

# DAB+ technical update

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# Topics

- Receiver testing
- Text handling
- World DAB Technical Committee current activities

# Receiver testing

- For DAB receivers, the ETSI standard TS 103 461 remains the basis of most receiver testing
- It is used as the basis for the Digital Radio UK Tick Mark certification scheme
- It provides functional and performance requirements for DAB receivers
- It provides test methods and success criteria for both core technology (i.e. chips and modules) and for products

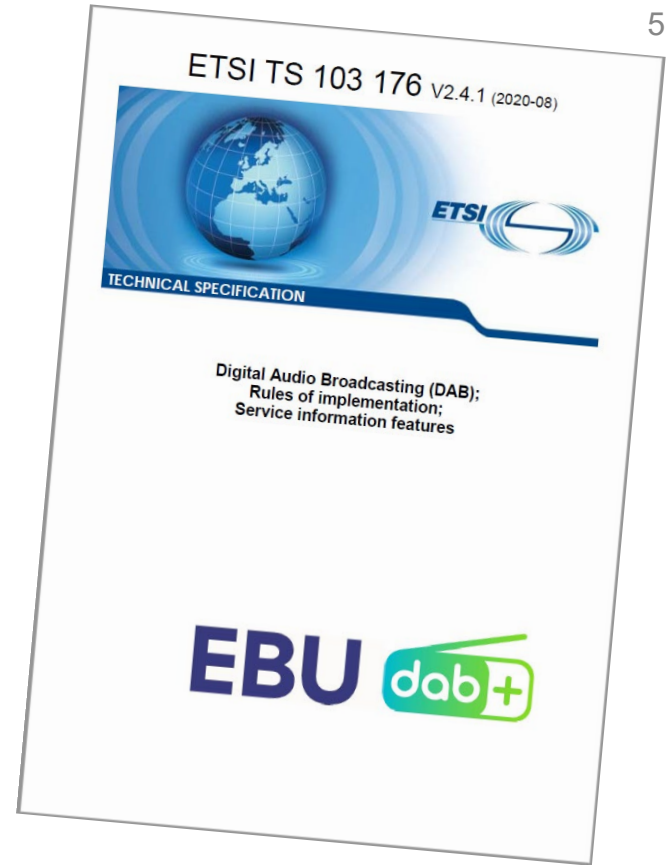


# Receiver testing

- Since the original publication, extra requirements have been incorporated to make the specification suited to a much wider geographical area:
  - The regional text profiles concept is integrated into the text
    - As DAB in vehicles is now mandated by the EU in member states through the EECC, the **All Europe** regional profile is specifically mentioned
  - All receivers are tested for correct reaction to emergency alarm announcements
  - Extra service following tests with the Extended Country Code (ECC) are added
- The extra core technology tests ensure that the chip sets and modules used in products will be able to deliver **non-Latin text** to suitable displays

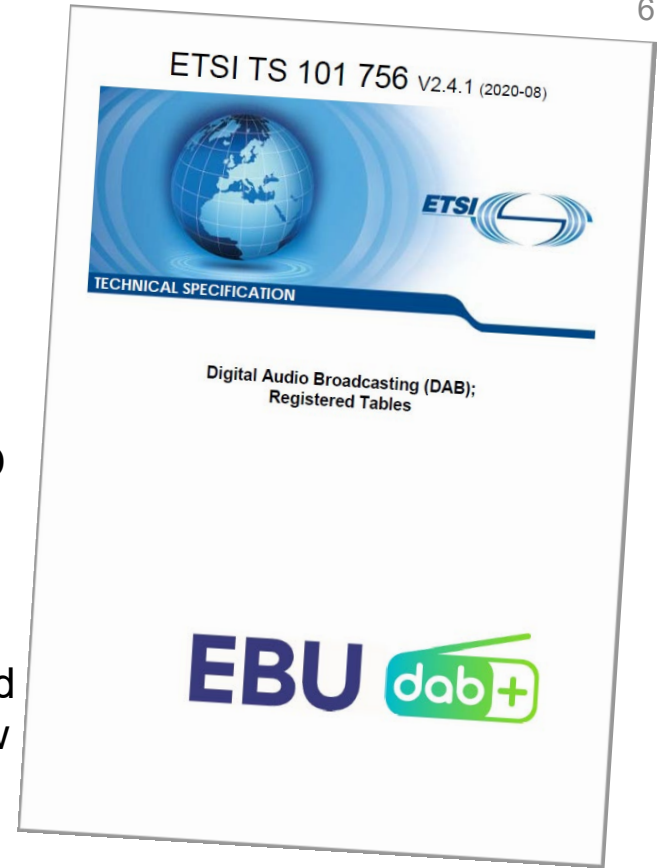
# Text handling

- This ETSI specification defines the rules for broadcasters and receiver implementers for complex service information features
  - Service following
  - Announcements
  - Service lists
  - Non-Latin text
- The framework for using non-Latin text provides
  - A signalling field for key complexity indicators so receivers can implement proper presentation
  - The regional profiles concept to define scope and limits for particular markets so that the text broadcasters provide is displayed correctly



# Text handling

- The DAB registered tables specification contains all the regional text profiles
  - Four profiles
    - EBU Latin abcdef
    - All Europe abcdef αβγδεζ ЖЩЙЯЮ
    - ASBU جسدضغڱ abcdef
    - Thai ถัฒฬรค abcdef
- Additional regional profiles can be defined
  - WorldDAB will coordinate with broadcasters and industry representatives to create workable new profiles



- The SPI – Service and Programme Information – specification consists of two parts
  - The metadata description in XML
    - The same for broadcast and IP (hybrid radio)
    - Covering a wide range of use cases
      - Business to business
      - Delivery to consumers
  - The transport and binary encoding
    - For broadcast using DAB

# Hybrid radio

- The Hybrid Digital Radio XML Specification has been further updated to improve the handling of metadata in more languages
  - Phonemes and aliases for service names can be provided to allow voice assistants to correctly interpret colloquialisms for radio stations
  - Clearer guidance on how to identify and use metadata in different languages





# Broadcast radio

- The Transportation and Binary Encoding Specification has been revised by the TC Task Force
  - The document has been restructured to make it more usable
  - Clearer explanations are provided for encoding and decoding
  - The examples have been extended and brought up to date
- The TF will now develop a “best practice” guideline to help broadcasters and device makers
- Both SPI specifications have been approved by WorldDAB Steering Board for processing and publication by ETSI



# TF-Emergency Warnings

- The Steering Board received a request from Digital Radio Germany to assist with the international standardisation for testing receivers capable of responding to emergency warnings delivered over DAB
- The SB has asked the TC to deliver this project
  - The work has some parallels with previous work on turning the UK Tick Mark into an international ETSI standard
  - The TC will define the technical requirements and test methods
  - The German authorities will define any certification scheme they need using the new standard as its technical basis
- The TF has held several web meetings and is making good progress
  - More information later in this session

# Thank you



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