October 18, 2010

Radio TechCheck

NAB NATIONAL ASSOCIATION OF BROADCASTERS

The Weekly NAB Newsletter for Radio Broadcast Engineers

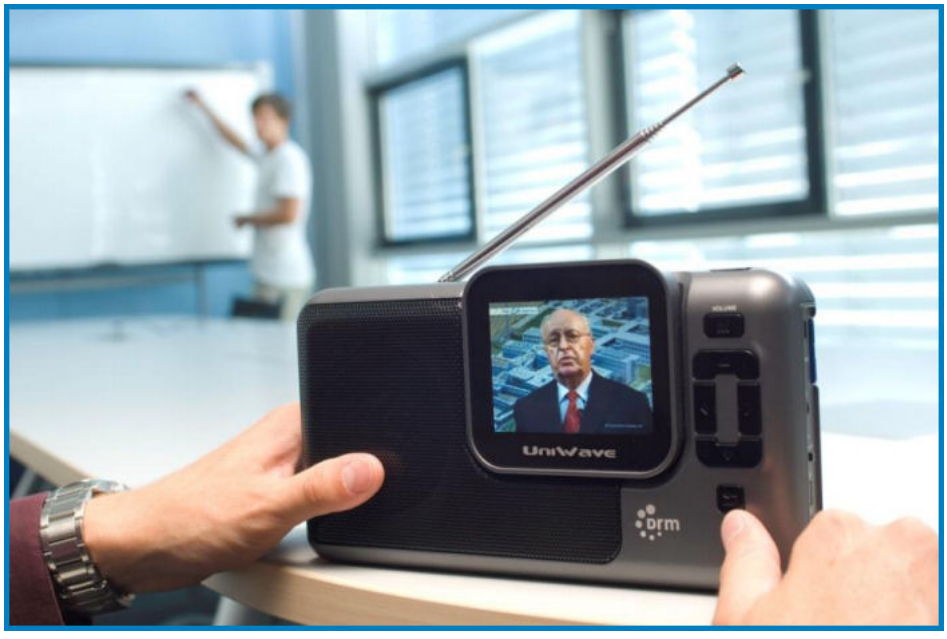
Video Transmission Demonstrated over Medium Wave DRM30

Digital Radio Mondiale (DRM, www.drm.org) is a European consortium of broadcasters, network providers, transmitter and receiver manufacturers, universities, broadcasting unions and research Institutes, that has developed two digital radio systems: DRM30, designed primarily for shortwave and international broadcasting operating in the frequency bands below 30 MHz, and DRM+, providing support for operation in the VHF band at frequencies up to 174 MHz (see the June 28, 2010 issue of *Radio TechCheck* for additional information about DRM). In September at IBC2010 (Amsterdam, The Netherlands, www.ibc.org) a new video service was demonstrated over medium wave frequencies using the DRM30 system.

Called Diveemo, this new "…small-scale video service" was initiated as a joint effort between Fraunhofer IIS, Thomson Broadcast & Multimedia and Chengdu NewStar Electronics. According to a recent press release, "Diveemo delivers cost efficient large-area distribution of education and information video programs via DRM." The launch of Diveemo at IBC featured a live video broadcast with BBC content displayed on a NewStar DRM receiver (shown in the photo). Some of the applications envisioned for Diveemo include usage as a distance learning system, news transmissions for offshore sites (such as oil drilling platforms), video information in alarm or emergency situations, video-based news services and advertising.

Diveemo is designed to offer a convenient mobile small-scale video service experience, allowing users to quickly switch between channels and enjoy consistent audio and video even under bad reception conditions. A video stream can be accompanied by one or more audio streams, allowing for synchronous, multi-language support. Diveemo-enabled receivers also support all the features of the DRM Digital Radio standards, such as service selection by Unicode-compatible station labels, alternative frequency signaling and switching, announcement and warning/alert features. Diveemo is on track to be standardized by the European standards group ETSI (www.etsi.org) in the near future.

At IBC, the live demonstration originated at the Orfordness, UK DRM transmission site, approximately 200 miles from Amsterdam, on a frequency of 1296 kHz. For reception, a Diveemo-enabled NewStar prototype was utilized (shown in photo). Some of the technical parameters for Diveemo used in the demonstration include the following:



- H.264 video compression (MPEG-4 AVC)
- HE-AAC v2 audio coding
- 176 x 144 pixels, 16.7 million colors
- 8 frames per second
- Net data rate – 48.54 kbps

For DRM+, parameters used for Diveemo are similar except the frame

rate is increased to 15 frames per second resulting in a net data rate of 185 kbps.

A video presentation of Diveemo is available on YouTube at www.youtube.com/watch?v=FGMiRRUgvcM&feature=related. For additional information on Diveemo contact Matthias Stoll, Member of the DRM Steering Board and the DRM Executive Board, at Thomson Broadcast, Matthias.stoll@thomson-broadcast.com.

One Week Left to Submit Proposals for the 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.

There is only one week left to submit your proposal for 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.

The topics of particular interested selected by the NAB Broadcast Engineering Conference Committee are listed on the Call for Proposal webpage. 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 important archive of the leading edge of broadcast engineering issues.

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.

ADVERTISEMENTS