

Australian Broadcasting Corporation

submission to the

Department of Communications

Digital Radio

March 2014

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Introduction

The ABC welcomes this review of an important dimension of Australia's broadcast infrastructure. In responding to the questions raised in the Department's discussion paper "Digital Radio: Reviews to be conducted under section 215B of the *Broadcasting Services Act 1992* and section 313B of the *Radiocommunications Act 1992*", the Corporation focuses primarily on the issues encapsulated in Part 3 of the paper ("The Technological Environment and Audience Profile") and associated spectrum and licensing matters.

This is a critical moment for the radio industry in Australia. Despite many earlier predictions to the contrary, audience demand for radio remains very high, both here and around the world. While new platforms for audio consumption are of growing importance, their growth appears not to be at the expense of audiences for broadcast radio.

The ABC has no doubt that broadcast radio will continue to play a key role in both the essential infrastructure and communications culture of Australia. Accordingly, the Corporation maintains its support for digital broadcast radio.

However, there are a number of issues requiring urgent and coherent deliberation. The ability of the radio industry and equipment manufacturers to make strategic investment decisions has been affected by the incomplete nature of Australian public policy in relation to digital radio.

The ABC believes that the following matrix of matters must be considered in order to achieve the best planning outcomes for the radio industry and the Australian people:

- *AM Radio*. AM continues to function as a robust platform and digital radio is not currently slated as a replacement technology. However, the ABC (like other broadcasters) has concerns about continued use of the AM band into the future. AM services face increasing physical challenges, including electrical interference and reception issues, particularly in built-up areas, electromagnetic radiation concerns and

development pressures on the prime real estate on which many transmitters are located. AM receivers are also becoming less readily available over time as radio chipset manufacturers increasingly prioritise FM and DAB/DAB+, and it is well-known that younger audiences are increasingly unaware of the AM band and are unlikely to migrate towards it over time. AM has more or less disappeared from Europe and the same trend is observable in other parts of the world.

- *FM Radio.* FM radio is a vibrant sector in Australia and there is no suggestion that its importance will decline in the foreseeable future. However, there is no further FM spectrum available, which will not only deter new entrants, but hampers innovation and the capacity to provide value-added service to consumers. FM transmission also comes at a remarkably higher energy cost than digital radio.
- *Digital Radio.* The ABC remains impressed by digital radio's low energy requirements, superior performance and technological potential. Audience uptake in the available markets in Australia has been strong and audience feedback very positive. However, there is no doubt that future development has been hamstrung by stasis at the level of centralised policy and planning, which has affected the commitment of both car and receiver manufacturers.
- *Internet Radio.* The advent of internet radio, while significant, comes with many caveats around capacity, reliability and demand. The ABC does not believe that internet radio could for many years, if ever, be regarded as a replacement technology for broadcast radio and that planning into the foreseeable future must seek to maximise the benefits of both platforms for the benefit of all Australians. The ABC notes with interest the advent of "hybrid" radio in this regard.¹

The introduction of digital radio in Australia in August 2009 owes much of its success to a high level of co-operation between the sectors of the radio industry, the Department of Communications and the ACMA. The ABC believes that the best means of addressing the current impasse in the development of digital radio services would be the establishment of a consultative process that brings together representatives of industry and relevant agencies to determine a shared vision and principles that would guide detailed planning for the most robust and appropriate mix of broadcast and internet radio into the future. The Corporation would welcome the opportunity to participate in such a process.

Digital Radio to date

International

The DAB family of radio standards, which includes DAB+, is the pre-eminent world standard for digital radio. It is now available to more than half a billion listeners around the globe.

¹ Hybrid radios are able to receive and integrate both broadcast and online signals.

During 2013, national services were launched in more European countries, including Poland and the Netherlands, and expanded in Italy. Trials in France and Austria have also been announced. At least three European countries have announced switch-off dates for analog broadcast (there is already very little AM broadcasting in Europe), with others aspiring to the same.

Beyond Europe, trials are also planned in Thailand, Vietnam and Malaysia, South Africa and Oman. The increase in available audience has also driven the increased availability of competitively-priced receivers, including in cars. More than 30 leading auto manufacturers around the world now include DAB/DAB+ receivers in vehicles.

Australia

Along with the rest of the radio industry, the ABC is very pleased with the growth of digital radio in those markets in which it is currently available. At the end of 2013, almost 1.5 million digital radio devices or receivers had been sold in Australia since the launch of the platform in August 2009. Nearly 1.6 million people in the five state capitals are now listening to digital radio. This is almost 13% of the available market. The average listener consumes 12 hours a week of digital radio, which is more than double the time spent listening to radio via the internet.

Digital radio offers listeners superior sound, clearer reception, easier tuning (by station name), the ability to pause and rewind live radio, and program-related and other information in text. Importantly, it gives audiences more options in the form of more radio stations with new and different Australian content. Research undertaken for Commercial Radio Australia (CRA) in late 2012 found that many digital radio purchases reported that time spent listening increased as a result of these features.²

Beyond these features currently available on receivers in Australia, digital radio picture information has the potential for animation and short-form video, which could enable such things as animated weather maps and live weather radar. These would be of considerable value to the ABC's emergency broadcasting services during natural disasters such as cyclones or floods.

The ABC considers digital radio to be more than just the next generation of radio; it is an integral part of the emerging digital media landscape. In an increasingly converged environment where virtually all media is digital, it is unthinkable to leave a large, robust and profitable media industry such as Australian radio trapped in an analog environment.

ABC digital radio services

The ABC now provides 11 services to digital radio listeners. These comprise:

- Simulcasts of the Corporation's four national services, plus the Local Radio service in each of the five markets.³ ABC Classic FM and NewsRadio have also been able to use their digital stream to vary programming and offer greater choice.

² Hoop Group CRA DAB+ Study, December 2013.

³ Except in Canberra where only 5 digital services are available under current trial conditions.

- Six digital-only stations: ABC Dig Music, triple j Unearthed, ABC Jazz, ABC Country, Grandstand and the special event station ABC Extra.

The final listener survey of 2013 showed that ABC digital broadcasts have a 35% share of DAB+ listening in Sydney, Melbourne and Adelaide, and 38% in Brisbane and Perth. These figures are comparable to the ABC's share of analog radio listening. In total, more than 1 million people listen to ABC digital stations in the five capital cities (ranging from 89,000 in Adelaide to 387,000 in Melbourne).⁴

The ABC's commitment to the future of digital radio and its potential appeal to new and younger audiences is evident in its current project to redevelop ABC Dig Radio as a new service under the auspices of triple j. The music mix on Dig is currently being recalibrated to appeal to listeners aged between 30 and 50 with an interest in contemporary music, but not the "hits and memories" formats of the commercial stations. The new Dig (along with a new name) will be officially unveiled and introduced on 30 April 2014. A digital-only service, it will be available via digital radio in the five mainland capitals and by internet streaming throughout Australia. It can also be heard nationally via Channel 200 on free-to-air digital television.

The target audience for Dig is underserved and important to the future of ABC Radio's audience demographic spread and the Australian music industry, which finds it hard to achieve airplay for contemporary new music.

The future of digital radio

As a national broadcaster funded by the taxpayer, the Corporation is committed to all of its services, including digital radio, being available to all Australians regardless of where they live. The notion of equitable access is enshrined in the ABC's Act and Charter and is the basis on which it creates and distributes content across its many platforms.

The ABC is therefore concerned about the current situation where, for example, a listener in Melbourne can access eleven ABC radio stations, whereas a listener in Bendigo or Hobart can only listen to five. Additional digital-only services, such as triple j Unearthed and ABC Grandstand, as well as many of the special pop-up services of ABC Extra, would be of particular interest to regional listeners, as would the new Dig service.

The next logical step in the deployment of digital radio in Australia is to expand transmission beyond the mainland state capitals. The Corporation has previously proposed that this roll-out occur progressively in regional population centres on the basis of population. This should begin with the introduction of services in Hobart and the conversion of the current trial services in Canberra and Darwin to permanent services. Such an expansion would not only address the equity issues created by the current restricted roll-out of digital radio, but would offer car and receiver manufacturers greater incentive to invest in the future of the medium.

The Corporation appreciates that there are a number of impediments to further, or full rollout. The cost of providing services to more distant communities is substantial, and there is not, as yet, industry agreement over the best means of providing digital radio into either

⁴ Nielsen Digital Radio Listening, Survey 8 2013.

remote Australia or into the congested population centres along the eastern seaboard in particular. While the ABC has broad views on this matter, outlined below, it understands that the Australian radio industry is ready to come together to consider the issues involved and would welcome the opportunity to join in those discussions.

The ABC and SBS currently provide a national DAB multiplex in each of the five mainland capital cities through a joint venture. This JV has proven to be an effective method of providing DAB transmission services for both national broadcasters, and the ABC would prefer to retain the model as the benchmark for planning ABC and SBS digital radio services across the country.

However, a critical impediment to such an expansion is the availability of adequate spectrum for that purpose. DAB spectrum in the VHF band is currently planned for channels 9 and 9A. While this channel allocation will be sufficient for regional services across much of Australia, the density of regional centres on the eastern seaboard and their proximity to the capital cities mean that planning digital radio within that spectrum allocation will be at least challenging, and potentially impossible.

For example, the transmitters serving the Illawarra, NSW Central Coast, the Blue Mountains and Newcastle/the Hunter Valley all fall within 400km of the Sydney metropolitan area, meaning that the frequencies on which they operate cannot be reused under current ACMA spectrum planning requirements for DAB. Similar congestion issues exist in Queensland, due to the proximity of the Sunshine Coast, Gold Coast and Ipswich radio markets to Brisbane, and in Geelong in Victoria, due to its proximity to Melbourne.

There are a range of options for resolving these issues. As the ABC has previously argued, the allocation of an additional 7MHz channel for DAB would significantly alleviate DAB spectrum congestion along Australia's east coast. The Corporation believes a number of potential means for achieving that allocation exist. In a similar fashion, the ABC believes that it should be possible to operate four, rather than three, DAB multiplexes in the 7MHz channels 9 and 9A, which may assist in planning in congested areas.

However, none of these potential solutions to the DAB spectrum problem are possible without proper and detailed planning by ACMA, including wide consultation within the industry, to assess their respective merits and feasibility. The ABC notes that the ACMA is unlikely to undertake such work in the absence of specific direction from Government.

The ABC supports the ACMA guidelines of coverage equalisation for all broadcasters as provided for in recent Digital Television Restack planning and recommends that the ACMA continue to use this model when planning for regional digital radio services. However, the ABC would like to draw attention to its (very) high-powered AM services, which cover vast areas of regional Australia, particularly those broadcasting local regional radio services. Duplicating this level of coverage on the DAB+ platform for individual services will not be possible if the ACMA bases all planning on the "equalisation of all services" model.

Digital Radio Mondiale (DRM+) may be an alternative technical planning solution for the large existing AM services to ensure wider-area coverage, particularly in remote areas.

The ABC would strongly support further investigation of the feasibility of radio transmission standards for wide-area broadcasts to areas beyond the "islands" that can be economically covered by DAB+.

Digital radio in the car

The ABC does not deal directly with car manufacturers, but acknowledges the work of CRA in this sphere. CRA reported in 2013 that eight leading vehicle brands were including DAB+ receivers in Australia, including in models beyond the “luxury market”. The number of “after market” receivers available also increased during the year and have improved markedly in ease of use. In February 2014, Lexus announced that it had sold more than 8,000 vehicles fitted with digital radio in Australia and remained committed to the platform.⁵ The ABC would expect a positive flow-on effect from the rapidly-increasing levels of inclusion of DAB radios in cars in Europe, but would also note again the inhibiting effects of the current hiatus in planning.

The ABC notes that car manufacturers are also exploring the inclusion of internet connectivity in cars. However, for the time being at least, it appears that in-car internet radio will be provided in Australia primarily via the smartphone, rather than through distinct in-car connectivity. As a result, issues affecting the use of online radio via mobile devices described below are equally applicable to the car.

The ABC believes there is a level of uncertainty and possible confusion among both consumers and manufacturers as to the future of car audio technologies. This is again affecting the ability of manufacturers and the radio industry to make optimal investment decisions.

Digital radio and emergency broadcasting

ABC Local Radio has spent the last decade building significant capacity as an emergency broadcaster, and has agreements in place with State Emergency Services in most states. The Corporation believes that broadcasting, and particularly radio broadcasting, remains the superior and most robust medium for immediate and widespread distribution of emergency information.

The ABC notes that the report of the *Regional Telecommunications Review* (May 2012) strongly emphasised the need for a wide range of reliable communications during times of natural disaster.

The Corporation’s wide-area, AM services are a critical part of its delivery of emergency information to the Australian public during natural disasters and other emergencies, as they can be received in small population centres beyond the range of current FM transmissions and on the open roads between population centres. The ABC is concerned that, if the roll-out of digital radio proceeds without a standard for wide-area digital radio broadcasting that receiver manufacturers can build to, there is a significant risk that, as digital receivers become more widely adopted, receivers capable of receiving AM services may become less common, with the effect that wide-area services become inaccessible to the public.

Not only does digital radio provide the capacity to extend local coverage of emergencies to national audiences – as has already happened on ABC Extra – but at the local/regional level, digital may well prove to be a long term replacement for AM broadcasts, on which ABC emergency broadcasts are currently largely carried.

⁵ http://www.digitalradioplus.com.au/index.cfm?page_id=1048&display_news_id=1149

Internet radio

The ABC notes that there has been some occasional popular commentary to the effect that radio streamed over the internet will ultimately replace broadcast radio and that further expenditure on terrestrial transmission infrastructure, such as that required to roll digital radio into regional Australia, is therefore not warranted.

This is not a position held by the ABC. The Corporation believes that the two platforms, digital and internet radio, are complementary and that Australian audiences can and should have access to the benefits of both.

The ABC keeps a close eye on technological and consumer developments in this area, relying on a broad range of domestic and international industry publications and targeted in-house research, including the use of focus groups. It is accordingly cognisant of the predicted trends for growth in online listening, especially among younger audiences. The rapid take-up of smartphones and tablets is of particular interest. The latest Nielsen Digital Listening survey (December 2013) reported that that 9% of all radio listening was via Mobiles and Tablets and that time spent listening via those devices was 5 hours and 22 minutes a week.⁶ The Corporation has developed a number of smartphone applications, including an ABC Radio app and dedicated triple j and triple J Unearthed apps, to respond to this demand.

Internet radio has many significant features, including mobility and the capacity for greater interactivity and other consumer-friendly options. It is unlikely however to replace the highly efficient, robust, one-to-many qualities of terrestrial broadcast of audio services for many years to come, if ever.

While the ABC strongly supports the Government in its plans to significantly upgrade Australia's online infrastructure, the investment which would be required to effectively transfer current linear radio consumption from broadcast to internet radio would be astronomical. Recent research undertaken in Sweden modelled that very proposition.⁷ Based on an assumed switchover date of 2022, the authors concluded that regular radio listening would account for more data than Swedish networks currently transfer annually and, as that service at that magnitude could never be reliable, that the proposition was simply not practicable.

An additional issue for a public broadcaster is that internet service effectively transfers transmission into the hands of individual service providers, making it difficult for the ABC (like other broadcasters) to control reliability of service provision. For example, over the summer of 2010-11, during a rolling string of emergencies, the ABC experienced many problems with "black spots", and bandwidth congestion during times of highest need and therefore highest traffic. "Private" transmission via ISPs would also effectively bring free-to-air radio broadcasting to an end, which would be of great moment to the audiences of public, community and commercial broadcasters. Research undertaken for CRA in 2012 demonstrated significant consumer concern around both data usage and battery drainage associated with online radio.⁸

⁶ Nielsen Digital Listening Survey 8, 2013

⁷ Teracom. "Can the cellular networks cope with linear radio broadcasting?", White Paper, 2013, http://www.digitalradio-oesterreich.com/static/download/Teracom_WhitePaper.pdf.

⁸ Hoop Group CRA DAB+ Study, December 2013.

In summary, and like other industry players, the ABC believes that the situation around internet radio is in flux and the future impossible to predict. There is a live conversation in Europe and other parts of the world about the introduction of digital radio chips into smartphones as well as the extension of FM chips. There has also been recent news about the introduction of “hybrid radio” into the smartphone, also utilising broadcast chips, an innovation which would provide the benefits of each platform to consumers (robust broadcast delivery combined with the social and visual features enabled by an internet “backchannel”).⁹

If, as the Corporation believes, digital and internet radio are likely to be complementary technologies for the foreseeable future, their relationship would be appropriate topic for the proposed whole-of-industry digital radio consultation process.

Satellite

The ABC believes that satellite radio also has potential as a platform for the delivery of radio services. There are two modes for satellite-delivered radio. The first is via fixed direct-to-home (DTH) satellite systems. In Australia, this mode is delivered via the Viewer Access to Satellite Television (VAST) platform. A wide selection of ABC Local Radio services are carried on VAST, as are almost all national networks such as Radio National, Classic FM, NewsRadio and all for the ABC Digital (DAB+) services. However, this mode is unsuitable for mobile uses, including in-car reception.

The second mode of satellite delivery is via a dedicated satellite radio network similar to that of Sirius/XM in the USA and the new pan-European digital satellite, which is the advanced stages of construction. Satellite radio to mobile devices is also popular in Japan and South Korea, where DAB/+ technologies and Digital Multimedia Broadcasting (DMB) are used.

The ABC welcome further investigation of the technology and its inclusion on the agenda for any industry consultation in relation to digital radio.

Other issues

Mandatory minimum bandwidth requirements

The ABC believes that individual licensees should continue to manage bandwidth for individual DAB services/channels based on the individual/commercial requirements for differing music- and talk-based programming formats. The Corporation does not believe that bit-rates for services should be regulated.

Regulatory framework

The licensing process is working well. For example, the ABC recently applied for amendments to existing licences for new repeater services and found this to be a straightforward matter.

⁹ <http://www.radioworld.com/article/cooperation-key-to-radio%E2%80%99s-digital-future/268928#sthash.ZqrmFbWt.cdfmWhDP.dpuf>

The Corporation believes that the commencement provisions (question 2) should be incorporated into the recommended industry discussions on the principles and technicalities of any further expansion of digital radio into the future.

The ABC is not currently affected by the access regime provisions (question 3), as it holds only a Category 3 licence through the joint-venture company with the SBS. Division 4C of the *Radiocommunications Act 1992*, which concerns access to towers, may become of relevance to the ABC if there is a geographic extension of the current digital radio services or on expiry of the current contract with Broadcast Australia. The ABC has no further comment on the access regime. It does not propose to comment on the matter of the moratorium on new commercial digital radio licenses.

Restricted Datacasting

Although potentially able to apply for a restricted datacasting license, the ABC has no plans to do so. The Corporation notes that there is little or no industry interest in restricted datacasting, as evidenced by the ACMA register, which does not list a single licensee.¹⁰ Given the absence of demand and the scarcity of spectrum, the ABC can see no reason for retaining this unused license category.

Conclusion

The ABC is committed to the future of digital radio as the radio broadcast standard of the future and to a staged rollout in regional Australia. The radio industry cannot afford to be marooned on an analog island in a digital world. Moreover, the uncertainty created by the current, partially-realised policy platform is inhibiting effective investment decisions by radio broadcasters and equipment manufacturers. Comprehensive regional extension is essential to the future of the platform.

The ABC believes that internet transmission is a complement to digital radio delivery and does not support any view that internet radio obviates the need to maintain robust radio broadcast technology. Broadcast radio will remain a component of essential national infrastructure into the foreseeable future.

The Australian government has been committed to the future of digital radio and has already invested heavily in it. However, the realisation of that investment is currently stalled by a series of unresolved issues centred around spectrum and standards. Accordingly, the ABC believes that the best approach is for the Government to bring together representatives of the sectors of the radio industry and of the Department of Communications and the ACMA, to develop the policy and planning principles required to allow digital radio to develop to its full potential.

¹⁰ <http://www.acma.gov.au/theACMA/register-of-datacasting-licences>