

DAB system features

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WorldDAB and ASBU DAB+ technical webinar series



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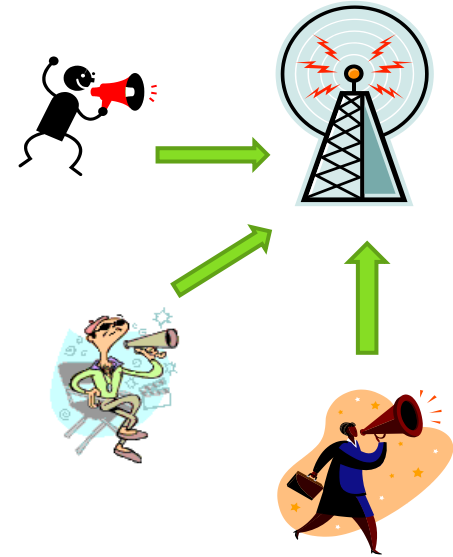
3. Hybrid radio operation

DAB+ Features



DAB+ feature overview

- DAB is a digital data delivery system which is optimised to provide multiple high quality audio and data services on a single transmission system
- Multiple audio services – typically 18 to 24 DAB+ audio services
 - Audio bit rate can be adjusted to provide appropriate quality for the broadcast material
- Programme Associated Data (PAD) - This supports the audio being delivered in text and image forms
 - Text
 - SlideShow images
- Advanced features e.g. Announcements and Emergency Warnings
- Data services e.g. TPEG traffic services, Journaline



Audio – room for lots of services

Digital Radio **COMMERCIAL STATIONS ON DIGITAL RADIO**

SYDNEY The stations you know and love...

2DAY 104.3, nova 96.9, TRIPLE M, KIIS, WSPN, smoothfm, 2GB, 2CH, 2SM, MACQUARIE, 3SO

Plus extra digital stations

101.5, 90s, remix, EDGE, buddha, Easy, 101.5, URBAN, CLASSIC, AUSSIE, COUNTRY, KINDERLING, colesradio, koffee, SKY, NTS, Zoo

MELBOURNE The stations you know and love...

FOX 101.9, nova 100, TRIPLE M, KIIS, 92.5, smoothfm, MACQUARIE, 3AW, SEN, SEN+, RSN

Plus extra digital stations

101.5, 90s, EDGE, remix, buddha, Easy, 101.5, URBAN, CLASSIC, AUSSIE, COUNTRY, KINDERLING, colesradio, NTS, koffee, Rhythms, SEN+, SEN+

BRISBANE The stations you know and love...

hit 105, nova 106.9, TRIPLE M, 97.3, ABC, RadiotAB, MACQUARIE

Plus extra digital stations

101.5, 90s, EDGE, remix, buddha, Easy, 101.5, URBAN, CLASSIC, AUSSIE, COUNTRY, KINDERLING, koffee, colesradio, smoothfm, RadiotAB, NTS

PERTH The stations you know and love...

hit 92.9, nova 93.7, mix, GPR, 96 FM, 6ix

Plus extra digital stations

101.5, my, 90s, EDGE, buddha, Easy, 101.5, URBAN, CLASSIC, AUSSIE, COUNTRY, KINDERLING, colesradio, smoothfm, NTS, MACQUARIE

ADELAIDE The stations you know and love...

hit 107, nova 91.9, TRIPLE M, MIX, CLASSIC, FIVEaa

Plus extra digital stations

90s, EDGE, remix, buddha, Easy, 101.5, URBAN, CLASSIC, AUSSIE, COUNTRY, KINDERLING, colesradio, smoothfm

HOBART The stations you know and love...

hit 100.9 HOBART, TRIPLE M, 7

Plus extra digital stations

CLASSIC, AUSSIE, Easy, 7

DARWIN The stations you know and love...

mix, mix

Plus extra digital stations

CLASSIC, AUSSIE, Easy, mix, RadiotAB

CANBERRA TRIAL BROADCAST The stations you know and love...

hit 104.7 CANBERRA, ABC, mix106.3, 105.3 2CA

Plus extra digital stations

my, buddha, 101.5, EDGE, colesradio

For broadcasters: opportunity to extend brand portfolios



Analogue and digital

Digital-only services

Brand extension to associated music genres

FM / DAB+



TRIPLE M 104.9 FM

Rock's Greatest Hits

[View Website](#)



Hit107

More Music, More Variety

[View Website](#)

DAB+



MMM 90s

The Greatest Hits & Best Variety

[View Website](#)



MMM Classic Rock Digital

Rock of Ages

[View Website](#)



MMM Country

Good Times & Great Country

[View Website](#)



MMM Hard n Heavy

Hard Rock & Heavy Metal. MMM
Hard n Heavy

[View Website](#)



MMM Soft Rock

Sweet Emotion

[View Website](#)



Hit Buddha

Tune In, Chill Out

[View Website](#)



Hit Dance

Move To It

[View Website](#)



Hit Easy

Feelgood Favourites

[View Website](#)



Hit Oldskool

Oldskool Hits From The 80's, 90's,
& Noughties

[View Website](#)



Hit Urban

The Hottest Hip-Hop & RnB

[View Website](#)

DAB+ offers flexibility – pop-up stations



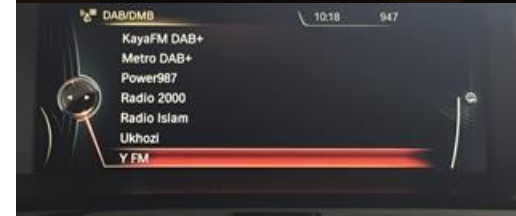
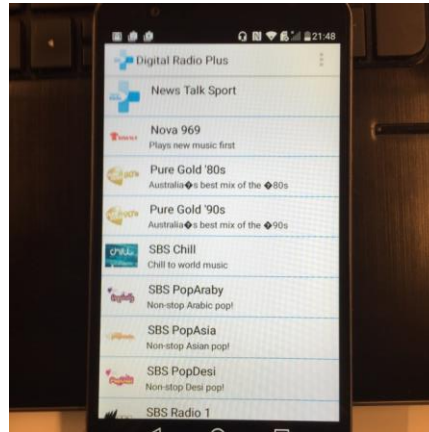
Choose the station from a list

No more need to remember the station's frequency!!!

Services are listed alphanumerically

Increasing use of logos for brand recognition

station,
listener has
more
information
about the



Programme Associated Data (PAD)

Dynamic Label Segment (DLS) - Text

Straight forward, effective

Up to 128 characters per text segment

All DAB+ receivers have DLS text display

Good receivers block text display or have an appropriate scrolling speed



Programme Associated Data (PAD)

SlideShow (SLS) - Images

Further strengthens the audio message

Music information – Album art, Title & Artist

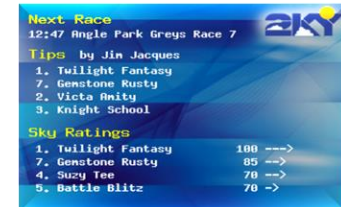
Standalone advertising during song items

Promotion of station activities

Traffic and weather reports

Sports results and stock market information

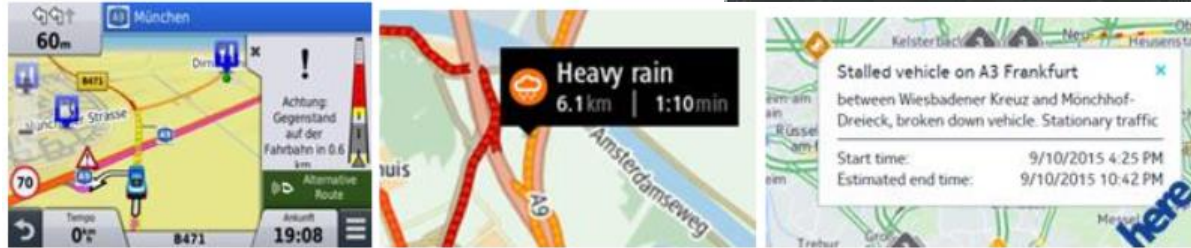
Local news, happenings, community events



Data services

Traffic e.g. TMC and TPEG can provide up to the moment information on

- current traffic flow and congestion
- fuel locations and prices
- parking



Journaline

- Hierarchical categorised data service



Custom Applications can be developed

Advanced features

Service and Programme Information (SPI)

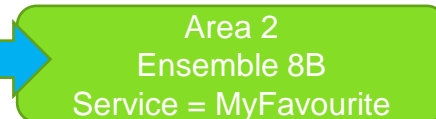
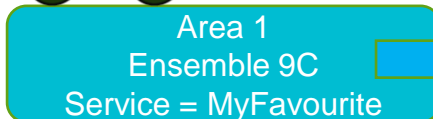
- Station/service logos
- Website links
- Programme schedules

Announcements and EWS

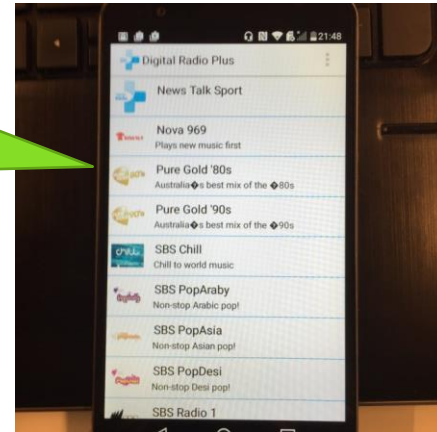
- Traffic information / channel
- Emergency warnings
- News, weather, travel information

Service Following

- Links services in different areas on different ensembles
- Provides continuity of service for services across multiple service areas



Logos delivered as SI provide immediate visual brand recognition



In-car listening can continue on the same service in different transmission and licence areas

Receivers are now mass market



- Over 80 million receivers sold
- Prices from \$15 USD



DAB+ Digital Radio

\$24.00

Rechargeable DAB+ Digital Radio - Black

\$39.00



Portable AM/FM Radio

\$19.00

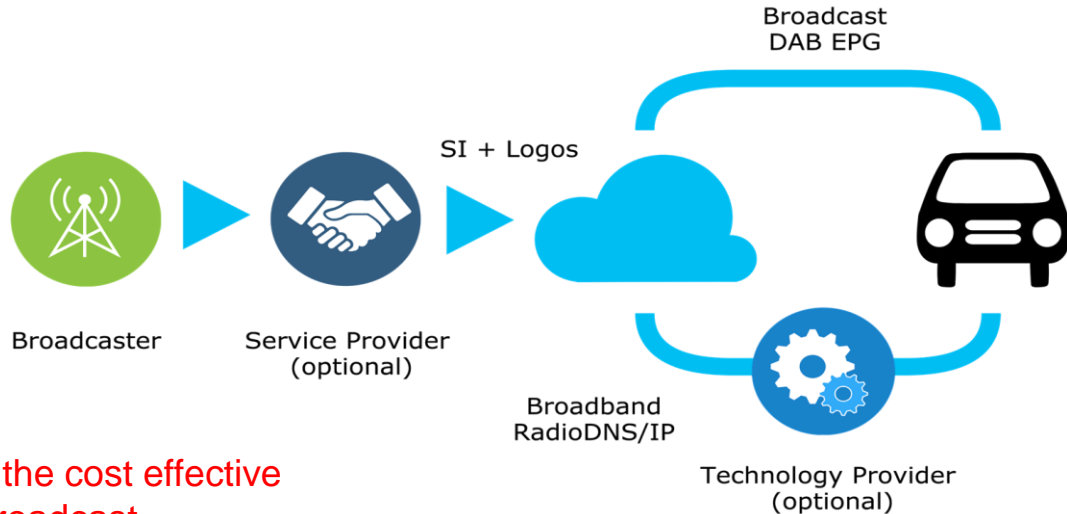


Most automotive brands now support DAB+



DAB+ Hybrid radio

- Hybrid radio is the next step in the evolution of radio
- Hybrid radio joins the broadcast and IP worlds
- Adds a range of new features to the existing extensive broadcast feature range
 - Logos and programme information
 - Interactivity
 - Metrics and analytics
 - Alternative content (audio and metadata)
 - High quality and rapid delivery
 - IP service following



Provides IP service capabilities with the cost effective delivery of audio content by digital broadcast

Hybrid makes broadcast better

Broadcast Radio DAB/FM

- › Free reception
- › Additional basic information
 - › Station name
 - › Radiotext
 - › EPG
 - › SlideShow
 - › Station logo



Online connection

- › Seamless Experience
 - › Broadcast – Online Service Linking
 - › Podcast access
 - › Connection Radio + Smartphone
- › HQ content for logos and slides
- › Tagging
- › Enabler for new radio functions

DAB+ Hybrid Radio

Mobile broadband connectivity provides the IP connectivity either via a smartphone or a mobile receiver integrated into the vehicle



Several major brands are in development



Summary

- DAB digital radio provides a wide range of advantages over traditional analogue radio:
- More spectrally efficient to allow significantly more services to be provided in an area
- Very high audio quality with optimised bit rate to efficiency
- PAD for added information
- Advanced features
- Data services
- Hybrid capabilities can be added to provide further features and interactivity
- Receivers are widely available for domestic and automotive case

Thank you

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