

## Press Release

# Successful test of low cost DAB contribution solution

Small scale DAB projects provide valuable options for local broadcasters

September 11<sup>th</sup> 2017 – A small scale DAB broadcasting project in Eindhoven, the Netherlands, has successfully tested an extremely low cost contribution chain for DAB(+) ensembles. The scalable architecture might well be the most cost effective solution to date for local broadcasters interested in DAB transmissions to create a DAB multiplex stream.

As part of the 'DAB+ 4 Brainport' project it was decided to apply the well-known Open Digital Radio software [1] on low cost Raspberry Pi processing units. With these a contribution network has been built, transferring the signals from 7 local radio stations to a central multiplex unit, which supplies the multiplex stream to the DAB distribution network. The network has run for more than 2 months, and has proven to be very reliable. Any service interruptions that occurred ultimately turned out to be due to e.g. unannounced changes in the provisioning of the audio streams or other problems in the delivery of the audio source. None were due to problems with the Raspberry Pi units or the programs applied.

“Contrary to a number of DAB experiments currently run in the Netherlands I wanted to test whether or not low cost distributed processing could provide a reliable DAB multiplex stream for our local DAB network”, said Gerard Lokhoff, the initiator of the 'DAB+ 4 Brainport' project. “I'm very satisfied with the result, proving that such small scale projects can provide valuable options for local broadcasters”.

The architecture allows for a hybrid structure, in which radio stations can either encode the audio in-house, which also enables them to easily change the text (DLS) or image (MOT) information embedded in the audio stream, or use a central audio encoder at the multiplex site. The processing power of the Raspberry Pi is enough to encode up to four radio stations on a single unit simultaneously, with the limiting factor actually being the temperature of the processing core. The final multiplexing of the signals requires very little processing power.

The cost of this DAB contribution chain set up nicely scales with the number of different Raspberry Pi units used. If every radio station decides to encode the audio in-house, this will cost about € 50 ~ 60 per station plus € 50 ~ 60 for the multiplexing unit. It is assumed that reliable Internet connections are available, with enough bandwidth to support the encoded audio streams (typically about 64 to 128 kbits/sec per station) as well as the DAB multiplex signal (max 2 Mbps).

Details of the architecture can be found on the OpenDigitalRadio Wiki [2] or the RaspDAB Github project page [3]..

References:

[1] <http://www.opendigitalradio.org/>

[2] [http://wiki.opendigitalradio.org/RaspDAB/The\\_RaspDAB\\_contribution\\_chain](http://wiki.opendigitalradio.org/RaspDAB/The_RaspDAB_contribution_chain)

[3] <https://github.com/glokhoff/RaspDAB/wiki>

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