5

Selling digital

5.1 This chapter examines issues relating to standards and digital reception equipment in Australia. The chapter discusses the need for a testing and conformance centre that will be able to test digital reception products against Australian Standards.

5.2 The chapter also looks at marketing digital equipment, and the value of awareness campaigns. The chapter includes sections on the roles and responsibilities of the Australian Government, broadcasters, manufacturers and retailers.

Standards for digital equipment

5.3 A number of submissions to the inquiry referred to the need for regulated standards covering DTV transmission and reception equipment. This section summarises the relevant Australian standards and the scope of their coverage, the arguments surrounding the mandating of standards, and possible revisions to the standards to include requirements for particular features.

5.4 The technical specifications and requirements for DTV transmissions and DTV receivers are set by Australian Standards. These standards are based in part on the digital video broadcasting specifications contained in the European DVB-T Standards for DTV broadcasting

systems.[1] The Australian system also takes into account picture format standards used in the US.[2]

5.5 Standards Australia, the national standards body, defines a standard as being a published document which sets out specifications and procedures designed to ensure that a material, product, method or service meets its designed purpose and will perform in the way it was intended.[3]

5.6 Most Australian Standards are voluntary. However, between one-third and one-half of all standards are referenced under state or commonwealth legislation. A number of Australian Standards relating to the safety of consumer products or information about consumer products are referenced in Mandatory Standards under the commonwealth *Trade Practices Act 1974* (TPA).[4]

Broadcast and reception standards

5.7 Standards Australia has issued two standards regarding digital broadcasting in Australia:

- *AS 4599.1-2005: Digital television - Terrestrial broadcasting - Characteristics of digital terrestrial television transmissions*; and
- *AS 4933.1-2005: Digital television – Requirements for receivers – VHF/UHF DVB-T television broadcasts*.[5]

5.8 These standards are based on European DVB-Terrestrial Standards for DTV broadcasting systems, but have been modified to meet the specific needs for broadcasting DTV in Australia:[6]

> That standard is developed, if you like, like a toolbox, by taking the DVB standards which we have adopted in this country as our broadcasting standards and putting into the standard those things that are required in the Australian broadcasting environment.[7]

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1 Standards Australia, *transcript of evidence 14 September 2005*, pp. 1-2.

2 DCITA, *submission no. 66*, p. 14.

3 www.standards.org.au/cat.asp?catid=2, accessed 9 November 2005.

4 committees.standards.org.au/policy/sg-020/standardizationguide-sg-020.pdf, p. 3, accessed 24 November 2005.

5 www.standards.org.au, accessed 9 November 2005;
Standards Australia, *transcript of evidence 14 September 2005*, p. 1.

6 Standards Australia, *transcript of evidence 14 September 2005*, pp. 1-2.

7 Standards Australia, *transcript of evidence 14 September 2005*, pp. 1-2.

5.9 The Australian Standard *AS 4599.1-2005: Digital television – Terrestrial broadcasting – Characteristics of digital terrestrial television transmissions* (the transmission standard) was first released in 1999 with a revised edition published in April 2005. Broadcasters are required under the BSA to broadcast according to the transmission standard.[8]

5.10 The standard *AS 4933.1-2005: Digital television - Requirements for receivers - VHF/UHF DVB-T television broadcasts* (the receiver standard) was first published in 2000. This standard has since been revised with the latest edition published in May 2005.

5.11 The receiver standard is currently being reviewed by Standards Australia. From informal discussions with representatives from Standards Australia, the Committee understands that the review will be completed by the end of 2007.

5.12 The features that the receiver standard describes include display resolution settings, aspect ratios, user operation features such as Logical Channel Numbering (LCN) and the ability to select radio stations.[9]

Mandating Standards

5.13 The Seven Network claimed that the majority of manufacturers and suppliers to the Australian market have worked closely with broadcasters to ensure that their equipment is suitable for Australian DTV.[10]

5.14 Standards Australia discussed compliance with Australian Standards by the large manufacturers:

> You will find that most of the major brands will comply with the standard because their corporate policies are such that … they will normally determine that they will, as far as they can, follow a standard whether it is mandatory or not.[11]

5.15 However, the Committee was told that some suppliers may import equipment that is unsuitable for Australian DTV.[12]

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8 Standards Australia, *transcript of evidence 14 September 2005*, p. 10.

9 Standards Australia, *AS4933.1-2005*, pp. 1-7.

10 Seven Network, *submission no. 49*, p. 10.

11 Standards Australia, *transcript of evidence 14 September 2005*, p. 10.

12 Panasonic, *transcript of evidence 28 June 2005*, p. 31; Seven Network, *submission no. 49*, p. 10; Standards Australia, *transcript of evidence 14 September 2005*, p. 11.

5.16 Panasonic told the Committee of an example where a receiver was brought into Australia that was unsuitable for Australian DTV. Panasonic stated that 'there was a box in the market that was designed for eight megahertz, and we use seven megahertz in this country'.[13]

5.17 The Committee notes that there is some support for mandating or regulating the Australian standard for DTV receivers.[14]

5.18 ITRI explained to the Committee that not having a mandatory receiver standard is leading to:

> … a chaotic environment with a large range of devices sold in the market with no assurance that they meet minimum standards.[15]

5.19 Panasonic suggested that there is support for a mandatory standard:

> [Most companies] are supportive of mandating the standard, because a lot of this development work is a one-off. Once you have done it for one platform, that is transportable to other platforms, … it will discourage bringing boxes into the country that are simply not suitable for our broadcast environment.[16]

5.20 DCITA explained that the standard provides a degree of flexibility for manufacturers:

> The concern arises where customer equipment, for example, is produced to operate within effectively a subset of that standard—in other words, they choose the variables within that standard in a way which does not necessarily mean there is a capacity to receive all the sorts of signals.[17]

5.21 The Committee understands that there is support for a mandatory standard, however the Committee recognises that standards in Australia are voluntary unless regulated through an Act or related to safety.

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13 Panasonic, *transcript of evidence 28 June 2005*, p. 31.

14 Standards Australia, *transcript of evidence 14 September 2005*, p. 10; ITRI, *submission no. 46*, pp. 7-8, 13.

15 ITRI, *submission no. 46,* p 7.

16 Panasonic, *transcript of evidence 28 June 2005,* p. 11.

17 DCITA, *transcript of evidence 1 June 2005*, p. 23.

5.22 The Committee considers there are more appropriate means of raising consumer awareness of conformance to standards, such as through testing and labelling. These options are discussed later in this chapter.

Mandate digital tuners in reception equipment

5.23 A number of submissions suggested that the inclusion of digital tuners should be mandatory in reception equipment – that is, all televisions sold should include a digital tuner. This section of the Chapter summarises the arguments put forward for and against mandating the inclusion of digital tuners in televisions sold in Australia.

Arguments for mandating tuners

5.24 Several submissions to the inquiry suggested that mandating the inclusion of digital tuners in television sets as a way of driving DTV take-up should be investigated further.[18]

5.25 The Nine Network is of the view that the Australian Government should mandate digital tuners in new television receivers sold in Australia:

> Mandating digital tuners in new receivers would stimulate the take-up of digital technology in the market and contribute to establishing an automatic digital replacement cycle.[19]

5.26 Panasonic explained that mandating digital tuners would ensure that replacement televisions purchased by consumers are automatically capable of receiving DTV, and that the analogue switch-off date will not be delayed due to the continuing sale of analogue equipment.[20]

5.27 SCB discussed support for mandating digital tuners:

> It seems from the submissions made to the committee as part of its review that there is widespread support amongst the broadcasting industry, equipment suppliers and other submitters for the mandating of digital tuners in new television receivers to help stimulate the take-up of digital technology in the free-to-air market. The increasing adoption of digital technology world wide has reduced the cost of

18 Panasonic, *submission no. 30*, p. 2; UTSPS, *submission no. 32*, p. 3; Network Ten, *submission no. 60*, pp. 17-18; Sony, *submission no. 67*, p. 11; SBS, *submission no. 62*, p. 9.

19 Nine Network, *submission no. 59*, p. 9.

20 Panasonic, *submission no. 42*, p. 5.

> digital tuners. In light of the fact that televisions have an average life of about seven years, mandating digital tuners would create a natural replacement cycle ensuring steady digital uptake.[21]

5.28 Broadcast Australia also recommended that the Australian Government consider mandating integrated DTV receivers.[22]

5.29 Broadcast Australia stated that, in the US, the FCC has taken this approach and introduced a requirement that equipment manufacturers progressively incorporate a digital receiver in new television sets above certain sizes beyond certain dates (i.e. starting with the largest set sizes and working down).[23]

5.30 Broadcast Australia explained that the FCC has ordered all television sets 13 inches [33 cm] and larger, and other products that normally carry television tuners, to include DTV tuners, by 1 July 2007. The mandate outlines a phased-in approach over five years starting with larger screen sets.[24]

5.31 Broadcast explained that the US mandate calls for 100 per cent of other devices that include television receivers – such as VCRs and PVRs – to include digital tuners by 1 July 2007.[25]

5.32 Broadcast Australia also explained:

> … the FCC order says that combinations of DTV monitors and set-top DTV tuners, if marketed together at one price, qualify as integrated sets.[26]

5.33 The Nine Network explained that by having a phased-in approach starting with the larger equipment, consumers will still be able to make full choices regarding their purchases. The Nine Network added that analogue equipment choices will remain for a considerable period of time.[27]

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21 SCB, *transcript of evidence 1 September 2005*, p. 15.
22 Broadcast Australia, *submission no. 41*, p. 12.
23 Broadcast Australia, *submission no. 41*, p. 12.
24 Broadcast Australia, *submission no. 41*, p. 12.
25 Broadcast Australia, *submission no. 41*, p. 13.
26 Broadcast Australia, *submission no. 41*, p. 13.
27 Nine Network, *submission no. 59*, p. 9.

5.34 Network Ten stated that by phasing in the mandate in the US, the FCC has ameliorated possible adverse consumer reaction and lessened the impact at the lower end of the market.[28]

5.35 WIN also believes that digital tuners should be mandated. WIN stated:

> Last year the Australian retail market sold in the order of 1.5 million television sets. It is our view, that had these television sets contained digital tuners, a natural replacement cycle would have automatically been established.[29]

5.36 The Nine Network claimed that the large quantity of new analogue equipment continuing to come into the market is delaying digital take-up and the ultimate switch-off of the analogue service.[30]

5.37 WIN explained that whilst the UK has decided against mandating digital tuners, the US has decided to do so to help stimulate take-up of DTV technology.[31]

5.38 WIN stated that:

> A move to digital technology worldwide should create economies of scale for manufacturers in relation to the production of digital tuners lowering the price difference that exists between analogue and digital sets.[32]

5.39 Sony believes that the US approach, which requires a progressive and scaled move to in-built digital tuners, provides a useful model for Australia to consider.[33]

5.40 Sony has had some experience of the requirement to offer televisions with in-built digital tuners:

> Sony, and other suppliers, are now introducing [in-built digital television] models into the US market in compliance with the FCC's requirement that all newly manufactured TV sets will have to progressively (over a five year period) include digital terrestrial tuners.[34]

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28 Network Ten, *submission no. 60*, p. 16.
29 WIN, *submission no. 56*, p. 1.
30 Nine Network, *submission no. 59*, p. 9.
31 WIN, *submission no. 56*, p. 1.
32 WIN, *submission no. 56*, p. 1.
33 Sony, *submission no. 67*, p. 11.
34 Sony, *submission no. 67*, p. 11.

5.41 Panasonic also believes that the move to in-built tuners could start in a staged manner in Australia at the upper end of the market with large, new technology screens and panels.[35]

5.42 LG provided a basic plan for phasing in digital tuners in Australia:

- All large screen televisions (76 cm and above) should have in-built digital tuners by January 2007.
- All televisions should have in-built digital tuners by January 2008.[36]

Mandating HD tuners

5.43 Sony stated that, in addition to setting a schedule for mandating the integration of digital tuners, there should be a mandated requirement for all integrated DTVs and set-top boxes to decode both HD and SD signals.[37]

5.44 The ABC also discussed rapidly changing set-top box technology, and the possibility of eliminating the need for HD-SD simulcast by requiring all set top boxes to receive HD signals that can be converted down to SD:

> … at the moment we have boxes out there that can receive SD only. If we want to remove the simulcast then we have to basically make the transition away from those boxes over time. If [SD tuners] start to become built into integrated TV sets then you have people who have bought a new set that they expect to last seven or eight years and if suddenly you are telling them that the tuner in it is not going to work and they are going to need a set-top box, there is bound to be a consumer backlash.[38]

5.45 The Nine Network also believes that there should be an HD mandate, in addition to the phased-in mandating of digital tuners. The Nine Network believes this is especially so given the increased number of HD programs in Australia and the increasing take-up of digital world wide.[39]

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35 Panasonic, *submission no. 42*, p. 5.

36 LG, *submission no. 44*, p. 2.

37 Sony, *submission no. 67*, p. 11.

38 ABC, *transcript of evidence 22 June 2005*, p. 21.

39 Nine Network, *submission no. 59*, p. 9.

5.46 The Nine Network explained that:

> It is not logical that a high end integrated set with a high resolution high definition capable display should not be capable of receiving and displaying a high definition signal.[40]

5.47 The Nine Network claimed that the price imposition of an HD tuner would not be great at the moment particularly when factored into the cost of an integrated high end display:

> I would also like to point out that the difference in the cost today of production of an SD or an HD capable tuner is very small. It is probably only a matter of materials cost of $20 to $50. It is not big.[41]

5.48 The Nine Network explained the availability and cost issues:

> We understand that currently some manufacturers are limited in their ability to access high definition integrated receivers due to availability from overseas markets. However, with the increasing shift towards high definition throughout the world more high definition tuners will become available and the price differential will fall even further.[42]

Arguments against mandating tuners

5.49 The Seven Network does not support proposals to mandate digital tuners for consumer equipment in Australia.[43]

5.50 The Seven Network stated that:

> … the UK, which is the most successful DTT market in the world in terms of consumer uptake, has considered this issue and decided that it is not advisable at this stage of the consumer cycle (although could possibly be appropriate at a later stage).[44]

5.51 The Seven Network claimed that mandating digital tuners has had no effect on consumer take-up in the US. The Seven Network explained

40 Nine Network, *submission no. 59*, p. 9.
41 Nine Network, *transcript of evidence 28 June 2005*, p. 23.
42 Nine Network, *submission no. 59*, p. 10.
43 Seven Network, *submission no. 49*, p. 12.
44 Seven Network, *submission no. 49*, p. 12.

that strategies to drive take-up should focus first on encouraging consumer response rather than mandating technologies.[45]

5.52 The Seven Network claimed that digital tuners add to the cost of consumer equipment and could work to disadvantage low cost equipment suppliers currently in the Australian market who work on high volume low margin sales, with the end result being higher equipment prices.[46]

5.53 The ACA claimed that an attempt to speed the DTV conversion by requiring new television sets to have a digital tuner would raise a number of problems.[47]

5.54 The ACA raised the following questions:

- What sort of receiver would be mandated?
- How capable would the mandated receiver have to be in terms such as interactivity, electronic program guide functionality?
- Would the requirement apply to integrated TVs only, TV receivers with a designated screen size or over a specified value or any TV receiver (such as that incorporated in a VCR or on a [personal computer] add-in card)?
- How would such a requirement affect the availability of products for import to Australia – would it end the availability of cheap analogue sets? This would be a poor outcome if there were not similarly priced digital capable sets to take their place.
- Would such an intervention increase the price of sets on offer to consumers, and if so by how much? We would argue that it is inappropriate for such an intervention to produce price increases for consumers.
- What would happen with regard to currently existing but narrow market segments such as very cheap B&W sets and hand held units – if these could not incorporate a digital tuner, would they be banned from Australia?
- What would the enforcement method be?[48]

5.55 The ACA believes that it should be left to the market to determine the demand for television equipment.[49]

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45 Seven Network, *submission no. 49*, p. 12.

46 Seven Network, *submission no. 49*, p. 12.

47 ACA, *submission no. 47*, p. 7.

48 ACA, *submission no. 47*, pp. 7-8.

49 ACA, *submission no. 47*, p. 8.

5.56 The ACA is of the opinion that there is no need for the Australian Government to intervene with a requirement for television sets to be configured in a specific way. The ACA added that any intervention is likely to affect the average price of sets bought, and to impact the range of sets available.[50]

5.57 The ACA further explained its views on mandating digital tuners and DTV take-up:

> Obviously, if it is worth having, and you let the market decide, we will get there eventually. If it is not worth having, the market will decide not to go there. We obviously have an eye on the 16 million or 17 million consumers who have not yet transferred. A large number of those people are facing cost barriers and they have decided that it is not worth it. They have not yet decided—and they may not want to—to spend the money required for the upgrade. We have to ask ourselves whether there is a downside to hastening slowly and being open to new possibilities.[51]

5.58 The ACA added that nobody had to mandate colour television.[52]

5.59 The ABC gave its view on mandating digital tuners and legacy issues:

> On the surface of it, I think it looks attractive, but what it is going to do, particularly at this stage, is potentially make televisions more expensive and create the perception for consumers that TV digital receivers will last longer than a set-top box. At the moment, the purchase of a television set is still a significant purchase for a consumer and there is an expectation that it will have a relatively long life. With set-top boxes, as it stands at the moment, they are readily available for under $100. So, as technology improves and capability evolves, it is not such a big deal to change that set-top box … however, if you have integrated a digital receiver into your television, where the technology evolves or the ability to perhaps deliver interactivity opens up—whatever it might be—that television set is then not capable of doing that. So the redundancy issue is much more profound if you mandate

50 ACA, *submission no. 47*, p. 8.

51 ACA, *transcript of evidence 7 September 2005*, p. 22.

52 ACA, *transcript of evidence 7 September 2005*, p. 23.

> digital receivers in televisions, particularly at this stage in market development.[53]

5.60 SBS stated that consumers will drive market change:

> I think the market will drive the best outcome for receivers. The more that people buy receivers, the more that they are turning over new receivers and there is demand, the more the consumer electronics manufacturers in Australia can refine their product for the domestic market. If you look at the European experience in satellite set-top boxes, and even the terrestrial market, they are several generations into evolution caused by demand. So there are continual refinements and continual change. I think that anything we can do to stimulate that market change, that market economy, to make better devices, the better it will be.[54]

Compression technologies and legacy issues

5.61 While mandating tuners in televisions may address some immediate legacy issues relating to analogue sets, it will also introduce further legacy issues given new technologies which are being developed.

5.62 The DVB standard adopted in Australia includes MPEG-2 as the basic method of delivery for the video and audio.[55] However, future compression technologies, such as MPEG-4, may quickly supersede the current delivery technology.

5.63 Standards Australia discussed MPEG-4:

> the DVB standards basically cover MPEG2 video streaming, but there is a lot of talk and a lot of movement in looking at incorporating into the DVB standards MPEG4 or H264, which is probably more the appropriate terminology. H264 is a variant of MPEG4 which allows much higher compression rates, which would then allow particularly high-definition broadcasts to be broadcast with a much lower bit rate than they currently require.[56]

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53 ABC, *transcript of evidence 22 June 2005*, pp. 20-21.

54 SBS, *transcript of evidence 22 June 2005*, p. 30.

55 Standards Australia, *transcript of evidence 14 September*, pp. 1-2.

56 Standards Australia, *transcript of evidence 14 September*, p. 2.

5.64 Standards Australia explained further:

> As yet, there is no MPEG4 environment that I am aware of around the world, but there are a number of organisations and companies internationally that are considering broadcasting using that newer standard with the much higher compression ratios. I believe that DVB will almost certainly incorporate that into their broadcasting toolbox, if you like, at some time, probably in the not too far distant future … [possibly] under five years.[57]

5.65 Broadcast Australia explained that since MPEG-2 was first introduced, there have been substantial improvements in compression technology, with the advent of MPEG-4 technology effectively doubling the content capacity of a DTV channel.[58]

5.66 Broadcast Australia discussed the advantages of MPEG-4:

> MPEG-4 is an advanced open compression technology which allows for the provision of SD and HD television services utilising less bandwidth (i.e. more services per digital channel or 'multiplex'). The additional capacity could also be used for the introduction of interactive services. Its encoding is typically 50% or more efficient than MPEG-2. The development of MPEG-4, Windows Media 9 (a competing proprietary technology) and other applications allows for the running of more simultaneous program streams within a standard 7 MHz channel.[59]

5.67 Broadcast Australia claimed that MPEG-4-based DTV receivers were expected to become available in significant numbers in the second half of 2005, with early versions of MPEG-4-based DTV receivers already available in small numbers.[60]

5.68 Network Ten claimed that, although MPEG-2 DTV receivers are expected to dominate the market for another two years, industry transition to MPEG-4 is expected within two to five years.[61]

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57 Standards Australia, *transcript of evidence 14 September*, p. 2.

58 Broadcast Australia, *submission no. 41*, p. 5.

59 Broadcast Australia, *submission no. 41*, pp. 15-16.

60 Broadcast Australia, *submission no. 41*, p. 16.

61 Network Ten, *submission no. 60*, p. 22.

5.69 Broadcast Australia acknowledges that the introduction of MPEG-4 in Australia would result in legacy issues with current reception devices.[62]

5.70 Broadcast Australia claimed that in the near future an important decision will need to be made on whether or not to adopt an advanced compression technology standard and, if so, which standard to implement. This decision point will be driven by the increased adoption of these advanced compression technologies in the world's leading DTV jurisdictions and the mass availability of (affordable) consumer reception devices.[63]

5.71 Broadcast Australia pointed out that the later that consideration and selection of an advanced compression technology standard is left, the more difficult the size of the receiver legacy issue will be to manage.

5.72 Broadcast Australia added:

> If we are going to deal with that issue, it is better to deal with that earlier rather than later. So there is a population of MPEG-2 … receivers that have been sold. If you move to MPEG-4, what is the cost to the consumer associated with that upgrade? Given that the MPEG-2 receivers are now $200 or less … it is not all that significant a cost impost on the consumer … if there were a transition plan whereby the MPEG-2 standard definition signal was carried in addition to any MPEG-4 signals for a period of time, it would enable a reasonably smooth transition.[64]

5.73 The Seven Network discussed options for using MPEG-2 and MPEG-4:

> While legacy boxes currently in the market could not receive channels delivered using [MPEG-4] technology one option to address this would be to allow new multichannels to adopt new compression techniques but to continue to operate the primary analog simulcast service using current MPEG 2 technology.[65]

62 Broadcast Australia, *submission no. 41*, p. 16.

63 Broadcast Australia, *submission no. 41*, pp. 16-17.

64 Broadcast Australia, *transcript of evidence 15 June 2005*, p. 2.

65 Seven Network, *submission no. 49*, p. 9.

5.74 When asked whether mandating MPEG-4 DTV receivers would be an option, the Seven Network stated:

> What we would say is that technology should be allowed to be introduced in accordance with its availability and the business case for that technology. Most governments around the world have not had a spectacular record of success in mandating technologies and Australia had its own spectacular disaster with digital satellite in that regard. MPEG4 is an emerging technology and one of great interest but it is not there yet. It is starting to appear in things like DVDs. Some broadcasters are starting to indicate that they are moving down that path. But it is not a fully fledged, commercial, free-to-air technology.[66]

5.75 Sony admitted that some set-top boxes in the market may end up being legacy products. Sony also admitted that consumers that have purchased expensive integrated sets will need to purchase a new set-top box if MPEG-4 compression technology becomes the broadcast standard.[67]

5.76 Mr Alex Mayo suggested that it may be too late to switch to MPEG-4 for both SD and HD, however Australia could still follow Europe's lead and use MPEG-4 for HD broadcasting.[68]

5.77 Mr Mayo added:

> At the end of 2004, it was estimated that 658 000 digital receivers had been sold in Australia. Of these, 192 000 were HD units. If Australia were to switch to MPEG-4 for HD, these units could still receive SD broadcasts but would not be able to decode the new HD MPEG-4 encoded streams. Existing boxes would be relegated to SD status because they do not contain the required hardware to decode MPEG-4. Should Australia switch HD to MPEG-4 encoding, the government should consider a buy back or subsidised replacement scheme for the owners of outmoded MPEG-2 HD set top boxes.

5.78 UTSPS suggested that Australia monitor the progress of HDTV in Europe, with a view to implementing MPEG-4 HD broadcasting in Australia.[69]

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66 Seven Network, *transcript of evidence 1 September 2005*, p. 5.

67 Sony, *transcript of evidence 7 September 2005*, pp. 9-10.

68 Mr Alex Mayo, *submission no. 70*, p. 2.

5.79 UTSPS stated that networks would maintain a base-level MPEG-2 SD broadcast, allowing the continued use of low-price DTV receivers. UTSPS claimed that networks could feasibly provide a broadcast of one or two SD channels compatible with today's receivers, and an HD service at quality approaching the future HD-DVD standard.[70]

5.80 Interactive TV stated that the vast majority of set-top boxes available in Australia today are based on legacy satellite receiver technology.[71]

5.81 Interactive TV claimed that it has designed a true digital set-top box as a completely flexible platform for future development. Interactive TV explained:

> Using the latest SoC (system on a chip) technology, we can quickly reprogram the chipset and add different communication platforms such as Bluetooth, wireless LAN and 3G, according to each network operator's specifications. The chipset facilitates MPEG-2 and MPEG-4 AVC/H.264 compression decoding and the products' extremely low energy consumption offers another significant advantage over existing technologies.[72]

5.82 Interactive TV stated that its set-top box range will be available at prices starting from $149 for the entry level unit, through to the fully featured model with 400 GB of hard drive storage for less than $1 000.[73]

5.83 Interactive TV remarked:

> Instead of running behind in the technology race, the availability of this technology on our doorstep could enable us to lead the world. It is future proofed and cost-competitive.[74]

5.84 Interactive TV stated that it has responded to many requests for its technology from countries such as Italy, the UK, Spain, and Belgium:

> The technology is attractive because it enables free to air, satellite and cable broadcasters and internet service providers

69 UTSPS, *submission no. 32*, p. 9.
70 UTSPS, *submission no. 32*, p. 9.
71 Interactive TV, *submission no. 85*, p. 2.
72 Interactive TV, *submission no. 85*, p. 2.
73 Interactive TV, *submission no. 85*, p. 2.
74 Interactive TV, *submission no. 85*, p. 2.

to deliver interactive, on-demand, triple-play services (voice, video, data), to an ordinary TV set.[75]

5.85 Interactive TV claimed that it has established commercial relationships with the leaders in DTV in the UK and Italy.[76]

Committee comment

5.86 The Committee is of the opinion that mandating standards or mandating the inclusion of digital tuners in television sets is not a practical solution, particularly given legacy issues that may arise due to changes in compression technologies.

5.87 Digital set-top boxes are relatively affordable at the moment, with prices dropping quickly. The Committee is of the view that a set-top box is regarded as an inexpensive item that can be updated readily if or when a change in compression technologies comes about. Similar to mobile phones which are readily updated as new features and technologies become available, set-top boxes are likely to be regularly upgraded to match technology developments.

5.88 The Committee is of the view that consumers will drive the market for DTV equipment.

5.89 The Committee recognises the advantages of MPEG-4 technology and notes that new compression technology may allow for networks to broadcast both HD and multichannel services. New advances in technology can be considered in the review on HD quotas, already recommended by the Committee.

Revision of standards relating to reception equipment

5.90 While broadcasters are required under the BSA to broadcast according to the transmission standard, the receiver standard is not mandatory or regulated.[77] Some of the specifications for receivers in the standard are classified as essential, while others are recommended or optional at the manufacturer's choice.[78]

5.91 Standards Australia explained that as competitive pressures build, it is more likely the smaller suppliers will circulate digital equipment

75 Interactive TV, *submission no. 85*, p. 3.

76 Interactive TV, *submission no. 85*, p. 3.

77 Standards Australia, *transcript of evidence 14 September 2005*, p. 11.

78 Australian Standard *4599.1-2005: Digital television - Terrestrial broadcasting - Characteristics of digital terrestrial television transmissions*.

which may not be compliant with some features set out in the receiver standard.[79]

5.92 Submissions to the inquiry identified requirements under the receiver standard which could be reviewed and changed from being recommended to mandatory for all compliant receivers. The requirements discussed included LCN, and standby power. Several submissions also discussed over-the-air downloads and standards for antennas, in particular their capacity to receive digital channels in Australia. These issues are discussed below.

Logical channel numbering

5.93 The LCN system simplifies channel selection for consumers. Each broadcaster has been allocated a range of channel numbers, most of which are familiar to consumers:

> As an example of how the LCN system works: the ABC has been allocated the numbers 2 (one single-digit number to be used for its main service), 20-29 (ten double-digit numbers to be used for multichannel, HD and other services) and 200-299 (one hundred triple-digit numbers to be used where necessary, eg, for radio services and in areas where there is an overlap of services).[80]

5.94 Not all DTV receivers have the LCN feature and those that do not will essentially rely on consumers 'tuning' the box by assigning channel numbers. DBA highly recommends that consumers choose a digital receiver that uses LCN services to simplify channel selection.[81]

5.95 Standards Australia is concerned that functions that provide ease-of-use features for consumers, such as LCNs, may be overlooked in some set-top boxes:

> Ultimately, something like logical channel numbers, which is one of the ease-of-use features which exist within a digital set-top box, may be the first that gets missed out. Maybe it is the difference between spending $50,000 on writing the software to do it and just taking the box as it is, where it will tune

79 Standards Australia, *transcript of evidence 14 September 2005*, p. 9.

80 www.dba.org.au/uploads/documents/Shopping_DTV_ReceiverFeb04.pdf, accessed 22 November 2005, p. 5.

81 www.dba.org.au/uploads/documents/Shopping_DTV_ReceiverFeb04.pdf, accessed 22 November 2005, p. 7.

> channels 1, 2, 3, 4, 5 and 6 and you have to sort out which ones they are in terms of the channel that you are watching.[82]

5.96 The Committee notes that there are different levels of applicability for certain items or functions listed in the receiver standard. An item or function may be required for all receivers, highly recommended, recommended or optional. The Committee understands that, according to the receiver standard, LCNs are *highly recommended* for all receivers.

5.97 The Committee is of the view that the LCN system should be required for all receivers, and urges Standards Australia to consider this in its revision of the receiver standard.

Over-the-air downloads

5.98 Over-the-air downloads allow for manufacturers and broadcasters to install software modifications in digital receiver equipment in consumers' homes.[83]

5.99 DBA explained that DTV receivers which have an over-the-air software download capability could be upgraded in the home through broadcasting transmissions. Over-the-air download of software could minimise consumer inconvenience and reduce the number of 'legacy' boxes as digital services provided by broadcasters become more sophisticated and varied.[84]

5.100 Standards Australia discussed the need for over-the-air downloads:

> The only practical and cost-effective way of ensuring that receivers are maintained in the marketplace to a level that is going to satisfy consumers is by being able to update the software. The software may have to be updated because of problems that a company may find with their set-top boxes.[85]

5.101 Standards Australia added:

> It may well be that on some occasions it is more cost effective for an over-the-air download to be performed so that a box can cope with what is happening with the broadcast than for the broadcasters to change their broadcast to be compliant.[86]

82 Standards Australia, *transcript of evidence 14 September 2005*, p. 10.
83 Free TV Australia, *transcript of evidence 25 May 2005*, pp. 9-10.
84 DBA, *submission no. 34*, p. 8.
85 Standards Australia, *transcript of evidence 14 September 2005*, p. 19.
86 Standards Australia, *transcript of evidence 14 September 2005*, p. 19.

5.102 Panasonic further discussed the need for over-the-air downloads:

> We were able to download and change the software in the box and make it do some things that it could not do before. To modify the behaviour of the box or to allow broadcasters to move forward with enhanced features it is necessary to have this over-the-air download facility.[87]

5.103 Free TV Australia explained that there are a number of difficulties with over-the-air downloads, including how to manage them and what sort of system to use.[88]

5.104 Standards Australia explained that an over-the-air download for a particular set-top box should not interfere with other products. Manufacturers need to ensure that over-the-air downloads:

> ... will not cause third party boxes to go black, will not cause even the boxes they are intended [for] to go black and will achieve the over-the-air download without any damage to their business.[89]

5.105 Free TV Australia described a model for Australia where one or two national broadcasters could carry over-the-air downloads on behalf of a manufacturer.[90]

5.106 The UK testing and conformance centre, DTG Testing, manages the BBC's Engineering Channel which is used by manufacturers to download software updates to receivers. DTG Testing informs consumers by publishing a schedule for over-the-air downloads.[91]

5.107 All major receiver manufacturers supplying the UK market have service agreements with DTG Testing for access to the Engineering Channel. In addition, the pre-transmission testing of submitted downloads carried out by DTG Testing ensures that no problems are likely to occur during live transmissions. DTG Testing also tests and analyses each new download file to monitor the effects on digital receivers.[92]

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87 Panasonic, *transcript of evidence 28 June 2005*, p. 28.

88 Free TV Australia, *transcript of evidence 25 May 2005*, p. 10.

89 Standards Australia, *transcript of evidence 14 September 2005*, p. 20.

90 Free TV Australia, *transcript of evidence 25 May 2005*, p. 10.

91 DCITA, *exhibit no. 5, attachment A*, p. 3; www.dtg.org.uk/retailer/download_schedule.pl, accessed 15 December 2005.

92 www.dtg.org.uk/testing/engchan.html, accessed 15 December 2005.

5.108 Over-the-air downloads in Australia are expected to be coordinated by broadcasters in cooperation with manufacturers. Receiving an over-the-air download usually does not require the consumer to do anything apart from leaving the set-top box on in standby mode.[93]

5.109 Standards outlining guidelines for over-the-air downloads are currently being examined by a supply industry group.[94]

5.110 Standards Australia discussed the need for conformance testing of over-the-air downloads, to ensure that they carry out their function correctly and have minimum interference with other products:

> To do over-the-air downloads there are commercial, legal and technical considerations. There are issues of indemnity, which the broadcasters hold very firm. To ensure and, in particular, encourage broadcasters to offer over-the-air download services, we need testing and conformance of those over-the-air downloads from an independent body which can be provided to the broadcaster, along with the software that needs to be updated, and they can have the security that it has been tested … [95]

5.111 The Committee considers over-the-air downloads to be an efficient way of updating set-top-boxes. The Committee is of the opinion that conformance testing of over-the-air downloads is necessary and will be part of the business of a testing and conformance centre (TCC). Further discussion on a TCC can be found later in this chapter.

5.112 A further issue relating to over-the-air downloads concerns the need for set-top boxes to remain in standby mode and the consequent power usage. Power consumption issues are discussed below.

Power consumption

5.113 Another issue brought to the attention of the Committee regarding standards for DTV receivers was standby power usage. With the introduction of DTV in Australia, concerns have been raised about the increased energy use of DTV receivers.

5.114 In 2003-04 the National Appliance and Equipment Energy Efficiency Committee (NAEEEC) conducted a survey of set-top box energy consumption. The NAEEEC is part of the National Greenhouse

93 Free TV Australia, *transcript of evidence 25 May 2005,* p. 16.

94 Standards Australia, *transcript of evidence 14 September 2005,* p. 11.

95 Standards Australia, *transcript of evidence 14 September 2005*, p. 19.

Strategy, and coordinates the mandating of energy efficiency labelling and standards as well as voluntary measures including endorsement labelling, training and support to promote the best available product.[96]

5.115 The NAEEEC tested 29 set-top box models and found that the average energy consumption when in use was 15.4W (Watts). The NAEEEC tested 26 units in passive standby mode and found an average passive standby energy consumption of 7.9W. Only eight set-top boxes had an off mode. Table 5.1 summarises the results.[97]

Table 5.1 Results from NAEEEC 2003/04 survey for digital set top boxes

Mode	Number of measurements	Average power (W)	Power max (W)	Power min (W)
In Use/Active	28	15.4	35.3	6.9
Passive	26	7.9	20.1	1.9
Off	8	0.0	0.2	0.0
Total	**29**			

Source *National Appliance and Equipment Energy Efficiency Program, Minimum Energy Performance Standards, Digital Set Top Boxes, October 2004, p. 4.*

5.116 Department of the Environment and Heritage (DEH) noted that the less efficient models can consume as much energy over a year as a clothes dryer or dishwasher.[98]

5.117 The Committee notes that power efficiencies can be gained by combining components such as digital tuners, DVD recorders and PVRs into single units, with one power supply.

5.118 Network Ten explained that most people do not turn their set-top boxes to standby when they turn off their televisions. This has major implications for a household's energy consumption and has associated environmental effects:

> … if everyone bought a [set-top box] for each of their 2.3 TV sets the average household power would increase by around 2.5%. With 7.6m homes in Australia, this translates to 1378 million kilograms of carbon dioxide per year.[99]

96 National Appliance and Equipment Energy Efficiency Program, *Minimum Energy Performance Standards – Digital Set Top Boxes*, Report No. 2004/08, p. 1.

97 National Appliance and Equipment Energy Efficiency Program, *Minimum Energy Performance Standards, Digital Set Top Boxes*, October 2004, pp. 3-4.

98 DEH, *submission no. 91*, p. 1.

99 Network Ten, *submission no. 60*, p. 18.

5.119 There are also power concerns associated with over-the-air downloads. Free TV Australia explained that to be able receive over-the-air-downloads, the set-top box:

> … has to be in standby mode … If you turn [the set-top box] off, you are not going to get anything. We certainly never turn our set-top box off. We just turn the TV set off, so the set-top box would stay in standby mode.[100]

5.120 Evidence to the Committee indicated that integrated DTVs are considered to be more energy efficient than a set-top box and television combination. LG explained that an integrated set is a more efficient user of energy than a television and a set-top box together.[101]

5.121 Standards Australia also commented that power consumption efficiency is gained by having an integrated DTV rather than a set-top box and monitor:

> Most TVs sold in the Australian market at the moment already comply with the standby power of less than one watt. Most digital set-top boxes that are being sold in the Australian market are at the moment averaging around five watts standby power. If you do the same calculation, assuming that everything is sold as an integrated digital TV set, that figure drops by a factor of 10.[102]

5.122 Panasonic indicated that:

> There are about 1.5 million TV sets sold in Australia each year. In the last year, probably around 5,000 were integrated digital.[103]

5.123 Figure 5.1 illustrates the difference in energy consumption between integrated DTVs in standby mode, set-top boxes in standby mode, and 50 per cent of set-top boxes with monitors in active mode.[104]

100 Free TV Australia, *transcript of evidence 25 May 2005*, p. 16.

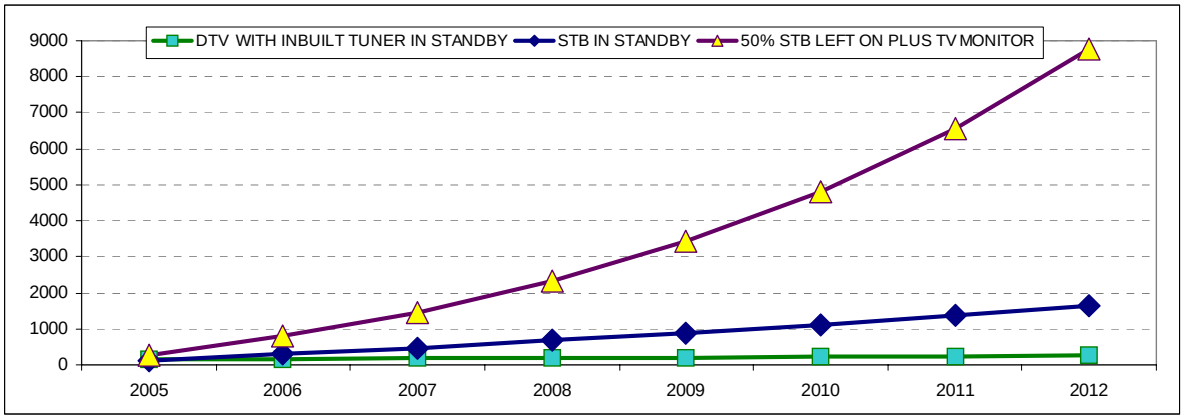
101 LG, *transcript of evidence 28 June 2005*, p. 41.

102 Standards Australia, *transcript of evidence 14 September 2005*, p. 17.

103 Panasonic, *transcript of evidence 28 June 2005*, p. 29.

104 Standards Australia, *transcript of evidence 14 September 2005*, p. 17.

Figure 5.1 Integrated DTVs and set-top boxes - comparison of energy consumption



Source *Standards Australia, exhibit no. 4, p. 3.*

5.124 The Committee notes that Australian consumers are currently purchasing set-top boxes at a far greater rate than integrated DTVs. The Committee understands that set-top boxes are continually dropping in price and are often bundled with other audiovisual products.

5.125 The requirements for standby power within the receiver standard state that manufacturers should refer to the National Standby Power Strategy. This strategy is discussed in the following section.

5.126 The Committee understands that the standby power clause is listed as *recommended* for all receivers in the Australian Standard relating to digital receivers.

The One Watt initiative

5.127 Standby power waste may account for one per cent of the world's energy related CO_2 (carbon dioxide) emission. In OECD (Organisation for Economic Co-operation and Development) countries, standby power wastage accounts at least for 2.2 per cent of total electricity consumption.[105]

5.128 In 1999, the International Energy Agency (IEA) proposed that all countries should synthesize their energy policies to reduce standby power usage to be no more than one watt per device. The proposal, known as the One Watt initiative contained the following three elements:

- participating countries would seek to lower standby power usage to be less than one watt in all products by 2010;

105 www.iea.org/textbase/papers/2002/globe02.pdf, p. 6, accessed 20 December 2005.

- each country would use measures and policies appropriate to its own circumstances; and
- all countries would adopt the same definition and test procedure.[106]

5.129 The IEA predicts that, when properly and widely applied, the total savings generated in OECD countries from the One Watt initiative will be 50 million tons of CO_2 by 2010. This is equivalent to removing 18 million cars from OECD roads.[107]

5.130 The Australian Government has endorsed the IEA's One Watt program which seeks to raise awareness about excessive standby power usage amongst suppliers and consumers.[108]

5.131 In 2002, the Australian Ministerial Council on Energy (MCE) released *Money isn't all you're saving*, the National Standby Power Strategy. The strategy sets out long-term objectives to address excessive standby energy used by consumer appliances and equipment.[109]

5.132 Australia's commitment to reduce excessive standby energy will be achieved by introducing product-specific plans addressing excessive standby energy use over ten years, from 2002 to 2012.[110]

5.133 Set-top boxes were among a group of products identified for immediate action in the National Standby Power Strategy, and in October 2004 *Minimum Energy Performance Standards (MEPS) for Digital Set Top Boxes* was published by the NAEEEC.[111]

5.134 The regulatory standards associated with MEPS are currently being drafted by Standards Australia:

> The Greenhouse Office is mandating on all set-top boxes and TV receivers minimum energy performance standards. Those standards are being written into a different group of standards within Standards Australia. They are being written into the electrical safety standards governed by a committee

106 www.iea.org/dbtw-wpd/journalists/docs/standby.pdf, accessed 20 December 2005.
107 www.iea.org/textbase/papers/2002/globe02.pdf, p. 6, accessed 20 December 2005.
108 www.energyrating.gov.au/standby-background.html, accessed 20 December 2005.
109 www.energyrating.gov.au/2003-10sbforum.html, accessed 20 December 2005.
110 www.energyrating.gov.au/standby.html, accessed 24 November 2005.
111 National Appliance and Equipment Energy Efficiency Program, *Minimum Energy Performance Standards – Digital Set Top Boxes*, Report No. 2004/08, p. 1.

> called TE-001. Those standards will be calling out the requirements for MEPS … [112]

5.135 The standard suggested by the NAEEEC is to include the following power specifications:

- 8W maximum power for in use/active mode for simple set-top boxes;
- 15W maximum power for active standby mode for all other set-top boxes, including pay television services and integrated recording devices; and
- 1W maximum power for passive standby mode.[113]

5.136 PVRs will also be covered by the new set-top box standard.[114] However, integrated DTVs, including those with an integrated receiver and decoder, will be addressed in a separate MEPS standard.[115]

5.137 DEH stated that implementation of the new set-top box standard is currently scheduled for October 2007. [116]

5.138 DEH stated that Australian energy efficiency experts are working closely with the European Union, the US and China to ensure an internationally consistent approach for power consumption testing methods and regulation of set-top boxes. DEH explained that:

> Given Australia does not manufacture these products, this approach will maximise the prospect of successful domestic implementation.[117]

5.139 The Committee supports the work currently undertaken by the Australian Government and international bodies. The Committee anticipates that at analogue switch-off the One Watt initiative and MEPS standard will be fully operational and so address many of the power consumption concerns relating to set-top boxes.

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112 Standards Australia, *transcript of evidence 14 September 2005*, p. 17.

113 National Appliance and Equipment Energy Efficiency Program, *Minimum Energy Performance Standards – Digital Set Top Boxes*, Report No. 2004/08, p. 19.

114 Standards Australia, *transcript of evidence 14 September 2005*, p. 19.

115 National Appliance and Equipment Energy Efficiency Program, *Minimum Energy Performance Standards – Digital Set Top Boxes*, Report No. 2004/08, p. 2.

116 DEH, s*ubmission no. 91*, p. 1.

117 DEH, *submission no. 91*, p. 1.

Recommendation 9

The Committee recommends that the Australian Government ensure that the One Watt initiative and the MEPS standard are fully operational by analogue switch-off at 1 January 2010.

Antennas

5.140 Another issue that has negatively impacted on consumers' experience of DTV is the quality of reception. Antenna systems are a critical piece of hardware, and old or outdated antenna systems may not have the ability to receive DTV broadcasts.[118]

5.141 Panasonic explained:

> There are, unfortunately, some products in the marketplace that have been installed which work quite well for an analog environment but are not necessarily acceptable for a digital environment.[119]

5.142 Antenna standards are being revised to ensure that antennas in the marketplace will all be able to receive DTV transmissions. Standards Australia is currently reviewing the following antenna standards:

- *AS 1417.1: Receiving antennas for radio and television in the frequency range 30 MHz TO 1 GHz, Part 1: Construction and installation*;[120] and
- *AS 1417.2: Receiving antennas for radio and television in the frequency range 30 MHz to 1 GHz, Part 2: Performance*.[121]

5.143 It is expected that the reviews will be completed by April 2006.[122]

5.144 The Committee anticipates that the revisions made to these standards will ensure that antennas available in the market place will be able to receive digital transmissions and operate within Australia's broadcasting environment.

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118 Panasonic, *submission no. 42*, p. 4; Samsung, *submission no. 87*, p. 8.

119 Panasonic, *transcript of evidence 28 June 2005*, p. 27.

120 committees.standards.org.au/committees/ct-002/projects/7031, accessed 20 December 2005.

121 committees.standards.org.au/committees/ct-002/projects/7032, accessed 20 December 2005.

122 committees.standards.org.au/committees/ct-002/projects/7032, accessed 20 December 2005.

Testing and conformance

5.145 Several submissions to the inquiry raised the issue of conformance testing of DTV reception products in Australia.

5.146 SBS believes that the establishment of an independent TCC is essential to enable manufacturers and broadcasters to have confidence in DTV reception equipment. SBS believes that such a centre will deliver to consumers reliability and durability in the products they purchase.[123]

5.147 SBS noted that Australian Government policy supports the notion of an independent TCC and welcomes further action to assist in realising its establishment.[124]

5.148 The Committee notes that the Coalition made a commitment during the 2004 election to work with industry to establish a TCC for DTV transmissions and receivers.[125] The TCC would test products against specifications set out in Australian Standards.

Demand for a Testing and Conformance Centre

5.149 Several submissions suggested that a national TCC be established.

5.150 Samsung supported the establishment of a national TCC, and claimed that it will enable the testing of broadcast transmissions and digital receivers against a set of national standards for DTV transmission and reception.[126]

5.151 Panasonic stated that the Australian Government, in partnership with industry, should fund the establishment of an independent TCC to test the compatibility between broadcast streams and DTV receivers, and to establish a mechanism for over-the-air downloads.[127]

5.152 Sony also believes that there is value in industry and government cooperating to establish a TCC. Sony claimed that conformance testing will ensure that consumers have a greater degree of confidence in the operation of digital products against agreed standards.[128]

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123 SBS, *submission no. 62*, p. 7.

124 SBS, *submission no. 62*, p. 7.

125 Liberal Party of Australia, *The Howard Government Election 2004 Policy*.

126 Samsung, *submission no. 87*, p. 8.

127 Panasonic, *submission no. 42*, p. 1.

128 Sony, *submission no. 67*, p. 3.

5.153 Samsung claimed that the issue of compatibility between DTV broadcasts and digital receivers is a significant problem plaguing the industry and directly impacts upon the consumer experience.[129]

5.154 The ABC also suggested that there is a need for digital receivers and broadcasting streams to meet a set of consistent and standard requirements in order for all digital services to be readily accessed by all viewers using a DTV receiver.[130]

5.155 The ABC explained:

> A Test and Conformance Centre would allow for the introduction of an Australian digital television compliance tick which would assist in supporting consumer confidence and encourage broadcasters to expand their creative thinking about the potential that digital only services offer.[131]

5.156 The ABC also added that a TCC would allow broadcasters to test new digital broadcast streams before commencing transmission to the public.[132]

Functions of a TCC

5.157 Conformance testing will allow manufacturers to test digital reception equipment against Australian DTV standards.

5.158 DCITA explained that it is working with the ACMA and the industry to develop a TCC framework. DCITA added:

> That testing and conformance framework, whether it be a separate institution or just an agreed set of procedures, will allow manufacturers, if they are bringing in new equipment, to test their new boxes against the various broadcast streams which are currently being offered in Australia. It will allow broadcasters who might want to introduce new innovative services to be able to test their broadcast streams against the boxes that are in Australia and it will also allow a movement towards a greater level of understanding of what the appropriate variables are.[133]

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129 Samsung, *submission no. 87*, p. 7.

130 ABC, *submission no. 45*, p. 9.

131 ABC, *submission no. 45*, p. 9.

132 ABC, *submission no. 45*, p. 10.

133 DCITA, *transcript of evidence 1 June 2005*, p. 24.

5.159 Broadcast Australia stated that the TCC would play an important coordination role, acting as a central point for the testing of broadcaster transport streams and DTV receivers.[134]

5.160 Broadcast Australia believes that a TCC should have the capability to undertake:

- DTV transport stream testing;
- DTV receiver testing (i.e. to provide assurance to consumers that the equipment [they] will buy operates in accordance with their current and future expectations);
- DTV over-the-air software download testing (recognising that, in the future, many or all DTV receivers will be upgradeable via software that is delivered 'over-the-air'); and
- Other DTV technical investigations.[135]

5.161 Broadcast Australia added that the functions listed above will ensure that current and future technical issues experienced in the DTV market are effectively resolved in order to limit the impact on consumers and viewers.[136]

5.162 Broadcast Australia added:

> This will become even more essential upon the introduction of interactive services (to ensure stability of product and to maximise consumer confidence) and the introduction of digital radio where similar issues will need to be resolved.[137]

Establishment of a TCC

5.163 Standards Australia suggested that private or independent organisations could conduct testing and conformance including universities or other organisations.[138]

5.164 Meridian Connections Pty Ltd recommended that the Australian Government could set up a department within a university for digital electronic engineering in telecommunications, television and multi media carriageway and transport systems:

> This engineering department will be responsible to government for conformance testing of digital television,

134 Broadcast Australia, *submission no. 41*, p. 14.
135 Broadcast Australia, *submission no. 41*, p. 14.
136 Broadcast Australia, *submission no. 41*, pp. 14-15.
137 Broadcast Australia, *submission no. 41*, p. 14.
138 Standards Australia, *transcript of evidence 14 September 2005*, pp. 18-20.

> telecommunications and interactive multi media components, products and processes for conformance to international standards.[139]

5.165 ITRI suggested that a university research environment might be the most practical location for a new TCC:

> Doing this in cooperation with the university sector would make a huge amount of sense, particularly in terms of the human resource side of that equation and particularly if you had a view of that being not just at the minimal level but doing things like trying to cook up bugs to see what happens when particular types of applications are downloaded, and looking at the future possibilities around potential problems in the mix as well as just the certifications of boxes that are rolling out into the market place.[140]

5.166 In carrying out the Australian Government's commitment to work with industry to establish a TCC, DCITA has convened meetings with industry stakeholders including metropolitan and regional commercial broadcasters, national broadcasters, equipment manufacturers, Broadcast Australia and the ACMA.[141]

5.167 The meetings discussed the mechanisms and possible models for conducting testing and conformance in relation to DTV transmissions and receiver equipment. Discussions have also included the development of testing and conformance for over-the-air software downloads for upgrading receivers.[142]

5.168 While a model for a TCC has yet to be determined in Australia, a TCC has been successfully established in the UK for the purpose of testing DTV broadcasts and receivers, and testing and managing over-the-air software downloads to standards.[143]

5.169 The UK company DTG Testing was set up by the Digital Television Group in 2000 to carry out conformance testing for DTV receivers in the UK. The company comprises retailers, manufacturers and

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139 Meridian Connections Pty Ltd, *submission no. 52*, p. 24.

140 ITRI, *transcript of evidence 2 September 2005*, p. 8.

141 DCITA, *exhibit no. 5*, p. 2.

142 DCITA, *exhibit no. 5*, p. 2.

143 DCITA, *exhibit no. 5*, p. 2.

broadcasters. Currently, over 50 different types of DTV receivers are tested.[144]

5.170 The objectives of the test centre are:

- to enable broadcasters to broadcast to a well-characterised set of receivers that meet the requirements for interoperability and do not inhibit service development;
- to assist receiver manufacturers develop products against better-qualified specifications;
- to provide receiver developers with the tools that they require to test prototypes;
- to assist in identifying areas of specification that are ambiguous or not adequately covered by the specifying documentation; and
- to share the risks and costs associated with this work.[145]

5.171 In the UK, DTV testing was fundamentally paid for by the UK Government and the four major manufacturers of consumer electronic digital receivers. DBA explained the funding arrangements:

> The initial grant from the UK Government was for £750,000 and they received an equal non-recourse loan from DTG. The four major manufacturers paid £50,000 per annum for the first two years to give it its initial seed capital and initial working capital when it was in a negative cash flow situation.[146]

5.172 The Committee notes that a TCC with similar objectives could operate successfully in Australia. However, an Australian TCC, unlike the UK DTG Testing centre, should be independently operated and funded mainly through industry.

TCC funding

5.173 Standards Australia explained that the Australian Standard for digital receivers states that conformance testing for receiver equipment is the responsibility of the manufacturer.[147]

5.174 LG explained that manufacturers spend excessive time and money conducting their own conformance and field testing.[148]

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144 Free TV Australia, *transcript of evidence 25 May 2005*, p. 10; www.dtg.org.uk/testing, accessed 24 November 2005.

145 www.dtg.org.uk/testing/about.html, accessed 24 November 2005.

146 DBA, *transcript of evidence 25 May 2005*, p. 13.

147 Standards Australia, *transcript of evidence 14 September 2005*, p. 18.

148 LG, *submission no. 44*, p. 2.

5.175 Samsung also explained that manufacturers spend a considerable amount of time conducting their own conformance testing. Samsung believes a TCC would no doubt be a simpler and more cost effective solution for industry.[149]

5.176 Samsung suggested that the Australian Government play a significant role by setting the appropriate Australian Standards, and should provide funding for the establishment of a TCC. Samsung also suggested the costs of a TCC could be offset by charging the industry for use of the centre.[150]

5.177 Broadcast Australia is also of the view that a TCC is an important proposal that should be jointly supported and encouraged by the industry and government.[151]

5.178 Sony suggested that the Australian Government provide initial start-up funding for a TCC.[152]

5.179 Panasonic suggested that the Australian Government co-fund the establishment of a TCC on a fifty-fifty basis with industry.[153]

5.180 When asked what amount of seed funding the Australian Government should provide for the establishment of a TCC, both ITRI and Panasonic suggested that $1.5 million would probably be needed.[154]

5.181 Standards Australia suggested that a TCC should be in the private sector for it to be considered independent. Standards Australia added that the Australian Government could put out a tender for interested organisations to start up a privately run national TCC.[155]

5.182 Standards Australia suggested another alternative:

> It may well be that the industry as a whole, that is, broadcasters, suppliers and others, get together and form some sort of company to do this testing, with representatives from all the stakeholders.[156]

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149 Samsung, *submission no. 87*, p. 8.

150 Samsung, *submission no. 87*, p. 8.

151 Broadcast Australia, *submission no. 41*, p. 15.

152 Sony, *transcript of evidence 7 September 2005*, p. 16.

153 Panasonic, *transcript of evidence 28 June 2005*, p. 33.

154 ITRI, *transcript of evidence 2 September 2005*, p. 8; Panasonic, *transcript of evidence 28 June 2005*, p. 33.

155 Standards Australia, *transcript of evidence 14 September 2005*, p. 19.

156 Standards Australia, *transcript of evidence 14 September 2005*, p. 19.

5.183 ITRI explained that once a TCC was established it would become financially self-sufficient through the life of its operation.[157]

Committee comment

5.184 The Committee recognises the need for a TCC and recommends that such a centre be established as soon as possible.

5.185 The Committee suggests that, as a priority, DCITA continue to work with industry stakeholders to develop a model and set of objectives on which a new TCC will be based.

5.186 The Committee notes that a TCC must adapt to any changes in the Australian Standards for digital reception equipment. It must also have the capacity to adapt, within its own financial resources, to changing technologies and the demands this may place on the testing of reception equipment.

5.187 The Committee recommends that the Australian Government provide seed funding for the establishment of a TCC in the first year, with industry to fund the centre thereafter. The Committee suggests that a tender process is used as the most transparent and independent means of establishing a TCC.

Recommendation 10

The Committee recommends that the Australian Government

- **work with industry stakeholders to establish a testing and conformance centre for digital television equipment; and**
- **provide A$1 million as seed funding in the first year for the establishment of a testing and conformance centre.**

157 ITRI, *transcript of evidence 2 September 2005*, p. 8.

Marketing digital equipment

5.188 This section examines consumer awareness issues, including current and future marketing campaigns. The respective responsibilities of the Australian Government and industry to drive market readiness and the conversion to DTV are discussed in the following section.

Raising consumer awareness

5.189 Broadcast Australia claimed that there is a general lack of consumer awareness that DTV will one day replace the existing analogue service.[158]

5.190 As discussed in Chapter 3, the ACMA's recent research found that 38 per cent of 1 148 households surveyed were unaware that analogue television broadcasting will be replaced by DTV broadcasting in the future, and that special equipment will be required to receive those broadcasts.[159]

5.191 Broadcast Australia believes that ongoing, substantial consumer marketing of DTV is clearly essential to increase take-up. Broadcast Australia added:

> It is a simple common sense proposition that consumers will not invest in something that they do not understand or where they cannot see adequate benefit. While acknowledging that commercial [free-to-air] broadcasters have undertaken some ad hoc consumer marketing campaigns over the last four years and that there is increasing promotion at the retailer level, BA does not believe that the efforts to date have been sufficient.[160]

5.192 Broadcast Australia noted the very substantial consumer marketing initiative that has accompanied the commencement of digital subscription television services, particularly in terms of the sophistication and regularity of the marketing campaign. Broadcast Australia stated that AUSTAR now has 75 per cent digital subscribers among its customer base [161]

158 Broadcast Australia, *submission no. 41*, p. 12.

159 ACMA (2005) *Digital Media in Australian Homes*. ACMA Monograph 1, p. 62.

160 Broadcast Australia, *submission no. 41*, p. 12.

161 Broadcast Australia, *submission no. 41*, p. 12.

5.193 FOXTEL discussed the subscription television sector's digital campaign:

> FOXTEL Digital and AUSTAR launched their new digital services to the market in March 2004. The services were launched with a series of publicity and advertising campaigns designed to educate and inform the public about the benefits of digital television and attracted significant media attention.[162]

5.194 FOXTEL claimed that, since March 2004, more than one million Australian homes have subscribed to FOXTEL and AUSTAR digital services out of a total 1.66 million subscription television homes. This equates to approximately 63 per cent of subscription television homes becoming digital in little more than a year.[163]

5.195 FOXTEL's submission provided the following figures:

- FOXTEL: 63 per cent of its 998 000 subscribers were digital customers as at 31 March 2005; and
- AUSTAR: 74 per cent of 500 000 subscribers were digital customers as at 27 April 2005.[164]

Current campaigns

5.196 Free TV Australia members launched a digital free-to-air marketing campaign in 2003 aimed directly at encouraging consumers to make the switch to digital.[165]

5.197 The details of the campaign and its perceived outcomes were discussed in Chapter 3.

5.198 Network Ten claimed that an increase in customer awareness of the benefits of DTV reported by DBA can be at least partly attributed to the promotional campaign that the commercial broadcasters have run on television and in retail outlets for the past two years.[166]

5.199 SCB explained promotion work being conducted, and the need for assistance from other DTV stakeholders:

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162 FOXTEL, *submission no. 55*, p. 15.
163 FOXTEL, *submission no. 55*, p. 15.
164 FOXTEL, *submission no. 55*, p. 15.
165 Free TV Australia, *submission no. 31*, p. 8.
166 Network Ten, *submission no. 60*, p. 9.

> Digital Broadcasting Australia is in the process of finalising a new advertising campaign to run in regional markets to promote the benefits of digital and widescreen TVs. This follows previous promotional efforts undertaken by the industry through Free TV. However, the broadcasters cannot be expected to be wholly responsible for keeping the community informed of the developments in digital TV and its benefits, particularly when digital TV does not generate incremental revenue for the industry.[167]

5.200 WIN discussed what regional broadcasters have done to promote DTV and what it needs to do in the future:

> We have recognised that we now need to push, and tell our viewers what they need to get; we need to educate and do an awareness campaign as to what equipment they will need to get our digital services. We have participated in industry campaigns—'Better colours, better pictures'—but we are in the process of putting together our awareness campaign, in consultation with DBA, which tells the viewer what they are going to need. They have been taught that all you need is a set-top box and you will be right, but—and you touched on this earlier—some of the televisions are 45 or 50 years old now, and some of those antenna systems have never been changed.[168]

Future marketing needs

5.201 Sony believes that to date there has been relatively little marketing of DTV amongst all stakeholders (government, broadcasters, manufacturers and retailers). Sony added that while there has been some advertising by the networks, there have been no high-profile, extensive and co-coordinated promotional campaigns.[169]

5.202 Sony admitted that effective marketing has been hindered by the limited digital programming and services being offered and the uncertainty around the analogue switch-off date. Sony believes that there must be a much greater commitment from stakeholders to marketing and promotion of DTV.[170]

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167 SCB, *transcript of evidence 1 September 2005*, pp. 15-16.

168 WIN, *transcript of evidence 1 September 2005*, pp. 34-35.

169 Sony, *submission no. 67*, p. 9.

170 Sony, *submission no. 67*, pp. 9-10.

5.203 WIN is also of the view that more needs to be done by all stakeholders:

> With digital services having now been available in metropolitan markets for five years and the regional roll-out now in full swing, it is in our view appropriate that all stakeholders play their part in informing consumers of the technology.[171]

5.204 SCB discussed the lack of knowledge concerning DTV amongst consumers:

> The other thing is that I do not think the consumer market really understands. They do not understand that they are missing part of the picture. They think four by three is still a sensible purchase for them. They do not understand this whole digital experience that they can have. I do not think the retail market is helping that situation, because they are picking up cheaper sets and they are selling them at lower prices. There needs to be an education program just to advise the consumer on what is happening in the market.[172]

5.205 NT Government suggested that public understanding of DTV will be improved through advertising:

> A proactive advertising campaign would dispel misconceptions and highlight the advantages and value of digital TV. Differences in picture quality can be graphically highlighted, especially in the print media.[173]

5.206 Samsung believes that greater impetus is needed for consumers to covert to DTV, and admits that it is possible that limited awareness and confusion by consumers is contributing to the slow penetration rates.[174]

171 WIN, *transcript of evidence 1 September 2005*, p. 26.

172 SCB, *transcript of evidence 1 September 2005*, p. 18.

173 NT Government, *submission no. 27*, p. 2.

174 Samsung, *submission no. 87*, p. 6.

Government responsibilities

5.207 This section examines the ways in which the Australian Government can contribute to the conversion to DTV. This includes providing an appropriate lead time for manufacturers and broadcasters, facilitating informed consumer choices in the marketplace and addressing reception issues.

Lead times

5.208 Chapter 2 discussed the need for certainty concerning any analogue switch-off date. Manufacturers have asked for certainty of analogue switch-off to allow them to plan production for the coming few years.

5.209 Retravision reiterated the need for analogue switch-off certainty, and its impact on manufacturers and retailers:

> I think no-one is terribly clear about what is happening in 2008. Certainly the public are not. I suspect some of the manufacturers or suppliers are not either. I think it is important to bring some clarity around that point. Whether it is 2008 or a later date, we do need clarity. It is really important to be able to communicate to consumers the 'what is in it for them' of whatever happens. It is also important to communicate to suppliers, because they are setting their product road maps years out and unless they are very clear about what is happening they have to take a stab at it. I think that makes it very difficult for their product planning. I think it is important that we do need some clarity about what date it is and what is actually going to happen at that date.[175]

5.210 LG also discussed the need for analogue switch-off certainty:

> We have suggested that the date for that might be 2010. We are certainly not basing that on a particular set of evidence that is overwhelming but, rather, we think we need to provide a certainty to manufacturers, retailers and consumers so that we are not living in continuous uncertainty as to when that occurs.[176]

175 Retravision, *transcript of evidence 10 August 2005*, p. 11.

176 LG, *transcript of evidence 28 June 2005*, p. 37.

5.211 In relation to manufacturing lead times, LG added:

> We would like to start to develop with the government some certainty in terms of what is required and by what date. Then we can discuss, from a manufacturing point of view, what is actually achievable.[177]

5.212 LG discussed the cost of DTV products and the impact a firm switch-off timetable will have:

> Additionally, there is scope for further price stabilisation when we achieve certainty of the analogue phase out timetable. Whilst we have focused our initial digital offerings on large screen formats, our plans are to expand the range to offer smaller digital screen televisions. If we can be certain that by 2008 the market will have moved to the sale of digital television only, we can assure price parity. By this, we foresee consumers as being able to purchase a digital television within the same pricing framework as standard analogue televisions can be purchased today.[178]

5.213 LG claimed that cost of analogue and digital receivers from a manufacturing point of view:

> … makes no impact on the final ticket price, and it would be wrong to say digital equipment is always more costly than an analogue alternative.[179]

5.214 The Committee acknowledges that manufacturers and retailers will require a lead time in order to ensure a supply of digital products prior to analogue switch-off. The current uncertainty regarding the scheduled switch-off commencing in 2008 and occurring in different regions over a number of years has understandably not encouraged manufacturers and retailers to invest in a product switch-over. The nationwide analogue switch-off date of 2010, recommended by the Committee, will provide the certainty and lead time required by manufacturers and retailers.

177 LG, *transcript of evidence 28 June 2005*, p. 37.

178 LG, *submission no. 77*, p. 3.

179 LG, *submission no. 77*, p. 3.

Campaign

5.215 Samsung believes that as the regulator of the industry, the Australian Government has a significant role in terms of informing consumers about choice and availability.[180]

5.216 Samsung believes that the Australian Government needs to lead a co-coordinated approach to increase awareness and understanding of the new and changing television environment, through an ongoing community awareness campaign.[181]

5.217 Broadcast Australia recommended that government and non-government stakeholders consider funding an ongoing joint government-industry DTV marketing initiative.[182]

5.218 Ms Eleanor Hillard, a communications student with an interest in television particularly from a regional perspective, advocated a coordinated campaign managed by the Australian Government, primarily through the ACMA. She stated that it is vital that the Australian public are made fully aware of what the conversion from analogue broadcast services to digital broadcast services will involve.[183]

5.219 Ms Hillard analysed a selection of DTV awareness campaigns that have been implemented. Ms Hillard's analysis focused on the effects these campaigns have on those living in regional areas. In summary, Ms Hillard's research found that:

- Digital television awareness campaigns are failing to reach many audiences, especially those in regional areas because it is primarily being promoted through only 2 mass media forms, the Internet and television … there needs to be urgent campaigning provided in all mass-media … like radio, print, billboards and mail (in the form of pamphlets) to maximise future viewer awareness.
- Campaign and promotional material is too heavily focused on the perceived enhancements that digital television will bring. Although it should do this to an extent, viewers must be reassured that their viewing services such as programming, will not be extensively disrupted, and digital free-to-air television will provide much the same service that free-to-air services do currently.

180 Samsung, *submission no. 87*, pp. 6-7.

181 Samsung, *submission no. 87*, p. 7.

182 Broadcast Australia, *submission no. 41*, p. 12.

183 Ms Eleanor Hillard, *submission no. 48*, p. 3.

> - Current television campaigns have utilised a 'blanket approach', in that they are using the one television advertisement to reach every demographic grouping in Australia. [It is] recommended that a range of advertisement campaigns be screened, to ensure that all demographic groupings (including those in regional areas) will be aware of the future conversion to digital services and what it involves.[184]

5.220 Ms Hillard's submission made several recommendations, based on the arguments and discussion in her research. She recommended that extensive print, radio, television, billboard and mail campaigns should be implemented by the DBA and the Australian Government, in particular by the ACMA.[185]

5.221 Ms Hillard also recommended that the organisations mentioned above should produce an uncomplicated, straightforward pamphlet explaining what DTV is, when it is being implemented, the costs involved and the features that can be provided:

> The pamphlet as well as containing text, should include easy to follow diagrams and pictures explaining the changes in transmission, the equipment required, and use the opportunity to show the incentives for converting to the new medium by outlining that digital television can offer:
>
> - Higher quality pictures (explain the new 16:9 picture format);
> - Improved reception … ;
> - Benefits such as program guides, multi-view and interactive services; and
> - Free-to-air services, which will contain much of the same content as what it does now.[186]

5.222 Ms Hillard recommended that the ACMA provide a 'Digital Television for Dummies' section on its website. She remarked that consumers need access to an extremely simplified explanation of DTV, without being overwhelmed with technical jargon.[187]

5.223 Ms Hillard recommended that Free TV Australia implement practical follow-up campaigns to encourage and remind the public to convert to DTV. She claimed that FOXTEL Digital's campaign featuring Hugh

184 Ms Eleanor Hillard, *submission no. 48*, pp. 3-4.

185 Ms Eleanor Hillard, *submission no. 48*, p. 11.

186 Ms Eleanor Hillard, *submission no. 48*, pp. 11-12.

187 Ms Eleanor Hillard, *submission no. 48*, p. 15.

Jackman had been successful in encouraging take-up and that Free TV Australia could take a similar approach.[188]

5.224 Ms Hillard suggested that the ACMA ensure that all free-to-air television networks broadcast community service announcements informing viewers of the conversion to DTV.[189] She also recommended that personalities from all the free-to-air television networks should participate in advertising campaigns.[190]

5.225 Ms Hillard recommended that a different approach be taken to promoting DTV in regional areas and to varying demographic groups. She suggested that regional campaigns should feature local personalities that regional consumers know and trust. She recognised that DTV awareness campaigns need to address specific demographic groupings, and suggested that different age groups might respond to different personalities.[191]

5.226 Samsung, Broadcast Australia and Ms Hillard have all called for an Australian Government driven campaign to inform viewers of analogue switch-off and the benefits of DTV. The Committee is not of the view that this is a government responsibility. The Committee is of the view that the networks are responsible for their audience capture.

5.227 The Committee is of the opinion that the Australian Government is responsible for setting the framework for the rollout of DTV. The Committee is of the view that DTV take-up should primarily be driven by the broadcasters, manufacturers and retailers, with coordination from industry bodies such as DBA.

5.228 The Committee suggests that a toll-free information service could be established during the analogue switch-off period to inform consumers. However, with a firm switch-off date, and production set in train, manufacturers and retailers should be the ones to carry the education of consumers in purchasing DTV products that suit their needs.

5.229 The Committee agrees that there is a role for the Australian Government in the development of a digital marketing code and appropriate product labelling to increase consumer awareness, and the establishment of a Digital Black Spots program to address reception problems. These are discussed below.

188 Ms Eleanor Hillard, *submission no. 48*, p. 15.

189 Ms Eleanor Hillard, *submission no. 48*, p. 16.

190 Ms Eleanor Hillard, *submission no. 48*, p. 18.

191 Ms Eleanor Hillard, *submission no. 48*, pp. 18-19.

Digital Television Marketing Code

5.230 DCITA stated that equipment suppliers have developed an industry code of practice for describing and marketing digital receivers.[192]

5.231 DBA stated that the Digital Television Marketing Code was first published by the Australian Electrical & Electronic Manufacturers' Association and the Consumer Electronics Suppliers Association in August 2002.

5.232 The Code was produced to provide information on the performance characteristics of DTV broadcast receivers and display devices. The primary role of the document is to educate through providing accurate descriptors of analogue and DTV receivers and display devices.

5.233 The Code was developed in consultation with the ACCC.[193] In line with the education function of the Code, the compliance and sanction provisions are limited but subject to review depending on need.[194]

5.234 The scope of this Code addresses:

> … the marketing claims and labelling that may be made in connection with various types of consumer TV broadcast reception devices that are capable of decoding and displaying digital television broadcast signals. The Code will assist suppliers and retailers to accurately describe and label the capabilities of TV receivers to decode and broadcast digital television broadcast signals. It also includes within its scope analogue TV broadcast receivers because these devices can also deliver digital TV services when connected to digital TV set top box decoder.[195]

5.235 The Code's main objective is:

> … to provide a set of minimum standard descriptors for identifying the attributes and capabilities of various types of broadcast receivers that are capable of receiving, decoding

192 DCITA, *submission no. 66*, p. 9.

193 www.dba.org.au/index.asp?sectionID=80, accessed 9 December 2005.

194 Australian Electrical & Electronic Manufacturers' Association & Consumer Electronics Suppliers Association (2002) *Digital Television Marketing Code*, AEEMA, p. 2.

195 Australian Electrical & Electronic Manufacturers' Association & Consumer Electronics Suppliers Association (2002) *Digital Television Marketing Code*, AEEMA, p. 6.

and displaying analogue & digital television broadcast signals.[196]

5.236 The Code explains that the use of standard descriptors is intended to ensure that:

- suppliers and retailers are able to support marketing claims for product performance according to verifiable performance measures; and
- consumers are able to apply the descriptors at point of sale and so reasonably distinguish between:
  - ⇒ Analogue TV receivers capable of displaying input from a digital TV Set Top Box decoder;
  - ⇒ Standard Definition and High Definition Digital Television broadcast receivers also known as iDTV's; and
  - ⇒ Standard Definition and High Definition Set Top Box decoders.[197]

5.237 The general requirements section of the Code outlines the use of particular terms when promoting digital products, including:

- hybrid descriptive terms such as 'digital-ready', 'digital compatible', 'digital enabled' or similar terms have no valid technical meaning and should be avoided because of their potential to mislead about the performance capabilities of analogue broadcast receivers;
- the words 'digital' and 'television' should not be used together in connection with analogue TVs without qualification; and
- the phrase "Digital Television" and acronyms 'DTV', 'SD', 'SDTV', 'HD', 'HDTV' should not be used unless they conform to the classifications as described in [the Code].[198]

5.238 The Code is applied in the following way:

- Companies that wish to be listed as subscribers to this Code may do so by making their intention to apply the descriptors used in this Code known to the Code administrator.

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196 Australian Electrical & Electronic Manufacturers' Association & Consumer Electronics Suppliers Association (2002) *Digital Television Marketing Code*, AEEMA, p. 6.

197 Australian Electrical & Electronic Manufacturers' Association & Consumer Electronics Suppliers Association (2002) *Digital Television Marketing Code*, AEEMA, pp. 6-7.

198 Australian Electrical & Electronic Manufacturers' Association & Consumer Electronics Suppliers Association (2002) *Digital Television Marketing Code*, AEEMA, p. 10.

- Subscribers undertake to apply the descriptors used in this Code in any representations made about the performance of analogue and digital TV broadcast receivers.
- Subscribers to this Code may state that they adhere to the principles set out in this Code:
  - ⇒ in any promotional material for TV Broadcast receivers and/or
  - ⇒ in general company information
  - ⇒ in an internet Home Page
- The Code Administrator undertakes no verification of claims or audit of Subscribers. It is the responsibility of each Subscriber to ensure that claims of compliance with descriptors in this Code are verifiable.[199]

Labelling

5.239 The issue of labelling of television products was raised in several submissions. Applying labels to all televisions may serve to warn consumers that analogue sets may be rendered obsolete without appropriate digital reception products.

5.240 Broadcast Australia reported that the UK, in its efforts to encourage consumers to upgrade to digital equipment, is considering regulations that will ensure that all new television sets have a 'sell by' label. This label effectively warns consumers that the set will become obsolete within a given period of time.[200]

5.241 Mr Nigel Pearson stated that:

> If the TVs in supermarkets and retail showrooms had labelling indicating the 2008 cutoff (e.g. "Useless after 2008!" stickers), consumers might actually learn about, and take up, the technology.

Committee comment

5.242 The Committee considers that the Digital Television Marketing Code is an excellent development. However, the Committee is concerned that the Code is voluntary and may not assist consumers in purchasing decisions.

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199 Australian Electrical & Electronic Manufacturers' Association & Consumer Electronics Suppliers Association (2002) *Digital Television Marketing Code*, AEEMA, p. 11.

200 Broadcast Australia, *submission no. 41*, p. 13.

5.243 The Committee is of the opinion that the labelling of digital reception equipment, based on the Code, should be mandatory. This would force manufacturers and retailers to properly identify the products they sell.

5.244 The Committee noted that energy rating and water rating label schemes are very useful guides for consumers for assessing and analysing different products in the market.

5.245 The Committee recommends that a labelling scheme based on the Digital Television Marketing Code be established. The scheme should apply to all televisions and digital reception equipment.

Recommendation 11

The Committee recommends that the Australian Government coordinate the establishment of a mandatory labelling scheme that will accurately identify television and digital reception products. The scheme should be based on the industry's Digital Television Marketing Code.

Transmission strength issues

5.246 Image quality of DTV, whether HD or SD, can be adversely affected by transmission factors. Several submissions to the inquiry raised transmission signal strength as a significant DTV rollout issue.

5.247 The ACMA discussed DTV rollout and signal strength, and commented that in some cases the strength of the digital transmission will increase once analogue is switched off. ACMA added:

> … but in general we are trying to do it so that it is at maximum strength already. There are a few cases where that is inevitable but, because of the way signals propagate, even at half strength you cover about 90 per cent or 95 per cent of the same area.[201]

5.248 The ACMA further explained signal strength issues:

> … in fact we are planning at very high power. This is a big difference between the Australian and, say, the British roll-out. Because we have so much spectrum here, we have been

201 ACMA, *transcript of evidence 1 June 2005*, p. 21.

> able to plan for the same coverage, in general, while the analog is still on. But there will be some exceptions. There will be exceptions in the bush, say, where you have a very wide coverage VHF signal. It might not always in every case be possible with one transmitter to get exactly the same coverage. Also, I think we have already mentioned the cliff effect. There will always be people on the margins who regard their very grey, fuzzy picture as adequate and wonder where their digital signal is. Those are problems for analog switch-off. They await us down the track and they are very real, but at the moment we are inviting TV networks to operate at extremely high power, with very few exceptions.[202]

Black spot programs

5.249 The Australian Government's Television Black Spots Program aims to improve reception in areas where television reception is poor. This section discusses the television black spots issue and the provision of services to those areas.

5.250 Television Black Spot programs were developed in response to concerns about inadequate analogue television reception in regional and rural locations.

5.251 DCITA explained that the Television Black Spots Program was:

> … designed to improve access to analogue television services in areas of poor television reception. The program sought to fix at least 200 black spots prior to its closure on 30 June 2005. By that date, new services had commenced in 238 black spots. Facilities were awaiting construction in 2005–06 at a further five locations.[203]

5.252 DCITA stated that the Television Black Spots – Alternative Technical Solutions Program has been developed to further improve television reception in regional areas.[204]

5.253 This new program supports the development of alternative technical solutions to assist eligible applicants who could not be assisted under the Television Black Spots Program. This is either because frequencies

202 ACMA, *transcript of evidence 1 June 2005*, pp. 21-22.

203 www.dcita.gov.au/broad/television_and_radio_blackspots_program/television_black_spots_program, accessed 1 December 2005.

204 www.dcita.gov.au/broad/television_and_radio_blackspots_program/television_blackspots_-_alternative_technical_solutions_program, accessed 1 December 2005.

are unavailable or an analogue retransmission solution is not viable.[205]

5.254 Where there is an analogue broadcast black spot, DCITA explained that the following options have been identified as possible alternative technical solutions:

- digital retransmission facilities;
- direct-to-home satellite reception equipment; or
- cabling (in the event other solutions are not viable).[206]

5.255 Free TV Australia welcomed the introduction of the Alternative Technical Solutions Scheme, which provides a model for digital black spot solutions.[207]

5.256 Due to its mountainous and heavily vegetated terrain, the Shire of Yarra Ranges (SYR) experiences poor television reception. Reception in several areas within the shire has been improved through the Television Black Spot program, with new analogue transmission facilities being established at two locations commencing operation in December 2003.[208]

5.257 SYR explained that analogue solutions were not available for other problem areas due to spectrum limitations. Therefore, they were considered for the Television Black Spots Alternate Technical Solutions Program.[209]

5.258 SYR discussed the ABA's assessment of the problem areas:

- Tecoma/Belgrave was field tested by the ABA in May 2004, who concluded the new digital TV coverage from the existing translator sites was adequate; and
- Kalorama North (and South) is still being considered under the ATS program.[210]

5.259 SYR has for a long time pursued DTV as the appropriate solution to its analogue television reception problems, yet has been restricted by

205 www.dcita.gov.au/broad/television_and_radio_blackspots_program/television_blackspots_-_alternative_technical_solutions_program, accessed 1 December 2005.

206 www.dcita.gov.au/broad/television_and_radio_blackspots_program/television_blackspots_-_alternative_technical_solutions_program, accessed 1 December 2005.

207 Free TV Australia, *submission no. 31*, p. 5.

208 SYR, *submission no. 61*, p. 2.

209 SYR, *submission no. 61*, p. 2.

210 SYR, *submission no. 61*, p. 1.

guidelines of the Television Black Spots Program which only funds analogue solutions.[211]

5.260 SYR explained that finding a transmission solution in some areas was particularly difficult:

> Unfortunately the terrain difficulties were too great, even for the superior technical characteristics of digital, with the best results in Kalorama South relying solely on reflected signals.[212]

5.261 SYR relies on Self Help transmitters for particular areas in the shire.[213]

5.262 DCITA briefly described Self Help transmission:

> Communities with poor television reception may be interested in establishing self-help national and/or commercial television services. Under the self-help arrangements, community groups or local councils purchase and install the equipment necessary to receive and locally retransmit a service from a nearby terrestrial transmitter or satellite. The community group or local council would then be responsible for meeting any ongoing licensing, operations and maintenance costs.[214]

5.263 The ABC's website provides the following information regarding Self Help transmission:

- Self-help gives communities the opportunity to provide their own equipment to rebroadcast ABC TV and radio programs. With Self-help, communities may apply for a licence to operate their own rebroadcasting transmitter or community cable system to improve reception of ABC TV and Radio services.
- Self-help is for communities which do not receive adequate TV or radio broadcasts. Reception difficulties can occur when a community is situated too far from a transmitter, or is shielded from broadcast signals by obstacles such as hills or mountains. Residents in highly populated areas may also experience reception problems due to signals being blocked by tall buildings or electrical interference.

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211 SYR, *submission no. 61*, p. 2.

212 SYR, *submission no. 61*, p. 2.

213 SYR, *submission no. 61*, p. 3.

214 www.dcita.gov.au/broad/television_and_radio_blackspots_program/television_black_spots_program, accessed 1 December 2005.

- It is not always possible for the ABC to provide rebroadcasting facilities for remote areas or reception black spots. By providing their own low power rebroadcasting transmitter or cable system, communities reduce the need for individual households to install large expensive antenna systems.
- By funding the establishment of their own rebroadcasting facilities, communities can obtain improved reception at a reasonable cost. There are now over 430 Self-help facilities throughout Australia rebroadcasting ABC TV and Radio programs.[215]

5.264 DCITA also explained that:

> There are currently no government programs that would offer communities or local Councils financial assistance to establish ABC or commercial self-help television services. SBS does, however, administer the SBS Self-help Retransmission Subsidy Scheme which makes up to $25,000 available to local councils and community groups to establish an SBS television self-help service.[216]

5.265 SYR indicated that it does not have the capacity to fund digital conversion of its two Self Help facilities, nor additional ongoing costs, and would therefore seek Federal assistance.[217]

5.266 SYR estimated transmission equipment prices as follows:

- stand alone digital transmitters – $150 000 - $200 000 for 5 services;
- single frequency network digital transmitter – $300 000 - $500 000 for 5 services; and
- operating costs of up to $50 000 per year for a single frequency network transmitter.[218]

5.267 SYR also pointed out that, unlike requirements for metropolitan and regional network licensees, a simulcast period for Self Help facilities in general has not been considered in any legislation.[219]

5.268 SYR explained that simulcast transmissions from many Self Help sites would require significant spectrum planning by the ACMA to

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215 www.abc.net.au/reception/services/selfhelp.htm, accessed 1 December 2005.

216 www.dcita.gov.au/broad/television_and_radio_blackspots_program/television_black_spots_program, accessed 1 December 2005.

217 SYR, *submission no. 61*, p. 2.

218 SYR, *submission no. 61*, p. 3.

219 SYR, *submission no. 61*, p. 3.

confirm availability of duplicate channel sets that do not cause interference with other nearby sites.[220]

5.269 SYR indicated that the only practical and cost effective way for many Self Help television facilities to be converted to digital is to:

> … advise residents 6-12 months in advance that analogue transmission will cease, and that they must obtain a digital receiver for use after that date. Equipment changeover at the Shire's sites could require these facilities to be off air for about a day.[221]

5.270 SYR recommended that an Australian Government funding program is required for the digital conversion of existing Self Help transmitters that have been installed throughout Australia.[222]

5.271 Lithgow City Council (LCC) stated that it received funding under the Television Black Spots program for five locations.[223]

5.272 LCC indicated that it considered the most effective remedy in the long term was to install digital transmission equipment. However, the Black Spot program funding was not able to fund digital transmission equipment.[224]

5.273 LCC faces a similar situation, in that it will have to fully fund the digital conversion of a number of facilities in the shire. LCC stated that it must also meet significant ongoing costs.[225]

5.274 LCC explained that it:

> … would appreciate any further financial assistance available from the Federal Government which will provide support for Council in the digital conversion of these facilities, as well as any possible subsidy available to contribute toward annual maintenance costs.[226]

220 SYR, *submission no. 61*, p. 3.
221 SYR, *submission no. 61*, p. 3.
222 SYR, *submission no. 61*, p. 2.
223 LCC, *submission no. 95*, pp. 1-2.
224 LCC, *submission no. 95*, p. 1.
225 LCC, *submission no. 95*, p. 3.
226 LCC, *submission no. 95*, p. 3.

5.275 Mr Peter Andren MP recognised that the Television Black Spot program was developed in response to concerns about inadequate analogue television reception in regional and rural locations. However, Mr Andren stated:

> … with analogue television transmissions scheduled to end in 2008, it is clear that those locations will then be facing the same problem of little or no (digital) television reception.[227]

5.276 Mr Andren stated that the Television Black Spot Program has funded the installation of five analogue retransmission towers in the rural federal electorate of Calare, and another two communities are accessing television under the Alternative Technical Solutions program.[228]

5.277 Mr Andren claimed that the conversion of analogue transmitters to digital is too costly for local councils or community groups.[229]

5.278 Mr Andren added:

> If we are to be serious about consumer uptake of digital television we must ensure that all Australians have access to free-to-air digital television broadcasts. This should necessarily include the government funding the conversion of Black Spot analogue retransmission facilities to digital.[230]

5.279 Mr Andren also suggested that the Australian Government should fund the ongoing maintenance of those facilities.[231]

5.280 Mr Andren stated:

> This will not only ensure those living in rural and regional areas continue to have access to free-to-air digital television in the future, but will protect government's original expenditure, as well as the substantial investment by broadcasters converting to digital broadcast.[232]

5.281 Free TV Australia claimed that the Australian Government's Television Black Spots Program has served the community well.

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227 Mr Peter Andren MP, *submission no. 75*, p. 1.
228 Mr Peter Andren MP, *submission no. 75*, p. 1.
229 Mr Peter Andren MP, *submission no. 75*, p. 1.
230 Mr Peter Andren MP, *submission no. 75*, p. 1.
231 Mr Peter Andren MP, *submission no. 75*, p. 2.
232 Mr Peter Andren MP, *submission no. 75*, p. 2.

However, as the program largely provides funding for analogue solutions, these services will have a limited lifetime.[233]

5.282 Free TV Australia strongly recommended that the Australian Government investigate the implementation of a digital black spots program.[234]

Committee comment

5.283 The Committee is of the view that the analogue Black Spots program be terminated and replaced with a Digital Black Spots Program.

Recommendation 12

The Committee recommends that the Australian Government terminate the analogue Television Black Spot program as a priority, and implement a Digital Television Black Spots Program.

Responsibilities of broadcasters, manufacturers and retailers

5.284 The Committee considers that broadcasters, manufacturers and retailers have a number of responsibilities in regard to DTV conversion. This section examines the ways in which broadcasters, manufacturers and retailers can contribute to marketing and promoting the conversion to DTV.

Promoting television recycling

5.285 When asked about the substantial number of television sets that will be discarded by consumers over the coming years, and the possibility of recycling them, LG stated:

> LG, together with other manufacturers, is involved in a voluntary industry scheme to arrange for the recycling of

233 Free TV Australia, *submission no. 31*, pp. 4-5.

234 Free TV Australia, *submission no. 31*, p. 5.

> televisions. This is a COAG process that has been in place for two or three years. We are supportive of that.[235]

5.286 LG further explained the recycling of televisions:

> Electronics is easily recycled. The componentry can be broken down. The challenge in recycling is motivating the consumer to participate in a take-back program, and that is what governments are struggling with at the moment. The New South Wales government has recently been vocal about the need for the computer industry to take responsibility for its own product, and the same applies here. We are part of that initiative to arrange for product stewardship programs, and obviously a switch-off date would be an incentive to motivate consumers to participate in them. I do not pretend that it is an easy process, by any means, but the infrastructure is there.[236]

5.287 LG also stated that the recycling program is still in its early stages:

> The industry scheme is not yet fully operational. I cannot project where we are heading. It is certainly scheduled to be in place before the current framework for analog phase-out.[237]

5.288 The Committee strongly urges manufacturers and retailers to ensure that the television recycling scheme is fully operational and promoted to consumers well before the analogue switch-off date.

Awareness campaigns

5.289 Several manufacturers made valuable submissions to the inquiry. The Committee is concerned that despite approaches being made, only one retailer made a submission.

5.290 Sony discussed its education and training activities:

> We spend a lot of time with our retailers and we do a lot of work in store. Our biggest activity is educating retailers. We have a large training group that spends a lot of time covering a broad range of topics, including DTV and how to move forward every time we launch a new product.[238]

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235 LG, *transcript of evidence 28 June 2005*, p. 40.

236 LG, *transcript of evidence 28 June 2005*, p. 40.

237 LG, *transcript of evidence 28 June 2005*, p. 40.

238 Sony, *transcript of evidence 7 September 2005*, p. 15.

5.291 Sony also discussed retailer involvement:

> Every retail partner we have—Harvey Norman, Retravision, the Good Guys—is participating in the education process. That happens at shopfront and then that is communicated through to the consumers.[239]

5.292 Sony explained that a broader approach is needed to raise awareness of DTV:

> I think, though, that what we are missing out on from both a manufacturing and industry standpoint—and also from a government standpoint—is that we have not taken a big picture approach to this matter. The reality is that people watch television because they are watching television and that is how they want to receive information. If we are going to talk to them about moving the market and about things that need to change—analog stopping and DTV growing—then we need to be communicating to them in a much broader range of space than just in a shopfront. We would be suggesting that we need to take a much bigger approach on air to communicating to consumers how this works, what it is and what the benefits are.[240]

5.293 Sony believes that it is important to drive the entire marketplace:

> … and that would involve a lot of promotion and certainly education—there is a lot of confusion with consumers in particular—and marketing of all of those answers to the consumer. We would need to explain how all that is going to work moving forward. We believe that there is a big need for the industry and government to help drive that education process and the promotion of DTV in the market.[241]

5.294 Free TV Australia explained that DBA puts significant effort into educating consumers through retailers. DBA has a policy of holding retailer education nights in areas where at least the ABC and two of the relevant local commercial television stations have begun transmitting digital free-to-air television.[242]

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239 Sony, *transcript of evidence 7 September 2005*, p. 15.

240 Sony, *transcript of evidence 7 September 2005*, p. 15.

241 Sony, *transcript of evidence 7 September 2005*, p. 2.

242 Free TV Australia, *submission no. 31*, pp. 9-10.

5.295 OPAC Pty Ltd recommended that a more informative advertising campaign should be launched to properly demonstrate the advantages of owning a digital set-top box.[243]

5.296 Retravision stated that a firm analogue switch-off date coupled with a clear and compelling information campaign, should ensure the public reap the full benefits of DTV in Australia.[244]

5.297 Retravision explained the value of promoting DTV through retailers:

> I would argue that the messages on digital television have not been well communicated. DBA have done a very good job with the web site and with some of the material they have produced—they are certainly running information nights for retailers around the place—but unless it goes via the retailer it is not actually hitting the consumer. There is no other place for the consumer to get the information.[245]

5.298 During discussions concerning promoting DTV, Retravision explained its advertising strategies:

> When we do these national catalogues, we are printing five million catalogues. They are going out into five million homes around Australia, so it is a very effective way to get information out to consumers and particularly to prequalified eyes, because if they are looking at the catalogue they are interested in the technology anyway. So to put something in there is a very good way to communicate the message.[246]

5.299 When discussing promoting DTV in-store, Retravision explained:

> I think that the individual salesperson, when they have somebody on the floor, does that and demonstrates it. We have run the digital loop and we have also done some work producing some training material, which is essentially produced for the stores but we recut it and show it on the screens, almost like an infomercial, if you like. We are moving to pilot that process through satellite so that we can download it into all the stores. Certainly there is an

243 OPAC Pty Ltd, *submission no. 73*, p. 4.

244 Retravision, *submission no. 76*, p. 3.

245 Retravision, *transcript of evidence 10 August 2005*, p. 15.

246 Retravision, *transcript of evidence 10 August 2005*, p. 15.

> opportunity, using that mechanism, to demonstrate some information to the consumer about digital television.[247]

5.300 GfK discussed options for raising awareness of DTV:

> If retailers were using leafleting campaigns, I think it would be of limited value. I think there are probably two key channels for the education to take place. The most important one would be through the medium of TV itself. It is the one medium that everybody uses, more or less. If they are not using it, why are you trying to sell them the concept of a set-top box anyway? The message has to be reinforced through the television somehow. The second most effective medium, I suggest, would be at the point of sale. The market for televisions is very big in Australia. We sell about 1½ million units through retail. Remembering that there are only 7½ million households, that means every household is coming in on average—given the limitations of these averages—every five years. Theoretically, if the education takes place in the shop, you will have educated everybody in five years … [248]

5.301 When asked what it is doing to help consumers understand DTV, LG stated:

> Obviously one of the major concerns in the uptake of digital television has been awareness, whether that has been awareness of the actual benefits of digital TV or awareness that the 2008 date is coming. We are working quite extensively with our retail partners and, to a lesser extent, directly with the consumer to get those two messages across. Part of our 2005 and beyond plan is to reinforce and continue to increase awareness levels and our communication about digital TV.[249]

5.302 LG raised some practical issues concerning education and awareness:

> Common terminology needs to be agreed among manufacturers and retailers to reduce the confusion and misunderstanding amongst consumers. An example, HD Ready, HD compatible, HDTV, Integrated HD TV or Digital TV.[250]

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247 Retravision, *transcript of evidence 10 August 2005*, p. 16.

248 GfK, *transcript of evidence 17 August 2005*, p. 24.

249 LG, *transcript of evidence 28 June 2005*, pp. 39-40.

250 LG, *submission no. 44*, p. 2.

5.303 WIN discussed the significant issue of the continuing sale of analogue televisions, and the fact that consumers are largely unaware that DTV receiving equipment will be necessary in the future:

> To clarify our view, it is of concern to us that a large range of analog television sets is being sold in Australia today at very cheap prices which do not have the capability to receive digital broadcasts. The consumer is not told that the sets will be obsolete when the analog service turns off; nor are they told that the addition of a digital set-top box will enable them to receive digital broadcasts. Recently a retail catalogue delivered in the Newcastle area advertised a package of three small analog sets for $499. In seeking to have the mandating of digital-ready equipment, we are seeking to have regulation to ensure that consumers are aware that analog television equipment purchased will be incapable of receiving a digital service unless a digital set-top box is fitted to it. This, in our view, ensures consumer awareness of the new technology so that they can make an informed decision about their purchases.[251]

5.304 Mr Shane Kerr, a private individual, claimed that retailers are deliberately focussing on selling analogue products, maximising their sales now before selling a whole new suite of digital products closer to analogue switch-off.

> When 90 [per cent] of the advertising space in electronics catalogues from Harvey Norman, Good Guys etc. are taken up with analogue focussed products, where is the consumer to get his/her information about the benefits of Digital? It is all about what is being promoted at the retail level as any quick look at a Harvey Norman catalogue will tell you.[252]

5.305 Beautiful Analogue Not Digital (BAND) claimed that, in recent years, many potential buyers have been apprehensive about the purchasing of a new DTV:

> It is quite common in the retail shops to hear potential customers asking (nervously) basic questions about the digital technology. The answers they receive are often most unsatisfactory. The salespersons would rave about the high-end functions of digital television that might become

251 WIN, *transcript of evidence 1 September 2005*, p. 26.

252 Mr Shane Kerr, *submission no. 23*, p. 1.

> available. They ignore the basic answers that the potential buyer craves. Indeed, when in a branch of a nation-wide retail store I asked about digital television, I was told by the frustrated sales manager (frustrated by the many questions being asked) to take a brochure and go away and read all about digital television. This was not what I wanted.[253]

5.306 The Committee is very concerned that retailers are not doing enough to promote the take-up of DTV.

5.307 The Committee strongly urges manufacturers, broadcasters and retailers to undertake a coordinated marketing campaign. Given the success of the subscription television sector in encouraging take-up of digital services, the significant lead time, and certainty of analogue switch-off now provided, the Committee considers these groups possess the resources to achieve nationwide take-up prior to 2010.

5.308 The Committee has not recommended government intervention to drive take-up and reiterates that the role of government is to provide the framework for switch-off and rollout.

5.309 If manufacturers, retailers and broadcasters wish to retain a market share then they have the lead time to ensure product availability, a range of digital broadcast services and nationwide consumer awareness.

Installation issues

5.310 Panasonic stated that a significant contributing factor to the less than compelling DTV experience for many consumers is poor reception caused by the use of antenna systems that are inappropriate for receiving DTV broadcasts.[254]

5.311 Panasonic added that, at present, it is entirely possible that many millions of Australian televisions will experience unreliable or poor quality reception should they convert to DTV utilising their existing antenna installation. Problems of this type are already adding significant cost to the support of DTV product in the Australian market.[255]

5.312 Samsung stated that antenna systems are a critical piece of hardware that has, to some degree, been overlooked in the DTV debate. There is

253 BAND, *submission no. 53*, p. 1.

254 Panasonic, *submission no. 42*, p. 4.

255 Panasonic, *submission no. 42*, p. 4.

the potential for the incompatibility of existing antenna systems to be a significant problem.[256]

5.313 Panasonic explained that DTV may present particular reception problems for consumers:

> [Television] is an end-to-end business. It goes from broadcast through the antenna that sits on the roof, the cabling and the connectors through to a receiving device. The system itself is only as good as the weakest component. There are, unfortunately, some products in the marketplace that have been installed which work quite well for an analog environment but are not necessarily acceptable for a digital environment.[257]

5.314 Panasonic remarked that broadcasters are responsible for the performance and behaviour of their DTV broadcasts and consumer electronics suppliers and manufacturers are responsible for the behaviour of their DTVs and receivers. However, responsibility for the antenna system, the other key element of DTV reception, lies with the consumer. Consumers' current expectations are that DTV will work with their existing antenna system.[258]

5.315 Panasonic stated:

> … broadcasters are required to deliver a level of signal across the earth. We as manufacturers make product to take the signal from the wall plate. What you have to look at, and what we believe is a crucial factor right now, is that part in between … antennas and cable connectors.[259]

5.316 Panasonic discussed an example:

> Antennas that were designed maybe 15 or 20 years ago for analog actually roll off at Channel 11. The typical installation of up to five years ago has an antenna that rolls off at Channel 11. What we mean by that is that ABC digital is on Channel 12 and … if you use a typical installation of, say, five years ago, you cannot receive the ABC. In fact, it causes problems

256 Samsung, *submission no. 87*, p. 8.

257 Panasonic, *transcript of evidence 28 June 2005*, p. 27.

258 Panasonic, *submission no. 42*, p. 4.

259 Panasonic, *transcript of evidence 28 June 2005*, p. 27.

> on Channel 10. But, when we change that to a digital antenna, and that is the only change we make, it works fine.[260]

5.317 Panasonic also discussed the high return of DTV products, of which a small proportion is due to product failure:

> We believe the majority of people have a good experience from digital but there are a number of people who are having a bad experience with digital. The inquiries we get about product at our call centres show us that more than an acceptable level of people are having difficulties with the total system.[261]

5.318 Panasonic also discussed negative experiences and DTV products:

> The point about all of this is that we cannot quantify how big the problem is. From our point of view, while there are some very good things happening in digital there are also some very negative comments being made in terms of the performance of digital and the performance of set-top boxes. We have quite a deal of product returned to us. Of the product that is returned there is less than a two per cent failure rate. When we get the product back and test it there is nothing wrong with our receiving product, yet it is not working in the market.[262]

5.319 Panasonic claimed that reception problems are further compounded by the inability of many television distribution systems currently installed in multi-unit dwellings to deliver DTV.[263]

5.320 Panasonic believes that industry and government must act to quantify the size of this problem. Panasonic recommended that industry and government conduct:

> … research into the ability of residential and multi-unit dwelling antenna systems to receive a full range of digital terrestrial television services at high quality. The goal of the research should be to identify and develop workable solutions for the consumer in partnership with the [Master

260 Panasonic, *transcript of evidence 28 June 2005*, p. 27.

261 Panasonic, *transcript of evidence 28 June 2005*, p. 27.

262 Panasonic, *transcript of evidence 28 June 2005*, p. 28.

263 Panasonic, *submission no. 42*, p. 4.

Antenna Television], home antenna and television installer industry.[264]

5.321 The Seven Network also recognised the problem of the availability of DTV signals in townhouses and apartment blocks where the cable reticulation system has unintentionally blocked some or all of the new digital channels. The network suggested that regulations be developed to ensure that, where cabling is installed in new and existing multi-unit dwellings, this allows for the reception of DTV.[265]

5.322 Samsung is also of the opinion that reception problems are exacerbated when growth of large apartment buildings in metropolitan areas is considered. Samsung believes the issue of reception and antenna systems needs greater attention, and it would be sensible to engage the home antenna and television installation industry to use their knowledge and expertise to address this issue.[266]

5.323 Samsung recommended that this issue be addressed as part of any consumer education campaign.[267]

5.324 DBA suggested conducting a wide ranging survey of multi-unit dwellings that considered their current state of DTV 'readiness' together with what might be required to make them DTV ready.[268]

5.325 DBA claimed that multi-unit dwelling home formation is the fastest growing sector of overall Australian home formation. DBA stated that individual households within multi-unit dwellings generally do not have the ability on their own to convert to digital. DBA suggested that, in most cases, occupants must go through bodies corporate or managing agents until a consensus regarding digital conversion occurs.[269]

5.326 The Committee notes the concerns raised. Many of these issues are considered on the DBA's website which features comprehensive information on DTV reception for house and multi-unit dwellings. Antenna issues are also covered in the DBA website's 'troubleshooting' section.

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264 Panasonic, *submission no. 42*, p. 4.

265 Seven Network, *submission no. 49*, p. 10.

266 Samsung, *submission no. 87*, p. 8.

267 Samsung, *submission no. 87*, p. 8.

268 DBA, *submission no. 34*, p. 8.

269 DBA, *submission no. 34*, p. 8.

5.327 Further work to assist consumers installing DTV who may have outdated antennas should be addressed in the DTV marketing campaign driven by manufacturers, broadcasters and retailers.

5.328 The Committee notes that a significant number of antenna installers are members of DBA.[270] The Committee also notes that the revised standards relating to antenna systems should ensure that all new antennas are suitable for DTV reception, as discussed earlier in the chapter.

In conclusion

5.329 While Australians have been quick to embrace many technologies, this has not been the case with DTV. There are a multitude of reasons for this poor take-up. However the introduction of DTV offers many viewing benefits as well as ensuring that Australia's production industry remains internationally competitive. There is also the important issue of the efficient management of spectrum allocation in Australia.

5.330 The Committee considers that there are two key failures in the drive to DTV take-up; the first is lack of certainty regarding analogue switch-off, and this has contributed to the second which is a lack of consumer awareness.

5.331 It is the Committee's conclusion that certainty is the most fundamental issue to address, and it has done so by recommending a nationwide analogue switch-off date of 2010. Evidence suggests this date is achievable for all broadcasters.

5.332 A nationwide approach has many advantages for regional viewers and broadcasters as it will reduce the financial impost of a continued simulcast period.

5.333 A nationwide switch-off will also assist manufacturers and retailers to initiate awareness raising campaigns. It will ensure that the most competitive prices for digital equipment are offered to consumers, with the potential for retailers and manufacturers to provide additional services such as installation assistance.

270 www.dba.org.au, accessed 6 December 2005.

5.334 Following the switch-off of analogue, there is a unique opportunity for the Australian Government to consider future spectrum needs and allocation. The Committee has recommended an independent study into the efficient future use and allocation of spectrum, taking into account the desire to provide a diversity of television broadcasting including community, free-to-air and subscription television.

5.335 The additional content and enhanced quality of DTV are strong benefits to the viewer. To provide broadcasters with the opportunity to offer a wider range of DTV services, the Committee has recommended that restrictions on multichannelling for national free-to-air broadcasters be lifted as soon as possible and no later than 1 January 2007. The Committee has also recommended that commercial free-to-air networks be permitted to multichannel if they choose from 1 January 2008.

5.336 Broadcasters may then make commercial decisions as to the diversity of services they wish to provide. It is anticipated that these extra channels and services will also assist in driving DTV take-up prior to the 2010 analogue switch-off.

5.337 In relation to HD quotas, the Committee has recommended to retain the existing quotas with a review in 2011 to determine if it is appropriate at that time to remove the quotas and introduce a more free market approach.

5.338 To ensure the smooth transition to DTV, there must be both a product and market readiness. The Committee notes that the review of the Australian Standard relating to digital reception equipment may address some of the concerns relating to LCN, power consumption and antenna capabilities.

5.339 The Committee also notes that most DTV reception equipment sold in Australia does comply with the relevant Australian Standards, despite the lack of any nationally approved testing or conformance process. However, with new technologies and a greater range of DTV equipment expected in the market, a testing and conformance process is necessary.

5.340 The Committee recommends that the Australian Government provide seed funding for the establishment of an independent TCC for digital reception equipment. As an addition to this, the Committee recommends that an easily understood labelling system be introduced to clarify for consumers the features of each product; for example whether products include digital tuners, are HD or SD, and if they

can receive over-the-air downloads. This labelling system should be based on the descriptors set out in the Digital Television Marketing Code.

5.341 The Committee considers that a further Australian Government responsibility is to address reception difficulties through a Digital Television Black Spots Program.

5.342 It is also the view of the Committee that manufacturers, retailers and broadcasters have a number of responsibilities in relation to the successful rollout of DTV. This includes promoting television recycling and initiating a strong marketing campaign to raise consumer awareness of analogue switch-off and the range of benefits available through DTV.

5.343 This inquiry has asked the question 'Digital TV – Who's buying it?' The Committee's response is that only through the coordinated planning of the Australian Government, manufacturers, retailers and broadcasters can we 'sell' to Australian viewers the extraordinary benefits of DTV.

5.344 Internationally the DTV revolution is already happening. If as a nation Australia is to access the enhancements, television quality and production opportunities that are available elsewhere in the world, then as a nation now is the time to buy into DTV and the digital revolution.

Jackie Kelly MP

Committee Chair

13 February 2006