

Global Lessons

Six tips to make your station grow, courtesy Walter Sabo and Dan Mason.

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Radio Zips It

Attorneys Harry F. Cole and Jeffrey J. Gee scrutinize the new indecency landscape.

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What's Next and What Does It Mean?

Markus Ruoss, part owner of Radio Sunshine and a broadcast consultant, plans to continue operating the HD Radio field trial in Switzerland (see story, page 1) until fall 2007. He plans more comprehensive testing, especially with regards to coverage and interference, with an eye to convincing the Swiss government to approve IBOC, according to Perry Priestley, director of international business development for Ibiqity Digital.

Ruoss hopes to demonstrate the technology's technical feasibility under demanding frequency and topographic conditions over time, and to provide results for the use of radio operators and regulators.

"It allows us to do a benchmark test in Europe that will have credibility with other countries in that region," said Tim Bealor, vice president of RF systems for Broadcast Electronics, which also is sponsoring testing in Poland and France.

Ruoss and IBOC proponents are working with an alliance that represents commercial stations in Europe. The alliance lobbies governments on behalf of members. After Switzerland, they hope to turn their focus on neighboring Austria and Germany, working toward IBOC acceptance, said Priestley.

"The more countries that implement HD Radio, the more that will be interested," he said. More worldwide acceptance could someday lead to receivers that combine DAB, HD Radio and Digital Radio Mondiale capabilities, he said.

For now, some commercial broadcasters in Europe are interested in HD Radio because it's a way to implement digital in existing spectrum. Priestley and Bealor said.



Attendees heard HD Radio received from six car and two tabletop receivers, including what is believed to be the first public demo of the Polk Audio I-Sonic Entertainment System that includes HD Radio. IBOC monitors from ADA and Audemat-Aztec were also included.

For the Swiss demo, BE provided an FXi HD-R exciter and XPI HD Radio Data Exporter and Encoder, which are current- and next-generation HD-R FM signal generator technologies. The IDi 20 importer provided the ability to interface with Sunshine Radio's hard-based storage system so the station and its 12 translators and boosters could multicast. Text displays on receivers were generated from BE product from The Radio Experience for both the analog and digital channels.

The format of the main channel is pop music. Attendees could hear that in digital at 48 kilobits per second, as well as music on an HD2 channel at 32 kbps and news/talk on an HD3 channel at 16 kbps.

The event included regulators from European countries; auto manufacturers including BMW attended, as

well as receiver makers such as Sanyo, proponents said.

BE fields several requests a month for demos or information about IBOC from other countries, representatives said.

Interference issues are a common question about IBOC from regulators in Europe. "They are concerned about bordering countries managing their spectrum," said Bealor. In HD Radio you're changing the spectral occupancy, the occupied bandwidth of an FM signal changes if you go from analog to HD because of the digital sidebands.

He has fielded several queries about how that works here and how stations may still be able to protect their first and second-adjacent channels.

On the bus, Ruoss gave attendees a visual and aural demonstration using a spectrum analyzer and letting attendees hear his station at the same time.

"He had an interferer on the bus, he would give you a visual depiction by moving that interferer in closer to his signal, so that you could see and hear the effects of an interfering signal," Bealor said. The interferer was a tunable FM signal source modulated with a 1 kHz tone.

"He would vary the frequency of that source until he started stepping on the upper sideband or the lower sideband and he would keep tuning it until he started interfering with the main analog carrier of his station."

Attendees heard HD Radio received from six car and two tabletop receivers. The latter were the Polk Audio I-Sonic Entertainment System and the Boston Acoustics Receiver HD. This likely was the first public demo using the Polk unit, due to arrive at U.S. retailers in August.

John Macdonald, BE's sales manager for Europe, the Middle East and Africa, said Ruoss was working on obtaining HD Radios to distribute to listeners.

— Leslie Stinson

Alpine

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Radio Sunshine is primarily owned by Ruoss. The company purchased a Broadcast Electronics HD Radio system for field trials and operation in the Lucerne area. The system was installed in April.

Proponents said they IBOC system is attractive to private Swiss commercial stations that serve relatively small service areas that could not be covered by a traditional Eureka-147 DAB "pod" efficiently or economically.

The highlight of the HD Radio Days demonstration was a 60-minute bus trip through the mountains near Lucerne. The high-tech outfitting allowed



From left: Tim Bealor and John MacDonald of Broadcast Electronics, Markus Ruoss of Ruoss AG and Perry Priestley of Ibiquity

Because the demonstration followed months of field trials in the challenging terrain of eastern Switzerland, private broadcasters said they were satisfied that, as an alternative to the Eureka-147 digital audio technology and its derivatives, HD Radio is workable here.

Marcel Regnotto, representing Swiss media regulators, said in opening remarks that he didn't see any reason HD Radio can't work in Switzerland.

observers to hear the transmission quality of the three offered digital signals as well as watch digital displays of spectrum analysis.

One major technical consideration facing HD Radio in Switzerland is the 100-kHz signal spacing on FM, which is much tighter than most countries. By comparison, the spacing in the United States is 200 kHz.

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Alpine

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Another consideration, immediately apparent from the bus tour, is the mountains.

Multicasting feature

The first part of the tour demonstrated good digital reception in areas where the FM signal was unusable. Inside the coverage area, the system operated "perfectly," said Ruoss, even with a simulated interfering signal.

There also was a demonstration of the multicasting feature on the Radio Sunshine frequency rather than on a test channel. Echoing words used by U.S. proponents, Ruoss called multicasting

the "killer application" for HD Radio.

"Most of the members of our association are of the opinion that HD Radio is a very interesting opportunity for Switzerland, given its many and sometimes little stations," said Energy Zürich Managing Director Jürg Bachmann. The association is a group of 25 Swiss private stations.

"The possibility of making three, four or five programs on the same frequency and in digital quality without enormous investments is very attractive," Bachmann said.

The HD Radio demonstration featured digital broadcasts of Radio Sunshine, Energy Zürich and a speech-based service channel.

According to Bachmann, while multicasting is of interest, many smaller Swiss broadcasters would be attracted to

HD Radio primarily because of their need to go digital.

The relative costs of implementing HD Radio compared to Eureka-147 DAB also are attractive to small stations, he said.

DAB strategy

Members of the commercial broadcast group held a private meeting following the Lucerne demonstration to discuss the various digital possibilities available.

Bachmann said private broadcasters continue to work with SSR-SRG Idée Suisse as part of the Swiss DAB Consortium.

"It is important for us that there is not only one digital solution for radio," he said.

SSR-SRG Idée Suisse Coordinator

Marc Savary called the HD Radio demonstration "interesting" and "useful" but said the public broadcaster remains committed to Eureka-147 DAB.

"SSR-SRG's digital radio strategy is DAB development — phase one will cover the entire country by the end of 2008, phase two with the private broadcasters in German-speaking Switzerland and the third phase in 2009 for SRS-SSR multimedia programs," Savary said.

Normalizing Swiss digital development plans with recent International Telecommunications Union Regional Radiocommunication Conference RRC-06 conventions is necessary, said Savary, because negotiators are discussing phasing out the FM broadcast band in Europe.



The high-tech bus allowed observers to hear the transmission quality of the three offered signals as well as watch digital displays of spectrum analysis.

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The FM band is not expected to be repurposed for more than a decade, said Savary. In the short term, he said, HD Radio might provide an "end of the shortage" of FM frequencies.

Heavy investment

SSR-SRG Idée Suisse has invested heavily in DAB planning and infrastructure.

"HD Radio does not seem to be an attractive solution because, really, it is only digitizing current frequencies," said Savary. "Offers such as presented in Lucerne probably involve a reduction in quality and even transmission power."

Savary said that SSR-SRG follows the test with interest because HD Radio could offer "interesting and advantageous solutions" in outlying areas or mountains.

Those involved in the demonstration and field tests praised the Swiss media regulator, the Federal Office for Communications, known by its German acronym, BAKOM.

In remarks opening the discussions, BAKOM Director for New Media Marcel Regnotto told the audience that, from the regulator's perspective, facilitating new technical platforms should be the obligation of all regulators.

Technical papers on the HD Radio field trials will be submitted to BAKOM later this year, prior to full authorization. ☺

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