Cell Phone Radio
David Layer on notable radio tech trends including cell antenna integration.
Page 4

Expansion Plans
Jack Mullaney replies to questions about the BMC proposal to expand the FM band.
Page 38

Real Radio People
Kari Elswick, Traver McLaughlin and other 'real radio people' find each other on Facebook.
Page 24

Radio World

$2.50 | The Newspaper for Radio Managers and Engineers | June 17, 2009

INSIDE

NEWS

ENGINEERING

GM JOURNAL

STUDIO SESSIONS

NewBay Media

IBOC Makes Inroads Abroad

Finds Footing in Europe, S. America; DRM Alaska Trial Moves Forward

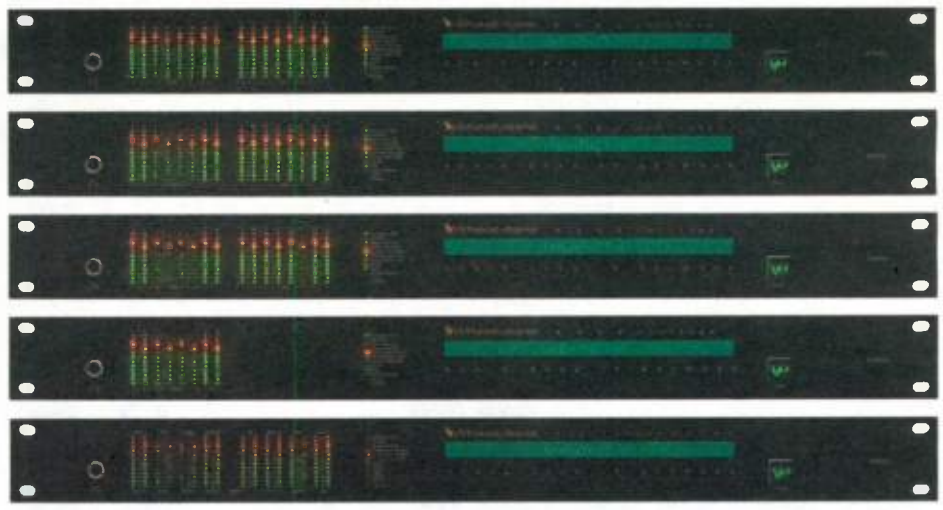
by Dan Mansergh

IBOC is beginning to make inroads into Eastern Europe, as broadcasters and regulators learn more about the technology and explore the possibilities of multicasting to expand the number of available radio services for their multiethnic and diverse populations.

In Romania, a series of tests and demonstrations was conducted last fall in the northern Transylvanian city of Baia Mare to introduce HD Radio to the country, as George Pletea, radio manager for Romanian broadcasting group owner 2M Prima Telecom, noted at the NAB Broadcast Engineering Conference this spring.

After two years of planning and negotiations with the National Authority for Communications of Romania, an experimental authorization to test IBOC on 2M

See DIGITAL RADIO, page 6 ▶



AUDIO-OVER-IP ROUTING. SOME TECHNICAL STUFF.

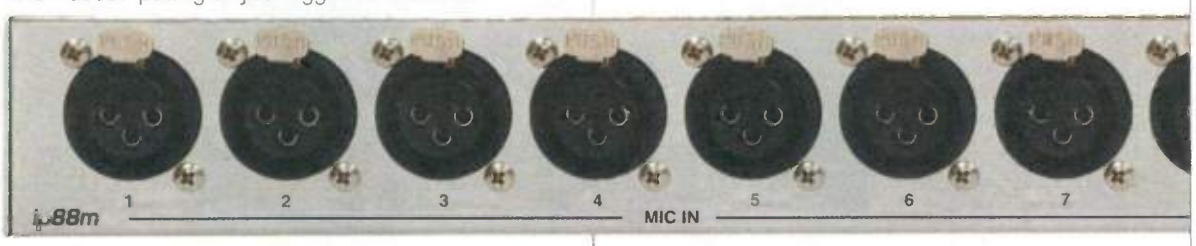
WHEATSTONE and WheatNet®-IP

WheatNet-IP is the new name for Wheatstone's Audio-over-IP networking, routing, and mixing system. First introduced at NAB 2008, it now accounts for the vast majority of networking systems that Wheatstone quotes and installs.

First, a quick overview, and then why WheatNet-IP has been so successful, not only in converting Wheatstone's loyal clients to AoIP, but also in convincing clients of the superiority of Wheatstone's technology over other choices.

WheatNet-IP BLADES

We call our I/O and mixing hardware and software "BLADEs"... way beyond the cutting edge, they're sharp and to the point (and yes, pun intended). Each BLADE is designed for a specific function—we don't cram unrelated tasks into one box making a central point of failure; we all know about "putting all your eggs in one basket."



BLADEs are access points in and out of the network. They interface seamlessly with Wheatstone's Evolution Series Console Control Surfaces, the Glass-E Virtual Console Control Surface, most of the popular automation systems, and streaming audio.

Three BLADES are line level I/O interfaces, one all analog, one all digital, and one half of each. Our newest BLADE provides mic level inputs. A fifth hardware BLADE mixes the audio for a Wheatstone console control surface. Each of the BLADEs and each Wheatstone console control surface connects to the network with a single CAT5E/6 cable.

BLADES are loaded with lots more sharp features: Each includes two 8x2 virtual utility mixers that can be used for a wide range of applications, a front panel headphone jack with source select and level control to monitor any system source, SNMP messaging for alerts, and silence detection on each output that can trigger alarms or make a routing change.

There's also WheatNet-PC, a software BLADE that you install on automation system computers, news workstations, or even the PD and GM's desk computers—to control, play and record audio on and off the network. It eliminates the expensive sound card, and replaces tons of audio and control wiring with a single CAT5E/6 cable.

EASE OF INSTALLATION

The relatively small channel count of each I/O BLADE allows you to conveniently locate it close to your equipment. In TOC/Master Control, there's no need for a back wall full of punch blocks, a BLADE (or occasionally two) in each rack keeps audio and control wiring entirely within the rack, allowing for a fast and clean build-out. In the studio, usually just one line-level BLADE is required; they're silent, so you can locate them with live mics.

FAST AND SIMPLE SETUP

Wheatstone's goal was a system that's extraordinarily easy to implement without the need for super-complicated network engineering, and where you don't need to be concerned about setting priorities to assure that those signals that are most critical are available.

WheatNet-IP setup is easy, intuitive, and takes only a few minutes until you're on the air. The front panel setup wizard in each BLADE gets you up and running in moments. Extensive front panel metering and status indicators provide quick confirmation that all is well. WheatNet-IP's web interface and WheatNet-IP Navigator software let you further customize your system, locally or remotely, with input and output names, logic associations, routing and much more.

RELIABILITY

Audio everywhere all the time, and keeping you on the air, were foremost in the design of WheatNet-IP.

Wheatstone chose Gigabit Ethernet (1000BASE-T) because 100BASE-T just can't simultaneously handle the large number of audio channels prevalent today in large broadcast plants without the very real risk of audio not being available when you need it. Gigabit protocol means all audio everywhere with extremely low latency.

WheatNet-IP is completely self-contained—no PC is required to perform any of the system functions, including routing, mixing, salvos, and logic control. The PC is needed only for configuration changes.

Each BLADE carries a complete map of the entire connected network in its onboard CPU flash RAM. Talk about redundancy, a system with 36 BLADEs has 35 backups! Need to replace a BLADE? Assign its ID number and connect it to the network—it will query the other connected BLADEs and import all the necessary configuration settings!

BLADES

ip88m ANALOG MIC I/O BLADE: 8 fully balanced reference-grade mic preamps with phantom power, 8 analog outputs, 12 universal logic (GPIO) ports programmable as inputs or outputs, routable throughout the system.

LINE LEVEL I/O BLADEs: 16 input channels, 16 output channels (switchable 8 stereo, 16 mono, or any combination), and 12 universal logic (GPIO) ports.

ip88a ANALOG I/O BLADE: 16 analog in/out.

ip88d AES DIGITAL I/O BLADE: 8 AES (16 channels) in/out.

ip88ad ANALOG & DIGITAL I/O BLADE: 8 analog in/out, 4 AES (8 channels) in/out.

ip88e WheatNet-IP MIX ENGINE BLADE: Handles all of the mixes from Wheatstone Evolution Series Console Control Surfaces and the Wheatstone Glass-E Virtual Console Control Surface, distributing the four stereo PGM, four stereo AUX SEND, per-channel MIX-MINUS, monitor outputs and other bus signals to the network. Once on the network, they are available as sources and outputs anywhere. This creates an extremely flexible system, where program outputs from one surface can be a source on any other surface; for example a news mixer's program bus as a source on the air studio surface. While the ip88e doesn't house audio I/O, it does include 12 universal logic (GPIO) ports.

WheatNet-PC BLADE: Installs on Windows PCs to replace the sound card; interfaces eight stereo audio signals in/out, plus automation control data (start, stop, etc.).

Audio Networking—Simply Evolved

WHEATNET IP

Wheatstone

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UniWave DRM Radio Expected in July

India and Russia Are Recent Additions To the Digital Radio Mondiale Camp

by Leslie Stimson and T. Carter Ross

Look for the first consumer receiver that Digital Radio Mondiale proponents hope will be a commercial success to be available in July.

That's the word from the DRM Consortium, which offered a presentation in its "theater" in the Continental booth at the spring NAB Show.

DRM is a digital radio system for short-, medium- and long-wave.

The system is designed for digital transmission of voice and associated data services at frequencies below 30 MHz.

Though DRM has had a software receiver and professional-grade units, Michel Penneroux, head of AM Broadcast for the TDF Group and chairman of the DRM Commercial Committee, said it has not had success in introducing a tabletop, though several companies have tried.

The Di-Wave 100 receiver from UniWave Development SAS in France will enter mass production in July, he said.

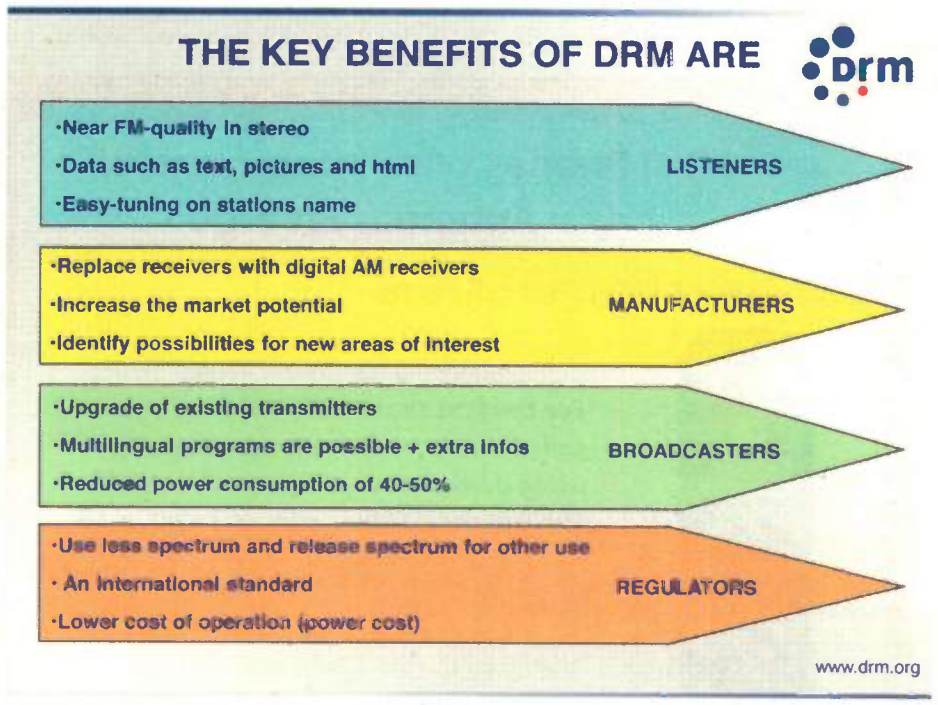
Features include program information in the display, USB connection, MP3 playback, MPEG4 playback and a multilanguage graphic user interface.

He expects other receivers to come on the market from NewStar, ADI, NXP, Himalaya and Mirics.

Other big news for DRM is the decision by Russia and India to adopt the technology.

Given the combined population of the two countries, these decisions should give manufacturers an impetus to speed the development and introduction of affordable DRM receivers, or so proponents hope. The countries have a combined population of nearly 1.3 billion.

See DRM, page 5 ▶



From a DRM Presentation

INDEX

Photo by Jim Peck

Photo by Paul Kaminski

Why David Layer Likes the ROKR EM35

Perspectives on Technology Trends From NAB's Senior Director of Advanced Engineering

I spoke via e-mail recently with David H. Layer, the senior director of advanced engineering at the National Association of Broadcasters, about what he viewed as the most important developments seen at the NAB Show this spring. Our discussion was in prep for Radio World's Web seminar "25 Things You Might Have Missed at NAB," which we presented for the second year.

The Webinar is quite a research project, and the result is an informative, interesting hour of content. It's good stuff, whether you made it to the convention or, especially, if you didn't. You can watch it for free right now; just register at *radioworld.com*. Thanks to our sponsors Telos/Omnia/Axia, Logitek and Digigram for making it possible.

PM: What was the most important technology trend or event you observed at the NAB Show of relevance to radio engineers and managers?

DL: The emergence of cell phones with integrated FM antennas is a very exciting and important development. NAB was publicizing this breakthrough in the "Radio Heard Here" booth and gave away Motorola ROKR EM35 GSM cell phones to four lucky attendees (one each day the exhibit hall was open; these can be used with either AT&T or T-Mobile) which includes an FM radio and integrated FM antenna.

This is significant because for the first time, radio listening over a cell phone is freed from the necessity of using a headset or an external, corded speaker accessory. In all previous FM radio-enabled cell phone implementations, the headset (or speaker) wire also served as the FM antenna, which was a limiting feature of the device.

Integrating the antenna into the unit opens up a number of exciting possibilities, including enhancing the cell phone's ability to deliver emergency alert messages to consumers via FM broadcasters' emergency alert system (EAS) transmissions.

Cell phone penetration in the U.S. is at approximately 90 percent, but at present only 7 percent of these phones have FM radio included. NAB and the broadcast industry have an opportunity here to educate listeners, the cellular industry and the government on the benefits of deploying more cell phones with FM radio, and now that integrated FM antennas are becoming available (Nokia has a phone with integrated FM antenna coming out this quarter) this should prove to be a much more attractive proposition to everyone.

David Layer says integrating the FM antenna into the cell phone opens exciting possibilities. This is a slide from our '25 Things You Might Have Missed at NAB' Webinar. You can watch it for free online.

PM: Were there specific products or technologies that really arrested your attention? Why?

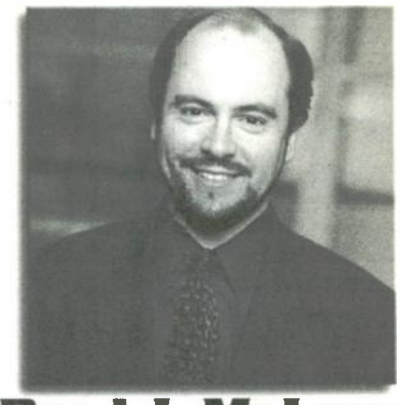
DL: I think the most interesting new technology at the show was the ATSC M/H (mobile/handheld) technology on display in a number of locations, primarily in the ATSC M/H pavilion and in various transmission equipment vendors' booths (also the topic of numerous engineering papers at the Broadcast Engineering Conference).

This should be of interest to radio broadcasters because soon, a free over-the-air *mobile* TV service will be available to consumers in the U.S. for the first time. When this happens, radio will no longer be the only free mobile broadcast service and radio broadcasters need to be cognizant of this changing landscape.

Based on the test results, the ATSC M/H system is a very good performing and capable service, on a par with any other mobile TV service in the world. Those familiar with the history behind the development of this technology are amazed at how rapidly the broadcast industry has been able to get to this point.

According to the Open Mobile Video Coalition (*www.openmobilevideo.com*), over 70 stations in 28 markets have "signed on" to deliver live TV broadcasts using the ATSC M/H system by the end of 2009.

From the Editor



Paul J. McLane

PM: Did you hear a presentation or speech that made an impact?

DL: I'm sorry to say that I didn't get to sample as much of the great content we had at this show as I would have liked to. One presentation I was impressed by was given by a Brazilian broadcaster, Mr. Ronald Barbosa, reporting on the tests being done in Brazil on HD Radio technology.

Prior to hearing Mr. Barbosa's presentation (which has a companion paper in the Conference Proceedings that is 40 pages long!) I did not realize how extensively the HD Radio system was being tested in Brazil, and I am encouraged to learn of this because the wider the adoption of HD Radio worldwide, the more consumers in the U.S. (worldwide, too) benefit as economies of scale bring down receiver costs and increase the variety of HD Radio receiver offerings.

Another very interesting session that I was able to spend time at was on the topic of disaster preparedness and public alerting. Emergency alerting and helping communities survive during times of crisis are stock-in-trade for radio and TV broadcasters, and this session highlighted some of the technologies that are being used to make sure broadcasters are ready for this important role.

Two back-to-back presentations by Steve Davis of Clear Channel were especially interesting and informative, and

See LAYER page 5 ▶

Layer

▶ Continued from page 4

both were based upon "lessons learned" after some of the terrible storms recently encountered in the southern U.S.

PM: What is the state of the HD Radio rollout?

DL: NAB continues to be very "bullish" on HD Radio technology and is continuing to help move the transition to digital radio forward.

Layer notes that soon radio will no longer be the only free mobile broadcast service.

HD Radio topics predominated on the radio side at this year's Broadcast Engineering Conference; and at the National Radio Systems Committee meetings held at the show, the Digital Radio Broadcasting Subcommittee adopted an important and informative Guideline document (NRSC-G201) which will help broadcast engineers measure HD Radio signals for compliance with the appropriate RF masks (NAB is a co-sponsor of the NRSC).

NAB also continues to advance HD Radio technology by funding HD Radio-related FASTROAD projects, which currently include the HD Radio EPG and on-channel digital booster technology projects. FASTROAD is NAB's technology advocacy program; see *www.nabfastroad.org*.

It's not surprising that the economic difficulties that are plaguing the world right now appear to be impacting the rate of the HD Radio transition. HD Radio equipment manufacturers are continuing to improve and lower the cost of their products, though, and when things pick up again this should help get the transition back on track.

PM: Any further thoughts?

DL: The Radio Data System (RDS) is playing a more important role in the transition to digital radio than originally expected.

More receivers than ever include RDS and new applications, most notably RDS tagging and real-time traffic, are giving broadcasters an opportunity to offer digital services using analog FM while the transition to HD Radio progresses.

The NRSC's RBDS Subcommittee was reactivated at the NAB Show to review advances in RDS technology, such as "RadioText+", and to see if new standards or guidelines would help the broadcast industry make the most of these new opportunities.

Layer mentioned Broadcast Engineering Conference sessions; you can buy a copy of the proceedings from the NAB Store (*www.nabstore.com*). It includes the content in book form as well as on CD-ROM; it retails for $120, with a 10 percent discount available for NAB members.

DRM

▶ Continued from page 3

Indian state broadcaster All India Radio (AIR) announced its decision earlier this year following a series of DRM trials beginning in 2007. The technology also was highlighted in a dedicated session at an international broadcasting conference in Delhi in late February.

AIR currently airs regular DRM transmissions from a 250 kW shortwave transmitter near New Delhi, and it is in the process of converting four other shortwave transmitters to DRM. The broadcaster also plans to add 78 medium-wave transmitters operating in DRM to its national network over the next five years.

In Russia, the State Commission for Radio Frequencies has issued an order opening multiple short- and medium-wave frequencies up to DRM broadcasts. Russia began testing the system in April 2006.

Ruxandra Obreja, who chairs the DRM Consortium and is controller of business development for the BBC World Service, said she was excited and encouraged by the developments in India and Russia. DRM implementation on their large broadcasting networks will give radio a new and exciting "digital" lease of life. she said.

Brazil is also interested in DRM and Germany is now testing the technology, according to DRM experts who spoke at the NAB convention.

Lindsay Cornell, principal systems architect for the BBC, also discussed DRM+, an expansion of DRM technology that brings its features to the FM bands.

Using DRM, proponents hope to provide advantages over FM analog such as a lower transmission power level to provide the same amount of coverage, new audio possibilities such as surround sound and increased spectrum efficiency, he said.

DRM+ is expected to join the family of open worldwide DRM standards later this year, according to the DRM Consortium.

DIGITAL NEWS

DIGITAL PUSH DOWN UNDER: Australia launched its Eureka-147 DAB+ service earlier than expected, with signals operational in the five major metropolitan markets in June, well ahead of the official Aug. 6 launch. The markets are Sydney, Melbourne, Brisbane, Adelaide and Perth.

The staggered rollout focuses on interference testing and resolution. Proponents say DAB+ offers more stations with better reception, improved stereo audio quality and accompanying text information.

The simulcast of analog FM and DAB+ is on most established stations and is heard on digital radio receivers by an audience estimated by proponents at fewer than 10,000.

Retailer Harvey Norman's business development manager for audio, Nick Wells, cited consumer interest in digital radio on the new DAB+ system. "It's a zero market so it's all new business," he told the Australian.

Commercial Radio Australia is working to ensure that once DAB+ is active in metropolitan areas, work begins on digital radio services for the rest of the country.

DAB+ HELPS PROMOTE DTV: Maltese media company GO is using digital radio to help promote its new digital terrestrial television system. The company gave away 300 Revo bLik DAB+ receivers to new subscribers, 50 for five weeks.

POLSKIE RADIO USES DRM: German transmission services provider Media Broadcast has begun transmitting digital shortwave broadcasts for the external service of Polish public broadcaster Polskie Radio using the Digital Radio Mondiale standard.

SWEDES UNITE ON DAB+: Public and private broadcasters proposed the Swedish government back broadcasters in a bid to adopt DAB+. Chief executives of three Swedish broadcasters wrote in a national newspaper that while the technology has been stalled for some time now — due to "uncertainty surrounding the technology and lack of political determination" — the Swedish broadcasting industry as a whole is now ready to back DAB+ and to expand it across the country.

Digital Radio

▶ Continued from page 1

Prima Telecom's Radio Impact station on 96.9 MHz in Baia Mare was granted in 2008.

At the IBC show in Amsterdam last September, arrangements were made with Nautel and the First Ukraine Broadcast Group to use a demonstration rack from the show floor for the Romanian tests before sending it to its permanent home in Ukraine. The rack contained a 1 kW V1 transmitter, M50 exciter, Importer, Exporter and processing equipment.

Although the main Radio Impact transmitter site on Mt. Gutai is an ideal location to cover Baia Mare and the surrounding area, according to Pletea, it posed problems as a test site due to its remote location and the lack of critical infrastructure such as sufficient STL bandwidth, a suitable test antenna and network connectivity. Instead, 2M Prima's engineers decided to broadcast from an available two-bay top-mount antenna on a 200-foot tower near their studios.

That simplified the installation, operation and demonstration of the test station. Cooperative regulators modified the experimental license for the test station to allow broadcasts on a new frequency so that the 2M Prima station could continue operating on 96.9 MHz while the tests were underway.

One concern about the test antenna site was its relatively low height, and whether the digital signal would have enough power to provide reliable coverage over the approximately 90 square miles of the test area. After some testing of various power levels, engineers determined that only 90 watts ERP was required for digital reception with no dropouts throughout the area.

The tests culminated in a two-day demonstration in October for 75 attendees, including representatives from both of the Romanian broadcast regulatory agencies. One agency manages spectrum, the other approves programming.

Three channels were broadcast in the extended hybrid mode (48/48/24 kbps), and demonstration attendees were impressed with the sound quality and lack of multipath as they conducted drive tests, listening on JVC car receivers configured to tune the 100 kHz European FM channels properly.

The demonstration project appears to have had the desired effect, sparking interest among previously skeptical regulators, broadcasters and the listening public in the possibilities for digital radio broadcasting in Romania. Plans are now underway for a large-scale test in the Romanian capital city, Bucharest, and its 2 million inhabitants within the next year.

George Pletea, radio manager for Romanian broadcasting group owner 2M Prima Telecom, said after two years of planning and negotiations with the National Authority for Communications of Romania, an experimental authorization to test IBOC on 2M Prima Telecom's Radio Impact station on 96.9 MHz in Baia Mare was granted in 2008.

BRAZIL TESTS REVEAL PROS, CONS FOR IBOC

Brazilian broadcasters have been transmitting IBOC digital radio signals for several years, but until now there has been no comprehensive study of HD Radio system performance in the challenging propagation and allocations environment of South America's largest and most populous country.

Ronald Barbosa is coordinator of the Brazilian Digital Radio Group for the Brazilian Broadcasting Association ABERT.

The digital radio group is an industry-led regulatory advisory panel similar to the digital radio broadcasting subcommittee of the National Radio Systems Committee. At the NAB BEC, Barbosa presented findings from an extensive field study of IBOC reception.

The study, sponsored by ABERT with a number of other broadcasting associations and station group owners, considered both AM and FM HD Radio system performance, with a particular focus on audio quality, coverage area, signal robustness and hybrid compatibility.

The test plan was developed in collaboration with the National Telecommunications Agency (Anatel), which had already developed operations guides and test procedures for both AM and FM IBOC stations, and with the Laboratory of Digital Radio and TV at Universidade Presbiteriana Mackenzie, which conducted most of the lab and field tests.

Two primary stations were selected for study in each band: a 100 kW-D/20 kW-N directional Class B at 1200 kHz in São Paulo and a 50 kW-D/5 kW-N directional Class B at 1150 kHz in Belo Horizonte for AM. For FM, they studied 60 kW/300m Class E3 stations on 96.9 MHz in São Paulo and 100.5 MHz in Ribeirão Preto.

To assess long-distance AM night coverage, an additional distant station, 100kW Class A on 600 kHz in Porto Alegre, was selected for spot nighttime measurements along the planned test routes. An experimental station on 90.5 MHz in Cordeirópolis was also constructed to evaluate low-power FM performance.

Field tests were conducted at a series of predetermined fixed points and radial routes, with data collected for digital signal status, analog signal status, signal field strength, noise levels on adjacent channels and audio sample recordings for subsequent subjective assessment. Additional testing of specific conditions was also conducted, including AM nighttime reception, indoor reception and low-power FM coverage.

In Barbosa's assessment of the test results, he finds much to like about IBOC: FM and AM digital transmissions are very compatible with analog signals in the band, and audio quality is good even at low bit rates. He also finds that at low power, FM IBOC works better than expected and multipath interference resistance is much improved when compared with analog FM.

He notes, however, that there are still a number of areas where the HD Radio system could be improved: digital coverage is consistently less than analog coverage and indoor reception performance is widely variable. He notes that nighttime AM reception is problematic and the general robustness of the AM system needs to be increased.

Still, Barbosa concluded that the IBOC standard is a "good solution for Brazil, with the least impact for broadcasters and the general public" as stations transition to digital operation.

ANTENNA CONSTRUCTION UNDER WAY FOR ALASKA DRM TESTS

The experiment to see if an entire state can be covered by digital shortwave signals is slowly progressing, according to another NAB Show presentation.

Dr. Donald Messer, longtime shortwave broadcasting and Digital Radio Mondiale proponent, updated attendees about his plans to test DRM for an ambitious "local" shortwave service covering the state of Alaska.

With more than half of Alaska's population concentrated around Anchorage and a few other urbanized areas, and the remainder widely distributed over a half-million square mile land mass, the state is one of the most sparsely populated areas in the world. This creates a challenging environment for the economics of FM and AM broadcasting, even before the harsh weather and limited accessibility of transmitter sites are considered.

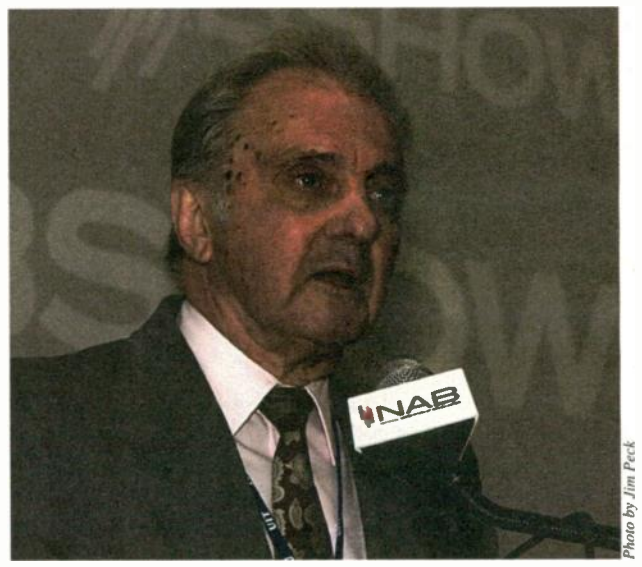


Photo by Jim Peck

Dr. Donald Messer discusses the Alaska DRM tests.

The result is that many people throughout the state have limited or nonexistent access to broadcast radio.

Messer said three surplus 100 kW transmitters have been obtained from the Department of Defense and are now being tested into dummy loads in an underground mine near Fairbanks, and the first of three crossed half-wave dipole antennas has been constructed.

The test plan includes a series of experiments to determine what frequency bands and power levels are needed to provide reliable year-round service, as well as which combination of RF bandwidth, error correction and QAM constellation size provides the best balance of throughput and signal robustness from the DRM system.

Of particular interest is the nature of ionospheric propagation at high latitudes; providing statewide broadcast service requires a consistent and predictable "bounce back" of signals from the ionosphere and understanding the behavior of these reflections will require extensive experimentation, Messer notes.

To assist in the analysis of reception variability, a network of 18 remote receive sites will be set up around Alaska's periphery to feed reception data back to the project headquarters in Fairbanks. Messer expects construction of the transmission system and remote receivers to be completed later this year. After that, a two-year data collection and experimentation project is planned.

Messer seemed careful not to sound over-optimistic that the system would work.

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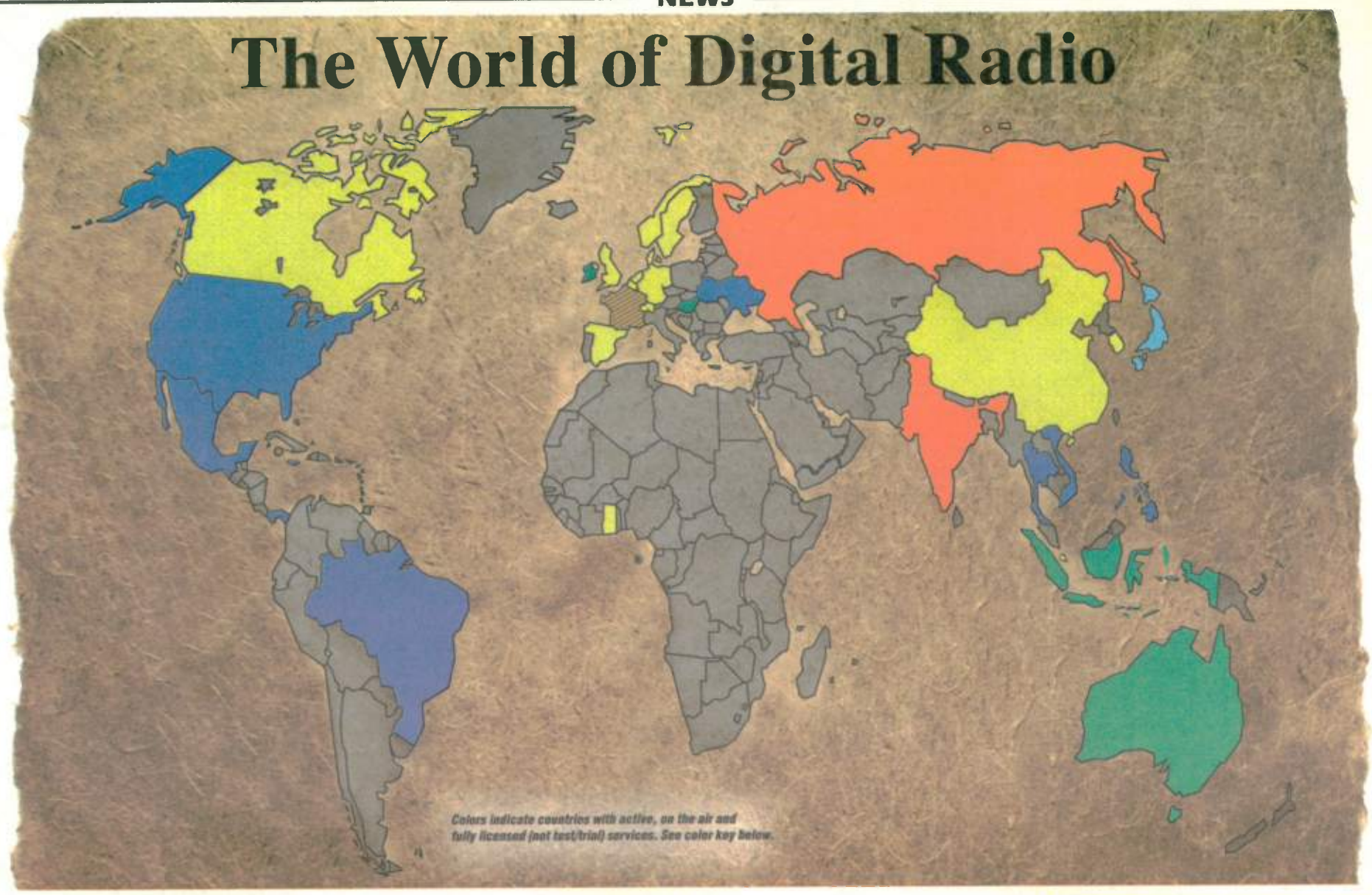
The World of Digital Radio



Worldwide, digital radio is slowly setting down roots and growing, as seen in this map prepared by Radio World. While in most nations digital listening remains miniscule compared to traditional analog radio — the United Kingdom being the notable exception — it is moving beyond the trial phase and becoming part of the media mix.

A variety of digital radio standards are being tested and used worldwide. Some nations are looking to standardize on one; others are considering different standards for different applications — DAB+ for urban areas and Digital Radio Mondiale for open rural regions, for instance, or DAB for national and regional radio and HD Radio for local broadcasting. DAB, DAB+ and DMB (Digital Multimedia Broadcasting) are all part of the Eureka-147 standard family.

Some analog broadcasters are also experimenting with FMeXtra, which carries a digital audio channel on a subcarrier frequency.

Digital radio is also being transmitted alongside video programming via Digital Video Broadcasting-Terrestrial, DVB-T for short, and Digital Video Broadcasting-Handheld, called DVB-H in some nations. In Japan the "Integrated Services Digital Broadcasting-Terrestrial" system or ISDB-T is used for both radio and television services.

Satellite radio providers, such as Ondas Media, WorldSpace and Sirius Radio, are also offering listeners additional digital radio options.

According to WorldDMB, some 46 nations have regular, licensed DAB, DAB+ or Terrestrial-Digital Multimedia Broadcasting (T-DMB) services in place or are testing the Eurkea-147-based technologies.

IBiquity Digital Corp., developer of the HD Radio standard, lists 19 nations as using its system or have trials. We list nine countries in which HD Radio is regulated, meaning the technology has gone beyond being trialed or used with experimental authorizations.

DRM is used by international broadcasters for trial or ongoing services from some four dozen transmission sites worldwide. Countries highlighted as DRM are using it for domestic services; international coverage is not reflected on the map.

Eureka 147-based (DAB, DAB+, T-DMB):
Belgium, Canada, China, Denmark, Germany, Ghana, Monaco, Netherlands, Norway, Singapore, South Korea, Spain, Sweden, Switzerland, United Kingdom

Eureka-based by year-end:
Australia, France, Hungary, Indonesia, Ireland, Malta

HD Radio:
Brazil, Jamaica, Mexico, Panama, Philippines, Thailand, Ukraine, United States, Vietnam

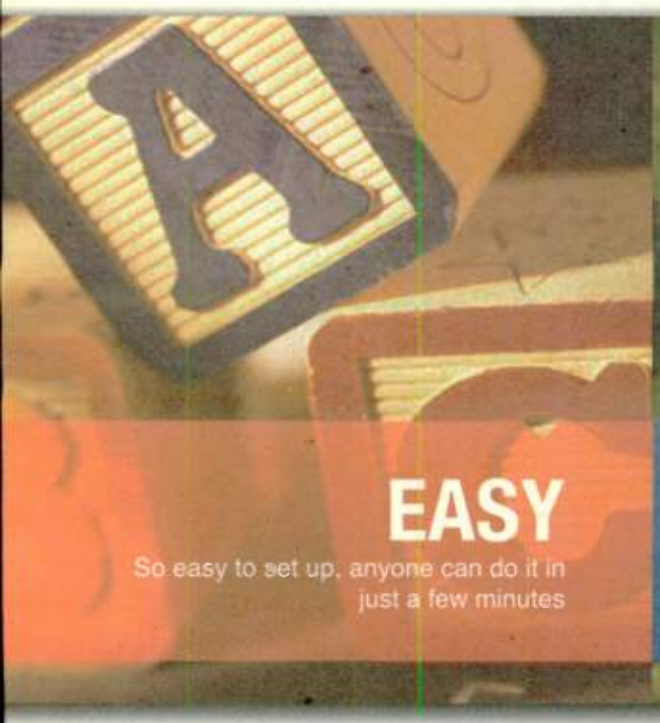
DRM:
France, India, Russia

ISDB-T:
Japan

The map tries to pare down the numbers to places where fully licensed digital radio operations are active and on-the-air, operating under a regulatory scheme that approves of a given digital radio standard for international broadcasting. Test and trial services, even long-running ones, are not included, although regularized services expected to launch by year-end 2009 are marked.

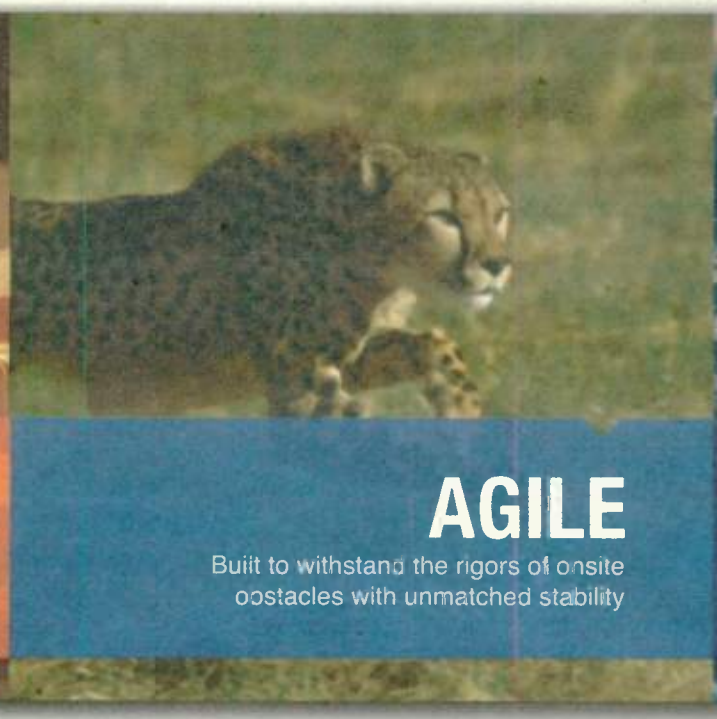
Sources:

WorldDMB, "Global Broadcasting Update DAB/DAB+/DMB" (January 2009)
iBiquity Digital, "HD Radio Broadcasting Around the World" (*www.hd-radio.com/international*)



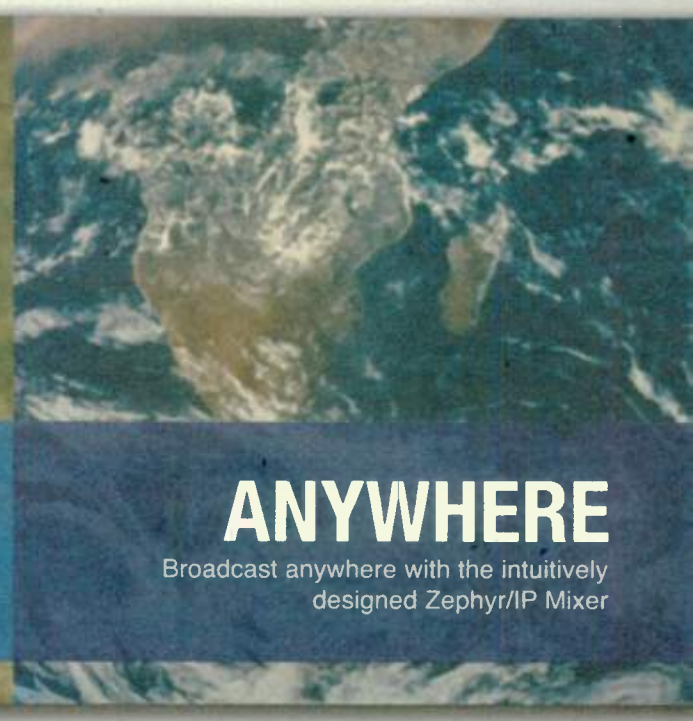
EASY

So easy to set up, anyone can do it in just a few minutes



AGILE

Built to withstand the rigors of onsite obstacles with unmatched stability



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Photos by Jim Peck

APT Ltd. | WorldCast Equinox

Expanding its offerings in the world of IP audio, APT launched the WorldCast Equinox.

Its purpose is the delivery of bidirectional stereo over both IP and ISDN; the model targets studio-transmitter links at an economical price point.

Features include automatic backup from IP to ISDN, support for SIP/SDP and interoperability with other brands of codecs using Layer III bonding.

Additional functions can be integrated through optional add-ons. Users have the option of dual IP interfaces, dual ISDN ports and dual power supplies, on a cost-effective 1RU rackmountable unit. Optional X.21/V.31 also is available.

APT Ltd. is now part of the Audemat Group. Celebrating, from left, are Christophe Poulain, Hartmut Foerster, Jean Baptiste Roux, Nicolas Boulay, Bruno Rost, Gillian Wylie and Jonathan Corkey.

Info: www.aptx.com

Arctic Palm Technology | Center Stage Live featuring CSRDS

Center Stage Live, a "paperless studio," is designed to capture, schedule and format copy from multiple sources and get it where it is needed electronically, minimizing or eliminating the need to move paper around.

The package is very good at handling metadata and has the tools needed to capture, format and display "now playing" and promotional messages on RDS\RBDS encoders, HD Radio systems, Web sites, online players or other devices such as digital signs. Its contribution making RDS more productive for stations is a notable part of its appeal.

The company was partnering with iMediaTouch and Inovonics at the NAB Show. iMediaTouch from OMT has integrated with Arctic Palm for its RDS and Copy features since 2003; OMT says users appreciate the revenue it generates in RDS and Web sites using iMediaTouch XML outputs. Inovonics said Center Stage Live adds value to RDS content when paired with its encoders, helping a listener's display "come alive" with station branding, artist, song title info and the "buy it now" features found in RT+.

Director of Product Development Stu Buck is shown.

Info: E-mail csbuck@arcticpalm.com or call (877) 752-0002.

Axia | PowerStation

PowerStation makes IP audio easier to deploy by combining six separate devices into one unit, a self-contained engine. They are a DSP mixing engine, console CPU and power supply, audio I/O, GPIO and Ethernet switch.

The company says this approach streamlines studio builds because you can just put the PowerStation in your rack, connect an Axia console with one cable, plug in audio devices and name your sources with a convenient Web interface.

The PowerStation Main can handle consoles up to 40 faders. The audio I/O includes two mic inputs, four analog inputs and six outputs, two AES/EBU inputs and two outputs, four GPIO ports each with five ins and five outs. Sixteen Ethernet ports with Livewire are built in for single-cable connection to Telos phone systems, Omnia processors and other Axia equipment, as well as gear from Axia partner companies. Two Gigabit ports with SFP let you connect to copper or fiber networks.

If you need more I/O, a PowerStation Aux can provide it along with a redundant backup power supply that protect not only the console but the mixing engine and other functions.

Shown are Maris Sprancis, director of software engineering; Gints Linis, project manager; Milos Nemcik, support engineer; and Maciej Szlapka, R&D engineer.

Info: www.axiaaudio.com

Broadcast Devices

SWP-200 Integrated Power Meter/Four-Port Switch Controller

A true RMS forward and reflected power meter and four-port switch controller are integrated into one package for management of RF switches and monitoring forward and reflected power.

The unit is design to control RF switches and monitor forward and reflected power to a pair of loads. The SWP-200 can be interfaced to standard DC output coupler elements or can be interfaced to an RF directional coupler.

Features include RF loss detection for automatic changeover and a "safe switch" feature that uses RF detection to prevent switch operations when RF is applied to the switch.

One of a raft of fine, broadcast-specific products from Bob Tarsio, shown, and BDI.

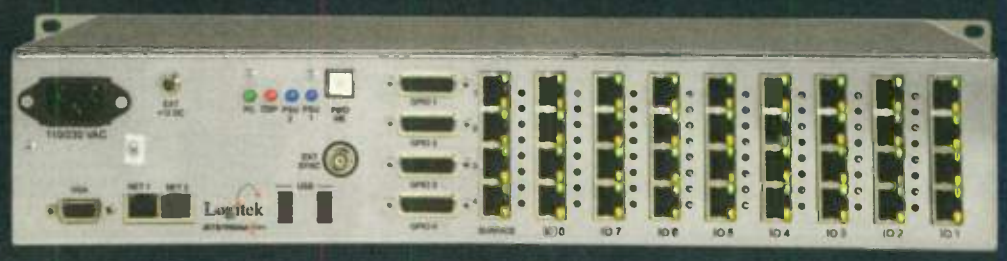
Info: www.broadcast-devices.com

Don't let the **hole** in your budget hold you back...

Reduced equipment budgets don't have to mean the end of your IP Audio projects this year. Logitek's JetStream Mini gives you the flexibility you need for audio routing, distribution and mixing – for about a third of the price you've come to expect. Everything you need is provided in one user-configurable 64-channel node, and we offer the latest networking protocols to make your implementation fast and easy.

COOL STUFF AWARD
Radio World
2009

JETSTREAM MINI



Call us at 800.231.5870 or check out JetStream IP Audio routing solutions at logitekaudio.com today!

Logitek
Console Router Systems

Workbench

Take This AM DA Site Test

by John Bisset

Do you maintain an AM DA? When was the last time you spent some quality time at the transmitter site? To follow is a little quiz on site maintenance. See how well you do. Match the descriptions below with the photos here and on page 16.

1.) ___ Check DA sample parameters here, and make sure all pattern change lights are illuminated.

2.) ___ Clear tape can be used to keep this lying flat.

3.) ___ These contacts should be tested for tightness. Remember, loose connections generate heat.

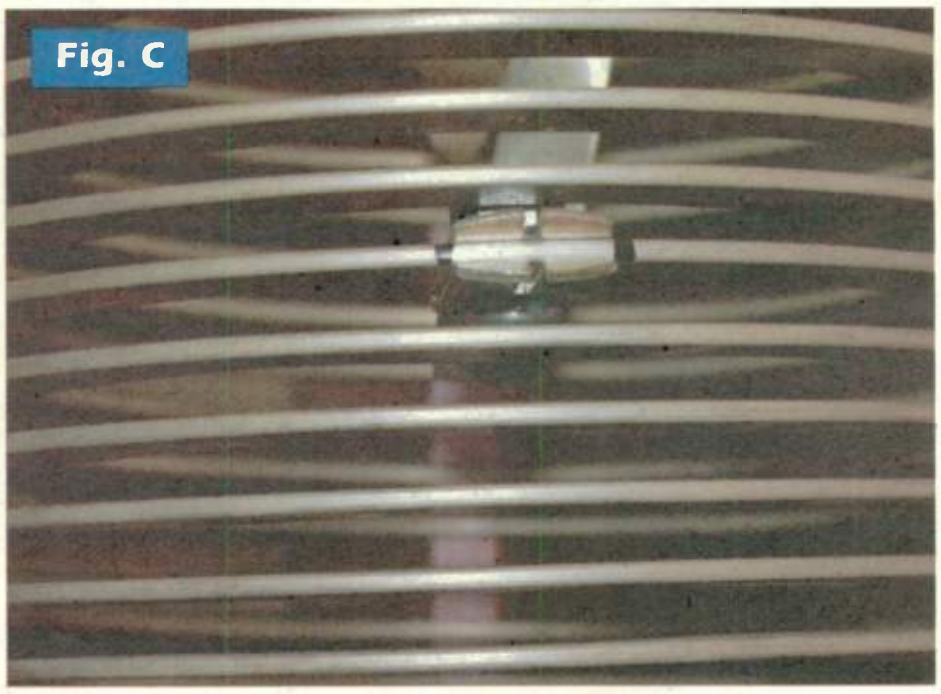
4.) ___ Tighten these and all other hardware, with the transmitter off, of course.

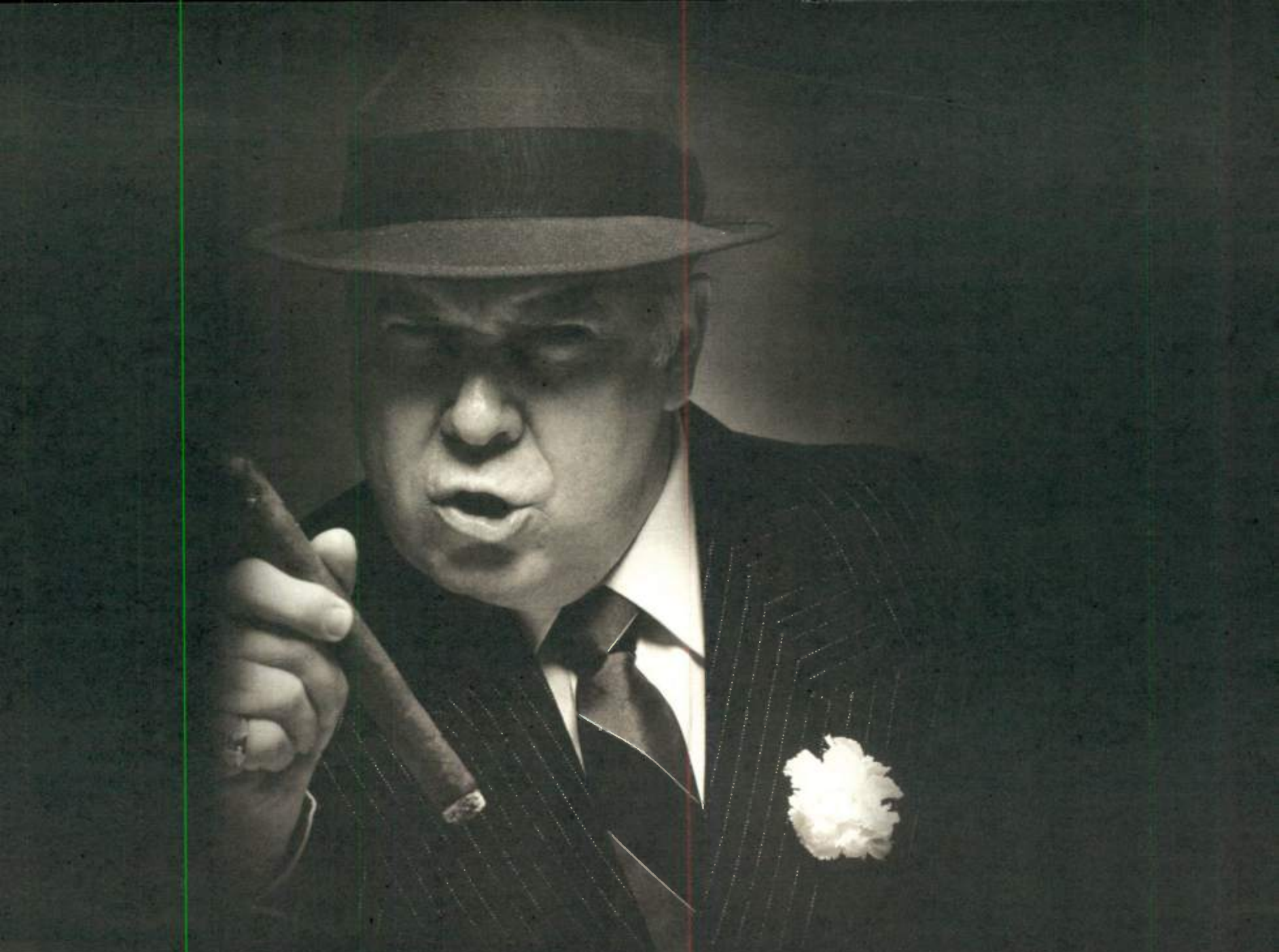
5.) ___ Arcs can occur here — a good place to inspect with a strong trouble lamp.

6.) ___ Use a Sharpie or similar permanent marker to mark these locations.

7.) ___ No one likes working in the dark. Spend the money for the extra illumination.

More photos and the answers on page 16 ▶





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PowerStation™: the new console system from Axia.

COOL STUFF AWARD Radio World 2009

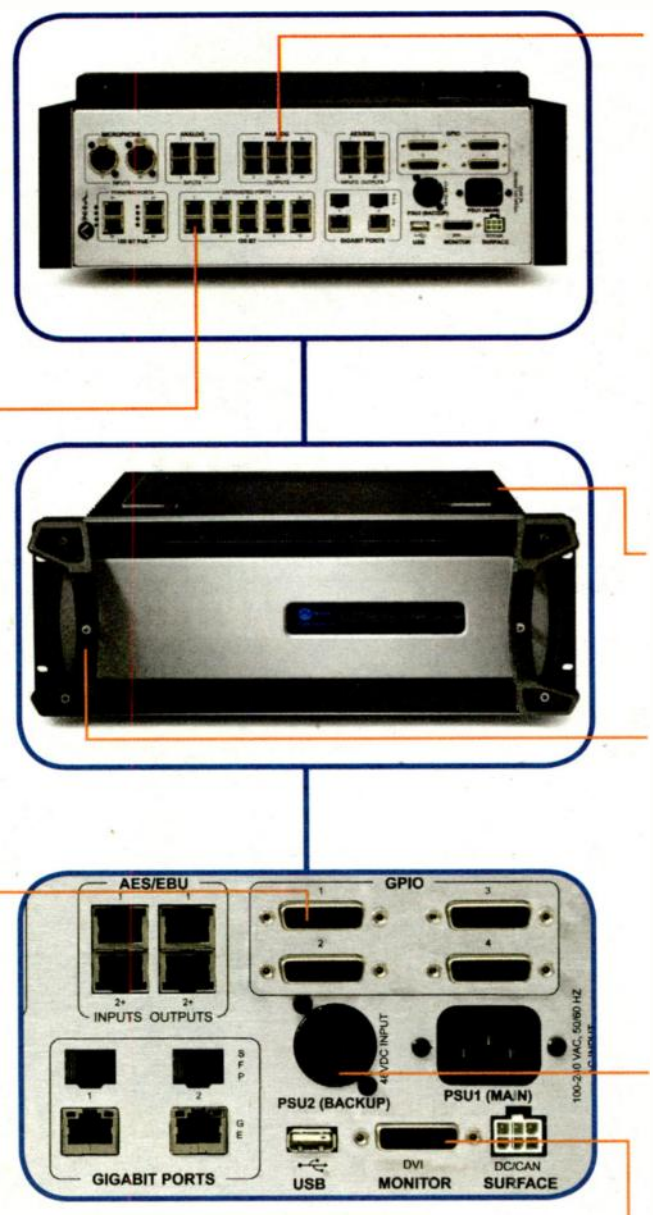
Because there's no such thing as too much uptime.

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

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

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

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



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

24/7 SUPPORT +1-218-822-0247

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

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

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

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

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

Element shown in SilverChannel color scheme. Also available: BronzeChannel and Warm Gray

Element 2.0 •

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

Come together, right now •

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

The standalone network •

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

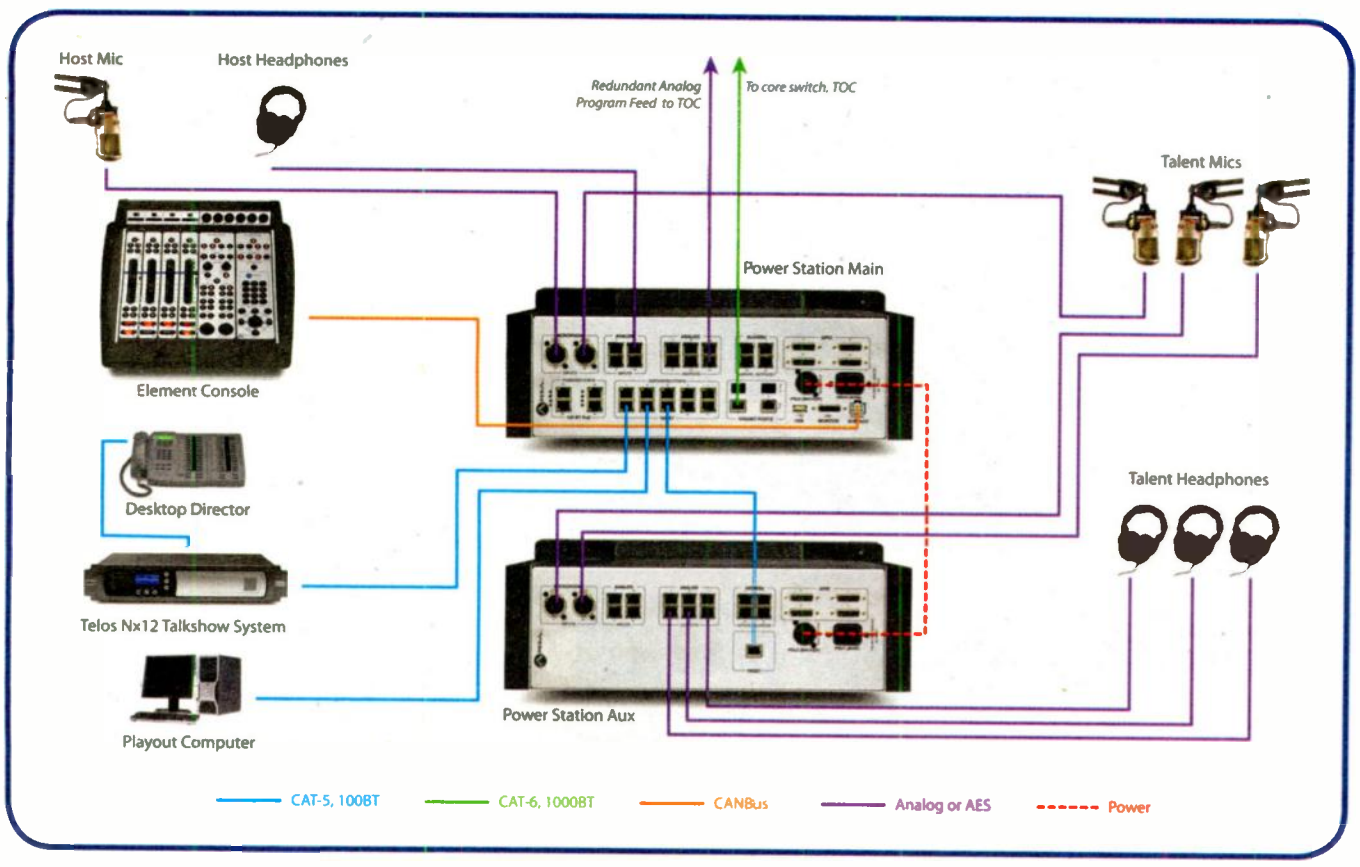


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Fig. D


Fig. E


Fig. F

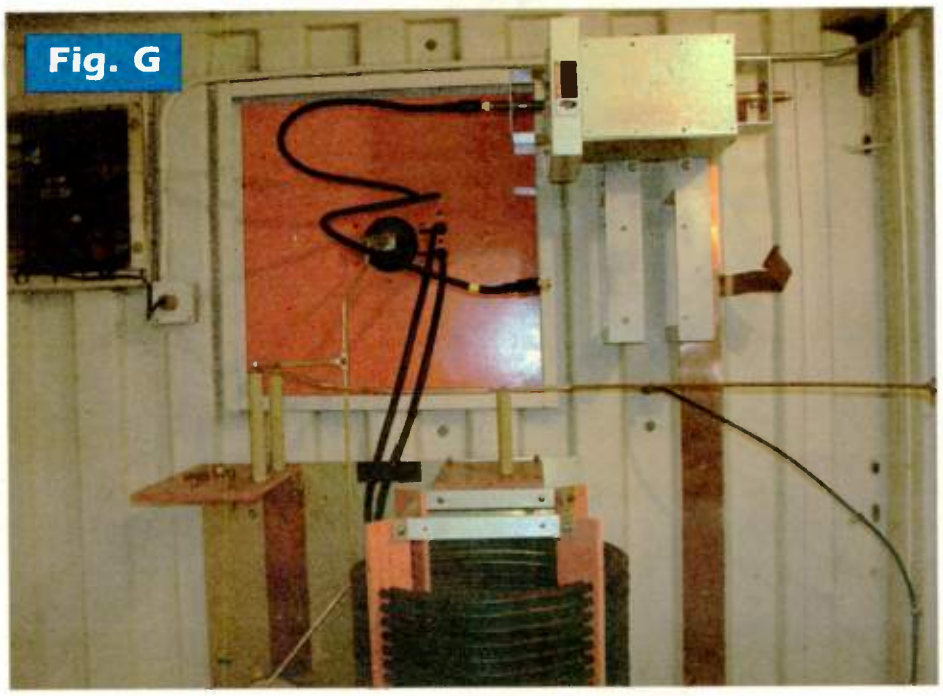
Fig. G

So how did you do? ▼

The first answer is D. Periodically check DA sample parameters on the antenna monitor and, while you are at it, make sure all pattern change lights illuminate properly. Troubleshooting can be time-consuming if warning and status lights aren't doing their job.

Copper strap, used to ground transmitters, is great — when it lies flat, as shown in Fig. B, the photo for our second tip. Clear packing tape can be used to keep this strap in place and avoid it being torn or ripped by foot traffic. Repair any rips or tears in the strap, or broken solder joints.

Fig. E shows J-plug jack contacts, and is the answer to No. 3. These plug contacts should be tested periodically for tightness; remember, loose connections generate heat. The twice-a-day vibration of contactors changing can loosen the plugs. In cases where the J-plugs are mounted upside down, I've seen engineers loop a long wire tie through the plug and jack assembly to guard against the jack falling out. Remember, simple things like this make up most of the AM DA maintenance issues when a failure occurs.

Speaking of tightening things, Fig. A shows network hardware that should be periodically tightened, too. And of course with the transmitter off! That's No. 4.

Isolation coils and isocouplers, as seen in Fig. G, No. 5, can arc — especially

See DA QUIZ, page 19 ▶

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The Big Picture

Photo: Gary Hayes, BBC

by Skip Pizzi

Radio Royalty: A New Dynasty Born?

Jousting Heats Up Over Ye Olde Broadcast Exemption, and We Provide the Play-By-Play

The issue of performance royalties for the airplay of music on the radio has been contentious over the past several years, and while it has followed the typical ebb and flow of legislative calendars, it just won't go away. Initial discussion of the issue was limited to Internet and satellite radio, but in the last year or so it has spread its potential scope to over-the-air (OTA) broadcast, so both the stakes and the rhetoric naturally have ramped up.

The changing face of federal politics has also played a role in the latest trends, so the story has recently become even more volatile.

Some background

For those who don't spend a lot of time thinking about these things (like most of us working in radio), let's take a moment to review what the issues are and how we arrived here.

Copyright law in the United States has long provided methods that were intended to maximize the commercial potential of intellectual property. Among these are so-called "compulsory licensing" and "statutory royalties."

Compulsory licensing is a legal framework that grants a legitimate user of published content an automatic license to use any content published in the U.S., *without requiring permission of the copyright holder* for the usage rights set by that license. Typically, the arrangement further states that the user will compensate the copyright holder for certain usage, based on standard fees that are set by the federal government — the so-called statutory royalty.

Rhetoric on all sides has ratcheted upward, and it's becoming a story in itself.

This usage generally centers on so-called "performances," which hearkens back to the days before electronic media. Consider the public performance of a musical work or a play. The thinking goes that since a musician (or orchestra, theater troupe, etc.) is typically compensated for its performance of a work initially created by a third party (i.e., a composer, playwright, etc.), a portion of the performance's compensation should be paid to that originator of the work.

Thus the term "performance royalty" often is used to describe this process. The "statutory" term is applied when the royalty terms and rates are governmentally set rather than mutually established by the parties in bilateral negotiations (i.e., contracts).

When electronic media came along, recordings and broadcasts of such content also were considered as "public performances" and thus subject to similar licensing rules.

Today compulsory licensing does not apply to all forms of copyrighted content in the United States — for instance it does not apply to software — nor does it apply to all possible uses of content.

For example, it covers the performance of published music, but not to the *resale* of that music's recordings. Permissions and terms for the latter must be negotiated directly between the seller and the rights holders. Insofar as our interest here goes, however, compulsory licensing currently does apply to the broadcast of published music in the U.S. today.

This means that broadcasters can play any music they want, without any clearances required from the record companies, artists or songwriters involved.

(First flag: This is unlike almost every other country in the world, where radio broadcasters must obtain some clearance from rights holders prior to broadcast; it is also different than the film and television industries even in the United States, where music clearances are required for each work used.)

This obviously is a great convenience for the radio industry, but the story of radio's special case doesn't end there.

Free ride

U.S. radio broadcasters also have uniquely enjoyed an exemption from paying statutory royalties to the rights holders of the recordings they play on the air.

Note the word "recordings" in the previous sentence, however, because U.S. radio broadcasters *do* pay statutorily set royalties to *songwriters* for the songs they broadcast. Those are fees paid to ASCAP, BMI and SESAC, which then redistribute them to their songwriter members. These are separate royalties from those assessed for the use of a particular *recording* of a song, the rights for which are usually held by a record label or other music publishing company.

(Second flag: Royalties for songwriters hearken back to the sheet-music and piano-roll days, which predated radio; royalties for *recordings* came into effect after radio broadcasting was well established, so some would argue that radio was grandfathered in on its exemption.)

A fundamental reason often given for retaining the broadcast exemption from recording royalties over the years is that radio airplay generated increased record sales, so a quid pro quo was achieved.

(Third flag: While this makes intuitive sense, it does not appear in a codified manner on any relevant statute.)

In fact, so influential to record sales was this airplay considered that it sometimes engendered payments in the opposite direction — *by* record companies *to* radio stations, to secure guarantees of airplay. Of course, this was ultimately deemed illegal under a broadcaster's license terms ("payola" and "plugola" rules), but that's another story …

A new chapter

Upon this classical stage, enter the era of digital broadcasting.

Now "radio" is no longer an unmodified term; it comes in three different flavors (so far): satellite, Internet and traditional "terrestrial" (or "local") radio.

Because the two newer forms came into being after U.S. Copyright Law acknowledged compulsory license and statutory royalties for music *recordings*, those mediums have paid *both* songwriter

Knight image iStockphoto/bubaone

and recording performance royalties since their inception, while terrestrial broadcasters have continued to enjoy their exemption from the latter.

Complicating things further, satellite and Internet radio each pay these statutory royalties under *separate* rate plans, since they are respectively covered by different sections of U.S. Copyright law.

Moreover, since they are both considered still to be emerging technologies, each of their royalty rate schedules are reviewed and potentially adjusted every five years or so.

Most of the recent squabbling about music royalties for broadcast has been over the methods of setting and adjusting these rates, which Congress delegates to the U.S. Copyright Office.

(Fourth flag: The Copyright Office is not a part of the Executive Branch, where most other similar regulatory functions are managed, but actually an arm of the Library of Congress, and thus still part of the legislative branch of the federal government.)

Justifying inequities

Although this is not the first time OTA radio's exemption from royalties has been put in the congressional spotlight, it has always escaped intact from previous challenges. But connect the dots noted in the four "flags" above, and you'll see how far out on a limb this exemption stretches, and how Congress — and Congress alone — must now decide if it should stand further.

All the discussion about Internet and satellite radio royalty rates in recent years has heightened awareness of OTA radio's unique case here, and some observers believe it is becoming less likely that the tradition will remain unchanged for long. Broadcasters rebuffed efforts to establish new royalties in the last Congress, but there is a growing sense that the current Congress may provide a different outcome.

As a result, the rhetoric on all sides has ratcheted upward, and it's becoming a story in itself. Next time we'll consider the latest arguments raised by both the music and the broadcast industries, and make some projections for the tourney's outcome.

Skip Pizzi is contributing editor of Radio World.

DA Quiz

▶ Continued from page 16

after a thunderstorm, so inspect these devices with a strong trouble lamp for burn marks. In tight ATUs, coupling the trouble lamp with a mirror can help you inspect the back side of these.

Fig. C, No. 6, shows a coil clip position marked on either side with a Sharpie or similar brand permanent marker. This action only takes a few seconds per coil, and will save you hours of re-tuning if the clip falls off. It's a good idea to include these coil clips in your tight connection routine

Transmitter sites are notoriously dark. A single light bulb just won't cut it, so make the investment in some heavy-duty florescent fixtures, as shown in Fig. F, No. 7. Mount some of them on the wall, behind the transmitter and phasor. No one likes working in the dark.

Thanks to Grady Moates, principal of Loud and Clean in Boston, for sharing one of his contract clients' sites for these pictures. Grady's got a great article on building an FM in Bermuda. Head to *www.loudandclean.com* for details.

John Bisset has worked as a chief engineer and contract engineer for 39 years. He is international sales manager for Europe and Southern Africa for Nautel. He is a past recipient of the SBE's Educator of the Year Award. Reach him at johnbisset@myfairpoint.net. *Faxed submissions can be sent to (603) 472-4944.*

Submissions for this column are encouraged and qualify for SBE recertification credit.

Broadcast Electronics | AudioVault FleX

This new platform offers more capacity and flexibility for adding and personalizing channels on the air or over the Internet. The newest iteration of AudioVault provides numerous advanced features.

The customizable interface lets you create helpful workspaces. The AVAir interface can be configured for specialized applications such as monitoring HD2 or Internet channels.

A new navigation pane provides better search capabilities and organization. The multi-thread engine allows workgroup collaboration from separate studios in real time. Users have the ability to switch between user screens while the playlist continues uninterrupted.

Unique user profiles let users customize their workspace by creating their own look and feel. "Many-to-one" user connectivity allows multiple air talents to view, modify or manipulate the log at the same time; or one may have creative control while the other is set up to monitor the screen as the air shift progresses.

The system also has an enhanced segue editor that allows users to modify the segue between air elements, perform voice tracking, allow for single-track editing and modify fade/ramp/gain control. Internet connectivity puts RSS and information feeds in the AVAir workplace.

Kim Winking and Bryan Jones pose for the RW camera.

Info: www.bdcast.com

Burk Technology | PPM Assurance

These days if Arbitron can't "hear" you, you might as well be off the air — at least if you're a U.S. station and you care about ratings. That's because of the Portable People Meter system. And it's interesting to see how hardware springs up around something new like the PPM.

Burk Technology offers a system that makes sure your encoders are working properly and that you can switch immediately to back-up in case of failure. It also establishes data connectivity to the equipment so you know for sure that your encoders are broadcasting the correct codes and you're getting the proper listening credit.

E-mail notifications communicate how PPM is responding to encoding loss. A Web-based exception log documents all incidents. Rear-panel alarm relays enable optional integration with any remote control. And the system provides built-in silence detection, multiple switching mechanisms and monitor-only mode.

Marketing Manager Nathan Burk and Director of North American Sales Stephen Dinkel are shown.

Info: www.burk.com

CircuitWerkes | Silence Sentinal

A Web-based silence sensor and controller, it has an internal Web server that lets you see your status from anywhere. It detects stereo or dual-mono silence, with independently adjustable channels. User-programmed relays (DPDT) close automatically or via Web control. Twelve user-definable alarm conditions can trigger up to three actions per alarm. Six independent relay outputs (four SPST and two DPDT) are controlled by action sequences or the user's commands. All that for $279!

A nice addition to an impressive lineup of broadcast problem-solvers from CircuitWerkes.

Kyle Magrill is shown in the Broadcasters General Store booth.

Info: www.broadcastboxes.com

CircumSolar Energy | Power Station

This California-based company came to the NAB Show with a system that combines a sun-tracking solar array with deep-cycle batteries, power inverter and real-time controller to produce a portable/deployable "always-on" power station.

It produces clean 120 or 240 VAC power at 2.5 or 5 kW, depending on the version.

The Power Station is available on a platform or trailer and is available in a 1 kW in, 2.5 kW out version and a 2 kW in, 5 kW out version. A 4 kW backup generator is included to recharge batteries on cloudy days with excess power automatically directed to the main outlets.

Once at its destination, the system automatically deploys solar arrays and tracks the sun, generating clean power that is available immediately or stored in batteries for later use.

Broadcasters, police and fire departments, hospitals, government agencies and military can benefit from an always-on power system — especially after diesel fuel for standard generators is exhausted.

Shown: President Robert Frye.

Info: www.circumsolarenergy.com

DaySequerra | Analog Digital

David Day's new mo
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over time.

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That's David Day w

Info: www.dayequ

Comrex | BRIC-Link

BRIC-Link is a codec for point-to-point IP audio conversion. It includes many of the technical aspects of the Comrex Access line and allows you to move linear *or* compressed audio with very low delay. It can be used over a range of IP links and is suitable for STL and other critical applications. Two units may be installed in a single rack unit space.

Here's a codec intended to support "nailed up" audio links over data networks like ISM band IP radios, T1/E1, satellite, WANs and LANs. Radio World has reported in the past on the company's Broadcast Reliable Internet Codec technology. This box puts BRIC to work so that the codec can be effective on the public Internet as well.

In addition to stereo or mono linear, BRIC-Link offers FLAC lossless compression, which Comrex says reduces network throughput by 30 to 40 percent with transparent coding and no tandem coding concerns. And if you want more reduced bandwidth, it has AAC/HE-AAC modes as standard.

Julia Specht and proud mom Kris Bobo work the booth.

Info: www.comrex.com

Genelec | 6010A
Bi-amplified Active Monitor

This is Genelec's smallest speaker system. It is designed for computer sound systems, workstations and other proximity listening applications where you need a low profile yet good quality. It can also be plugged into personal music players.

The die-cast aluminum Minimum Defraction Enclosure provides imaging accuracy and low-frequency extension. Directivity Control Waveguide provides a smooth on- and off-axis response. Each monitor has a 3 inch bass driver and 3/4 inch HF driver. They come in black, white or silver and can be paired with the 5040A active subwoofer.

Shown are Will Eggleston and Terho Savolainen.

Info: www.genelecusa.com

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.com

Harris | Intraplex HD Link

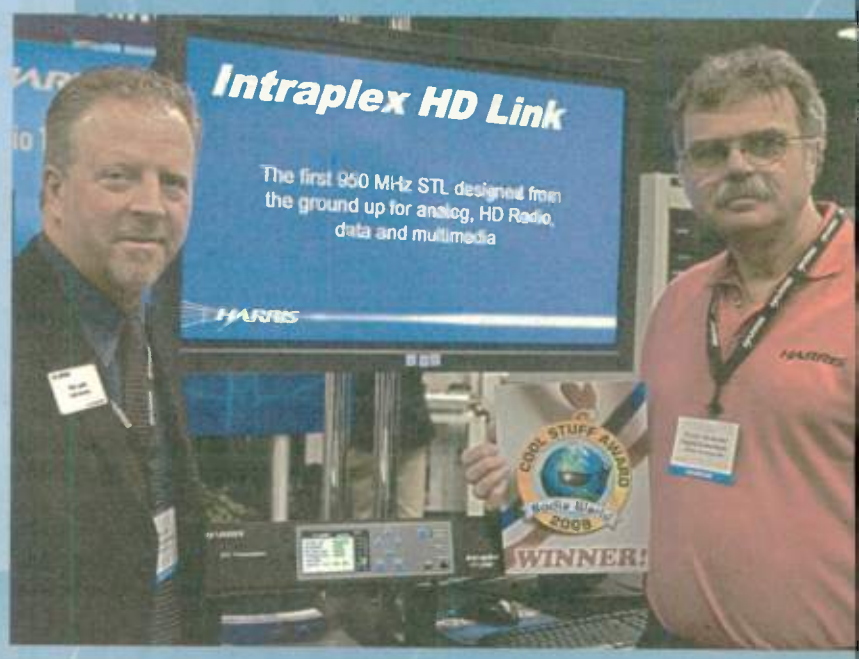
Harris wanted to extend the strengths of its Intraplex brand from T1 and IP audio/data links to the microwave STL arena; Intraplex HD Link is the result, a digital 950 MHz studio-transmitter link for radio stations.

The system is ready for analog and HD Radio as well as future multimedia applications. It provides up to 2 watts of RF; 200, 300 or 500 kHz RF bandwidth; and Low-Density Parity Check Coding error correction, which Harris says requires 3 dB less receive signal than Reed-Solomon to achieve equivalent bit error rate — important in HD Radio situations.

Data capabilities are an important feature; the system has an integrated IP channel for HD Radio. It does not require an external adapter for the TCP return path, and it is capable of using alternate IP audio paths to provide integral backup.

Ron Lane and Chuck Alexander pose for RW.

Info: www.broadcast.harris.com



Inovonics | InoMini 703 RDS/RBDS Encoder

Notice that many of our award-winners this year, even some not intended for remote/field use, can fit in the palm of your hand. The 703 from Inovonics is part of the trend; it puts basic radio data capabilities into one-third of a rack width. Ben Barber is seen holding one.

It's a compact, affordable encoder that can have you up and running with RDS/RBDS in minutes. You can brand your station for under $600. One "Cool Stuff" judge said, "Now there's no excuse not to do RDS."

Features include USB connectivity and Windows software that makes it easy to scroll your station ID, program promos and ad messages up to 128 characters on RDS-enabled radios, cell phones and MP3 devices.

The 703 is not intended for "dynamic" messaging. But it includes the key housekeeping functions including independent RadioText message entries and the Alternative Frequency list that can identify your translators.

Info: www.inovon.com

Sending Out a Message in a Dashboard

Working With Emmis and Paul Brenner, BE Makes RDS Station Promotion Easier

by James Careless

With RDS displays becoming commonplace on tabletop and car radios, some broadcasters are looking to do more with this technology.

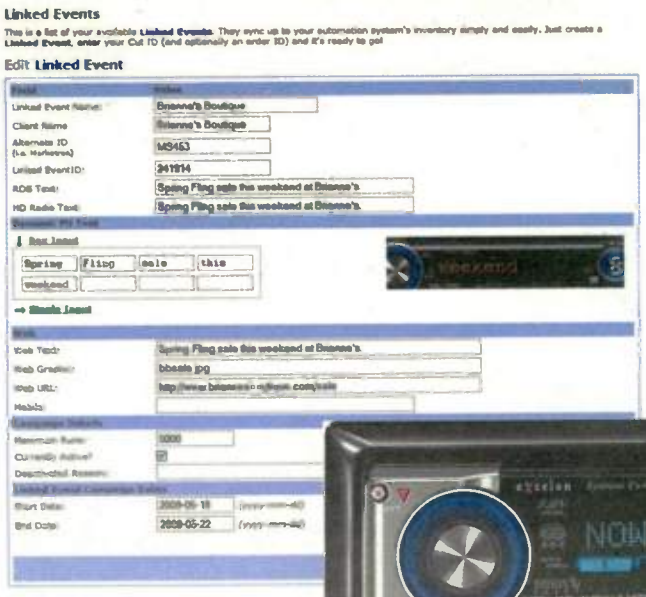
One of these companies is Emmis Communications, which lobbied Broadcast Electronics to work with Emmis staff and expand the capabilities of its TRE (The Radio Experience) Message Manager software.

The new TRE Message Manager 2.0 can be used to create and then link commercial text messages to specific audio content. Besides ensuring that a listener's RDS-enabled radio is providing "double duty" to advertisers through unified audio and text messages, MM 2.0 has been configured to be understood by radio traffic managers.

Through this BE/Emmis collaboration, "the RDS system software has been revamped to make it work more like a radio commercial scheduling system," said Jim Roberts, BE's product manager for datacast systems.

"In our new version, you can create clocks, have avails and integrate messages with various categories. You can also specify how many times the messages will run and tie them to whatever content you want that's coming out of the playout server."

Although designed to work with RDS, BE's software also will export these text messages to HD Radio and the Web.



A user screen of TRE Message Manager 2.0 from Broadcast Electronics.

An RDS receiver display

"The reason we pushed Broadcast Electronics to develop MM 2.0 is because we want to do more creative things with the visual aspects of the dashboard," said Paul Brenner, Emmis Communications senior vice president and technology officer and an advocate of exploring new ways for radio to use its bandwidth.

"This is a second pathway to the listener that is not being used to its fullest potential. When you connect text messages with broadcast audio, you get a more powerful medium that can do more for your advertisers, your station and your listeners.

"It's all about sudden impact," he continued. "For the advertiser, RDS text can reinforce the message that their audio is delivering. For the consumer, the text can offer extra information that catches their attention or helps them out, such as traffic updates. And for the broadcaster, the text can reinforce the station's call sign and branding."

As for whether messaging could distract drivers, much as cell phones might, Brenner acknowledges the risk but says the responsibility does not lie with broadcasters.

"Some people see the dashboard as a taboo area, because of the risk of distracting the driver. But if the automakers and industry regulators are willing to have a text crawl on their dashboard radios, then we might as well work with it for everybody's benefit."

Better traffic

In addition to his work at Emmis Communications — or, more accurately, in line with it — Brenner is president of the Broadcaster Traffic Consortium. As RW has reported, the consortium of several radio organizations is working with NAVTEQ, a provider of real-time traffic data for in-car navigation systems, to export up-to-date, advertiser-supported traffic news to cars via RDS and HD Radio.

"Providing real-time traffic updates to people's car navigation systems is an effective way to promote the sale of RDS-enabled FM and HD Radio receivers," Brenner said. "As this application makes its way into more and more cars, other uses can be attached to it; particularly via HD Radio. It's all about effective use of bandwidth, and using our radio stations to deliver much more than just audio for our listeners and advertisers."

Radio engineers know the acronym POTS, for plain ol' phone service. Given the possibilities offered by RDS, HD Radio and the wireless/wired Internets, perhaps traditional radio will soon be seen as PORS, Plain Ol' Radio Service —audio-only channels delivered to "dumb" receivers with no displays.

"We can see radio doing so much more," says Brenner. "Why would we want to stick to audio-only, when RDS and HD Radio offer so much potential?"

MARKET PLACE

Kintronic Makes Phasing System Tune-ups Available

Is your antenna system, once as smooth and powerful as a classic 1960s muscle car, now puttering along like a 1970s economy car? Yes, it still works well enough to get you around town, but it's costing you money in maintenance and time. And it's no chick magnet.

Kintronic Labs is offering to ease some pain in the form of tune-ups for antenna phasing systems.

President Tom King explained: "What we are offering is to take used phasing system equipment and rework it utilizing a new design requirement where it makes economic sense to do so. The work would be done in our facilities and not at the site of the radio station. Depending on the amount of time involved in disassembling the old phasing and matching equipment, it may be less expensive to purchase a new system." RF technician Daniel Jenkins is shown.

Kintronic will consider other work as well on a case-by-case basis: "We are also offering to rework/refurbish existing inductor assemblies and RF contactors. Where possible we will provide loaners to enable the old parts to be removed from the antenna system to permit them to be sent back to us for re-work.

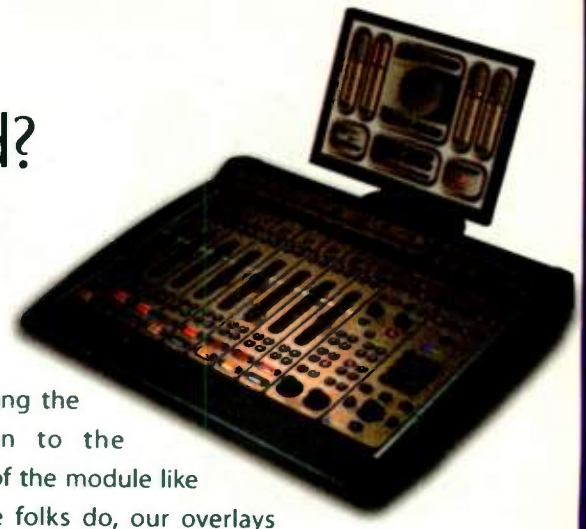
"There are so many AM sites that are in a very poor state of repair that could benefit from this type of service while keeping within their budget."

Whether it'll work as a chick magnet, we'll have to wait and see.

For information contact the company in Tennessee at (423) 878-3141 or visit www.kintronic.com.

Can a radio console be over-engineered?

(Only if you think "good enough" really is good enough.)

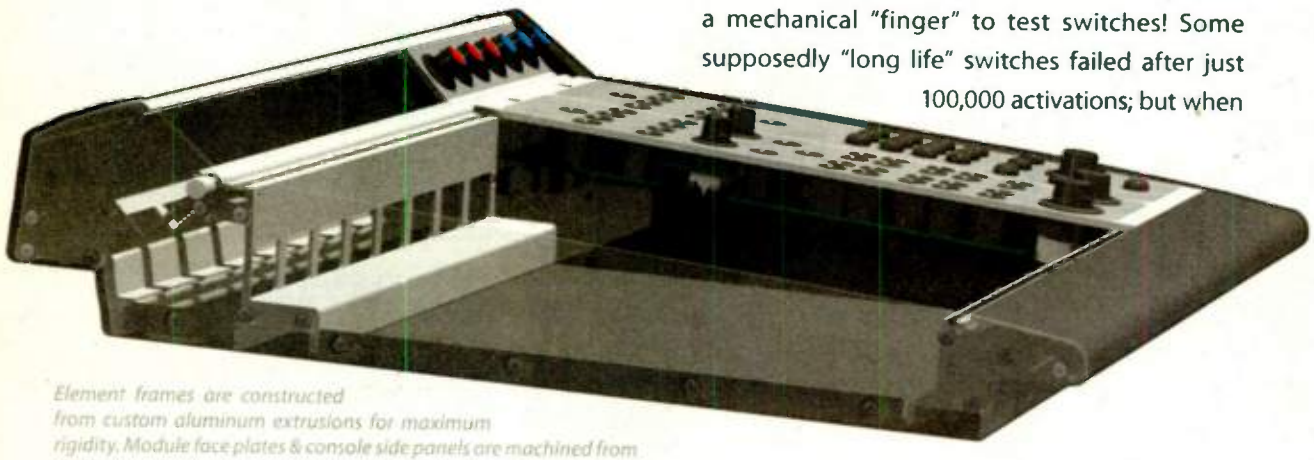


The radio console, redefined.

Building a great console is more than punching holes in sheet metal and stuffing a few switches in them. Building a great console takes time, brain-power and determination. That's why Axia has hired brilliant engineers who are certified "OCD": **Obsessive Console Designers,** driven to create the most useful, powerful, hardest-working consoles in the world.

Beneath the surface

There's more to a great board than just features. **Consoles have to be rugged,** to perform flawlessly 24/7, 365 days-a-year, for years at a time. So we literally scoured the globe for the absolute best parts — hardware that will take the torture that jocks dish out on a daily basis.



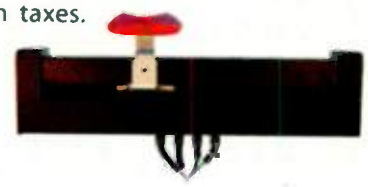
Element frames are constructed from custom aluminum extrusions for maximum rigidity. Module face plates & console side panels are machined from thick plate aluminum. Even the hand rest is a beefy extrusion. All this heavy metal means even the most ham-handed jock can't dent it..

First, Element is fabricated from thick, **machined aluminum extrusions** for rigidity and RF immunity. The result: a board that will stand up to nearly anything.

With so many devices in the studio these days, the last thing anyone needs is gear with a noisy cooling fan. That's why Element's **power-supply is fanless,** for perfectly silent operation inside the studio.

Element modules are **hot-swappable**, of course, and quickly removable. They connect to the frame via CAT-5, so pulling one is as simple as removing two screws and unplugging an RJ — no motherboard or edge connectors here.

Faders take massive abuse. The ones used in other consoles have a big slot on top that sucks in dirt, crumbs and liquid like the government sucks in taxes. By contrast, our silky-smooth conductive-plastic faders actuate from the side, so that **grunge can't get in**. And our rotary controls are high-end optical encoders, rated for more than **five million rotations**. No wipers to clean or wear out — they'll last so long, they'll outlive your mother-in-law (and that's saying something).



Element's **avionics-grade switches** are cut from the same cloth. Our design team was so obsessed with finding the perfect long-life components that they actually built a mechanical "finger" to test switches! Some supposedly "long life" switches failed after just 100,000 activations; but when our guys found the switches used in Element, they shut off the machine after **2 million operations** and declared a winner. (The losers got an all-expense-paid trip to the landfill.)

Element's individual components are **easy to service**. Faders come out after removing just two screws. Switches and rotary volume controls are likewise simple to access. And all lamps are LEDs, so you'll likely **never need to replace them**.

Engineers have said for years that console finishes don't stand up to day-to-day use. Silk-screened graphics wear off; plastic overlays last longer, but they crack and chip — especially around switches and fader slots, where fingers can easily get cut on the sharp, splintered edges. We decided that we could do better.

There's a reason these board-ops are smiling. Axia consoles are in more than 1000 studios worldwide.

Element uses high-impact Lexan overlays with color and printing on the back, where it **can't rub off.** And instead of just sticking the Lexan to the top of the module like some folks do, our overlays are **inlaid on the milled aluminum module faces** to keep the edges from cracking and peeling — expensive to make, but worth it. For extra protection, there are **custom bezels** around faders, switches and buttons to guard those edges, too. Which means that Element modules will **look great for years.**

By the way, those on/off keys, fader knobs and bezels are our own design, custom-molded to give **positive tactile feedback**. The switch is flush with the top of the bezel, so it's easy to find by touch. But if something gets dropped on it, the bezel keeps the switch from being accidentally activated.

More than just products

Even the best products are nothing without **great support.** So Axia employs an amazing network of people to provide the best support possible: Application Engineers with **years of experience** in mapping out radio studios... the most knowledgeable, **friendly** sales people in the biz... Support Engineers who were formerly broadcast engineers. Plus a genius design team, software authors who dream code... one of the **largest R&D teams** in broadcast.

And now Axia has become radio's **first console company to offer 24/7 support**, 365 days a year. Chances are you'll never need that assistance, but if you do, we'll be ready for you. Our 'round-the-clock help line is +1-216-622-0247.

Proudly Over-Engineered

Are Axia consoles over-engineered? **You bet.** If you're looking for a cheap, disposable console, there are plenty out there — but this ain't it. Not everyone appreciates this kind of attention to detail, but if you're one who seeks out and appreciates excellence wherever you may find it... Axia consoles are built **just for you.**

AXIA
A TELOS COMPANY

www.AxiaAudio.com

GM Journal

Radio World — Resource for Business, Programming & Sales — June 17, 2009

Covering a Tragedy
Page 27

Real Radio People Blog on Facebook

The Tone of This Forum Is Not One of Bitterness, But Rather of Hope

by Ken Deutsch

"There's something happening here; what it is ain't exactly clear."

That is a lyric from "For What It's Worth" by Buffalo Springfield, a hit released in 1967 when radio, particularly AM, was at the top of the heap. But those words could easily refer to the current state of terrestrial broadcasting, if one can believe the drumbeat of bloggers on a Facebook forum called "Real Radio People."

Those posting their thoughts about what has gone awry are in some cases still employed in the industry. Others have left radio for other pursuits.

But the tone of the forum is not one of bitterness; it is one of hope, and there is much discussion about how to bring about better conditions.

"A lot of my friends were working at Clear Channel, and two of them were wonderful radio minds who were let go for no other reason than cost-cutting, and it annoyed me," said Traver McLaughlin, the 27-year-old who started Real Radio People.

"I wanted to see if there was some way we could all connect. I started this group and we had about 30 people originally, and by March 2009 we were approaching 1,000 people on the forum and it's still building. The point was just to help out my fellow radio people." The count was 1,300 in early June.

McLaughlin has worked for Clear Channel as well as Cumulus and Bonneville, but is now employed by Forum Communications in Kalamazoo, Mich.

"I don't have any contempt for Clear Channel or any other group," he said. "It's just that terrestrial radio is in a unique position. It's the only medium that can be local 24 hours a day. A newspaper comes out once a day. TV is oriented to the community, but only during newscasts. Radio can be locally driven all the time and that's where the potential lies."

Traver McLaughlin. Some 1,300 people are signed up for the forum.

Deus ex machina

McLaughlin has no problem with studio automation but wants a live, local person in the chair when it counts.

"For national news, people will go online or to TV, but for weather emergencies and local stories, they should be able to get that faster from the radio," he said. "A lot of companies have abandoned that."

Opinions about radio certainly are not in short supply here.

Kari Elswick is a contributor to the online forum.

"I think radio should be back in the hands of people who actually give a crap about content over excessive profits," she said.

"We all want to make money, but

Kari Elswick. 'I'd bring back rock 'n' roll, and not the rating-based rotations, real rock 'n' roll.'

David Jarvis. 'If I playe my iPod, the listene

when you put radio stations in the hands of profiteers to whom loyalty and dedication mean nothing, you end up with what we have now: corporate America bullying their product onto the airwaves, forcing ridiculous standards and cutting staff so drastically that three people are doing the work of 30. Bad times all around."

When asked what she would do if she could design her dream radio station, there was no hesitation.

"I'd bring guerilla radio back (because) no one has a sense of humor anymore. Give radio back to the community. Stop the big boys from formatting stations to sound all the same and bland." Elswick works for Clear Channel.

Real Radio People has members all over the world, including David Jarvis who works for a small station in England called Harborough FM, which live-streams at *www.harboroughfm.co.uk*.

The station's slogan is "Proud to Be Local and Living Life in Harborough." Jarvis shared his radio philosophy with Radio World via e-mail.

Weaving threads of change

"One of the biggest mistakes radio makes is ego, thinking it can force-feed listeners a playlist," he said.

"If I played the music that I have on my iPod, the listeners would soon turn off. Scrap playlists [because] who wants the same songs over and over again? There are thousands of songs suitable for radio, so use them. I have a policy: Play what your listener wants to hear, not what your over-inflated ego thinks you should play."

…he music that I have on …ould soon turn off.'

The main function of Real Radio People, according to McLaughlin, is to give people with passion for the industry a place to express themselves.

"I've created threads where people can brag about what has been successful for them," he said. "Others can look at those and share their own stories. I also started a thread for job openings, free-lance, full-time or part-time. I want everyone to know there is hope for radio and there are still good people out there.

"But it should be understood that we are on a fast track to disintegrating it."

McLaughlin sees himself not as an arbitrator of opinion, but rather as a traffic cop for his forum.

"It's not my job to decide if people's opinions are good or bad, because I believe that when opinions are stifled, that's what ruins everything. All opinions are welcomed."

As Buffalo Springfield put it a little later in "For What It's Worth":

There's battle lines being drawn, nobody's right if everybody's wrong.
Young people speakin' their minds, getting' so much resistance from behind.

Those interested in discovering the Real Radio People forum can join Facebook (*www.facebook.com*), then seek out the forum by name. There is no charge to join Facebook, nor to participate in its discussion groups. Real Radio People is an open forum that anyone can join.

The Real Radio People Credo

From its Web page:

For quite some time the sanctity of radio has been on a drastic decline. This group is for everyone that believes in radio's mystique and thinks that radio is for the people, ran by people, and, above all, stations are worth the people they hire. Join in Unity! Let the voices of our kin who believe in people answering the listener lines and juggling carts be heard once again. Take it back from the Wal-Marts of the business.

This group is for the professionals that have lost faith in the business, but believes the strength of a strong network will bring back the glory and those that support that cause. This group is for those who are looking for work to live with the phrase "it's not what you know, it's who you know" to network.

Strap on your cans, pot up the monitor and let our voices echo across the nation again, "We are Real Radio People and We are Going to Take Radio Back!"

JK Audio | BluePack

Do live man-on-the-street interviews through your cell phone connected with Bluetooth wireless technology. The belt-pack unit pairs to your phone like a Bluetooth headset. It incorporates a professional mic amplifier and headphone amp as well as stereo line input jack so your talent can mix recordings into the broadcast.

The stereo line output provides your mic signal on the left channel and Bluetooth audio on the right. Though it's a phone call — meaning the live interviews are 3.4 kHz voice bandwidth back to the studio — the unit's stereo output jack lets you make a full-bandwidth recording using your recorder for transfer at the station or over the Web. Retails for $495.

Shown, Linda Klinger, Joe Klinger, Wayne Reed and Denise Lockridge show off the BluePack and their "Cool Stuff" Award.

Info: www.jkaudio.com

Logitek Electronic Systems | JetStream Mini

JetStream Mini is an IP-based audio router that provides full functionality for up to 24 faders in a single or multiple consoles, in a 2RU enclosure. This is the first of several products planned for Logitek's latest IP audio platform and it is compatible with all of the company's control surfaces.

JetStream products are designed to take advantage of new network protocols that make the system easy to set up, administer and use. Only the names of the channels need to be entered. The JetStream will acquire all necessary addresses, advertise its shared channels and make a list of sources offered by other JetStream units on your network.

The unit is a configurable node that offers 64 channels of IP audio through five types of I/O cards offering mic preamps, analog inputs, analog outputs, digital ins and digital outs. The unit also provides GPI inputs and outputs, profanity delays, input metering and mic processing.

By reducing the number of devices required to achieve a flexible, reliable system, Logitek says it has made the system easier to install, maintain and configure than other router-based systems.

Shown, Frank Grundstein and John Davis celebrate their award.

Info: www.logitekaudio.com

Nautel | HD Power Boost

Last year Nautel introduced HD Power Boost, based on the concept of achieving higher IBOC power using its patent-pending Peak to Average Power techniques.

At this show, the company presented a live demonstration of HD Power Boost on a 10 kW transmitter. Nautel says its tests show that a 10 kW box that normally can produce about 4.3 kW in –10 dB HD hybrid mode can now achieve 5.4 kW at –10 dB; alternatively a 10 kW transmitter that produces about 8 kW in –20 dB HD hybrid mode can provide the same 8 kW but with –15 dB injection using HD Power Boost.

Shown are Gerardo Vargas, sales manager, Latin America; Ellis Terry, sales manager, western U.S.; John Whyte, marketing manager (kneeling); Tim Hardy, head of engineering; and Brian Walker, research engineer.

Info: www.nautel.com

Penteo and Omnia | Penteo/RT Stereo-to-5.1 Conversion Appliance

Surround for radio has been off most people's radar recently, after a flurry of interest a few years ago. But maybe it shouldn't be.

Penteo showed off its new Penteo/RT stereo-to-5.1 conversion appliance for broadcasters in the Omnia booth. Seen, from left, are founder John Wheeler; Sasha Owen, vice president of business development; and Patrick Goodwin, VP of coolness.

The technology converts live stereo broadcasts into 5.1 surround on the fly, giving radio and TV broadcasters the ability to automatically send out their programming as a 5.1 mix simultaneously with their stereo transmission. The companies say the technology allows broadcast networks, TV stations, cable providers, satellite companies and HD Radio stations the ability to offer all their programming, including live events and commercials, in surround sound.

Penteo/RT uses a "Panorama Slicing" algorithm that separates sound cleanly and discreetly. As the company describes the process, its waveform cross-correlation process essentially reverse-engineers a stereo sound mix. After separation, the audio is "unfolded" into the corresponding positions within a 5.1 field. The process is non-destructive and is downward-compatible to stereo.

Info: www.penteosurround.com and *www.omniaaudio.com*

Small Market, Big Story

How Binghamton Radio Covered the American Civic Association Shootings

by Paul Kaminski

To some in radio, activity in the news department may seem akin to that of a local fire company.

On the surface, it seems nothing happens except for routine newscasts and maybe a public safety scanner squawking in the background. Then an alarm goes off and the quiet newsroom becomes a blur of activity, which becomes yet more frenetic when one or two people are trying to do the work of five or more reporters and producers. At stations without dedicated news departments, perhaps the staff improvises, learning on the fly.

Essentially that's what happened in Binghamton, N.Y., on the morning of April 3 when a "shots fired" call to the police gave stations their first indication of a tragedy that had just taken the lives of 13 victims, wounded others and ended in the death of the gunman.

RW spoke to the staffs of several stations to learn how they responded.

Citadel station WNBF(AM) is the market's news/talk station, with a seven-day news operation headed by veteran news director Bob Joseph.

He heard the scanner traffic that morning and broke into the local talk program with a short update. Then talk show producer and morning anchor Kathy Whyte and Joseph started to work the phones.

Joseph made contact with Binghamton Mayor Matthew Ryan and was able to get him on the phone for a live report at 11:03 a.m., about a half hour after the first scanner report of the shooting at an immigration services center. Mayor Ryan was twice again able to talk with WNBF until he became more involved in events and would not be available until a press briefing later that day.

Photo by Paul Kaminski

The shootings happened at the American Civic Association, an immigrant services center.

Updates and expanded reporting continued. Other coverage was provided by WNBF Program Director Roger Neel; he'd been at a meeting and was diverted to the scene.

Joseph received more calls. One was from a person who'd been in an office building across from the American Civic Association and provided eyewitness on-air descriptions of events. Two calls were from reliable public safety sources, who independently — but on condition of anonymity — confirmed to Joseph the discovery of 13 bodies plus that of the shooter.

Those details were reported first on WNBF and would be confirmed hours later at a formal media briefing with New York Governor David Patterson, the mayor and Binghamton Police Chief Joseph Zikuski.

Joseph said, "For me, having to report that 12 or 13 people were dead ... to utter those words was the most unpleasant task I've had to do."

He was not only working the phones to discover facts; Joseph had to field media inquiries from ABC Radio, with which it is affiliated, and other media outlets around the world, while still reporting not just for WNBF but for other stations in the Citadel Binghamton cluster. A lot of calls from other outlets went unanswered because Joseph gave priority to WNBF's listeners.

As the day progressed, WNBF broke its news/talk format to provide continuous coverage with a lead-in to the news briefing and the briefing itself; then Joseph opened the phone lines for what he described as a "conversation which seemed to lay groundwork for a healing process.

"We did what had to be done," he said, summing up the station's handling of the events, "and I think we struck the right balance of providing the accurate real-time coverage of a developing story to our listeners and also providing as many facts as possible to the national media.

"Although it would have been nice to have the same staffing levels that we did five or 10 years ago, in the absence of more people, we did extraordinarily well."

Improvising

Clear Channel has a six-station cluster in the market; its closest staffed radio newsroom is in Syracuse.

Operations Manager Jim Free says his cluster (two AM, four FM) broke format with news updates every 15 minutes. A promotions person became the on-site reporter, sending cell phone updates to Free, who assumed the studio anchor role until Clear Channel sent an anchor from Syracuse to report from the scene.

Those reports were sent to the Syracuse newsroom and retransmitted to any station in any market that asked for them. When the afternoon media briefing was held, it was carried live on the two AMs, WENE and WINR, and cross-promoted on the four FM stations.

GM Broadcasting's WLTB(FM) did not break format per se but took phone

See BINGHAMTON, page 28 ▶

You're Probably Stealing Web Content

Anyone Can Do That. Not Everyone Can Be Creative. Are You Ready for the Challenge?

PROMO POWER
BY MARK LAPIDUS

What generates page views on radio station Web sites targeted at males?

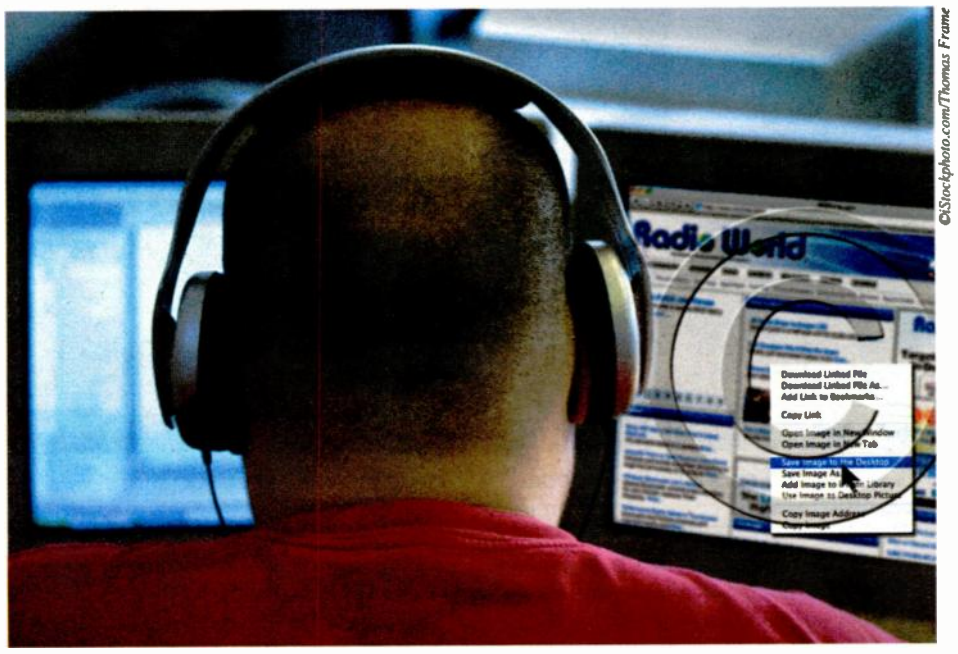
Photos! Not just any photos, of course. I'm sure you'll be shocked (yeah, right) to learn that the photos to which I'm referring are of women. More specifically, these photos are of beautiful women wearing big smiles and little clothing.

Now here is something that may surprise you: Too often, these photos are not the property of the radio station posting them. They are copied from major brand-name sites run by famous magazines. The photos are placed by the radio station into thumbnail galleries so that the user will click, and click, and click, maximizing page views for the station site.

Sometimes the Web person who posted these photos will give credit to the originating magazine site. When I once asked a Webmaster why he credited the magazine holding the copyright, he said he had been told by a program director that as long as he credited the originator, the station could use any photo they wanted.

I even heard a radio station once say on the air that listeners should go to its site to see all the hot photos from the sports magazine's brand-new swimsuit edition.

Hello, McFly … anyone home?



©iStockphoto.com/Thomas Frame

Get the OK

Sorry to bring you bad news. Just because you give someone credit doesn't mean you may take their work and republish it.

This is true for photos, text articles, video, audio, etc. You need written permission from whoever holds the rights in order to post anything you don't own.

This is as true for magazine Web sites as it is for syndicators like AP and Getty Images, who will gladly sell you a license to publish.

What about game footage from your local NFL, NBA, MLB, MLS or NHL team? After all, your local team had an amazing score last night … doesn't that protect you because you're a radio station delivering local news on the Internet?

Nope. You need permission to post YouTube's terms of service.

However, this does not grant anyone license to record that content from an embeddable player — then put that now-recorded content in another player.

So now that your boss has torn this article out of Radio World and showed it you, what are you as a PD or Webmaster supposed to do?

Simple: Take down all photos, videos, audio and anything else you have "borrowed" from another site or publication without permission.

Just because you give someone credit doesn't mean you may take their work and republish it.

Next, do what you were hired to do: Be creative.

Hire a photographer. Don't have the budget? Get an intern to be a photographer. Hire a video person. No budget? Buy one of those new HD video cameras for $175 and give it to a DJ on staff. Need a writer? Do a deal with a local newspaper, or university journalism class.

Too often we forget that we work in a really fun business. When we start asking people to join us, we are reminded just how cool it is to be creative.

Anyone can steal. Not everyone can be creative. Are you ready for the challenge?

The author is president of Lapidus Media. E-mail him at marklapidus@verizon.net.

they don't even try to make money from their Web sites. This doesn't justify their theft either; but it does make them less of a target for a fat lawsuit than it would, say, a major radio group with millions of dollars in local annual revenue.

What constitutes permission to republish anything on your Web site? A written statement from the company or person who holds the rights.

Are there exceptions to posting content you haven't created? Yes.

Some Web sites are using video players that can be embedded on the site. They make the players this way intentionally so that everyone can take their player and embed it on a page, which brings them more views of that specific video. Some refer to these as "viral" players, because they spread across the Web. They may actually serve their own pre-roll commercials through their player, or place an advertising message in the content being streamed from the player.

An example of this embeddable player is being used by YouTube. Anyone can embed that player, as long as they follow

Here's another defense of theft that I've heard from the trenches: "Bloggers do it and they get away with it."

This is a bit like telling a cop who catches you shoplifting that everyone does it. Also, a lot of bloggers have limited liability because they're running their mouths out of their mom's basement and

Binghamton

▶ Continued from page 27

calls from listeners telling them what was going on. A staff member was reporting via cell phone from the scene but was asked to leave by police, along with others at the scene. Emergency service personnel asked the station to continue to broadcast street closure information.

Public radio WSKG(FM) and sister station WSQX(FM) ran Associated Press updates as the day progressed and broadcast "All Things Considered" one hour earlier on both stations.

Producer Bill Jaker assisted NPR with a report and produced local reports for the "All Things Considered" news block. WSKG also would preempt a program the following Tuesday to air a community conversation with religious leaders and psychologists designed to help listeners deal with the tragedy.

Equinox Broadcasting's WCDW(FM) and WRRQ(FM) cut in to regular programs with special reports. Morning show producer/host Justin Case-McGregor told Radio World that station staffers were able to report using a Celljack FJ500 from the downtown area before local officials asked that people stay off cell phones. Off-shift air staff went to the scene and reported back to the air personality on duty.

Radigan Broadcasting's WEBO(AM) in nearby Owego, N.Y., joined the coverage as well.

Binghamton University's WHRW(FM) was on a semester break when the news department received a tip that a shooting had occurred.

General Manager Mike Saltzman said that even though half the station staff had left for break, News Director Robert Glass and two other reporters made their way to the scene.

Saltzman said the events were a big enough story to preempt music programming. Although WHRW did not broadcast the press briefing, the station covered the story from an on- and off-campus perspective in its traditional afternoon public affairs block from 4 to 7 p.m.

Police eventually reported that Jiverly Wong, a 41-year-old Vietnamese immigrant from an ethnic Chinese family, had shot the victims before turning his gun on himself, according to CNN.

Radio stations continued to cover and discuss after the last ambulance departed the scene that Friday evening. The next morning, Equinox's Case-McGregor opened the phone lines so listeners could share their feelings and wishes.

"I was running on pure adrenaline (that day) and it was the next day on my show that it sank in, reality hit. I was pretty sure I knew three of those who lost their lives. It wasn't just 14 people dead off the newswire to cover; this was 14 of our own, in basically our backyards."

An interfaith memorial service for the victims was held Sunday, and hundreds took part in a candlelight vigil.

Bob Joseph concluded: "You don't take any kind of satisfaction in having to report this (kind of story)."

Paul Kaminski is news director for the Motor Sports Radio Network; a contributor for CBS News, Radio; and a Radio World contributor and its "Radio Road Warrior" columnist.

RADIO SALES

Great Copy Will Deliver for Clients

by Rod Schwartz

"Creating great radio ads is hard work and an acquired skill."

So writes Bob McCurdy, president of Katz Marketing Solutions, the national marketing unit of the Katz Media Group, a division of Clear Channel Communications.

Right on, Bob!

That statement ought to be printed in 60-point boldface type, framed and posted at the desk of every radio advertising salesperson, sales manager, general manager, operations manager, production director, copywriter, producer and board op at every radio station in America.

Right next to it should be posted a list of clichés that from henceforth are banned and must never appear in a radio commercial without severe consequences to the perpetrator or perpetratrix.

Think-time

Creating good radio commercials is painstaking, time-consuming work.

Anyone undertaking the responsibility of writing advertising for a client must understand the fundamentals of advertising — what works, what doesn't, and why. This information is available readily in books, on CDs, videos, online, in the library.

Writing good advertising involves an investment of time for research, to understand the advertiser's customers, as well as his product/service, market, competition.

It involves think-time, before and during the process of writing, editing, tweaking, refining and polishing, spinning words into gold.

It involves choosing an appropriate spokesperson. Extensive casting opportunities may be out of reach for many stations, but thought should still be given as to who should deliver the message. Often the advertisers themselves make great spokespeople.

(I can hear the protests rumbling from the "professional" bench already. Don't bother. I've been writing for and coaching ordinary folks for years, decades really — with consistent, bankable results for the client. It *can* be done. Just takes a little more time, patience and perseverance, that's all. Want to hear examples? I can provide you with plenty.)

Great production won't compensate for poor copy. If you can't have both, put your money into the copywriting.

Great production won't compensate for poor copy. If you can't have both, put your money into the copywriting. Great copy always trumps great production.

Invest in improving the quality of your advertising copy for clients, and the inevitable improvement in their results will keep them on the air.

It's just that simple.

And because it is, there's no reason it can't be done.

Rod Schwartz, owner/creative director of Grace Broadcast Sales and a 36-year radio sales veteran, shares stories, commercials and advertising lessons in his blog. He invites radio advertising professionals to join the conversation at www.rodspots.blogspot.com. *Contact him at rod@gracebroadcast.com.*

Avoid These Like the Plague

Clichés that should be forever banned from radio commercials include:

"for all your _____ needs"
"conveniently located at _____"
"the friendly folks at _____"
"the professionals at _____"
"your _____ headquarters"
"and much, much more"
"just in time for _____"
"like never before"
"the sale you've been waiting for"
"lowest prices of the year/season/ever"
"it's that time of year again"
"we sell the best and service the rest"
"our service is second to none"
"our friendly, knowledgeable staff"
"you heard it right"
"it's happening right now"
"(Season) is right around the corner"

What's your favorite cliché that should be forbidden in radio copy? Tell us at radioworld@nbmedia.com.

Studio Sessions

Radio World — Resource for Radio On-Air, Production and Recording — June 17, 2009

Product Guide Inside

PRODUCT EVALUATION

Yamaha's Pocketful of Miracles

Pocketrak CX Flash Memory Recorder Sounds Good But Is It Too Small?

by Ira A. Wilner

Is smaller better?

Electronic components are shrinking to reduce materials cost and to meet ambitious goals to pack more entertainment capability in smaller packages. Is there a point of diminishing returns? Cell phone handset manufacturers don't seem to think so.

Thus, it is no surprise that Yamaha has produced a high-quality, well-engineered, flash memory (micro SD card) audio recorder in a similarly minuscule form factor, the Pocketrak CX.

Physical layout

If the Pocketrak CX looks familiar that is because it resembles last year's Pocketrak 2G. The CX model is a little larger, has different controls and uses a completely different microphone assembly.

The Pocketrak CX will take up about half of a shirt pocket with its pair of coincident X-Y microphones barely showing. The capsules are not isolated from the case so you need to hold the unit carefully to minimize handling noise while recording an interview. A metal frame extends above the mics to protect them from shock. Metallic trim surrounds the edge giving the unit a less fragile look for something so diminutive.

The author holds the unit, to provide a sense of scale.

The LCD display has a bright orange backlight making it easy to read in poor light in spite of its postage stamp-size screen. Recording mode, stereo volume level bargraphs, cut or track number, cut length, elapsed time, microphone gain, battery charge, remaining record time and other information is displayed depending upon menu and mode.

The switches and pushbuttons are too small for typical adult male fingers. You have to work hard not to press more than one button at a time. This is especially true for the circular five-button menu, volume, back and forward controls.

Most of the buttons have dual uses.

Record puts the unit into record standby mode so you can preview and adjust levels. A second press starts the recording.

See YAMAHA, page 32 ▶

Photos by Jim Peck

Sage Alerting Systems | Digital Endec

The Digital Endec uses an internal AES/EBU interface, LAN support and a Web browser-based interface to support the new generation of EAS users. While this model supports radio, TV and cable users as before, it also supports the first-responder community and government emergency centers with emerging standards such as IPAWS and CAP Version 1.1.

The company has added hardware features including 10/100 Base-T LAN support; two USB connectors for printers and additional serial ports; four new GPIO inputs and an added contact closure for expanded control; AES/EBU digital audio interrupt with active switching; 64 MB onboard storage for log files; optional USB memory sticks for long-term storage of alert audio; and solid-state memory storage (no hard drive).

The unit also includes software improvements including Web-based control; all settings and functions can be performed from anywhere on the Internet. Several layers of security are provided. Software is stored in Flash and can be updated via the LAN or USB interface. Text and audio logs are available via the Web interface page.

The company says if there are last-minute changes to the CAP 1.1 spec, an upgrade is easy via software download.

Sage President Harold Price shows the unit off.

Info: www.sagealertingsystems.com

Sonifex Ltd. | SignalLED Studio Illuminated Signs

Some "Cool Stuff" winners are big transmission platforms or impressive new technologies.

This isn't that type of winner. Instead it's a nifty little item for your next studio project.

These RGB LED signs contain the control electronics, making them easy to install and configure for color and operation. One is mounted above the head of Marcus Brooke in the photo.

Signs are flush-mounted standard; an optional kit allows you to end-mount them to the wall. Sonifex also offers a double-sided, end-mounted version that can be used in corridors, with different wording on each side, or the same wording in different orientations.

Signs are about 8 or 16 long; the longer model can be split into two shorter sides that can be separately or jointly controlled, for instance one long "On Air" sign, or twin signs that say "On Air" and "Mic Live." A range of lettering is available. Colors of the signs can be white, green, red, blue, yellow, orange, cyan and magenta. Signs can be configured after installation with accessible DIP switches.

A sign can be set to be "on" at all times; or to flash, pulse or switch off using two control pull-low inputs that can control the whole sign or either side.

Each sign is supplied with 6V DC power supply. Customized signs with your logo or studio name are available.

Info: www.sonifex.co.uk

Tieline Technology | Bridge-IT Codec

Tieline checks in with a low-cost stereo IP audio codec suitable for point-to-point applications like STL, IP audio distribution and remote broadcasts.

Using a half-rack-width design and broadcast-style input connectors, the codec transports audio over IP data networks such as wired and wireless LANs, WANs, the Internet, satellite IP, WiMax and Wi-Fi.

The front-panel interface provides navigation, LCD display, PPM metering and dialing keypad. It can be configured and controlled via an optional Web interface.

Standard algorithms include 16-bit, 22 kHz linear low-latency audio, G.711, G.722, MPEG Layer 2 and Tieline Music. The Tieline Music Plus algorithm also provides 22 kHz mono, dual-mono and stereo with 20 ms encode delay at under 100 kbps, Tieline says, saying on your IP data bills. AAC-LC and AAC-HE are available options.

The codec will connect to any SIP-enabled IP codec with common algorithms, as well as VoIP devices supporting G.711 and G.722. It is also compatible with Internet/satellite streaming and HD Radio. You can insert an SD/SDHC card with MP3 or linear backup audio; the codec will play that if IP service fails.

Darren Levy and Kevin Webb pose with Bridge-IT.

Info: www.tieline.com

Wheatstone | WheatNet-IP

Wheatstone began its move into audio over IP earlier but has reached critical mass with this expanded and renamed system.

As Wheatstone puts it, this is a solution for bringing traditional broadcast engineering functions into an IT-based network.

WheatNet-IP consists of five hardware Blades; four handle I/O in various configurations and one is a digital mix engine. These linkable units communicate with each other via one CAT-5E/6 over Gigabit/1000BASE-T protocol using Layer 2 or 3 Ethernet switches.

The Blades interface with Wheatstone's Evolution series Console Control Surfaces, the Wheatstone Glass-E Virtual Console, Wheatstone console control panels, most automation systems and streaming audio. Each Blade carries a map of the connected network in its onboard CPU flash RAM, which allows Blades to be replaced easily.

By installing Wheatstone's WheatNet-PC driver installed in your automation computers, you can eliminate the sound card and much wiring.

The user can start with one Blade as a 16x16 router, add a studio control surface with two or three Blades and a Gigabit Ethernet switch, then expand a WheatNet-IP network to many channels (thousands). Setup is easy thanks to setup wizards in each Blade.

Shown in the booth, from left, are Darrin Paley, sales engineer; Brad Harrison, sales engineer; Phil Owens, sales engineer; Jay Tyler, director of sales; Steve Dove, minister of algorithms; and Bernie Farkus, sales engineer.

Info: www.wheatstone.com

Yamaha

▶ Continued from page 30

Stop is also the escape key for menus. Play also selects three playback speeds, normal, 70 percent and 150 percent, handy for learning new rifts or for speed listening to a lecture.

Buttons on the side provide power on-off, file folder selection or A-B repeat, file list display or index mark, edit functions or play a phrase and a delete key. Borrowing from Microsoft Windows, delete can be set to be nondestructive. The file will simply be reassigned to the recycle folder where it can be retrieved if required or permanently deleted.

On the back of the unit is a slide switch that will lock out all pushbuttons, an important feature to help prevent loss of a recording in progress. Another nice touch is the way the record button functions. A two-color LED at the top of the unit functions as a charging, recording and peak level indicator.

Confidence monitoring

The built-in speaker is bright and tinny sounding as one might expect for a transducer that is only about a half-inch in diameter. Its volume is quite low. But, if you put your ear close to it you can easily hear well-articulated voice playback.

Unfortunately, the speaker is on the rear of the unit. You cannot see the LCD screen information such as cut number while listening to it. This is best done with headphones.

The 1/8-inch headphone jack has ample drive level for Walkman-style headphones and earbuds like those provided with the unit. Don't expect to get a lot of volume out of a serious pair of headphones such as the beyerdynamic DT 770. The headphone outputs are active when the unit is in record standby or record mode. Thus, you can monitor your audio during the recording process.

You won't get more than unbalanced 1/8-inch audio I/O jacks in these tiny packages. If you want robust connections you'll have to spend a lot more money and/or buy much larger units with adequate real estate.

The first generation of flash memory recorders had power issues, blowing through a set of alkaline batteries in a couple of hours. I've yet to run down the Sanyo eneloop NiMH rechargeable battery. If you do, you can substitute an ordinary AA alkaline battery for the rechargeable. Just be sure to switch the battery type in the menu options since you do not want to accidentally charge a nonrechargeable type battery.

A powered USB port will recharge the eneloop battery and power the Pocketrak CX. Recharging can be very slow, almost five hours! But run time is amazing and well worth the wait.

Unlike conventional NiMH batteries, the Sanyo battery does not suffer from self-discharge. I've found it to be comparable to lithium with a very low self-discharge rate.

According to Yamaha the battery will power the recorder for between 20 and 44 hours depending upon the record mode and whether you disable the backlight and record lamp. A nonrechargeable alkaline battery can provide up to 54 hours of MP3 record time!

Computer connectivity

Yamaha says it's compatible with Windows XP and Vista, no mention of Windows 2000. Since Windows 2000 understands USB thumb drives I was quite confident the Pocketrak CX would be compatible with my old office computer. Indeed it was. After connecting the USB cable, the file folder structure on the SD card was immediately available in "My Computer." It couldn't be simpler. I could drag and drop sound files directly into Cool Edit Pro, be they PCM or MP3. No need to dub or even copy files to the local hard drive.

The Pocketrak CX comes with a 2 GB micro SD card. Recording 16-bit PCM at 48 kHz will provide almost three hours of recording time. Recording at the highest MP3 rate of 320 kbps yields 13.5 hours of record time. Recording at the lowest quality 32 kbps monaural setting yields an astounding 136 hours of record time.

Just like today's cell phone handsets, the Yamaha packs features beyond its primary mission.

It can be used as an MP3 music player, a thumb drive for storing and transferring data between computers, an alarm clock and a timed automatic recording device. It uses separate file folders for most of these functions.

Here's where it gets quirky. Audio recorded through the line-level input is stored in the "L" folder. But the only record mode for line input is 192 kHz MP3. Phooey! What were they thinking? I'm guessing fear of someone using it for duplicating audio off of CDs may have played into this design decision.

In spite of this limitation I was surprised to discover a simple work-around to provide high-quality uncompressed recordings from line-level sources such as the front of hall mixer for a show you might be sponsoring, or the mult box feed from a news press conference. Because most flash memory recorder internal software level trims are post preamp it would normally not be advisable to feed line level into a mic input. But it works with the Yamaha! If you set the microphone gain switch to low and then set the electronic record gain to 5, the external mic input will handle –10 dB EIA consumer line level just fine. No clipping. No distortion.

Built-in audio processing includes a five-band equalizer for playback, high-pass filter for windy, noisy locations, AGC for recording situations where setting levels prior to recording is unfeasible and peak limiting which can be used with manual gain control or AGC.

The user manual could be better. Many of the features are not mentioned with sufficient detail to be useful.

Sound

How does it sound?

In 48 kHz PCM mode, it captures live music with excellent detail, better than one would expect with its limited built-in mic capsules. Fed an external signal from better microphones, it sounds even richer. For voice recording even middle bit-rate MP3 will be adequate for newscasts. AGC breathes and compresses. So, stay away from it for music. The limiter function does a good job of preventing digital flat topping and can be used while recording music.

I asked my local news director what he thought about the Pocketrak CX. He loved its compactness and fabulous battery life. But he did have reservations about its fragility and requirement for special handling when doing handheld interviews on the run. This isn't a device you want to knock around or let rattle in the bottom of a remote kit. And it's small enough to get lost for days in the disarray of the average newsroom.

The Pocketrak CX ships with the following accessories: Sanyo rechargeable AA cell NiMH battery; 2 GB micro SD flash card; soft cloth carry pouch; ear buds; mic stand to 1/4-inch stud adapter; wind screen; Steinberg Cubase AI4 editing software and paper manual.

Product Capsule:
Yamaha Pocketrak CX

Thumbs Up

- ✓ Fabulous battery life
- ✓ No charger or power pack required, USB will power it
- ✓ Very compact and lightweight
- ✓ Built-in confidence monitor speaker
- ✓ Excellent sound quality even with built-in mics

Thumbs Down

- ✓ Controls are made for tiny hands
- ✓ 1/8-inch jacks are fragile
- ✓ Lacks protective carrying case
- ✓ Handling noise when using built-in mics
- ✓ Provided documentation is incomplete

CONTACT: *Yamaha at (714) 522-9011 or visit* www.yamaha.com

PRODUCT GUIDE

AudioScience Offers ASI564x Series

The new line of ASI564x series linear PCI Express sound cards expands AudioScience's family of products based on PCI Express. The company's Stephen Turner said this development makes PCI Express more accessible via a lower price point.

The manufacturer described the ASI564x series as "junior partners" of its ASI6600 series of PCI Express sound cards, used in radio station automation.

"The new cards retain high-end features such as +24dBu balanced analog audio with 110dB dynamic range, together with AES/EBU digital I/O with hardware sample rate converters on all inputs," it stated. "Multi-channel support is standard. Using the surround sound extensions (SSX), streams of up to eight channels may be played, recorded and mixed. These cards are ideal for applications such as radio production and automation systems that do not require DSP based MPEG compression."

The series contains three models. The ASI5640 provides four stereo/eight mono I/O with balanced analog interfaces. The ASI5641 has four stereo/eight mono I/O with AES/EBU interfaces. And the ASI5644 has four stereo/eight mono I/O with both balanced analog and AES/EBU interfaces.

"As technology marches on, free PCI slots are becoming harder to find in modern computers," Turner stated. "PCI Express is really where the future lies."

Drivers are provided for Vista, Vista-64, Windows XP, Server 2003, as well as for Linux. SDKs are available for Windows and Linux using either standard APIs such as DirectSound or ALSA, or the proprietary AudioScience HPI and ASX interfaces.

For information contact the company at (302) 324-5333 or visit www.audioscience.com.

Microphome Cleans Mics

Studio mic getting a bit skanky? Maybe the morning zoo crew spits coffee on it while the midday host has hay fever and the night owl still smokes?

In nature microphones don't smell nor act as germ Petri dishes.

Well, fear no more, Microphome is here!

Microphome is a foam-based microphone cleaner/disinfectant. Microphome was invented by a Tommy McCoy, a frustrated singer and musician who played on too many stages with mics he charitably described as "grungy."

According to McCoy, "All performers should be concerned about health issues."

Microphome is a fast-drying, alcohol-free foam that will clean and disinfect. It is available in 50 ml bottles — supposedly enough for 100 applications. A full-featured "Mic Cleaning Kit" is also available, complete with a carrying pouch, foam applicator, cleaning brush, soft nylon scouring pad and microfiber cleaning cloth. It's for those really tough jobs or a thorough initial cleaning.

The bottle retails for $8.98 and the kit for $25.98.

For information, contact the company at (727) 403-9354 or visit www.microphome.org.

TASCAM Upgrades Cassette Deck

A new cassette deck? Is the format a dinosaur? Or is this a harbinger of a return to retro?

Maybe you won't rush out to buy stock in cassette tape companies. But TASCAM still sells enough rackmounted

cassette recorders to warrant continual product development.

So the reliable, familiar 202 dual-well cassette recorder is bumped up to mkV status. The new model features "return to zero" and A-B repeat functions.

The 3 RU 202mkV retains the previous basic features including pitch control (±12%), high-speed dubbing, Dolby B and HX Pro, normal and chrome tape-compatibility (metal is playback-only), front-panel mic input and tape-style transport controls.

For information, contact the company at (323) 726-0303 or visit www.tascam.com.

615 Music Adds Search Engine

Production music house 615 Music has added a search engine to its redesigned Web site, according to the company.

Called 615 Music Search, the engine allows users to use key words, genres, styles, instruments used etc. to locate relevant music for audition and download. Results can be displayed by list or, when available, CD covers.

The search engine also facilitates record keeping and usage tallies and playlist construction. Cuts are available in AIFF or MP3 formats.

615 Music IT Manager Bo Boswell said: "The new search bar functions in a similar fashion to Google in that the user's search time in mined across all of the metadata in our catalog of more than 30,000 cuts."

For information contact the company at (615) 244-6515 or visit www.615music.com.

BROADCAST Equipment Exchange

"Broadcast Equipment Exchange" accepts no responsibility for the condition of the equipment listed or for the specifics of transactions made between buyers and sellers.

ACOUSTICS

AUDIO PROCESSING (INCLUDES ON-AIR)

WANT TO BUY

Teletronix LA-2A's, UREI LA-3A's & LA-4's, Fairchild 660's & 670's, any Pultec EQ's & any other old tube compressor/limiters, call after 3PM CST - 214 738-7873 or sixtiesradio@yahoo.com.

AUTOMATION EQUIPMENT

WANT TO SELL

Enco DAD Pro 32, current version Enco DAD serial keys w/several features, serial I/O, Mp3, cut play, sched wizard, updated this year, valid support until 9-1-09, did not use system , this sale is for keys only, no equipment, $2000/BO. dgvanover@msn.com.

Prophet Wizard full automation system with several workstations and audio server, all or part, located in Northern CA, cheap or trade for RF equipment. M Miller, 530-591-0549.

It's free and it has been expanded. The only cost is to keep us informed as to how the system is performing and let us know how you are using it. DIY-DJ, is a Linux based radio automation system and now sports a record scheduler (DIY-DJ-RECORDER) which allows you to schedule the recording of a network or any other program for replay later as well as a basic logging system. Beside these additions the system schedules music, does voice tracking (ALWAYS hit the vocal), create a shell, live assist, exact time events, join satellite feeds, automated temperature announce, do unattended remote events and more. Call (406) 679-0527 or email krws@digitaldevelopment.net for a copy today.

COMPLETE FACILITIES

WANT TO SELL

MICROPHONES/ HEADPHONES/ SPEAKERS/AMPS

WANT TO BUY

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

MISCELLANEOUS

WANT TO SELL

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◆READER'S FORUM◆

An Open Mind

I appreciated the article by Jim Withers ("Don't Be Blind to the Possibilities," April 8) regarding people with a limiting handicap working in broadcasting.

A co-host on our popular morning drive program "Good Morning Ozarks" is totally blind. He worked in broadcasting years ago when he had his sight, so knows timing, broadcast procedures, etc. He has a talking watch to keep track of time and keeps the program on task even better than the other co-host who has sight! He does excellent ad-libs, interviews and music intros. He can even record the weather forecast including the sponsor information. He is a great addition to our station.

We best keep an open mind to the people walking through our doors. There is great talent out there.

Herb Smith
General Manager
KLFC(FM) Radio
Branson, Mo.

We best keep an open mind to the people walking through our doors. There is great talent out there.

— Herb Smith

A 'Deficit' Can Be An Opportunity

I would like to take this opportunity to add my personal experience to "Don't Be Blind to the Possibilities" authored by Jim Withers.

The date was April 14, 1997. The time was about 7 p.m. I made two telephone calls of almost identical words. They were to general managers of stations I serve on a regular basis.

"This is Tom. I'm in Danbury Hospital. I had a CAT scan to determine the cause of the severe headache I've had for the past two days. I'm told I have a brain aneurysm and am scheduled for surgery tomorrow morning. I don't know when I will be able to return to work. I will call and advise as soon as possible."

The following morning I underwent brain surgery and was hospitalized for five weeks, during which time I had physical rehab to relearn how to walk.

The episode left me with a balance deficit. I have to hold the handrail if standing in the subway. I had to sell my boat because I can no longer put the cover on while standing on a bouncing dock and my ability on ladders is compromised. Changing a light bulb at home is a challenge, not just a task. I still qualify for an FAA Third Class Medical Certificate. Trust your flight instruments, not your inner ear!

How is my profession impacted?

Getting up on the roof through a hatchway was never a problem. Today, I have to drag out a 20 foot extension ladder the station bought for my use and extend it above the roof level so I have something to grab on to.

I can't stand on the upper steps of an A-frame ladder to change florescent lamps in high ceilings at the office. I'm careful not to strike my head if I'm under a console as I now have titanium plates and screws in my skull.

Do I apologize for these conditions? No. Do offer an explanation? Yes. Do I do my best given my limitations? Absolutely.

There are many lessons I can teach; however, unless someone was in the "classroom" I was in, it is not possible to learn the difficulties, challenges and "no-longer possibilities" I have to live with.

Even though someone may have a physical or mental handicap it does not mean they have no value or talent in other areas.

In fact, they may strive to overachieve where they excel, making them a viable asset to your company.

Persons with disabilities are protected by the Americans with Disabilities Act (ADA). When modifying or constructing facilities it is wise to have an architect approve all plans to ensure compliance with those requirements.

When an otherwise healthy person experiences a deficit, they often adapt to the limitation and learn to do their best despite the condition. Do not fail to take advantage of the opportunity to offer them a chance to prove themselves.

Tom Osenkowsky
Radio Engineering Consultant
Brookfield, Conn.

The author is a contributor to Radio World. Opinions are his own.

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2, 40	Wheatstone Corporation	www.wheatstone.com

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GUEST COMMENTARY

BMC: We Welcome an Open Dialogue

But If We're Going to Expand the FM Band, Mullaney Says the Time for Discussion Is Now

by John J. Mullaney

The Feb. 11 edition of Radio World contained a commentary by Phil Galasso titled "Expanding the FM Band Is a Great Idea — But Please Keep It Simple."

I am a member of the Broadcast Maximization Committee, which filed the TV Channel 5–6 proposal in MB Docket 07-294, "Promoting Diversification of Ownership in Broadcasting Services."

The BMC filing was *intended to be a starting point* for discussion on the reallocation of TV Channels 5–6 to be used as an expansion of the existing FM band.

After the digital transition, TV Channels 5 and 6 will be vacated by all except a small number of full-service TV stations, and of those remaining stations all could be relocated to other channels. Given that these two TV channels operate on 76–88 MHz, they are a natural extension of the FM band, which occupies 88–108 MHz.

With utilization of digital modulation techniques, BMC has determined that there is sufficient bandwidth to migrate as many of the nearly 3,900 existing AM stations that wish to become a digital FM facility and still have sufficient spectrum available to expand the noncommercial educational FM band while also reserving specific spectrum for low-power FM (LPFM), FM translators and event radio services.

There should even be spectrum available to permit some of the grandfathered short-spaced FM facilities in the existing FM band to migrate.

In response to statements raised by the guest commentary, BMC offers the following:

1. *"Why is the BMC proposing that digital transmission be used exclusively for radio broadcasting in TV Channels 5–6?"*

Like it or not, the world is going digital. If broadcasting wants to survive it must be able to compete on a level playing field with these new digital services (WiFi, WiMax, Internet, iPod).

Once a receiving device is able to decode a digital signal, it is a simple matter for it to automatically detect the various formats available (IBOC and DRM, for example). We hope that the Federal Communications Commission will mandate a modulation format that is not proprietary.

We considered utilizing the existing 200 kHz channel spacing but believe that there is just too much demand and that such a channel spacing *would not create sufficient channels* to meet that demand. We have initially proposed 100 kHz channel spacing but some believe that even 50 kHz should be investigated.

Given that the future is a digital world it seems only right to populate this new band from day one using digital rather than an inferior analog-digital hybrid that is being used in the existing FM band. Digital operation in the AM band is problematic during daytime and impossible during nighttime hours. AM stations need to move into this digital world if they are to survive.

Assuming broadcasters want IBOC to survive, it is essential that radio manufacturers start including a digital signal processor (DSP) in all domestic radios. If this happens, it is truly a simple matter to expand reception of those radios to include 76–88 MHz and detect whatever digital format is adopted by the FCC for this new band.

2. *"The first AMs to migrate should be Class D (old IV) then Class B then Class C ..."*

BMC believes that there is sufficient spectrum to migrate the entire AM band and that a "nationwide allotment plan" needs to be developed for the most efficient migration. Thus, we feel there is no technical need to prioritize which class of AM is evaluated first under this plan.

BMC envisions circumstances where some AM stations (especially Class A 50 kW stations) would elect to remain in the existing analog AM band and not migrate to this new digital band. Thus, after migration, BMC supports not only re-farming stations (changing frequencies) that elect to remain in the AM band but also radical changes in co-channel and adjacent-channel interference protection, utilizing more realistic protection ratios and the protection of a more realistic noise-immune AM contour like 2 mV/m.

Increasing the maximum permissible power for the remaining AMs should also be explored. Existing band congestion and man-made electrical noise have placed the AM band on the verge of extinction.

Until the recent DTV transition plan, broadcast facilities in AM, FM and TV were basically added one at a time. Given the ever-increasing demand for new broadcast outlets in the limited spectrum allotted, a clearly thought out allotment plan is essential.

Similar to the process of securing an Expanded AM Band frequency in the mid-1990s, a mechanism will need to be developed whereby existing AM stations, grandfathered FM facilities and others will indicate if they plan to migrate to this new digital band. If, at that point, demand exceeds capacity, some type of priority will need to be assigned to the various entities consistent with Section 307(b) of the Communications Act.

BMC takes no position on this and leaves it up to the FCC and its rule making process to implement this plan.

3. *"Use existing FM band and phase out all FM translators ..."*

The existing FM band is congested in most, if not all, major population centers. However, given that it is only a matter of time before the FCC drops third adjacent-channel protections, BMC does not oppose a migration "drop-in" plan for new allotments which utilizes this existing spectrum (although selecting which AM stations get the analog drop-ins could be quite competitive).

We also believe that LPFM, FM translators, FM boosters and event radio facilities *all provide needed and valuable service*. Rather than ban such facilities in the future, BMC proposes dedicating several specific digital channels for nationwide operation by these secondary facilities.

Keeping secondary stations off channels normally used for full-service stations is best for both parties, but even more so for the secondary facilities, which are potentially subject to the most interference.

In the existing analog FM band, the movement to waive second-adjacent protection is a mistake, especially when IBOC is considered. Perhaps moving

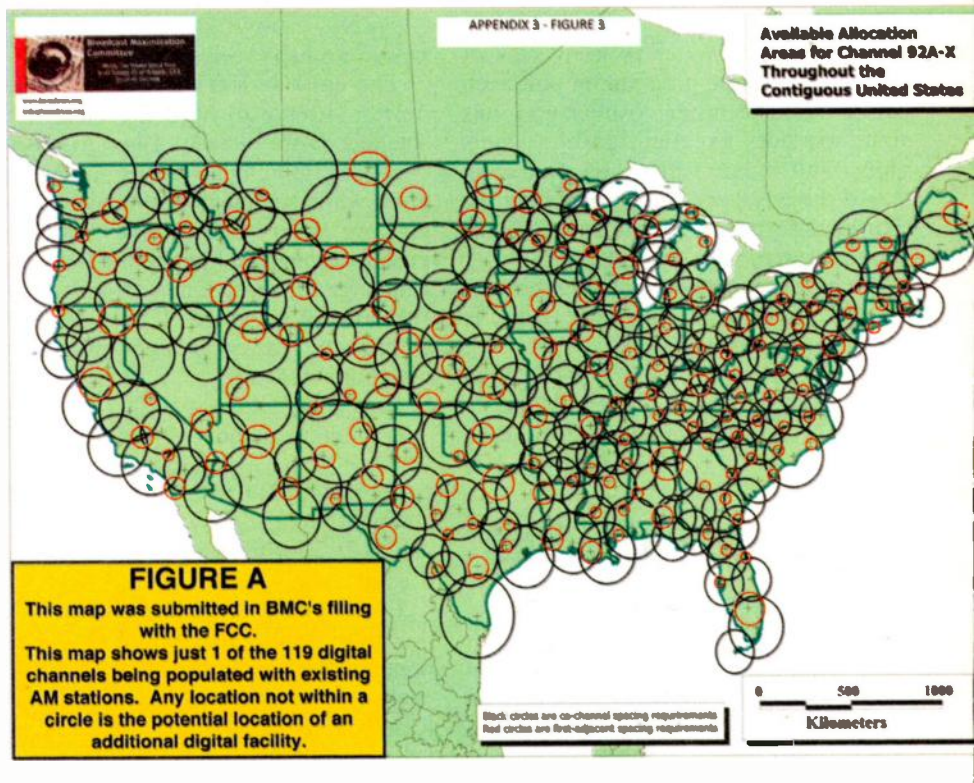

FIGURE A
This map was submitted in BMC's filing with the FCC.
This map shows just 1 of the 119 digital channels being populated with existing AM stations. Any location not within a circle is the potential location of an additional digital facility.

Correction

The story about New York broadcasting in the May 20 issue gave the wrong title for John Lyons. He is assistant vice president and director of broadcast communications for The Durst Organization.

FM translators and LPFMs to the newly vacated TV spectrum would eliminate the perceived need to compromise adjacent-channel protections to provide additional diversity.

Keeping secondary facilities on specific dedicated channels would also eliminate the need for the FCC staff to expend its limited resources reviewing the numerous petitions to deny.

4. *"Why create new classes of FM stations?"*

The BMC proposal was for "digital only" operation in this new expanded FM band, so utilization of the existing analog classes of ERP and HAAT limits did not appear to be a solution, especially when trying to replicate the coverage of AM stations.

It should be remembered that local conductivity and the specific AM frequency being replicated results in significantly different coverage areas. Thus, a 1 kW AM on 1500 kHz in Florida will have a substantially smaller coverage area than a 1 kW AM on 600 kHz in Florida or a 1 kW AM on 1500 kHz in North Dakota. These new classes will essentially result in a table of required separations but eventually, the FCC will need to implement contour protection as is done for non-commercial FM and AM allocations.

The digital station classes suggested in the BMC filing are nothing more than a starting point in an attempt at replication of the 2 mV/m AM service areas, which vary drastically across the country.

5. *"Isn't it time to stop using FM channel numbers and simply use the frequency?"*

That is a good question: Who or what decides when the channel number or the actual frequency is used? Consumers use frequency for both AM and FM but use the channel number for TV. For some reason, the "experts" (consultant, attorneys and FCC staff) seem to differ only on FM by mainly referring to the channel number. However, after the digital TV transition, when the viewers in Washington think they are watching WRC(TV) Channel 4, they will really be watching TV Channel 48, yet the TV will still indicate Channel 4.

The better question is why we refer to the "FM band" when FM is really a modulation technique whereas 88–108 MHz is really part of the VHF band. So go figure.

BMC does not take a position on whether channel number or frequency ultimately is used in the future.

6. *"Bottom of the new FM band should be restricted for use by local government alerts and the RDS standard should be modified to permit automatic tuning to certain frequencies during an emergency."*

BMC has proposed reserving the channels immediately below the existing FM band for facilities that operate at lower power (LPFM and FM translators) so as to minimize potential for adjacent-channel interference.

We do not believe it is necessary to do so at the bottom of this new band (near 76.1 MHz) given that the existing use is by 100 kW TV facilities. However, BMC is not opposed to some sort of restriction.

Establishing a requirement that all radios include an emergency alert function to be used by stations and police/fire is a great idea.

History has shown that the FCC has been extremely reluctant to issue rules on receiver characteristics and functions. Most recently in the DTV transition the commission initially decided not to require TV sets be capable of receiving both analog and digital signals. However, once it was obvious to everyone that the DTV transition was in grave danger of collapse, the commission adopted the requirement that every TV set be digital-capable. This late decision resulted in hundreds of millions of dollars of taxpayer money being needlessly poured into a public awareness and coupon program.

In MB Docket 08-172, the commission is evaluating whether to require the newly authorized satellite radio monopoly to include other services such as AM, FM and IBOC FM. Remember, it is really never too late to file "reply comments" in such a proceeding.

7. *"Why not include other underutilized TV channels in the expansion of the FM band?"*

MB Docket 07-294 specifically requested comments on using TV Channels 5–6 to expand the FM band, and that was the basis of the BMC response. Given that these channels are immediately below the existing FM band, use of those channels for expanding the FM band makes the most sense.

BMC believes that the few remaining full-service TV stations on Channels 5–6 can be relocated to other TV channels. However, in the case where no alternate channel is available for an existing TV Channel 5–6 station, BMC welcomes the inclusion of other underutilized TV channels for use by digital FM stations (such as TV Channel 4).

However, one must keep in mind that the lower the channel or frequency, the larger the wavelength, and thus, the multiple-bay FM antenna will not only be physically larger in length but will also be heavier. For the existing FM band (88–108 MHz) the approximate wavelengths vary from 9.1 to 11.2 feet, for TV Channel 5–6 it varies from 11.2 to 12.9 feet and for TV Channel 4 wavelengths will be as large as 14.9 feet or some 33 percent larger.

Again, BMC welcomes an open dialogue on its TV 5–6 proposal and emphasizes that its proposal is a starting point for discussion and that the time for this discussion is *now*!

While "Keep It Simple" is a good idea, an opportunity like this seldom comes around so "Let's Make the Most of It."

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