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Photo from the Detroit News Archives



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- Gary Shapiro says radio broadcasters should "see through the NAB's flimsy spin and reject a mandate for FM receivers in phones." — Page 37



EAS & CAP: So Many Questions

While Some Stations Prepare to Buy Gear, Others Hold Off Until More Details Emerge

BY RANDY J. STINE

WASHINGTON — Some broadcasters are taking tentative steps to prepare for the enhanced Emergency Alert System while others are holding off on selecting new equipment until the government's requirements become more clear.

The Federal Emergency Management Agency in September formally adopted a new digital message format for the Integrated Public Alert and Warning System, or IPAWS. This triggered an FCC countdown clock mandating broadcaster compatibility.

(continued on page 6)

EIBASS, One Year Later

Active Spectrum Group Continues Push For an Engineering Commissioner

BY DANE ERICKSEN

Oct. 9, 2010, marked the first anniversary of Engineers for the Integrity of Broadcast Auxiliary Services

COMMENTARY

Spectrum. In the 12 months since our founding, EIBASS made 27 filings with the FCC, all involving BAS spectrum issues.

The group also sent a letter to Sen. Olympia Snowe, R-Maine, regarding an initiative for engineers to play a higher-level role at the FCC.

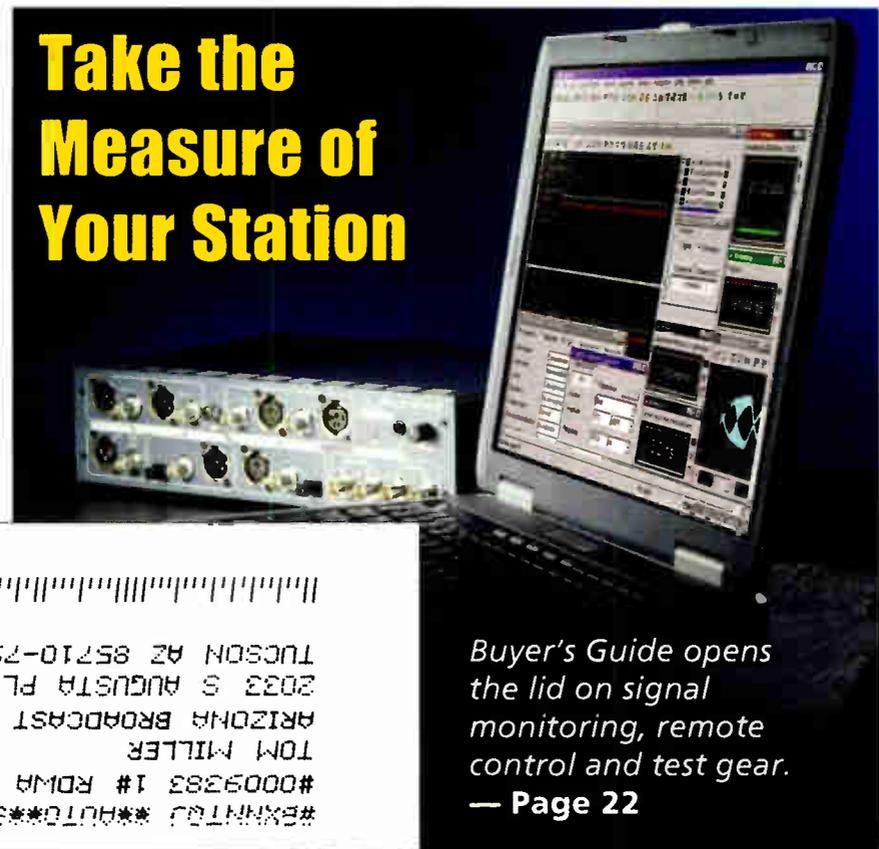
As of mid-October Snowe's bill, S.2881, had not yet passed the Senate, nor had its House companion measure; time was running out on the legislative calendar for activity in this session of Congress.

EIBASS expects to continue its filings on BAS-related issues, and to continue to lobby for an engineering commissioner.

We believe that having just an engineering advisor for each FCC commissioner would not go far enough to

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Take the Measure of Your Station



Buyer's Guide opens the lid on signal monitoring, remote control and test gear. — Page 22

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EIBASS

(continued from page 1)

ensure that commission regulations do not attempt to trump the laws of physics, which is always a losing proposition.

While EIBASS does not oppose the S.2881 proposal regarding engineering advisors for each FCC commissioner, the ultimate goal should be at least one commissioner with his or her own technical background based on an engineering degree [Radio World, March 1, "New BAS Group Thinks Big"].

BAS FLEXIBILITY

The current EIBASS effort involves comments to WT Docket 10-153, "BAS Flexibility."

This rulemaking is likely to have an even bigger impact on Part 74 operations than the 2001 ET Docket 01-75 rulemaking, which updated and, where possible, harmonized the Part 74 TV BAS rules with the Part 101 Private Operational Fixed Service rules.

The ET 01-75 rulemaking allowed the routine use of digital modulation



filings just to TV BAS issues.

EIBASS has filed comments to WT Docket 99-87 regarding the deadline for narrow banding of remote pickup (RPU) channels, and to IB Docket 04-286, an International Bureau rulemaking to establish the U.S. position on various radio spectrum issues for the upcoming 2012 World Radio Conference.

IB 04-286 includes a proposal to allow fixed Maritime Coastal Stations at 161.500-161.950 MHz, which would

telemetry for CCU/ICU patients), the holders of DTV construction permits had to bear the cost of the surveys, and in some cases delay construction of their primary DTV facility.

The lesson of not using an unprotected Part 15 device for a critical medical function unfortunately was not learned, and so EIBASS has made multiple *ex parte* filings to rebut what it believes are inaccurate claims by the MMNS proponent.

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for aural and TV BAS links, and made frequency coordination for the 950 MHz aural BAS band, and the 7 and 13 GHz TV BAS bands, subject to the Section 101.103(d) prior coordination notice protocols.

The BAS flexibility rulemaking proposes to open the 7 and 13 GHz TV BAS bands to Private Operational Fixed Service, and in exchange, removing the restriction that a below-23 GHz POFS link cannot be the last link to a broadcast station.

WT 10-153 also includes the proposal by Wireless Strategies Inc. for "microwave white spaces," also referred to as "concurrent coordination." This proposal first surfaced as a WSI request for declaratory ruling, and was assigned ET Docket number 07-121. In EIBASS' view, the WSI proposal is the equivalent of cold fusion for microwave spectrum, and the most dangerous part of the WT 10-153 rulemaking.

Of course, EIBASS does not limit its

be co-channel to Part 74, Subpart D, Remote Pickup stations at 161.625-161.775 MHz. This could be a serious problem for 161 MHz RPU operations in radio and TV markets with port operations, such as New York City, Los Angeles, San Diego, San Francisco and Seattle.

Finally, EIBASS has filed a series of *ex parte* comments regarding Medical Micropower Network Service (MMNS) devices at 413-457 MHz. That portion of this proposed service would be co-channel to 455-456 MHz RPU operations.

This has the potential to create the same boondoggle that ended up requiring new DTV stations to conduct a survey of all health care facilities in their area, to ensure that the new DTV channel wasn't being used by unprotected, bottom-of-the-RF food chain medical telemetry devices. Because this imprudent use of a Part 15 device involved a potential health safety issue (medical

Thanks to the hard work of group member Gerry Dalton, EIBASS established its own website, www.eibass.org. Posted there are all our filings; we expect the list to continue to grow at the same pace in 2011 and onward. EIBASS' goal is to have its site be the "go to" resource for BAS stakeholders.

This article reflects the views of the author and EIBASS, and does not necessarily reflect the views of his employer. Radio World welcomes other points of view.

Dane Ericksen, P.E., CSRT, 8-VSB, CBNT, served 18 years on the SBE board and has been on the society's Certification Committee since 1987. He chaired the ATSC TSG S3 Specialist Group on Digital ENG from 2004 to the sunset of S3 in 2009, after completing work on the ATSC A/82 DRL standard. He has been with Hammett & Edison Inc., consulting engineers, since 1982, and also worked as an FCC engineer based in San Francisco.

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In Defense of the NAB Terms Sheet

It's Not a Popular Path Nor an Easy One, But It Is the Smart Road to Take

I posted this item on Radio World's blog recently. It's an important topic so I share it here as well.

The NAB has been taking friendly fire from some members and others who disagree with its strategy on the performance royalty issue. Those disagreements are understandable, given the sensitivity of the topic; but the reaction, particularly among some non-broadcaster pundits who benefit from stirring things up, is out of proportion, and their stridency is unfortunate.

I hope this flap doesn't dissuade the organization from pursuing the smart, politically savvy approach it has been taking of late.

A LIGHTER TOUCH

Let's look back for a moment. Until recently, NAB's efforts to influence matters in Washington recently had been surprisingly ham-handed. For broadcasters, the David Rehr years were not good ones for getting things done on the Hill.

Wisely, after Rehr, broadcasters turned to a Capitol Hill insider to help them better navigate these treacherous waters. Some quibble that Gordon Smith isn't Eddie Fritts: "We really need a broadcaster to lead us," they say. But that's what the NAB board is for; and Smith works for them. They hired the man because he knows how to manipulate Washington levers, or (to mix metaphors) how to read legislative tea leaves and re-stir them to make the tea taste as sweet as possible. But don't lose sight of this: Ultimately, broadcast-

ers tell Smith what to do, not the other way around.

Having hired him, broadcasters would be unwise to not take full advantage of what they've got. NAB's current strategy is a result of those earlier choices, and it is a pragmatic, appropriate one.

SOMETHING IN RETURN

As I've said many times, radio has a choice in this PRA debate.

It can refuse to acknowledge reality and let Congress dictate terms. Radio will lose under that scenario because there is absolutely no way radio will

to obtain the best terms it can. It can aim very high for what it wants, using this process to gain its own benefits — benefits that will outweigh the cost in the long term. And it has been doing just that, finally.

The NAB's "term sheet" spelling out what broadcasters want in the performance royalty fight has prompted backbiting in some radio circles. But let's recognize the document for what it is: a masterpiece of strategic positioning.

It surrenders nothing unless it gets something important back. It says to legislators, "We're willing to be reasonable. But we aren't conceding anything;

I hope this flap doesn't dissuade the organization from pursuing the smart, politically savvy approach it has been taking of late.

retain its historic protection from these royalties much longer. The argument legislators will consider is not whether radio airplay benefits artists (clearly it does). The argument will be whether airplay without artist consent is acceptable; and we can't win that fight. Our media world, and the world of content rights, has changed forever; and radio's bill is about to come due.

Instead of digging trenches, then, radio can participate in difficult but responsible discussions with the music industry ... while using all of its muscle

and we want a lot in return." It puts NAB in the position, finally, of appearing fair rather than intransigent, and of letting the music rights side react rather than attack for a change.

What does radio stand to gain here? For one thing, it would get rates it can live with, rather than rates imposed on it (example: a commercial or non-profit station with revenues of \$100,000 would pay \$500 a year for unlimited use of music). And rates would kick in only if radio gets the support it needs for a dramatically increased presence of radio

**FROM THE
EDITOR**



Paul McLane

in mobile devices. A settlement also would bring the opportunity to create a powerful, reinvigorated partnership with content providers. It could take the CRB out of the picture. It could address online content limitations concerning AFTRA that have frustrated many stations. Further, even if nothing else, radio now comes out looking better and more reasonable. When was the last time that happened to radio in a national policy debate? Most of all, a settlement would bring legislative certainty. An agreement along these lines would put this knotty matter to rest, for good, on favorable terms.

It's a document worthy of, dare I say it, Eddie Fritts.

GET TOGETHER

Criticism from the radio side is more a reflection of dissonance between what larger and smaller broadcasters want; and that's something NAB and its members need to address. If smaller stations feel disenfranchised, that's a real concern.

But unity is more important than dissent right now. Gordon Smith works for broadcasters; don't blame him just because he's the front man. Some of radio's smartest, most active owners looked at this PRA situation and decided they couldn't win under their old strategy; it is those owners who are putting these terms forward, with Smith's advice; and we can be sure those broadcasters don't want to pay

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THIS ISSUE

NOVEMBER 17, 2010

NEWS

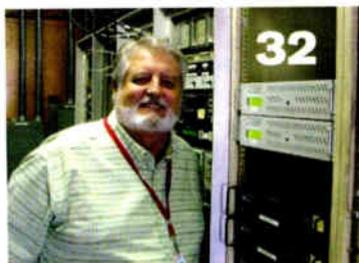
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Selected content from Radio World's "The Leslie Report" by News Editor/Washington Bureau Chief Leslie Stimson.

FCC SEEKS INPUT ON CONSOLIDATED LICENSING

At the recent Radio Show, we learned more about what the FCC plans for the Consolidated Licensing System that will replace the Computerized Database System, or CDBS.

Jim Bradshaw, deputy division chief of the FCC Audio Division, said it's been 11 years since CDBS went online; it's been updated since its debut, but the basic architecture remains in place.

Before the advent of CDBS, applicants had to wait three to four weeks for their paperwork to be keyed into the system and placed on Public Notice. "We had people that practically lived in the public reference room just to have access to files," he said.

Still, the CDBS has its detractors and there's room for improvement, Bradshaw said.

In comparison to the CDBS rollout, "we're asking what changes people would like."

Although the commission is many months from implementing its new system, Bradshaw gave attendees a taste of what's to come.

CLS will be more interactive, whereas CDBS is a portal; there's no feedback about filings, he said. With the new system, users will have ability to file batch applications; they can be prepared offline and submitted in a batch, he said.

The commission is seeking comments about the new CLS to Docket 10-73.

BROADCASTING ABOARD 'COMMANDO SOLO'

At the IEEE Broadcast Symposium in late October, Lt. Col. Douglas Williams of the U.S. Air Force Special Operations Command discussed the government's aerial radio and television broadcasting from an EC-130J transport plane, dubbed "Commando Solo." Readers may remember Radio World's cover story on that program in 2002.

It's a little unusual when a speaker starts by saying his presentation is unclassified. Williams, squadron commander, gave a fascinating overview of how AM, FM, television and short-wave broadcasts are transmitted from the three planes, which can be refueled in mid-air. Communications specialists aboard the planes select which frequencies to use for transmission, including that of a foreign country. The typical mission lasts for 15 hours and the broadcasts are used to influence foreign audiences with the U.S. side of a story, he said.

Planes used by Commando Solo



For example, to support relief efforts after the Haitian earthquake this year, Commando Solo made a total of 28 trips and broadcast more

than 260 hours of information; the government distributed hand-cranked radios so the Haitian people could hear the broadcasts about topics such as where to receive medical attention.

Much of what is broadcast is pre-recorded; however Commando Solo's personnel also can transmit live radio broadcasts, too. There are at least six radio transmitters on the plane and an equal number of television transmitters. The personnel can deploy both a vertical and horizontal antenna.

The Air Force is looking at upgrading its transmission equipment to digital, according to Williams, who added the new equipment would be in containers that can be rolled on and off the planes so that the aircraft could also be used for other things.

And no, they do not provide QSL cards from their broadcast altitudes of between 25,000 to 35,000 feet.



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CAP EAS

(continued from page 1)

Common Alerting Protocol v1.2 is an open, interoperable, data interchange format for collecting and distributing emergency warnings.

FEMA says CAP — which is based on a protocol approved by the Organization for the Advancement of Structured Information Standards — will allow emergency managers to compose messages to communicate with the public during emergencies through a broader set of channels, meaning the familiar radio and television EAS architectures but also cell phones, personal communication devices, electronic highway signs and other non-traditional means.

The CAP adoption sets in motion the long-awaited EAS upgrade. Work on an improved EAS began in earnest in 2006 when President George W. Bush signed an executive order creating IPAWS and placing FEMA in charge of EAS development.

The FCC is responsible for ensuring that communications providers have the capability to receive and transmit emergency alerts to the public.

Most observers contacted for this article believe many broadcasters will need to replace older EAS encoders/decoders or at least download software updates for more current EAS boxes.

CLOCK EXTENSION?

Of special significance to broadcasters is the 180-day adoption clock, which began running when FEMA acted at the end of September. As things stand, the buzzer will sound approximately at the end of March 2011. By the deadline, broadcasters would need to pos-

sess CAP-capable equipment.

An advisory group of the FCC's Communications Security, Reliability and Interoperability Council (CSRIC) recommended that the commission extend the deadline at least to a full year. The FCC had said it will consider providing flexibility on the 180-day rule, and a spokesman said the commission would consider the CSRIC recommendation in its decision-making process



along with public comments it received. Observers expect the FCC soon will issue a proposed rulemaking notice that will update Part 11 rules to include CAP-based emergency messaging.

In late October, NAB and other organizations including the SBE, NCTA, NPR, PBS, MSTV and 40-plus state broadcast associations added their voices, asking the commission for an extension — at least an extra six months, which would move the deadline to the end of next September.

They encouraged the FCC to consider a longer extension until it has completed its CAP-related equipment certification process and has resolved its anticipated rule-

making proceeding concerning modifications to Part 11.

"The commission's own record in its EAS proceedings well illustrates the difficulties posed by potentially requiring as many as 25,000 to 30,000 EAS participants to acquire from a limited number of suppliers new, sophisticated equipment that is subject to governmental certification," they wrote.

"Furthermore, a substantial amount of regulatory uncertainty remains that prevents EAS participants from making the necessary, informed decisions regarding what equipment to acquire and install."

The cost to implement necessary equipment changes has drawn criticism from some broadcasters, who call this an unfunded mandate. Some suggested government should provide financial backing. However, the FCC has made it clear that on the federal level, only Congress has such authority: there has been no sign of such support. Other government entities can provide funding to broadcasters if they wish: the state of Idaho, for one, has done so.

NOW WHAT?

Many broadcasters are at least reviewing EAS equipment needs now that the clock is counting down, several group directors of engineering said.

"We have told our stations to hold off on making any equipment requests while we research what needs to be done at the corporate level," said Steve Davis, senior vice president of Engineering and Capital Management for Clear Channel Radio.

Greater Media had budgeted for new EAS equipment needs once FEMA and the FCC acted on CAP, said Milford Smith, vice president of radio engineering for Greater Media.

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"I have merely advised our stations to ascertain their needs and put together the necessary paperwork — soon — to get what's required ordered. We are anticipating substantial delays given the short time frame and assumed demand," Smith said. "I expect we'll have some software and hardware demands."

Dave Remund, vice president of engineering for Town Square Media, said. "The vast majority of the EAS equipment we have in the field is still the original equipment installed with the initial EAS rollout [in

CAP-CAPABLE

Based upon Sage's numbers and those of other vendors, approximately 20 percent of broadcasters had CAP-ready equipment when the 180-day timetable began. Price said.

He recommends that engineers check with the manufacturers of their encoder/decoders to see if the hardware is CAP-capable.

"If your device has a LAN connector, chances are good [it could be upgraded]. If it can't connect to the

WHAT IS CAP?

The Common Alerting Protocol (CAP) v1.2 adopted by FEMA in September is an XML-based data format that can be used by local emergency managers to communicate with the public via various alerting technologies, public warning experts said.

CAP is a format for exchanging emergency alerts allowing a consistent warning message to be disseminated simultaneously over many different warning systems, according to FEMA. CAP is described in a technical standard published by the Organization for the Advancement of Structured Information Systems (OASIS) and can be found at www.oasis-open.org.

FEMA said CAP will be the foundation of the Integrated Alert Public Warning System (IPAWS), the infrastructure that is the next-generation of alert and warning that expands beyond traditional radio and television Emergency Alert System activations. FEMA's website for IPAWS is www.fema.gov/emergency/ipaws.

IPAWS will integrate new and existing public alert and warning systems and technologies. It's been described by some EAS experts as the interoperability framework for public warning that utilizes the Internet and cellular phones plus a variety of other communication tools in addition to broadcast radio and television.

— Randy J. Stine

'A substantial amount of regulatory uncertainty remains that prevents EAS participants from making the necessary, informed decisions regarding what equipment to acquire and install.'

1997]. As a result we have been budgeting to replace it all en masse once CAP became final."

EAS equipment manufacturers are offering various EAS options, from converters to software to new EAS systems.

"Right now broadcasters need to budget for the inevitable, adding a CAP decoder or replacing their EAS system entirely," said Darryl Parker, senior vice president of manufacturer TFT Inc.

Harold Price, president of EAS equipment manufacturer Sage Alerting Systems, said. "CAP is really an ongoing process. FEMA's announcement was a necessary step ... but it isn't the last step in the process."

Internet, chances are zero."

Parker of TFT said. "Software updates to current FCC type-certified EAS encoders/decoders and decoders are not practical since most do not have Internet connection capability."

Another option for broadcasters will be adding a CAP-to-EAS converter, which essentially adds another receiver to an existing EAS system, said Jim Gorman, president of Gorman-Redlich Mfg. Co.

He said the company's CAP-DECI will supply converted CAP v1.2 messages into a frequency-shift keying header with attention tone analog audio and an

(continued on page 8)



CAP EAS

(continued from page 7)

end-of-message indicator.

"This will simply be an addition to the radios that are already connected to the rear of a legacy EAS encoder/decoder," Gorman said.

However, some equipment manufacturers contend that a CAP-to-EAS converter may not be a viable application because it won't be able to handle a "governor must carry" message. The CSRIC working group has asked FEMA to clarify how "governor must carry" messages will be implemented. These manufacturers add that converter boxes are not mentioned in current Part 11 rules.

We are anticipating substantial delays given the short time frame and assumed demand.

— Milford Smith

"I would think any time you place a new CAP converter in front of 15-year-old legacy EAS devices," there could be issues, one manufacturer said. "The legacy EAS equipment won't last forever."

Gorman replied, "No one knows if the FCC will even approve a 'governor must-carry message.' They may leave it up to individual state plans."

He said his company is aware of the possible addition and is considering several solutions contingent on the regulatory requirements. Converter boxes are not mentioned in Part 11, he said, and no specification for

MCLANE

(continued from page 7)

money that they don't have to. Caroline Beasley, Steve Newberry and their colleagues would not have gone this far without very solid reason.

Some think the labels now will cease to negotiate and that this step represents a huge cave-in on radio's part. Some even suggest NAB will self-destruct over this or that radio will fall apart as a result. Those people must not think much of radio, which has proven to be among the most resilient media. Nevertheless, these decisions are not easy. They certainly can't be solved with flat, peremptory declarations of imminent doom.

I criticized NAB and the music industry for lack of leadership in ever letting their partnership deteriorate. Now the two sides are talking, albeit with a congressional gun held to radio's head and with plenty of doubt about the outcome. It's going to take an act of courage for broadcasters to get behind any settlement. It's not a popular path, nor an easy one. But it is the smart road to take. It is in radio's best long-term interests.

Comment on this or any topic. Write to radioworld@nbmedia.com, with "Letter to the Editor" in the subject field.

certification is listed.

For broadcasters seeking guidance, the EAS-CAP Industry Group released a CAP to EAS Implementation Guide: www.eas-cap.org/. It provides guidelines for receiving CAP messages and translating the content to EAS formats for broadcast media.

The NAB published CAP updates for its members in its Radio TechCheck publication. The Society of Broadcast Engineers posted a list of frequently asked questions about CAP; it can be found at www.sbe.org/gov_eas.php.

The society also created an SBE EAS Education Committee and appointed Ralph Beaver to chair it; Beaver has been working with EAS since 1973.

Meanwhile, FEMA has begun IPAWS conformance lab tests at Eastern Kentucky University through a contract with Science Applications International Corp. It will screen a variety of EAS field equipment, including encoders and decoders, to measure compliance with CAP and the IPAWS profile.

According to a FEMA's conformity testing website, "EAS equipment manufacturers can submit equipment that is production-ready, but not in prototype or development phase." There is no cost associated with testing and the testing staff will notify the vendor of the compliance review.

Reports about gear that passes IPAWS conformity assessment will be eligible for posting on FEMA's Responder Knowledge Base website at www.rkb.us/. The site provides government officials and the general public with access to product test results.

"Products that demonstrate conformance with IPAWS CAP will be announced (on the website) along with a description of the product and vendor contact information," said Antwanne Johnson, FEMA IPAWS division director.

EAS product manufacturers interviewed for this story told Radio World they're waiting on a list of approved equipment from Eastern Kentucky University.

"The ECU contract testing program is not dependent upon FCC Part 11. ECU is a contractor to FEMA, not the FCC," said one EAS equipment manufacturer familiar with the compliance process.

The CSRIC working group recommended that the FCC create its own certification for CAP EAS devices — yet another step in a complicated regulatory process that was yet to be taken as of the end of October.

One manufacturer said his firm expects the testing regime will be refined as Part 11 is changed. "If so, we'll just run our equipment through again."

MORE QUESTIONS

The FCC has worked with FEMA to roll out enhanced EAS. It also has been eager to implement nationwide testing of the EAS system, several alerting experts said. However, FEMA officials told Radio World that a nationwide test of legacy EAS, planned for the first quarter of next year, has been pushed until

NEWSROUNDUP

NO THANKS: A Michigan station owner told NAB to cancel his membership because he disagrees with its strategy on a performance royalty. "As the general manager of our company, I cannot continue to pay dues to an organization that sells out to the record labels on the performance tax issue," Charlie Ferguson wrote. "FM chips in cell phones is

SO MANY QUESTIONS

The Society of Broadcast Engineers posted a list of frequently asked questions to its website at: www.sbe.org.

One was titled "What hasn't been determined yet?" SBE replied: "An almost innumerable list of issues." It listed some of them:

- What will stations need to do when they receive CAP messages?
- What sources do my stations monitor for CAP messages?
- How will CAP messages be logged?
- What will be the approved mapping of codes from a CAP-delivered emergency message to an EAS message (will the EAN code mean the same thing in CAP as EAS)?
- How will stations actually receive their CAP messages?
- If the CAP messages will be sent using the public Internet, what about stations that cannot get an Internet connection?
- What security measures will be used so that hackers won't be able to take control of broadcast stations and emergency networks?
- How can governors send their messages to stations?
- How will state plans be changed?
- What data codes will be used so that EAS boxes know that a message is coming from a governor and that it is a "must air" message like an EAN?

late 2011. FEMA and the FCC conducted a statewide test of existing EAS in Alaska in January, as we reported.

The FCC has a public notice (EB docket 04-296) seeking informal public comment on changes it needs to make to Part 11 rules governing EAS in a CAP world. Among those changes would be granting the FCC the capability to conduct a national test of EAS and collect data.

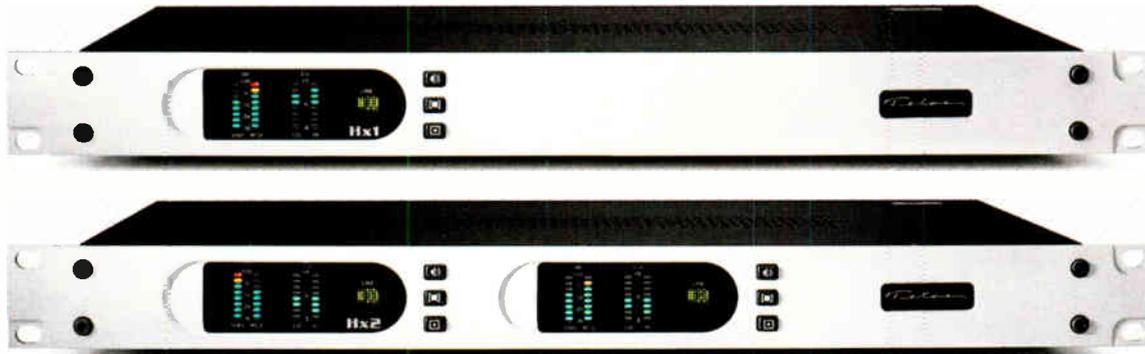
Lisa Fowlkes, deputy bureau chief of FCC Public Safety and Homeland Security, said CSRIC was assigned the job of identifying necessary changes to EAS rules. "We expect the CSRIC to present final recommendations to the FCC on this front within the next few months."

In addition to extending the deadline and clarifying how the "governor must carry" mandate is implemented, the CSRIC advisory group made other recommendations that include requiring EAS participants to monitor more than one IP-based alert source. Radio World has posted the group's PowerPoint, including those recommendations: go to <http://tinyurl.com/csricrw> to open the file, starting with slide 5.

a red herring and your organization can no longer represent our company and our radio stations in any matter of financial or political importance." He's general manager of Northern Broadcast Inc., which has six FM stations.

An NAB spokesman said, "We believe history will show the NAB board ... made the right decision. It's better to engage and shape the future than to have our future shaped by those who are exceedingly hostile to our interests."

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World Radio History

NEWSROUNDUP

TECH COUNCIL: The FCC formed a tech advisory council aimed at identifying areas of innovation related to spectrum use and the broadband rollout. Tom Wheeler, managing director of Core Capital Partners, will chair it. Wheeler is former CEO of the Cellular Telecommunications and Internet Association. The group, which met Nov. 4, has about 40 members, including NAB SVP Science and Technology Lynn Claudy, Harris Broadcast VP of Transmission Research & Technology Geoff Mendenhall, Gregory Lapin for the American Radio Relay League and Internet pioneer Vinton Cerf.

BTC: The Broadcast Traffic Consortium wants to expand. Right now, some 130 HD Radio stations in 82 markets transmit traffic and other data along with their digital signals. The group hopes to expand to cover 115 markets. The head of the BTC, Paul Brenner, told attendees at the IEEE Broadcast Symposium the group is developing and prototyping new uses for HD Radio data services like movie listings, sports scores and travel content.

'FRANKEN FM': Filings on FCC proposals about the conversion of low-power TV stations from analog to digital (MB Docket No. 03-185) are due Dec. 17. Radio is watching because this is expected to affect analog LPTV stations that operate as pseudo radio stations just below the licensed FM band. The practice will presumably end when they transition

to digital. The notice does not propose a date by which Class A, LPTV and TV translators must transition to digital. However, the FCC does seek comment on adopting a cut-off date sometime in 2012.

SAT RAD LEASE: The FCC adopted implementation details for Sirius and XM to each lease 4 percent of their channel capacity to third parties. The companies had agreed to that as a condition of merger approval. The satcaster must have channel lease deals finalized by April 17, 2011. The goal is to create opportunities for new entrants, such as women and minorities, into programming.

MERGER UPHELD: After the FCC approved the Sirius XM merger, Los Angeles-based Mt. Wilson Broadcasters had protested, saying that the satcasters should have been required to comply with the commission's indecency rules. Mt. Wilson pointed out that wireless FM modulators used by some drivers allowed some Sirius XM programming to bleed over onto some terrestrial receivers in nearby vehicles. The FCC says it had handled the FM modulator situation and it denied Mt. Wilson's request.

HARRIS: Broadcast revenue was up a bit in its first fiscal quarter. The company said it brought in \$122 million, \$3 million more than compared to the same period a year ago. Orders improved from \$124 million to \$135 million. The broadcast segment posted an operating loss in the quarter of \$9 million including \$1 million in charges related to cost-reduction actions. Harris expects cost-reduction actions in fiscal 2011 to

result in total charges of about \$5 million for the year.

DIELECTRIC: Antenna maker Dielectric Communications will operate in the future under the name SPX Communication Technology, though "Dielectric" will continue as the product name for its broadcast antennas, transmission line and other offerings. According to the announcement, the Dielectric name also will be used for additional related products and expansion into new geographic markets.

GRACE DIGITAL: Grace Digital Audio is shipping a Wi-Fi Internet tabletop radio featuring Pandora. The company calls this "the first and only tabletop radio that incorporates the same features that Pandora listeners use on computers and smart phones." Model GDI-IR2550p allows one-button access to the thumbs up/down song selection and play/pause functions. Listeners can skip, play, pause and bookmark songs from the remote or front-control panel. The unit retails for around \$170.

BAS: The FCC granted a request by Engineers for the Integrity of Broadcast Auxiliary Services Spectrum (EIBASS) for a declaratory ruling regarding prior coordination notices for most minor-change fixed-link aural and TV BAS applications, both 950 MHz and 18 GHz. The FCC stated in its decision that evidence of frequency coordination is not required when submitting an application for a minor mod, however prior coordination must be completed before implementing most minor mods to fixed microwave link Part 74 BAS stations.

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A Workplace for the Radio Gods

BY JOHN SCHNEIDER

No transmitter building is complete without its own mural!

This amazing scene is the interior of the WWJ AM transmitter building, taken shortly after its construction in 1936. WWJ was owned by the Detroit News (the Scripps family), and so there were deep pockets to provide anything the station needed. When they built this new 5 kW site on Eight Mile Road in Detroit, no expense was spared.

The imposing art deco granite block structure was designed by the famed architect Albert Kahn, who also designed the impressive WWJ studio building, constructed the same year. The transmitter building featured a round atrium in the entry with leaded glass towering above the doors.

In this view, we are standing in the lobby looking towards the new Western Electric 5 kW transmitter. The transmitter operator's control desk is in the center. The stainless steel railings incorporated the WWJ call letters into the design; just out of sight below was an inlaid design in the linoleum floor depicting a carbon microphone with the call letters imbedded in the design.

The three-part mural near the atrium ceiling was painted by a student of famed Mexican muralist Diego Rivera. The central part, seen here, depicts the god Zeus before the microphone directing a parade of WWJ's varied entertainers.

According to Bob Ostazewski, CBS Radio Detroit's

Photos from the Detroit News Archives



chief engineer, the building was designed to be self-sufficient. Besides full local studio and emergency antenna provisions, it had its own generator, oil furnace and even a well for water. The entire building was RF shielded with copper mesh wire in the walls. Transformers in the basement isolated the building from the power grid. The building even included living quarters for the engineers who manned the site 24/7.

The building still stands but was recently sold to Richland Tower. CBS was asked to vacate the building last November. Bob says

the mural is still there but showing its age. The building's interior suffers from 70 years of hard use, but the outside still shows its original magnificence. You can see a modern view at <http://tinyurl.com/wwj20>. The downtown art deco WWJ studio building also is still standing, now a part of the AFL-CIO headquarters building.

John Schneider is a lifelong radio history researcher. This is one in a series of photo features from his collection. Write him at jschneid93@gmail.com. Comment to radioworld@nbmedia.com.

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World Radio History

Tar as a Solution to Copper Theft

Works Well — and You Can Lay It on With a Trowel

We included some comments recently from Jon Bennett on a rise in copper theft stations in Richmond, Va. Jon is a retired Cox market chief, now doing contract work in that area.

WORKBENCH

by John Bisset

Read more Workbench articles online at radioworld.com

One of his clients, WGGM(AM) in Chester, has had two incidents of copper theft within the last year. The first required the station to replace the ground screen surrounding the tower, including ground strap and the copper feed line to the tower. After that, they poured additional gravel over the ground screen, to complicate the job of anyone trying to pull up that portion of the ground system.

In the second incident, a thief cut out the ground strap as it crossed under the base insulator and removed the exposed ground strap.

The station's consulting engineer, Stu Graham of Graham-Brock, sent me Jon's latest anti-theft approach.



Fig. 1: Coat the base pier with tar to discourage copper theft.

Stu writes that the solution is unique and believes the technique can help other stations.

As you can see beginning in Fig. 1, Jon has coated the base pier with tar. Not only does this protect the



Fig. 2: The tar can be applied easily using a trowel.



Fig. 3: A closeup of the top of the pier. The tar greatly reduces salvage value of the copper.

ground strap and connections from the weather and unintended damage; it also makes access by thieves much more difficult. Because the copper is not exposed, it is not as desirable to recycling centers.

The tub of tar is cheap insurance compared to the cost of replacing a ground system. You can apply it easily with a trowel.

The Graham-Brock website, www.grahambrock.com, is a good source of engineering techniques. Be sure to bookmark it.

If your transmitter or rooftop studio site uses plastic conduit for cabling to towers or satellite dishes, make sure the ends are plugged, as seen in Fig. 4.

Water entering the open ends can freeze and split the conduit or route water into your equipment room. The openings also can attract snakes or rodents, regardless of whether the conduit is made of plastic or metal.



Fig. 4: Conduit at the transmitter site should be plugged. Expandable foam is used here.

Any major hardware store can provide a range of sealing products. If you go with expandable foam, try plugging the opening with stainless steel or copper wool first, then seal. Animals that want to call your conduit home won't chew through the metal wool and will be repelled.

(continued on page 16)

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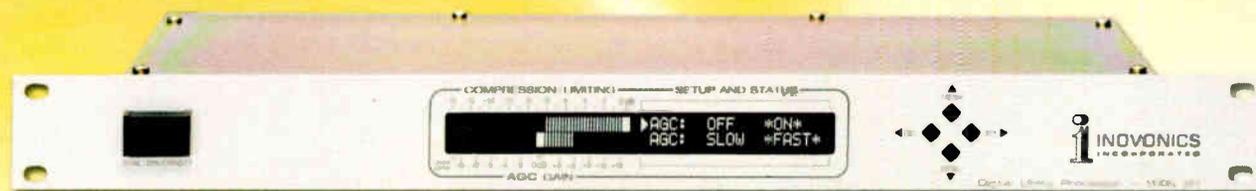
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Gates FM-10H3 Returns to Action

Engineers at WAWZ in New Jersey Bring Mothballed Transmitter Back to Life

BY CURT YENGST

Listener-supported WAWZ(FM) was nearing the end of its annual fundraiser, having reached \$22,000 of the \$30,000 goal. With 15 minutes to go before the

FIRSTPERSON

end of the "Sharathon," a listener from nearby Elizabeth, N.J., called to say she had inherited \$8,000 in stock and was donating the proceeds to the station. WAWZ would be able to purchase a new transmitter.

A few months later, the transmitter was tested at the factory in Quincy, Ill., and delivered to WAWZ(FM) in Zarephath, N.J. It was put in service by Chief Engineer Alan Chambers, assisted by Elmer Smith.

This was early 1975. Gerald Ford was president; I was in first grade celebrating my sixth birthday.

The transmitter was a Gates Radio FM-10H3, Serial Number 89971.

LOST IN THE SHUFFLE

By 1989 the station had grown, and management decided an upgrade was in order. WAWZ took delivery of a QEI FMQ20000B; the Gates was relegated to the role of backup.

In 2004, when WAWZ got the go-ahead to build a much-needed new tower, it also took the opportunity to again

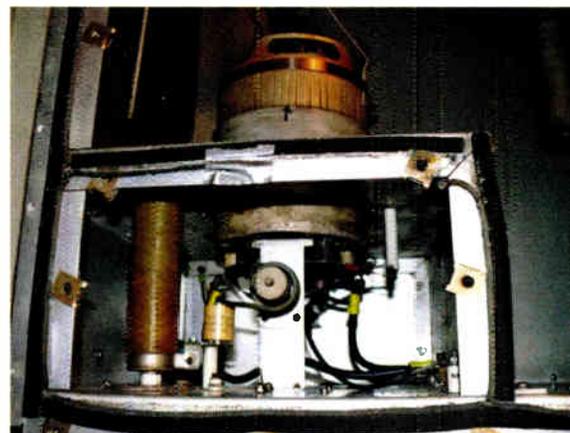


The author works on rebuilding the front control panel of the Gates FM-10H3.

upgrade to a new solid-state, HD-ready Broadcast Electronics FMI-1405. The QEI was sold; but the old Gates remained in a corner of the transmitter building, disconnected — too big and heavy to use as a doorstop.

By that time I was working for WAWZ as assistant engineer to Chief Engineer Ron Habegger.

Ron had, like most engineers his age, cut his teeth on similar transmitters. In



PA stage with the 4CX10000D tube.

The Gates makes me appreciate what veterans in this field had to know to keep their stations on the air.

fact, his first CE job had him working on a Gates FM-1H, essentially a scaled down version of ours.

Since I hadn't had a lot of experience working with older transmitters (actually, I had none!), we decided to restore the Gates to her former glory, or as close to her former glory as we could get. It

would be a great way for me to learn, and would provide the station with a backup transmitter again.

To start with, it needed a good cleaning. Years of dust and debris had to be vacuumed out of the innards. We also completely dismantled the front panel.

Ron painstakingly rebuilt the switches, gave the control panel itself a new coat of paint and even replaced the Plexiglas over the meters.

In the meantime, I took all the RF connectors and hardware including the six-foot-long harmonic filter, tarnished from

years of neglect, and polished them. Ron also removed much of the internal wiring from its conduits inside the transmitter, cleaned it and properly rerouted it. Slowly but surely, the Gates began to look like a transmitter again.

But would it sound like one?

On Feb. 27, 2009, we connected the output of the Gates to a dummy load, turned on the breakers to send AC and hit the "Filament On" button. The blower — the original blower motor — started up; and the multimeter on the front panel immediately showed 7.5 Volts, just what the spec sheet called for.

We let it idle for a while, breaking in the new tube we installed. Then came the moment of truth. Hitting the "Plate On" button would bring this beast to life.

Ron reached for the button, and we held our breath.

(continued on page 18)

WORKBENCH

(continued from page 14)

The recent Broadcasters Clinic in Wisconsin drew more than 300 registrants. It was an excellent time to network with fellow engineers and listen to top-notch technological presentations.

At the event, I spoke with Ed Trombley, one of the consulting engineers at the firm Munn-Reese Inc. in Coldwater, Mich. He handed me a unique business card, about the size of a 3-by-5 index card. All of the company's contact information is printed on one side. Flip it over and there's a form titled "Been to the Tower Lately?" It contains 11 parameters or checks that should be performed quarterly. There are checkboxes for the months of January, April, July and October.

At a glance, you can ensure that your quarterly tower and other inspections have been completed.

In addition, there are 11 checks that



Fig. 5: Keep your tower site in check. A convenient list from consulting firm Munn-Reese can help.

should be performed at the transmitter site to keep you legal with the FCC and in keeping with good engineering practice.

This is a great way to start a regular maintenance plan. If you are an IT engineer who recently has been tasked with transmitter responsibilities, this maintenance checklist card will be invaluable.

For a free copy, send a self-addressed, stamped business-sized envelope to Ed Trombley, Engineer, Munn-Reese Inc., P. O. Box 220, Coldwater, MI 49036.

For more topical engineering information, visit the company's website, www.munn-reese.com.

John Bisset marked his 40th year in radio in broadcasting recently. He now works with Tieline Technology. Reach him at johnpbisset@gmail.com. He can be reached at (603) 472-5282. Faxed submissions can be sent to (603) 472-4944.

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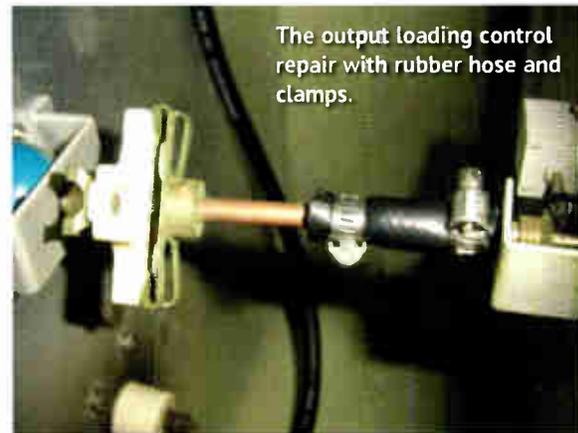
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World Radio History

GATES*(continued from page 16)***BOOM!**

The next thing we knew we were standing in the dark. I immediately looked behind me, where our main BE transmitter was. Much to my relief, it was still on.

After gathering our wits, we found a flashlight and checked the breaker panel for the Gates. Not only had it tripped the two breakers for the Gates power supply; it had tripped the main disconnect for that panel, taking out the lights and air conditioning. Ron reset it and got the lights back on.

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We both noticed a slight burning smell in the air. "I don't even want to look," he moaned.

We made our way behind the Gates, convinced we were about to survey thousands of dollars in damage. We found the problem: One of the 60 A cartridge fuses for the 208 V, three-phase supply had blown apart. Not just blown — blown *apart!*

Fortunately, that was the extent of the damage. The fuse had served its intended purpose in spectacular fashion. But what had gone wrong? We decided to quit for the day to regroup.



Ron later discovered that we had miswired the primary on the 6000 V plate transformer. It's a multiple tap transformer designed to accommodate 208, 230 or 240 V supplies. The markings on each tap were hard to read inside the cabinet, and spaced apart equally, so basically, instead of a 208 V winding, we had a 12 V winding. Oops!

After beating ourselves up for that and rewiring the plate transformer, we tried again.

This time we didn't blow anything apart, but it made the most awful noise. The Gates uses a step-start circuit to prevent current in-rush to the plate transformer from blowing fuses. (Too bad it can't prevent sleep-deprived engineers from blowing fuses!) The step-start relay is designed to delay the three-phase supply by a fraction of a second. The relay was chattering loudly, but still managed to serve its purpose. It sounded terrible, but it was working.

We set about tuning it up. The old Gates TE-3 Solid Statesman exciter was a bit reluctant to behave, but with some coaxing (some of the percussive nature) we managed to get it happy enough to complete the tuning procedure.

We decided that, since we were running the Gates at 208 V instead of the specified 240 V, we might get away with bypassing the step-start relay. Ron left that task to me, and on April 9, I successfully started her up without it.

Other than the blower noise, it was quiet. I had to double-check the meters to make sure it was actually running; but there it was, putting out a bit over 7.5 kW. Not quite full power, but enough to keep us on the air to most of our listeners.

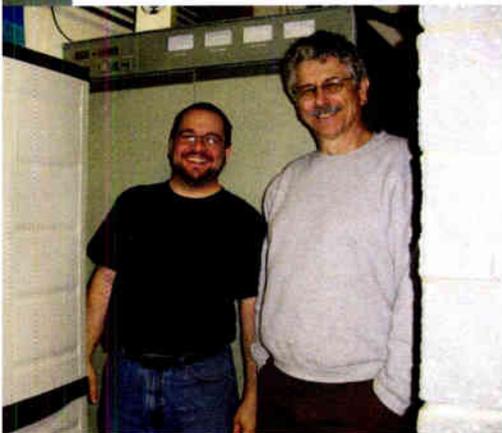
ANOTHER PROBLEM

In the process of subsequent tunings, we suffered a bit of a setback when the output loading control knob suddenly began to spin freely. Not good.

Removing the access panel revealed the problem. The control is connected to the PA cavity using a linkage consisting of a short metal shaft between two universal isolation joints. Each joint is made from a cross-shaped piece of porcelain and some thin bands of aluminum (for flexibility). The aluminum bands on one joint had gotten twisted and tore loose.

After mulling over how to rebuild the joint, I tried using a short piece of rubber hose and two hose clamps.

Curt Yengst and CE Ron Habegger show off the restored Gates.



It worked! Rube Goldberg would be proud.

Although the TE-3 Solid Statesman exciter behaved long enough to tune the transmitter, it simply wouldn't stay on frequency. Fortunately, our BE FMi-1405 was shipped with a spare exciter, a BE FM-50. We were able to mate the FM-50 with the Gates. A little retuning and all was well. Getting the TE-3 to stay put was my next challenge.

The next step was to interface the Gates with our Burk ARC Plus remote control system. The wrinkle here was that, while the Burk uses low voltages (5–24 V) for its control interface, the Gates uses high voltages, as much as 115 V. Using high-voltage relays we were able to get them properly acquainted. We'd be able to power up the Gates from our cell phones if for some crazy reason the BE FMi-1405 went AWOL.

Finally, on May 15, 2009, the moment we waited months for had arrived. The Gates was disconnected

from the dummy load and connected to our auxiliary antenna. Just after midnight, we shut down the FMi-1405 and fired up the Gates. The radio crackled for a second, and just as we had hoped, WAWZ's signal came blasting from the speakers. It performed flawlessly!

So now she sits quietly in the corner, just in case we need her. Since the restoration there have been a couple times we did, when the BE needed to be shut down for maintenance.

The old Gates is a beautiful and welcome addition to our present-day

broadcast arsenal. Sure, she's practically an antique by today's standards, but that's part of the appeal. While the design is simple, you still have to know what you're doing.

The modular design of the BE FMi-1405, with its multiple redundancies, can almost spoil a young engineer. Having something like the Gates around not only provided an education in transmitter design; it made me appreciate what veterans in this field had to know to keep their stations on the air.

The author is assistant engineer at WAWZ(FM) in Zarephath, N.J.

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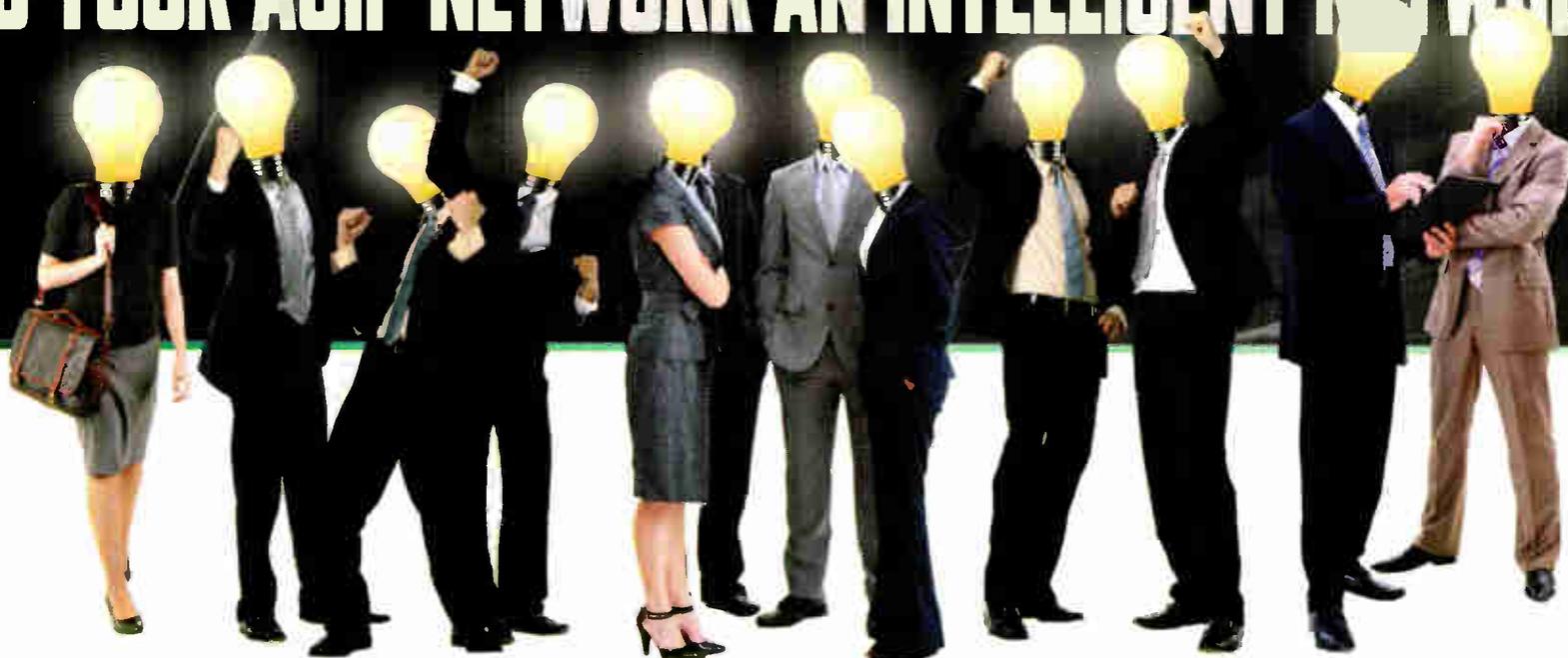


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1. WheatNet-IP Intelligent Network is self-aware.



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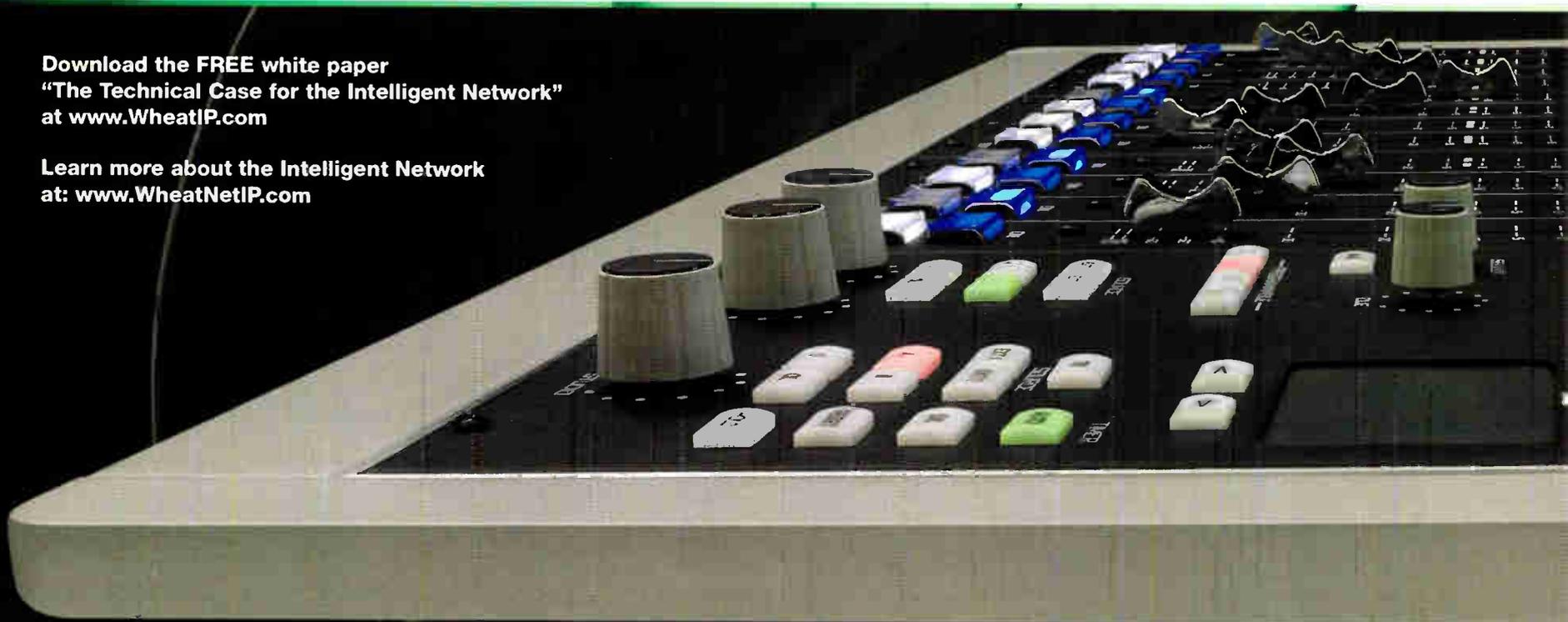
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Relio 'Thinks' Like an Engineer

Systems Integrator Finds Audemat Useful for Installations and Refits

USERREPORT

BY JEFF ROSENBERG
President and Chief Engineer
Modulation Magic

SOUTHBOROUGH, MASS. — Modulation Magic is a systems integrator based in Southborough, Mass. We install a large number of turnkey systems incorporating studios and transmitter sites for our broadcast clients. Increasingly in recent months, we have been installing Audemat's Relio facility management system to enable full supervision and monitoring of the complete installation.

As well as installing Relio as part of new transmitter rollouts, we often are called in to replace existing remote control systems. We have evaluated a number of solutions from a range of established suppliers and find that the Audemat Relio is the best choice. It provides extensive monitoring capabilities; it is versatile and easy for broadcast engineers and operators of all abilities to use.

KILLER APP

Hardware for the IP-based Relio is a rack-mount unit that offers a large number of inputs and outputs, making it suitable for all sizes of current installations and flexible should the need to add new equipment arise.



The Relio with Scripteasy does not just process contact closures, it performs processes.

In addition to the 64 status inputs, 24 metering inputs and 64 command outputs, there are serial ports, USB ports and two 100 Mbps network ports. Thanks to the SCSI (48- and 64-pin) connectors, we can offer high-density pin-outs from the connection panels within only 1 RU of rack space.

The killer application of Relio is the Scripteasy software suite, a powerful graphical application that has simplified

the configuration and control of the most complex site we have installed. This puts the Relio head and shoulders above the competition.

There are two elements to Scripteasy software: the Designer module, which enables users to program conditions and outcomes using drag-and-drop functionality; and the customizable Masterview

Module, a dashboard view of everything that is being monitored at the remote site.

With the Script Designer, we use common logic based around status, metering inputs and mathematical expressions to create detailed scripts that produce a desired output such as an alarm or command. In this way, we can deliver a comprehensive service to our customers by means of preconfigured scripts that help protect the site from issues that could cause an off-air situation.

We program the system to prevent outages in circumstances such as switching from primary to backup transmitters and prescribe the steps to be taken (such as switching STL and audio paths) if one of our established error conditions are met.

The Masterview application is cus-

tomized and presented to our client as a tailored, at-a-glance view of their site where alarms and potential issues are identified and dealt with. Alarms and status can be sent to the relevant engineer via e-mail, SMS, SNMP traps or even a voice message to ensure that immediate action can be taken if necessary.

We have found that the Relio system is easy and quick to install. Our customers are happy that little space is required for the system; the optional breakout boards can be mounted right in the transmitter if desired.



As Relio is IP-based, it can communicate with an extensive range of product types. For legacy equipment that relies on serial or other protocols, a pre-written API can be supplied (Scripteasy Easylink) to allow connection to the equipment and access to a huge number of parameters that cannot be accessed by traditional I/O connections.

Audemat products are regularly an integral part of our designs and Relio often is installed alongside the Goldeneagle range of signal monitoring units and, for larger installations, the Broadcast Manager, which aggregates the alarms and status of an extensive network into a centralized management system that can be monitored from a single seat.

We have many satisfied customers running the system. I believe this is largely due to its flexibility and to the power of the Scripteasy software. As a "smart" approach to facility management, the Relio with Scripteasy does not just process contact closures, it performs processes; and you can program it to think just like an engineer.

For information, contact Fabricio Sanabria at Audemat/WorldCast Systems in Florida at (305) 249-3110 or visit www.audemat.com.

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World Radio History

To the Rescue at Farm Radio Network

Broadcast Tools' Site Sentinel-4 Eases Remote Monitoring

USERREPORT

BY MICHAEL BRADFORD, CPBE
Owner and Senior Engineer
Broadcast/Audio Services

JACKSON, MICH. — Tucked into a corner of the transmitter room at WILS(AM) in Lansing, Mich., are two Middle Atlantic equipment racks full of equipment that constitute the uplink for the Michigan Farm Radio Network.

This satellite delivery provider began almost 30 years ago in the corner of a parking lot in Milan, Mich. and served affiliates with farm market news that impacted a tri-state area.

When Saga Communications purchased the system and moved it to the Lansing location, the expansion of services soon included uplinking the regional sports teams and then the addition of the Illinois Radio Network with studios in Chicago, and most recently, the Minnesota News Network, with its main studios in Minneapolis/St. Paul.

SOLUTION

For years my client, WILS, has depended on Broadcast Tools equipment to permit dial-up audio monitoring, remote switching and, most recently, Internet-based control of reboot functions for two Comrex Nexus ISDN codecs using the Broadcast Tools Web

Switch. It soon became obvious that they needed more capability than existed with the previous dial-up units.

Engineer Ralph Haines (a contract engineer, like me), Michael J. Ostlund from the Minnesota News Network, Dennis Mellott, Saga's GM in Lansing, Stephen Paul from the Saga Detroit office and I put our heads together to plan a system that would permit access to all five affiliates' T1, ISDN, dial-up and alternate program systems. This is where the Broadcast Tools Site Sentinel-4 entered the picture.

The recent installation of a high-speed Internet connection into the uplink site to accommodate our Web switch opened up a new venue for remote control and monitoring.

The Site Sentinel-4 is a cost-effective, one-third-rack size device for Web-based remote control, monitoring, status alerts and relay interface with other equipment from virtually anywhere you have access to the Internet. This includes the newest Web-capable handheld devices.

Here is a "tool" that includes analog metering for four separate channels, status monitoring for four channels, four logic relay interfaces for direct interface with other equipment, a stereo silence sensor, a built-in power loss detector, a separate set of contacts for remote power

control via a third-party device and an optional temperature probe. These features are programmable to accommodate user requirements.

Every feature of the Site Sentinel-4 can be accessed over any IP network, including a private network, IP-based



industrial control network and, of course, the Internet. It also features a logging system for parameter snapshots, alarms, status, metering and temperature sensing that will e-mail anyone of eight recipients with routine metering and/or alarm situations.

The Site Sentinel-4 is equipped with four buffered high-resolution 10 Volt metering (analog) channels, four optically isolated status/logic channels configured for 5 to 24 VDC "wet" or "dry" inputs (user selectable with jumpers), four channels of SPST 1-amp relays that may be latched on or off or pulsed with user-defined timing.

It also features a separate, isolated

relay with user-selectable contact assignment to interface with an external device, such as Middle Atlantic's RLM-15-1C, 20-1C or RLM30-L530-1 AC controller devices to turn higher-current external equipment "on," "off" or "reboot" as required. SNMP and SMTP username and passwords are supported.

Because each channel of control can be password-protected, it is possible to assign security clearance for each of the four affiliates at the MFRN uplink with its own password. This permits everyone to monitor what's going on at any time, but limits control functions to those with specific password authority.

Euroblock screw terminal connections are used for metering, status/logic, control relays and the stereo silence sensor. There are two power supply jacks; one for the power input to the unit and another for the optional "loss of power" input.

The temperature probe input is a 1/8-inch TRS jack for the optional probe, programmable for Fahrenheit or Celsius indication. Front-panel LEDs indicate relay and status states, "local" operation (a nice safety feature when you're connected to external high-power transmitters or other devices), rear-panel RJ-45 10/100base-T LAN/Ethernet interface, an RFI shielded enclosure and a surge-protected power supply.

In use I called our ISP for the uplink to obtain the specific IP address, gateway, submask and related data necessary to program the Site Sentinel-4 for Internet connection, once I made the decisions for the various metering and status/logic channels.

Each of our four affiliates is assigned a separate user name and password. This permits them to monitor all the metering and alarm channels, but have access to control functions exclusive to their particular network. The power failure alarm is "sent" to our main Ops Center in Lansing, with copies to me and engineering associate, Ralph Haines. We can access the site via Internet and determine what action is required.

Because the four relays in the Site Sentinel-4 can be programmed for "on," "off" or "pulse," I use them to reboot those devices that seem to want to lock up for no apparent reason now and then. The connection to these devices is via the Middle Atlantic AC controllers.

Now we can access the Site Sentinel-4 any time from any PC and change audio sources, check faults, extract an actual alarm/metering log and see at a glance the status of each carrier we uplink at this site.

For information, contact Don Winget at Broadcast Tools in Washington at (360) 854-9559 or visit www.broadcasttools.com.

TECHUPDATES

BELAR HAS NEW FMCS-1

Belar says its new FMCS-1 provides a complete solution for the analog portions of the FM signal.

The unit combines the features and functions of



an RF amplifier, FM demodulator, stereo demodulator, RDS decoder, two SCA decoders and an FFT spectrum analyzer. Using DSP techniques, the FMCS-1 processing is done in the digital domain, providing analog FM performance that previously was considered not possible, according to the company.

Also, Belar's FMHD-1 is getting a software update and support for up to four HD decoders with an optional decoder expansion board. With this board the FMHD-1 can decode and monitor four HD audio streams simultaneously.

For information, contact Belar Electronics in Pennsylvania at (610) 687-5550 or visit www.belar.com.

STUDIO HAWK WATCHES FOR TROUBLE

The Studio Hawk, a low-cost solution to monitoring audio and EAS receivers, retails for \$650. The company says its technology is in service in the United States, Canada and Puerto Rico, and that the Studio Hawk is dependable in simple studio operations as well as complicated facilities.

A flexible communication package sets up e-mails and text messages for customized contact lists. In its base form, it monitors eight analog and eight status channels and eight outputs, but it can be expanded to 24 channels.

The system can provide scheduled, detailed, dead air reports for local management. It also is being used to monitor one of the industry's largest satellite teleports.

For information, contact IntrinsicNet in Mississippi at (662) 324-2769 or visit www.thestudiohawk.com.



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Davicom MAC Stops False Alarms

Smart Alarm Management Saves Time, Increases Efficiency

USERREPORT

BY JOHN MCCLOY
Contracting Engineer

DUNDAS, ONTARIO — How often do you receive nuisance alarms from your transmitter remote control system?

Even if you're not the first one on the firing line, such alarms can become a problem and affect staff productivity. Receiving nuisance alarms at any time increases operating costs and creates additional workload and frustration. Personnel wonder why equipment such as that state-of-the-art generator controller was purchased if they're going to have to check the site every time there is a switchover.

Some transmitter remote control systems can significantly decrease the number of nuisance alarms. The Davicom MAC family of smart remote controls incorporates several features to filter and intelligently control the alarm transmission process.

QUALIFYING CONDITIONS

The most useful feature to mitigate alarms is the input qualifier. This is an optional condition that can be set on any input of the Davicom units. This condition, which can actually be any other input or internal flag, needs to be at a logic "true" level for the conditioned input to be considered. If the qualifier is true, then and only then will the alarm condition be declared and action initiated.

In the example of Fig. 1, the qualifier is the inverse of the "power fail" flag. This means that if site power is down, any RF power alarms will be masked.

Another useful feature is the input hysteresis. This feature prevents inputs from constantly going into and

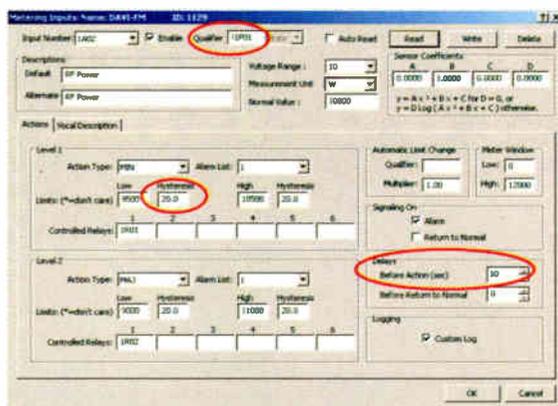


Fig. 1: Qualifier, hysteresis and delay settings

out of alarm state when the readings are fluctuating around the alarm limits.

For example, consider a metering input with the Level 1 settings as shown in Fig. 1. A minor alarm is configured for a low limit of 9500 W, a low hysteresis of 20, a high limit of 10500 and high hysteresis of 20.

The light gray alarm zone begins once the high limit (10500) has been exceeded, and the alarm state remains in effect until the input value drops below the high limit minus the high hysteresis ($10500 - 20 = 10480$). This prevents the alarm from being cancelled at about 9 minutes when the input value drops back down below 10500 and forces the alarm to continue until about the 12 minute mark. The dark gray alarm zone begins once the low limit (9500) has been reached, and the alarm state remains in effect until the input value rises above the low limit plus the low hysteresis ($9500 + 20 = 9520$). This prevents the unit from generating two separate alarms (at 24 minutes and at about 27 minutes).

The use of carefully selected hysteresis values is

therefore useful to smooth out individual alarms and to prevent multiple alarms from being generated by a unique input condition.

DELAY BEFORE ACTION

Setting a delay before action, as shown in Fig. 1, prevents short-duration glitches from causing false alarms. Delays can be programmed to take into account the nature of the input and possible glitch lengths.

For example, an audio silence of two to three seconds probably can be tolerated, so the delay before allowing

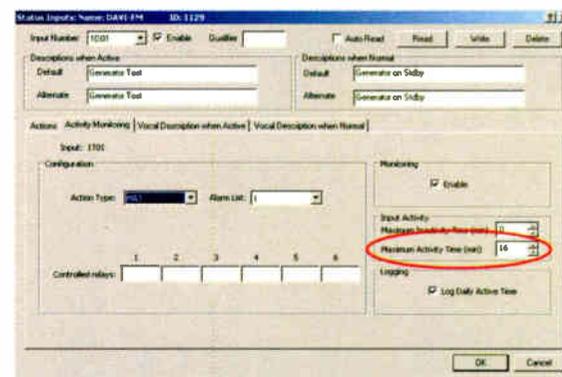


Fig. 2: Activity monitoring settings

an audio silence alarm can be set to three seconds. This means that the MAC will make sure that any silence lasts for more than 3 seconds before setting the alarm flag. The example of Fig. 1 shows a delay of 10 seconds.

Delays can also be programmed on the "return-to-normal" advisories, so the MAC will not call you to say that everything is back to normal and then call back 30 seconds later to say that the alarm is back again.

Another way of achieving validation delays on status inputs is to use the Activity Monitoring feature. This function allows you to check if an input has been active for too long or if it has been inactive for too long.

The example shown in Fig. 2 is to ensure that the weekly generator test does not last longer than 16 minutes. If the generator starts up and the test lasts for less time, the information will be logged and you won't be called. If the generator keeps running for longer than the prescribed 16 minutes, you will be called because something has gone awry.

Alarms can be directed to the proper personnel. Each MAC has eight major alarm lists and eight minor alarm lists, and each list can have up to 10 recipients. Those can be phone numbers, cell phone numbers, fax numbers, pager numbers, e-mail addresses or IP addresses.

The engineering staff is therefore able to control the alarms being sent and the way that they are sent. If a major alarm occurs, one that must be taken care of immediately, people can be paged or text-messaged or even spoken to by the MAC. If it is a minor alarm that can be taken care of later, an e-mail can be sent. In other words, specific communication means can be used to transfer specific alarms to selected staff depending on the alarm level (minor or major) and the moment the alarm occurs.

Timers can be used to modulate or redirect alarms as a function of time-of-day, day of week or date.

Optimal use and judicious configuration of smart alarm management features like qualifiers, delays, hysteresis and timer-controlled redirection will allow you to sleep soundly while being certain that only important site issues are allowed to interrupt your oceanside beach holiday.

For information, contact Guy Fournier at Davicom in Quebec at (877) 282-3380 or visit www.davicom.com.

TECHUPDATE

DK EXPANDS MONITORING LINE

DK-Technologies has introduced new features and products to its audio/video metering and monitoring line. Users in multimedia environments may have particular interest.

Among them is the PT0700R client panel, a remote unit for the PT0760M HD/SD multichannel video waveform monitor. This is aimed at broadcast engineers who want to access facilities of the PT0760M and the entry-level PT0710M from a different location.

With the client panel in place, an engineer in one location can see the same audio and video display as the engineer in the master control room, and access facilities of the PT0760M without interrupting its use at the master location.

The PT0700R client panel offers the same display as the PT0760M/PT0710M and gives users access to soft keys that replicate those on the main unit. The PT0760M and the PT0700R displays can be independently controlled, allowing for identical or individual display of video and/or audio signals at both locations.

A simple DVI interface between host and client is provided and the unit follows a standard interface protocol, allowing any DVI/DCC interface to extend the distance between the remote and master units. It is possible to control the unit remotely from a standard PC via the Ethernet port.

Products in DK's PTO700 Series of waveform monitors now can be equipped with the company's loudness software, which complies with ITU and EBU specifications. The PT0700 series also provides comprehensive logging so that reports can be produced to accompany the finished product.

For information, contact DK-Technologies in Arizona at (602) 748-4299 or visit www.dk-technologies.com

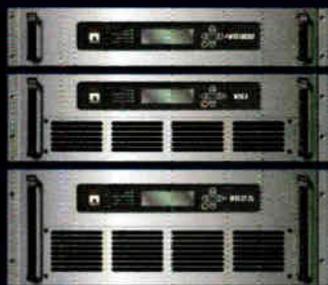


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Burk ARC+ Serves Northeast Public Radio

Benefits Include IP/Dial-Up Capabilities and Broad Selection of Peripherals

USERREPORT

BY **BUD WILLIAMSON**
President
Digital Radio Engineering

SLATE HILL, N.Y. — Northeast Public Radio is a client of my contract engineering firm, Digital Radio Engineering. It is a group of nine stations throughout eastern New York.

As typical for many public radio organizations, they started with one station, WAMC(FM) at Albany, N.Y., and grew from there. At present most of the sites have dial-up access utilizing a VRC2000 or an ARC16. Two sites with IP connectivity utilize simple Broadcast Tools Remote Controls.

WAMC(FM) on Mount Greylock in Massachusetts used a Potomac Instruments subcarrier-based system, meaning once the transmitter went off, you had no communication from the site.

Training control room operators on how to operate nine transmitters with four types of remote control is an adventure; and with two more stations coming online, a decision was made to standardize on a multi-site remote control system. I have seen other more costly scalable multisite products in the field and heard of a number of issues including complexity, bugs and reliability.

ORGANIZING

The Burk Technology ARC+ system was chosen because of its IP and dial-up capabilities along with the selection of peripherals that can be connected to each chassis.

The pricing is quite reasonable, in line with what I was familiar with in the ARC16 product. WAMC was the first station to get cut over to the ARC+ system. Two additional stations obtained in the 2007 noncommercial window will be coming online and interconnected with the ARC+ system shortly.

WAMC has IP connectivity via a Moseley Broadcast LanLink. Connecting an ARC+ chassis at the studio with a chassis at the site was simple. It is necessary to plan the system out as it is so scalable. IP addresses were established for each chassis and I/O device with ease.

Burk provides AutoLoad Plus software for programming the ARC+. While some settings can be changed directly on the chassis, the software is necessary to program the ARC+.

The software may appear intimidating at first, but recall that each chassis can have 256 each control, metering and control channels. I quickly found the

software to be intuitive and I was on my way laying out the system.

One of many features I like is the ability to assign any status input on the chassis to any of the 16 status lights on the front panel, not the first 16 only.

In fact, any Plus-X I/O device metering, status and control channel can be mapped to any channel on the ARC+. This allows placement of more important channels first for operator convenience and placement of less-used or engineer-only channels elsewhere on the system while still keeping wiring neat to the I/O device.

As expected, I was able to assign a color to each status indication. Even the two control buttons can be assigned text and colors in order to be more intuitive. Programming of the enhanced speech interface is simple, as well as setting up events for call out or e-mail notification.

Burk has a nice variety of Plus-X



I/O devices that include the typical status/metering and command relays like the ARC16 has. Being in the digital world, there is occasionally the need to reboot a piece of equipment. The Plus-X AC-8 provides this functionality via the front panel, Web browser, ARC Plus or even external contact closure. Labels and switch functionality can be assigned.

The Plus-X-300 is handy in that you can hang the unit off the same network as the ARC+, and have eight status or metering and eight relays. I don't have this need at the WAMC site, but will use

this unit at the studio as we monitor and control equipment such as the satellite uplink which is located on a separate floor.

Another handy device included in this installation is the PlusConnect, basically a direct interface to the transmitter — in my case, by a serial connection. Burk supports a number of transmitters bringing out control, metering and status of dozens of functions. Again, set the IP on the device, connect to the ARC+, tell it what channels to use in AutoLoad Plus and it shows up instantly.

Clearly this product is paramount to Burk. IP control is the future, not just for broadcast. As such, development continues in firmware and software, making this system as future-proof as possible.

For information, contact **Stephen Dinkel** at Burk Technology in Massachusetts at (978) 486-0086 or visit www.burk.com.

TECHUPDATES

REFERENCE MONITOR METERS FROM SONIFEX



The Sonifex Reference Monitor Meters are a range of three free-standing and five 1RU rack-mount precision meters offering high-resolution metering of one to four stereo audio sources. Each stereo source is auto-switching between either analog or digital AES/EBU format with sample rates up to 192 kHz accepted.

The level of each stereo source is displayed on a pair of bright, multicolored bargraph meters, with a large choice of accurately modeled scales/responses to suit applications and local preferences.

On the rear, open-collector alarm outputs provide hardware indication of audio under-level or silence, audio over-level, sustained phase errors above 90 degrees and digital source lock.

Each stereo meter pair can have a different scale, set via a DIP switch on the rear. A complete set of overlays are provided per stereo meter so that users can define the scale(s) needed: dual BBC PPM + standard VU; BBC PPM, IEC60268-10 11a; EBU PPM, IEC60268-10 11b; Nordic PPM, IEC60268-10 1; AES/EBU, IEC60268-18 digital PPM; DIN PPM, DIN45406; Standard VU, IEC60268-17; Extended VU, IEC60268-17 and German.

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

TTL HAS AUTOMATIC AUDIO SWITCHER AND MONITOR

Titus Technological Laboratories' automatic audio switcher, the MLW-4, is an eight-channel mono or four-channel stereo switcher with true audio silence sense detection, redundant outputs and Ethernet IP control and monitoring.

Any combination of audio inputs (mix stereo and mono inputs) can be accommodated as the MLW-4 will switch the appropriate input to the outputs as necessary to correct any loss of signal or loss of channel.

The MLW-4 can be used for simple correction of a problem with an input source, to integrate EANS broadcast tests and emergency notices, testing of audio sources prior to putting them on the air and control of audio for alternate channel programming as well as monitoring and control of an AM and FM stereo facility with one box.

Manual control provides the user with selection of which source (stereo or mono) is on the air, and how that source is treated. With automatic control, routing to another source with an error condition (loss of channel or silence of the source) is accommodated.

For information, contact **Titus Technological Laboratories** in Connecticut at (800) 806-8851 or visit www.tituslabs.com.



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TECHUPDATES**PRISM'S DSCOPE IS WINDOWS 7-COMPATIBLE**

Prism Sound's new Version 1.40 software for its dScope Series III audio analyzer introduces support for 64-bit Windows operating systems including Windows 7.

dScope Series III is a software and hardware audio generation and analysis system that does standard audio measurements, and also provides a range of sophisticated techniques such as multi-tone analysis, bin-centers, log swept sine, transparent and non-transparent path checks and event logging.

Included is a software environment in which to automate processes and create custom measurements. The line consists of precision hardware with gain ranging and what Prism describes as a very powerful software audio analysis interface. Series III is available in analog or analog plus digital versions. All dScopes can interface with Windows Sound devices to enable generation and/or analysis of Windows audio directly from the software.

dScope Series III users who have not yet upgraded can do so by downloading the software free from the Prism Sound website.

For information, contact Prism Sound in New Jersey at (973) 983-9577 or visit www.prismsound.com.

AARLON: CONTROL AND ACQUISITION

Aarlon is a broadcaster's remote control and data acquisition system with a browser interface accessed via TCP/IP. It handles relaying transmitter site information including temperature, video and real-time audio. It also provides 24 status (contact closure) indications, 16 meter or voltage readings along with 34 NO or NC relay command control functions.

Readings and functions are sent to any computer via password-protected Internet browser connection.

The system also has a voice modem to allow POTS callers (via password) to gain access to the same IP-based graphic information and commands via DTMF tones, with voice responses from Aarlon as the user seeks information or enacts commands.

Aarlon has two on-board computers that process command relays, meter readings and status levels, and handle video and audio serviced up by the site.

For information call Bill Cordell at (713) 722-0169 or visit www.aarlon.com.

**DAYTON: A RELIABLE RECEIVER**

Dayton Industrial Corp. designs and makes radio receivers and monitors, emphasizing their reliability and performance for broadcast applications.

Receiver products include EAS receivers, AM, FM, FM stereo, FM/SCA/RDS, weather, public service and special-purpose receivers. They are available as standalone; single-unit 19 inch rack-mount chassis; or in three-receiver rack-mount chassis.

The AFC3 is a three-receiver rack-mount configured to your EAS or monitoring-specific application. Each receiver has internal frequency selection switches, front-panel controls and indicators, and rear connections. The user can select three receivers from the company's FM or FM/SCA, NOAA Weather, public service and/or AM monitor/receivers. Price is approximately \$1,300 depending on configuration.

For information contact the company in Florida at (941) 351-4454 or visit www.daytonindustrial.com.

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KRBE, Houston, TX*

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- Engineers will enjoy Op-X because it's easy to install, maintain, and has automatic backup features.



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USERREPORT

BY S. EDMUND JOHNSON
 Manager, Systems Engineering
 San Francisco Int'l Gateway
 ABS-CBN International

RICHMOND, CALIF. — ABS-CBN International is a wholly owned U.S. corporate entity of ABS-CBN Broadcasting of the Philippines.

The parent company is the largest media conglomerate in the Philippines operating a television and radio network.

The International division (that's us) is tasked primarily with distributing Filipino programming all over the world. We do so using satellite services into North America via DirecTV and Comcast cable; into Europe, the Middle East and Australia via various satellites; and via IPTV into Canada, Japan and islands in the Pacific. In addition, for our secondary task, we provide other ethnic programming direct-to-home (DTH) to North America, Hawaii, Alaska and the Caribbean. These include Thai, Chinese, Laotian as well as various Middle Eastern channels.

EARTH STATION

Our U.S. satellite earth station teleport is located in Richmond, Calif., near San Francisco.

As a satellite earth station teleport, we of course have a need for RF spectrum analyzers. We have several equipment buildings spread out over our two-acre facility, and we have had several older HP and Tektronix analyzers assigned to those buildings to monitor the various services. Unfortunately, we have never commissioned any software to

operate and record information from those analyzers remotely. So everything was done manually, including patching RF inputs from one or another antenna or RF transmit chain into an analyzer. We really needed a solution that wasn't going to cost us a lot of money.

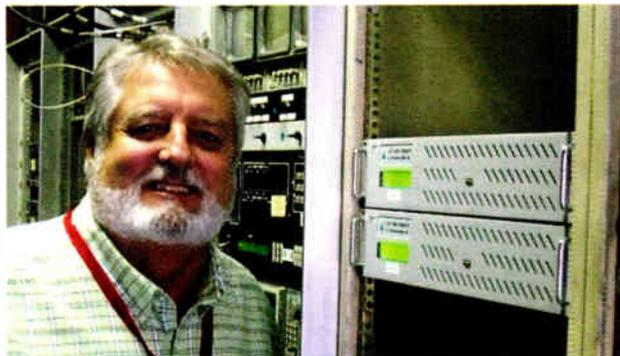
Then along came LP Technologies with their alternative to expensive carrier monitoring software that was currently on the market.

I had heard of LP Technologies and fortuitously was manning our Satellite 2009 Exhibition booth while the LP Technologies booth was nearby. I was able to view their products and became interested in the LPT-3000R remote rack-mounted spectrum analyzer.

I zeroed in on the LPT-3000R because not only did it offer a user-familiar and user-friendly software interface, but it also covered down to 9 kHz. To us, that meant that we could use this analyzer to view our 70 MHz IF signals, as well as our L-band signals. I remember that another manufacturer's products didn't go down to cover 70 MHz, while another's did but its software interface was not very friendly.

Coupled with the four-input switcher on the front end of the LPT-3000R and the ability to control the analyzers (including the input switch) via Ethernet using the included software, the LPT-3000R was an answer that allowed us to begin making routine remote measurements of our services. Finally, the price per unit was too good to pass up.

We initially found some issues with the included software; however within a short time after mentioning these to LP Technologies, we received updates that included some of our suggestions. They



listened to our input and made changes where they could.

FUNCTIONS

One of the most useful features for a multi-analyzer facility such as ours is to be able to select a memorized remote setup.

The memorized setup will select the correct analyzer IP address, switch to the correct input on that analyzer and then set all of the other analyzer parameters such as center frequency, span, resolution bandwidth and such. This makes it so easy for some of my operators who are not so adept at setting up an analyzer.

The trace recording and playback is another feature we've made use of. You can elect to record subsequent traces as often as once a second for up to 25 hours. (I'm going to suggest to them that they try to increase that time frame.) The recorded trace information is stored in a file on your

local desktop or laptop computer.

Users can print and/or save traces for inclusion in reports to customers and such. There is an alarm function where users can set a high level and/or a low level and the analyzer will issue a notification when either of those set points is reached. It can also send an e-mail notification.

We had our own capture and display software that would capture a trace from an HP or Tektronix analyzer and display it in a format that our customers were used to seeing in our reports.

This was a labor-intensive job that required taking a laptop around to each analyzer in each building to capture traces. LP Technologies graciously gave us a copy of their software programming manual so that we could adapt our software to capture our traces via Ethernet. Now I can create reports for my customers without leaving my office. In fact, because of the Ethernet access, I've been able to connect to any of my analyzers via my corporate VPN from home and view customer services on my laptop while watching TV at home.

Their software still has minor issues that I would like to see changed or corrected; but all in all, I've been very happy with the product and with the customer support and response. I fully expect to see some of those changes in future software updates.

For information, contact Micky Mukalay at LP Technologies in Kansas at (316) 831-9696 or visit www.lptech.com.

TECHUPDATE

CIRCUITWERKES INTRODUCES SITESENTRY2 REMOTE CONTROL

The SiteSentry2 from CircuitWerkes is a two-channel, Web-based remote control.

In addition to twin 10-bit analog readings, there are two optically isolated status inputs, six relay outputs that can be latching or momentary, a stereo silence sensor and an onboard temperature sensor.

All of the analog data is available in digital and "analog" metering displays within any Web browser. A browser can also be used to configure the SiteSentry2. Internet Explorer 6, 7 and 8, Google Chrome, Opera, Safari or Firefox can be used.

Two of the six relays are DPDT and can be used for remote switching of balanced audio or higher-current applications.

Free, multisite-capable software lets you set up your SiteSentry2 and save the configuration parameters locally. In addition to configuration, the software lets you monitor one or more SiteSentry2 units from any location with a network connection. E-mail and SMS text messaging can be sent when alarms are detected.

Three levels of access are provided: reader, controller and administrator. Only administrators can change configurations while controllers have access to the basic relay operations. Readers cannot access any control functions.

For information, contact CircuitWerkes in Florida at (352) 335-6555 or visit www.circuitwerkes.com.



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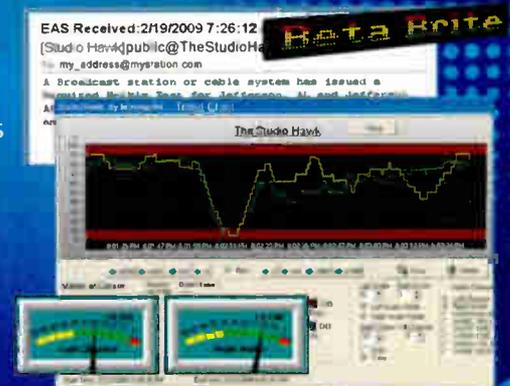
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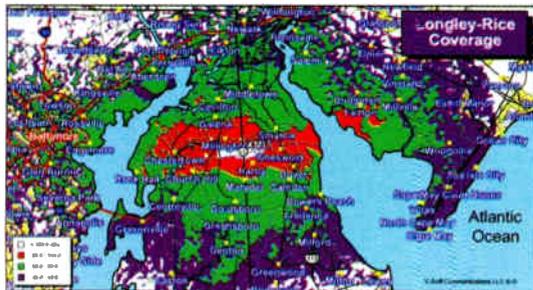
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I'm looking for San Francisco radio recordings from the 1920's through the 1980's. For example newscast, talk shows, music shows, live band remotes, etc. Stations like KGO, KFRC, KSFO, KTAB, KDIA, KWBR, KSFX, KOBY, KCBS, KQW, KRE, KTIM, KYA, etc. I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

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

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

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Say No to Buggy-Whip Technology Mandates

The Free Market Holds the Best Hope For Ensuring That Our Industries Thrive

COMMENTARY

BY GARY SHAPIRO

manufacturers of mobile devices like smartphones to include an analog radio chip in every product.



PLOY

At first blush, this seems like a good strategy. With nearly 300 million mobile phones in the marketplace, why not require every American to carry a radio receiver inside those devices?

But as it turns out, NAB support for this technology mandate is a cynical ploy

to distract lawmakers from the burning question of whether radio broadcasters should continue to enjoy their exemption from performance royalty payments.

Although CEA is not a party to the ongoing discussions between NAB and the Recording Industry Association of America and musicFirst coalition regarding performance royalties, we now have been brought into the discussions by this action.

We certainly recognize that NAB is under great pressure, but its tack seems odd: Members of Congress rightly judge their constituents to be in no mood for government mandates or interference with the marketplace. CEA has yet to identify one member of Congress willing to support NAB's attempt to impose old

analog radio technology on new portable products.

More, NAB has yet to make a truly coherent argument in support of this proposed mandate. In citing emergency alert benefits of such a mandate, NAB glosses over the fact that alert pass-throughs are not currently mandated, and indeed many local radio stations are unmanned, particularly at nights and on weekends, rendering the alleged emergency alert "benefit" unreliable and raising questions about the wisdom of permitting such unattended operation.

But far worse is how weak this proposal makes broadcasters look. It says to Americans that radio is a legacy horse-and-buggy industry trying to put limits on innovative new industries to preserve its former monopoly. The industry's refusal to innovate to the benefit of consumers raises questions about the ongoing wisdom of broadcaster use of publicly owned spectrum that, some have suggested, might better be used for broadband services that serve the public interest.

NOT IN DEMAND

Even some in the broadcast industry recognize that consumers who want "radio" on a cell phone don't want it via actual radio.

Clear Channel created a smartphone application that delivers radio and other entertainment features over more reliable and interactive data networks. The

company reports that nearly 6 million users have downloaded the app. Millions of consumers are enjoying the new generation of broadband-enabled radios that allow them to listen to the online streams of their favorite local broadcasters.

A recent CEA survey found that 70 percent of cell phone and smartphone owners are not interested in FM radio capability on their phone. Sixty-eight percent said they weren't interested in the feature even to receive emergency alerts.

Of course, those consumers who do want such functionality can already find it in the more than two dozen mobile phone models on the market today that have FM tuners built in — a fact helpfully highlighted by NAB on its own advocacy website.

While everyone else — consumers, government and corporations — recognizes the technological shift that is rendering FM radio all but obsolete, the NAB and RIAA refuse to adapt. These lobbyists would have advocated requiring every Model T be sold with a horse-and-buggy attachment, every graphing calculator with an abacus and every digital watch with a sundial.

Don't be fooled. The push for a mandatory FM radio in your cell phone has everything to do with NAB's cynical lobbying techniques and does not well represent the legacy of this proud industry.

Don't let it be said that rather than adapt to a changing world, the broadcasting industry would saddle smartphones with an outdated and burdensome feature that virtually no one wants.

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READER'S FORUM**MY FIRST RADIO REMOTE**

I was 11 years old in 1948. Thomas E. Dewey, governor of New York, was doing a whistle-stop campaign tour on the back end of a Long Island Railroad car that had pulled into the station in Rockville Centre. He was running for president against Harry Truman.

I had ridden my bicycle to the station just to hear what all the fuss was about. Parked there was a Chevy sedan with the trunk open. Lying on its back was a device like I had never seen: a tape recorder, operated by a guy working for a new station, WHLI 1100 AM, in nearby Hempstead.

I was familiar with the station. At the age of nine I had built a crystal set as a Cub Scout project, and WHLI was the strongest station on my dial, almost everywhere on the dial.

I chatted up the fellow and learned that the device recorded sound on a strip of paper tape coated with black iron powder. Amazing.

When the train pulled out, I thanked the WHLI guy and rode my bike home to tune in that evening's newscast — where I heard, believe it or not, the voice of Tom Dewey as it had spoken only a few hours earlier. Amazing.

Almost a decade later, as the proud owner of my own Viking 75 recorder, I managed to preserve the beep-beep signals from Sputnik 1 as it circled over my college dorm at Purdue University, announcing the birth of a new world, a new industry and my new career.

*Joe Buch
West Palm Beach, Fla.*

Ed. Note: In our Sept. 8 issue we invited readers to share their first-person recollections about early or unusual radio remote broadcasting. E-mail yours to radioworld@nbmedia.com.

MAKE PROPER CONNECTIONS

The Sept. 8 article by Mark Persons on overcoming the "tyranny of power" was very good. But he failed to drive home the point that a properly tightened connection, to the foot pounds specified by the manufacturer, is essential in making sure the lugs do not heat up in the first place.

The Square D disconnect switch he mentioned is one of the better products on the market and would not have failed twice had it been wired properly. Electricians are even encouraged to use a torque wrench when tightening these types of lugs to

SHAPIRO

(continued from page 37)

For the sake of consumer choice, manufacturer freedom and technological innovation, radio broadcasters would be wise to see through the NAB's flimsy spin and reject a mandate for FM receivers in phones. I extend a personal invitation to all of our radio industry friends to join us at the 2011 International CES, Jan. 6-9 in Las Vegas, to explore the next generation of devices enabling consumers to access local broadcast content. In touring the show floor, I think you will find that the free market — not government mandates — holds the best hope for ensuring that our industries continue to innovate and thrive.

Gary Shapiro is president and CEO of the Consumer Electronics Association (CEA), the U.S. trade association representing some 2,000 consumer electronics companies.

make sure the lugs are tightened to the correct foot poundage.

Time and again, as a broadcast engineer and troubleshooting electrician, I found lugs of all types burned up from high resistance because the wiring was not stripped properly, not inserted properly or not tightened properly — or, if made of aluminum, not properly coated with an anti-corrosion compound, and/or inserted in lugs where aluminum is not permitted.

*Nick Markowitz Jr.
Markowitz Electric Protection
Contract Broadcast Engineer
Apollo, Pa.*

TURN THE BOOT UPSIDE DOWN

Artists should pay radio stations to play their music.

Remember when radio could secretly charge musicians to play their music? Alan Freed made it popular and profitable. That is when record companies and artists thought radio had value. Maybe they still do even though the feds have made the practice illegal.

Now, because the current model no longer works, they want radio stations to pay for the right to promote and build reputational currency for their creations by charging RIAA, ASCAP, BMI and ASCAP fees.

Radio stations pay hefty annual FCC spectrum fees and have the legal right to play whatever they want. Soon we will choose to play royalty-free music from China and Brazil. Think about the billions (not zero) of dollars of celebrity and credibility these foreigners will receive from free radio.

Musicians/record companies need to look for other ways to derive revenue instead of killing the golden goose: Radio! Music will be free soon enough — in much the same way that record companies, travel agents and movie rental stores are dropping like flies.

*Rick L. Murphy
Chairman
Mad Dog Wireless Inc.
Lake Havasu City, Ariz.*

KOA VS. KOB

I certainly enjoyed the article "AM Radio: My First Real Love" (Oct. 20).



istockphoto/Jason Gemmich

The author mentioned listening to KOB radio from Denver! To the best of my knowledge, KOB has always been in Albuquerque, N.M.

*Bob Henry
Albuquerque, N.M.*

Author Jim Withers responds: "I meant KOA. I'm alphabetically challenged!"

CORRECTION

The last name of David Hurwitt of Optiwind Corp. was misspelled in the Oct. 20 story "SBE14 Tours Unusual Wind Turbine."

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

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SUBSCRIPTIONS

Radio World, P.O. Box 282, Lowell, MA 01853
TELEPHONE: 888-266-5828 (USA only 8:30 a.m.–5 p.m. EST)
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US EAST & LATIN AMERICA: John Casey, jcasey@nbmedia.com
T: 212-378-0400, ext. 512 | F: 330-247-1288
US WEST & CANADA: David Carson, dcarson@nbmedia.com
T: 212-378-0400, ext. 511 | F: 866-572-6156
SOUTHERN EUROPE, AFRICA, MIDDLE EAST:
Raffaella Calabrese, rcalabrese@broadcast.it
T: +39-02-7030-0310 | F: +39-02-7030-0211
UK & IRELAND, CENTRAL & NORTHERN EUROPE:
Graham Kirk, g.kirk@audiomedia.com
T: +44-1480-461555 | F: +44-1480-461550
JAPAN: Eiji Yoshikawa, callems@world.odn.ne.jp
T: +81-3-3327-5759 | F: +81-3-3322-7933
ASIA-PACIFIC: Wengong Wang, wwg@imaschina.com
T: +86-755-83862930/40/50 | F: +86-755-83862920
CLASSIFIEDS: David Carson, dcarson@nbmedia.com
T: 212-378-0400, ext. 511 | F: 866-572-6156

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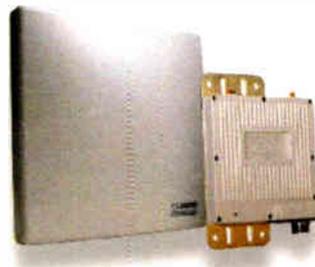




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