Australia now has digital terrestrial television broadcasting standards. These standards have adopted the European DVB-T standards and incorporate the necessary amendments to make them suitable for Australian circumstances.

Digital television transmission standards

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Following the announcement by the Minister for Communications, Information Technology and the Arts, in March 1998, that digital television broadcasting is to commence in Australia on 1 January 2001, the ABA has been busy developing appropriate conversion and implementation policies, digital channel plans and planning rules for the introduction of the new broadcasting technology. Initial channel plans and the planning guidelines have already been published.

Just as important is the need for suitable transmission standards for digital terrestrial television to operate. These standards are essential for the system to operate in harmony and consumer receivers must be able to interpret and decode the signals transmitted by digital television broadcasters. A committee within Standards Australia, CT/2 — Broadcasting Standards, is charged with the task of ensuring the tranmission standards do just that. Membership of the Committee includes representatives from the commercial television broadcasters, the national television broadcasters, government agencies including the ABA, receiver manufacturers and their peak bodies, the Australian Captioning Centre, the Consumers Telecommunications Network, the Australian Chamber of Commerce and Industry, the Australian Subscription Radio and Television Association, Cable & Wireless Optus, Telstra, the Electronic Services Industry Association and the recently formed Digital Convergence Australia group.

Steps in determining the standards

Initially, a specialist committee representing all free-to-air broadcasters determined the most appropriate international standard to be used for Australia's digital terrestrial television broadcasting system. That choice was between two competing systems, the Vestigial Sideband (8VSB) system proposed by the USA's Advanced Televi

sion Standards Committee and the Digital Video Broadcasting system proposed by the European DVB Consortium. In June 1998, the decision was announced that Australia would adopt the DVB-Terrestrial (DVB-T) standard.

Two aspects of the Australian decision were (then) new developments of the European DVB-T standard: the recommendation to provide high definition pictures and the option to provide Dolby AC-3 surround sound. Both of these requirements are now incorporated within the DVB-T standards and have been adopted by other broadcasters overseas, notably in Singapore, India and satellite broadcasters in North America. One of the key advantages of DVB-T was seen to be that it is a 'tool kit' of compatible standards, a part of a family of standards for terrestrial, cable and satellite broadcasting. This makes maximum commonality of components in receiver systems easier to achieve. This is seen as a distinct advantage as it avoids the need for a different set-top-box for each service required by consumers. For example, when viewers want to watch free-to-air digital terrestrial services and digital pay TV services delivered by satellite or cable, they only need one set-top box.

Standards Australia's committee CT/2 then began work on developing the necessary elements required to ensure that the European DVB-T standards were suitable for Australian use. The main differences relate to the use in Australia of 7 MHz television channels throughout the VHF and UHF television broadcasting bands. Most other countries, including European countries, currently use the European PAL analog television system and 8 MHz UHF channels. Other major differences relate to the service information used to provide receivers with identification of channels in use, transmission of data relating to the picture format, i.e. 4:3 or 16:9 aspect ratio and/or high definition of standard definition, the sound system, i.e. stereo or surround sound, MEG or Dolby. Other changes relate to content descriptors and parental control ratings for program material broadcast in Australia.

Most aspects of the DVB-T standards remain unchanged and include standards for data broadcasting (datacasting), subtitling systems, teletext and support for scrambling and conditional access (for subscription services).

Work on the transmission standard culminated in the publishing of a draft digital terrestrial television transmission standard that was circulated for public comment earlier this year. Following consideration of comments received by the committee the draft standard was reviewed and is to be published as the Australian standard for digital terrestrial television transmissions. This is one of a series of milestones leading to the start of digital television services on 1 January 2001.

The Australian standard

Essentially, the Australian DDTB standards adopt the European DVB-T standards and incorporate the necessary amendments to make them suitable for Australian circumstances. Digital television transmission equipment manufactured in accordance with the Australian requirements for DVB-T will be fully compliant with the international DVB-T standards.

The new standard has been developed in a format that will allow the European standards together with the Australian requirements to be published in a single document, proposed to be available on a CD for ease of use. This way users can refer directly to the DVB-T standard with cross-linkages to the relevant variations required for Australia.

From the outset, the work of CT/2 has been concentrating on developing standards for digital television that will give the consumer the broadest options for using their television for the full range of services, including interactive services, that are expected to be available through digital television transmissions. As the standard is applicable to datacasting services and subscription television services delivered by cable, satellite or microwave, it has become necessary to consider these applications in the development of the appropriate receiver standard for the Australian digital television broadcasting system. This receiver work is ongoing and is expected to be completed by about September 1999, in time for manufacturers to start production of domestic digital television receivers for the Australian consumer.