House of Representatives Standing Committee on Communications, Information Technology and the Arts Digital Television Inquiry

Submission by the Digital Broadcasting Australia

1 Background to Digital Broadcasting Australia

Digital Broadcasting Australia (DBA) is a not-for-profit industry organisation whose members are made up from the four major layers of the free-to-view television industry. These layers are free-to-view television broadcasters (national and commercial), consumer electronics manufacturers and suppliers (including technology suppliers), audio/visual retailers and antenna installers.

DBA's mission is to help coordinate the free-to-view broadcasters, consumer electronics manufacturers and suppliers, retailers and installers promote free-to-view digital television and to predispose the efficient and effective transition from analog to digital television for the benefit of its members and viewers.

To achieve this mission:

- DBA provides its members and consumers with information about digital television commencement dates and coverage, the functionality and availability of equipment, retailer locations and the range of digital television programs and enhancements broadcast
- DBA encourages training programs for sales staff, service technicians and antenna installers
- DBA promotes a high standard of hardware and software in receivers to ensure viewers can receive their choice of digital free-to-air television services
- DBA provides and coordinates information on the digital transition to the wider industry, including software developers, content creators and hardware designers

DBA currently has 78 members across the four horizontal layers of the free-to-view digital television industry. As can be imagined, different members between and within each layer may have differences of view with regard to matters covered by the terms of reference of the House of Representatives Committee Inquiry.

Accordingly, DBA is not a lobby group for any one member or any group of members. It has not provided submissions to the current Government reviews into various aspects of free-to-view digital television.

However, in view of the terms of reference for this Inquiry, DBA is making a submission on matters of fact to assist the Committee.

2 Free-to-View Digital Television – a Horizontal Market

One of the important differences between the free-to-view digital television industry platform and digital pay television platforms in Australia is that one is characterised by a horizontal market structure and the other by a vertical market structure. This makes a significant difference when attempting to analyse and set policy. A horizontal market is where each major layer within the industry effectively determines what it offers to the public and the public freely determines what they wish to watch and purchase.

For example, within the policies set by the relevant legislation:

- Broadcasters are free to offer whatever programming in whatever areas they desire
- Manufacturers and suppliers of free-to-view digital television consumer equipment are free to determine what particular functionalities their equipment will contain in accordance with their view of market demand
- Retailers are free to stock whatever equipment and package that equipment into whatever sales bundles they determine
- Installers of digital free-to-view television related equipment are free to advise their customers on the type of installation that is desirable

While obviously what the relevant legislation allows broadcasters to transmit sets the overall scope for all layers within the free-to-view digital television industry, the members of each layer are free to operate as they like in meeting what they see as market demand.

Finally, in this horizontal market, the general public is relatively free to determine when they will convert from analog to free-to-view digital television and completely free to choose what equipment to buy, from which retailer and whether or not to use an installer.

A primary outcome of this horizontal market structure is that competition exists between suppliers of goods and services at each industry level. The result is the lowest possible price for consumers to convert to free-to-view digital television. However, the concomitant to this horizontal market structure is that consumers will face a potentially large range of choices concerning which equipment to buy, with what functionality, at what price, from whom and whether or not they need the assistance of an installer.

While the scope of this review does not generally relate to the digital pay television industry, DBA notes that generally it has a vertical market structure where the pay television operator determines the makes and models of digital set top box subscribers will use and controls the installation of set top boxes.

Generally therefore prospective subscribers are faced with just two key choices, eg whether to subscribe and, if so, to what particular tier or package of programs or services.

One consequence of the horizontal market structure is that free-to-view digital television broadcasters do not know what free-to-view digital television equipment is in peoples' homes and hence its capability. Further, in the early days of uptake of the technology, the broadcasters do not know a great deal about the location or coverage area of homes that have taken up free-to-view digital television.

On the other hand, in the vertical digital pay television environment, the pay television provider knows a great deal about their subscribers and exactly what the capability is of the installed digital set top box.

3 Term of Reference 1: The Rollout Process for Digital Television, including Progress to Date and Future Plans

3.1 Rollout of Transmission Facilities

The rollout of free-to-view digital television transmission facilities by the broadcasters is governed by the relevant legislation and the Conversion Schemes developed by the Australian Broadcasting Authority.

As at 1 May 2005, it is DBA's understanding that tables 1 and 2 below represent the places where the outlined number of digital free-to-view television services have begun.

Table 1
Four or more digital free-to-view television services have begun in the following Coverage Areas

Queensland	Brisbane/Gold Coast, Sunshine Coast, Cairns, Townsville, Wide Bay, Darling Downs, Toowoomba and Rockhampton – all services. Gladstone and Mackay – 4 services
New South Wales	Sydney/Central Coast, Bowral/Mittagong, Griffith, Illawarra/Wollongong, Newcastle, Central Tablelands, Wagga Wagga and Broken Hill – all services
Victoria	Melbourne, Western Victoria and Mildura/Sunraysia – all services. Ballarat, Latrobe Valley and Goulburn Valley – 4 services
South Australia	Adelaide, Spencer Gulf North, South East/Mt Gambier and the Riverland – all services
Western Australia	Perth – all services. (no Part B Remote Conversion Scheme finalised for regional areas)
Tasmania	Hobart, Launceston/North East – all services
Northern Territory	Darwin – all services
ACT	Canberra – all services

As a result of the digital roll-out in Table 1, around 85% of television households have **all** their local digital free-to-view channels available to them.

As there are 7.6 million Australian television homes this means around 6.4 million are capable of receiving **all** relevant local digital signals.

Table 2
At least one Digital Television service has begun in the following Coverage Areas (in addition to the areas covered in Table 1)

Queensland	Southern Downs, Warwick, Capella, Gordonvale, Hervey Bay, Babinda, Blackwater, Emerald, Mt Isa, Charters Towers and Boyne Island.
New South Wales	Coffs Harbour, Grafton/Kempsey, Richmond/Tweed, Murwillumbah, Upper Namoi, Taree, Gloucester, Dungog, Nowra North, Batemans Bay/Moruya, Ulladulla, Bega, Eden, Narooma, Goulburn, Cooma, Central Western Slopes, Bathurst, Lithgow, Portland/Wallerawang, South West Slopes, Dubbo, Tamworth and Armidale.
Victoria	Bairnsdale, Genoa, Cann River, Mallacoota, Churchill, Nowa Nowa, Bruthen, Foster, Lakes Entrance, Orbost, Goulburn Valley, Murray Valley, Cobden, Casterton, Horsham, Nhill, Warrnambool, Portland, Colac, Coleraine, Apollo Bay, Lorne, Upper Murray and Bendigo.
Northern Territory	Alice Springs and Katherine.
Western Australia	Albany, Broome, Bunbury, Carnarvon, Central Agricultural, Esperance, Geraldton, Kalgoorlie, Karratha, Manjimup, Narrogin, Port Headland, Roebourne, Southern Agricultural and Wagin.

Around 95% of television homes have at least one local digital free-to-view service available to them.

DBA understands that in the order of 150 transmitter sites have been upgraded so far to achieve the rollout outlined in tables 1 and 2 and in the order of 480 digital transmitters have been purchased and installed.

3.2 Uptake of Digital Free-to-View Television by Viewers

There are at least three relevant ways to look at or measure current uptake (as at 1 May 2005). Each of these view points is subject to some estimate.

3.2.1 Sales of Digital Receivers to Retailers

This is how the main consumer electronic industry statistics are reported. However, the main official reporting agencies do not include sales to retailers by entities that do not subscribe to the sales information service. DBA therefore supplements the official data by collecting similar sales figures directly from those DBA members who do not subscribe to these services.

Based on the above sources, DBA has reported sales of 777,000 free-to-view digital television receivers as at 31 March 2005 and estimates that as at 1 May in the order of 820,000 have been sold to retailers. Such sales have been around 40,000 per month for the last nine months.

3.2.2 Television Home Uptake

Sales of digital receivers to retailers, do not directly compute into free-to-view digital television home up-take or penetration. This is because a certain amount of sales to retailers are held in inventory and this is estimated to be around 50,000 receivers or somewhere around one month of stock. Secondly an unreported number of television homes will have more than one free-to-view digital television receiver. Based on the United Kingdom experience, at the early stages of take-up, sales to viewers can be taken as a near proxy to home take-up or penetration. However for the purpose of completeness this submission assumes around 50,000 free-to-view digital television homes have more than one free-to-view digital television receiver.

Putting these figures together, the current (1 May 2005) home take-up or penetration, based on the sales figures estimated by DBA is 720,000 (820,000 less 100,000) or around 11.2% of the homes in areas where a full suite of local free-to-view digital television services are available and 9.5% of all Australian television homes.

As well as all the above figures, there are some sales of digital receivers to viewers which are not reported through the official supplier sales channels or estimated by DBA (such as direct importation of receivers by retailers or supply of receivers to retailers by some non-DBA members/non-sales report service subscribers). Further sales of free-to-view digital television PCI cards enabling free to view digital television viewing on personal computers are not included in the DBA estimates. Moving in the other direction there will be some digital receivers that have been returned to retailers by viewers and perhaps some even that are no longer being used.

Finally there are a number of homes in multi unit dwellings where free-to-view digital signals are converted to analog at the head end and then reticulated through to residents in analog form. In the context of considering the cessation of analog television signals, this latter development may be relevant, but it does not represent home up-take of free-to-view digital television.

Nevertheless, all these other aspects would probably boost the 11.2% and 9.5% home up-take figures mentioned above to around 12% and 10.2% respectively.

3.2.3 Converted Television Sets

In the context of any consideration of analog television transmissions ceasing, it will become necessary to look at the total number of analog television sets in the marketplace and determine how many of those have been converted.

Generally it is accepted that the 7.6 million television homes in Australia have on average two working television sets each, producing an Australia wide household total of 15.2 million.

If one uses the DBA estimate of 770,000 free-to-view digital receivers being in people's homes (820,000 less 50,000 retailer inventories), then around 5% of the total working analog television set population were converted as at 1 May.

At the current level of new television set sales, additions to the working inventory of analog television sets each year in Australia could be as high as 1 million. Any television set to be used to watch free-to-view television after the date of any analog switch off will need to be converted to digital television in one way or another. Currently DBA estimates that there are around 14.5 million unconverted television sets in Australia, with that number being added to significantly each year.

3.3 Free-to-View Digital Television Consumer Equipment Availability

It is worth noting that the generic term “free-to-view digital television receivers” refers to both free-to-view digital set top boxes which are separate from a television set and integrated digital television sets in which a free-to-view digital tuner is inserted. The Australian marketplace so far has been dominated by the separate free-to-view digital set top boxes.

As at the end of February 2005 there were around 26 different digital free-to-view digital television equipment manufacturers and suppliers active in the Australian market. At least six of those were supplying integrated digital television sets, most were supplying set top boxes. At the same date, there were 63 different models of free-to-view digital receiver available to viewers.

Specifically looking at High Definition free-to-view digital receivers, there were 15 manufacturers and suppliers active in the market and 21 different models of HD set top boxes and five different models of HD integrated digital television sets available.

With respect to all the above figures, each number is at least double that which existed in March 2004, a year earlier.

The recommended retail price for digital set top boxes now ranges from around $150 through to $1,500 for the top of the range dual-tuner high definition set top box with a hard drive recorder. The recommended retail price of integrated digital television sets ranges from $1,500 to $20,000. The recommended retail price is not necessarily the price at which retailers sell free-to-view digital television receivers to the public. DBA is aware of standard definition set top boxes being sold for less than $100 and high definition digital set top boxes on sale for around $250.

The available free-to-view digital set top boxes range from very basic standard definition set top boxes (with minimal socket options), to standard definition set top boxes with over the air software download capability, standard definition set top boxes with interactive application capability, high definition set top boxes, standard or high definition boxes with two tuners, standard or high definition boxes with built-in personal video recorder-like hard drive recording capability etc.

The marketplace for free-to-view digital television consumer equipment has grown fast, is vibrant and provides the same array of different capabilities and value for money propositions as other horizontal consumer electronic markets in Australia.

3.4 Widescreen Television Sets and DVDs

There is likely to be a link over time between homes with DVD replay devices, homes purchasing widescreen television sets and homes purchasing free-to-view digital television receivers.

DBA understands that 5 million of the 7.6 million television homes in Australia now have the capability to replay DVDs. DVDs are invariably in widescreen format, namely 16:9, 18:9 or an even greater aspect ratio. Standard television sets have a 4:3 aspect ratio.

At the end of 2004, DBA understands there was in the order of 800,000 widescreen television sets in Australian homes. Hence there is still a significant gap between

Australian home ability to **replay** DVDs and the ability to **display** that material to full effect in widescreen on a television set.

With the dramatic reduction in price of widescreen television set display devices in the last two years, it is likely that this gap between DVD replay capability and widescreen television set display capability will reduce.

While in the March quarter for 2005, free-to-view digital receiver sales exceeded widescreen television set sales, there is a greater number of widescreen television sets in Australian homes than free-to-view digital television receivers.

3.5 Widescreen Television Programs

DBA conducts regular snap shots of the amount of widescreen programming being provided by the free-to-view digital television broadcasters.

At the end of February 2005, the widescreen television transmissions by the five networks in the capital cities averaged 76.2% of all programs between 5pm and midnight.

In the same week at the end of February, the three metropolitan commercial networks transmitted 123 hours of original high definition television. The national broadcasters transmit high definition programming which has been up-converted.

4 Terms of Reference two, three and four: Options for Further Encouraging Consumer Interest in the Uptake of Digital Television; Technological Issues Relevant to the Uptake of Digital Television; and Future Options

As indicated earlier, the various members of DBA will have wide ranging views of measures which might be taken in the future to assist the seamless uptake of free-to-view digital television.

DBA is not in a position to recommend any particular future actions by Government or the relevant regulatory authorities in this context. However, it does wish to suggest certain areas and topics that particular members have raised with us at varying times and that may be worthwhile for Government and the regulatory authorities in consultation with the wider industry to consider.

4.1 The Viewer’s Equipment Domain

Relatively little is known about the audio/visual electronic equipment cluster in the lounge rooms of Australian television homes and how all its component parts are interconnected. There is no database of the type of terrestrial aerials households have and their appropriateness to receiving local free-to-view digital television signals at optimum quality.

Only informed guesses can be made about the universe of aerial cabling and fly leads that link terrestrial aerials to free-to-view digital television receivers.

However this diverse consumer equipment domain (which results from the horizontal market) and how consumers operate and interconnect their free-to-view digital television receivers within it, affects the quality of the eventual digital sound and pictures on the final display device.

A comprehensive survey of typical viewers' audio/visual electronic equipment domain could assist all stakeholders in the free-to-view digital television industry to develop the most appropriate policy settings and provide the most appropriate and cost sensitive advice to actual or prospective free-to-view digital television "converters".

4.2 Multi Unit Dwelling Buildings (MUDs)

A comprehensive report paid for by Government and conducted by DTG in the United Kingdom in December 2003 indicated that while 60% or more of individual homes there were then digital capable, only in the order of 20% of MUD homes were digital capable. That report indicated that at the then current rate of digital conversion of MUDs in the United Kingdom, some 19 years would be required for full conversion.

DBA suggests a similar wide ranging survey of MUDs and their current state of digital television "readiness" together with what might be required to make them digital television ready could be considered.

MUD home formation is the fastest growing sector of overall Australian home formation. In many cases this is being driven by the high proportion of new home formation consisting of one or two person households.

Individual households within MUDs generally do not have the ability, on their own, to convert to digital. In most cases occupants must go through bodies corporate or managing agents until a consensus regarding digital conversion occurs.

DBA conducted a minor pilot study in the Gold Coast recently which indicated that at least 66% of the buildings surveyed needed either their head-end system or distribution system upgraded in order for the residents to be able to receive a full suite of current and likely future free-to-view digital television services through the MUD television head end and distribution system.

4.3 Over the Air Downloads (OADs)

As indicated earlier in this submission, there are nearly 70 different models of free-to-view digital receiver currently on the Australian market. There is no central database available to anyone to indicate what models, with what version of software in them are being used in which homes around Australia.

Free-to-view digital receivers which have an over the air software download capability could be upgraded in the home through the broadcast of such downloads. This could minimise consumer inconvenience and reduce the number of "legacy" boxes as digital services provided by broadcasters become more sophisticated and varied.

Over the air downloads of software for digital set top boxes is a standard feature of pay television operators' activities and for the free-to-air digital satellite direct to home platform called Aurora, operated by Optus.

Whereas in the controlled vertical structure of the pay television industry, OADs can be organised in a relatively straight forward manner, in the horizontal marketplace of free-to-view digital television, over the air downloads require substantially more testing and co-operation.

DBA therefore believes that the setting up of an industry-wide over the air download testing and broadcasting process and the possible concomitant establishment of some Test and Conformance Centre could be considered.

Signed for and on behalf of the board of Digital Broadcasting Australia

Ian McGarrity

Chairman