

UK local DAB Research

WorldDMB November 2013

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Software Defined Transmission:

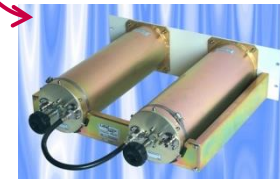


Audio ISO Encoders +
Ensemble Multiplexer +
COFDM.

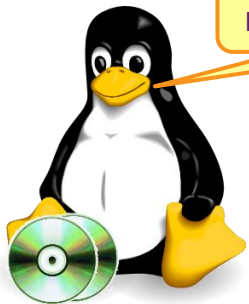
Software Defined Radio



RF Linear Amplifier



Potentially
simpler filtering



Like the analogue systems,
DAB is now a free standard.

Large SFNs are not practical for small stations...

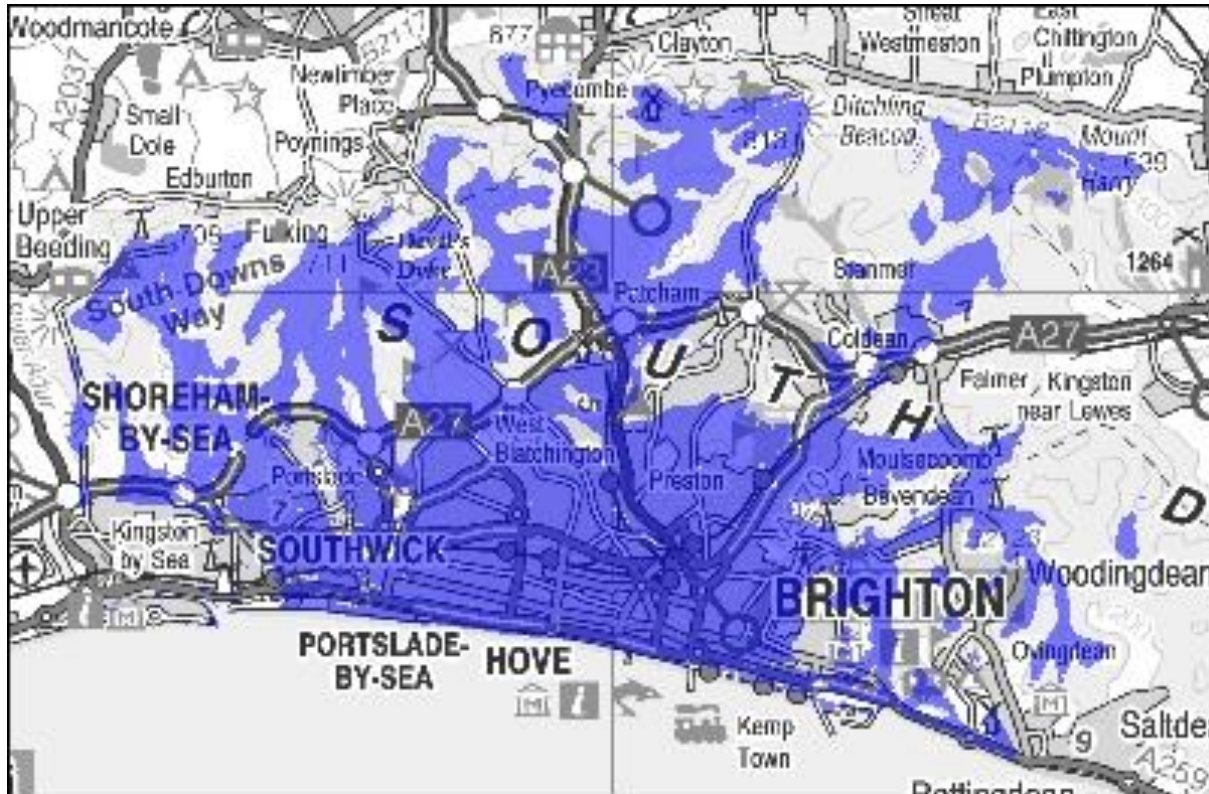


Sussex Coast local DAB multiplex service (NOW Digital) indoor coverage normal propagation conditions, January 2013

The Brighton Experiment:

- Could a single transmitter, low-power multiplex serve a city:
 - Reliably?
 - CAPEX comparable to FM?
 - Without causing ACI problems?

Predicted Coverage



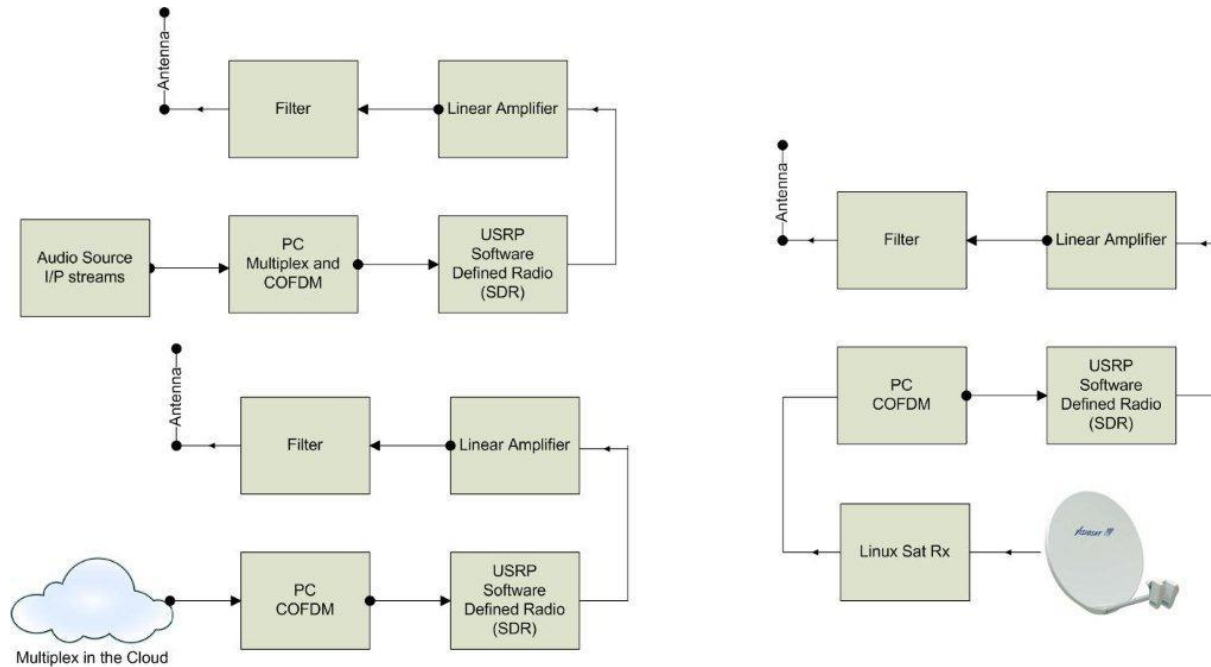
Predicted terrain-limited coverage, for mobile reception (58dBµV/m or better).

Measured Coverage



Measured coverage, showing calculated *indoor* reception area (green).

Tested Configurations:

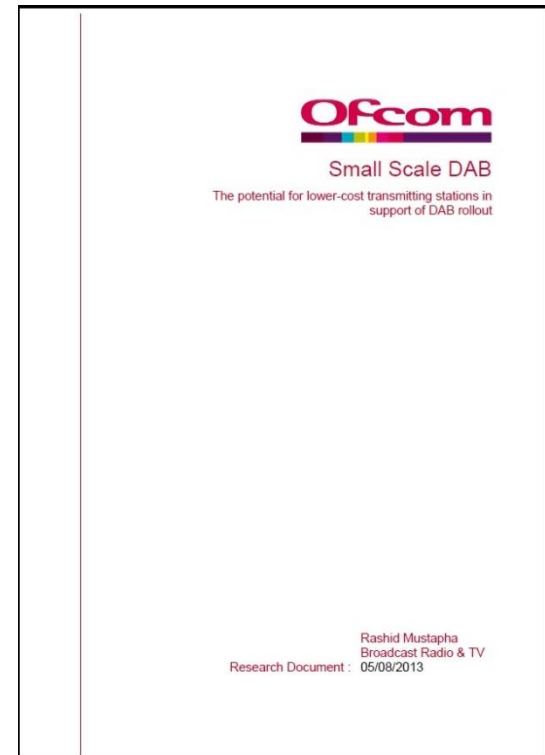


Alternative configurations

Our work:

- We published* a 'light' report.
- Presented our findings to Government.
- More field work to test SFN use.
- Considering possible licensing policy.

*<http://stakeholders.ofcom.org.uk/market-data-research/other/radio-research/Software-DAB-Research/>



Potential applications.

- We are continuing to examine how Open Source might enable:
 - Local, community, temporary, and other incremental services.
 - Serving remote rural areas (last few per cent population).
 - Low-cost Adjacent Channel Interference (ACI) hole repairing to encourage network roll-out by alleviating 'first mover' problem.

Thank you!

<http://ofcom.org.uk>



 **mmbTools** <http://mmbtools.crc.ca/>

<http://www.opendigitalradio.org>

