



# VOV / WorldDMB Workshop on Digital Radio Technologies

27-29 July 2013

*The Melia Hotel & VOV HQ Building,  
Hanoi, Vietnam*



Supported by



**Joan Warner**

**Chair - WorldDMB Asia Pacific Committee**

**DAB+ Business Case Study – Australia**

# Introduction



## Successful DAB+ Digital Radio Rollout

- All of Industry Approach – shared costs
- Government Regulation & Policy
- High Powered Indoor & Outdoor Coverage



## Launch & Marketing

- New Content - New Revenue
- Receivers & Retailers
- Awareness Campaign

WORLD



Digital Multimedia Broadcasting

Radio • Mobile TV • Multimedia • Traffic Data

# Radio Needs a Digital Broadcast Future



Media consumption remains high



Traditional media must build on its strengths – great content, live, local, mobile, intimate and social



Digital radio can stimulate new revenue streams and keep audiences listening longer



Radio broadcasters must use all devices and broadcast content across all delivery platforms.

# Why Go Digital?



Analogue Signal increasingly compromised



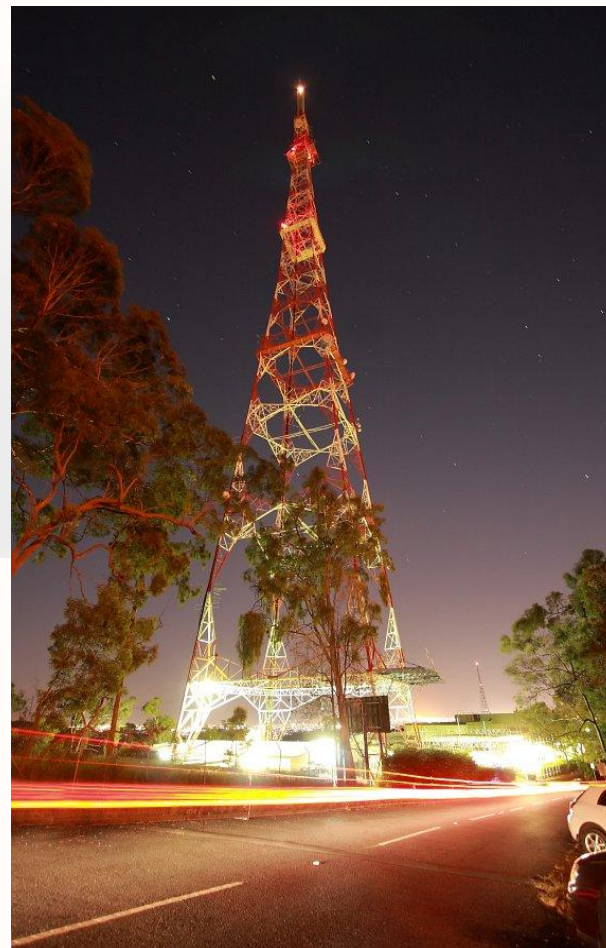
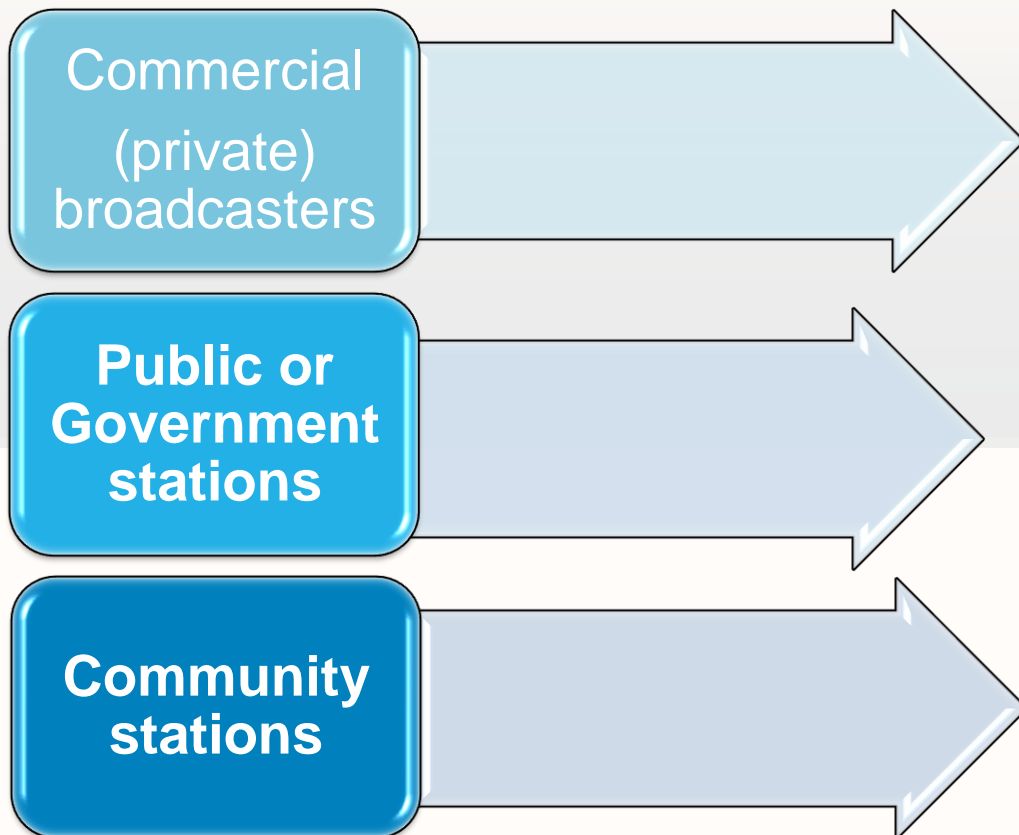
Digital Investment to defend radio and its future



Radio Industry – Go Digital or Someone Else Will Take Your Audience and Your Digital Spectrum

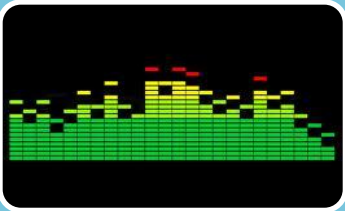
# All of Industry Approach

## Private and Public Working Together



# Government Regulation

## Incentives to Invest for Private Broadcasters



Free Spectrum for incumbent broadcasters 128 kbs per station – and keep analogue spectrum



No restriction on use of spectrum or formats



No new licences for 6 years or more but “use it or lose it”

# Benefits

## Incentives for Private Broadcasters



First option to own and operate multiplex



DAB+ shared multiplex costs

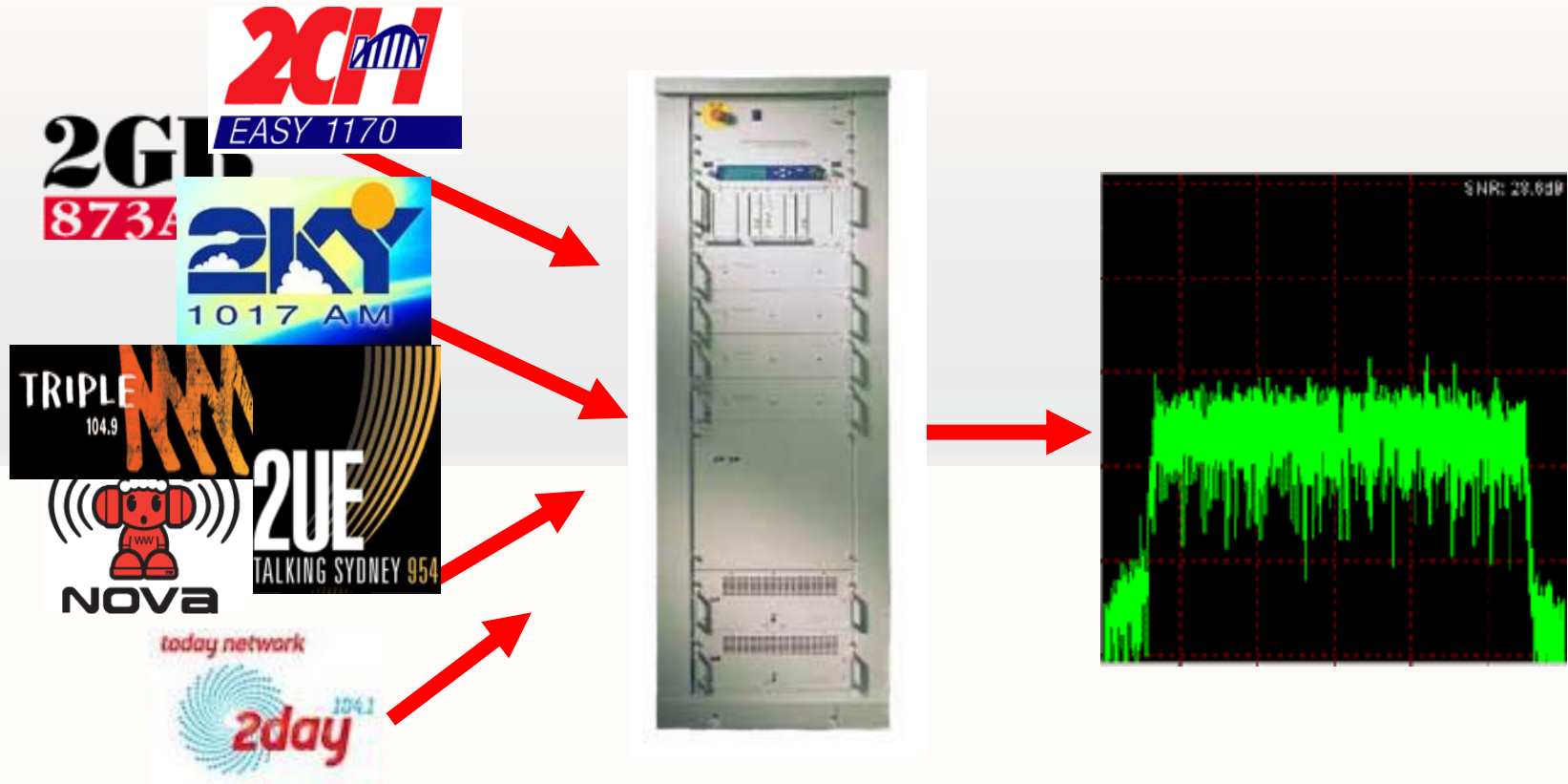


No new competition while bedding down DAB+



# DAB+ Transmission Set Up

## Many stations in one multiplex





# Transmission Comparison

## DAB+ and other technology

Feature	DAB+	DRM+	DRM	HD	FM	AM
Total stream bitrate (kbps)	576 – 1728 R=1/2: 1152kbps	4QAM: 37 - 74 16QAM : 99 – 186 R=1/2: 149	Mode B, 20kHz Chan 64QAM = 36 to 56kbps	Up to 300kbps	n/a	n/a
Max Number of services	63 Typical 18	1-4, typical 1 or 2	1-4, typically 1	1 – 7 Typically 4	1	1
Service channel rate (kbps)	Up to 192 Typical 32 – 80	Up to 186 Typical 32 – 70	Up to 192 Typical 36 - 56	Typically 16 – 96	n/a	n/a
Channel BW (kHz)	1712	100	9/10/18/20	200	200	9/10
Modulation / FEC coding	DQPSK Convolutional / Reed-Solomon	4/16 QAM Convolutional / Reed-Solomon	4 /16/64 QAM Convolutional / Reed- Solomon	QPSK Convolutional / Reed-Solomon	FM	AM
Typical operation	DQPSK / R=1/2	16QAM / R=1/2	16QAM / R=1/2	QPSK / R=1/2	FM stereo	AM Mono
Robustness	Excellent	4QAM similar 16QAM lower	16QAM lower 64QAM much lower	Similar	Excellent	Good but poor interference rejection
Standardisation	ETSI Open standard	ETSI Open Standard	ETSI Open Standard	Proprietary Requires licensing	Various Open Standard	Various Open Standard

# DAB+ space, energy & cost saving

FM – 1 program or DAB+ 1 Mux – up to 32 programs

9 metres

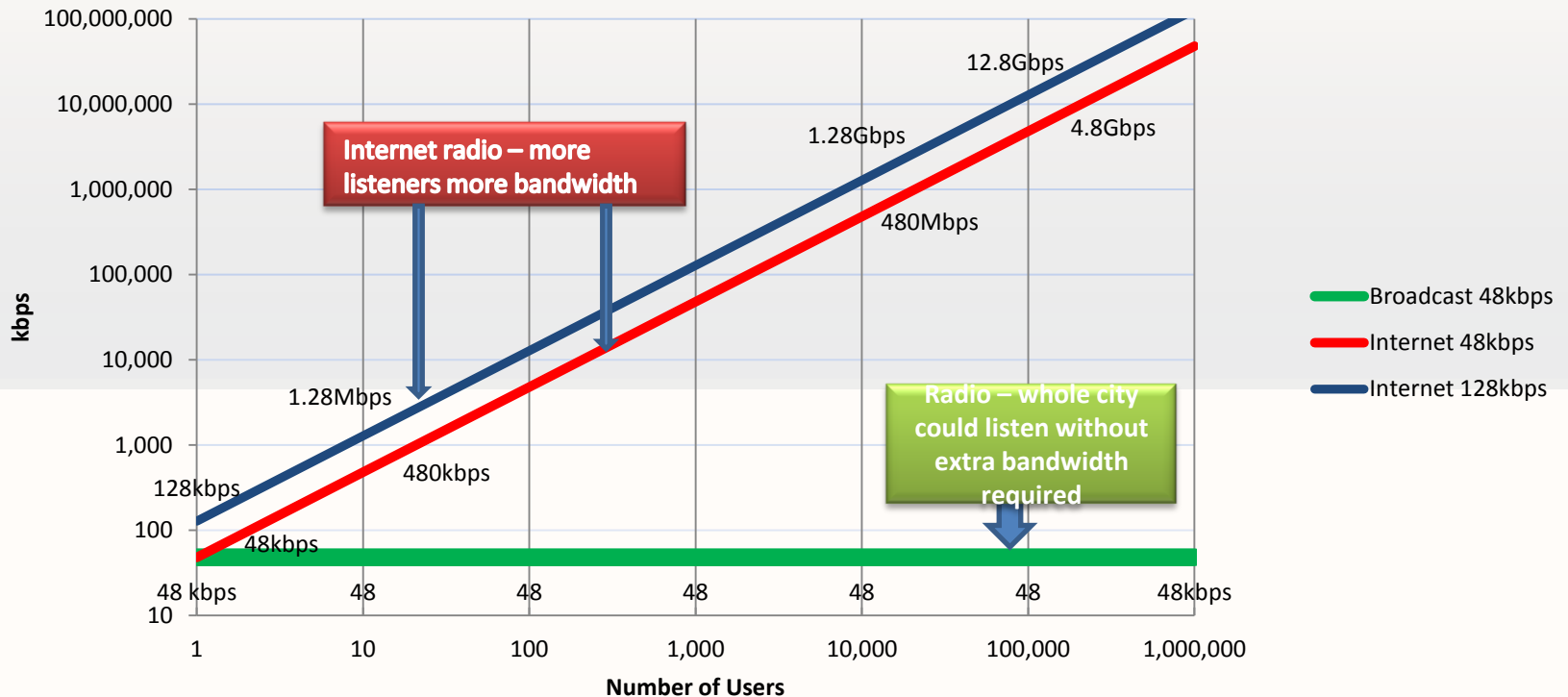


Occupied floor space for 15 Radio programs

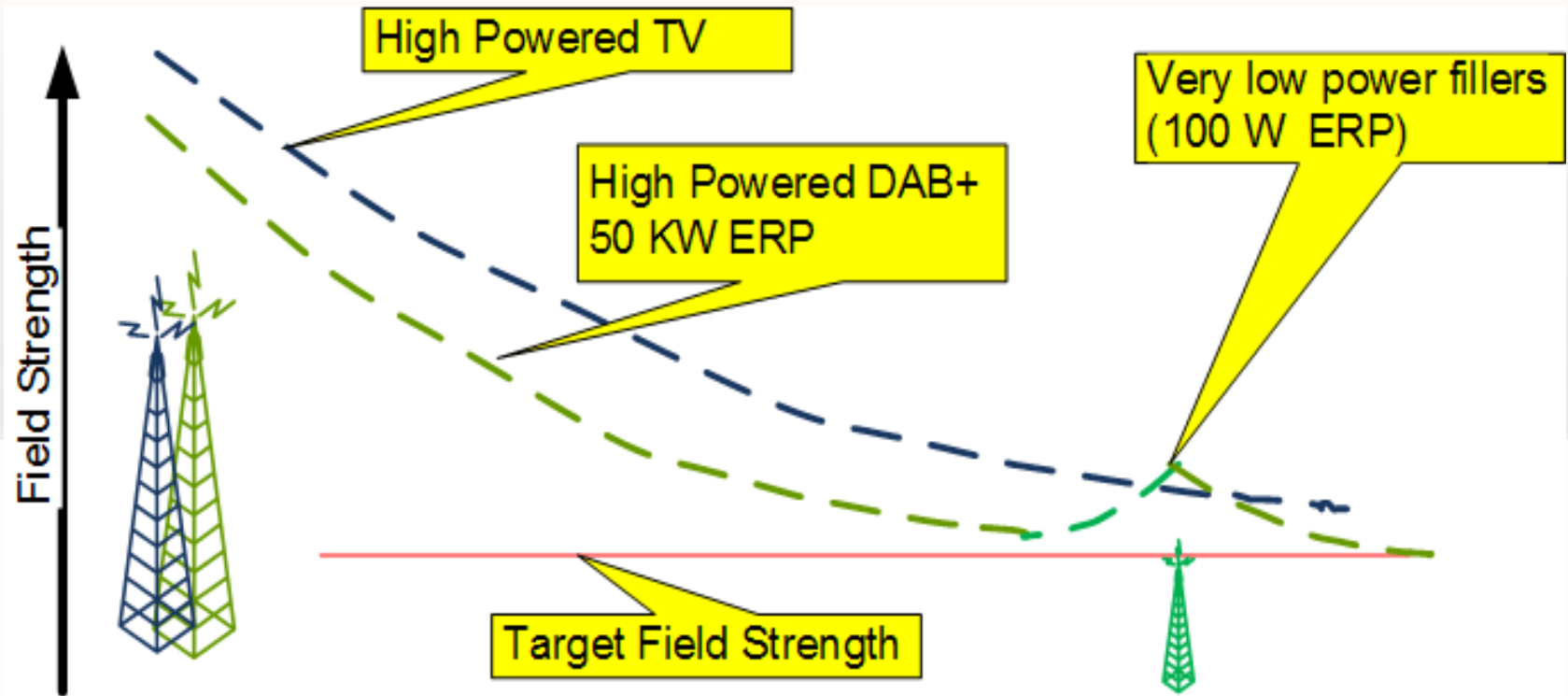
Source: Harris Technology

# DAB+ vs Internet

Internet cannot duplicate 1 to millions at the same time



# DAB+ Goals For Coverage



# DAB+ Coverage



Single High Powered site (typically 50 KW ERP) to cover each city.

2



Low powered on channel repeaters (10 W – 1000 W ERP) to provide enhanced coverage where needed.

# Free Spectrum – what do you do?

38 new DAB+ stations – chillout, dance, country, sport, jazz

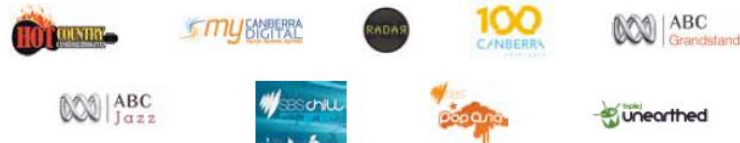
## Sydney



## Melbourne



## Canberra Trial Broadcast



## Perth



## Brisbane



## Adelaide



## Darwin Trial Broadcast





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## kogan





# Alternative Language Music and Talk



# DAB+ Slide Show & Scrolling Text Enhance Station Image Engage with listeners



**Now Playing On 2DayFM**

**Now Playing**  
**S&M**  
Rihanna



**Next Song**  
What Goes Around Comes Around  
Justin Timberlake

[2dayfm.com.au](http://2dayfm.com.au)



Latest Weather **THE EDGE**

Today's Forecast  
Wed, 1st Jan  
Sunny.

**13°**

H: 19°

THU	FRI	SAT	SUN	MON
19°	17°	15°	15°	13°

+

It's radio as you know it, plus...



Select RADAR on your  
**Digital Radio**  
to hear the best new music now.

**NOW PLAYING**  
Beautiful In My Eyes  
By: Joshua Kadison



**koffee**  
time to chill

**NEXT UP**  
Madworld  
By: Michael Andrews Feat. Gary Jules



**GOLD'S GONE MOBILE.**  
GET THE FREE APP FOR IPHONE,  
ANDROID & NOKIA.



# Event, Pop Up or Branded Stations

## Specific, focussed and/or short term programming



Station & programming for a specific client – creating new revenue



Elf Radio Christmas & New Year festive focus for two months



WS4KIDS  
A children's radio station to raise money for hospital



4TABHELP  
Flood  
24/7  
emergency information station

# Sports Coverage

DAB+ spectrum efficiency – more stations, more sport



Maximise coverage of national football games



Multiple stations with DAB+ allows more coverage of Asian Cup



Olympic Games coverage  
DAB+ Badminton, Taekwondo, weightlifting



Radio rights holder can maximise coverage

# 18<sup>th</sup> Asian Games Hanoi 2019

DAB+ would enable extensive coverage of all 36 sports



18<sup>th</sup> ASIAN GAMES  
**HANOI 2019**



# DAB+ Can Offer More than a Traffic Update

TPEG information sent via DAB+ - maps, parking, weather



# Education and Cultural Stations

Effective one to many communication to city & provinces





# DAB+ Marketing & Promotion

## All of Industry Website & Logo



The screenshot displays the website's homepage. At the top, there is a navigation bar with a "Digital Radio" logo and the slogan "It's radio as you know it, plus...". A secondary navigation bar includes a "NEWS" link and links to "World DMB Sep eNewsletter", "Digital Sound Quality", and "More Stations". Below this is a main navigation bar with buttons for "CAN I GET DIGITAL?", "DIGITAL RADIO STATIONS", "DIGITAL RADIOS", and "FIND RETAILERS".

The main content area features several sections:

- FIND US ON FACEBOOK!**: A section with a Facebook icon and the text "FIND US ON FACEBOOK!".
- LISTEN LIVE NOW!**: A section with a speaker icon and the text "LISTEN LIVE NOW!".
- WHAT IS DIGITAL RADIO?**: A section with a plus sign icon and the text "WHAT IS DIGITAL RADIO?".
- The stations you know and love!**: A section displaying logos for "CLASSIC GOLD 94.3", "MTR", "Magic1278", and "3AW 693".
- Plus new stations...**: A section displaying logos for "THE EDGE", "CLASSIC LIVE", "UZO radio", and "Aussie".
- City Selection**: A row of buttons for "SYDNEY", "MELBOURNE", "BRISBANE", "ADELAIDE", and "PERTH".

At the bottom of the page, there are three main sections:

- LATEST NEWS**: A list of news items with dates and "READ MORE" links, including "World DMB September eNewsletter", "Father's Day ad campaign for digital radio", "Digital radio trial on in Darwin", "Radio industry celebrates one year of digital", and "Ten digital radio stations now on air in Canberra".
- E-NEWSLETTER**: A section with a form for "Business Name..." and "Email Address...", a "SUBMIT" button, and a note: "This is a business newsletter. If you wish to be added to the database please indicate the kind of business you are in."
- FEATURED RADIO**: A section featuring a "BUSH" DAB+ CD Micro System with Dock for iPod, a "MODEL: Bush DAB+ CD Micro System with Dock for iPod" description, and a "MORE INFO" button.

A large advertisement for "Digital radio now at Target" is positioned on the right side of the page, showing a Target logo and the text "100% happy" and "www.target.com.au".

[www.digitalradioplus.com.au](http://www.digitalradioplus.com.au)

# More than 460 DAB+/DAB/DMB devices available worldwide

From AUD\$29 or 565,000 VND

**PURE**

**YAMAHA**  
 www.yamahamusic.com.au

**GRUNDIG**  
 made for you

**SANGEAN**  
 A World of Listening

**BOSE**



**PHILIPS**  
 sense and simplicity



**ROBERTS**

**BUSH**



**OXX**  
 DIGITAL

**iriver**

**LG**  
 Life's Good



**SONY**  
 make.believe

**TEAC**



# Ongoing Marketing

Demonstration Kiosks, Press, Taxi Backs, Discount Offers, Brand Ambassadors, all of industry outside broadcast



Buy a **Digital Radio** at these participating retailers and get...

**10% off!\*** It's radio as you know it, plus...

Just collect a flyer from our staff and present the coupon in-store!

\* Offer valid on DAB digital radio purchases on selected dates and specified stores only. Please refer to coupon for full terms and conditions.

1 million people agree...

It's a **million times better**

Digital Radio is free. Listen to your favourite AM and FM commercial stations plus ABC, SBS and so much more! DAB+ Digital Radio is available in Sydney, Melbourne, Brisbane, Adelaide and Perth.

Ask your local retailer

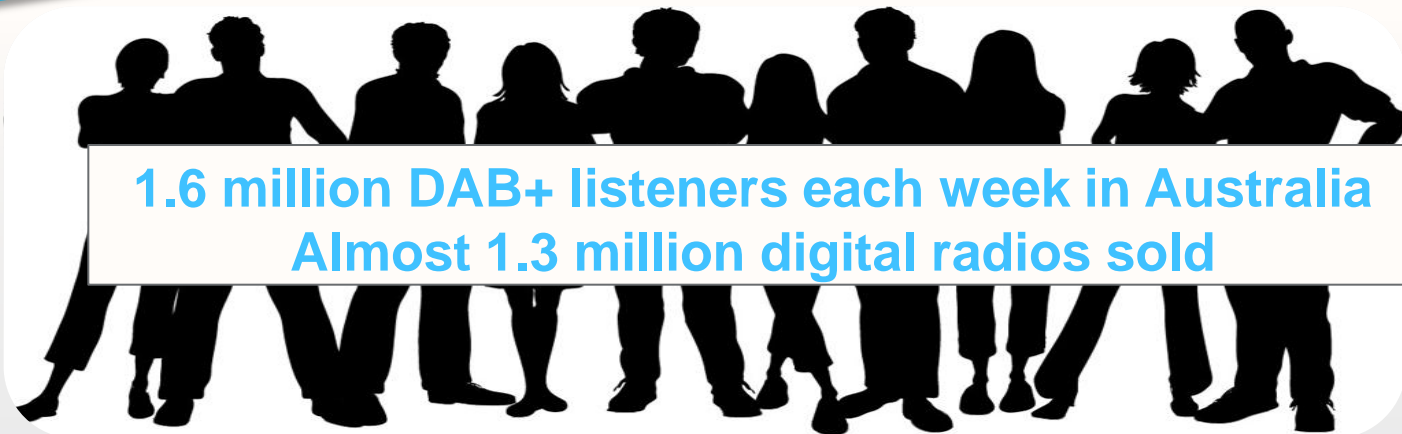
[digitalradioplus.com.au](http://digitalradioplus.com.au)





# Future of Radio is here DAB+ digital radio

## 19 leading automotive brands now include digital radio globally



**1.6 million DAB+ listeners each week in Australia**  
**Almost 1.3 million digital radios sold**

### Make sure your next vehicle has a DAB+ digital Radio.

Available as standard



Available as options



Check [www.digitalradioplus.com.au](http://www.digitalradioplus.com.au) for aftermarket solutions.



[digitalradioplus.com.au](http://digitalradioplus.com.au)

# All of Industry Launch & 3 Year Celebration

## All of Industry broadcasting side by side



# Summary

## Steps to Success

1. **Choose most powerful spectrum efficient technology – DAB+**
2. **Keep analogue spectrum**
3. **All of industry working together – shared costs**
4. **Free spectrum & broadcasters to hold the key**
5. **No new entrants until market established**
6. **High Powered robust DAB+ signal**
7. **New Content**
8. **Range of Affordable receivers**
9. **Variety of retail outlets**
10. **Marketing & Communication Strategy**

# Radio as You Know It...Plus Further Information



- **WorldDMB – [www.worlddab.org/](http://www.worlddab.org/)**
- **DAB+ Fact Sheets**  
[http://www.digitalradioplus.com.au/index.cfm?page\\_id=1042](http://www.digitalradioplus.com.au/index.cfm?page_id=1042)
- **Digital Radio Industry Report**  
[http://www.digitalradioplus.com.au/index.cfm?page\\_id=1055](http://www.digitalradioplus.com.au/index.cfm?page_id=1055)