



Radio-Ready Cell Phone Showcase at the Radio Show

Including radio functionality in a cellular phone is easily done, and in fact hundreds of millions of cell phones have been made with FM radio (mostly outside of the U.S.). At this week's Radio Show (September 29–October 1, 2010, Washington, D.C., www.radioshowweb.com), an exhibit in the lobby will highlight this fact and include examples of phones that have radio functionality, as well as information on devices which facilitate easy and affordable inclusion of embedded FM radio antennas.

The *Radio-Ready Cell Phone Showcase* will be located on the Constitution level of the Grand Hyatt, right next to the escalator leading down to the Renaissance level, which is where the Radio Show Marketplace and session rooms are located. Phones on display with FM radio will include the Nokia 5030 and the Motorola ROKR EM35 (shown in the photos at right) as well as phones from Samsung and Sony Ericsson.

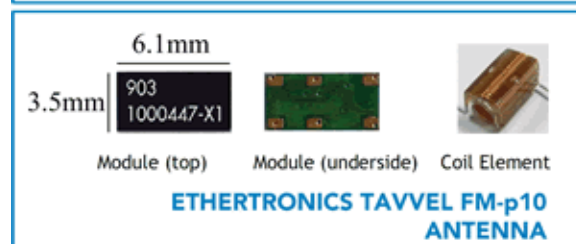


The primary components needed to include an FM radio in a cell phone include a tiny FM receiver integrated circuit (IC) or “chip” (which typically measures about 3 mm (less than one-eighth of an inch) on a side) and an FM antenna. FM receiver functionality is also often incorporated into the ICs that many cell phones already have for supporting wireless Bluetooth and WiFi capabilities, and in these instances the only additional requirement to make these phones FM-capable would be the inclusion of the FM antenna (plus some additional software for providing a user interface to the radio feature).

In most current phones with FM radio, the headset cord that is used for listening to the audio also doubles as the FM antenna, however a more elegant solution is to embed the antenna within the case of the cell phone itself. Both the Nokia 5030 and the Motorola ROKR EM35 have embedded FM antennas. However, neither of these GSM phones is currently offered by any U.S. cellular carrier.

Three embedded antenna manufacturers—Antenova (Cambridge, U.K., www.antenova.com), Ethertronics (San Diego, Calif., www.ethertronics.com), and The Technology Partnership (TTP, Melbourn, U.K., www.ttp.com)—will have posters and literature at *The Radio-Ready Cell Phone Showcase* describing their embedded antenna technology. Two of these vendors (TTP and Ethertronics) are currently developing advanced embedded antenna designs for handheld FM radio and mobile DTV (low-and high-VHF and UHF frequencies) applications with funding from the NAB FASTROAD technology advocacy program (www.nabfastroad.org). At the *Showcase*, Antenova and Ethertronics are highlighting the following off-the-shelf antenna products:

- **Antenova's M10385** module is an active antenna module consisting of Antenova's patent pending FM antenna with a matching circuit and low noise amplifier (noise figure of 1.5 dB) in a small, 30 mm x 5 mm package. The module may be surface mounted on the



cell phone host printed circuit board.

- **Ethertronics' Tavvel FM-p10** antenna consists of a small (3.5 mm x 6.1 mm) surface-mountable module and a tuning coil element. This tunable antenna (with a passband of 600 kHz, tuned over the 88–108 MHz FM band) uses a single control line to tune the antenna via pre-set control voltages.

Also at the *Showcase*, Global Security Systems (GSS, Jackson, Miss., www.gssnet.us), manufacturer of the Alert FM radio-based alert system, will be on hand to highlight radio's emergency alerting capabilities, including FM-based Radio Data System (RDS) text messaging and audio alerts, that demonstrate the power of radio to keep citizens informed in times of crisis. Even when cellular networks are overloaded, radio's reach can provide lifesaving information on the proven and effective broadcast network when a cell phone is equipped with a functioning radio chip.

Last week, GSS and Sage Alerting Systems, manufacturer of broadcast alerting equipment (Rye Brook, N.Y., www.sagealertingsystems.com), announced a cooperative agreement that advances the common alerting protocol (CAP)-based Emergency Alert System (EAS) for radio broadcasters, and according to their press release, meets Integrated Public Alert and Warning System (IPAWS) Open Infrastructure requirements.

The Sage Digital Endec, the GSSNet satellite delivery network, and CAP origination tools provide a complete end-to-end CAP source, transport, and broadcast dissemination system. The combined benefits include addressable satellite delivery of CAP-originated EAS audio and EAS text messages for all radio broadcasters, and dissemination of first-generation digital audio and text for display on any FM receiver with RDS, as well as being HD Radio-compatible.

Geo-targeted emergency information, including National Weather Service, local, state and federal messages can be supported by this system. Alert FM receivers can also be added to the system to provide text and audio delivery with sounders and flashing lights for disabled, elderly, home and business use. A regional installation in Texas will be the first to take advantage of the GSS-Sage partnership. The installation will provide individual data-delivery to each transmitter site and mitigate the risks associated with daisy-chain and Internet systems. Pilot programs in other states will soon provide a state-wide implementation utilizing the Sage and GSSNet infrastructure. The complete GSS press release is available on their website at <http://blog.alertfm.com/post/2010/09/GSS-and-Sage-Alerting-Advance-EAS.aspx>.

NAB FASTROAD Report On U.S. Sales of Radio-Enabled Cell Phones



A report released last week by NAB's technology advocacy program, FASTROAD (Flexible Advanced Services for Television and Radio on All Devices, www.nabfastroad.org) estimates the number of FM radio-enabled cellular handsets sold in the U.S. in 2008 and 2009 at 6 percent and 9.5 percent, respectively.

Prepared by The Insight Research Corporation (Mountain Lakes, N.J., www.insight-corp.com), this report, entitled "Study of FM Radio-Enabled Handsets in the U.S." notes that a previous FASTROAD study conducted in May 2008 by Dr. Joseph S. Kraemer, Director, Law and Economics Consulting Group, estimated that eight percent of wireless devices shipped in 2007 had an FM chip installed.

- Insight Research developed the statistics in the new FASTROAD report by:
- Identifying cellular carriers and the specific handset models sold in 2008 and 2009 that offer FM radio;
- Estimating the total number of handsets sold in the U.S. in 2008 and 2009, as well as the number of handsets sold by each carrier;
- Estimating percentage of sales of FM radio-enabled handset devices based on store checks, interviews with company representatives and company reports;
- Aggregating these estimates, and finally, conducting a consistency check on the total number with other industry sources.

Further, their research revealed that consumers often have trouble accessing the FM radio feature even when their existing device has it. Insight states that this is consistent with the fact that many carriers neither promote the feature during the sales process nor provide instructions on use during post-sale support. Most cell phones require an FM antenna in order for the FM radio feature to appear in the device menu. The consumer must plug in a pair of headphones which will act as the antenna. Users that rely on a Bluetooth

earpiece will not have the correct antenna attached to the cell phone. In many cases, the headphones are an additional accessory that is not included with the device and must be purchased separately. Unless the consumer purchases the headphones and attaches them to the device, they may never see that the FM radio feature is available.

Both the just-released Insight Research report and the May 2008 Kraemer report are available for download free-of-charge from the FASTROAD web site.



Sidney Skjei of Skjei Telecom conducts the seminar for NAB. Mr. Skjei has more than 30 years of experience in engineering and is highly knowledgeable in all major satellite communications market areas.

Spaces Still Available for NAB's 2010 Satellite Uplink Operators Training Seminar

October 4–7, 2010 • Washington, D.C.

In just four days, NAB will teach you the skills necessary for the proper operation of the satellite uplinks. Now certified by the Satellite Users Interference Reduction Group (SUIRG), this course offers expert training for you and your staff. Interference is an industry-wide problem. One solution is well-trained operators. The seminar includes: in-depth information about the theory of satellite communications, a satellite newsgathering truck demonstration and a half-day field trip to SES Americom Operations Center. Space is limited so register now. There is additional information on NAB's [website](#) or contact [Cheryl Coleridge](#) at 202 429 5346.

Plan to Attend

The IEEE Broadcast Technology Society 60th Annual IEEE Broadcast Symposium

October 20–22, 2010

The Westin Alexandria • Alexandria, Va.

Keynote speakers for this year's symposium include James Martin, Director, ISR Programs for the U.S. Department of Defense and James O'Neal, Technology Editor, *TV Technology, USA*. Additional details on the [technical program](#) and how to [register](#) are available on the IEEE Broadcast Technology Symposium [website](#). The advance registration deadline is October 1!

Submit Your Proposal for Now 2011 NAB Broadcast Engineering Conference

Las Vegas Convention Center, Las Vegas, Nevada

Conferences April 9–14, 2011/Exhibits April 11 – 14, 2011

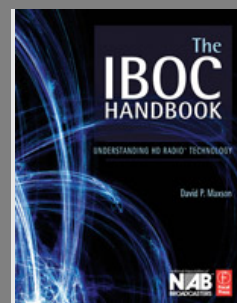
[Deadline for submissions](#) is October 22, 2010.

The 2011 NAB Show will host the 65th NAB Broadcast Engineering Conference. This world-class conference addresses the most recent developments in broadcast technology and focuses on the opportunities and challenges that face broadcast engineering professionals. Each year hundreds of broadcast professionals from around the world attend the conference. They include practicing broadcast engineers and technicians, engineering consultants, contract engineers, broadcast equipment manufacturers, distributors, R&D engineers plus anyone specifically interested in the latest broadcast technologies.

In order to be considered, proposals must explain what attendees can expect to learn from the paper, must not be a sales pitch and should be no more than 200 words in length.

Papers accepted for presentation at the 2011 NAB Broadcast Engineering Conference will be eligible for the [NAB Best Paper Award](#). Established in 2010, the Best Paper Award honors the author(s) of a paper of exceptional merit published in the *NAB Broadcast Engineering Conference Proceedings*. The yearly proceedings, published as both a book and a CD-ROM is a compendium of these technical papers, and an

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Instructor:
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Washington, D.C.



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Technical paper proposals submitted for the 65th annual [Broadcast Engineering Conference](#) will be accepted until the October 22 deadline. If you have any questions, contact [John Marino](#), VP NAB Science and Technology at (202) 429-5346.

