

# Spectrum restrictions for digital radio

## ACMA has announced its intentions for restrictions on spectrum to facilitate the introduction of digital radio services.

Digital radio in Australia will initially make use of the Eureka 147 DAB standard, which will require VHF Band III spectrum for wide-coverage applications. It appears highly likely that a dual standard will emerge, with Digital Radio Mondiale (DRM) providing wider-coverage terrestrial services in regional areas.

Broadcasting services bands spectrum that is suitable for DAB and DRM is relatively scarce in Australia and the issue for ACMA will be whether remaining vacant frequencies should be held back in order not to compromise the expected introduction of digital radio.

'ACMA intends to consider each situation on its merits, taking into account the utility of spectrum for future introduction of digital radio services. This policy may have the effect of restricting the availability of additional analog AM radio services as well as reducing the reliance on VHF spectrum for additional digital television services,' said Ms Maddock.

ACMA has considered submissions on the discussion paper released by the former ABA in May 2005. ACMA considers its policy supports the government's recent announcement on the framework for the introduction of digital radio.

## SUITABLE SPECTRUM

Digital radio services will start in the next two to three years, and a pre-requisite is the availability of suitable spectrum. Different digital

radio technologies require different frequency bands and the candidate bands are already extensively used. They are also under demand for other services, especially analog radio and digital television. Shortage of suitable spectrum is likely to be a significant constraint on the development of digital radio in Australia.

ACMA has therefore adopted a general policy that gives consideration to restricting the availability of remaining broadcasting services bands spectrum that may be needed for digital radio. ACMA will consider each issue case by case, taking into account the potential and utility of the spectrum for future digital radio services. This policy may have the effect of restricting the availability of additional analog AM radio services as well as reducing the reliance on VHF spectrum for additional digital television services.

## DAB—EUREKA 147

Digital Audio Broadcasting (DAB) technology has been developed for use in two frequency bands, VHF Band III (174–240 MHz) and L-Band (1452–1492 MHz). Both bands are extensively used by existing services. VHF Band III is widely considered superior due to its better coverage and lower infrastructure costs, but opportunities are limited because the band is used for analog and digital television. ACMA has legislated obligations to plan for digital television services. ACMA has therefore adopted a general policy that allows for use of VHF Band III for analog and digital television after consideration of the availability of spectrum for digital radio.



Wherever possible in each area, at least one VHF Band III television channel should be left available for digital radio use. L-Band spectrum is outside the broadcasting services bands and the use of this spectrum is restricted to preserve digital radio options by a statutory frequency band plan.

## DRM

It is unlikely that DAB technology could ever provide the extensive regional coverage achieved by today's analog radio services, so alternative technologies need to be considered. DRM, for example, could provide the wide coverage needed to cover regional and rural areas, and it appears dual standard DAB/DRM receivers are likely to become available. DRM services can be deployed in the medium frequency (MF) band currently used by analog AM broadcasting services.

To preserve options, ACMA has adopted the general policy to consider further analog use of MF spectrum on a case-by-case basis, having regard to the utility of that spectrum for use by DRM digital radio services. The potential to use the spectrum for digital radio is likely to be given considerable weight. However, there will

be exceptional circumstances when ACMA will decide to use a particular frequency for an analog service. This would include, but not be limited to, the need to meet capacity the Minister has reserved under section 31 of the Broadcasting Services Act.

DRM technology is also being adapted to operate in broadcasting frequency bands below 120 MHz. The most promising spectrum likely to become available in Australia is the current VHF Band I television spectrum used for channels 0, 1 and 2 (i.e. 45–50 MHz and 56–70 MHz).

To encourage the development of the DRM standard for use in this spectrum and to preserve spectrum capacity, ACMA has also adopted the general policy to avoid new use of VHF Band I television spectrum, other than short-term defence usage or trials of new systems or technologies.

ACMA is advising industry and the public of its stance on broadcast planning issues. It should be noted that, in law, ACMA cannot fetter its discretion to vary a licence area plan or digital channel plan in any way should it consider the circumstances require.