

# RADIO WORLD

Your guide to radio technology

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FUTURE



**Radio targets  
Android  
Automotive**

A broadcaster initiative seeks to make sure radio is appropriately represented

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# Radio targets Android Automotive

## Initiative seeks best digital and analog radio experience possible

**Writer**  
Randy J. Stine

# N

AB PILOT, Xperi AutoStage and several U.S. and international radio broadcast organizations are taking steps to make

sure radio is appropriately represented as automobile OEMs expand their use of Android Automotive.

The context: Big tech companies have been collaborating with carmakers in developing media environments of the future; those decisions will carry crucial implications for broadcast radio.

Broadcasters worry that some of the adaptations may not be in their best interests, especially since companies like Google and Apple seem well positioned to help choose software interfaces that will end up in the dash. Fast-developing innovation is adding urgency to those developments.

## Radio in the conversation

Google's Android Automotive OS is an Android-based infotainment system that is being built into some new vehicles and is gaining adoption momentum among car manufacturers.

The media system, which replaces the standard radio in the dash of most vehicles, is a standalone Android device with user apps installed directly to the car's system — no smartphone required. ("Android Automotive" is distinct from "Android Auto," where the system runs on the user's phone.)

General Motors, Ford, Audi and Stellantis have announced plans to integrate the Android Automotive platform to power their infotainment systems in new cars. ABI Research said it expects 36 million vehicles will ship with Android Automotive in 2030.

It is against that background that NAB, Xperi and broadcasters like iHeartMedia and the BBC are working together.

A key aim is to coordinate the industry's presentation of metadata for content and advertising.

John Clark, executive director of NAB PILOT, said the goal of the Android Automotive initiative is to make sure broadcast radio is properly supported in the open source

## THIS ISSUE

### NEWS & FEATURES

**3** Radio targets Android Automotive

**6** Berliner: A life in music and the recording arts

**12** Workbench: Poster shows automotive radio bands

**18** "New Talk for New York" is all-digital

### BUYERS GUIDE

**22** Apps for Radio Technology

### OPINION

**29** Sweeten the pot to entice AM digital

**30** Readers Forum



development initiative, is attempting to build a support system into the open source platform of Android Automotive.

"(Android Automotive) is open to anyone. If you develop in Android and Android Automotive, there is access if we are successful," Clark said.

The initiative is intended to result in additional software and functionality in the Android Open Source Project (AOSP), with open source solutions available to Tier One and app developers around the world.

It's important because there are "no guarantees the digitalization of the dash will be good" for broadcast radio, Clark said; it could lead to increased competition in the dashboard from pure-play services like Spotify.

"Further fragmentation, and broadcasters and auto manufacturers all doing things a bit differently with no one on the same page, is the worst-case scenario. That would mean different user experiences," he said.

"We want the broadcast radio to be uniform from car to truck. When you take away the simplicity of radio and put it into a software user interface, it could turn into a giant challenge if people can't easily find the product," he said.

"There is a huge benefit for cohesiveness."

Clark said the group's intent is to make sure "none of the features of broadcast radio are lost. And further, what happens if the dashboard becomes completely reliant on an IP connection? That would be disastrous if dashboard designers are not paying attention to the

system and help broadcast benefit from its rollout.

"Anytime you are talking about 'what controls the radio and the dashboard,' it's important radio is in that conversation. We need to make sure radio functionality is built in and get Android Automotive to support it, and to make sure the tuner and all the broadcast standards like HD Radio, DAB and regular AM and FM are baked in and available to app developers," he said. "The majority of automakers have already committed to Android Automotive."

NAB PILOT, which is the association's technology

#### Above

An enriched "now playing" display. Both images in this article show reference designs that will be part of the initiative's delivery to Google; a DAB design will be delivered as well.



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broadcast component.”

Companies involved in PILOT's Android Automotive initiative include Bauer Media, the BBC, Beasley Media Group, Commercial Radio Australia, Cox Media Group, Entercom, iHeartMedia, New York Public Radio, NPR, Salem Media Group, SWR and TBS Radio. Clark said they are “providing their expertise and their voice” to the initiative.

## Google is “listening”

Xperi is doing lot of the development work on dashboard redesign when it comes to delivery and rendering of metadata, said Joe D'Angelo, its senior vice president radio.

Xperi is the parent of HD Radio; it also recently launched the DTS AutoStage hybrid radio platform. It is a member of PILOT and describes itself as an advocate on behalf of the radio industry.

D'Angelo said Android Automotive “will control the radio tuner, so it's imperative that broadcasters around the world ensure that Android Automotive fully implements all of the radio standards that are commercially deployed in the world. It's critical that the head units have the ability to tune in analog AM and FM, HD Radio and DAB signals. That is going to be dependent on the completeness of the operating system's functionality,” he said.

“Google is engaged with our group, but they are a huge company that has a lot of competing constituents looking for support and resources, too.”

Google did not reply to Radio World's requests for comment.

Clark of NAB said Google is “listening to us like any good company should that wants to get feedback on their product. They have asked us to remain in talks with them. They are very much interested in our progress and they want to hear more from the players in the field, and how what we are doing aligns with what auto manufacturers are doing in the dash.”

He added: “We have to convey to Google that if they pay attention to radio, then radio will really be there with these services.”

D'Angelo said NAB and Xperi have “open access to Google's engineering and strategic partnership teams” and “can educate them on our progress. ... We have a long history of working with Google, the automakers and the Tier Ones so we bring to the table our product development, engineering and product certification expertise.”

While Android Automotive is a relatively new entrant to the dashboard wars, he said Google is quickly making inroads.

“They are coming in not only with a new operating system but also with a suite of applications. It's not dissimilar to what they did in the smartphone space. They are not dominant yet in auto, but they are trying to make a big push into auto.”

D'Angelo sees natural overlap between Android Automotive and DTS AutoStage, though he said the latter

**Below**  
How an infotainment display would look in Los Angeles in a car with Android Automotive if Google accepts recommendations from the PILOT initiative. This is an enhanced station list for broadcast radio to ensure station discovery.

focuses on ensuring terrestrial radio's presence in the dash.

Google is “offering a set of IP-based services alongside (the Android Automotive) operating system,” he continued, but Xperi is focused on the radio broadcast component.

“Android Automotive is a hybrid system. It has IP functionality, connectivity to the internet and support for over-the-air reception. So it is a platform that DTS AutoStage as a service can be integrated on, but it is not the main goal for the group. That part of it is attractive to us and other hybrid radio advocates, but the scope of the project is solely focused on getting broadcast right. Because if we don't get broadcast right, there is no hybrid radio,” he continued.

“First we have to ensure that the automakers around the world adopting Android Automotive have the best analog and digital broadcast radio experience possible. Then we



can talk about how we evolve and maybe take advantage of the IP connections.”

Broadcasters for now should remain diligent and support efforts to add metadata to their broadcast signals, NAB's Clark said.

And they should make sure their over-the-air service “is taking advantage of all the functionality of the transport system,” D'Angelo said. “If radio is offering a rich, compelling multimedia experience that benefits the driver of a vehicle, then the car companies will be compelled to implement all the technology.”

He said companies supporting the PILOT project realize the importance of broadcast metadata being displayed on the dash alongside audio services, and ensuring that the metadata is actually presented to the driver, not replaced.

Michael Beach, VP of distribution at NPR, said, “NPR and PRSS believe it is critical to work with the National Association of Broadcasters and Xperi on the development of efforts like this, which will continue the vitality of broadcast radio and take advantage of features on new and emerging platforms.”



### More info

“Android Automotive is a base Android platform that runs pre-installed IVI system Android applications as well as optional second- and third-party Android Applications.” Find more at source. [android.com](http://android.com), search Android Automotive

Writer



James O'Neal

Regular RW contributor and former technology editor of TV Technology.

# Berliner: A life in music and the recording arts

Recollections of Oliver Berliner, grandson of the inventor of disc records

**S**ome things never go out of favor. One is the disc phonograph record. Even after more than 130 years, it's still very much alive here in the 21st century.

The disc record has also framed the life of one individual, Oliver Berliner, who at 91 probably knows more about the history of that invention than anyone else, because it was his grandfather Emile who invented it.

In the 1880s, Emile decided to improve the wax cylinder recording technology that Thomas Edison had developed a decade earlier. This led to the ubiquitous disc or "platter," still revered by audio aficionados today.

However, this is not a story about Emile, but rather his grandson Oliver, whose father Edgar ran the Canadian branch of the Berliner Gramophone Company in Montreal at the time of his son's birth.

Asked about memories of his grandfather, Oliver lamented that he had never met him.

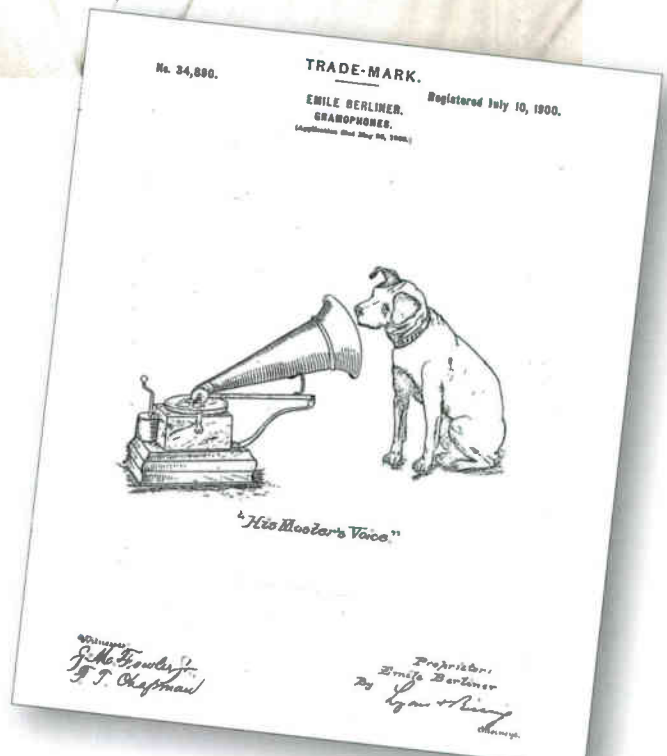
"He died the same year I was born, 1929," said Oliver, who admits to nothing in the way of memories about the operation his father ran. He was one year old when the rebranded U.S. parent recording and record producing operation, The Victor Talking Machine Company, was sold to the Radio Corporation of America, and the Berliners relocated from Canada to England.

"I believe that my father left RCA Victor of Canada on my birthday, May 29, 1930," Oliver recalled.

## Teenage entrepreneur

Although he didn't spend his formative years hanging out in recording studios and recording pressing operations, Oliver eventually did his share of recording, acquiring a Presto recording lathe and cutting airchecks for none other than big band leader Xavier Cugat.

Berliner explained that his air-checking enterprise had its roots in an earlier venture where he provided "sound reinforcement" for dances at his high school. (After five years in the U.K. and a return back to Montreal, the family resettled in California, with Oliver ultimately enrolling at



**Right top**  
Oliver Berliner  
circa 1989.

**Right bottom**  
The dog Nipper listening to "His Master's Voice" on a gramophone. It was introduced by Emile Berliner as his trademark in 1900. It reigned for a half-century as the world's most famous trademark.

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World Radio History

# COMREX

Beverly Hills High School.)

"In high school, I rented out portable PA systems for student dances," he recalled. "Many of the clubs at Beverly Hills High had dances and I built up quite a reputation for providing these sound systems.

"I used Shure and Electro-Voice mics, as well as an RCA 'Aeropressure' dynamic mic. I built the amplifiers myself around 6L6s and 6SJ7s. The speaker enclosures were plywood bass reflexes fitted with Jensen 12-inch speakers."

His reputation and rentals extended well beyond school dances, though.

"One of my clients was a Beverly Hills High graduate, the soon-to-be-famous André Previn," he said. "As a teen, his trio was getting bookings in and around Beverly Hills, and André always called on me for a sound system."

Following high school, Berliner enrolled in engineering studies at UCLA, but decided that this side of the recording business wasn't really his passion.

"I soon switched to business administration with a specialty in marketing," he said. "I graduated in 1951 with a BS degree."

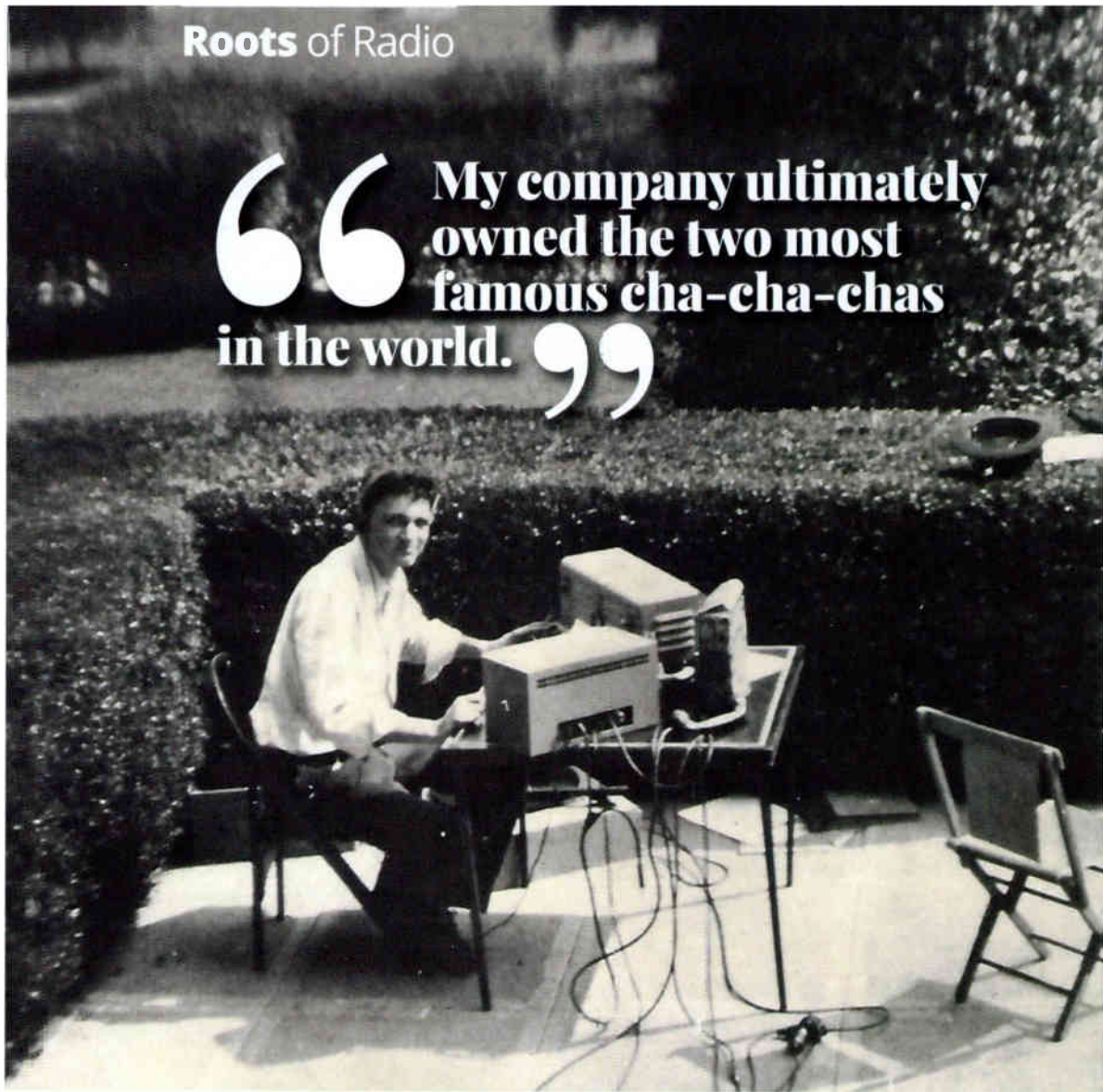
His association with Cugat and his band at about this time indirectly launched him into the next phase of his career in the music and recording industry.

"I was dating the daughter of Xavier Cugat's drummer at the time," Oliver said. "They were doing a lot of remote broadcasts then and that's how I ended up cutting airchecks for Cugat. That's also how I became interested in Cuban music." (Cugat, a Spaniard, spent his early years in Cuba.)

"In 1956, I launched a music publishing business, Hall of Fame Music, which specialized in Cuban music. My company ultimately owned the two most famous cha-cha-chas in the world."

Oliver noted that during the time of his music publishing enterprise,

“My company ultimately owned the two most famous cha-cha-chas in the world.”



**Above**

Berliner mixes a remote broadcast at the Veterans Hospital in West Los Angeles in this 1950 photo.

**Right**

Berliner with "His Master's Voice" commercial art that was created by his grandfather's Deutsche Grammophon operation around 1910.





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\* The Gateway 4 codec supports 4 channels only and is not upgradable to support more channels.

he chartered a sister operation that he dubbed Gramophone Music Company.

"This was a way of keeping the name of my grandfather's invention alive," he explained. "That publishing company will live forever as an ASCAP member."

Oliver's next foray in businesses involving records was the 1965 purchase of an FM station in Orange County, Calif., which he recalled as a pioneering stereo operation.

After five years in broadcasting, Oliver turned innovator, creating what would ultimately be known as the "music video." His concept was to make short video recordings of new artists that would be played in record stores as a way of providing exposure for these relatively unknown performers.

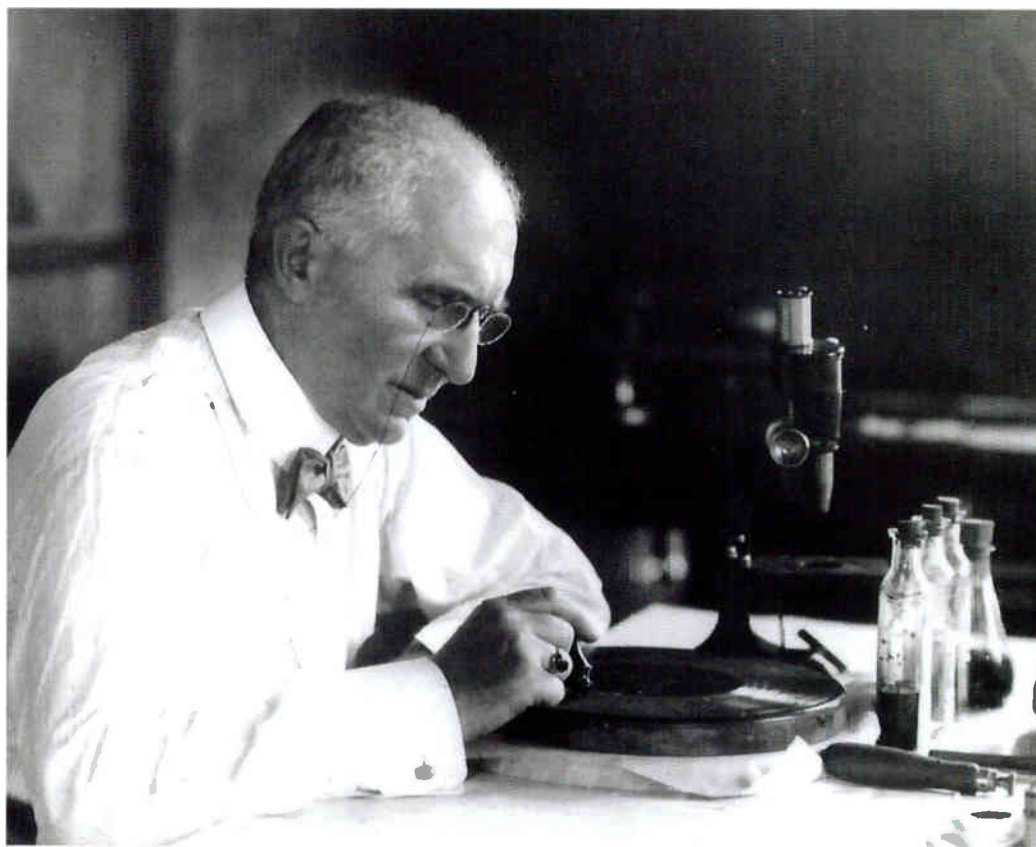
"I gave the idea to a record promotion friend at Warner Bros.," said Oliver. "I suggested just recording the artist straight, without all of the crazy costumes and sets that were used later. I was hoping that Warner would hire me to produce these lip-synched recordings, as the soon-to-be-popular 'music videos.'"

## Broadcast product manufacturer

His next innovative effort was in the television field, even though the company was named Ultra Audio Products.

"We created low-cost compact versions of video test equipment — waveform and pulse-cross video monitors, and a vectorscope. These were designed for remote trucks, CATV studios, institutional operations; applications where users had limited space and money."

Oliver's creative efforts soon



**Above**  
Oliver's "Grandpa," Emile Berliner is seen experimenting with disc mastering improvements in his Berliner Gramophone Co., Montreal, Canada lab in this 1919 photo. Berliner's name for his disc player — the Gramophone — is the origin of the name for the recording industry's Grammy Award.

**Right**  
Berliner's Ultra Audio Products (UPC) company manufactured popularly-priced and compact video test gear, as well as other broadcast-related products.

shifted to audio, with the creation of a compact console incorporating a rather unusual feature.

"It was intended to be run in a small TV production studio and had many features, including frequency-selective ducking," said Oliver.

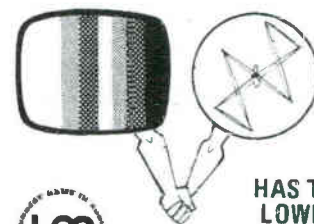
"When a disc jockey doing a voiceover hit the mic key, it ducked the level of the record he was playing by seven dB—not the entire audio range of the disc; just the voice range. The resulting effect of the voice enveloped by the music was astonishing. Radio should today be using it."

In keeping with his music background, Oliver has been called as an expert witness to testify in several high-profile cases involving performance and usage rights.

When asked for his take on the current state of radio broadcasting, Oliver confessed that while he loved music, he was not an avid radio listener.

"I just don't like what's on radio today." 🎧

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John Bisset

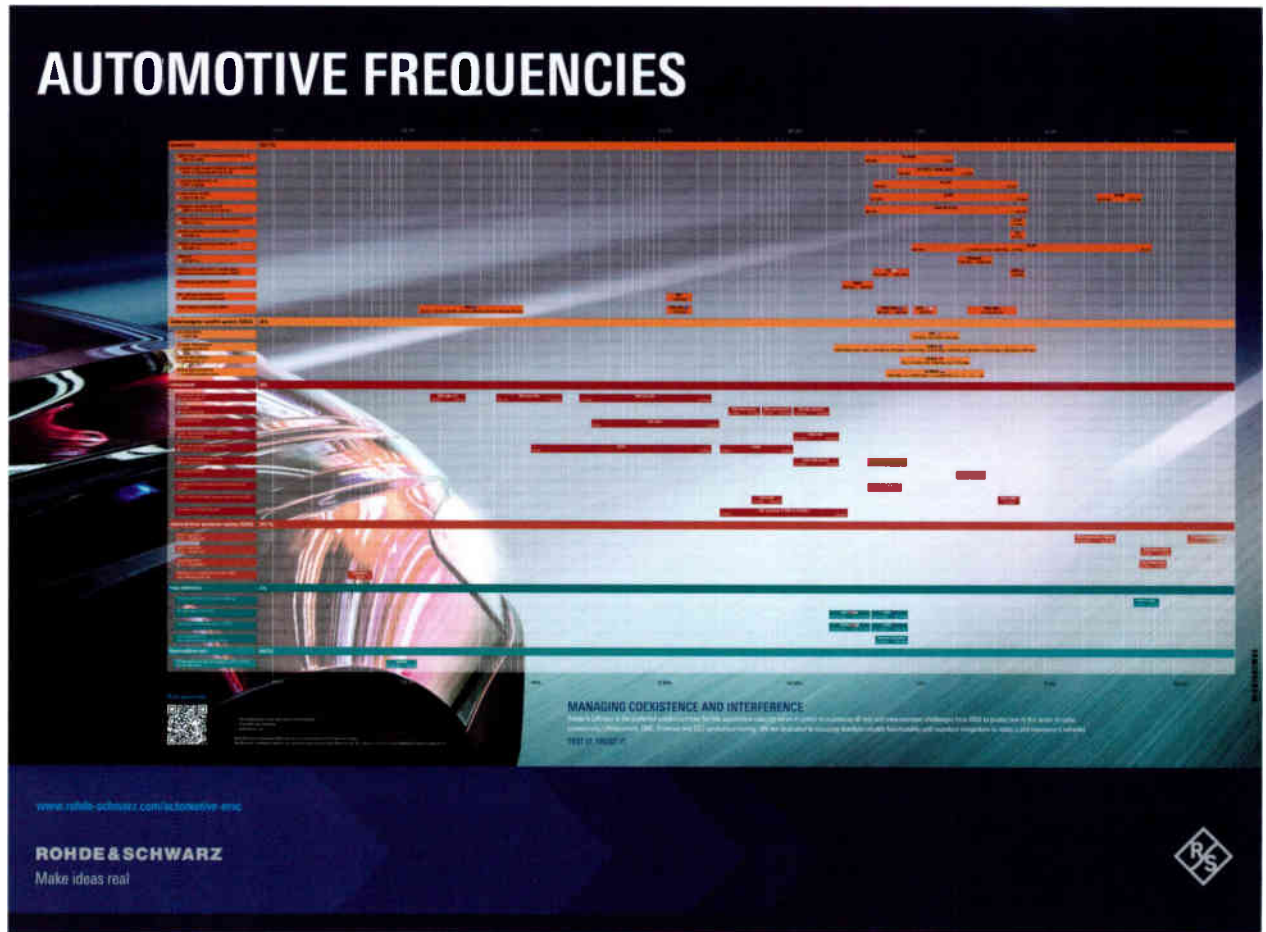
CPBE

has spent over 50 years in broadcasting and is in his 31st year of Workbench. He handles western U.S. radio sales for the Telos Alliance. He is a past recipient of the SBE's Educator of the Year Award.



**It's nice to share**

Workbench submissions are encouraged, qualify for SBE recertification and can be emailed to [johnpbisset@gmail.com](mailto:johnpbisset@gmail.com).



# Rohde & Schwarz poster shows automotive radio bands

Also, Radio Shack lends engineers a third hand

**D**an Slentz bought and installed a Rohde & Schwarz "Spycer" network storage system for his UHD video. It's 2 petabytes, or 2,000 terabytes, and uses about 15 rack units in RAID5 configuration, all linked by fiber through a network fiber switch to Dan's five edit cells and four record servers, which use 6 TB SSDs to record up to three hours of UHD video. The write speed of the SSD (Solid State Drive) is necessary for UHD video because spinning disc drives wouldn't work.

While learning more from the Rohde & Schwarz website, Dan found a neat poster that Workbench readers will want. It gives a visual overview of the radio frequency bands and regulations "in today's and tomorrow's cars," including broadcast, mobile communications (3G to 5G),

communications (Wi-Fi, V2X etc.), global navigation, radar sensors and EV charging.

As the company notes, "Being able to manage the coexistence and interference of the various radio frequencies in an (electric) car is a major challenge for research, development and testing of in-car."

The poster is available via mail or download. At [www.rohde-schwarz.com](http://www.rohde-schwarz.com), enter "automotive radio bands poster" in the search block.

**Free is good**

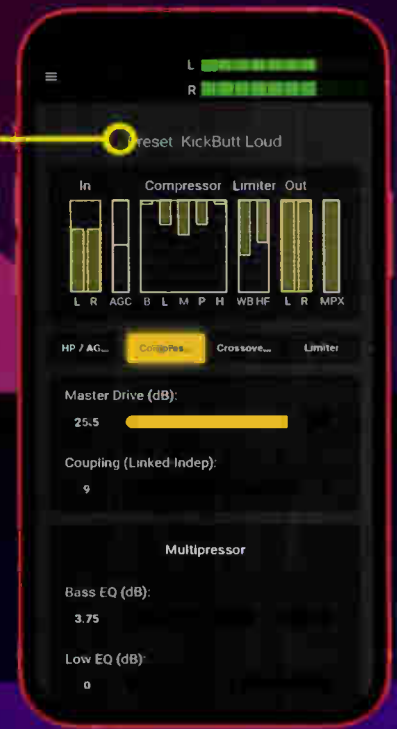
While we're talking about free things, Dan reminds readers of the free Loudness Meter software from Bob Orban. There are Windows and Mac versions; find them at [www.orban.com](http://www.orban.com). Click on the "Downloads" tab, and scroll down

**Above**  
An interesting free poster from Rohde & Schwarz identifies frequencies used in automotive contexts.

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## Hey, can you hold this?

Longtime Workbench readers may recall the “home-brew” console that a young enterprising Dino Gatsoula built, complete with remote starts and status indicators, which we featured in 2018. Dino’s 24/7 Greek-formatted station, which he runs with his dad, is now an internet station, having graduated from SCA status.

An avid hands-on engineer, Dino found a useful soldering device, shown in the first photo, at the Radio Shack online store.

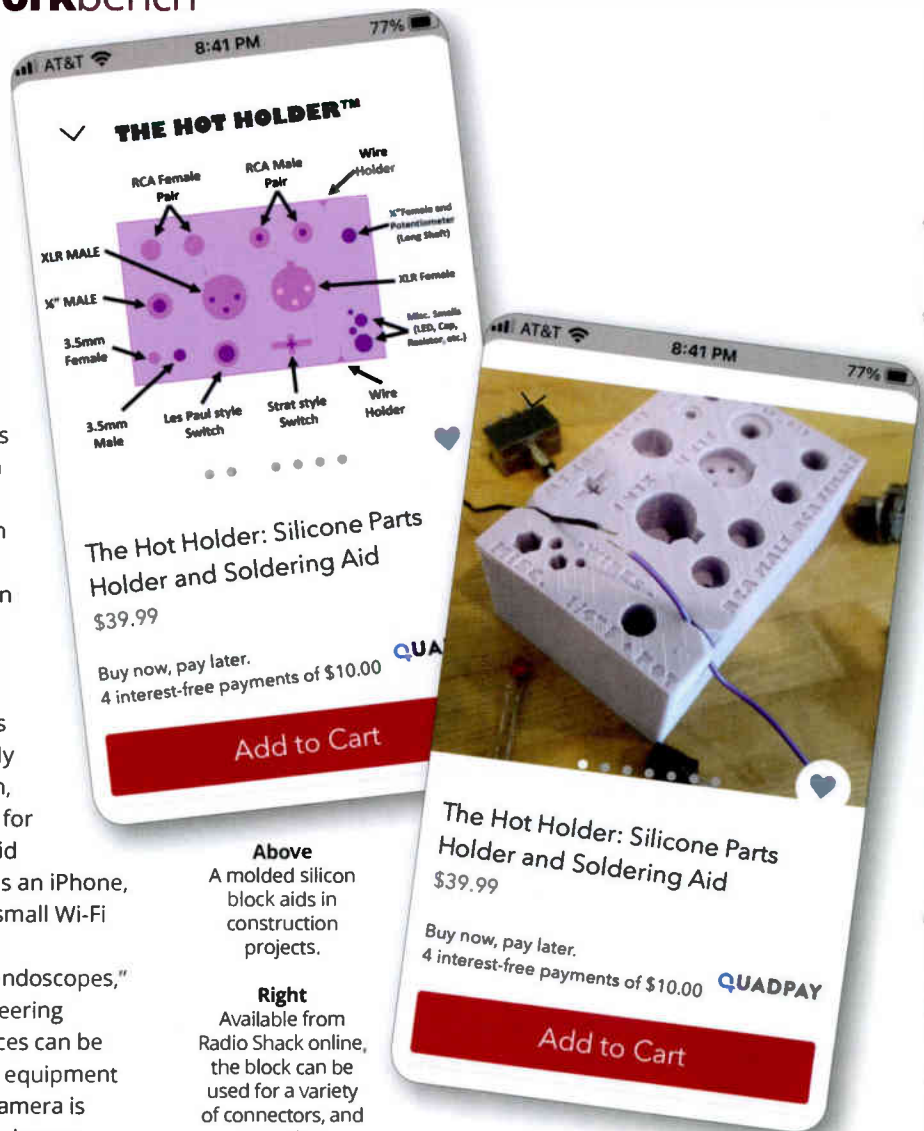
The Hot Holder is a stamped silicon block with holes to mount a variety of connectors and parts, as identified in the second image. It serves as a third hand when you are either soldering or assembling. To that end, there are even a couple of slots for holding wires that need to be tinned or soldered together. Head to radioshack.com for more information. And if you like Modern Greek music, listen to Dino’s internet station by visiting [www.radioedra.com](http://www.radioedra.com).

## Take a peek

Hall Communications Director of Engineering Edd Monskie is a deer hunter and sports shooter. Edd was looking for an inexpensive borescope to see down rifle barrels to check their condition and to inspect up close for flaws not easily seen by the naked eye.

Edd checked Amazon and found a variety of new LED-lighted borescopes. Most are under \$100, and one is about \$20. They usually have a USB connection, and many have a plug for direct access to Android phones. Since Edd uses an iPhone, he had to purchase a small Wi-Fi adapter as well.

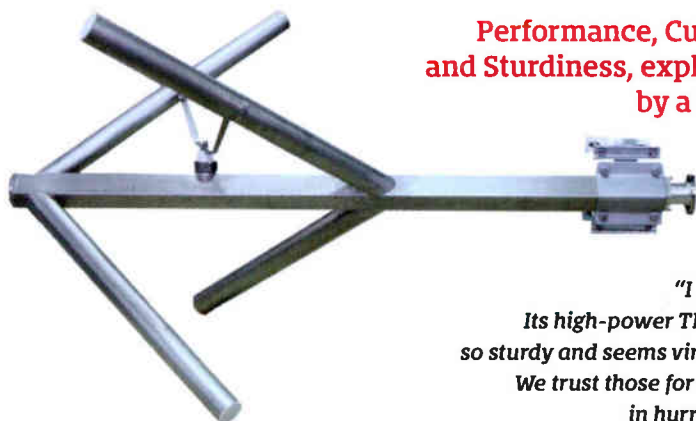
Some are listed as “endoscopes,” although for our engineering application, these devices can be used for hard-to-reach equipment inspections. The LED/camera is mounted on a 3-foot or longer



**Above**  
A molded silicon block aids in construction projects.

**Right**  
Available from Radio Shack online, the block can be used for a variety of connectors, and even wires.

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DAVID HOXENG, ADX Communications, Pensacola, Florida

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flexible cable, giving you a really good video picture of whatever you need to see over, under or inside. The model Edd bought has adjustable LED lighting, which is really helpful in dark locations.

Some people even use them to see inside engine cylinders with the spark plug removed. Aside from using it for his firearm inspections, Edd has used it to see various places inside racks and transmitters, even down a clogged sink drain.

A quick search of Google or Amazon will bring up a variety of choices. Just enter “borescope” or “endoscope” in the search block.

For inspections, Edd likes that you send the cable — rather than your face, hand or phone — into the dark location. 



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**BLADE-4  
COMPATIBLE**

Writer  
Randy J.  
Stine

# “New Talk for New York” is all-digital

## Cumulus converts an AM station in White Plains

### Comment

Share your opinions about any article. Email [radioworld@futurenet.com](mailto:radioworld@futurenet.com) with “Letter to the Editor” in the subject field.

**C**umulus Media is giving all-digital AM a go. It launched “Digital AM 1230 HD,” WFAS(AM) in White Plains, N.Y., in May.

The station is just north of New York City and can be heard in the northern suburbs of the top media market in the United States.

The 1,000-watt non-directional station, which also switched to an all-news/talk format, told listeners of the pending change on its website. Only radios equipped with HD Radio will be able to receive the station; WFAS will no longer be available on analog-only radios.

The station does not have an FM translator.

### Antenna tuneup

Conrad Trautmann, SVP, technology and operations for Cumulus Media, led the all-digital conversion process and said a lot of technical consideration went into the project, beginning with the existing tower.

“In order to run digital bandwidth through an AM antenna, you need the antenna optimized. We worked with Carl T. Jones [consulting engineering firm] to redesign the existing antenna so it would support running IBOC HD Radio,” Trautmann said.

The WFAS antenna is a “folded unipole, so it’s a grounded 450-foot tower with a skirt, and the skirt stood 16 inches off the tower,” Trautmann said. “However, the modeling we did showed the skirt had to be 36 inches off the tower. That meant buying all the components and parts to stand it off further.”

It was also determined the tuning network in the antenna tuning unit was no longer usable for the broadband signal, he said, and had to be redesigned. “We ordered all the parts from Kintronic. We basically rebuilt the ATU at the base of the tower.”



**Right**  
Conrad Trautmann

The WFAS antenna is a folded unipole, a grounded 450-foot tower with a skirt 16 inches off the tower; the skirt had to be moved to 36 inches off the tower.



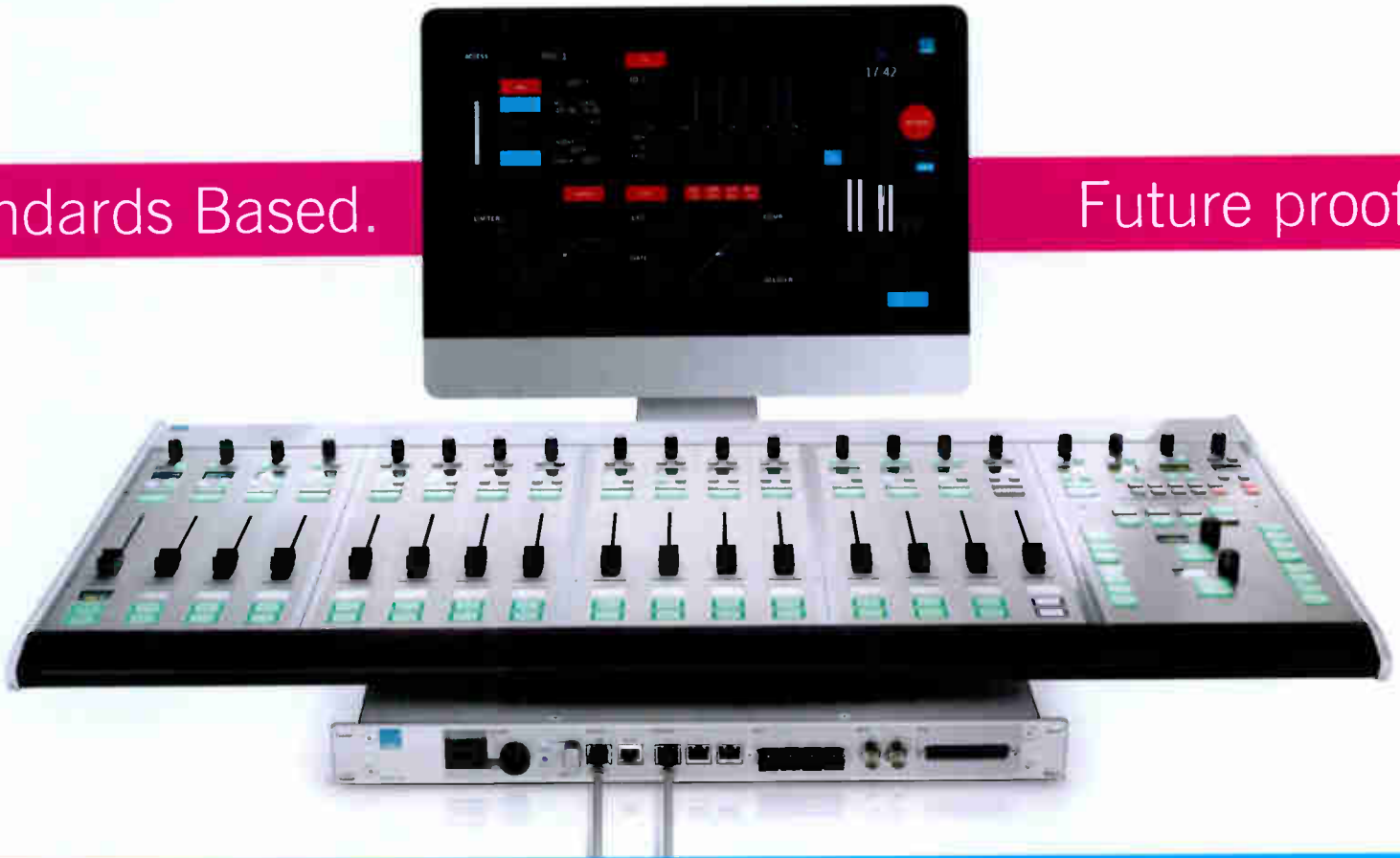
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The all-digital station is using a new Nautel NX3 all-digital transmitter and a Telos Omnia.9 audio processor with HD output.

Cumulus engineering staff spent part of the week prior to launch testing the all-digital signal and was "very satisfied with the results," Trautmann said.

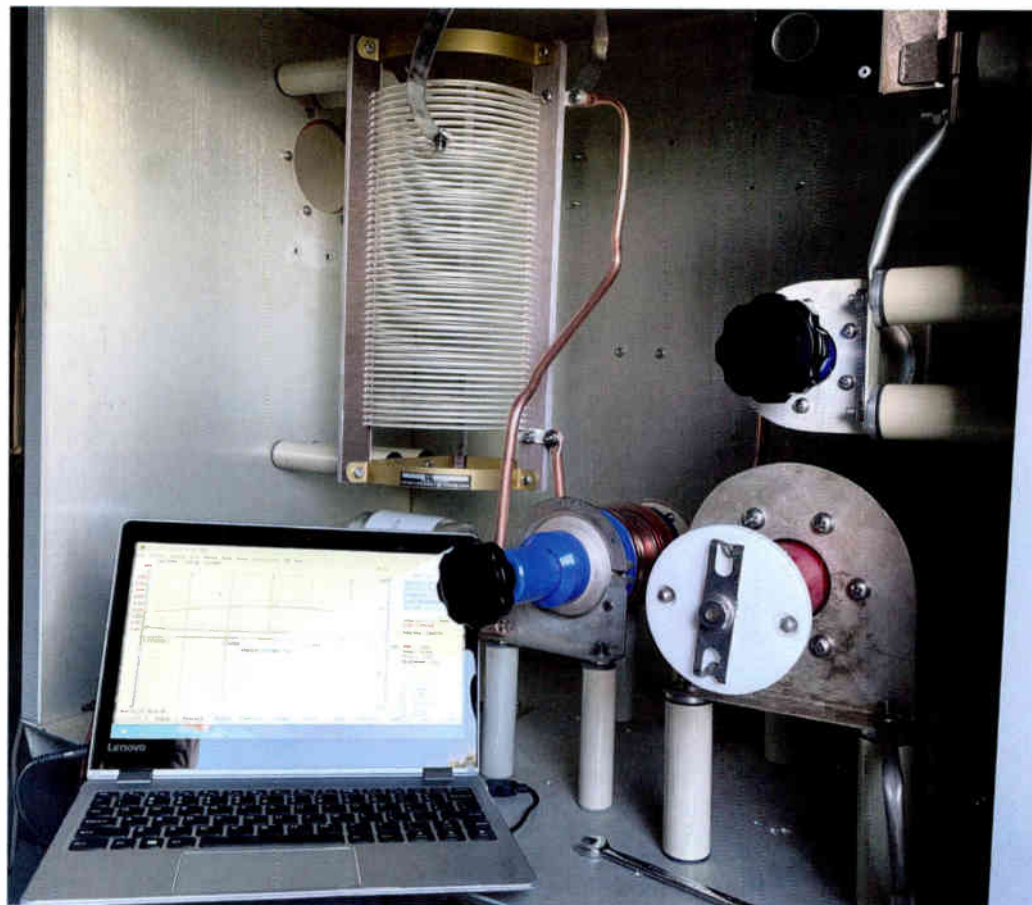
The station's website touts the advantages of all-digital AM: "Broadcasting in digital can eliminate static and interference and improve sound quality to equal FM radio. In addition, it can extend the range for clear AM reception."

Trautmann said, "In analog we typically had about 15 miles of Grade A signal, or city-grade signal. WFAS is only 1,000 watts. On the drive testing we did with the all-digital signal it is solid all the way 25-mile mark. So it seems we have added 10 miles of radius to the signal, which results in quite a bit of population coverage in the northern suburbs of New York City."

That increased signal reach will mean more penetration into the Bronx and Queens and the northern tip of Manhattan, "but it's by no means a New York City signal." In addition, the signal sounded like FM, Trautmann says, with "all the lows and highs. And it's louder on the dial than the other AMs."

The radio station is telling listeners they can find the station using an HD Radio-capable receiver, via the online stream or using its mobile app on a tablet or smartphone.

Trautmann, who had help on the project from Bud Williamson




**Above**  
Adjusting the network to match the transmitter to the tower, after the antenna tuning unit was rebuilt.

from Digital Radio Engineering, says Cumulus had been looking for a good candidate to experiment with all-digital AM. WFAS was chosen since it "wasn't getting any ratings and not generating much revenue."

WFAS featured the CBS Sports Radio Network prior to its launch of all-digital. The station now offers talk programming, including "The Dan Bongino Show," which debuted on Cumulus-owned Westwood One.

Trautmann says Cumulus wants to see how WFAS performs before it commits to more all-digital AM conversions. The project coincided with an announcement that Cumulus is partnering with Xperi's DTS AutoStage connected car platform. The company it will integrate its 415 radio stations into that hybrid radio system, which currently is available on Mercedes-Benz S-Class vehicles.

"We are really hoping to see if the hybrid radio component of this becomes beneficial. If we get people to tune in and then when they get out of signal range have the car radio switch to the stream, then we can demonstrate how AM radio can sound as good as any other platform. The switching from the over the air to the stream is really critical for that," Trautmann said.

WFAS appears to be the third station in the country currently airing all-digital AM. The FCC authorized AM radio stations to do so last fall. 

**“ It seems we have added 10 miles of radius to the signal, which results in quite a bit of population coverage in the northern suburbs of New York City. ”**

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# BUYERSGUIDE

Apps For Radio Technology

## About This Buyer's Guide

Buyer's Guide this month focuses on apps that help make broadcasters' jobs easier. This month we're also presenting the information in a series of brief "What to Know" Q&As.

## What to Know

### Axia iQs Virtual Mixing Console

**Q: What does it do, what is its function?**

**A:** Axia iQs is an audio mixer that you purchase as software. The iQs software can be preinstalled at Telos Alliance on the Telos Alliance AE-1000 1RU compute platform. It can also run on your own server hardware.

It runs as Docker-compatible "containerized software" and is typically installed on a PC or server running Linux. Multiple iQs software consoles may be installed and operate simultaneously on appropriate computer hardware.

If you're familiar with any of the Axia mixing consoles in the iQ console line, such as the iQ, Radius, DESQ, RAQ, or iQx, you already know something about iQs. Think of the iQs as the software iteration of these audio consoles. But, we added a web server, allowing a beautiful



graphical console surface on any modern browser connected to the iQs software.

**Q: Tell us more.**

**A:** iQs is the first soft console controlled by a full HTML5 interface, allowing you to not only control a mix from anywhere, but on any device — Mac, Windows, tablet, laptop, even your phone!

For information, contact The Telos Alliance at 1-216-241-7225 or visit [www.telosalliance.com](http://www.telosalliance.com).

22

## What to Know

### Arcadia from Burk Technology

**Q: What is Arcadia?**

**A:** Arcadia delivers easy-access remote site monitoring and control to managers and engineers on the go. Arcadia turns a smartphone or tablet into a customized control panel. Instantly verify performance of RF equipment, power systems, processing, environmental and security systems right from your mobile device.

**Q: Tell us more about it.**

**A:** Arcadia provides mobile access to your entire network over a single secure web link. Alarms are summarized at each network level with the ability to drill down for detailed status and control of individual sites. Intuitive custom mosaics highlighting information from multiple sites can be created on the fly, including meters, status indicators, control buttons, charts, maps and embedded web sites. Arcadia screens

adjust to the size and shape of each browser's display, enabling easy viewing on mobile devices.

The system can now be hosted either in the cloud or on an on-premises computer, ensuring conformance with each organization's IT policies and network topology.

AD-LDS credentialing allows standalone management of user identities and permissions. AD-LDS can be used on its own or in conjunction with your Microsoft Active Directory system.

Arcadia graphical interface enhancements include embedded URL links and the ability to copy, edit and share mosaics. The new ARC Plus API can bring almost any data onto your mobile Arcadia screen.

Arcadia's centralized communications architecture compiles data from all your sites at a rate of 100 sites per second, providing real-time updates to Arcadia mobile users and NOC operators. Web communications over the public internet are encrypted and secured using Transport Layer Security.

Contact Burk Technology at 1-508-486-0086 x700 or visit [www.burk.com](http://www.burk.com).



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## What to Know

### Tieline Report-IT Enterprise App

**Q: What is its function?**

**A:** Report-IT Enterprise is the most popular smartphone codec application. Use it to stream live high-fidelity audio to the studio, record 20 kHz quality audio files and FTP audio files to a server in the cloud. Features include SmartStream Plus redundant streaming, file playlists for live playback, URL link login authentication and more.

**Q: Tell us more.**

**A:** Randy Wenner, broadcast and digital journalism instructor at the Newhouse School of Public Communications at Syracuse University, told us it does everything they want in a live reporting app including field recording; soundbite isolation; live reporting; sound bites triggered from the field by the reporter; feeding back raw interviews; even use by interviewees.

"It's very easy to set up the Report-IT app," he said. "When students log in, it automatically contains a one-touch button that allows them to FTP audio directly to the studio without worrying about entering FTP server addresses, log-ins, etc. There is a bit of technical setup to install the receiver and configure the accounts, but the online documentation is excellent, and the Tieline support staff has been extremely helpful."

He said students broadcast live from all over the central New York region using Report-IT.



For information, contact Tieline at +1-317-845-8000 or for international +61-8-9413-2000 or visit [www.tieline.com](http://www.tieline.com).

## What to Know

### Nautel AUI upgrade

**Q: What does it do?**

**A:** The AUI app provides remote monitoring and control for Nautel transmitters. It comes free with purchase of the transmitter.

**Q: Tell us more.**

**A:** Introduced in 2007, the AUI, Advanced User Interface, is a sophisticated tool now featured on more than 10,000 transmitters. The AUI not only provides remote access to presets, alarms, meters, and settings, but also valuable analysis tools.



In 2021 Nautel has introduced a major upgrade that replaces user interface, operating system and everything in between. The new HTML5 UI loads fast and runs in browsers on desktop computers, tablets and smartphones — no installation required nor separate app. It is a free upgrade for all AUI-enabled transmitters and lays the foundation for future Nautel transmitters.

As a key component of every transmitter, the AUI receives regular maintenance and upgrades. In addition to SNMP support, the redesigned architecture includes a rich API that paves the way for powerful integrations, including Nautel PhoneHome.

For customers who want to run the original AUI until they are ready to upgrade, the free Nautel Legacy AUI Access App (<http://support.nautel.com/aii/legacy-aii-access>) is available.

For information, contact Nautel in Nova Scotia at 1-902-823-5131 or visit [www.nautel.com](http://www.nautel.com).

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## What to Know

### Wheatstone ScreenBuilder

**Q: What is the purpose of ScreenBuilder?**

**A:** It lets broadcasters develop custom virtual mixers, metering and other UIs for their laptops or tablets that tie into function commands and elements on the WheatNet-IP audio network from anywhere there is an internet connection.

**Q: Tell us more about it.**

**A:** Broadcasters are tasked with doing a lot more with a lot less these days, and they're having to find inventive solutions for monitoring, controlling, routing and processing audio. Since Wheatstone introduced its ScreenBuilder UI development toolkit



for its WheatNet-IP audio network, broadcasters have amassed a large library of custom AoIP interfaces for specific workflows and applications.

Working with ScreenBuilder is straightforward. There are dozens of prebuilt widgets such as knobs, faders, timers, meters, and more that can be assembled into an interface and enabled using its simple scripting wizard. ScreenBuilder is especially useful for adapting existing hardware or software for new workflows. Shown is a producer's booth created using ScreenBuilder for WBUR in Boston that has a control interface for the interview table with active controls for mics and other audio production functions.

For information, contact Wheatstone at 1-252-638-7000 or visit [www.wheatstone.com](http://www.wheatstone.com).

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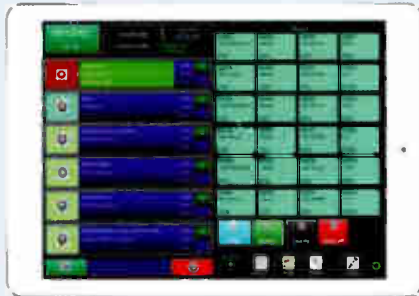
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**What to Know**

## ENCO iDAD App and iDAD-Remote

**Q: What is iDAD?**

**A:** ENCO's iDAD, part of the enCloud Suite of apps, is a mobile radio app that allows users to record audio from a smartphone and send it directly to a studio-based DAD automation system.



iDAD-Remote allows users to remote voice track and control playback from a tablet, whether at home or broadcasting in the field.

**Q: What makes it special?**

**A:** The iDAD app provides an easy way to outfit mobile journalists and reporting teams with a direct line to a radio station's library.

iDAD-Remote allows broadcasts to easily broadcast live events without the need for a board operator at the studio. This remote content manipulation and remote control offer additional flexibility for newsgathering or live broadcasting in the field.

For information, contact ENCO at 1-248-827-4440 or visit [www.enco.com](http://www.enco.com).

**What to Know**

## Comrex FieldTap

**Q: What does the FieldTap do?**

**A:** FieldTap is a free smartphone app available for iOS and Android that allows users to connect to Comrex IP audio codecs and deliver high-quality, wideband audio. It is designed for users who have to set up a remote broadcast in a pinch. FieldTap provides excellent sound with the ease of a regular phone call. Its simple user interface consists of a single button that makes it easy to call in with no hassle. It's perfect for short drop-ins, field reporting and for use as a backup.



FieldTap is compatible with all Comrex IP audio codecs, as well as EarShot IFB. No SIP registration is required, and the app features a standalone contacts list. Opus, G.722, and G.711 encoding algorithms are available.

**Q: What else should we know?**

**A:** "Because FieldTap is free, the barrier to entry is very low," said Marshall Rice, engineering director for Hubbard Radio in St. Louis. "Our program directors have embraced it because the audio quality is high, and our talent has embraced it because it's so simple. It has really saved us during the COVID crisis."

For information, contact Comrex at 1-978-784-1776 or visit [www.comrex.com](http://www.comrex.com).

26

**What to Know**

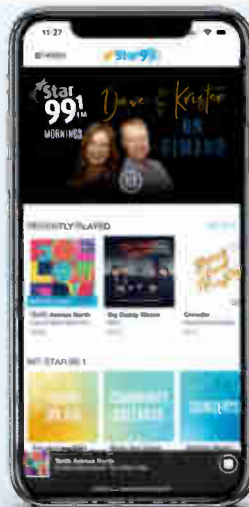
## Xperi AIM Radio Apps

**Q: What are they?**

**A:** Xperi's AIM Radio Apps are next-generation smartphone apps that deliver engaging user experiences for radio listeners.

**Q: Tell us more.**

**A:** AIM Radio Apps deliver a content management platform that allows any station to customize their app with features and content after it has been released to an app store. Stations never lose control of their apps and are able to customize as they



need in real time.

Related to real time content updates, AIM Radio Apps are continuously improving, with features being added all the time and multiple releases per year, resulting in optimal user experiences.

The AIM Radio Apps offer flexibility to broadcasters and can adjust to the needs of the station; you can start big or small. For example, users can start off with a smartphone app, and then build as the budget grows, to tablet, car and TV apps.

Finally, AIM Radio Apps come with out-of-the-box support for multiple revenue streams: from targeted audio advertising to interstitial and banner adverts, offsetting maintenance costs and leading to potential profit centers.

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**What to Know**

## Cloud Cast Systems Broadcast Delay Service

**Q: What does it do?**

**A:** It is a software-as-a-service profanity delay unit that matches hardware units on the market.

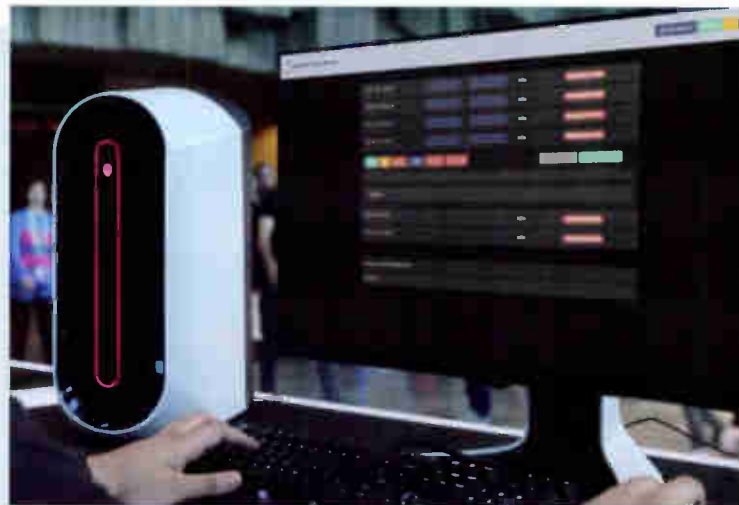
**Q: Fill us in.**

**A:** Stations and station groups can run up to six profanity delay units on a single Windows machine. Each unit is packed full of features including expand and compress modes, censor tone insertion, email notifications with dumped audio and compatibility with Axia, Wheatstone and Ember+ control protocols.

The interface is HTML5 and is optimized for mobile and tablet viewing and control. The intention is that a remote producer can stream the pre-delayed feed and dump if required.

The Broadcast Delay Service offers four "build modes": Expand mode, which slows down playback rate; File insert, which plays a default or scheduled audio file; External input, which routes an external audio input to the transmission chain; and Pre-roll, which builds delay prior to commencing your network show.

There are two exit modes. Compress Mode speeds up playback rate; Roll Out allows buffer to playout while input is muted. BDS



also offers bypass input mixing when rolling out for seamless transition.

When it comes time for action, there are three dump modes: full dump empties entire delay buffer; partial dump removes the desired dump size; and censor dump plays a default or scheduled audio file maintaining the delay buffer.

When the dump button is pressed an email containing a dump file and a clean air file is emailed to select email addresses.

For information, contact Cloud Cast Systems at 1-844-967-2157 or international at +61-7-5606-8211 or visit [www.cloudcastsystems.com.au](http://www.cloudcastsystems.com.au).



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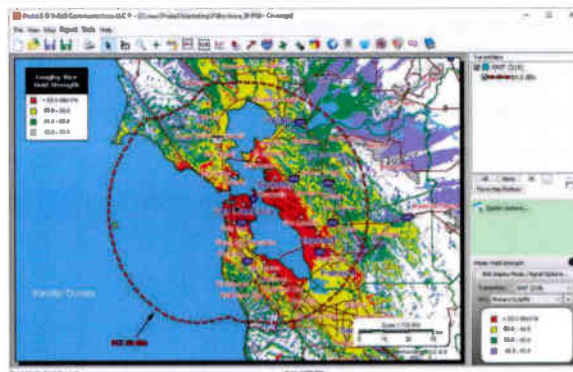
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- Map FM stations and discover upgrade possibilities using FCC minimum separations and contour-to-contour methods with FMCommander™

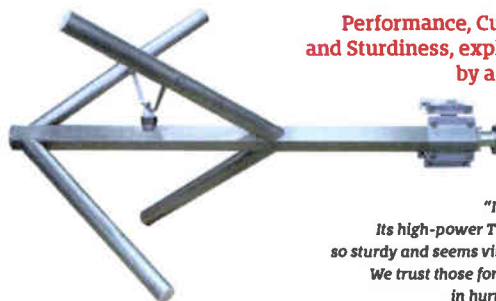
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## Writer



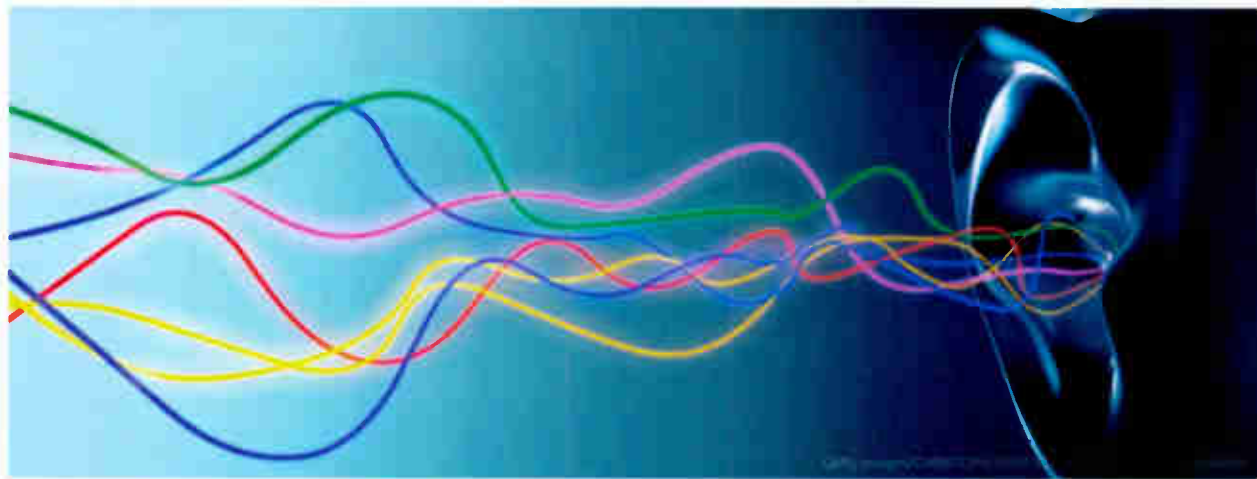
Larry Langford

Owner of WGTO(AM) in Cassopolis, Michigan, and W246DV South Bend, Ind.



## Another view

Read Michelle Bradley's response to this commentary at [radioworld.com](http://radioworld.com), type "Even More to All-Digital AM" in the search field.



# Sweeten the pot to entice AM digital

I would ask the FCC to make an offer that AM operators cannot refuse

**S**hall we sweeten the pot to entice single-mode AM digital?

I was and still am very opposed to hybrid AM digital (IBOC).

It kills other stations. It sounds bad and the coverage is lousy. But just like late-night TV commercials say, "Wait there's more!"

Of course, the more is — single-mode digital.

## Making change viable

Now that is a horse of a different color. How does it sound? Great!

How is the coverage? Better than analog and, yes, it is stereo.

But as we also know the biggest drawback is the rather pesky problem of rendering analog radios obsolete.

That reminds me of the story of radio pioneer RCA engineer Edwin Armstrong and FM. Armstrong was a giant in the industry who gave us the super regenerative circuit and his work on the superheterodyne receiver (apologies to Lucien Levy!)

When tasked with finding a way to get rid of static in radio reception while at RCA, he created the noise-free transmission method of frequency modulation (FM). RCA boss David Sarnoff was happy until he found out it would obsolete every radio already sold. So, his answer to Armstrong was, NO!

Well, there is no David Sarnoff in the game now, and AM digital seems to be the way to go if the AM band is to remain an active player in the media game. But we still

must face the problem of rendering millions of radios as nothing more than doorstops or white-noise generators.

I have read the data that shows that newer cars are being equipped with radios that will play AM digital and given a few years, market penetration in cars should be reasonable. But for the mom-and-pop stations that still rely on analog to cover the market it is just not worth it yet to sound good for a few and be gone for most.

The best scenario for AM operators, especially small- to medium-sized stations, is to have a good FM translator. If coverage mimics the analog AM coverage, it's a no-brainer — turn off the analog and switch to digital!

But that is not good for everyone. While some of the AM stations in major markets own or have partnered with a full-power FM to carry the AM programming, smaller AM stations may have only one translator and need another to even approach the coverage of the analog AM. And there are a number of AM stations that missed out on the window to move a translator into their market and have none.

Going all-digital takes some investment, and the FCC should do what it can to encourage putting analog AM to sleep, while making the change viable for those who have struggled so long.

## My proposal

Well, here comes the sales pitch. I would ask the FCC to make an offer AM operators cannot refuse.

If a licensee agrees to go full-time single-mode digital for a minimum of five years with no switch back to analog, the commission will allow a limited window to acquire and

move an existing licensed translator from a 250-mile radius into the coverage of the AM station going digital as long as the 60 dB contour is within the 5 mV contour covering the city of license. And the 60 dB contour does not overlap an existing translator that currently has the AM station as the primary.

The parameters are of course negotiable, but the point is to allow AM stations willing to make the digital leap a safety net to remain viable as the digital radios increase in the market.

In this way your smaller AM stations could get another chance to cover the old analog area with FM while the automobile market catches up to the new all-digital method. I would also offer a sunset provision that would force the AM stations to surrender the translator after, say, seven years, depending on market penetration of AM digital. LPFM groups would have first dibs on getting the surrendered translator frequencies.


**Everyone benefits**

Look, we are going to have to be creative to keep AM owners alive while the newer digital-ready radios gain market share. It is not going to happen overnight and AM stations making the leap need assurances the hometown still gets something analog radios can hear.

Allowing a move window for 250-mile import of translators will help solve the problem while getting some spectrum-grabbing network "satellators" moved and repurposed to support AM digital and in many cases open up LPFM opportunities where "satellators" were originally parked.

**“ We are going to have to be creative to keep AM owners alive while the newer digital-ready radios gain market share. ”**

It is a win-win as I see it. Small AM stations get another shot at a translator to cover the analog listeners, we can get rid of some "satellators" that are keeping LPFMs from serving local areas, and AM stations start making the big migration to single-mode digital, saying goodbye to static, poor frequency response and lack of stereo.

Most importantly, the listening public finds a *real reason* to listen to the AM band again. This to me would be the best example of AM revitalization, where it is the actual AM band that gets the makeover! 



**Readers Forum**

**ISO info about Radio Liberación**

I'm an American freelance journalist in Florida writing a book, partly about the CIA's use of radio as a propaganda tool.



Lionel Martin, far right, is seen in a 1975 photo of Fidel Castro. Barbara Walters is at left.

In 1954, the CIA broadcast propaganda

messages on Radio Liberación over Guatemala. Then in 1968, Radio Liberación, the "Cuban underground radio station," announced that their 150 kW transmitter (three times the size of any single radio station in the U.S.) was being readied for a propaganda offensive against the United States, allegedly to be headed by an American, identified by Radio Liberación as Lionel Martin.

Testimony given before the Senate Internal Security Subcommittee (SISS) on March 7, 1967 indicated that Cuba's new radio potency could blank out the 47 U.S. radio stations in proximity to the East and Gulf coasts.

In 2012, writing on Radio World's website, Philip Galasso wrote "Cuba Has Long Been a Radio Presence." In it, Galasso recalls listening to 640, Radio Liberación, the former CMQ. But his memories only go back to the mid-1960s.

I would like to know if the CIA repeated their successful 1954 campaign to broadcasts over Cuba in April 1961 during the Bay of Pigs invasion, or perhaps even as recently as 1968. Does anyone out there have any information about this? If so, please contact Bill Streifer at [bill.streifer@gmail.com](mailto:bill.streifer@gmail.com).

*Bill Streifer*

**Station in the stream**

That was a great article about WCBS in the April 14 issue, more like this please.



*Gerry Moersdorf  
Delaware, Ohio*

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