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WorldDAB ASA (Automatic Safety Alert) / EWFplus
Deutsches DRM-Forum 2025

By Olaf Korte

Digital Radio / Broadcast Applications

WorldDAB ASA / EWFplus, reliable near realtime emergency warning to the public

Modulares MoWaS Warnsystem

EWFplus:
WorldDAB ASA
inclusive Journaline

Emerngency case

- flooding
- Forest fire
- Chemical disaster
- Terror attack
- …

Emergency authority

- Fire brigade
- police
- Minister of internal affairs
- …

MoWaS

Processing and Transport of Emergency Information :

- authentity
- SAT-Uplink
- SAT-Downlink

Emergency Warning Functionality plus

EWFplus:

- Geofenced Wakeup function
- Audio via TTS
- Dynamic label
- Journaline for multilingual, detailed text information

DAB+ networks

within 1 minute

- Geofenced Alarming and transmission of EWF content
- Link to other alarming DAB+ networks

DAB EWFplus receivers

Automatic presentation of emergency warning content:

- DAB-EWFplus Radios
- Public signage
- Public loudspeaker systems

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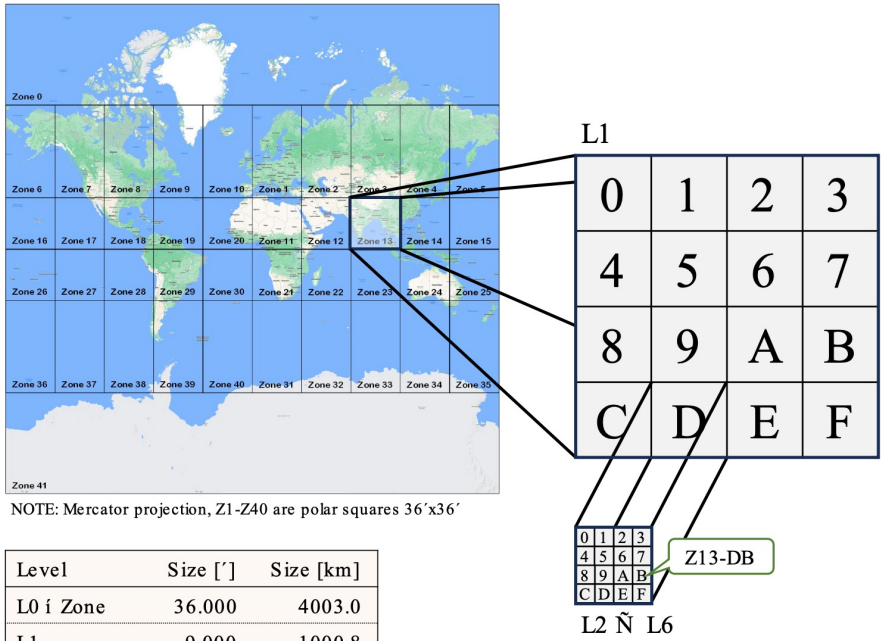
WorldDAB ASA / EWFplus, Geofencing - Location Code Scheme

Hierarchical Code scheme of WGS84 Coordinates

- Granularity scales with code length
  30-bit code (L6) has ~1km resolution (vertical)
- Shorter coders are larger square
- Serves to define
  - Alert region in a set of codes
  - Receiver location with single 30-bit code

Properties

- ***Universal***
  Code scheme proides for any location globally
  No region-specific mechanisms involved
- ***Light-weight***
  Receiver support feasible in entry-class model
  No special requirement to UI, memory or CPU
- ***Efficient***
  Compact encoding of arbitrary region, low (FIC) data capacity, fast ransmission (<1sec) of alert region



NOTE: Mercator projection, Z1-Z40 are polar squares 36´x36´

Level	Size [´]	Size [km]
L0 í Zone	36.000	4003.0
L1	9.000	1000.8
L2	2.250	250.2
L3	0.563	62.5
L4	0.141	15.6
L5	0.035	3.9
L6	0.009	1.0

NOTE 1: Polar zones (Z0, Z41) extend 18´ from pole
NOTE 2: Length of spherical rectangles is only independent from latitude in N-S direction. Given sizes apply to E-W direction only at equator.

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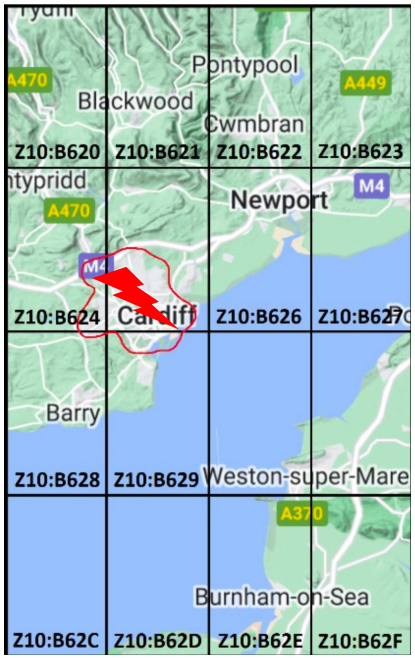
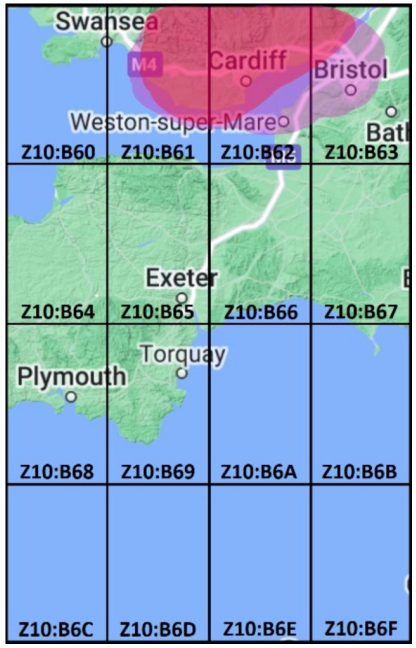
WorldDAB ASA / EWFplus, Geofencing against overwarning

Affected region: Cardiff



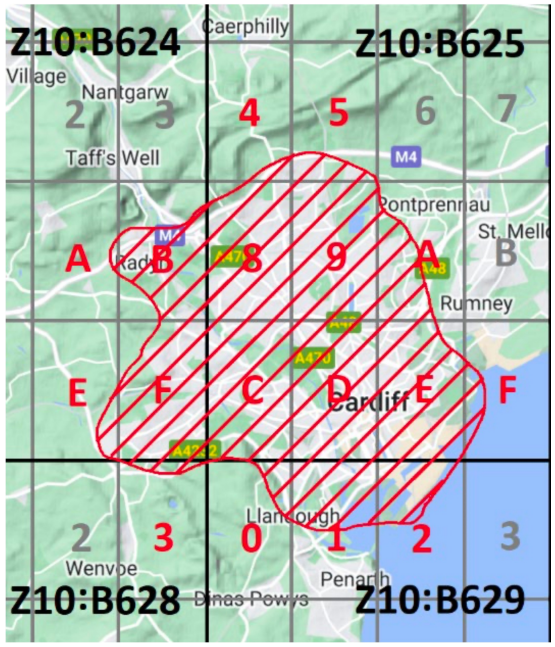
Local Alert Event:
flooding, chemical disaster,
....

DAB Ensemble coverage area



DAB coverage area is much
larger (problem of overwarning)

ASA geofencing
(rectagnles, covering affected region)



Alert transmitted in whole coverage area,
signalling only valid within geofenced area

ASA Automatic Safety Alert

dab+ mehr radio

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WorldDAB ASA / EWFplus – technical compontents in the alert chain

Modulares MoWaS Warnsystem

EWFplus:
WorldDAB ASA
inclusive Journaline

Emerngency case → **Emergency authority** → **MoWaS** → **Emergency Warning Functionality plus** → **DAB+ networks** → **DAB EWFplus receivers**

- **CAP – ASA geofencing converter**
- **Journaline Encoder**
- **Audio from Text with Allinga TTS**
- **DAB ContentServer with ASA/EWFplus**
- **EWFplus Receiver SDK**

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WorldDAB ASA / EWFplus – our contributions

Converter CAP geofencing → ASA geofencing

- minimize overwarning
- identical coding for all cooperating DAB networks
- integration in MoWaS system of BBK/mecom

DAB ContentServer

- new WorldDAB ASA option, first on the market since Oct ‘24
- included in ContentServer licenses with valid SUS
- separate license for other ContentServer users

EWFplus Receiver SDK

- SDK for receiver manufacturers
- first Frontier independent solution for the market
- license always includes Journaline
- easy and ASA conform implementation

EWFplus consulting / testing support

- Digitalradio Deutschland e.V. Group for introduction of regular ASA operation
- BBK
- MediaBroadcast
- Receiver manufacturers
- Network Operators

ASA
Automatic Safety Alert

ASA Automatic Safety Alert

dab+ mehr radio

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WorldDAB ASA - current activities in Germany

Germany: “Bundesweiter Warntag 2025” (11th Sept)

- Coordination: Digitalradio Deutschland e.V. ASA working group
- Partners: BBK, ARD, Deutschlandradio, MediaBroadcast and more
- ASA Alerts with “artificial” geo locations at 11:00 and 11:45
- ASA Consumer Receivers available in August 2025

Germany: preparation for “ASA Regelbetrieb”

- Goal: First regular ASA services in 2026 with reliable live connection to MoWaS (mecom/BBK)
- To be used only for highest priority alerts, issued by BBK (Bundesinnenministerium), Lagezentren der Länder (Landesinnenminister)
- Coordination: Digitalradio Deutschland e.V. ASA working group
  - Technical group (Head: Olaf Korte)
  - Contracts/Law (Helmut G. Bauer)
- Partners: BBK, ARD, Deutschlandradio, MediaBroadcast and more

ASA
Automatic
Safety Alert

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WorldDAB ASA - current activities in WorldDAB

WorldDAB TC EWS Headend Guidelines

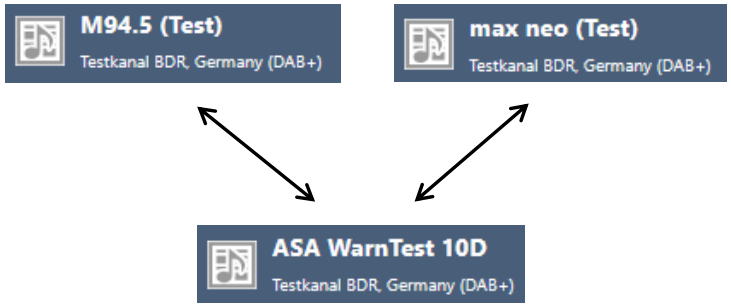
- Harmonization of Interfaces for EWS/ASA feed to Multiplexers
- How to trigger an EWS Alert at Multiplexers
- Datasets
- Workflows
- Studio aspects
- Network aspects

WorldDAB TC EWS Automotive

- Implementation Aspects for in-vehicle-receivers
- How to handle background scanning?
- How to handle dynamic location?

ASA-Warntests | Demo

TE-Test
(umschalten innerhalb des Ensembles)



ASA Infotext

Test zur vollen Stunde
Testregionen 1 und 2.
Empfänger schalten um.
Ausgeschaltete
Empfänger werden aufgeweckt.

Test zur dreiviertel Stunde
Testregionen 1 und 2.
Empfänger schalten um.
Kein Aufwecken ausgeschalteter
Empfänger.

LEVEL 2 TEST

Test zur viertel Stunde
Testregion 1.
Empfänger schalten um.
Ausgeschaltete
Empfänger werden aufgeweckt.

Test zur halben Stunde
Testregion 2.
Empfänger schalten um.
Ausgeschaltete
Empfänger werden aufgeweckt.

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WorldDAB ASA - more information about ASA

- https://www.worlddab.org/dab/asa-emergency-warnings
- https://www.dabplus.de/asa/
- https://radio.asa/ (location code for radio preset)
- https://www.bayerndigitalradio.de/asa/
- https://www.iis.fraunhofer.de/de/pr/2024/20241113_new_emergency_warning_feature_dab.html

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Olaf Korte - Thank you for your attention – questions?