February 7, 2011

Radio TechCheck

NAB NATIONAL ASSOCIATION OF BROADCASTERS

The Weekly NAB Newsletter for Radio Broadcast Engineers

International Research Park Brings Leading Edge Technologies to the 2011 NAB Show

At last year's NAB Show, a new exhibit area premiered – the *International Research Park*, highlighting research and development in leading-edge media technologies from the United States and around the world. Exhibits featured advanced technologies and equipment not yet commercially available, presented by start-ups, established companies and research organizations, all pushing the envelope for content production, processing, distribution, broadcast, display and interaction with the consumer.

Building on the success and excitement generated by last year's debut, the "IRP" returns to the 2011 NAB Show with more exhibitors, more space, and more countries represented this year. It also features a new location, along the North Wall of the North Hall, adjacent to the walkway to the Hilton Hotel and Pavilion.

This year's IRP will include 17 exhibitors, occupying over 3,000 square feet of research exhibit space, plus a large, adjacent presentation theater area. Seven countries and three international standards development organizations will be represented there.

Several exhibitors featured at last year's IRP will return, joined by a number of first-time exhibitors in 2011. The complete list includes the following organizations (shown with their country of origin):

- 2020 3D Media (Spain)
- Alouette Technology (Japan)
- Advanced Media Workflow Association & European Broadcast Union (U.S./Switzerland)
- Communications Research Centre (Canada)
- Electronics and Telecommunications Research Institute (ETRI) (Korea)
- Georgia Tech. School of Electrical and Computer Engineering (U.S.)
- Internet Media Device Alliance (U.K./U.S.)
- Microsoft Research (U.S.)
- Newsight Japan (Japan)
- NHK (Japan)
- NPR Labs (U.S.)
- Rochester Institute of Technology (U.S.)
- Ryerson University (Canada)
- Sandia National Labs (U.S.)
- Speech Conversion Technologies, Inc. (SCTI) (U.S.)
- Syncbak (U.S.)
- Zaxel Corporation (Japan)

Among the technologies scheduled to be presented by these exhibitors are numerous new directions in 3D technology, perceptual coding, transmission, measurement, interactive media, mobile digital broadcasting, metadata systems and higher-resolution audio/video presentation.

At press time, some specific highlights planned include the following:

- A prototype White Spaces networking system from Microsoft Research, showing its intrinsic ability to avoid interference with DTV and wireless microphone channels in the UHF band that they all share.
- Radio captioning for the hearing impaired from NPR Labs.
- A *Framework for Interoperable Media Services* (FIMS), an emerging standard that builds on existing program interchange formats for file-based teleproduction, which enables flexible integration of such equipment and subsystems from multiple manufacturers (presented by AMWA and the EBU).
- An improved version of one of last year's highlights – the fuel-cell powered cinema/television lighting rig from Sandia National Labs and partners.
- An automated solution for profanity filtering and live captioning in English and Spanish from SCTI.
- Audience authentication for local broadcast television streams from Syncbak.

In an anchor pavilion at the East end of the IRP, Japanese broadcaster NHK will present new Ultra HD ("Super Hi-Vision") content in a theater specially designed for the 7680 x 4320/60P, 22.2 audio-channel format. The system boasts video resolution 16 times that of today's HDTV, with uncompressed audio that is three-dimensionally immersive to the audience.

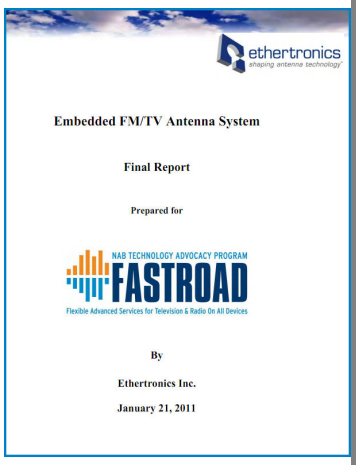
Also in the neighborhood around the IRP will be NAB's Radio-Ready Cell Phone Showcase, ATSC's Tech Zone and the Mobile DTV Pavilion, jointly presented by ATSC and the Open Mobile Video Coalition (OMVC). All of these exhibits will present leading-edge developments in their respective technology areas, making an extended trip to the North Hall a must for broadcast engineers this year.

The International Research Park at the 2011 NAB Show will provide a glimpse of the future – all in one place. It will allow 2011 NAB Show attendees to conveniently spend some time scanning the horizon, to learn and experience the innovations, new fundamental breakthroughs, and the current state of advanced projects underway in academic, government and commercial research laboratories worldwide. What you see there today may change the way the industry works tomorrow.

For more information about the 2011 NAB Show, and for online registration, please see: www.nabshow.com/.

Improvements in Embedded Antennas for Broadcast Reception in Handheld Devices Unveiled

On February 1, NAB FASTROAD announced the release of two reports on the development of improved VHF and UHF frequency band antennas to support reception of broadcast radio and mobile DTV signals in handheld devices. These FASTROAD-funded projects were undertaken to help accelerate the proliferation of radio and mobile DTV receivers in cell phones, which can benefit greatly from the use of embedded antenna solutions.


ethertronics
shaping antenna technology

Embedded FM/TV Antenna System

Final Report

Prepared for

NAB TECHNOLOGY ADVOCACY PROGRAM
FASTROAD
Flexible Advanced Services for Television & Radio On All Devices

By

Ethertronics Inc.

January 21, 2011

These reports, present the results of separate antenna development efforts conducted by Ethertronics, an antenna systems company based in San Diego, Calif. (www.ethertronics.com), and The Technology Partnership (TTP), a technology development company based in the U.K. (www.ttp.com). Each company has developed new antenna solutions to operate over low- and high-VHF and UHF TV band frequencies as well as the VHF frequencies which comprise the FM radio band. This broad frequency range requirement, combined with the small size and power constraints of cell phones, presented a significant challenge for design and implementation of small antenna systems.


NAB TECHNOLOGY ADVOCACY PROGRAM
FASTROAD
Flexible Advanced Services for Television & Radio On All Devices

Broadcast Antenna for Handsets

Final Report – Executive Summary

December 15th, 2010

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New, embedded antenna designs, such as those developed under these FASTROAD projects, offer a much more attractive antenna solution to handheld device manufacturers than the headset cords or fragile, telescoping "monopoles" currently in use. NAB and the antenna development partners encourage the use of these new designs by cellular handset and other portable device manufacturers for new radio and ATSC mobile DTV receiver products.

The full text of the TTP report, "Broadcast Antennas for Handsets: Final Report – Executive Summary," and the Ethertronics report, "Embedded FM/TV Antenna System – Final Report," and information on the NAB FASTROAD technology advocacy program are available at www.nabfastroad.org. Inquiries on use of this technology in new products is encouraged - please contact NAB Science and Technology Senior Director, Advanced Engineering David Layer at dlayer@nab.org.