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The ABA cannot allow MDS channels to be licensed for subscription broadcasting services until January 1995 or a satellite subscription broadcasting service has commenced, whichever is earlier. The satellite licence B holder Australis Media, has access to MDS channels in the major metropolitan areas and the government is soon to auction more MDS channels.

The satellite broadcasting licensees will be trying to provide subscription broadcasting services to the Australian public at the lowest possible cost to subscribers. With cross ownership allowed between a satellite broadcasting licensee and holders of cable and MDS subscription broadcasting licences, it is likely that a satellite broadcasting licensees will want to provide a hybrid satellite/MDS service as well as a digital satellite direct to home service. The regulatory issue for the broadcasting authority will be to ensure that, if the MDS service is provided before January 1995, then a satellite direct to home service must commence first.

Even though the Act expects some co-operation between satellite broadcasting licensees, this co-operation is not allowed to extend to one licensee exercising control over a significant proportion of programs or operations of another licensee. Defining the line between co-operation and control will be difficult task for the ABA until 1997.

Each licensee is expected to spend 10 percent of its total drama expenditure on Australian drama programs if the service is devoted to predominantly drama programs. This is not an easy licence conditions for the ABA to monitor.

The penalty for providing an advertising funded commercial television broadcasting service or a subscription television broadcasting service without a licence is $2 m per day. The ABA has concerns about the possible use of high power satellites which cover all or part of Australia to broadcast programs into Australia for Australian viewers. This is another regulatory issue the ABA may have to face in the near future.

Foreign ownership of a subscription broadcasting licence is limited to 20 percent individual holding and 35 percent in total. The use of quasi equity instruments to allow increased foreign investment without increased foreign ownership, is a matter for the ABA to monitor.

It will be important for the development of Australian pay TV services that the 10 satellite delivered services commences without delay. If not, cross border satellite services will steal the fertile ground which will be difficult for any local operator using satellite, cable or MDS to retrieve.

Tim O'Keefe

It will not be easy for the satellite licensees. Even though they have been given protection against furthersatellite licences being granted before July 1997, cable services can commence immediately and MDS services can commence from at least January 1995.

Also, unlike some of our Asian neighbours, we have very competitive, very popular and very successful free-to-air television services which are considered widely to be the best in the world.

So as, Gary Davey, from Star TV, said this morning, 'stay tuned'.

DIGITAL SOUND BROADCASTING

BY PETER O'DONOGHUE, COMMUNICATIONS LABORATORY DEPARTMENT OF COMMUNICATIONS AND THE ARTS

The Department of Communications and the Arts is currently involved in evaluations of the next generation of radio broadcasting technology, known as digital sound broadcasting (DSB).

Digital sound broadcasting promises to deliver compact disk quality sound to vehicle, home and portable receivers with far fewer transmission impairments than current AM and FM broadcast systems. Being a digital based technology it also provides opportunities for a wide range of new specialised data information services such as business news, paging and traffic/emergency message channels to list just a few possible applications.

Digital sound broadcast services can be delivered by either terrestrial or satellite based transmitters, or both (hybrid satellite/terrestrial) using a common receiver.

Broadcast trials of this new technology were recently conducted in Canberra by the Communications Laboratory. This offered an opportunity for departmental and agency staff, as well as industry representatives, to experience first hand the benefits of digital sound broadcasting.

The DSB hardware used in these trials was proprietary third generation Eureka 147 equipment developed by a consortium of European manufacturers. The demonstration consisted of a simulcast of a conventional FM transmission, operating on a frequency of 105.5 MHz, and a DSB transmission operating in the L-band spectrum on a frequency of 1481.8 MHz. The two transmitters were co-located on Black Mountain Tower. Common program material was used and the transmissions adjusted to ensure that the received signals were both time synchronous and equal in audio level.

To demonstrate mobile reception of these test transmissions a medium sized bus was fitted with FM and DAB radio receivers, headphones and switching apparatus which provided listeners with the capability of alternately switching between the two broadcasts. This vehicle transported small groups of listeners around parts of central and suburban Canberra and enabled participants to compare the relative performance of both systems in a variety of terrains and environment conditions.

Besides demonstrating the practical benefits which are possible using this type of technology, the purpose of the demonstration was to increase awareness within industry, regulatory and policy groups about this new form of radio broadcasting.

In addition to the European developed Eureka 147 system, there are a number of other DSB systems currently under development in the United States. The introduction of DSB services may necessitate changes to the current radio broadcast service planning and implementation practices, depending on the characteristics of the individual DSB system. As an example, the Eureka 147 system provides for the use of active co-channel repeaters enabling improved spectrum utilization, more accurate shaping of coverage areas and the ability to readily 'in-fill' difficult reception sites within the main service area.

As well as practical demonstrations the Communications Laboratory has embarked on a series of detailed DSB studies, focussing initially on the propagation characteristics of the L-band and the applicability of existing planning models. An extensive survey of Canberra using an unmodulated RF carrier operating on 1481.8 MHz and transmitting from Black Mountain has recently been conducted. The field survey data was collected using specialised high speed recording equipment to allow collection of an extremely high density of data. Some 5000 were covered and 44 million field strength measurements were made. Statistical analysis techniques were used to determine location availability based on this data which could then be related to the expected performance of real DSB hardware operating at L-Band.

The results of this analysis have provided an insight into the effect such factors as transmitter power, terrain and environment conditions will play in determining an acceptable coverage level with DSB.

With further interpretation and analysis, the results of this survey may permit the adaptation of existing planning models or lead to the development of future planning models to assist in the planning of DSB services.

**Digital Sound Broadcasting was previously known as Digital Audio Broadcasting, but the term DAB is subject to copyright restrictions.*

BROADCAST OWNERSHIP AND CONTROL REGULATION IN AUSTRALIA

THIS TABLE EXPANDS ON THE PAY TV REGULATORY ENVIROMENT DESCRIBED IN TIM O'KEEFE'S ADDRESS TO THE PAN ASIA CONFERENCE .

	Individual Licences Issued	Limitation on Number of Licences Issued	Foreign Ownership Limitation	Additional Foreign Control Limitation	Cross Media Ownership Limitations	Similar Directors Limitations	Other Ownership Limitations
Commercial TV (Free to Air)	Yes	Yes * Limit of 3 per mkt until 1997 review	Yes 15% single 20% total	Yes	Yes Satellite A 2% Radio 15% Press 15%	Yes	Yes 75% pop and only one per market
Commercial Radio (Free to Air)	Yes	No *	No	No	Yes TV 15% Press 15%	Yes	Yes only two per market
Satellite Broadcast Pay Licence A	Yes Four services	Yes Limited to A, B & C licences until 1 July 1997	Yes 20% single 35% total	No	Yes to 1/7/97 TV 2% Press 2% Telco 2% Satellite B 2%	No	No **
Satellite Broadcast Pay Licence B	Yes Four services	Yes As above	Yes 20% single 35% total	No	Yes to 1/7/97 Satellite A 2%	No	No **
Satellite Broadcast Pay Licence C	Yes Two services	Yes As above	Yes 20% single 35% total	Yes	No	No	Yes ** Govt funded
MDS Broadcast Pay	Yes for each service	No - other than channel capacity	Yes 20% single 35% total	No	No	No	No licence to be issued until services commence under pay licence A,B or C, or Jan '95, whichever is earlier **
Cable Broadcast Pay	Yes for each service	No	Yes 20% single 35% total	No	No	No	No **
Open Narrowcast TV (Free to Air)	No	No* - other than capacity	No	No	No	No	No
Open Narrowcast & Subscription Broadcast Radio	No	No* - other than capacity	No	No	No	No	No
Satellite, Cable, MDS Narrowcast Pay TV	No	No - other than capacity	No	No	No	No	No

* The ABA is undertaking a planning process which will report on the availability and use of AM/FM/VHF/UHF capacity. The Broadcasting Services Act sets out the criteria the ABA is to take into account when making planning decisions.

** The Trades Practices Commission is required to specifically report to the ABA on competition issues before the ABA allocates a subscription television broadcasting licence.