



RADIO WORLD

FEBRUARY 1, 2017 | The News Source for Radio Managers and Engineers | \$5.00 | RADIOWORLD.COM

Post-Fidel, the Broadcast Hostility Remains

For many in Cuba, access to communication is limited while media remains state-controlled

BY JAMES CARELESS

Perhaps the months or years ahead will bring change to this situation; but as of the end of 2016, the death of Fidel Castro in November had not lessened the Cuban government's hostility to outside broadcasters, any more than the restoration of U.S.-Cuban diplomatic relations did on July 20, 2015.

If anything, the Cuban communist regime's antipathy to Radio and TV Martí — the U.S. government-funded, Cuba-targeted broadcaster based in Miami — and to WRMI Radio Miami International — the commercial shortwave broadcaster that leases airtime to Cuban resistance groups — seems to have grown.

"For a period of time, the Cuban government was 'overlooking' the distribution of flash drives and DVDs containing our content in Cuba by Cubanizens," said Malule González, director of the Office of Cuba Broadcasting,

operator of Radio and TV Martí. "But, recently, they have been cracking down on distributors of 'el paquetes,' as these devices are called by Cubans. If anything, the repression has worsened in the past two years, not improved."

SO CLOSE, SO FAR

It is just 228 miles by air between Havana and Miami, just 14 more than flying between Miami and Orlando. Only 90 miles separate Cuba from the Florida Keys.

But for Radio/TV Martí and WRMI, getting their signals through is a constant challenge: The island has been operating radio and TV jamming antennas for decades. (See a related article from March 2015 at radioworld.com/cuba.)

"We have been jammed by the Cuban government almost since we started broadcasting in 1989," said WRMI General Manager Jeff White. "And

(continued on page 10)

RUSA Leases HD2 in New York

DIGITALRADIO



Anna Pekerman is founder and owner of New York-based RUSA Radio, with main studios in south Brooklyn. It describes itself as the only Russian-speaking HD Radio station in the United States. The format airs on the HD-2 multicast of New York iHeartRadio FM station WWPR, "Power 105.1." RUSA transitioned to that signal in 2014 from its former home on the 87.7 analog audio subcarrier of local TV Channel 6. It is also heard on the iHeartRadio app and via online

audio stream.

This interview is one of several that appear in the Radio World eBook "HD Radio & the Case for ROI." Read it at <http://tinyurl.com/rw-hdroi>.

Radio World: Are you looking to expand to other markets? What cities might be strong for Russian listening?

Pekerman: Absolutely. Chicago, Boston, L.A., San Francisco, Seattle.

(continued on page 6)



Anna Pekerman, right, celebrated the service's birthday with a U.S. theme (the station's name is pronounced "R-U-S-A"). She is shown with evening drive host Andrei Laskatelev and host Tatyana Rodos.

*****AUTODIAL-DIGIT 604
#000119 44 8500 0007169 81503
THOMAS BRACKTOR
PROJECT ENGINEER
572-1581
000003179

0:06 00:00:05 6:28:45

DAD + VISUAL RADIO

2 MORNING	5 CENTS BACK	7 Skins	90 SECONDS C
2:33 40068	2:00 40123	2:45 40069	
BRIGHTER HEART	A DARKER HEART	ACOUSTIC MEDITATION	ALBEN SUDA
2:21 40010	4:32 40011	3:30 40012	

Manually control camera switching, music video playout, and graphical overlays, or let ENCO's award-winning automation take care of everything. Just another way ENCO has been Redefining Radio Automation for the last 25 years.



Photo by Rob Goldberg
radioCNA-M

On-Air Exhilaration. Every Single Day.

What makes Wheatstone consoles best-of-class?

Breakthrough technology with award-winners like WheatNet-IP Intelligent Network & bus-minus. Unique design ingenuity. Precision production/starship-grade materials. Obsessive Wheatstone quality. FullTime support.*

What does all that get YOU? Absolutely spoiled...



LX-24 Control Surface

Exceptional console at every level, fully loaded and completely customizable.



L-8/L-12 Control Surfaces

Outstanding companion to the LX-24, perfectly sized for newsrooms, etc.



IP-12/IP-16 Control Surfaces

Precisely designed and engineered for peak performance at mid-size stations.



The IP Network is IN the BLADE...Like DNA

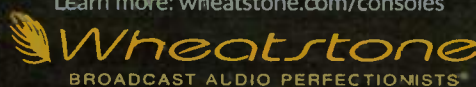
Each powerful BLADE-3 (point-of-use interface) contains the entire WheatNet-IP Intelligent Network to route I/O, access sources, add processing, mix to/from any device. Plus routable logic, silence sensing, gain control, automated mixing, discovery/control, and much more. Format agile: AES67, MADI, AES/EBU, TDM, Analog, and AoIP.



THE INTELLIGENT NETWORK

*Includes on-site commissioning, in-factory total-system proof-of-performance testing, installation support, and real 24/7/365 service. We don't mess around.

Learn more: wheatstone.com/consoles



Designed and built in the USA. Phone +1-252-638-7000 | wheatstone.com | sales@wheatstone.com

World Radio History

For address changes and subscription renewal, please visit radioworld.com and click on the "Subscription" button. To submit letters or story proposals, to request writer's guidelines, or for other editorial matters, email the editor at radioworld@nbmedia.com.

EDITORIAL STAFF

EDITOR IN CHIEF, U.S. Paul J. McLane
GEAR & TECHNOLOGY EDITOR Brett Moss
TECHNICAL ADVISER Thomas R. McGinley
TECHNICAL EDITOR, RWEE W.C. "Cris" Alexander
PRODUCTION EDITOR, RWEE Karen Lee
CONTRIBUTING EDITOR Emily Reigart
CONTRIBUTING EDITOR John Bisset
WEB EDITOR Michael Balderston
INTERNATIONAL EDITOR IN CHIEF Marguerite Clark

EDITORIAL CONTRIBUTORS

W.C. Alexander, Susan Ashworth, James Careless, Harry Cole, Ken Deutsch, Mark Durenberger, Charles Fitch, Christopher Friesen, Harold Hallikainen, Donna Halper, Craig Johnston, Alan Junson, Paul Kaminski, John Kean, Peter King, Larry Langford, Mark Lapides, Daniel Mansergh, John Merli, Jim Peck, Mark Persons, Stephen M. Poole, Carl Lindemann, James O'Neal, Tom Osenkowsky, Rich Rarey, John Schneider, Randy Stine, Richard Strickland, James G. Withers, Tom Vemon

ADMINISTRATION & PRODUCTION

PUBLISHER John Casey
EDITORIAL DIRECTOR Paul J. McLane
PRODUCTION MANAGER Karen Lee
ADVERTISING COORDINATOR Caroline Freeland

AUDIENCE DEVELOPMENT

VICE PRESIDENT | CORPORATE DIRECTOR OF AUDIENCE DEVELOPMENT Meg Estevez
CIRCULATION MANAGER Kwentin Keenan
ASSOCIATE CIRCULATION MANAGER Michele Fonville

SUBSCRIPTIONS

Radio World, P.O. Box 282, Lowell, MA 01853
TELEPHONE: 888-266-5828 (USA only 8:30 a.m. - 5 p.m. EST)
978-667-0352 (Outside the US) FAX: 978-671-0460
WEBSITE: www.myRWNews.com
EMAIL: newbay@computerfulfillment.com

CORPORATE

NewBay Media LLC
PRESIDENT AND CEO Steve Palm
CHIEF FINANCIAL OFFICER Paul Mastronardi
CONTROLLER Rick Ng
VICE PRESIDENT OF DIGITAL MEDIA Robert Ames

VIDEO/BROADCAST GROUP

EXECUTIVE VICE PRESIDENT Carmel King
VICE PRESIDENT / SALES DIRECTOR Eric Trabb

ADVERTISING SALES REPRESENTATIVES

US REGIONAL & CANADA: John Casey, jcasey@nbmedia.com
T: 212-378-0400, ext. 512 | F: 330-247-1288
US REGIONAL: Michele Inderrieden, minderrieden@nbmedia.com
T: 212-378-0400, ext. 523 | F: 301-234-6303
EUROPE, AFRICA & MIDDLE EAST:
Raffaella Calabrese, rcalabrese@nbmedia.com
T: +39-320-891-1938 | F: +39-02-700-436-999
LATIN AMERICA: Susana Saibene, susana.saibene@gmail.com
T: +34-607-31-40-71
JAPAN: Eiji Yoshikawa, callems@world.odn.ne.jp
T: +81-3-3327-5759 | F: +81-3-3322-7933
ASIA-PACIFIC: Wengong Wang, ww@imaschina.com
T: +86-755-83862930/40/50 | F: +86-755-83862920
CLASSIFIEDS: Michele Inderrieden, minderrieden@nbmedia.com
T: 212-378-0400, ext. 523 | F: 301-234-6303
LIST RENTAL: 914-925-2449, danny.grubert@lakegroupmedia.com

Radio World Founded by Stevan B. Dana

Radio World (ISSN: 0274-8541) is published bi-weekly with additional issues in February, April, June, August, October and December by NewBay Media, LLC, 28 East 28th Street, 12th Floor, New York, NY 10016. Phone: (703) 852-4600, Fax: (703) 852-4582. Periodicals postage rates are paid at New York, NY 10079 and additional mailing offices. POSTMASTER: Send address changes to Radio World, P.O. Box 282, Lowell, MA 01853.

For custom reprints & eprints please contact our reprints coordinator at Wright's Media: 877-652-5295 or NewBay@wrightsmedia.com
List Rental: 914-368-1024, jganis@meritdirect.com

Globe graphic ©iStockphoto.com / Edward Grajeda

Copyright 2017 by NewBay Media, LLC.
All rights reserved.
Printed in the USA



Surveys Track the Impact of Technology

BY FRED JACOBS

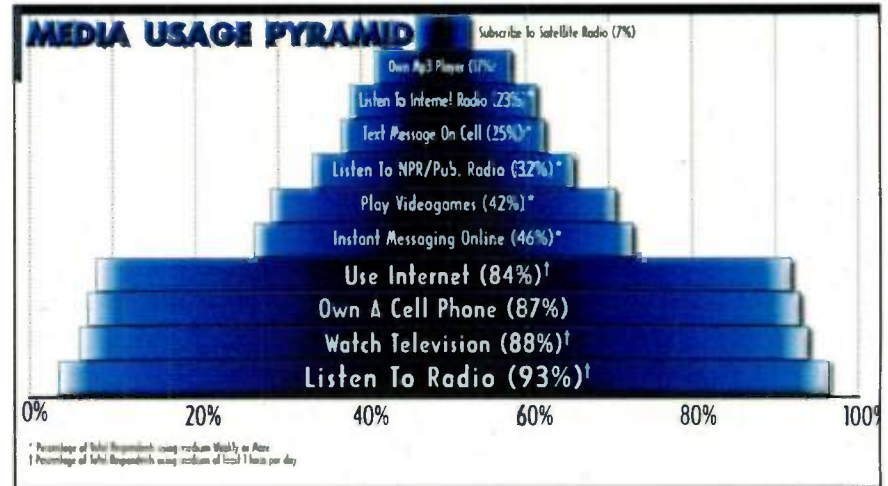
The author is president of research and consulting firm Jacobs Media Strategies.

It's hard to believe, but our 13th annual Techsurvey went to the field in January. When all is said and done, we're expecting that more than 200 stakeholder stations from all over the U.S. and Canada will work together to produce our ongoing narrative about how consumers are using media and technology.

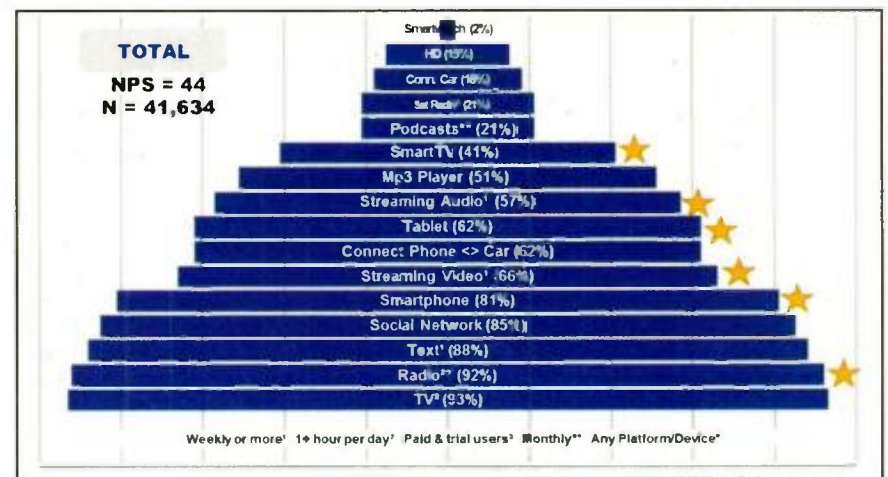
Our Techsurveys are the biggest research studies in the radio industry, typically producing at least 30,000 respondents each year. While the samples aren't representative of the entire population — most are radio listeners from station email databases — their massive size more than makes up for it.

From the very first Techsurvey in 2005 that uncovered the "cell phone only" problem leading to Arbitron addressing its sample deficit, to last year's study that illustrated the impact of video on-demand and its relationship to podcasting, these national studies have provided broadcasters with an ongoing tracking mechanism to better understand the technology changes that are all around us.

For the first seven years of Techsurveys, respondents were from the "rock family" — listeners of classic rock, mainstream rock, alternative and Triple A. In 2012, we opened up Techsurvey to all formats, allowing us to zoom in on fans of stations as diverse as adult contemporary, sports, country,



The Media Usage Pyramid is a signature part of the survey. This was 2005.



Here's the Media Usage Pyramid of 2015.

news talk and variety hits.

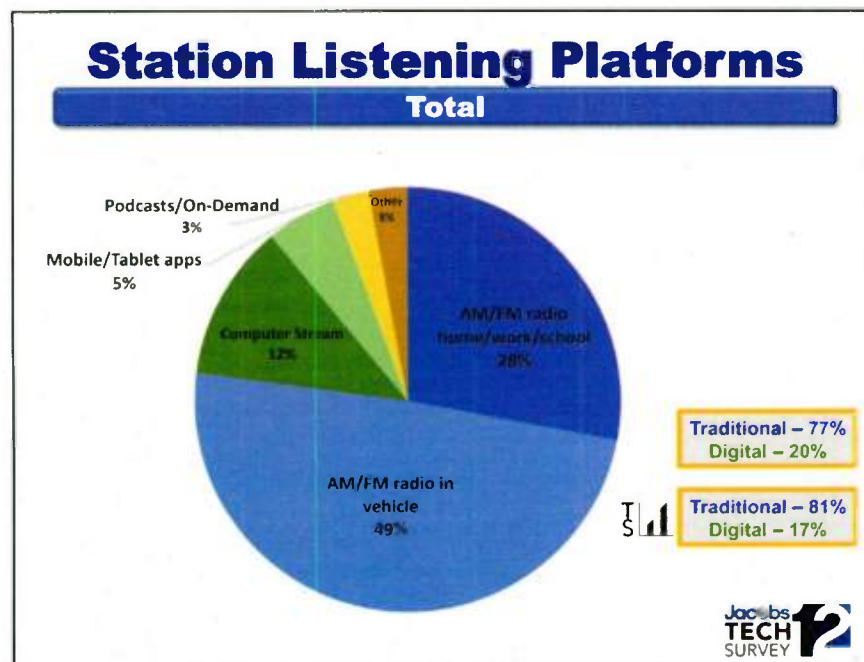
In 2013, we began to explore generations, breaking out our massive data sets by boomers, Xers, Millennials,

As we've learned, it's not a bad thing to be an integral part of people's daily routines.

Gen Z and the silent generation (born in 1946 or earlier). Marketers often speak in generational terms, and so our Techsurveys are now able to provide great granularity in the understanding of tech trends and shifts.

While these studies tend to be tech-focused, delving into areas that include streaming, podcasting, social media, mobile and "connected cars," we also explore why consumers continue to enjoy radio amidst all these digital options. And it turns out that while new media are very appealing to many respondents, radio continues to provide its own unique assets. Beyond music

(continued on page 5)



The pie chart shows platforms used to listen to stations by the respondents. The change since the previous survey (TS11) is shown in the boxes at lower right.

A Few Thoughts on the Dusty Ol' Archives

When it comes to our work, there is the perception and then there is reality

BY **ANDY LANSET**

The author is director of archives for New York Public Radio (WNYC/WQXR).

There's a chronic perception about the "dusty old archives."

I'm not sure if this helps or hurts our preservation efforts. It's true that we do occasionally find, or "unearth," valuable things in less-than-wholesome places like damp basements, forgotten crawl spaces and blistering hot attic corners. But I would venture that 96 percent of the time we are neither digging up nor dusting off aural relics, like some prospecting Indiana Jones of the library desk set.

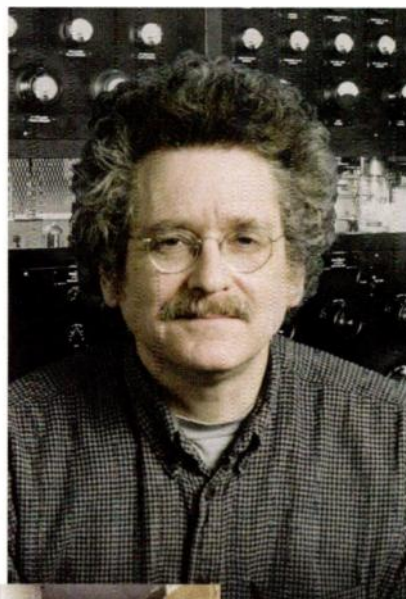
Believe it or not, a great many of our choicest bits of the past are cataloged (to one degree or another) and neatly arranged by format in a well-lit, temperature-humidity-controlled room with compact moveable shelving, for that handful of us who are fortunate enough. There is no dirt, no shovels nor pick axes.

up to the plate, there will probably never be enough money to save all the broadcast recordings that need to be saved.

Even though broadcasters, both public and private, have a historically bad reputation for not saving their productions, there remains a massive amount of material to be worked on. The analog running time is staggering. It's true that some digital media can be reformatted in less than real time. This is helpful but still leaves us with numbers that may result in sleeplessness for some. We soldier on and do what we can.

Many factors, some of them conflicting, must be weighed when faced with a large collection of broadcast materials on just about every audio format imaginable.

They include some time-worn knowledge about the shelf life of various brands of acetate and polyester tape and lacquer transcription discs. Then there are the more recent and



Headshot: Christine Butler, composite: Victor Stabin

Above: Andy Lanset, in a composite photo in "front" of WNYC's original transmitter.



Left: The crusading archivist.

FROM THE EDITOR



We continue our recent special series about preserving the history of radio, in conjunction with the Library of Congress' Radio Preservation Task Force (<http://radiopreservation.org>).

— Paul McLane



istockphoto/CTRPhotos

cassette has become a thing of mystery to many millennials.

IRENE

Still, sometimes there is technical progress, even for obsolete formats.

For example, we are grateful for a new technology called IRENE that allows for laser scanning of discs and cylinders when using a stylus is not possible or is too risky for retrieving sonic information. (According to a story in *The Atlantic*, the acronym stands for Image, Reconstruct, Erase Noise, Etcetera, but the name originally was chosen because the first recording used was "Goodnight, Irene" by the Weavers.) This preservation option gives hope to archivists with one-of-a-kind broken glass transcription discs but is still limited to a few locations and is neither without cost nor sonically equal to a stylus.

Assessments for digitization, however, are not based on format viability alone. Added to this decision-making process is a review of the content and the demand for that content. And last, but not least, the funding available for reformatting and catalog work.

Older field recordings that can be of immediate use to the news department and content producers may not seem terribly sexy to funders who place a higher value on a series of interviews publicly available on the web aimed at

People love the exotic image of the crusading archivist in the jungle of his/her collection wearing a tan fedora with white cotton gloves, carrying a pack of acid-free record sleeves in pursuit of sonic treasures to be rescued from oblivion.

students and scholars. To date, we've pushed close to 2,000 hours of material to wnyc.org. View and listen at www.wnyc.org/series/archives-preservation.

People love that exotic image, a gritty romantic cliché of discovery, really: the crusading archivist in the jungle of his/her collection wearing a tan fedora with white cotton gloves, carrying a pack of acid-free record sleeves in pursuit of sonic treasures to be rescued from oblivion.

The reality, however, leans more to the ongoing ordinary and methodical efforts of archivists and preservationists, behind the scenes, in civilized spaces with adequate staff and funding. We soldier on.

Share your experiences with preserving radio content. Email radioworld@nbmedia.com with "Letter to the Editor" in the subject field.

Watch for information coming soon regarding the next Radio Preservation Task Force conference about saving America's radio heritage, planned for late 2017.

How else will we deal with the concerts on a variety of digital tape formats, the Beta tapes encoded with dbx 700 and the field recordings on MiniDisc?

There is a little dust, but there is a little dust just about everywhere. And there may be a faint scent of vinegar from degrading acetate tape or the scent of stale off-gassing from vintage lacquer discs.

MASSIVE TROVE

I'm frequently asked how long it will take to digitize it all and make it available to producers and the public.

My answer usually includes a flip reference to job security and gray hair. Unless some major sugar daddies step

sometimes less clear assessments and predictions concerning the longevity of various digital formats and knowledge, or lack thereof, of their storage history.

Add to this mix the obsolescence of playback equipment.

Recent news of the last VHS machine rolling off the assembly line is only the most recent announcement in a long line of formats dependent on a shrinking pool of technicians and engineers who can keep them properly aligned and calibrated. Although we may be collectors at heart, we have no choice now but to hoard splicing tape and purchase odd-sized styli from overseas. Add to that the trolling of eBay and scanning of the trades for ads of studios going out of business, to maintain the keys to our collections. How else will we deal with the concerts on a variety of digital tape formats, the Beta tapes encoded with dbx 700 and the field recordings on MiniDisc? Even the ubiquitous compact

HD Radio Ahead
Digital AM & FM

On the road to HD Radio broadcasting?
Nautel has you COVERED.

nautel.com/HDradio **nautel**

THIS ISSUE

FEBRUARY 1, 2017

NEWS

- Post-Fidel, the Broadcast Hostility Remains 1
- RUSA Leases HD2 in New York 1
- Surveys Track the Impact of Technology 3
- A Few Thoughts on the Dusty Ol' Archives 4
- News Roundup 6, 8
- Bill Sacks Dies; Was Audio Innovator 8



14

FEATURES

- What's Behind Box (Cover) Number Three? 12
- They Seek "New and Better Form of Radio" 14
- PhillyCAM Celebrates Community Media Day 18

GM JOURNAL

- DTS Promotes "Connected Radio" Project 22
- And the Laughs Just Keep on Coming! 23
- Amplifying Is Not Just About Sound 24



22



29

STUDIO SESSIONS

- The New Mod on the Block 25
- Marketplace 26

OPINION

- KBUU(LP), Malibu's Local Station 29
- Reader's Forum 30

NEWS

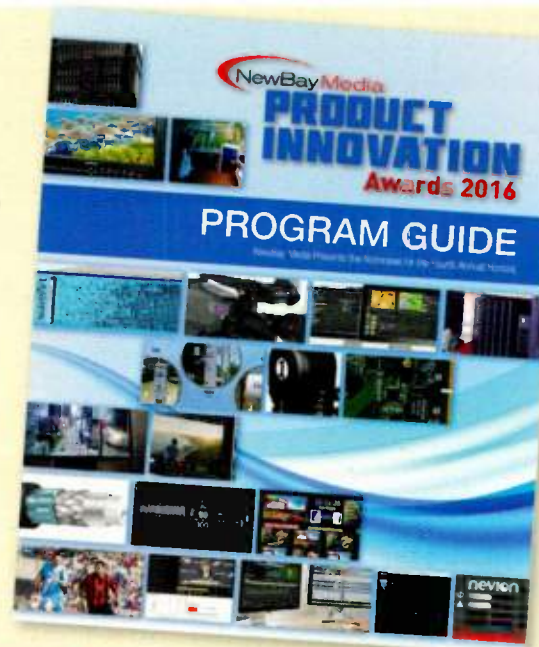
PRODUCT INNOVATION AWARD WINNERS AND NOMINEES

Congratulations to the winners of NewBay's Product Innovation Awards.

For Radio World, the winners are the Studer Glacier Series of Customizable Broadcast Audio Control Surfaces and WaveArt Wave Series Medium-Power FM Transmitters.

Every product nominated is featured in the special Product Innovation Awards Program Guide, which you can read at www.mazdigital.com/webreader/46767. It's an excellent overview of many new and recent introductions in the worlds of broadcast and new media technology.

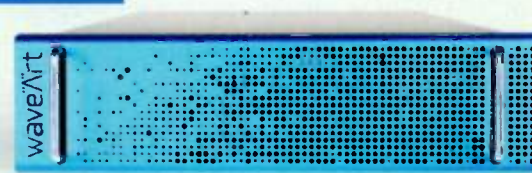
Evaluation criteria include innovation of concept and design, creative use of technology, price value and suitability for use in a broadcast TV/pro video or broadcast/online radio environment. Nominations are made by the companies, which pay a fee to enter; not all nominees are chosen. Participating NewBay publications are TV Technology, Digital Video, Creative Planet Network, Government Video, Video Edge, Radio World and Radio magazine.



Studer Glacier



WaveArt Wave



SURVEYS

(continued from page 3)

and personality, many listen to the radio for companionship, escape and mood elevation. Others are simply in the habit of listening to the radio. As we've learned, it's not a bad thing to be an integral part of people's daily routines.

In the upcoming Techsurvey, we'll be exploring new areas on the tech frontier. These include voice command technology (Amazon Echo, Google Home, etc.), shared mobility (Uber and Lyft), Facebook Live, cord-cutting, along with a deeper dive into the appeal and impact of podcasting. We'll continue to dig into the automotive front as well, focusing on the Apple CarPlay and Android Auto dashboard ecosystems.

We had no idea back in 2005 when we started our Techsurveys that technology would be this advanced. No one did. Back then, social media, smartphones and tablets, "connected cars" and apps were essentially non-existent. Today, they play major roles in all aspects of many people's lives. And they've had an indelible impact on the radio broadcasting industry, presenting a world of challenges and opportunities.

The story continues.

For more information about Jacobs Media's Techsurveys, go to www.jacobsmedia.com/techsurvey.



MEET SAM... Your Trusty Station Watchdog

Are you OFF AIR? EAS alert received? Request line ringing? Transmitter site intrusion? The Systems Alert Monitor ("SAM") lets you know now!

- Video messages alert personnel to take action!
- Monitors up to 15 systems for faults or status
- Easy to set up text, colors, display time, etc.
- Plays audio alerts and sends email messages
- Use any HDMI video monitor (not included)
- Display your station logo when idle

SAM is eager to watch over you! Woof!

www.henryeng.com

WE BUILD SOLUTIONS: DIGITAL SOLUTIONS. ANALOG SOLUTIONS. FUNCTIONAL. RELIABLE. AFFORDABLE.



Phone: 562.493.3589 • email: henryeng@aol.com



RUSA*(continued from page 1)*

Houston, Dallas, Ohio ... there are a lot of Russian-speaking residents in the United States.

RW: How would that relationship work?

Pekerman: We're flexible. Our number one thing is that we are Russian-language programmers. We have 24/7 programming with a full staff, the best hosts that our community has to offer, and we take a huge pride in everything that we do.

RW: Is it expensive to lease the capacity from iHeart?

Pekerman: iHeart is a fancy company. It's a high-end company, so yeah. Not cheap.

RW: Do you sell commercials to the local community?

Pekerman: Yes. We are commercial radio, we sell commercial time and we think we are very [effective] in partnering with local businesses to bring them success. We have an 80 percent rate of recurring clients.

RW: Do you have a way of quantifying how many listeners you have?

Pekerman: That's a challenge. The only thing we see is the stream. ... I keep on top of Nielsen, but nothing is happening that doesn't cost an arm and a leg.

RW: Do you have full-time staff, or are these volunteers or part-timers?

Pekerman: Oh, no, no, no, no, no. We have full-time staff, very serious staff, very professional. It's not inexpensive, but I certainly personally believe a lot in professionalism and a professional approach to business.

RW: Is it self-sustaining or do you have other businesses in addition to the

radio income stream?

Pekerman: It's self-sustaining, but also we do bring in Russian entertainers. We have concerts that we produce and there are different projects that we do throughout the year.

RW: I imagine most of your HD listeners are in the car?

Pekerman: Well I would not suggest for anyone to buy a HD Radio receiver for home — I think that's a device that's going to become obsolete. What we recommend for our listeners is just to buy a very inexpensive speaker that you can get now on Amazon between \$7 and \$10 which connects to your smartphone and everybody owns a smartphone these days ... even though maybe not everybody has HD Radio in their cars, which is a little bit upsetting. It should be there already.

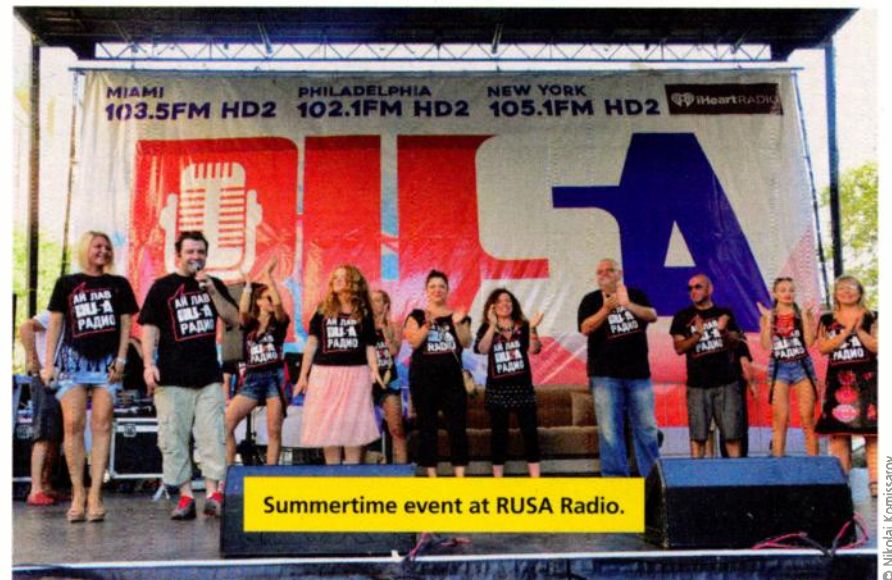
But I think a smartphone is definitely the radio of today, and the same thing even in the car — iHeartRadio allows you to listen to radio through Bluetooth. You just connect it, then you have phenomenal sound, digital sound coming from all your speakers, and super good

We are commercial radio, we sell commercial time and we think we are very [effective] in partnering with local businesses to bring them success.

— Anna Pekerman

stereo, crystal clear format, and no range [limit]. I mean, you can drive from here to California and not lose us if there's decent internet somewhere, even in your phone. Most providers don't charge much for the use anymore, so it's pretty much almost free.

nership that I don't want to go deeply into, it's not a straightforward LMA, it's more than that. I do have access to the Russian community of New York, which is over a million in the tri-state area, which I think is pretty exciting for everybody. They have a professional



RW: Do you perceive that iHeart benefits from having you on that multi-cast, other than the revenue you bring them?

Pekerman: I think it's pretty exciting for them to be able to offer Russian on one of their platforms. We are more than just an LMA. We do have a certain part-

ner. I've been in the radio business for almost 20 years and I know it inside and out, from the technical aspect, the legal aspect, the production aspect, the creative aspect. Our partnership is over three years already and there's trust there and there's loyalty there.

RW: What else should we know on the topic of HD Radio?

Pekerman: I think it takes a village here too; if everybody wants HD to blossom further and bring them revenue, I think there is revenue there for everybody.

The only thing I think would be very important is that — HD changed hands, they [iBiquity Digital] were bought out, there is new ownership there. Since then it's not as active in getting into more and more new vehicles. That [seemed like] the mission before and was pretty successful; I feel like there's a little bit of a stop here.

I think the most important thing is for HD to be accessible in cars, for as long as radios are not going to become obsolete in cars. I am following the industry, and it's very possible that eventually we're not going to have the FM/AM dial in there; but at this point it's not a definite; and we still believe in the radio.

I certainly believe in the radio. Just like it was for TV when TV became digital, it's inevitable for radio to become digital, just because of the quality of the sound and what it has to offer. I think that the better HD is going to do in penetrating cars, the better everybody in the industry is going to do with HD.

RW: If a broadcaster in another city is interested, how would they contact you?

Pekerman: They are absolutely welcome to email me at anna@rusa.fm or (718) 339-0003.

RW: Anything else I should include on this topic?

Pekerman: Russians rule!

NEWSROUNDUP

NORWAY: Norway has made headlines for starting to shut down analog FM radio in favor of digital audio broadcasting. But NAB Chief Operating Officer Chris Ornelas wrote in a blog post that the American radio industry is too different to follow suit. "The difference between Norway radio and American radio is as stark as the Northern Lights versus fireworks on the Capitol Mall on the Fourth of July," wrote Ornelas. He also emphasized that in Norway, not all analog FM stations are going away, just national broadcast stations and some local urban stations.

PANDORA: The big streaming company said it would reduce jobs even as it beat its earnings forecast, cutting 7 percent of its U.S. employee base, CNBC reported. Pandora has been



rumored as a takeover target for SiriusXM as it faces increased competition in the streaming/personal music space. Its plans include in-app promotion, more aggressive ad placement and targeted concert recommendations. CNBC said Pandora surpassed 4.3 million paid subscription customers.

PIRATES: The FCC Enforcement Bureau issued a notice of apparent liability to Conroy Dawson. It proposed a \$25,000 fine for "apparently willfully and repeatedly" operating an unlicensed station on 97.5 MHz in Paterson, N.J. It reached the conclusion after issuing three notices of unlicensed operation to Dawson since 2015. He also received a verbal warning from an agent of the New York field office that operation of this unlicensed station was illegal. The commission said he continued to operate his station and established a pattern of relocating his unlicensed FM after the New York office issued the notices, the FCC said.

Get the story from the palm of your hand

Your story is out there - around the community, on the street, in the trenches. That's why your broadcast equipment needs to be as flexible as the stories you cover. ACCESS 2USB transmits two-way audio over the Internet wirelessly by using Wi-Fi and Cellular data services.

Our CrossLock technology ends the coverage guessing game. With the ability to use multiple networks at once, CrossLock will intelligently monitor and dynamically adjust modems in real time for an extra layer of reliability.

**NEED ACCESS?
CONTACT US:**

1 800 237 1776
info@comrex.com



© 2016 Comrex Corporation

ACCESS
2USB

WIRELESS CODEC FOR AUDIO OVER IP



CrossLock VPN

Learn more at www.comrex.com

COMREX
BROADCAST RELIABLE



Bill Sacks Dies; Was Audio Innovator

He is remembered as an “executive chef with audio” and RW’s first audio editor

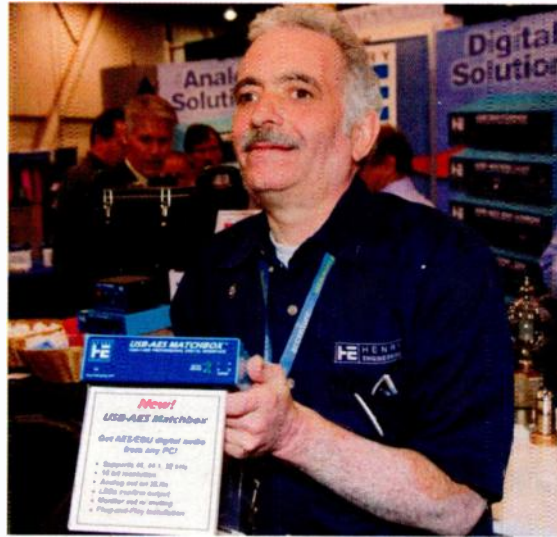
BY PAUL MCLANE

When Bill Sacks died in January, colleagues remembered an engineer, a consultant, a manufacturer and a hardware hot-rodder. His colleague David Bialik described him as “a genius and nice guy, a combination rarely found,” and this was typical of the many remarks we’ve received about Sacks.

Among other contributions to the industry, he played a part in the early years here at RW.

Sacks had been ill with cancer diagnosed after a recent fall, according to a GoFundMe page created by his wife Kim (find a link at the end of this article).

He was a former broadcast chief engineer who went to work for Carl T. Jones Associates as a consulting



Bill Sacks worked the Henry Engineering booth at the NAB Show in 2007.

Photo by Jim Peck

going to find a way to make it perfect sauce every time. ... I only learned in the last few years how many companies were using his talents in the background on product development and improvement.”

Dana Puopolo recalled the basement in Arlington, Va., that housed Straight Wire Audio “at the bottom of a long stairway. Bill liked that because he could crank his audio up. ... We had SWA stuff all over WLKW(AM/FM) in Providence, R.I., and they really helped make the station sound great.”

Bob Orban recalled, “Bill had a restlessly inquisitive mind; he was always eager to learn more about tech, and in fact, was studying C++ audio plug-ins in his sickbed.” Charles Wooten wrote, “Those SWA cards for the ITC cart machines were the bomb.”

And Skip Pizzi related a story that while Sacks was CE at a Class A FM station in Bethesda, Md., “the mysterious, occasional dips in the plate voltage on the transmitter atop the mid-rise apartment building housing the station were time-related to whenever someone pushed the button to call for the building’s elevator. After a little more sleuthing, Bill found that long before he had taken the job, someone had wired the transmitter’s mains input to the building’s elevator power. The station had gone years without paying for electricity to run its 3 kW transmitter.”

Here’s the link to the Sacks GoFundMe page: <https://www.gofundme.com/25q3cmk>.

NEWSROUNDUP

EAS: Equipment maker Monroe Electronics/Digital Alert Systems is planning important planned software modifications. It says the enhancements were described as desirable by the FCC’s Public Safety and Homeland Security Bureau follow-

ing the nationwide EAS test in September. The improvements will be free to current users (version 3.0 and later) and built into future DASDEC-II and R189 One-Net SE CAP EAS equipment. At issue is how to ensure that the “most timely and content-rich version of an alert” reaches the public. The FCC has said this can be ensured by requiring EAS participants such as broadcast stations to check the Internet-based IPAWS feed upon receiving a broadcast alert and transmit the corresponding CAP alert, if one is available. Contact the company for details.

OWNERSHIP: As expected, the U.S. Court of Appeals for the Third Circuit will hear the challenge by Prometheus Radio Project and Media Mobilizing Project to the FCC’s quadrennial review as too deregulatory, as well as for failing to address ownership diversity adequately. The U.S. Court of Appeals for the D.C. Circuit had been assigned the case, but Prometheus and Media Mobilizing had asked it to be transferred to the Third Circuit, which has been the venue for previous media ownership challenges, and the motion was unopposed. Broadcasters dropped their separate court challenge — they say the review was insufficiently deregulatory — in favor of asking the FCC to reconsider its decision now that a Republican president is in office.

Courtesy Joe Davis

May 1, 1983

AUDIO PROCESSING

Radio World 5

Increase Coverage, Not Noise

Arlington VA ... Engineers are always looking for ways to improve their FM stereo coverage. Heavy processing seems to improve a station’s fringe coverage which contradicts the whole idea behind FM broadcasting. Monophonic FM broadcasting is a medium which requires virtually no audio processing.

The reason that FM stereo coverage is improved by heavy processing—and yes, techniques including composite clipping do seem to improve fringe coverage in stereo—is that these techniques increase or densen L-R modulation.

The original

We have to remember that Major Armstrong’s original low noise FM system did not include an L-R subcarrier as a double sideband suppressed carrier AM signal. A station using moderate amounts of conventional coupled left and right processing usually will only modulate this AM subcarrier by 20 per cent. If we were to look at stereo FM broadcasting as two simultaneously operating radio stations, a classic mono FM station and an AM suppressed carrier difference channel station, we find that we have an AM station operating at 20 per cent modulation.

What would you do if you were asked to look at an AM station with

The Audio Process

just a moderate amount of compression, and then brought the modulation up to a very conservative level, say an average of 60 per cent. The station’s coverage would increase dramatically.

A technique long known for increasing FM coverage is simply to unstrap the left and right control circuits in compressors. This increases L-R modulation but it causes the image to be unstable and randomly wander.

Another technique for increasing L-R modulation is composite clipping. Composite clipping, which elevates the L-R level rather simplistically by generating garbage from the clipped L+R and clipping the L-R signal itself, creates a higher modulation density on the subcarrier. Whether or not this garbage is decoded properly by the receiver has been the subject of many recent discussions. In my opinion, if you are going to distort your L-R, do it with a compressor, not a clipper.

Before compression



Bill Sacks

L-R level actually means control over the width of the stereo image.

A station’s set up as described in this article will sound wide all of the time with a solid center, due to the fact that the L+R is also compressed. The increase in stereo range is directly proportional to how well the L-R channel is modulated or, in other words, how wide the station sounds in stereo. If the L-R modulation is allowed to become greater than the L+R, the image will become unstable and seem to emerge from behind the listener. This is not a desired effect.

Input levels to the compressors are set by first throwing the console into mono and adjusting for a moderate amount of compression with the L+R compressor, and a zero VU output level. The L-R compressor input level is set by disconnecting one channel at the input to the matrix. The L-R compressor is then set for a moderate amount of compression.

The best way to set up this kind of system is to set the L+R level as a reference, mark it with a grease pencil, and leave

channel only into the system and adjusting the L-R compressor output level for null while listening to the opposite channel. Mark this spot with a grease pencil so that you have a reference point.

Compressor outputs

The outputs of the compressors are routed to a decoding matrix network and back into Left and Right. The output level control of the L-R compressor, leaving the L+R output level fixed as a reference, can now be increased. The L-R output level adjustment is done while listening on a stereo radio with a modulation monitor using some properly placed stereo speakers.

The modulation monitor should be set to view L+R and L-R simultaneously. Use another matrix network to drive a pair of meters from the output of a radio, if your modulation monitor is up on the hill.

The L-R output level is advanced while listening to the stereo signal and watching it on the meters. An average L-R modulation of 60 per cent is effective in masking AM noise in fringe receivers.

Less processing

I would like to stress that the whole idea of matrix compression is to allow

engineer and founded Straight Wire Audio Inc., or SWA, in 1979. That year he also became the first audio editor of Radio World.

He worked as an SBE chapter chairman and did product design work for Henry Engineering. He also launched a business refurbishing classic analog Optimod processors, having been a longtime friend of Bob Orban. Many readers met him at industry trade shows over the years.

Friends shared recollections via social media and emails. Here is a sampling; you can read many more in the online version of this story at radioworld.com/sacks.

Joseph Davis of Chesapeake RF Consultants told Radio World that Bill Sacks “was brilliant, an entrepreneur [who] loved talking about his ideas, and helping others.”

Longtime engineering colleague Mark Durenberger, a contributor from Radio World’s earliest days, remem-

bered “the time we were at the Madison, Wisc., engineering conference and ‘Crazy Billy’ plugged a 50-watt broadcast exciter into the hotel cable system to back-feed some program or other. Likely blew out every balun in the system ... At an NRBA New Orleans, Billy had just ‘tuned’ an FM station with some processing scheme or other and was running around the hotel with a Walkman, breaking into conversations and asking people to listen. Manic? Oh my ... He was very smart, and he never let off in pursuit of sonic excellence as he saw it.”

Hank Landsberg of Henry Engineering was impressed with his passion. “Bill was never an ‘it’s good enough’ kind of guy — he was an idealist, spending whatever time it took to make a product as close to perfection as humanly possible. And as a personal friend too, he was honest and ethical beyond question.”

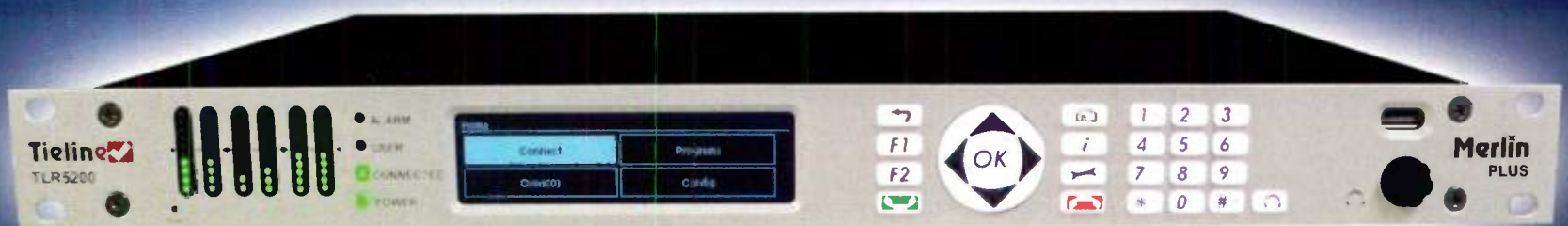
Ed Bukont called Sacks “an executive chef with audio. It didn’t matter what ingredients you had, he was

The award winning combination



ViA

Join the #ViARevolution



Merlin PLUS



www.tieline.com

317-845-8000
sales@tieline.com

Tieline 
The Codec Company



WRMI antenna farm aimed at Cuba.

CUBA

(continued from page 1)

despite the closer relations now between Cuba and the U.S., the level of jamming has not diminished at all. It's a disgrace that the Cuban regime will still not allow its people to hear programs from abroad that the government doesn't like: Freedom of expression is still not on their agenda."

Yet despite this fact, some U.S.-based broadcasters are getting through. "Based on the SMS messages and phone calls we receive from Cuban listeners and viewers, we know that our Radio and TV Martí is being received," said González. "We get emails as well."

TUNING IN

Radio Martí began broadcasting from the United States to Cuba in 1985. Television Martí was launched five years later. Radio/TV's mission is to deliver news, current affairs and entertainment/lifestyle programming that doesn't toe the Cuban communist line. Small wonder that the Cuban government has done its best to block the service — and why Radio/TV Martí has been and is using every mix of over-the-air satellite, online and physical media distribution to get by them.

"No matter what they do, we manage to get through," said González. "The Cuban people are tuning into Radio/TV Martí, and we have the feedback to prove it."

WRMI's Cuban programming mix is based on whatever content its airtime buyers choose to put on air. It's a longstanding relationship: "Radio Miami International began acting as a broker for Cuban exile programs on shortwave to Cuba in 1989, transmitting from various shortwave stations in the Dominican Republic and the United States," said White.

In 1994, WRMI launched its Miami-based SW sta-

tion. Its transmission power and reach were boosted greatly in 2013, when the broadcaster bought the expansive SW transmission farm belonging to now-defunct Family Radio in Okeechobee, Fla.

Over the years, most all of the major — and many minor — Cuban exile organizations have used WRMI's facilities to broadcast programs to Cuba. In fact, "at one time, Cuban exile programs made up the majority of our programming," said White.

The number of Cuban exile-produced shows coming over WRMI has dropped substantially over the years, but not due to anything done by the Castro regimes (Fidel then and Raul now). "Over the years, many of the Cuban groups in Miami have gone out of existence, or don't have funding to continue their broadcasts," said White. "And frankly, many of the Cuban exile leaders have been dying off, and the younger generations generally are not very interested in Cuban politics."

The result? "Today Cuban programming makes up only a small percent of our programming."

LIMITED ACCESS

The U.S.-Cuba diplomatic thaw and the death of Fidel Castro have not lessened Cuban communist resistance to outside broadcasters. And as of this writing, any impact of the Trump presidency remains to be seen.

So what will it take to alter the situation?

According to González, nothing less than the introduction of free speech will do, and that will only happen with regime change.

Jeff White agrees: "Honestly, I think it will take a



Malule González

major political change on the island: Certainly it won't happen as long as Raúl Castro is in power," he said. "But they would also have to make a major change like allowing free elections and freedom of expression.

"Maybe that would also put an end to the Cuban exile programming we broadcast; I don't know," White added. "But it would be a major victory for the Cuban people, and it would show in a way the important role that shortwave radio programs have played in bringing about a change in Cuba."

Ann Noonan, executive director of the advocacy organization Committee for U.S. International Broadcasting, said that, although Cuba is becoming

a tourist destination for many Americans again, "Little or no help has been offered to most of Cuba's people, who are still desperately poor. Access to communication is limited for families in Cuba." She said that because all media inside Cuba are still controlled by the state, "shortwave and medium-wave radio broadcasts from the United States remain crucial for access to news inside Cuba. Radio and TV Martí need more support and funding for their work."

Even if President Trump reinstates an embargo on Cuba, she said, "It seems unlikely that it would make any difference in the lives of many Cubans. Right now, for the most part, the only ones who are benefiting from the end of the travel restrictions are elitists inside Cuba and Americans who romanticize about life there and want to go there to see old cars, import cigars and enjoy the beach." CUSIB, she said, is hopeful that the Trump administration will push for greater funding to the Office of Cuba Broadcasting.

Loud. Clean. Compete!

But don't take our word for it.



A lot of folks say their processing is louder and cleaner, but with Omnia.11 G-Force™, our customers are doing the talking...



This is the first time in a very long time I have heard a processor which **dominates over everything else on the air**. The bass is tremendous. The mids are very clean. I heard "Changes" by 2PAC and the depth is something I've never heard on the air. This is a crown achievement.

—Daniel Hyatt, SVP Engineer, Max Media, Denver, Colorado



As soon as I put Omnia.11 with G-Force on the air, **our Program Director was floored**. He commented on the **clarity and punch** of the audio, comparing it to listening to the station for the first time on high-end speakers. He said to me 'Even the silence sounds better!'. I'm sold on the power, flexibility, and tools... I was able to take the best-sounding station in the market, and make it sound even better!

—Chris Tarr, Director of Technical Operations, Entercom Wisconsin, Milwaukee



G-Force was **louder right out of the box**, yet more dynamic and open. Stereo Image Enhancer is a big improvement, noticeably wider, which is great.

The low bass **bottom end is huge and subsonic**. Spoken word level stands out more without having to use a lot of AGC.

—Stephen Wilkinson, Technical Operations Manager, Hope Media, Sydney, Australia

How do we do it?

Omnia's '1 dB Louder' feature makes you a whole dB louder!

Low IMD Clipper reduces intermod distortion for more loudness headroom

Perfect Declipper restores clipped segments and removes distortion

G-Force dynamics engine for more natural, transparent, and compelling sound, reducing fatigue for longer listening!

TelosAlliance.com/Omnia11

Omnia



What's Behind Box (Cover) Number Three?

Available: Nice mouse apartment, plenty of bedroom space, transmitter view

WORKBENCH

by John Bisset

Read more Workbench articles online at radioworld.com

Check your transmitter electrical boxes. It is a quick but necessary maintenance chore.

One never knows what's going on behind the cover (Fig. 1). It could be loose connections that will overheat and eventually fail or cause a fire. If you have an infrared thermometer, check each terminal for excessive temperature. The box may be clean, dry and show no signs of corrosion, as shown in Fig. 2. However, the cover may be shielding a much greater problem: mice infestation, as seen in Fig. 3.

In this case, mice found a small hole in the rear of the box. That was their entry into a beautiful "apartment" in which to nest. If you discover such an infestation, pick up some heavy rubber protective gloves, wear a smock that you can throw away and use a face mask.

When it comes time to seal the entry, plug the hole or holes with stainless steel or copper wool mixed with expandable spray foam. The foam alone won't work — the rodents will eat right through it. They do not like the steel or copper wool.

Transmitter equipment is so reliable now that months may go by between visits. A more frequent and routine inspection is warranted; but if you're handling 10 stations this may not be practical.

So when you show up at the site, take a quick walk around the building perimeter. Once inside, check the floor as well as the bottom of equipment racks. Mouse droppings, Fig. 4, are an instant clue to a problem. Take steps to plug their entry ways as previously described. Again, use protective gear when cleaning up the droppings. I prefer a broom and dust pan to a vacuum; vacuum exhaust just fills the air with unhealthy contaminants.

If you can't find an obvious entry,



Fig. 1: Who knows what's going on inside the electric disconnect?



Fig. 2: A clean box with tight connections.



Fig. 4: Mouse droppings on the floor or the bottom of equipment racks are a dead giveaway your site has rodents.



Fig. 3: Surprise! Rodent infestation!

try a nighttime visit. Leave the lights on inside the building as you walk around the perimeter in the dark, looking for light leaks. Remember, rodents are great contortionists; they can squeeze through the narrowest of gaps. I found the light trick useful in checking AM antenna tuning units at the base of each tower, too. As most of these towers are "hot,"

it's best to do your night walk when the station is down, to avoid an RF shock or burn. With the light illuminated inside the ATU, walk around the coupling box, again looking for light leakage. Seal any voids you find.

San Diego's Marc Mann wrote about growing up on the East Coast on

Long Island, where there was a multitude of surplus electronic stores stocking an array of communications and military surplus electronic parts. Long Island was a hotbed of electronic manufacturing, supporting a number of government contract manufacturers. Canal Street, in the Bowery of lower

(continued on page 14)



VSSeries
300 W – 2.5 kW
Digital/Analog FM

nautel
nautel.com/VS

**Big Transmitter Features
in a Small Box**



Get in Sync

Analog FM & HD1 Perfectly in Sync

The JUSTIN 808 is a single-box solution that securely adjusts FM & HD1 Time alignment without affecting your critical FM transmission.

"The JUSTIN 808 continues to do a consistently great job at keeping our HD and analog signals in alignment... The combined time, level and phase alignment that the JUSTIN 808 provides makes any switching between HD and analog listening undetectable."

— Sam Caputa, Director of Engineering, Emmis Communications.

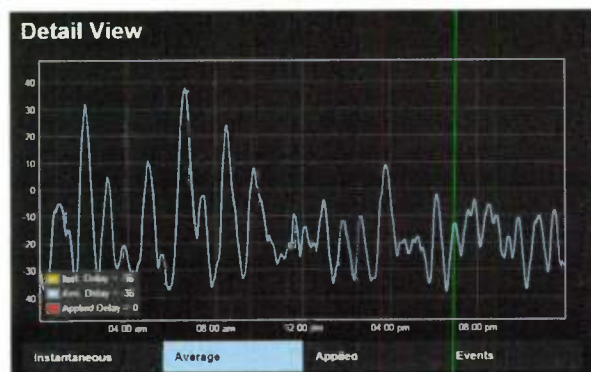
Contact your preferred Inovonics Dealer for more information. Join our TRY-N-BUY program.

GETTING FROM HERE



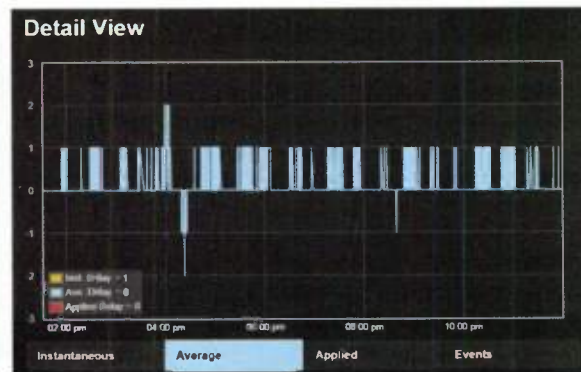
TO HERE

+38/-34
Samples



Typical FM/HD1 drift over a 24 hour period.

±2
Samples



Corrected FM/HD1 audio within ±2 samples within 24 hour period.

Why Inovonics?

Quality Solutions. Competitive Prices. | Three-year Factory Warranty.
Quick to Install. Easy to Program. | Quality after sales service.

www.inovonicsbroadcast.com | sales@inovonicsbroadcast.com | 831-458-0552



They Seek “New and Better Form of Radio”

Alumni of NPR and Netflix marry a Netflix-style approach with streamed audio

STREAMING

BY JAMES CARELESS

Imagine having your own personal audio stream, one that only carries the specific news, sports, information and entertainment content that interests you. And no matter where you are — in the car, at work or at home — this personalized audio stream will always be available via your smartphone, tablet, internet radio or PC. With access to a feed like this, why would you ever listen to anything else?

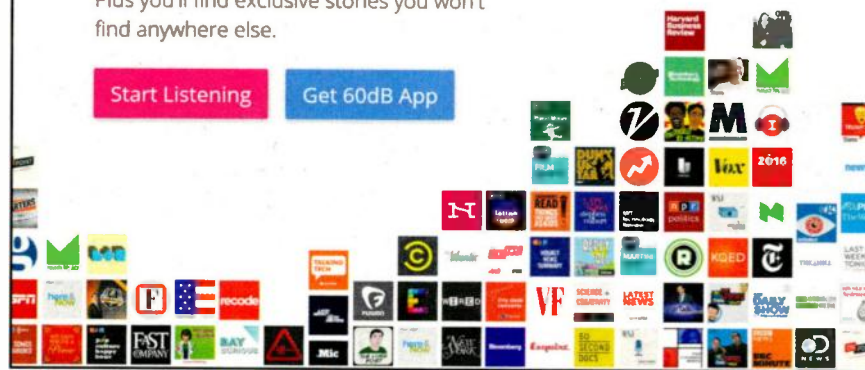
This is the logic and the strategy underlying 60dB ([60dB.co](http://www.60dB.co)), a new audio streaming service, which became publicly in late October 2016, via an app for iOS, and in December, 60dB became available via any browser at <http://www.60dB.co>. As of mid-January 2017, the service went live on Alexa-enabled devices like Amazon’s Echo, Dot and Tap. The plan is to bring the service to Android later in 2017, according to Matt Graves, Tiny Garage Labs’ media liaison.

Co-founded by NPR alumnus Steve Henn and former Netflix executives John Ciancutti and Steve McLendon, the free 60dB app employs its own content personalization software to let listeners specify the particular shows and content genres they want to listen to.

Like Netflix, this personalization approach includes enabling the 60dB software to “learn” each subscriber’s

Your world. Story by story.

60dB brings you today’s best short audio stories in news, sports, business, politics, entertainment and more. Plus you’ll find exclusive stories you won’t find anywhere else.



The 60dB website and app promise to bring listeners “today’s best short audio stories in news, sports, business, politics, entertainment and more,” from a library of millions of stories. Offerings include curated collections, topic search and personalized content.

content preferences based on their selections, and using this knowledge to recommend similar content automatically. As for content: This service will offer a mix of stories that 60dB’s partners already produce — some for radio, some for online audiences — plus stories that the streaming service will collaborate on with those partners.

“In my case, I’m a big Pittsburgh Steelers fan,” said Ciancutti, “Using 60dB, I can program my audio profile

to find and play out all kinds of content related to my favorite NFL team, no matter where I may be listening.”

THE LOGIC

When Henn quit NPR and the “Planet Money” podcast in January 2016 to set up an unspecified internet audio company, people in the broadcast industry thought he was crazy.

Henn himself somewhat shared their opinion. “My work with NPR

and ‘Planet Money’ covering technology stories let me interview some of the smartest, most creative people on the planet,” he said. “I told their stories and millions of people listened. For a radio broadcaster, it was a dream job. So quitting could seem a bit mad.”

However, Henn had noticed that listenership to NPR’s “Morning Edition” by people 55 and under had dropped 20 percent between spring 2010 and spring 2015. To him, the reason was clear: Younger listeners were (and are) leaving radio for online audio streams.

The problem is that these streams tend to be focused on music, rather than the insightful spoken-word stories on which Henn had built his career. This, plus the fact that NPR’s audience tends to be from a “white, upper middle class suburb” convinced Henn that he had to jump into online streaming to inject new life into spoken-word audio content and broaden its base to millennials and other younger listeners.

“I quit my job to build a new and better form of radio,” he said. Henn did so under the name of Tiny Garage Labs.

THE PLATFORM SO FAR

Currently, 60dB is a work in progress. The website at [60dB.co](http://www.60dB.co) doesn’t say much, a few sentences that briefly describe the 60dB service and invite interested surfers to sign up the app, which initially launched on Apple’s iOS. Those interested can also follow 60dB on Twitter (@the60dB), on Facebook (<https://www.facebook.com/the60dB/>) and on Medium (<http://medium.com/@60dB/>) for updates.

The basic purpose of 60dB is already established.

(continued on page 18)

WORKBENCH

(continued from page 12)

Manhattan, was *the* place to find just about anything in used electronics.

Unfortunately these outlets are all gone. Whenever Marc travels, he tries to seek out what a city has left. Recently, in Phoenix, he found Apache Surplus (www.apachereclamationandelectronics.com).

That website is great but Marc also prefers a printed catalog, which is just what he found at Marlin P. Jones and Associates. Although their catalog is online, they also offer a paper catalog. Here’s the link for you to order a free catalog by mail: www.mpja.com/inforequest.asp.

Here’s another neat find, sent in by consulting engineer R. Morgan Burrow, P.E.

This worklight (Fig. 5) is a must-have for engineers. It combines a 24-LED worklight and a four-LED flashlight. The light has a swivel hook and magnet mount and comes with the batteries. Fig. 6 shows how bright the light is. Ace Hardware is the place for this handy work lamp manufactured by Blazing LED.

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

Author John Bisset has spent 46 years in the broadcasting industry and is still learning. He handles West Coast sales for the Telos Alliance. He is SBE certified and is a past recipient of the SBE’s Educator of the Year Award.



Fig. 5: Twenty-four LEDs make for a bright flashlight.

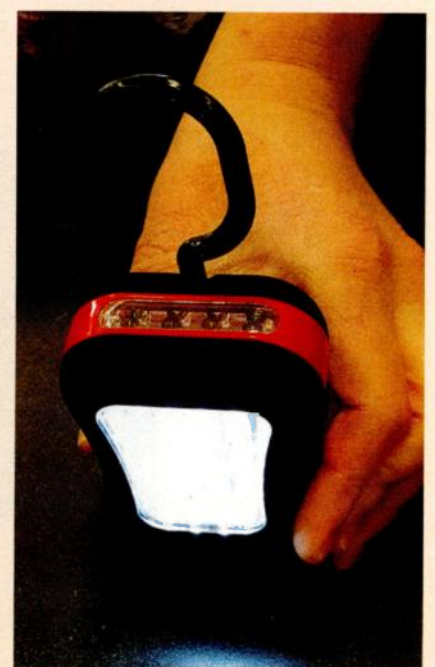


Fig. 6: Hand-held, it can be suspended by its hook or built-in magnet.



YOUR **BOTTOM LINE** CALLED.

IT WANTS VX PRIME

Broadcasters are moving to VoIP and modern IP telco technology, and away from costly, legacy phone service like POTS and T1.

VX Prime VoIP Studio Talkshow System, ideal for two to four studios, gives you crystal clear calls and performance Telos is known for, while dramatically reducing monthly telco charges—typically 40 to 70%. Your GM will love you for it!



Isn't it time you made the switch?

TelosAlliance.com/VX-Prime

Telos

TA THE TELOS ALLIANCE®
Create. Communicate. Connect.



This Finger Controls Your Revenue. What's It Gonna Choose?

This finger has Irritable Tuner-Button Syndrome. It's caused by sound from outdated audio processors.

Advanced new technology for sculpting powerful, persuasive sound. Integrated processing tools – Mastering Limiters, Intelligent AGC, AirAura Spectral Control, Vorsis Bass Tools, Multipath Control, and of course Baseband 192 for the all-digital processor to transmitter chain at near zero latency. These tools share data interactively, constantly optimizing your settings for consistency, track after track.



FM-55/AM-55/FM-25

Superior processors that bring startlingly loud and clean sound to new price points.



AirAura X1

Extraordinary touchscreen processor features and super fine resolution audio.



Aura8-IP

BLADE-3 that gives you eight stereo channels of killer audio processing anywhere on your network.

Wheatstone processors come with presets crafted by our own processing gurus. Our beautifully engineered GUIs give you amazing control. Upgrade to Wheatstone. Keep your listeners tuned in and your management smiling.

Learn more: wheatstone.com/processors



Designed and built in the USA. Phone +1-252-638-7000 | wheatstone.com | sales@wheatstone.com

World Radio History



Solid Precision... Raw Metal to Heavy Metal

(or pop, jazz, classical, hip-hop, AOR, CHR, top 40, oldies, talk, etc)

Ultra-precise metalwork and fabrication using lightspeed-class materials and techniques. Advanced surface-mount technology for flawless circuitry. Meticulously assembled by people who've made their careers crafting these consoles for years. From concept to delivery, each Audioarts AIR Series console is a Wheatstone thoroughbred, designed and built to be the centerpiece of your studio.



AIR-1 USB

Compact 8-channel powerhouse, 2 mics/6 Lines.
Great for small stations and remotes.



AIR-4

Remarkable 12-channel console, A/B, & Mix Minus.
Major market features at a small market price.



AIR-5

Phenomenal 16-channel console, built for studios that have a lot of inputs. Sometimes you need a fader for everything.

Super Quiet mic preamps, built-in USB, hybrid-ready phone input channels, talkback, and much more.
Perfect for any professional broadcast studios, remotes, LPFMs, podcasters, and streamers.

AIR Series Consoles: Hardcore Pro From Start to Finish

Learn more at audioarts.com/air



PhillyCAM Celebrates Community Media Day

Jennifer Waits

Coincides with a launch party for new low-power WPPM

LPFM

BY JENNIFER WAITS

Steps away from the Independence Branch of the Free Library of Philadelphia, Constitution High School and the Philadelphia History Museum sits the home of Philadelphia's public access cable television channel PhillyCAM and its new low-power FM radio station.

Across the upper half of the building, colorful artwork reminiscent of television pixels hangs above a sign that reads "People Powered Media," referencing the mission of the community radio and TV stations inside.

You may recall that Radio World profiled the planned station in the 2015 eBook "LPFM on Fire," when it had its construction permit in hand. Later that year, PhillyCAM debuted a streaming radio station as a first step towards going live over FM.

By July 2016, PhillyCAM's new WPPM(LP) began airing pre-recorded programming on 106.5 FM. It debuted its first live broadcasts, a daily news show, during the Democratic National Convention.

BROADCAST DEBUT

Flash forward to lunchtime on Oct. 20, 2016. PhillyCAM headquarters is abuzz with activity, as preparations are underway for the launch party for WPPM. Stacks of promotional stickers, launch celebration programs, kazoo and noisemakers are arranged throughout the lobby and a table awaits the arrival of a large cake inscribed with the messages "Happy Community Media Day" and "WPPM 106.5 is live!"

WPPM organized a full day's worth of activities to celebrate its first live FM broadcast: it aligned its launch with Community Media Day, a national effort



Outside PhillyCAM headquarters in Philadelphia.

by several organizations "that brings awareness to the importance of free speech and accessible media," according to its website.

Because of its close relationship with PhillyCAM's cable TV station, the festivities were a multimedia event, featuring live TV and radio broadcasts. The inaugural broadcast ceremony started at 1 p.m. in the television studio. PhillyCAM's Executive Director Gretjen Clausing and WPPM Station Manager Van-

essa Maria Graber gave opening remarks; Alliance for Community Media President Mike Wassenaar said the first Community Media Day was being celebrated "from Maine to Maui."

Philadelphia Councilman Mark Squilla marked the occasion by presenting PhillyCAM with a copy of a resolution recognizing Oct. 20, 2016, as Community Media Day within Philadelphia. The resolution read in part that "the sharing of ideas and information helps to build common understanding and common values within a community ... Community media organizations like PhillyCAM provide a means for diverse community to tell their stories, hear each other's stories and to create new stories together." In a video message, Mayor Jim Kenney said, "I am pleased to welcome this new addition to the local radio dial."

Soon after, PhillyCAM staffers and the live studio audience counted down to the start of live programming over WPPM. From seats in the TV studio, audience members watched a live video stream from the upstairs radio studio in those first moments on-air. WPPM kicked off its broadcast with the fitting song "Sound of Philadelphia" by Gamble and Huff.

In reflecting back on her favorite moment of the day, Clausing mentioned the countdown, "because it actually worked. We wanted to be able to communicate and transmit audio from our Main TV studio to the new radio studio upstairs and then send that out over the air."

"We wanted to do something different from a ribbon cutting, we thought a countdown with the studio audience to our house DJ Kid Charlemagne [Antoine Haywood, PhillyCAM's membership and outreach director] dropping the needle on the quintessential 'The Sound of Philadelphia' seemed like a good way to go."

(continued on page 20)

STREAMING

(continued from page 14)

"Our goal is for 60dB to bring you 'the sound of the human voice' through conversations, interesting interviews and compelling stories," said Henn. "We have built 60dB to provide our listeners with voices and stories from around the world; to inform and entertain them with the things they care deeply about."

In doing so, the startup is particularly interested in attracting new producers seeking a bold venue for their spoken word content.

"If you're producing beautiful short-form audio stories, we'd love to hear from you and help you connect with an audience of listeners around the world," the company stated in an online post. "Please reach out to us at content@60dB.co."

As for making 60dB pay for itself? On this point, Henn and Ciancutti are circumspect. "We are focused on developing the audio side and getting it online first," said Henn. "Once this is done, we will release details



Steve Henn, John Ciancutti and Steve McLendon

of our business model," added Ciancutti. Also yet to be announced is the date for 60dB's public launch.

Will the model that helped build Netflix translate to the spoken word? Comment on this or any story to radioworld@nbmedia.com with "Letter to the Editor" in the subject field.

HIGH CAPACITY EVENT STUDIO TRANSMITTER LINKS



outdoor unit



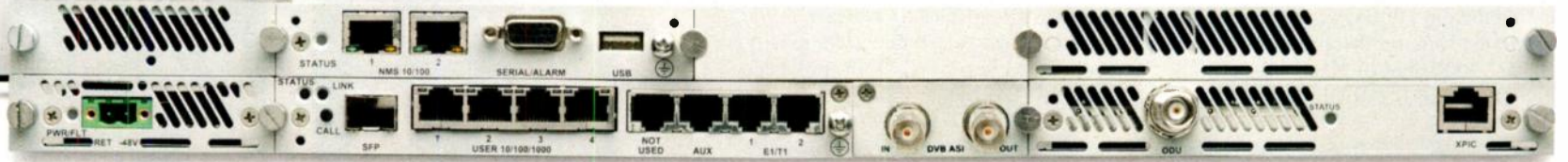
TAKE ADVANTAGE OF WIRELESS HIGH PAYLOAD STL/TSL CAPACITY

Moseley EVENT STL/TSL systems provide up to 155 Mbps combined IP, T1/E1 payloads. Multi-station clusters can convey multiple linear uncompressed audio pairs for a truly cost-effective STL/TSL link. Connect your existing T1/IP audio hardware directly into the EVENT system, or use Moseley Rincon for your audio payloads. An optional DVB-ASI module is available for full duplex video.

EVENT systems are fully bi-directional including a Software Defined Indoor Unit (SDIDU) and Outdoor Unit (ODU), eliminating the need for costly waveguide hardware. The ODU is available in the license free 5.8 GHz band, or licensed 11, 18, or 23 GHz bands. Appropriate external antennas are selected based on path length.



indoor unit



INTELLIGENT SYSTEM DESIGN

Spectrum-scalable digital radios with user-selectable data rates enable broadcasters to have greater flexibility in STL planning and future growth. The integrated T1/E1 and Ethernet interfaces allow for a combination of T1/E1 and IP packet data.



IP APPLIANCES AND APPLICATIONS

Offer IP transmitter control, surveillance security, and site monitoring to reduce downtime, and protect valuable station assets while saving travel time to the site.



REMOTE MIRRORRED SERVERS

From the transmitter site, offers backup of business records and programming content to get you back on the air quickly in the event of a studio outage.



EMAIL AND INTERNET ACCESS FROM THE TRANSMITTER SITE

Saves engineers time accessing manuals or technical support from manufacturers during maintenance sessions.



SIMPLE NETWORK MANAGEMENT PROTOCOL (SNMP)

Full SNMP package with GUI provides easy monitoring and configuration changes.

Contact The Moseley Sales Team to Custom Configure Your EVENT STL/TSL Today!

moseleysb.com

PHILLYCAM

(continued from page 18)

Graber agreed, noting the six years of planning. “That moment had been a long time coming, and it was truly amazing to celebrate that with all the people who collaborated on the project. I had seen moments like that on Prometheus Radio Project barn-raising videos, and they always gave me something to look forward to as we built our station.”

Post-countdown, live programming continued with a panel discussion, “Philly Radio Past, Present and Future” broadcast live over WPPM from the TV studio. Attendees were free to stick around for the talk, tour the radio studio or wander back into the station lobby for a slice of celebratory cake. Additionally activities included a Community Media Day special radio/TV simulcast and a nighttime launch party with live DJs and music performances.

PROGRAMMING

On launch day, the WPPM schedule was still growing, with Post-it notes spread across the radio studio wall, indicating the days of the week that specific programs were on the air, including the shows “50 Shades of Jazz,” “Teen Talk” and “Labor Justice Radio.”



Photos by Jennifer Weiss

PhillyCAM's Executive Director Gretjen Clausing welcomes attendees to the WPPM(LP) launch celebration.

has already increased with people joining to be involved in the radio station,” Clausing said. “I believe WPPM will expand the reach and awareness of our cable channels and provide our TV producers with a new platform to distribute their shows.”

There are existing PhillyCAM television shows that Clausing believes would work well over the radio. Additionally, “PhillyCAM Sessions,” a show produced in tandem with the Philadelphia Jazz



Derwood Selby, front, and DJ Affirmation on the turntables soon after the inaugural live broadcast.



DJ Kid Charlemagne spinning records.



WPPM Station Manager Vanessa Maria Graber addresses the crowd at the station's launch party.

Wassenaar said that only 60 public access facilities in the United States have LPFM licenses, making PhillyCAM part of a select group.

Graber explained, “We have 15 shows going live now, with about 35 more in development.” As far as the future, she hoped “to see around 50 locally produced programs by the spring, with a five-year goal of 100 shows.” PhillyCAM airs a mix of music, talk, sports, arts/cultural, youth and variety shows with a “free-form/community access model,” Graber said.

TV PARTNERSHIP

An interesting aspect of WPPM is its connection with a public access television station.

Wassenaar said that only 60 public access facilities in the United States have LPFM licenses, making PhillyCAM part of a select group.

For PhillyCAM members, the addition of a radio station has already proved beneficial. “Our membership

Project has already run over WPPM.

Graber views WPPM's relationship with a public access station as an inspiration for other community media groups. “I think PhillyCAM is setting a national model for how to successfully integrate LPFM into public access centers. I think centers like ours are the future of community media.”

The station also places a strong emphasis on having participation from the range of communities within Philadelphia. Graber praised PhillyCAM's “ability to attract such talented, dedicated members who create great content and volunteer their time to help out. It's truly reflective of Philly's diversity, and that's a great thing in a town where the mainstream media leaves excludes/misrepresents most of the population.”

With deep ties to both radio and activism, Graber couldn't be happier

to see PhillyCAM's new LPFM up and running. While in graduate school, she studied community radio, researching radical media and social movements.

“The stories of how radio was being used as a tool for social justice fascinated me,” Graber said. “However, after reading hundreds of articles and dozens of books, I tired of researching and being trapped in the library. I wanted to be like the people whom I was researching.” Taking a break from school, she got to work for a nonprofit and began to dream of a new community radio station in Philadelphia.

Similarly, Clausing had always believed in the power of radio. She got her radio start as an alternative music fan at college radio station WICB(FM) in Ithaca, N.Y., where she was a DJ and program director. Years later, she was exposed to community radio's potential.

“Being a media activist in the early

2000s in Philly, I was very aware of Prometheus Radio Project,” she said. “I have always been inspired by their policy work and their approach to community building through radio.

“When activists were coming up with our vision for what public access TV could look like in Philadelphia, we always imagined there would be a radio station. Up until the passage of the Local Community Radio Act, we never thought it would be possible for there to be [LPFM] stations in urban areas like Philadelphia, so this was an exciting development. As an organization, it was our intention to always support the creation of a LPFM station here.”

As Philadelphia radio personalities, government officials, PhillyCAM members and other interested radio fans mixed and mingled throughout Oct. 20, the collective dreams for a community radio station in Philadelphia were realized.

Graber said a highlight of the day was the closing dance party. “If you see the video of everyone dancing to Whitney Houston, you'll see why.”

AES

Berlin 2017

Maritim Hotel, Berlin, Germany

EXHIBITION: MAY 20 – 22, 2017

PROGRAM: MAY 20–23, 2017

WWW.AESEUROPE.COM

2017'S PREMIER PRO AUDIO GEAR EXHIBITIONS AND TECHNICAL SUMMITS

AES

NEW YORK 2017

JAVITS CENTER, NEW YORK, NY

EXHIBITION: OCT. 18 – 20, 2017

PROGRAM: OCT. 18–21, 2017

WWW.AESSHOW.COM

If It's About **AUDIO**, It's At **AES!**

www.aes.org

For exhibition and sponsorship opportunities contact Graham Kirk: graham.kirk@aes.org



#AESorg



Facebook.com/AESorg

DTS Promotes “Connected Radio” Project

L.A. mobility event highlights the hybrid radio efforts of tech company

DIGITALRADIO

BY PAUL KAMINSKI

The Los Angeles Auto Show in November had its share of product introductions and networking, but a related event immediately prior was the first AutoMobility LA, a mashup of the convention’s former Press & Trade Days with what used to be called Connected Car Expo, all aimed at people interested in the “new mobility.”

Of interest to radio broadcasters, DTS, parent company of HD Radio, presented information about Connected Radio, its hybrid radio project, to an audience of automotive journalists and industry analysts. DTS subsequently demonstrated Connected Radio in its booth at CES in January.

Jeff Jury, general manager for automotive and HD Radio for DTS, said the hybrid radio project is “the connection of over-the-air broadcast radio — analog, HD or, in other areas like Europe, DAB — with internet-delivered content.” The system includes NextRadio in North America and will incorporate RadioDNS capability for regions where that is used. The goal of hybrid radio systems, Jury said, is to offer more content to the user and provide, in his words, a more compelling overall radio experience.

“We believe the value of the system is that the majority of the content comes over the air,” said Jury. “We’re not talking about another way of doing streaming [audio]. This does not drain someone’s [smartphone] data plan, if you do it that way, and it takes advantage of the great ability of radio to deliver one-to-many content.”

In September, DTS Vice President of Technology Solutions Ray Sokola said in a Radio World interview that hybrid radio “expands the listening experience to take advantage of the best of the past, present and future capabilities that cellular connectivity, the inter-



How hybrid radio would appear in the center stack display of a future vehicle, as envisioned by DTS.



The 2018 Ford EcoSport crossover, equipped with the third generation of Ford’s SYNC infotainment system.

net, streaming and apps have added to the traditional radio experience.” He said implementations start with adding album art and easy purchase capability to a radio experience, but “it goes way beyond that and is only limited by our imagination.”

GLOBAL PRODUCT

DTS remains committed to rolling out HD Radio across North America, Jury told Radio World. “In addition, Connected Radio gives us a more global platform for car companies. It is not tied exclusively to HD Radio platforms, and we will be incorporating it with DAB radio systems where DAB is prevalent.

“When you talk to car companies, what they really want is a global product. Not everyone around the world has streaming available to them. If you are building a global product, it has to work in North America, South America,

Europe and Asia; radio is a common element of that.”

The system as envisioned by DTS would work with existing telematics platforms like the Toyota Entune and GM OnStar and be part of the choices a user would see when the platform opens.

Jury believes hybrid radio technology may hit the center stacks of cars within a couple of years.

“We are working with a number of the [car companies] today; they have versions of our software, and I don’t envision any problems with the software getting in there. The real question is how you build it out on a global basis.”

Jury also spoke about DTS’ effort to improve in-vehicle reception of radio.

“Sometimes people think we’re just looking at improving HD Radio; we spend a lot of time improving radio reception in the car by working with the car companies on antenna place-



The DTS display at Automobility LA.

ment, algorithms that can improve the reception; it’s something we take very seriously to make [listening] the best possible experience out there.” Those efforts have included convincing one unnamed manufacturer not to place an antenna in the vehicle bumper.

Ford’s 2018 EcoSport is a global product introduced to the American market at the LA Auto Show. Its chief program engineer, Eric Loeffler, says attention to antenna placement was important when integration decisions with the third generation of Ford’s SYNC infotainment system and the 675-watt, 10-speaker B+O Play sound system were being made. “We have a dual antenna system, where we have a mast on the back of the vehicle [like a shark fin] for reception, and we also have a redundant diversity antenna that’s basically in the backlight [rear window] of the vehicle.”

Jury believes manufacturers may be more inclined to include radio listening options as a primary menu choice as hybrid radio is developed and fielded. He says radio broadcasters should be asking how to preserve their position in the center stack and how to remain pre-eminent in the center of the vehicle.

“You don’t want a situation with the cars of today where you have to go down five or six menus to find radio; you want radio to be there as soon as you turn on the vehicle.”

NVLT Series nautel
3.5 kW – 40 kW Outstanding Efficiency at Exceptional Value
Analog FM
nautel.com/NVlt

And the Laughs Just Keep on Coming!

His advice: Don't just wing it



PROGRAMMING

BY GARY BEGIN

Morning radio. It's a critical component in the success of any radio station. The mission is to recruit new listeners, while encouraging the existing audience to stick around throughout the show and the rest of the day. You need to be local, entertaining, informative, interactive and topical. It's a tough job and, at times, can test the very limits of your creativity.

So how can you ensure that you have the edge in your market?

In a word: prep.

It's amazing to me how many shows simply hope to wing it and achieve suc-



istockphoto/s_derevianko

cess. There are people who have the natural ability to host a show with nothing more than their wit and personality. But those individuals are rare. The rest of us need to seek out content constantly and find new ways to present it to our audience.

In my opinion, a morning show needs to be fun. It doesn't necessarily need to be *funny* — but it definitely needs to be *fun*.

Over the years, I have encountered many announcers who try very hard to be funny. But humor is subjective. The best way to encourage more comedy is to look at the "morning show" versus

the "morning man." If the morning show sounds fun — it is almost guaranteed to garner a few more laughs, as well.

One way to increase the amount of laughs your show produces is by identifying your comedy target. To do so, your need to include these factors:

1. **Visibility.** Choose something or someone that your demographic is completely familiar with.
2. **Merit.** Your subject needs to be something that your audience wants or expects to be made fun of. You need to do the research to know what topics or people your listeners have an emotional attachment to and which ones are off limits.
3. **Be Fresh.** Find the topics that are new and fresh to your audience. Don't hit them with the same old stuff you hear on any other station. Know your angle and know when a topic has lost its luster. Everything has a shelf life.
4. **Be Local.** Local content is everywhere. Anything can be turned into something if you give it room to breathe and time to develop. Read the newspapers. Watch your local TV station. Observe what's happening around you. Know the major players in town and what

they're up to. It's one thing to talk about what's happening in Hollywood; it's a completely different to talk about the mayor, the local weatherman, the guy who's playing a sax downtown, etc. Local wins every time.

5. **The Bit.** Once you've found your target, what's next? Whether it is a fake commercial, a parody song or a phone call or interview that's been staged with a listener or guest, the key is to do something that is rarely heard or has never been done in your market. If you believe in the idea, give it the time it deserves.
6. **Real.** One thing you want to make sure you do at all times is to be authentic. If you are truly having fun and showcasing your personality, the laughs will naturally come. Laughter is contagious.

A key to ratings success is to create water-cooler talk in your market. By touching on the things that your community is already making fun of, you'll have an easier time including them in the joke and ultimately increasing the laughs (and listeners) your show gets.

Gary Begin is the founder and president of Sound Advantage Media, a radio programming consulting firm. He has more than 30 years of radio programming experience.

ADAPT! with StudioHub+

Your new console or IP router now comes with native StudioHub+ connectivity — making it easy to use the full range of StudioHub+ products.

Use **ADAPTERS** and powered peripherals like **MATCHJACK** format converters and **HEADPHONE** amps to connect seamlessly with CAT-5 pre-made **PATCH CABLES**. Plug-and-play all your analog or digital gear to every piece of studio and rack-room gear.

StudioHub+[®]

Radio Systems, Inc.
601 Heron Drive
Logan Township, NJ 08085
(856) 467-8000 phone
(856) 467-3044 fax
www.studiohub.com

StudioHub+ is now INSIDE these great products.

ARRAKIS

AUDIOARTS

LogiTEK

Wheatsone

red:io

ARRAKIS

AUDIOARTS

LogiTEK

Wheatsone

red:io

Amplifying Is Not Just About Sound

Know the latest advertising lingo to maximize your sales

Have you heard the term “amplify” used in conjunction with social media? With the death of organic reach on Facebook, this term has become the “go-to” euphemism for making an advertising buy to ensure a message is delivered to a significant audience size.

The idea is that when you “post” a message — whether it’s text, image, video or animation — the entity would invest in “amplifying” that message by paying Facebook or any other media company to reach hundreds, thousands or millions of people.

Are you educating your advertising staff about the latest language on the street and at the agencies?

This should seem familiar. Since 1922, radio has been “amplifying” messaging, both organically and through advertising buys.

Are you educating your advertising staff about the latest language on the street and at the agencies? Do you know the social media ad units being sold and how this relates to radio? When you don’t, you run the risk of being out of

Marketing Snapchat
Websites Twitter
Tools
Radio
Pinterest Partnerships
Instagram Television
Advertising WhatsApp Amplify Facebook
Email

touch and unprepared either to compete or to play in the field where the everyday advertiser is now spending their time, energy and money.

Our advertising staffs must speak the language of young media buyers and increasingly be able to show not only radio’s relevance, but radio’s ability to complement social ads to drive retail results.

SYNERGY

Initially, some of this synergy may occur because you notice new local canvas storytelling ads running on Facebook.

As an example, a local furniture dealer may run a canvas ad showing off

new bedroom suites. Maybe your station could play a role in this story by having your nighttime DJ broadcast from — and then sleep in — that very bedroom suite being displayed via a canvas advertisement. If you got involved enough, maybe your DJ can actually be the one in the canvas ad, telling the story and selling the product. This makes sense because radio stations have something Facebook doesn’t have: local celebrities.

After you show how radio can be utilized to amplify pre-existing social media advertising, you can begin designing and suggesting these campaigns from scratch.

Another entry point for advertisers could have your station amplifying a

PROMO
POWER



Mark Lapidus

client’s social media messaging organically — in other words, for free — as a “bonus.”

Let’s say one your account reps notices that a night club you do business with is running Facebook ads about an upcoming event, and you don’t have a buy for it. Don’t get mad about being left out of this plan. A kinder, more proactive approach would be to have one of your own talent mention that she saw the event on Facebook and plans on attending. Record the break and send it to the client with a note expressing how next time, you’d like to help amplify this message via radio along with their social media advertising.

Are you aware of “dark posting”? Google’s definition: “This is a status update, link share, video or post that was never meant to be shared as an organic post.” It happens when a client doesn’t want a post to show up in their own organic feed so the world can see it, but it does appear anyway in other users’ feeds — for a fee, of course. The only way to see these ads is to be active on Facebook.

You should be aware of this technique because you can’t always determine what a potential client is doing with social media advertising just by looking at their pages. You and your staff must be active online to get a real measure of what’s going on your market.

HERESY?

Before you accuse me of heresy in saying radio can be a terrific medium for amplifying social media, just remember that it wasn’t long ago that TV was perceived as a threat to radio’s livelihood.

At one station where I worked years ago, the owner actually called me while I was doing the morning show to yell at me for talking about a popular show on television. Boy, was he livid! I asked him why he was so mad, and he explained to me — in a tone that indicated that I was an idiot for not knowing — that local TV competes with local radio for advertising dollars.

I had a long meeting with him after the show to tell him that if I couldn’t talk about what’s on TV, I would have a tough time being relevant. He was a stubborn person, yet introspective enough to call me in the next day and tell me that, well yes, it was okay to talk about TV on radio because he figured the pie was big enough for all of us.

He then asked me if I could dream up a way we could work together in driving results for clients.

PRODUCTS & SERVICES SHOWCASE

Reach Radio Professionals!

For more information, including rates & deadlines, call Michele at 212-378-0400 x523.

Advertise today!



The New Mod on the Block

Can "lite" version of Belar's FMHD-1 mod monitor match up to its big brother?

PRODUCT EVALUATION

BY TODD DIXON

One of things that I find to be true about the radio industry is the adage that "the more things change, the more they stay the same." This certainly can be said about Belar Electronics Laboratory FMHD-1L (for "lite"), one of its newest FM/HD modulation monitors. This model continues to forge the excellence, quality and accuracy that you have come to expect from Belar, the company that cut its teeth on FM modulation monitoring.

LITE

While I focus here on the FMHD-1L, we must compare it to the "non-lite" FMHD-1 in order to understand fully what the lite version does offer.

The full-blown FMHD-1 is a 2RU modulation monitor with an LCD screen and jog dial selector on the front. The rear has eight analog outputs and three digital outputs, all assignable, along with digital and analog composite outputs. The FMHD-1L has a classic black panel with both Belar and HD Radio logos emblazoned on the front, but doesn't share any of the audio outputs on the rear.

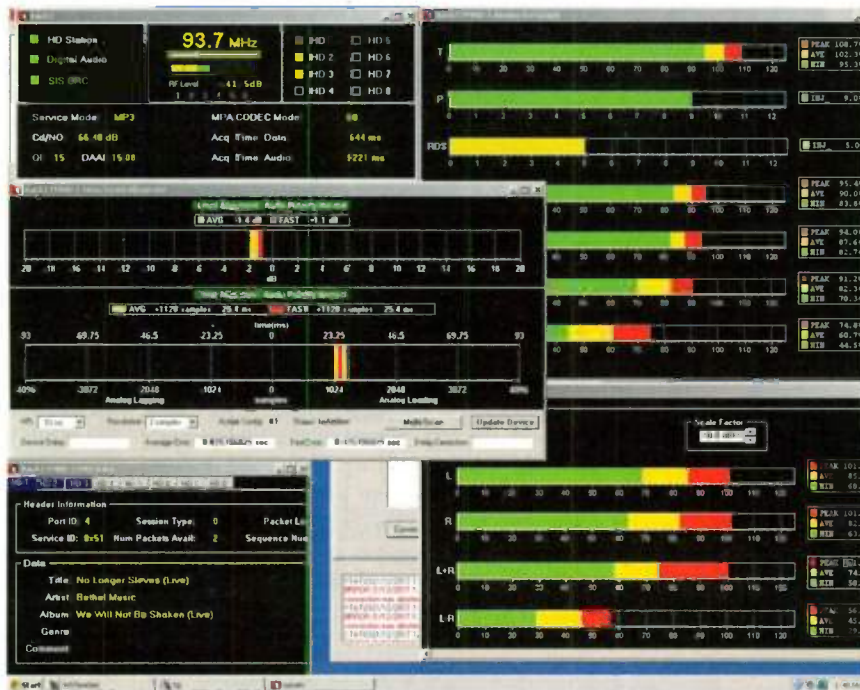
Similarities between the FMHD-1 and the lite version show up in the rest of the connections on the back of each piece — namely, RS-232 and Ethernet for computer communication with the equipment, four assignable relays for alarm conditions, an F Type antenna connection and two high-level BNC RF inputs grace the back of the unit.

While information from the FMHD-1 can be accessed from its 640 x 240 resolution front-panel LCD, both the full and lite models are accessible with Belar's Wizard for Windows software, AKA WizWin. Without an LCD panel in front, the lite requires the software to generate its monitoring results. While I may have missed all of the outputs the FMHD-1 offers in a longer trial of the equipment, the ability to have multiple windows of graphical data on my computer screen from the software quelled the need for the LCD panel.

As one might expect, trimming down the feature set trims down the price as well. The retail price for the FMHD-1L

comes in at \$4,575. The full-featured FMHD-1 is nearly double that price at \$7,200. Each model can also accept additional decoder cards (the full can accept up to three, the lite can accept one extra) at a cost of \$650 each. On

is not complicated. Placing the unit in the rack, applying power, adding an RG-6 from an antenna (or BNC from a transmitter depending on the installation location) and plugging in an Ethernet cable go a long way toward being done. After that small amount of physical work, there are some well-detailed instructions about how to change the IP address of the unit so that



This is a sampling of the many screens available with the Wizard for Windows software used by the FMHD-1L.

the full model, an expansion board is required if more than one additional decoder card is purchased. According to a published price list on Belar's website, their automatic delay correction software (a \$749 value) is included for free for a limited time.

Setup for the system, unsurprisingly,

it meshes with your network. Last, once the WizWin software is downloaded, installed and configured, you are ready to start monitoring the modulation of any analog or HD station on the dial. I was at my laptop and ready to go about 20 minutes after the unboxing.

As a side note, due to an unrelated

PRODUCT CAPSULE

BELAR ELECTRONICS LABORATORY
FMHD-1L Modulation Monitor

Thumbs Up

- + Network capability gives on-site and off-site information from any computer
- + HD/analog diversity correction software can scan six station presets and correct delays
- + Well-documented, painless setup

Thumbs Down

- Data entry in several setting menus is tedious

Price: \$4,575

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

problem I had with my laptop in the middle of my review of the unit, I was forced to test the software on several operating systems. I tested it on both Windows XP and Windows 7, and it performed well on each platform. Although I didn't test it on Windows 10, my experience with it so far tells me that it will run on Microsoft's newest offering equally well. It also ran well in my primary operating system, Fedora Linux, using the WINE package. In any case, you shouldn't have any issues finding a machine that can use the software and interface with the FMHD-1L.

When it comes to what information the FMHD-1L can provide you about your FM and HD Radio signals, along with others in your market, it becomes obvious that you spent your money well. When you connect to the monitor from within the software, you are greeted

(continued on page 26)

TORPEY TIME
Torpey Time Clock Displays



CLK-20A
Rack Mount -2.25" Display



CLK-40C
Wall Mount(low profile) -4.0" Display



CLK-10
Desk Mount -0.8" Display



CLK-19
Shelf Mount -1" Display



CLK-20C
Wall Mount(low profile) -2.25" Display



CLK-20B
Wall Mount(sloped) -2.25" Display



CLK-16
Desk Mount -.56" Display



CLK-102
Wall Mount -1" Display



CLK-111
Rack Mount -0.8" Display

www.ram68.com



Rebuilt Power Tubes 1/2 the cost of New!

Se Habla Español

ECONCO

Se Habla Español

Tel: 800-532-6626 Web: www.econco.com
Intl +1-530-662-7553 Fax: +1-530-666-7760



TEST EQUIPMENT

MULTI-STATION CONTROL
for your Sage-Endec or DASDEC

with our **Multi-Station Relay Adapter**

- Control up to 3 additional stations for a total of 4
- 100% Compatible with both the original Sage SE18/2, the new Digital 3644 and now the Digital Alert Systems DASDEC™ when used in the analog audio mode
- Both rack mount (MSRA-RM) and table top (MSRA) units available
- Master & individual station recessed front panel multi-turn EAS audio gain controls
- Individual left and right channel EAS activity LED indicators for each additional station
- Test button for easy setup
- Screw type plugable Eurostyle connectors for positive and secure connections
- Fail Safe gold clad relay contacts in case of a power failure - 2 relays for each station
- MSRA-RM only \$595, MSRA only \$329.00

Also, our Multi-Station Relay Expander with relay contact output only for controlling digital switches and routers

All of the same features above excluding the audio features and only 1U high (MSRE-RM)
2 gold clad form "C" relay outputs for each station
MSRE-RM only \$329.00, MSRE only \$289.00

For details on these and other innovative products for the broadcaster, call or visit us on the web at www.cmengineering.com

DM 2138 Chandler St. Camarillo, CA 93010
805-967-7881 805-245-0487

SPACE IS AVAILABLE!

To advertise, call
212-378-0400
ext. 523

TRANSMITTERS/EXCITERS/TRANSLATORS

TRANSCOM CORPORATION

Serving the Broadcast Industry Since 1978
Transmitters and Broadcast Equipment for Radio & Television

Used FM Transmitters

55 W	2000	Harris DIGIT CD
3.5 KW	2000	Harris Z3.5CD, solid-state
3.5 KW	2006	Harris Z3.5CD, solid-state
1.3/3.5 KW	2006	Harris Z6HD- Tri-Mode HD
5 KW	1995	Harris HT5 w/DIGIT
5 KW	1992	BE FM5B
10 KW	2002	Harris Z10CD, solid-state
20 KW	2002	Harris Z20CD, 2x Z10 Combined
21.5 KW	1990	Continental 816R2B, SS IPA
25 KW	1982	Harris FM25K with DIGIT
35 KW	1991	BE FM35B

Used AM Transmitters

5 KW	2003	BE AM5E
2.5 & 1KW	2000	BE AM2.5E & AM1A
10 KW	1988	Nautel ND10, solid-state
10 kW	2001	Nautel XL12, solid-state

Exciters & Miscellaneous Equipment

Exciters->DIGIT, CE802B, BE FX50
Bird Model 8932, 10 kW air-cooled RF Load
Harris N + 1 Controller

Used TV Transmitters DTV & ATV
** FLO TV Transmitters**
** Rohde & Schwarz** Harris Maxiva

800 441 8454 • 215 938-7304 • FAX: +1-215-938-7361
www.fmamtv.com • E-mail: transcom@fmamtv.com
RETUNING & TESTING AVAILABLE • CALL US FOR A QUOTE!

Please visit our website,
www.fmamtv.com, for additional listings.



HARRIS nautel
CROWN BROADCAST

New TV Transmitters- DTV & ATV
OMB, Rohde & Schwarz and
Technalogix

1KW Special w/4 channel encoder
VHF and UHF TV Antennas
(10 W to 10 KW) TV STL

AM Ground Systems Co

Are your AM antennas damaged?
Do your AM ground systems need 30
years old
Are your ground systems being
damaged or shorted out?

amgroundsystems.com
866-22RADIO

Run your
employment ad
on our website
for only
\$2 per word!

www.radioworld.com

Call Michele
for all the details at
212-378-0400
ext. 523
minderrieden@nbmedia.com

TUBES



ISO 9001 Certified
The Choice of Successful
Broadcasters Since 1934

NEW POWER TUBES

Triodes
Tetrodes
Pentodes

NEW SOCKETS &
REPLACEMENT PARTS

Worldwide Availability

Made in U.S.A.

CALL (800) 414-8823
Int'l (650) 846-2800
Fax (650) 846-3795

Visit our Web Site at
www.cpii.com/eimac



EMPLOYMENT

POSITIONS WANTED

Are you a small market station needing a good nuts & bolts engineer in the Los Angeles area? I will make your station shine! CET, fully FCC Licensed. Available for Full/Part-time/Contract work. Available immediately. Mitchell Rakoff, 909-446-6820, mitchellrakoff@yahoo.com.

Experienced radio station manager seeks new management opportunity. More than 39 years experience in radio. Willing to relocate. Family-friendly format(s) preferred. Send details about your management opening to: radiogm@hotmail.com.

Dependable, reliable, trustworthy person good at on-air, production, promotions. Very energetic, always in a good mood, and ready for challenges. Mark, 585-307-9037 or mark4386m1@yahoo.com.

Extremely knowledgeable and articulate racing writer/talk show host Adam Amick is available for shows, correspondent, features, etc. Check out www.bleacherreport.com for samples. Call 214-384-5812 or email: adam@rubbinsracingshow.com.

Energetic personality, ready for a challenge! Four years internet radio experience/programming, think outside-the-box. Creative, production, News/Commercial copywriting, excellent communication skills. Serene, 214-772-0935 or soosereene@gmail.com.

Every Great Radio Station needs a motivated and versatile team-player: On-air, production, VO, creative writing, promotions and social media talent. Contact Marvin Hopkins, 586-718-5066 or mtothehop@gmail.com.

Friendly and outgoing persona, dependable. Good on-air, voice, digital, and boards. Extremely creative copy/writing skills. Katie Marie Hayden-Summerton, 720-697-9792 or haydenkatiemarie@gmail.com.

Mission Driven and very tech savvy. Major stepper-upper and make-it-happen kind of guy! Strong Voice/On-air, Production, Digital, copy/prep, and IT abilities. George (910) 703-9676; gmason1960@hotmail.com

Outgoing broadcaster. Enthusiastic, with positive attitude. Self-motivated, with excellent people skills. Versatile, and fast learner. Tight boards, Cool Edit/Adobe literate. Eric, 601-966-9332 or horneric68@gmail.com.

Self-motivated, passionate, experienced Mobile DJ/Promotions. Technical background, Hip smooth voice, tight boards, and copywriting. Dependable, energetic, outgo-

ing personality. Jayshawn, 804-475-7500 or pearsonjayshawn94@gmail.com.

Silver Tongued Devil! Entertainer, big personality, strong production skills/copywriting. Dedicated Can Do Attitude, and most of all making people happy. Steven, 918-729-2175 or abssteven1006@yahoo.com.

Talented news/commercial writer, with production and on-air skills. Hard working and dedicated with great Board-op/Producer experience, accustomed to Dallas syndicated environment. Mecca, 214-517-3458 or meccacampbell@yahoo.com.

Creative outgoing, lovable person. Can walk in a room and attract people instantly. Very unique personality and abundant energy. Laquinta, 469-630-9602 or q_shay2000@yahoo.com.

KBUU(LP), Malibu's Local Station

This southern California LPFM broadcasts from a bedroom in the author's house

FIRSTPERSON

BY HANS LAETZ

KBUU is a community-based LPFM in Malibu, Calif., streaming at www.kbu.fm and radiomalibu.net. We have 55 Watts ERP on 97.5 MHz from 955 feet over some of the best beaches in the United States, and have been on the air 23 months now.

We put it on the air because Malibu is in a very strange radio location. We are a bedroom community of Los Angeles, but mountains block L.A. FM signals from the 12,000 residents living along 30 miles of scenic Pacific Coast Highway, a major commuter route. We get San Diego and Tijuana FM stations. It's always good to know that the northbound border wait at San Ysidro is "dos horas."

Instead of airing NPR programming, we sound like a modern rock station with a heavy local news commitment.

In most of Malibu, L.A. market NPR stations KCRW and KPCC are blocked by mountains. Most people who listen to NPR here listen to KPBS, 140 miles over the ocean from San Diego, which is not always a listenable signal.

On my car radio, I have six pushbuttons set to NPR stations in Thousand Oaks, Riverside, San Diego, Santa Barbara, Santa Barbara and Pasadena. If I am listening to a really good story on "All Things Considered," I know where to switch between the six stations to follow the story. And I know where no signal is available: at the population center of this 27-mile-long community.

I am a retired TV news operations manager — 10 years in radio and TV news in Arizona, then 25 years in network and local TV news in Los Angeles.

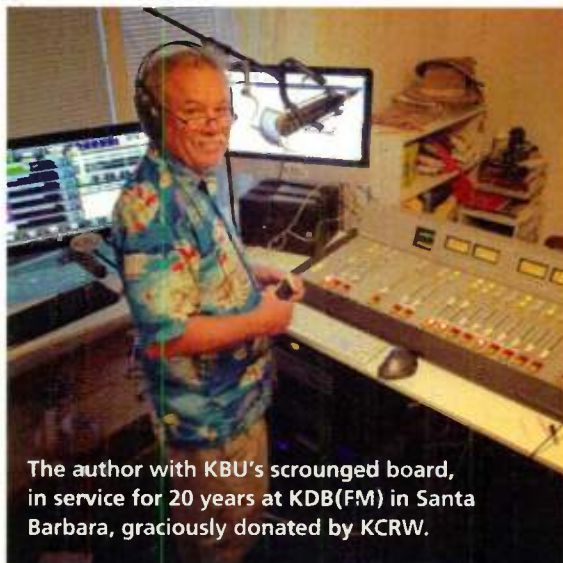
THE PUBLIC RADIO PLAN

So I applied for an LPFM license with the naive idea of putting an NPR station on the air in Malibu.

Malibu is the only municipality in southern California with no usable NPR signal in most of the city. I thought, NPR has tiny affiliates all over Alaska that run the network with volunteer staffs. We could run NPR all day.

We got a CP. But no NPR.

NPR originally was cooperative, then one of the nearby NPR member stations found out and raised objections to NPR programming on a radio station in southern California — its turf. (This was brought up



The author with KBU's scrounged board, in service for 20 years at KDB(FM) in Santa Barbara, graciously donated by KCRW.

even though that station's air signal does not cover one inch of Malibu and has made no moves to put a booster or translator here in 60 years of operation.)

After 12 months of hemming and hawing, NPR finally came up with an answer: No NPR member station status, unless KBUU has five full-time employees.

We have 55 Watts; we cover half of Malibu; our annual budget is \$10,000; and we have zero paid employees. Given that financial impossibility, NPR said we could instead purchase its programming — but only for broadcast use, not for internet transmission. The huge expense, and the limited use, is an effective "no."

ALTERNATIVE PROGRAMMING

So we went on the air in February 2015 with no NPR content. We carry top-of-the-hour network news ("The California Report") mornings from KQED in San Francisco. We run "Democracy Now!" from Pacifica evenings at 5. And we run 10 minutes of locally produced, locally written news eight times each weekday. The newscasts are updated all morning, the scripts are posted on the web in several places.

We have gone "all news" four or five times, for major brushfires or traffic crashes that close Pacific Coast Highway and cut the city in half. When PCH was closed at 2 a.m. for a lengthy fatal traffic crash investigation, we took the overnight music format down and ran a three-minute report ... over and over again ... until our regular news coverage began at 6 a.m.

Frankly, I think NPR needed us more than the other way around. We intended to program music during non-drive, and NPR does not appeal to most of the population. NPR shows are long-form, and our audience listens only for minutes at a time.

Instead of airing NPR programming, we sound like a modern rock station with a heavy local news commitment. We monitor the same music industry journals that the big stations do, and add new AAA music as it drops.

One of our liners is: "With more rock than K-R-O-Q, and more Alt than Alt 98.7, we are LA's alternative alt music. 97 point 5 K-B-U."

We play AAA music until 5 p.m. weekdays, a tropical jazz show 6-7 p.m., and then community programmers take over for the evening hours. Sundays

and Mondays are superb jazz/blues/Latin jazz shows. Saturday nights are '60s-'70s rock, which has fans around the world and up and down the beach. We have electronic rock late at night, Americana other nights. High school kids get one night. Local musicians and funk another night.

We carry the L.A. Philharmonic concerts produced by KUSC in Los Angeles Sunday mornings — glorious. We carry "American Parlor Songbook," a great comedy show from KVCR/San Bernardino. We carry "Le Show" Sunday afternoons.

THE LOGISTICS

The studio is located in a bedroom at my house. I think we are the only FCC-licensed house with an LPFM. The license hangs at the front door, per FCC regulation. We have a 25-year-old board from Pacific Research and Electronics that KCRW inherited when it bought KDB in Santa Barbara, and gave to us. (Thanks!)

The program hosts do not come here. They file their music tracks and voice tracks to our secure server via VPN. The ENCO automation machine goes to the server and loads the shows, then plays them back at the proper time. All the backup storage is offsite.

We have 5,500 songs in the library, and use the ENCO music management component Ensemble to program them. They are categorized in 48 music categories, 168 hours a week, each different. New music plays times an hour during the daytime rock hours, it is pre-announced with a zinger and a staff announcer (my sweet wife) front selling "New music now on 97.5 KBU ... [artist name/song title]."

If I like the song, or if the song starts getting played

(continued on page 30)

The golden California sun on the station's 55-Watt 2-bay antenna.



KBUU

(continued from page 29)

on the stations where I watch music adds (KROQ, KFOG, XETRA, WXRT, KCRW, KXRN), then after two weeks I rotate it to a power hits, acoustic hits or just plain hit category, and pull the new music zinger off it. After a month there, it rotates to a recurrent power/acoustic/rock hit rotation. Sometimes we platoon hits out for a rest. We also sprinkle in AAA hits, '70s FM hits, '60s top 40 and other "alt" music going back to Louis Prima. If a new song is not a hit, I may keep it or may spike it.

We are breaking many artists. Local musicians go to the head of the line. That's easy in Malibu, from local garage bands to Tom Petty or Bob Dylan. But garage bands and local singer/songwriters get played here, too.

Technically, we are an amazing station. The FCC has ridiculous second channel requirements. We are pointing out to sea and away from the Malibu civic center with our piddly 55 watts on directional antennae. Our monster signal on 97.5 needs to "protect" east Los Angeles station KLAX(FM) on 97.9 from interference at precisely one house (at the transmitter — our landlord and member of our board) ... even though the mountains completely block all reception of 33,000 watt ERP KLAX at any spot in our 36-square-mile coverage area.

There is no internet at the tower site, which I built — it's a 38-foot wooden pole and a traffic signal switchbox. We bounce an internet local network up there on a three-hop path that zigzags across Zuma Beach from my house to a friend's house, to a pizza parlor, to the mountain.

Our STL is a trio of unlicensed 5.8 GHz radio hops from Ubiquity — OK, they are Wi-Fi. They run on car batteries and trickle chargers, with four days of backup power. We have 99.8 percent reliability — once in a while, a bush suddenly gets in the way, or a school we shoot over fires up new Wi-Fi gear, and we have to tune the radios.

Total STL cost, three legs: \$600. We are building a second Wi-Fi path to the mountain for backup. The fourth leg will cost \$200.

THE BACKUP PLANS

We've had good luck, but only can afford one of every key component. If ENCO goes down for maintenance (rare — it's a workhorse), we go to iTunes on a production computer. If the STL goes down, a thumbdrive at the mountain takes over, and we go all-Beatles. That happened in our first week, but not since.

This past fall, the repeated power surges and dips from Southern California Edison took their toll on the otherwise-reliable BW Broadcast TX300 V2 transmitter. It sputtered and went off thrice; we turned it off, called BW Broadcast in London on the toll-free line, and got an engineer out of bed. His diagnosis: not good, ship it back.

Our web feed continued, and we called the dealer, SCMS, to ask if they had a rental or could sell me a spare FM



KBUU's scrounged traffic light box. (The station bought it off a loading dock from a California city that had gone bankrupt and had not taken delivery, Laetz says.)

low-power unit fast and cheap. Here's where it got very strange.

SCMS immediately offered a free loaner, with me required to pay only for freight. Given the large number of AM stations buying FM translators, plus 2,000-plus LPFMs buying gear, the supply pipeline is dry.

Bob Cauthen at SCMS scrounged up a decent but older Gates 50 watt exciter, put it on a test bench, had it calibrated and tested, and it arrived with the same FedEx truck that picked up the ailing BW.

He and I had forgotten in the rush that the exciter does not have the processor and stereo generator that the BW conveniently contains. We could go naked and mono, but that meant creating a baseband

feed to get audio into the machine at the mountain. My wiz engineer Jim Toten was shading video on dozens of cameras at Bonnaroo in Tennessee, and I had a screwdriver and some coax connectors, if that would help? (No.)

Bob started calling his clients from Los Angeles to Santa Barbara to try to find a processor I could borrow. (Friday afternoon is not a good time to find those guys). He finally grabbed a very cool processor and at his expense (!) shipped it overnight for Saturday delivery.

I plugged everything in, turned it on. Nothing. Aha! — there is a digital connection, just add XLR cable from processor to transmitter, and we were back in operation at 50 watts. (We are shopping for power filters and UPS to even out the third-world electric service we get from SC Edison.)

Mind you, we'd purchased the antenna and transmitter from SCMS 18 months ago, and nothing else since. But we were treated like their best corporate customer, like Cumulus or CBS, instead of an LPFM with \$1,400 in the bank. Other equipment companies have been great, too. BSW offered help, and they have been reliable and helpful. But SCMS takes the cake.

So that's our story.

We've got a development director now and plan to start selling underwriting announcements. Malibu reaction has been great.

This summer, I was paid the ultimate compliment. I walked in the Zuma Beach lifeguard tower headquarters on a business visit. A boombox in the corner played an unfamiliar song, then my voice doing a liner: "On the air, on the web, on the beach. We're 97.5 KBUU."

"Oh yeah," says the lifeguard. "We always listen to Radio Malibu. It's dope to have a local radio station."

ADVERTISER INDEX

PAGE	ADVERTISER	WEBSITE/URL
21	AES	www.aes.org
7	Comrex Corporation	www.comrex.com
1	ENCO	www.enco.com
5	Henry Engineering	www.henryeng.com
13	Inovonics Inc	www.inovonicsbroadcast.com
19	Moseley Associates	www.moseleysb.com
4, 12, 22	Nautel Ltd.	www.nautel.com
11	Omnia - The Telos Alliance	www.telosalliance.com/omnia
23	Radio Systems Inc	www.radiosystems.com
25	Ram Broadcast Systems	www.ramsyscom.com
15	Telos - The Telos Alliance	www.telosalliance.com/telos
9	Tieline Technology	www.tieline.com
2, 16-17, 32	Wheatstone Corporation	www.wheatstone.com

READER'S FORUM

RIDICULOUS PROTECTION

Regarding the letter "Revamp Nighttime Rules," RW Nov. 23:

I want my semi-local AM stations made available 24/7 in Brooklyn and Manhattan. During the day, I get 1410 WHTG(AM) with noise, but at sundown it's "bye bye"; 1410 then becomes useless noise with no station coming through. WHTG should be allowed to boost up to at least 1 kW and stay non-directional 24/7. Another station at my location, 1250 WMTR(AM), at sundown has to switch to a dumb-down pattern that trims the lobe that would hit Brooklyn and Manhattan better.

Again, it wouldn't hurt to let WMTR boost daytime power and go nondirectional 24/7. Both of these stations are coming out of New Jersey and serve us with music programming that is no longer available on AM and FM stations licensed in New York City.

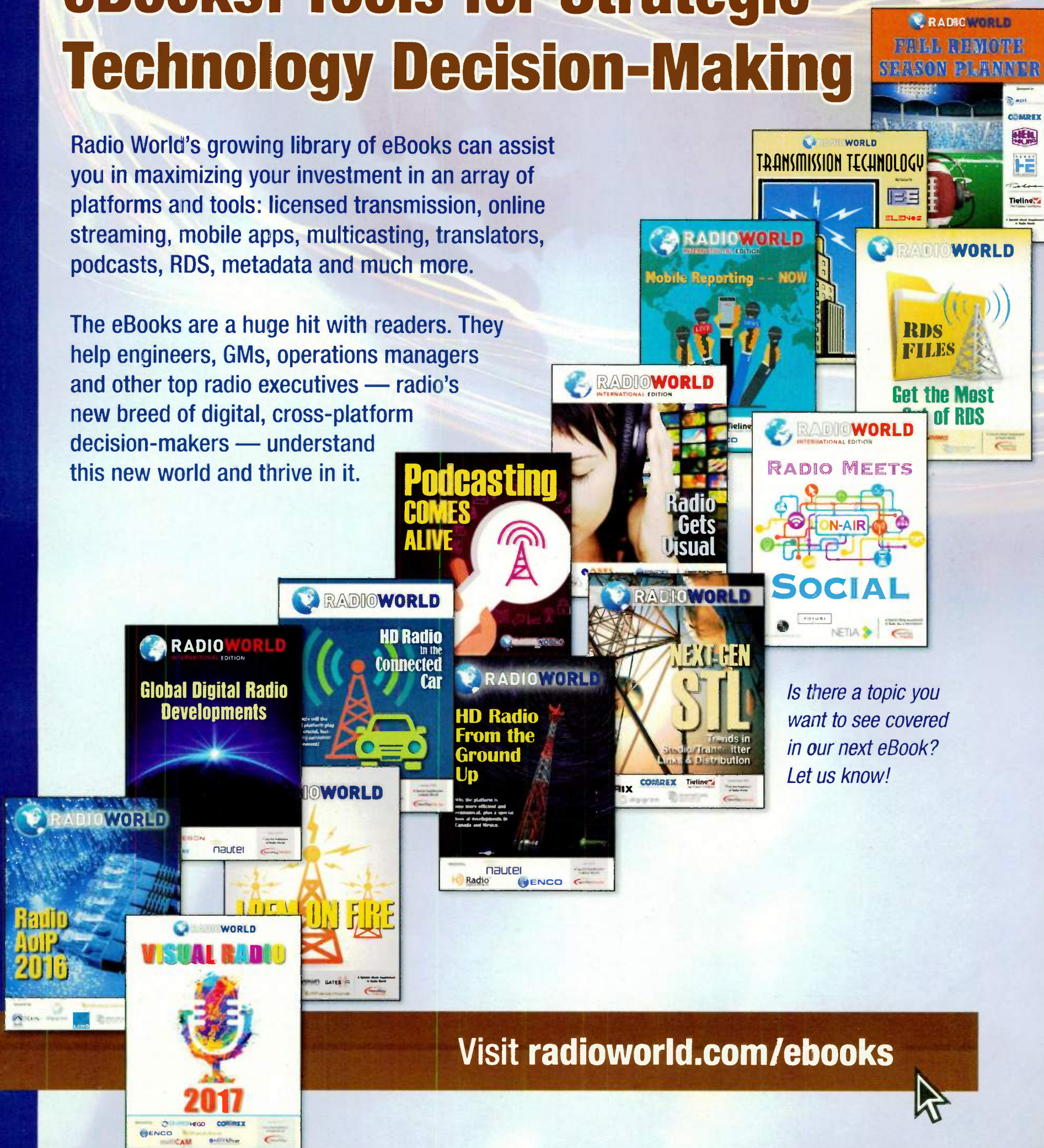
The protection of stations from hundreds of miles away — forcing the less-powerful, more-local stations to become unintelligible when the sun goes down — is ridiculous and annoying.

Ernie J. Nardi
MSG Media
New York

eBooks: Tools for Strategic Technology Decision-Making

Radio World's growing library of eBooks can assist you in maximizing your investment in an array of platforms and tools: licensed transmission, online streaming, mobile apps, multicasting, translators, podcasts, RDS, metadata and much more.

The eBooks are a huge hit with readers. They help engineers, GMs, operations managers and other top radio executives — radio's new breed of digital, cross-platform decision-makers — understand this new world and thrive in it.



Is there a topic you want to see covered in our next eBook? Let us know!

Visit radioworld.com/ebooks





Make Them Sound Great

Push your talent's voice beyond the limits and dominate the airwaves

Wheatstone Voice/Mic processors give you everything you need to make voices grab listeners by the ears.

For our SQ (Super Quiet) mic pres, we emulated and hot-rodded legendary studio preamps to sound incredible for modern radio.

Our compressors, limiters, & EQs are maximized for vocal smoothness, allowing your talent to stand out on-the-air.

Wheatstone's Graphical User Interfaces give you deep, intuitive control to tweak our world-class presets and save those you create.

The result? Voices that can sound superhuman.

Wheatstone M-Series Voice/Mic Processors

M-1: single channel with knobs and buttons • M-2: dual channel with multiband compression • M4-IP USB: four-channel networkable BLADE-3

Learn more at wheatstone.com/superhuman-voices

Wheatstone
BROADCAST AUDIO PERFECTIONISTS®

Designed and built in the USA. Phone +1-252-638-7000 | wheatstone.com | sales@wheatstone.com

World Radio History