftermarket.

"Window antennas and self-fit adaptors with their cables floating on the dashboard simply don't fit German consumers," said Fuhrmann. "They ask for a fully integrated solution, but just replacing the factory-fitted antenna with a Band III-capable one would raise the

**Digital radio as a selling point is a disruptively new point of view.**

— Laurence Harrison

overall cost" up to roughly \$800. Even so, he explained that EMMA was open to promote digital radio but that customers need to be aware of installation costs.

"Digital broadcast is key to radio's future," said Mats Åkerlund, chairman of the EBU New Radio Group. "EBU believes in a future for radio that is digital, multiplatform and hybrid." Internet radio, he added, complements broadcast radio, and does not "supersede it."

"Hybrid radio" was mentioned frequently during the conference as a key factor in promoting digital radio in-car. A hybrid radio receiver receives a broadcast signal; the device is also connected to the Internet and finds the Internet address of the streamed service corresponding to a tuned station. RadioDNS and the Internet Media Device Alliance recently collaborated on Hybrid Radio electronic program guide, a technology for receivers to display metadata for DAB, DRM, HD Radio or Radioplayer.

However attendees cautioned no matter what technology the receiver uses: consumers "don't care about technicalities and standards, they just want it to work" was one of the conclusions.

During the event, almost every panelist focused on users: "It's all about the user experience. Get the user experience right, and you win," said Roger Lancot, associate director of U.S. consultancy firm Strategy Analytics.

*Davide Moro reports on the industry for Radio World from Bergamo, Italy.*

**NEWS****NEWSROUNDUP**

**'SUNSHINE RULE' CHANGE:** Lawmakers have introduced a bill they hope will speed the FCC's decision-making process. An existing "sunshine rule" prohibits non-public discussions by more than two commissioners. The FCC Collaboration Act would allow private talks by more than two on an issue, as long as no agency action is taken. Opponents expressed concern that the move could weaken transparency.

**EAS:** Broadcast engineer Richard Rudman, on behalf of the Broadcast Warning Working Group, urges the federal government to conduct a second national EAS test "to address open issues." The first test, in November 2011, focused on EAS equipment in place at the station level but before Common Alerting Protocol-compatible equipment was required. Results of the test have never been released, in part because the federal government had promised stations that findings would be private, RW has been told. Government officials say privately that releasing even summary results could raise some privacy concerns.

**HARRIS:** The Gores Group closed on its purchase of Harris Broadcast Communications Division. Gores pegged the value of the package \$225 million, of which \$160 million is cash, \$15 million is a subordinated promissory note and up to \$50 million is a possible "earnout" based on performance.

**PREC:** Registration is open for the Public Radio Conference, slated for April 4-5 in Las Vegas. The event, organized by the Association of Public Radio Engineers, moves to Planet Hollywood this year after having been held in the MGM Grand for the past several years. Go to [www.apre.us](http://www.apre.us) for information.

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# INAUGURAL

(continued from page 1)

working the event. At least one radio network scaled back coverage of the year's inauguration compared to four years ago because of the perceived lessened significance of this year's event — not unusual for a second inaugural.

The radio networks take advantage of permanent telecom infrastructure already in place at the U.S. Capitol, though the moving nature of an inauguration day schedule presents challenges and requires creativity, according to engineers.

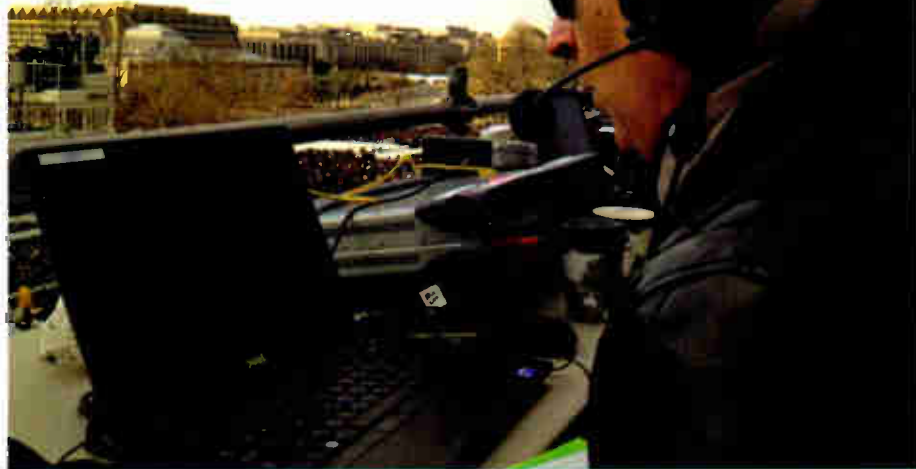
## COLD TESTS

National Public Radio, which presented a special broadcast of inaugural events and a live stream available online and on mobile devices, concocted battery tests to prepare for potential cold

**Barry Bagnato of CBS Radio News was one of several correspondents anchoring live coverage. Barry is overlooking the West Capitol steps and using a Telos Zephyr Xstream MXP (ISDN codec plus four-input mixer) box and a Sennheiser HMD26 headset mic.**



Radio keeps its ear on the proceedings. President Obama can be seen delivering his inaugural address from NPR's position on the north media platform at the U.S. Capitol. NPR's Mackie 1620 mixer, foreground, was fed by three host mics, two wireless mics, a mult feed, an ambi mic, returns from two ISDN codecs and a return from a phone hybrid. A headphone bag helped make the meters more visible to the operator.



weather and the lack of power in several remote locations. The tests prior to inauguration day were similar to ones the network performed four years ago, said Neil Tevault, technical director of elections for NPR.

"I borrowed the refrigerator from the technicians' lounge to freeze the Musicam RoadWarriors (portable IP/ISDN codec). We knew we had to use them at locations without any power," Tevault said. "We had to use large acid

batteries weighing about 25 pounds. I froze the RoadWarrior with the battery. We ran audio to and from it to replicate working conditions. We managed about seven hours of battery life."

Inauguration day, a 13-hour workday for Tevault, is like preparing for a giant remote, he said.

"We had locations at the Capitol, three locations at the Mall, three fixed sites along the parade route and five roaming reporters along the parade route. Gathering all the equipment for this undertaking is the biggest remote I've ever packed for."

NPR used limited pool coverage of the day's events; the network used the main studio at its Washington headquarters for final mixing and satellite distribution to affiliates. NPR hard-patched the sends and returns through ISDN from the Capitol location to master control, he said, instead of using the switcher

to route the audio, which would have limited the audio to only four paths.

NPR's director at the Capitol used a Telos hybrid to talk to the director in the master control studio via a Prospect Electronics IFB box. Tevault said the audio return from the studio used by the air talent was via ISDN, too.

"Our talent used headset mics with DPA microphones and regular Sony headphones: they don't look fancy but it's the best-sounding headset microphone we have used."

"A Mackie 1620 console was onsite and the Prospect IFB unit allowed the director talk to any of the reporters. We used Musicam Suprima ISDN codecs and a return from a Telos hybrid. We had a reporter on a wireless mic to extend our reach with a combo of a Lectrosionics wireless unit and Shure microphone," Tevault said.

One of NPR's Musicam RoadWarriors was connected to ISDN at an area called the media village, serviced by Verizon, he said.

The wider availability of 4G compared to President Obama's first inauguration made a real difference, allowing for better connectivity and increased mobility for reporters, he said. NPR employed several wireless portable Comrex Access units.

"We struggled several times getting the Access units connected because of the heavy use on the 4G network, but when we did, we used cell phones. However, that was seldom," Tevault said. "More often than not we got them connected with the high data rates at 64 kbps to codecs at the master control. The audio quality is tremendous and way better than a cell phone or sat phone."

About the only thing that failed dur-

ing NPR's inauguration day broadcast was something Tevault had failed to test: the up and down timers relied on by the producers to time for rejoins and end of reports.

"The cold got to them. The timers sat in the cold too long. The director had to resort to an app on her iPhone for a countdown the producers could see."

## FREQUENCY COORDINATION

NPR staged all its gear on Sunday for what Tevault described as "war games" set up by the frequency coordinator. Media organizations have use of specific wireless frequencies for such events, he explained, and by turning on the equipment during the test they make sure they are not giving or receiving any interference.

It takes longer than usual to get to any location and back because of heavy security for such an event. "When you are inside or outside the security perimeter, it takes time to get through to where you are going," Tevault said.

NPR, which had an IT person and two telecom people at the West Front of the Capitol for the swearing in, featured co-hosts Steve Inskeep and Audie Cornish on the broadcast platform. Correspondents Ari Shapiro, Scott Horsley and David Welna contributed from remote locations.

Tevault said Beyoncé's performance of the national anthem — famously lip synced — was memorable for its sound quality.

"Let's just say that Beyoncé's audio quality was a lot better than Kelly Clarkson even though they were using the same microphone. I scratched my head for a minute listening to it. I was

(continued on page 8)





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Dan Jackson, engineer for 92.9 FM in Perth, Australia was faced with a unique challenge. Breakfast hosts Paul Hogan and Lisa Fernandez would be cycling for hours in strong winds and pouring rain as part of the 92.9 Kids Appeal for Telethon.

The unique solution was to equip Dan's bike as a mobile production facility. The talent wore wireless mics AND in-the-ear monitors which communicated with receivers and transmitters in a rack bag on Dan's bike.



on-air feed as the trio traversed the winding roads of Perth. How did it all work out? Absolutely flawlessly – the show went on without as much as a speed bump!

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# INAUGURAL

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thinking, 'Boy, for singing live she sure sounds good.'"

CBS Radio News provided live anchored coverage and short-form special reports of inaugural ceremonies as well as a wrapup program of the ceremony featuring correspondents Dan Raviv, Bob Fuss, Peter Maer, Pam Coulter, Barry Bagnato and others.

The news organization collaborated with Dial Global on the technical challenges of covering inauguration day, according to Craig Swagler, executive producer of special events for CBS Radio Network. Dial Global is CBS Radio's engineering partner for special live events.

Swagler worked with Mitch Glider, vice president of engineering for Dial Global, New York, on logistical planning and technical needs.

"We began editorial planning for inauguration day right after the general election," according to Swagler. "We identify the anchor locations, how many live remote spots, where will we mix the show and then how we will break it out to the affiliates."

The location of each CBS Radio News host and reporter is important in planning; each will need some kind of

tech support for each live element along with ISDN lines, in addition to a wireless IP codec, or standard phone line for connectivity, he said.

## WASHINGTON INFRASTRUCTURE

Glider said much of the network's plans centered around a Sierra Automated Systems 32KD router, a SAS Rubicon-SL console and ICM 32 intercom heads at the radio network's 2020 M Street studio in Washington.

The SAS Rubicon-SL console had no less than six four-wire elements, Glider explained, whether they were an IP codec, a hard wire to one of the positions or someone on a phone.

"Craig board-oped the event and managed all of the mix-minuses and utilized an off-line bus so he could communicate with all of the remote anchors both online and offline to give them voice cues," Glider said.

Swagler said the goal of CBS Radio News is to "always to bring the best audio quality possible when we do these live events. So we can bring the listener right to the front steps of the Capitol building.

"The natural sound is crucial, the crowd reaction, the applause, the pauses. We mixed in some shotgun mics for natural sound."

CBS Radio News used a Telos Zephyr Xstream MXP, which is an ISDN codec

that also has mic- and line-level mixers built into it, for remote locations, Glider said.

"Correspondents used Sennheiser sports headsets that have great noise reduction for wind. The talent could mix their own sound on the fly as they were reporting using the Zephyr," Glider said.

The final mix audio went from CBS' Washington headquarters to New York via T-1 with ISDN backup to the CBS broadcast center to be distributed across the satellite network to affiliates.

Washington has infrastructure in many key locations wired with four-wire analog circuits from the Capitol to the Pentagon, Swagler said.

CBS Radio News at various locations up and down the parade route used handheld Comrex Access units, capable of sending mono, stereo or dual mono audio over POTS, DSL, cable, Wi-Fi, 3G and 4G cellular and satellite connections.

Dial Global posted two technicians and a technical producer at the Capitol and additional techs at the Washington headquarters, Glider said.

Swagler said a full dress rehearsal with talent was held on Sunday. In addition, "We did a full technical testing two days prior. Testing the lines back to the control room to verify that all elements

have full mix-minus and can talk to each other."

Glider expressed pleasure with the performance of the Telos Nx12 studio telephone system with ISDN voice option. "We had a cellular phone interview with Martin Luther King III to give us perspective on the day. The quality we were able to get out of the phone hybrid was far superior than a standard Telos hybrid using a cell phone. The (Nx12) gave us much more richness and texture."

Dial Global used Comrex Matrix and Musicam Suprima audio codecs at several locations, Glider said.

Using the various telephony technologies available today does present challenges when mixing different sound quality and audio levels.

"To Craig's credit, when you have all of these different elements and different algorithms it is hard to get the balance sometimes, but this was true live radio that sounded great," Glider said. "Broadcasting live is special. There is balance to how pleasing is it to the ear and different frequencies that pop out and to orchestrate; that is a talent."

IP codecs have come along the furthest of any remote gear in the four years since Obama's first inauguration, Swagler believes.

"IP has really moved along."

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# Your Panel Lettering Made Easy

Here are some modern-day techniques for your 'home-brew' panels

Perhaps you've used "wax" transfer lettering and symbols to label a front panel in a "do it yourself" project. Although that can produce good results, the process is time-consuming and tedious.

## WORKBENCH

by John Bisset

Read more Workbench articles online at radioworld.com

Frank Hertel of Newman-Kees Consulting offers a new approach to laying out and labeling a project's front panel, all in one simple project.

On the computer, create a rectangle that represents the area of the panel on which your project's controls and con-

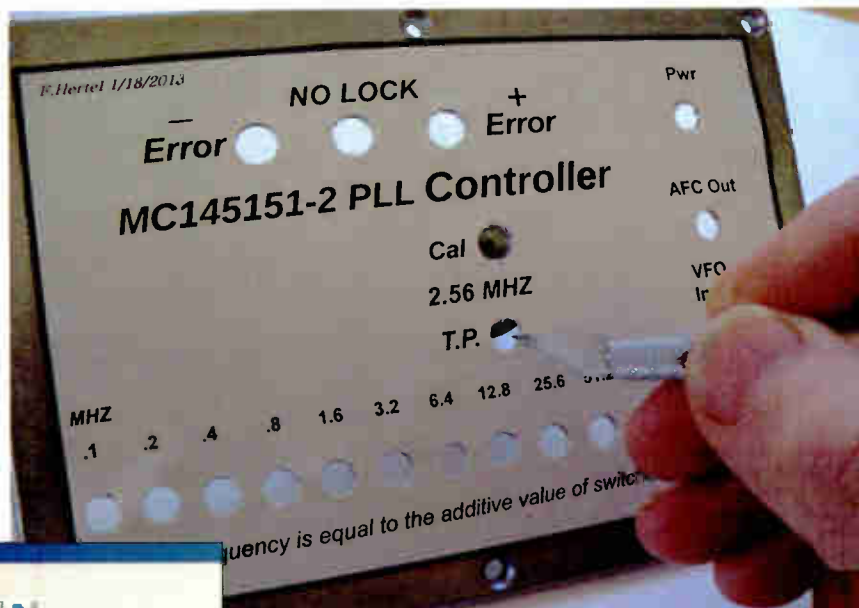


Fig. 2: With a pointed blade knife, cut the panel holes covered by the artwork.

nectors will be mounted. Add the layout markings for drilling the mounting holes, as well as the lettering needed to identify each control.

Once you've identified and labeled the mounting holes, print the drawing to scale on a regular piece of paper. Next, tape the printed artwork to the project's (blank) front panel.

With the artwork taped into place, use a spring-loaded center punch and mark each drill point. Then drill each hole to the size needed for each control or indicator. Frank recommends you make a border or

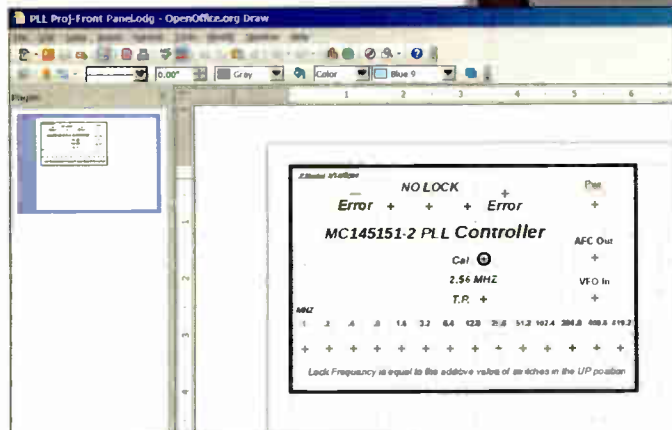


Fig. 1: Use the free Open Office drawing program for panel identification.

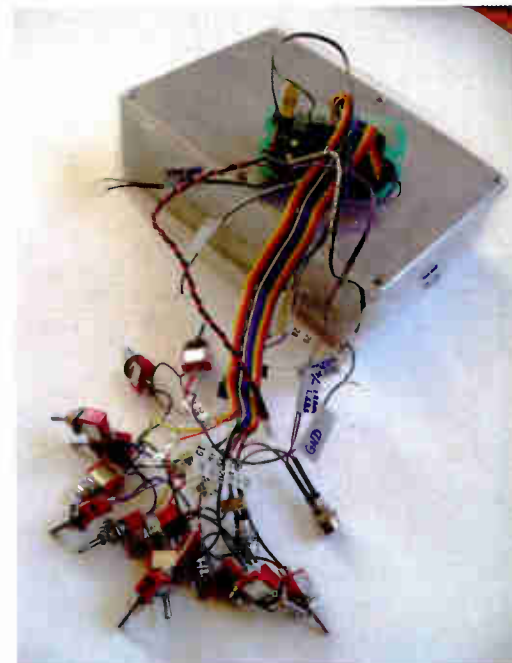


Fig. 3: Connectors and indicators await the finished front panel.



Fig. 4: Voilà, the finished product.

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artwork alignment mark on your front panel. This will make affixing the panel artwork easier, as it is pasted onto the surface of the front panel.

There are many types of specialty papers that have a metallic look. Choose a type that can be printed upon by inkjet or laser printers, or run through a copy machine. The paper used in Frank's project was Wausau Creative Collection Specialty Cardstock, 8.5 x 11 inch, Royal Metallics Mix, 40 Count, 32 lbs. It is acid- and lignin-free, and it should hold up quite well. Alternately, you could use regular heavyweight paper.

Spray-on contact glue helped affix the final printed artwork to the project's front panel. Apply the glue only to the front panel. This will assure an easier, less messy, application of the final printed artwork. Don't use too much spray-on glue or your artwork will not lie down without bubbling.

Once the glue is applied, move quickly to place and align your final printed

(continued on page 12)

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# Remembering the Gates Radio Company

The new owner of Harris Broadcast inherits a rich 90-year history

## ROOTS OF RADIO

BY JOHN SCHNEIDER

The announcement of the sale of Harris Corp.'s Broadcast Division has caused many people to reflect on the long history of that iconic broadcast manufacturer. The Gores Group becomes just the third owner of one of the world's major broadcast suppliers, and in

the process it inherits that company's 90-year history.

This is a quick look back at that history and some of the company's important products.

Henry C. and Cora B. Gates founded the Gates Radio & Supply Company in 1922 in the kitchen pantry of their apartment in Quincy, Ill., primarily to create a job for their son, Parker S. Gates, who was only 15 years old at the time. He began by selling crystal radios to friends and neighbors in the community.

(continued on page 14)



◀ One of the earliest businesses of the Gates Radio and Supply Company was the manufacture and rental of sound amplifying equipment. This is one of two 'field trucks' that the company used to provide public address facilities at public events.

## WORKBENCH

(continued from page 10)

artwork with the holes you drilled in the panel.

After applying the printed artwork, lay the panel face-down on a flat surface to dry. After drying, you can spray a light protective coating, such as satin urethane varnish, on the artwork.

Once the protective coating has dried, use a fine-pointed-blade knife to excise the control hole openings. Cuts are shown in Fig. 2.

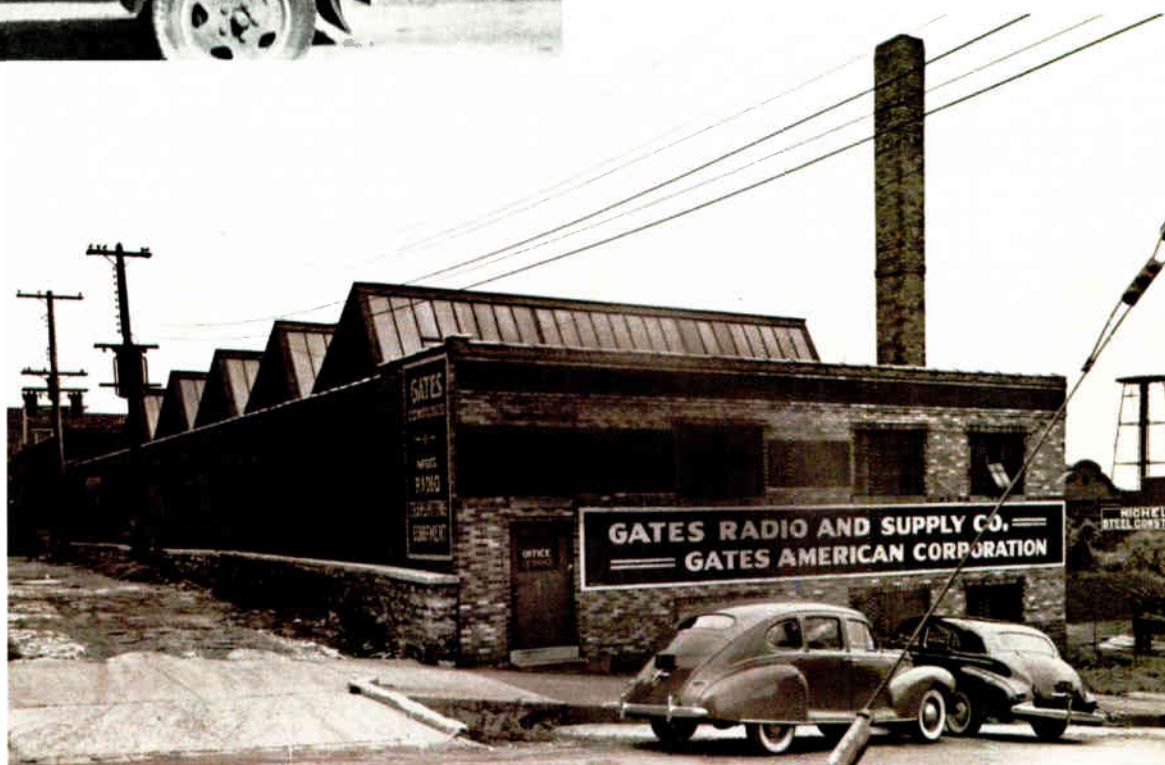
**Caution:** Do not try to rush the drying of the protective coating by baking it in the oven or blowing a fan on it. Drying too fast will cause the edges of the printed artwork to ripple and loosen from the panel.

Fig. 3 shows the controls awaiting the finished front panel. Fig. 4 shows the completed project.

Frank says the project was a learning process; his words of warning are a product of mistakes made along the way. You likely will find ways to refine this process further with your own hands-on experience.

Give it a try and dress up the look of your next project, the easy way.

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



▲ This building at 220 Hampshire Street became the fourth home of the Gates Radio and Supply Company in 1938. Many transmitters were built here to support the military in World War II. Parker Gates was one of a handful of civilians who learned of the D-Day plan ahead of time, and the company was contracted to provide transmitters for the invasion. The factory ran around the clock for nearly 30 days producing transmitters for the battle. Cots were set up in the factory for the employees to take short naps and then they would go back to work.

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# GATES

(continued from page 12)

It would be the only place Parker would ever work.

Parker had always tinkered with electronics, along with his Quincy school chum Elmer Wavering. The two boys put together an early automobile radio to impress their girlfriends, and in the process solved the thorny issues of ignition and multi-vibrator interference that had prevented reception in a vehicle.

Wavering later partnered with Paul Galvin of Chicago to develop and market car radios under the name Motorola, while Parker stayed in Quincy and got into the manufacturing business.

Gates Radio & Supply Company soon became a serious enterprise, and Parker's father quit his

(continued on page 18)

Photo courtesy of Janet Gates Conover



Photo courtesy of Janet Gates Conover



^ The Gates management team is seen inspecting a new Gates M5530 preamplifier. The photo was taken in December, 1957, the month that Harris Intertype Corp. acquired Gates Radio. Front row: Norbert L. Jochem, director of engineering; Parker S. Gates, president; L. I. McEwen, executive vice president; Larry J. Cervone, sales manager. Back: Howard A. Young, plant manager; A.S. Petzoldt, comptroller/secretary; Roger M. Veach, director of personnel & public relations; Ray Jochem, credit manager; John Bowers, director of purchasing.

**ON THE COVER: WTSP(AM) St. Petersburg, Fla., circa 1949.** Glen Dill is seen in the control room. He was the morning man at WTSP from 1947 to 1957. The console is a post-war Gates Model 30 and was mounted in a walnut cabinet. It was soon redesigned to become the popular SA-40, which had a cast aluminum cabinet and one more audio channel.



^ In 1945, the Gates Radio Company purchased a group of buildings on 123 Hampshire St., just one block up the hill from the Mississippi River in Quincy. Another factory building was built on Broadway Street in 1953, and the two buildings were used until the company consolidated all operations at the present location on Wisman Lane in 1977. The Hampshire Street factory was demolished in 2010.

v One of the Gates Radio Company's biggest projects was to supply the studio equipment for the Voice of America headquarters in Washington. The contract was awarded in May of 1954, and final delivery was completed by August of 1955. It included this custom-built audio console, 22 feet long and 6 feet high, that could switch any one of 100 inputs to 25 outputs. There were also dozens of consoles for the individual studios and 65 racks of supporting equipment. It was all installed on the second floor of the Health Education and Welfare building on the National Mall. In this 1967 image, VOA engineer James A. Boyd selects the programs to be sent to shortwave transmitters in North Carolina, Ohio, Florida and California.





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the finest dedicated outboard processors. The visually-stunning meter bridge features up to four sets of bright, high resolution LED meters, as well as circular LED displays for auxiliary send levels and pan control. A digital count-up/count-down timer is also included.

The LX-24 is advanced in ways that can make a HUGE difference in your capabilities. But it's also immediately familiar to anyone who has ever sat behind a board at a radio station. Use it to make your programming the best it can be. Just plug it into your WheatNet-IP Intelligent Network – with it, and the BLADES across the page, you can, dare we say it, rule the world.

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- A/B source selector
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◀ Here is the very first 50 kW AM transmitter built by the Gates Radio Company. This BC-50B was sold to XET in Monterrey, Mexico, around 1956, where it is still installed (although no longer operational).

## GATES

(continued from page 14)

job to head the family business, which they moved into a second floor commercial space in downtown Quincy.

The first major product that Parker developed was a sound system used in early "talkie" movie theaters around the country. The Gates family also developed and sold a broadcast remote amplifier, a transcription turntable and a compact condenser microphone.

### BUSINESS BOOM

Two more moves to increasingly larger factory space took place in the 1930s. In the middle of that decade, Gates built one of the industry's first audio consoles and introduced its first AM transmitter, the 250 Watt model 100A (a restored unit is on display today in the Harris lobby in Quincy).

The war years brought more work when the Gates Radio Company received several subcontracts from RCA for the manufacturing of military shortwave transmitters. Gates purchased a larger factory located on the Mississippi River in Quincy in 1945, and then in 1953 constructed an even larger building.

By the 1950s, Gates Radio had become one of the country's principal radio equipment suppliers — a major provider of audio consoles, turntables, AM, FM and shortwave radio transmitters and accessories. It also made its first forays into the new field of television at that time.

In December 1957, Harris Intertype Corp., a lithography and typesetting conglomerate that was making its first venture into the field of electronics, acquired the company. Parker Gates stayed on as the president of the division, which gradually phased in the

Harris name and is today known as Harris Broadcast Communications.

For many years, however, Parker Gates remained, graduating from president to adviser, staying in touch with his many employees, customers and friends via his ham radio station, W9DZT.

In succeeding decades, Harris became a leader in broadcast technology with innovative FM and TV transmitters — including multi-megawatt AM systems, new AM techniques such as pulse width and digital modulation and some of the industry's first solid-state AM, FM and TV transmitters.

A full line of television products also was created through both in-house development and corporate acquisitions. More recently, Harris worked closely with the Advanced Television Systems Committee and Zenith/LG to perfect and introduce an over-the-air mobile digital television technology that is just now being introduced to consumers.

The company consolidated operations into its present 40-acre factory complex in Quincy in 1977. The senior management, product line management and R&D team moved to Mason, Ohio, in 1998, and later moved its management offices to Englewood, Colorado, in 2010. But the primary manufacturing facility has always remained in Quincy.

Harris Broadcast made many acquisitions over the years, including radio companies Allied Broadcast, Intraplex and Pacific Research & Engineering (P&RE), as well as a number of notable television acquisitions. In the process, the company's engineers made important contributions into the development of high-definition television and HD Radio technology.

In 1992, the Harris Broadcast Division celebrated its 70th anniversary by naming a Quincy street "Parker Gates Avenue." Parker S. Gates died on



✓ WCCF(AM) Punta Gorda, Fla., 1961. Chief Engineer Bill Setliffe is seated in the control room, preparing the new station for its on-air debut. The console is a Gates Yard, the most compact audio console available at the time, aptly named for its 36-inch width. It was immensely popular because of its modest price and minimal use of valuable control room real estate. Other Gates products seen here are the Gates Cartritape tape cartridge machines and CB-500 Turntables.



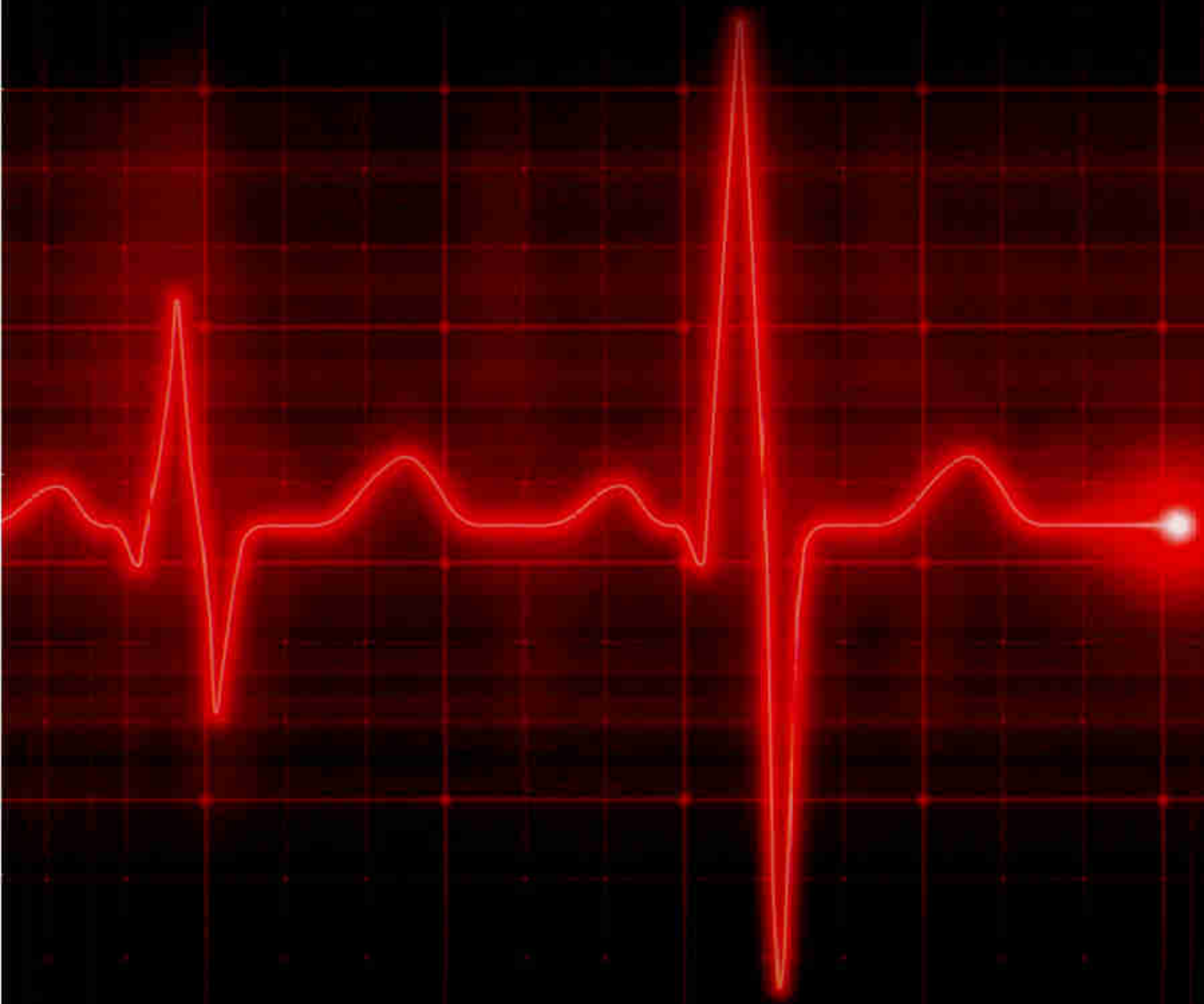
△ WQMR(AM)/WGAY(FM) in Silver Spring, Md., 1965. Tom DeBray is seen at the helm of another Gates Yard console.

Sept. 16, 1986, at the age of 79. His wife Millie and their three daughters still live in Quincy, where Millie recently celebrated her 101st birthday.

Comment on this or any story. Write to [radioworld@nbmedia.com](mailto:radioworld@nbmedia.com).

John Schneider is a lifelong radio history researcher. Write him at [jschneid93@gmail.com](mailto:jschneid93@gmail.com). This is one in a series of photo features from his collection. See past images under Columns/Roots of Radio at [radioworld.com](http://radioworld.com).

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# Panning for Radio Personality Gold

These shiny gems are more common than you'd think

Continuing our discussion from my Feb. 1 column, let's recap: Radio brands have become increasingly difficult to establish, maintain and grow. While marketing was once part of our industry DNA, the necessary dollars and competency to launch campaigns is now the exception. So what's left to drive sampling and grow an audience? Personalities.

As I promised, we'll now explore a few thought-starters on where to locate, and how to grow, this rare species.

## GO TO SCHOOL(S)

Standard practice has been for program directors to scour smaller markets for talent, and there's no question that this remains a strong source for finding personalities. A common mistake, however, is to pinpoint someone of interest and jump right into a hire.

Instead, you should develop a one-on-one relationship with the candidate, so that over time you have the opportunity to follow his/her progress and, more importantly, discern whether or not this person can take direction and respond well to guidance.

This approach also enables a PD to discover how aggressively the personality wants the position. If someone doesn't work hard to land a job with you, this inaction should make one wonder how hard he/she will work to succeed once in-house.

Another great source for talent is college. Hundreds of college radio stations participate in College Broadcasters Inc. activities, including the organization's annual convention, which will be held



That opinionated frequent caller could just be your next star DJ.

this year from Oct. 31–Nov. 2 at the Hyatt Regency in San Antonio, Texas.

Yep, there are still plenty of enthusiastic 20-somethings who want a crack at being taught the ropes. Do you have room for interns who could do shows on one of your HD Radio channels this summer? Try out enough kids and

you might just get lucky in finding a few who have the potential to become larger-than-life in your company.

## DIAMONDS IN THE ROUGH

Outside of searching for personalities by listening to over-the-air broadcast stations, the Web gives us thousands of pre-recorded shows and live non-broadcast streams. There are tons of podcasts to comb through online. Yes, amateurs abound; but there are also diamonds-in-the-rough to be found.

Many of these podcast hosts have never even considered pursuing broadcast radio. This enables them to approach being a personality differently, because they do not model themselves after someone they've heard on the air. Going through podcasts holds such potential for discovery that it's more than a one-man job to search, find and develop relationships with potential picks.

Bonus: If you don't have Stitcher on your phone, give it a shot; it's a terrific podcast aggregator.

I've long been fascinated by the unusual places radio stations have found potential personalities. Rich "The Coach" Gilgallon was an opinion-

## PROMO POWER



Mark Lapidus

ated bartender at a place frequented by radio guys after work.

After hearing this barkeep's passion about local sports, the program director gave him a tryout as a part-time sportscaster for WMZQ(FM) in D.C. Rich then became a full-time host for WTEM(AM), one of the first all-sports stations in the nation. Rich currently does talk on KPSI(AM) in Palm Springs, Calif.

Another shooting star is Anthony Cumia of the "Opie & Anthony Show." He was working for an HVAC company on Long Island when he submitted a tape from his band to Opie, who was working at WBAB(FM).

Anthony became a regular on the show and then the team left for greener pastures in Boston. Of course, this duo is now on SiriusXM.

**A friend of mine 'discovered' a highly opinionated bartender at a place he frequented after work.**

Finally, I have been told repeatedly that lawyers often make great radio personalities, but I've never put this one to the test. It is true, however, that attorneys often excel in being *certain* of their position on a particular subject. And trial lawyers? They're darn good at keeping folks' attention on an issue. These are all excellent traits for a personality.

When it comes to finding successful personalities, one thing is certain: It is always best to be proactive. I have worked in a few places that sank like cement because they had nobody "on deck" when a key personality split for another station.

An essential part of being a great program director is being an excellent listener. So listen carefully to what your own staff is telling you, and always keep an ear to the ground for talent. You owe it to yourself and to our industry.

Mark Lapidus is president of Lapidus Media. He can be reached at marklapidus@verizon.net.

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1664: Just what it looks like. Two tin cups and a string. But it transmitted sound!



1876: Alexander Graham Bell's commercially viable telephone.



1900: Phones become fixtures in more well-to-do and steam-punk homes.



1920: Every home is working toward having a telephone!



1936: The advent of the dial desk phone. No more asking the operator to connect you.



1963: Push buttons usher in the thoroughly modern world. Touch tones enter pop culture.



1983: The mobile phone is a reality. Plots in all TV shows get a boost!



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# Can SoundCloud Help Your Station?

Platform promises access to a vast audience at minimal cost

## RADIO IN THE CLOUD

BY JAMES CARELESS

For radio stations, streaming success can be costly — even apart from any content rights expenses — because the more live and recorded content streams a broadcast company serves to listeners, the more it must pay to cover the bandwidth consumed. There are also costs associated with buying and maintaining onsite servers to host and provide the content, and hiring and paying staff to keep the system going.

These latter costs can be avoided by streaming content through a third-party content delivery network such as Akamai. But third-party hosting isn't free. CDNs charge radio stations for these services.

One cost-effective solution to this problem is SoundCloud. This is a member-driven audio distribution platform that the company says reaches approximately 180 million people every month. Users include CNN ([soundcloud.com/cnn](http://soundcloud.com/cnn)) and "On Air With Ryan Seacrest" ([soundcloud.com/ryanseacrest](http://soundcloud.com/ryanseacrest)).

For an annual fee of \$660, SoundCloud will host and serve out an unlimited amount of audio content uploaded by its members. That's the top rate; lower-priced deals are available for users willing to accept caps on the number of hours unloaded and downloads accessed by listeners.

For radio stations wanting to test the waters, SoundCloud provides a free membership that allows up to 120 minutes of content (one or more tracks in total) to be uploaded, and 100 downloads per track.

One satisfied user is donor-supported Chicago Public Media and its WBEZ(FM) and Vocalo.org 89.5 FM. CPM uses SoundCloud to stream WBEZ/Vocalo's recorded audio to the world, in addition to Chicago Public Media's own website streams. CPM also relies on SoundCloud to provide statistics about who is downloading what,

and in what numbers.

"We've been uploading episodes of WBEZ's music program 'Sound Opinions' onto SoundCloud," said Matthew Green, the station director of digital product management.

Within "a week of uploading our very first show — a December 2005 interview with Velvet Underground

Further, sound creators can use it to record, post and share sounds across the Internet, and receive stats and feedback from the community.

A December article in the blog The Next Web quoted Wahlforss as saying the number of registered users had grown to approach 30 million, up from 10 million at the start of 2012. But

The image shows a SoundCloud player interface for WBEZ's Morning Shift. It features a playlist of tracks such as "Deadly Chicago weekend violence 7:46", "Immigration takes steps forward 3:35", and "Unconferencing with ORD Camp 6:01". Below the playlist, there's a snippet of an article titled "Downton doubles down: The popularity of the PBS series" with a date of Feb 3 2013.

Chicago Public Media's website, [wbez.org](http://wbez.org), where visitors listen to the station's programs using the SoundCloud player.

founding member John Cale — we had received 700 hits on SoundCloud," he said. "In contrast, on our own website ([www.soundopinions.org](http://www.soundopinions.org)), we only had four hits to this program for the entire calendar year."

### TO THE CLOUD

Based in Germany, SoundCloud was created in 2007 by sound designer Alexander Ljung and artist Eric Wahlforss. They were fed up with not having an online space for sharing audio content with other artists.

"We'd be using Flickr for our photos, and Vimeo for our videos," said Ljung in a 2009 interview with *Wired.com*. "We didn't have that kind of platform for our music."

What started as an online audio collaborative space grew into something larger.

"Today, SoundCloud is a social sound platform that gives users unprecedented access to the world's largest community of music and audio creators," said Jim Colgan, the company's senior content relations manager, audio, and a former producer/digital experimenter for WNYC(AM/FM) in New York.

He said the platform "allows everyone to discover original music and audio, connect with each other and share their sounds with the world."

The image shows two widgets. The top one is a "Click Here for Coupons" widget with a "Become a WBEZ Sponsor" button. The bottom one is a "CuriousCiftr" quiz titled "Which would you rather know?" with two options: "How often are taxes pulled over and what's their most" and "Metal scrapers. What's the economic situation for them?"

SoundCloud has preferred to emphasize total reach. It says it reaches the equivalent of 8 percent of the Internet population monthly, approximately 180 million people. Radio World asked how it derived that number.

"We have discussed registered users in the past, but that's not a fair reflection of our actual platform's reach," Colgan replied via email, "because people could be using SoundCloud via playing our widgets, SoundCloud.com, [m.soundcloud.com](http://m.soundcloud.com) [its mobile site], integrations with key partners such as Facebook and Tumblr, our open API, etc. 'Reaches' effectively looks at all of these properties and provides a fairer representation of our platform's ability."

### BENEFITS

SoundCloud execs say the platform is affordable for broadcasters because the site treats them like any other audio contributor: \$660 per year covers unlimited audio storage and service to listeners, whether the member is a private individual, a radio station or a group owner.

Chicago Public Media was drawn by the infrastructure that supports it. "The big attraction for us was their audio player," said Matthew Green. "Not only is it compatible with older browsers and newer mobile platforms, but it is something that they manage; not us. This frees

our two tech people to do other things, saving us money at the same time."

He found SoundCloud's tech support team responsive whenever any issues come up.

"I've been very impressed with their professionalism and willingness to help out," Green said. "By the way, we do retain ownership of anything we post on SoundCloud, so there are no copyright issues to worry about."

SoundCloud's biggest benefit is that it provides broadcasters with a way to reach a much larger audience, in a community that is attuned to all things audio. It also interfaces members' audio feeds with social media outlets like Twitter, Facebook, Pinterest and Tumblr.

## SoundCloud execs say the service makes it easy for radio stations to distribute their audio content on the Web.

"Radio stations use the platform to help them reach an audience far beyond the airwaves," said Colgan. "For example, WBEZ in Chicago uploads its daily and weekly programs to SoundCloud, embeds the tracks on its website and posts to the station's other social media streams. This way they reach the community of listeners on SoundCloud, the station's own website visitors, and the following they already have on Facebook and Twitter."

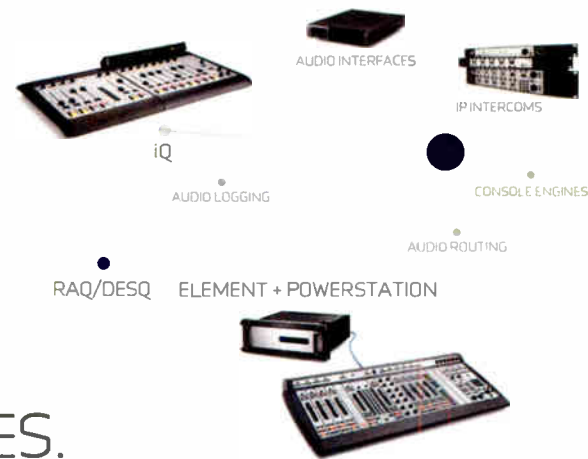
SoundCloud's social media clout is impressive. When this article was written, the website had achieved more than a million "likes" on Facebook. Every time SoundCloud posts something new there, all of these people are linked to it. Meanwhile, SoundCloud had approximately 542,000 Twitter followers as of Feb. 11.

"At SoundCloud, it's more about stations tapping into the community on our platform," said Colgan. "The stations are already creating the content; they're the experts at that, after all. They use SoundCloud to reach and engage with new and existing listeners in the best possible way, to get their content heard on the Web."

The company believes that it offers radio stations — commercial as well as noncoms — an extremely affordable way to serve content out to the world, to cut streaming costs while improving audience reach.

*James Careless is a longtime contributor to Radio World. He wrote recently about Morse code enthusiast Jim Charlton.*

The image shows a "Nautel Waves Newsletter" sign-up button. It features the Nautel logo and the text "Sign Up" in a large, bold font. Below the button is the website URL [www.nautel.com/newsletter](http://www.nautel.com/newsletter).



# MEET AXIA'S NEW, SMALLER IP CONSOLES. THEY'RE BIG WHERE IT COUNTS.

The more you saw, the more convinced you were that IP consoles made sense for your station. Problem was, you had small spaces to work in. Some behemoth board that looks like a '78 Oldsmobile just wouldn't fit. But there was no way you'd settle for some cheap plastic PA mixer that looked like a refugee from the church basement. "Wouldn't it be great," you thought, "if someone made an IP console that didn't take up a whole room?"

Then you saw the new RAQ and DESQ consoles from Axia, and your problems were solved. With the power and features of a big console, but minus the ginormous space requirements. RAQ will drop right into those turrets in your news station's bullpen -

the reporters can send their finished stories right to the studio. And DESQ is perfect for the auxiliary production rooms.

But what sealed the deal was finding out you could run two RAQ or DESQ consoles with just one Axia QOR.16 mixing engine — you know, the one with all of the audio I/O, the power supply and the Ethernet switch built in. That brought the cost down so low that when you told your GM the price, he actually didn't swear at you (for once). Make another decision like this, and you might just be changing the sign on your door from "Chief Engineer" to "Genius."

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# Sound Forge Makes Way for Mac

Venerable Windows-based DAW platform is ported to the Mac; how does it do?

## PRODUCT EVALUATION

BY DAVE PLOTKIN

Time and again, I get into discussions with other production and creative directors about why certain audio editing software is better than others. Each person will cite the strengths and weaknesses of his or her preferred program, and often they will agree to disagree.

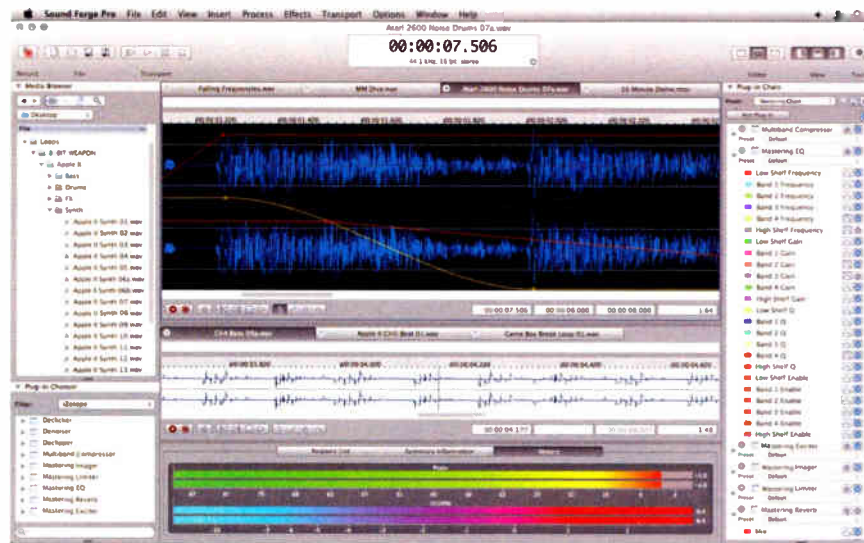
So, what is the best audio editing program? Answer: The one that best fits *your* needs. What are you looking for the software to do? When reviewing editing programs like the new Sound Forge Pro for Mac, I constantly am thinking of how I would employ this program in a workplace environment.

### HERITAGE

Sound Forge Pro for Mac 1.0 is a new, sleek build of Sony's heritage editing software. While it does have new features and a more stylish look, it's a familiar screen to Sound Forge power users and a quick learn for somebody experiencing the program for the first time.

Ergonomics and workflow are a must for any audio editor. We want shortcut

buttons and a layout that can help us locate a file or tool quickly. I don't find this in Sound Forge Pro. While the Media Browser does allow quick preview access to audio files, there are



no buttons for silence, tone or reverse. Users have to access a pull-down menu for these functions. This disrupts my workflow. It would be nice to see the software designers add this in the large amount of available space at the top of the screen in future releases. I am told that more keyboard shortcuts will come

in subsequent editions of the program.

What happens when I edit in Sound Forge Pro for Mac? Editing is smooth and seamless. It is easy to scroll in and pinpoint what you wish to remove. However, I would like to see a list of my edits appear. Currently, if I wish to go back, say, 12 edits, I have to click undo 12 times. With an edit list, I could

simply click back to the edit of my choice. Hopefully this feature will appear in future releases.

Sound Forge Pro Mac does offer a split screen editor view. With that users can view two files at once. Whether you wish to drag an entire file into the editor or just a selection from within the file, you have the ability to view and edit both files on the same screen. I'm not quite sure that I fully understand the reason for this feature other than to use the second editor to assemble selections of files that are located in the primary editor. While I get where Sony is going with this, a multitrack feature would allow for a much quicker and slick way to accomplish the same task.

What if you wanted to mix audio in Sound Forge Pro Mac? Since there is no multitrack capability in the program, you have to rely on cross-fading or a mixing tool. The mixing tool is easy to use and gives you complete control of how you would like to cross-fade one piece of audio into another. However, not having a multitrack function makes beat matching a difficult task if you are trying to perform a radio edit on a piece of music or put a music bed behind a read. With so many programs offering both two-track and multitrack view, it would be nice to not have to purchase additional software, such as Sony's higher-end multitrack audio and video editor, Vegas.

### PRODUCT CAPSULE

#### SOUND FORGE PRO for Mac 1.0

##### Thumbs Up

- + Versatile, high-quality iZotope plug-ins and mastering tools
- + Price is excellent for all that is provided

##### Thumbs Down

- No multitrack mixing
- Metadata could be improved
- No integrated CD burning app

Price: \$269 (free trial available)

For information, contact Mike Scheibinger at Sony Creative Software via email to [mike.scheibinger@am.sony.com](mailto:mike.scheibinger@am.sony.com), or visit [www.sonycreativesoftware.com](http://www.sonycreativesoftware.com).

Sound sweetening and audio forensics are a must for any editing software. Sound Forge Pro Mac hit it out of the park on this one.

Being a broadcast historian and collector of vintage jazz 78s, I am always looking for ways to clean up surface noise without adding artifacts. Sound Forge Pro Mac has an array of noise reduction, pop elimination and tools for correcting clipped audio. Many of these tools are powered by algorithms from audio restoration and processing specialist iZotope and do a remarkable job of restoring audio.

Sound Forge Pro Mac also sports a fantastic mastering chain. The mastering bundle really made my pieces jump out of the speakers. There is a range of mastering tools such as multiband exciters and imagers, limiters, equalizers, reverb and multiband compressors to choose from. The iZotope plugins even give you the ability to adjust the crossover points between bands to tailor the sound to your liking. Beautifully constructed and easy to use, the sound I got from these tools was impressive. The time-stretch effect also passed with flying colors with both voice and music tracks. It is apparent that the creators of Sound Forge Pro Mac took a lot of time in the design and execution of the audio restoration and enhancement portion of the program.

I like to say that it's always better with meta ... data that is. While Sound Forge for Mac does offer the ability to enter metadata on tracks (such as artist, title, date, etc. ...), I did not see where their file naming system was geared to the radio broadcaster. There was no section to enter a cart number or start/

(continued on page 26)

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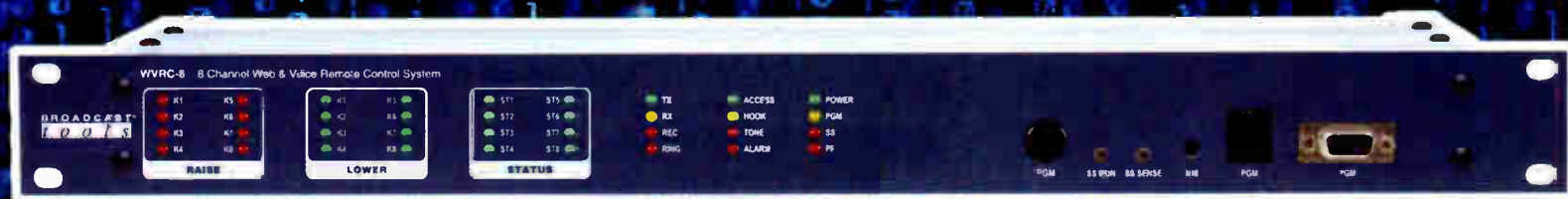
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# Broadcast Tools WVRC-8 Plus Firmware Upgrade Available Now.



## WVRC-8

Broadcast Tools has released the "Plus" upgrade for its WVRC-8 eight-channel dial-up voice and web-enabled site remote control system. The WVRC-8 Plus firmware gives the WVRC a HTML5-based web browser interface based on the framework Broadcast Tools has developed with its Site Sentinel line of web-based remote control products. The WVRC-8 Plus features a unified web browser based configuration and control interface which eliminates the need for a computer with an RS-232 serial port or USB-to-serial adapter when configuring the WVRC.

The upgrade adds several new features to the WVRC-8. Email alarms may be configured to go to up to eight recipients immediately or be compiled as an alarm log and emailed every 24 hours. The new snapshot feature allows the user to configure the WVRC-8 to record the current value of any of its inputs at an interval of up to once per hour and compile those snapshots into an email log. Up to 50 custom event-driven macros may be programmed by the user. The Internet down dial-up voice alarm feature allows the WVRC-8 to call out and notify the user when internet connection or DNS is lost. The upgrade also adds support for basic SMTP authentication, and improves the WVRC's support for SNMP.

Starting today all new WVRC-8's shipping from Broadcast Tools will have the Plus firmware. Do-it-yourself upgrade kits for WVRC-8s already in the field are available from Broadcast Tools for \$99.00. WVRC-8 owners also have the option of sending their WVRC-8 back to Broadcast Tools to be upgraded by factory technicians for \$150.00.

Broadcast Tools accepts most credit cards. Purchase orders and checks are not being accepted.

# Control Freaks



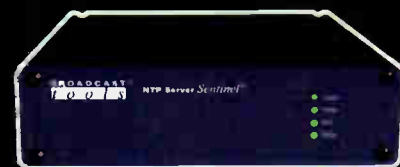
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## FREE SOFTWARE

### Plug-ins From Russia With Love

Russian software developer Voxengo, helmed by Aleksey Vaneev, offers a host of VST and AU plug-ins for Windows and Mac-based DAWs — from mastering EQs and compressors to tube amp simulators.

They also offer over a dozen plug-ins as free downloads at [www.voxengo.com](http://www.voxengo.com). These plug-ins are pretty impressive for freebies, so much so that I contacted Aleksey to ask him why he was giving them away.

The short answer is “exposure.”

“Offering some plug-ins for free is a good marketing practice that brings website visitors that may later be interested in paid plug-ins,” he explained.

Fair enough. He also said that, technically speaking, there is no difference in sound quality between the freebies and the rest, they just offer slightly different features.

I took a look at four Voxengo plug-ins: the Marvel GEQ linear-phase graphic EQ, the Overtone graphic EQ, the MSED mid/side stereo processor and the SPAN real-time spectrum analyzer.

The Marvel, at first glance, is a basic 16-band graphic equalizer. It supports multichannel and mid/side processing at multiple sample rates. Because it's a linear-phase equalizer, it doesn't suffer from the phase shift that occurs when boosting or cutting a given frequency. Its interface, like the others, is very neat and attractive.

A feature common to all Voxengo plugs is the A/B selector, allowing the user to program two settings and quickly compare the two. Its “underlay” feature allows users to compare two settings graphically as well, showing the previous setting “ghosted” under the present setting.

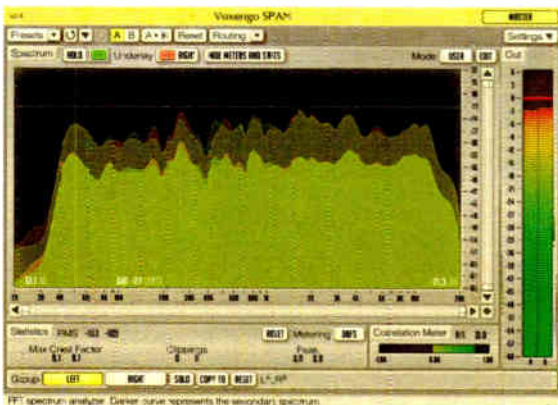
As far as sound quality, there really is something to be said for maintaining linear phase. This EQ does a great job at keeping the high end from sounding brittle, even at fairly aggressive settings. Comparing this to other graphic EQs, the overall sound was similar, but



Marvel Graphic EQ



Overtone Graphic EQ



SPAN Spectrum Analyzer

the Marvel was much less fatiguing to listen to.

The Overtone is a seven-band graphic EQ geared toward processing overall mixes. Unlike the Marvel, this one has sweepable frequency bands. It also includes two sets of controls, making it easier to work on multi-channel or Mid/Side projects.

This is a great output buss EQ that held its own against similar plug-ins. The sweepable frequencies made matching settings with other EQs a snap. I only wish it was possible to do away with the extra set of controls when not in use. When working with multiple plug-ins, it can get confusing.

Speaking of M/S processing, next up is the MSED, a simple-to-use M/S processor. It can operate as an encoder, splitting the stereo signal into discrete mid (L+R) and side (L-R) channels; or as a decoder, taking such information and creating a proper L/R stereo signal. It can also operate in “inline” mode, allowing real-time adjustments of mid/side information. Other features include channel swapping and polarity reversal. It's a handy tool for doctoring the stereo spread of your audio and making sure it's mono-compatible (still a concern in radio).

Finally, we have the SPAN. This is a real-time FFT spectrum analyzer with output level and phase correlation meters. It shows RMS and peak values as well as maximum crest factor. Another nice feature is the K-metering setting for the output meter. K-metering is a standard developed by mastering engineer Bob Katz that is fast becoming adopted in film and television audio mastering. It provides a standard level of loudness that should translate well to multiple playback systems. The SPAN provides a free yet effective solution for dissecting audio.

Info: [www.voxengo.com/group/free-vst-plugins](http://www.voxengo.com/group/free-vst-plugins)

— by Curt Yengst

## SOUND FORGE

(continued from page 24)

stop date. This was a little disappointing as I find it easier to enter all file information in my editing program and then simply import the track into my digital delivery system.

Oh, and if you're looking to burn your project to CD, look elsewhere. Sound Forge has yet to introduce a CD burner to their program for Mac.

It's amazing how far we have come in the world of editing and production in only a few years. We have so many amazing ways to make our product “pop.” And Sound Forge Pro Mac is exactly what I would recommend for anyone wanting to achieve “that sound.”

The lack of multitrack capabilities and broadcast-gated metadata information left the program with a lot to be desired in a commercial production and imaging setting. However, where Sound Forge Pro fell short in some areas, it equally soared in other areas.

I would absolutely use this tool to enhance my already mixed-down pieces of imaging or commercials. There are not many programs within the price range that provide such a vast amount of high-quality mastering and audio restoration tools. For any producer wanting to gain a sonic advantage over a competitor, Sound Forge Pro Mac would definitely allow you to take the lead.

## PRODUCTS & SERVICES SHOWCASE



The CAP-DEC1, Gorman-Redlich is a stand-alone CAP-to-EAS converter for use with your existing emergency alerting equipment. This cost-effective device allows broadcasters to easily meet Common Alerting Protocol (CAP) compliance requirements mandated by the FCC without requiring the purchase of an additional encoder/decoder system or other costly

equipment. The CAP-DEC1 is CAP 1.2 compliant and requires only one unit of rack space. Trust the experts with over 35+ years experience in the emergency alerting industry to help you meet your broadcasting needs. Visit our website or contact us today for more information about the Gorman-Redlich CAP-DEC1. We continue to support equipment we made 35 years ago.



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### WANT TO BUY

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2" plastic "spot" reels 6.5 or 8" diameter, as used for quad video. Wayne, Audio Village, 760-320-0728 or [audiovlg@gte.net](mailto:audiovlg@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](mailto: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, KOBY, KCBS, KQW, KRE, KTIM, KYA, etc. I will pay for copies... Feel free to call me at 925-284-5428 or you can email me at [ronwtamm@yahoo.com](mailto: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, 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](mailto: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

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**I REMEMBER THE NAGRA III**

I was sorry to hear in a National Public Radio report that Stefan Kudelski has died. Count this ex-radio newsman among fans of his Nagra portable open-reel machines.

Out of college, I started in the field with a German Uher 4000 Report I, but lusted for a Nagra like the ones the European reporters all enjoyed.

Finally got a Nagra III a few years later, in time for parade ROSRs for a Reagan inauguration. Apropos of the country's latest inauguration, I was just looking at an old snapshot of myself that earlier time, standing on a rooftop near



**Paul Courson**



**Nagra III**

Visit [radioworld.com/links](http://radioworld.com/links) for a video of the Nagra III at work.

the White House, holding an EV RE-16 and the Nagra draped across my shoulder (see left photo).

I still have the machine, a 1967 make, and I've since picked up the matching BM-II external mixer, which is powered from the machine. They both work well all these years later.

I occasionally use the set with a friend's band doing a Beatles revival with correct-to-the-era amps and instruments. Those who remember the Beatles movie "Help!" may recall the scene in the middle of an open field where the band are laying down new songs, guarded by a ring of tanks and artillery.

A BBC-type recording engineer is seated at a mixing desk in this field. His "mastering" machine is a Nagra III.


RIP, Mr. Kudelski.

*Paul Courson  
Senior Field Producer  
CNN  
Washington*

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**Alan Parnau**  
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# How Long Is Long Enough?

Class A FM stations stand to gain from petition seeking new Class C4

## COMMENTARY

BY MATTHEW WESOLOWSKI

Consider the following.

You're a single-station licensee with a modestly successful Class A commercial FM operation. You have diligently served your community, remained financially solvent (even in "this" economy) and have even managed to do well against those pesky large group operators.

You're lean, nimble, somewhat limited in power, and proud of it.

Your little Class A station's comparatively low power level has also been protecting, via the FCC's curves contour methodology, one of the "big guys" and their 100,000-watt FM flamethrowers located many miles (but only one notch on the dial) away from you.

The problem? Current FCC rules dictate that you must protect their station as if it were operating with a 1,500-foot antenna structure, even though their tower is but 1,100 feet tall.

The overprotected station has operated at the 1,100-foot level for more than 25 years, with no realistic hope of ever achieving fully built status.

Couldn't you build out your full FM facility in 25 years? If not, why would you continue to deserve contour over-protection?

Still, FCC rules require the little guy (you) to reduce power, directionalize or abandon your specific upgrade plans in order to continue overprotecting the big guys' station and its "future potential" to upgrade, forever preserved with no expiration date.

Mom-and-Pop operations all over the nation are facing similar situations. A new Petition for Rulemaking (see [radioworld.com/links](http://radioworld.com/links) to read it) is now sitting at the FCC, with an attempt to change this imbalance.

### OVERPROTECTED, UNDERBUILT

The plea respectfully requests that the FCC create a new power class (the FM "C4" allocation), and also asks that

the commission, via "triggering" application, direct overprotected stations that have been underbuilt for at least 10 years to either construct full facilities or take a Section 73.215 designation.

This rule change would enable upgrade-minded stations to protect each other to their actual contours, rather than hypothetical maximum facilities, paving the way for hundreds of specific FM service improvements.

If approved, the new FM Class C4 stations would call for a maximum effective radiated power level of 12,000 W from a reference antenna height above average terrain of 100 meters.



This new allocation would also fill in the current incompatible power gap between the various FM classes, which is 3.0 dB, except for the transition from A to C3 (6.2 dB).

The petition examined an extremely narrow group of 1,286 FM Class A facilities and found that more than 376 (30 percent plus) would be eligible to upgrade to the new C4 power class.

This analysis did not consider stations located within border zones, nor did it include states with mixed Zone I/IA/II designations (such as California, for instance).

Finally, the analysis tossed out stations that otherwise could have taken a C4 allocation from an alternate community of license (i.e., the new C4 allocation also had to serve the station's current licensed community).

Given these overly restrictive parameters, it is asserted that many more FM Class A stations would be eligible for upgrade.

As with all new ideas, the opposition is already lining up to squash the proposal, claiming Draconian conse-



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quences from such a "drastic" policy shift. Nothing could be further from the truth, of course, as the nearly identical C3 and C0 proposals from two decades ago somehow managed to avoid destroying the engineering integrity of the FM spectrum as we know it.

Now, the fun part. If you have a candidate Class A FM station and would like to know how this proposal may affect you, I would be more than happy to evaluate your station at no cost. Contact me, Matthew Wesolowski, at [matt@wyab.com](mailto:matt@wyab.com), or call (601) 201-2789, and perhaps we can change the status quo together.

Last, I thank those who helped me prepare this petition for rulemaking, including my business partner Mike Adkins, the Minority Media and Telecommunications Council, various members of the consulting engineering community and several former FCC staffers, all of whom went beyond the call of duty.

*Matthew Wesolowski is chief executive officer of SSR Communications Inc. An Atlanta native and Georgia Tech graduate, he and his business partner Mike Adkins have owned and operated WYAB(FM) at 103.9 MHz, in Flora, Miss., since 2003. They have prepared upgrade applications for hundreds of broadcasters through the consulting side of their business since 1999.*



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