

WorldDAB Forum

Digital Radio Receiver Profiles

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WorldDAB Digital Radio Receiver Profiles

Summary

The WorldDAB Digital Radio Receiver Profiles originated in 2008 and were designed to help create a vibrant digital radio market across Europe and the world by defining minimum functionality for different classes of digital radio receivers that use the DAB system. The scheme was devised by WorldDAB, working in conjunction with its members and with the EBU – representing the perspective of broadcasters – and EICTA (long since Digiteurope) – representing the perspective of manufacturers.

The WorldDAB Digital Radio Receiver Profiles have been updated on several occasions since then as developments have advanced and more countries have started regular DAB digital radio services.

This new version of the WorldDAB Digital Radio Receiver Profiles takes account of the establishment of the pan-European standard for minimum requirements with included test methods – ETSI TS 103 461 – which sets the baseline for DAB digital radios globally, and the advancement of IP delivered transport and traveller information (TTI) services, which have largely replaced some of the earlier ideas for broadcast TTI services.

Broadcasters and regulators may select any of the audio and multimedia capabilities of the DAB family of standards to meet the specific needs of their market, whilst those already broadcasting may be planning the introduction of more advanced features.

Scope

The WorldDAB Digital Radio Receiver Profiles define the minimum functionality requirements of products within two distinct groups:

- Receiver Profile 1 describes the minimum functionality of all DAB receivers, and ETSI TS 103 461 describes the performance necessary to meet these requirements.
- Receiver Profile 2 describes additional functionality that may be added to receivers with a colour display screen, commonly found in higher-end vehicles.

Note: the former Receiver Profile 3 has been removed because mobile television services are now considered beyond the scope of the Receiver Profiles.

Manufacturers may offer additional features in order to differentiate their product from others.

Manufacturers may choose to self-declare adherence of a product to one of the Receiver Profiles.

Broadcasters may use the Receiver Profiles to plan services for maximum take-up.

Regulators may use the Receiver Profiles to develop strategies and policies for digital radio broadcasting within national boundaries or with reference to trans-national and harmonised markets.

The WorldDAB Receiver Profiles reflect receiver design issues and broadcaster capabilities appropriate for the current period and for the foreseeable future. Future changes and additions to the ETSI standards defining the DAB family of standards, technology advances and market developments will be reviewed and may lead to revision of these Receiver Profiles.

WorldDAB will publicise the Receiver Profiles and actively encourage its members to adopt them.

Receiver Profile 1 - Standard Radio Receiver

This is an audio receiver with at least a basic alphanumeric display. The requirements are fully described in ETSI TS 103 461

Spectrum ¹	Band 3 reception (174 to 240 MHz).
Channel decoding	Decoding of a minimum of one sub-channel. Decoding of a minimum of 208 Capacity Units for sub-channels containing DAB audio services. Decoding of a minimum of 144 Capacity Units for sub-channels containing DAB+ audio services.
Audio	DAB audio ² decoding. DAB+ audio ³ decoding.
Text	Service label and service component label (station name) display. Dynamic label display on products with a 2-line display or better (except for in-car products).
Analogue services	FM-RDS ⁴ decoding.
Traffic & Travel	For in-car products, tuned ensemble road traffic announcement ⁵ signalling and switching.
Service Following	For in-car products, service following ⁶ between DAB and DAB+ services and their signalled simulcasts carried on FM-RDS and in adjacent DAB ensembles.

Receiver Profile 2 - Rich Media Radio Receiver

This is an audio receiver with a colour screen display of at least 320 x 240 pixels. In addition to all Receiver Profile 1 functionality, it is recommended to include:

Channel decoding	Simultaneous decoding of a minimum of four sub-channels. Decoding of a minimum of 288 Capacity Units (total).
Text	DL Plus ⁷ presentation. Journaline ⁸ presentation.
SPI	Service and Programme Information ⁹ presentation, especially station logos. The SPI may also be used to select and record services.
SlideShow	SlideShow ¹⁰ presentation.

¹ Note that centre frequencies used in Europe are not used throughout the world; receivers designed for global use will need to tune to other centre frequencies

² As defined in ETSI TS 103 466

³ As defined in ETSI TS 102 563

⁴ As defined in ISO EN 62106:2015

⁵ As defined in ETSI TS 103 176

⁶ As defined in ETSI TS 103 176

⁷ As defined in ETSI TS 102 980

⁸ As defined in ETSI TS 102 979

⁹ As defined in ETSI TS 102 818 and TS 102 371

¹⁰ As defined in ETSI TS 101 499