



Digital broadcasting

Shanthilal Nanayakkara
Assistant Director
Engineering, reports
on the Asia Pacific
Broadcasting Union
34th conference held
in Seoul in October.

Digital terrestrial television

Several countries in Asia Pacific region are slowly but surely realising that the future of broadcasting lies with digital. They are now taking steps to prepare strategies to plan for the impending digital era. Although MPEG-2, a digital coding and packaging standard developed by the Motion Picture Expert Group, has been accepted by broadcasters around the world, a consensus on the preferred system of terrestrial transmission suitable for respective environments is yet to be reached. Currently, there are two basic transmission standards: the American 8 VSB system and the European COFDM system. However, a third transmission standard based on the principles of the European COFDM system is being considered by Japanese broadcasters. The Japanese national broadcaster NHK (Nippon Hoso Kiyosai) says that its system is superior to the two systems available and is capable of providing multiple transmissions of radio and television. Tests on the Japanese version are scheduled to commence in Japan in April 1998.

Australia is spearheading the digital television transmission evaluation trials in the region. The trials, to assess the suitability of US and European systems for Australia, are being conducted by the Federation of Australian Commercial Television Stations (FACTS) with assistance from the ABA,

and started on 6 October 1997 in Sydney. The report on the trials is expected to be available early in 1998. Similar trials on the American system are scheduled soon in China.

Digital audio broadcasting

The Korean Broadcasting Service is conducting digital audio broadcasting trials using Eureka 147, third generation encoding hardware, and VHF Band III channel 12 in the Seoul metropolitan area. Similar tests are planned in Singapore using VHF Band III channels. The availability of VHF Band III spectrum in some countries allows the digital audio transmission systems to be tested on these frequencies instead of the internationally agreed spectrum of 1452-1492 MHz known as the L-band. In Australia, VHF Band III spectrum is currently used for terrestrial television services. This spectrum is scarce and would need the L Band for digital sound broadcasting. Australia has contributed extensively to the study and development of digital radio using the Eureka 147 system. The work has covered both terrestrial and satellite delivery with the more recent studies focussing on coverage and service planning issues. A comprehensive single frequency network trial in Canberra at L-band has recently been completed.

Phyllis Fong, ABA
Manager Policy,
reports on the recent
visit by the Consul
for Posts and
Telecommunications
for Japan in Sydney.

Digital terrestrial television broadcasting developments in Japan

Mr Yashushi Sakanaka, Consul for Posts and Telecommunications for Japan in Sydney, visited the ABA on 6 November and gave a progress report on digital terrestrial television broadcasting (DTTB) in Japan.

The Japanese system is one of three standards proposed for adoption by the International Telecommunications Union and was developed to support broadcasting to mobile (as distinct from portable) receivers.

On 24 September, the Telecommunications Technology Council (TTC) reported on the Japanese DTTB system to the Ministry of Posts and Telecommunications (MPT). Testing the Japanese DTTB system will begin in early 1998 and the TTC expects to provide its final report to MPT in April 1999.

In addition to the capacity to support broadcasting to mobile receivers, other major require-

ments of all of the DTTB systems include:

- multichannel broadcasting, with a minimum of three channels at the present standard television broadcasting quality;
- high definition television broadcasting; and
- enhanced functionality, providing for interactive services and interoperability with communications systems and computers.

Planning for DTTB in Japan is on the basis of 6 MHz bandwidth, which can be extended to 7 or 8 MHz, and this is similar to planning for DTTB in the USA. Planning for DTTB in Europe is based on 7 or 8 MHz bandwidth, extendable to 6 MHz.

Video and audio coding methods and the multiplexing methods for DTTB in Japan, Europe and the USA are based on MPEG-2, except the audio coding method for the US system which is based on Dolby AC3.