



This article, by **Colin Knowles**, General Manager, Planning & Corporate Division is based on a paper presented at AIC Digital Broadcasting Conference, held in Sydney on 11-12 March.

Paving the way for digital broadcasting

A conversion to digital broadcasting will require all consumers to acquire new receiving equipment. Their existing receivers will not be able to receive the new digital transmissions. They will need to be convinced that there are real benefits in moving to digital before they will make the decision to invest in digital reception hardware.

For their part, broadcasters are faced with limited choices, embrace digital as the way of the future or risk becoming left in a marginalised analog backwater and watch alternative delivery systems, able to exploit digital technology, erode their audience share. An unlikely response from those who have invested millions buying or building their radio and television broadcasting businesses to businesses which serve a real public need.

The move to digital extends throughout all communications technology, its adoption for broadcasting is inevitable. This movement towards digital broadcasting is taking place in a regulatory and competitive business environment which is vastly different from the highly regulated and protected environment broadcasters have traditionally been accustomed to.



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Policy and regulatory Issues

A number of issues arise out of the move towards a totally digital transmission future. Answers to these will need to be found as the policy and regulation for the future digital broadcasting world evolve. Some of these are:

- should there continue to be fixed limits on the number of services a licensee can operate if there is effective competition between delivery systems. If so should they be as restrictive as the present limits?
- to what extent should the present definition of broadcasting service be varied to accommodate digital technology and the new types of services that have and will emerge as a result of its adoption?
- how much regulation is needed to achieve regulatory and policy objectives, and still allow for licensees to explore the possibilities of the digital domain?

- how should we promote the development of Australian content in relation to these new services?

- what is the appropriate mix of mainstream services to niche services in an environment where delivery capacity might exceed demand for some years to come? and

- if capacity exceeds demand and barriers to entry are minimal can true competition be established with minimum regulatory intervention?

Progress towards implementing broadcasting

Implementation of digital is a complex issue for broadcasters, the public and Government.

For the new services like satellite subscription television, cable and MMDS services the receiving hardware is under full control of the service provider and apart from the potential inconvenience of having to arrange a change to the consumer end equipment a transition would be virtually seamless to the consumer. For free-to-air broadcasting the analog reception equipment is owned by the consumer and is widely distributed. Many consumers have a number of receiving devices, all of these will be made redundant by a conversion to digital.

Broadcasters have indicated that they are prepared to undertake the substantial investment in infrastructure and program generation for a digital service and to carry the transition cost and relatively long period of zero or negative return on investment to facilitate a transition to digital broadcasting.

The Government must also make an investment because conversion would affect all national broadcasting services the cost of conversion for these would need met by Government which currently meets the establishment and operating costs for all ABC, SBS transmitters and for those used by the Parliamentary radio network. Community broadcasters also want to remain as serious mainstream services but are concerned about how they might meet the costs of moving to digital at least in the short term.

The approach adopted towards developing options and views on systems, implementation,



and policy implications of digital broadcasting, has been to establish joint working groups or committees made up of Government agencies, broadcasters, and other interested parties to identify the facts and the issues, and to report to Government on options.

A potential timetable for introducing digital broadcasting

International development of DRB and DTTB is following slightly different and independent timetables. This will naturally be mirrored in Australia. Clearly, reasonably priced receivers require mass markets, mass markets of considerably greater size than the total Australian market. We are interested in influencing the design of receivers so that they address the likely needs of the Australian market but have sought to do that through international forums like the Radio and Television Study Groups of the International Telecommunications Union and more directly through participation in groups like the EuroDab Forum.

At this stage of development in Australia, any timetable must make a number of assumptions about the pace at which implementation decisions might be settled, capital investment made, and the consumers convinced that adoption of the technology is to their benefit.

Digital television broadcasting

DTTB lags other forms of digital transmission technology because it is by far the most complex transmission problem to resolve, and as I suggested earlier, it has many more complex issues to address in its implementation.

Australia does have a choice to make as to whether to adopt the US or European approach. Although with our history as a 50Hz 625 line PAL television country there is naturally some leaning towards the European approach to DTTB.

The Australian television broadcasters have indicated that they would like to commence DTTB trials to evaluate the transmission alternatives and to learn how they function within the Australian environment. Such studies are a natural precursor to the establishment of appropriate planning parameters and approaches that will be needed to ensure that DTTB coverage can closely match that of the existing services within their licence areas.

Trials would need Government support along the lines adopted for DRB. As a minimum they need Government endorsement to an approach towards deciding the answers to the question DTTB implementation raises.

Digital radio broadcasting

In many respects, if we want to adopt the

European Eureka 147 technology then the direction and timetable for development of receivers and broadcast equipment is much clearer than is the case for television. On the other hand, if there were a desire to wait to see what the present USA developments in digital radio yield then we would face a much greater uncertainty of timing and results.

Australia has already undertaken considerable field testing of the Eureka 147 technology. It is the only technology for which development has been completed and the system standardized for combined terrestrial and satellite broadcasting applications using the WARC-92 designated L Band Spectrum.

Standardisation of the system alone is not sufficient to achieve early roll-out. There is considerable further work needed to produce integrated circuits and receiver designs that will allow true portable use, and naturally a receiver market has to be established in order to see a reduction in the cost of receivers to consumers.

Critical success factors for the introduction of digital broadcasting

Digital transmission technologies involve the carriage of many services over the same basic transmission infrastructure.

The current concept, familiar to broadcasters, of a unique transmitter for each broadcasting service using the radiofrequency spectrum will disappear. There will then be little to distinguish traditional terrestrial free-to-air broadcast from cable, satellite or MMDS delivery from a carriage perspective. Each will be able to deliver many services through the same basic systems. This suggests that some form of open common carriage scheme may be needed to benefit consumers, service providers (particularly new entrants), and content providers.

Investment

The change from analog to digital will require capital investment in new transmission infrastructure, upgrade to studio production plant, and investment by consumers in new receivers. For television new receivers are necessary if consumers are to be able to see the difference (i.e. wide-screen and improved definitions) as well as to be able to take advantage of new features that will be available on digital receivers. In other words, a set top box is not the answer to development of digital services.

For radio an add-on converter is to say the least consumer unfriendly in the motorcar and is probably a road safety hazard. While it may be



Innovations

possible to develop an arrangement to receive DRB and broadcast it through an unused FM channel through the car radio full functionality demands an integrated receiver capable of tuning DRB and existing services. The same is basically true for the home. Integrated receivers provide user friendly functionality, a factor essential for the successful introduction of DRB.

The public will see immediate return on its investment in digital receiving equipment provided there are digital services in operation. Indeed without services in operation they would not buy receivers in the first place. Broadcasters will need to invest in 'blind faith' to a large extent in order to establish services for the con-

sumers to switch to. Because of this broadcasters will have to adopt a long-term view of digital. Return on investment and break even will be delayed several years until there is a substantial population of receivers.

Discovering what consumers want from digital broadcasting

At present, consumers have no benchmark against which to relate and we well know that if asked about their interest in an unseen program many consumers will express interest, but only a fraction of the number of 'interested' people will actually use the product. There must be scope to discover what works in digital, to experiment with different and innovative services, to discover what consumers want and to discover what will make them invest in and switch to digital.

The move to digital broadcasting for radio and television is a real challenge for broadcasters, legislators, administrators and consumers. It is at the same time an opportunity to move broadcasting into the technology of the twenty first century.



Q&A Continued from page 14

cable. It is only in that way that we can participate in the development of interactive services, gain a 'multimedia development capacity' (Coalition policy for the sector), and take our place at the cutting edge of media developments.

The CBAA has accepted an offer from Foxtel to oversee the establishment of a national cable channel on its network. The channel, which we intend should be licensed as a community broadcasting cable service, will provide an outlet for programming from community, educational, and arts/culture sources throughout Australia. We expect that Metro TV in Sydney and other screen culture organisations will play an important role in the development of the channel.

The CBAA's involvement in the project at the beginning will ensure its stability and prevent any destructive 'divisiveness'. The Establishing Committee or Interim Board of the new organisation will be an effective and mature group of people representative of the diverse interests reflected in the channel's programming.

We believe in any case that the fear of divisiveness and of a community channel becoming a 'tool of those community groups who have a particular interest to push' is misplaced where the service is properly licensed, resourced, and regulated through the community broadcasting industry codes of practice. After all, we have 130 licensed radio stations out there doing exactly

the same thing as is intended for television, and as far as we know, the ABA does not receive complaints disproportionate to the size of the sector.

The CBAA welcomes Optus Vision's contribution to community resources by way of its Local Vision production facilities and cable channel but we are not at all happy with the concept which leaves editorial control in hands of the cable operator. This may well be 'community television' US style but it is a concept foreign to community broadcasting as it has developed in Australia.

Community broadcasting in this country is traditionally a co-operative activity rather than a competitive one, and its great strength is its independence - from the Government, and from private media owners. From this perspective we are very disturbed by Optus Vision's policies on program acquisition (or should we say poaching?) outlined in the interview with Brian Perkins.

However, it is early days and we are hopeful that future discussions between the CBAA and all of the 'players' providing community services on cable will result in an effective, integrated approach - from local to national. We are buoyed in this by the new Government's policy which states that 'the Coalition is anxious to pursue an independent role for community television on Australia's cable networks'. The stress must be on the word 'independent'.