



Submission to the Digital Dividend Green Paper

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About ASTRA

ASTRA is the peak industry body for subscription television in Australia. ASTRA was formed in September 1997 when industry associations representing subscription (multi-channel) television and radio platforms, narrowcasters and program providers came together to represent the new era in competition and consumer choice. ASTRA's membership includes the major subscription television operators, as well as channels that provide programming to these platforms. A complete list of ASTRA members is attached at Annexure A.

1. Executive Summary

ASTRA strongly supports the allocation of 126MHz to the digital dividend and the Government's policy objective to maximise the value the digital dividend will provide for the Australian economy and community. ASTRA contends that re-deploying the spectrum that was loaned to the Free-To-Air broadcasters (**FTAs**) will deliver new services, products and jobs for the 21st century.

In summary:

- ASTRA supports the expansion or enhancement of **existing** broadcasting services and a competitive broadcasting market in Australia. However, ASTRA contends that if the FTAs manage their networks efficiently they will have sufficient spectrum - after the loaned spectrum is returned - to enable the expansion or enhancement of existing services. If the FTAs need additional spectrum to expand or enhance their existing broadcasting services, they should acquire it in an open, priced-based allocation process. ASTRA is strongly opposed to spectrum being reserved, pre-allocated or provided on a free or subsidised basis to allow the expansion or enhancement of existing broadcasting services.
- ASTRA is opposed to spectrum being designated for **new** broadcasting services at the expense of achieving the target 126MHz digital dividend. ASTRA recognises that either Channel A or Channel B may need to be included to achieve a digital dividend of 126MHz.
- ASTRA is strongly opposed to digital dividend spectrum being reserved, pre-allocated or provided on a free or subsidised basis for the **migration** to next generation broadcasting technologies. ASTRA contends that, if the target digital dividend is achieved, the FTAs will retain enough spectrum to migrate to the next generation of broadcasting technologies. As such, ASTRA strongly supports the Government's view that reserving additional spectrum for this potential transition will not maximise the digital dividend.
- In addition to the numerous benefits the FTAs enjoy, since 1998 they have benefited from access to additional spectrum at no extra cost. The FTAs have failed to deliver on the public policy objective – to drive the take up of digital terrestrial television (**DTT**) - for which they were gifted UHF spectrum.
- The productivity benefits to be gained by the Australian community by the Government delivering the proposed digital dividend and enabling it to be put to the highest value use through an open price-based process, are likely to outweigh the costs of re-stacking the UHF band and the impact to viewers.

The allocation of 126MHz of contiguous spectrum for the digital dividend and additional 49MHz of VHF spectrum that will be reallocated for other purposes leaves 224MHz of UHF spectrum designated for digital

broadcasting services. Used efficiently, this quantity of spectrum is sufficient for free-to-air broadcasters to deliver existing services as well as new broadcasting technologies and services.

2. ASTRA strongly supports public spectrum being used to maximise the benefit to the Australian community and economy.

ASTRA strongly supports the Government's stated policy objective in relation to maximising the digital dividend. That is, to "*maximise the benefit that use of the spectrum will bring to the Australian community over time.*"¹. ASTRA contends that the allocation of a digital dividend of 126MHz will result in the greatest benefit for the Australian community and for the Australian economy.

This policy objective aligns with the Australian Communications and Media Authority's (**ACMA**) Principles for Spectrum Management, in particular, the principle to 'allocate spectrum to the highest value use or uses'². In ASTRA's view, the highest value use should take into consideration social and economic use. Research conducted both in Australia and overseas supports the allocation of UHF spectrum to uses other than broadcasting in order to obtain the greatest social and economic benefit³.

To achieve the greatest benefit, the UHF band should be re-stacked into larger, contiguous blocks to ensure that it will be suitable for a large number of spectrum users. ASTRA supports the redeployment of spectrum in as flexible manner as possible, thereby giving market participants the widest range of options as to how they wish to utilise the spectrum. ASTRA contends that the best way to achieve this is through a market-based allocation of spectrum licences.

3. The FTAs currently benefit from access to additional UHF spectrum at no extra cost, and have failed to deliver on public policy objectives

The commercial and national FTAs have a history of benefiting from protections and subsidies provided to them by the Federal Government. Examples of the advantages that the FTAs benefit from include:

- the prohibition of a fourth commercial terrestrial network – extended five years by the previous Government to 2013;
- the anti-siphoning list of over 1300 sporting events reserved first for the FTAs - the longest such list in the world;
- the Federal Government funding a digital satellite broadcasting service for regional viewers; and
- the provision of licence fee rebates for commercial FTA broadcasters in 2010 and 2011, so they can meet existing public policy objectives relating to the production of Australian content.

In 1998, the FTA broadcasters were loaned spectrum to enable them to simulcast their existing service in analogue and digital to ensure consumers were not disadvantaged during digital switchover. The public policy objective associated with the provision of spectrum at no cost was that the networks would encourage DTT take up and the Government could switch off the analogue television signal by 2008. Associated with this objective, it was considered that the way to advance digital take-up would be through the provision of High Definition (**HD**) services. The Government considered that this policy would provide:

¹ Department of Broadband, Communications and the Digital Economy, Digital Dividend Green Paper January 2010, p5.

² Australian Communications and Media Authority, 'Spectrum Management Principles'. http://www.acma.gov.au/WEB/STANDARD/pc=PC_311683

³ Spectrum Value Partners/Venture Consulting, 'Getting the Most out of the Digital Dividend' in Australia, <http://www.amta.org.au/sitesearch?s=10&q=digital%20dividend>, Spectrum Value Partners on "Getting the most out of the digital dividend - Allocating UHF spectrum to maximise the benefits for European society" <http://www.gsmworld.com/documents/Spectrum-Getting-the-most-out-of-the-digital-dividend-2008.pdf> United Kingdom.

“a framework which will enable commercial and national free-to-air broadcasters to embark confidently in building the next generation of television services, which will be an important plank in Australia’s development as an information economy”⁴.

However, the reality is that the FTAs were not successful in driving digital take up and, as a result, digital switchover in Australia has been significantly delayed. The adoption of DTT was also intended to be encouraged by the availability of HD programming. The FTAs have also failed to deliver HD channels. It is only Network Ten Ltd that is using its spectrum for an original HD channel. Further, the ABC has announced that it will eliminate its ABC1 HD simulcast in favour of a 24 hour news channel which, as a genre, will not be sourced in HD.

The Government’s clear intention when the FTAs were gifted spectrum was that they were to return this spectrum to the Commonwealth for it to be made available for re-allocation through a price-based mechanism.

“At the end of the simulcast period, the spectrum used for analog transmissions will be returned to the Commonwealth, and will be available for re-allocation for specified purposes through a price-based mechanism.”⁵

ASTRA contends that the Government should – in accordance with the original intention of gifting spectrum – make the spectrum available for reallocation through an open price-based allocation process.

4. Use of the digital dividend spectrum for the expansion or enhancement of existing broadcasting services.

ASTRA supports the achievement of a digital dividend of 126MHz and notes that the achievement of this will not impede the expansion or enhancement of existing broadcasting services. ASTRA contends that:

- used efficiently, the 224MHz of spectrum retained by the FTA broadcasters – after the allocation of a 126MHz digital dividend and reallocation of 49MHz of VHF spectrum - is sufficient for them to deliver existing, as well as enhanced or expanded services;
- if the FTAs need to acquire additional spectrum, they may do so via an open, price-based allocation process; and
- the digital dividend spectrum should not be reserved or provided on a subsidized basis for the expansion or enhancement of existing broadcasting services.

There is no public policy justification for reserving or allocating spectrum to the FTAs on a free or subsidised basis to extend their services, introduce supplementary channels or additional features such as HD and 3D.

In relation to multi-channels, research supports the notion that it is the FTAs primary channels that deliver the most value to the Australian community:

The majority of value for UHF spectrum is concentrated in the first few channels as they account for the majority of the viewing share and therefore the majority of the value consumers place on FTA TV.

⁴ Alston, R, ‘Television Broadcasting Services (Digital Conversion) Bill, 1998, Second Reading Speech, available at: http://www.richardalston.dcita.gov.au/Article/0..0_4-2_4008-4_12264.00.html

⁵ Alston, R, ‘Television Broadcasting Services (Digital Conversion) Bill 1998, Second Reading Speech

The economic benefit generated by additional DTT channels, and hence by allocating incremental UHF spectrum to broadcasting, quickly diminishes⁶

In addition to the above, ASTRA contends that the expansion of additional broadcasting features – such as HD or 3D television - will be made available to the Australian community by alternative, commercially funded platforms. Examples of alternative delivery platforms include cable and satellite subscription television as well as internet protocol television (IPTV). In addition, the deployment of the National Broadband Network will enable and encourage take up of alternative television services. The FTAs will be able to deliver these additional services using their existing spectrum if it is used efficiently.

A desire by the FTAs to develop HD or 3D services on DTT is not sufficient reason to set aside the market led approach to spectrum allocation. If FTAs believe strongly in the importance of developing HD or 3D services on DTT they should prioritise resources accordingly and provide these services on a fully-funded commercial basis. Extensive spectrum has already been gifted to FTAs and to allocate more would be a distortion of the market. Moreover, it would be an unwarranted increase in the direct public subsidy enjoyed by public service and commercial broadcasters.

5. ASTRA is opposed to spectrum being designated for new broadcasting services at the expense of achieving the target digital dividend

ASTRA strongly supports the Government achieving the target digital dividend of 126MHz. Given this, ASTRA acknowledges that either Channel A or Channel B – currently reserved as broadcasting services bands - may need to be included to achieve the target digital dividend of 126MHz.

6. ASTRA supports the Government's view that reserving additional spectrum for migration to next generation broadcasting technologies will not maximise the digital dividend.

The demands for spectrum in the UHF band will continue to grow over time and, as a result, the migration to spectrum-efficient technologies is critically important. It is in the interests of all stakeholders, and the Australian community, that there is a strategy for the upgrade of broadcast technologies, regardless of what the digital dividend spectrum is used for.

ASTRA is strongly opposed to digital dividend spectrum being reserved, pre-allocated or provided on a free or subsidised basis for the migration to next generation broadcasting technologies. In ASTRA's view, it is the responsibility of the FTAs to manage the technology upgrades of their networks. This will continue to be critical as it is acknowledged that digital broadcasting technology, unlike analogue, is subject to a process of continuous evolution and improvement⁷.

The allocation of the target digital dividend of 126MHz will leave 224MHz of UHF spectrum designated for digital broadcasting services. Used efficiently, this quantity of spectrum is sufficient to deliver existing services, as well as new broadcasting technologies and services into the future.

When there is a commercial imperative to maximise the efficiency of spectrum assets, this serves as an appropriate incentive to do so. This is evidenced by the use of spectrum in the telecommunications industry,

⁶ Spectrum Value Partners/Venture Consulting, 'Getting the Most out of the Digital Dividend in Australia', p52

⁷ Ofcom, 'The Future of Digital Terrestrial Television', <http://www.ofcom.org.uk/consult/condocs/dttfuture/summary/>

where there is an incentive to efficiently use the spectrum purchased at market rates through an auction process. For example:

- Telstra has used technology advances to maximise the use of its 3G spectrum. Telstra has increased its theoretical peak downlink speeds of the Next G™ network from 384kbps to 21Mbps using the same 5MHz of spectrum⁸.
- In May 2008, Optus launched its HSPA-based UMTS900 network. Optus was able to reuse its 900MHz spectrum – which was already being used for its 2G GSM network - to deploy a UMTS900 network. One of the concerns in this roll out was to ensure that its implementation would not negatively impact existing 2G customers. Optus managed to re-farm spectrum by running GSM900 with reduced spectrum and testing the UMTS900 base station technology to ensure that the technologies can co-exist.⁹

Finally, many overseas markets' broadcasters have begun to transition from MPEG2 to MPEG4 and, as a result, are already achieving spectrum efficiencies. Australian FTAs should be developing transition paths to this new technology to ensure that the Australian market achieves the same efficiencies.

In the UK each of the terrestrial broadcasters operate under a 'managed multiplex' arrangement, which has two principle benefits:

- it allows for transitioning to new technologies, such as the current MPEG4/DVB-T2 transition and many more in the future, optimizing spectrum bandwidth. Once the transition to MPEG 4 and DVB-T2 is complete in the UK it is estimated this arrangement will carry 2.6 times more services¹⁰; and
- it requires broadcasters to exchange technical information (known as 'cross carriage of Service Information') which, amongst other benefits, means digitally 'ready' households will be automatically returned come spectrum restacking.

Other markets are also making the transition from MPEG2 to MPEG4, as outlined in the Table 1 below.

Table 1¹¹

	Country	Launch Date	Description
Deployed	Hungary	Q4, 2008	Antenna Hungaria selected to operate 5 MUXes. All DVB-T services broadcast using MPEG4 compression technology
	Ireland	Q3, 2008	DTT national rollout began in August 2008 using MPEG4, H.264 Audio Visual Coding
	Sweden	Q2, 2008	DTT operator, Boxer, began six year project to migrate from MPEG2 visual coding to MPEG4. From April 1, Boxer no longer approved MPEG2 receivers; all new STBs are required to be backwards compatible

⁸ Telstra, http://www.telstra.com.au/abouttelstra/media/announcements_article.cfm?ObjectID=44387

⁹ Optus – UMTS900 – A Case Study, June 2009, http://www.gsacom.com/gsm_3g/info_papers.php4

¹⁰ Digital Television: Enabling New Services: Facilitation efficiency on DTT, Ofcom, April 3 2008, pg 9

¹¹ Extract from Spectrum Value Partners/Venture Consulting, 'Getting the Most out of the Digital Dividend in Australia'.

	Norway	Q3, 2007 Q3, 2008	DTT service launched by Riks TV using MPEG4 compression. PSB NRK launched HD services in time for the Olympics using MPEG4 compression
	Brazil	Q4, 2007	Initial launch of DTT services by Rede Globo in Sao Paulo, other regions followed
	New Zealand	Q2, 2008	Three multiplexes, TVNZ, TVWorks and Kordia are in operation delivering a mixture of SD and HD free-to-air services, all coded in MPEG4.
Planned	UK	Q4, 2009	Multiplex B cleared and upgraded to DVB-T2 and MPEG4 to allow BBC HD and two other HD services to be broadcast.
	France	Q1, 2010 Q4, 2009	DTT services to be launched in French Overseas Territories. 10 initial channels will use MPEG4, HD channels planned for later in 2010 All HD DTT services will be broadcast as MPEG4; manufacturers required to include an MPEG4 AVC HD tuner in all HD displays by December 2009

7. The Costs of Re-stacking

Australian households are preparing themselves for digital television broadcasting by upgrading to new digitally integrated TV sets and purchasing digital set top boxes. Currently 70% of households are digitally 'ready'¹² and it is fair to assume a third of these households are ready for MPEG 4/DVB-T2 transmission¹³ – a figure that will grow quickly in the lead up to digital switchover.

ASTRA believes that a reasonable number of digital receivers will be capable of automatic re-tuning when a restack occurs.

However the risks associated with ensuring that consumers have the appropriate equipment for re-scanning would be completely mitigated if the FTA broadcasters agreed to exchange technical information, known as cross carriage of service information.

For example, FOXTEL recently transitioned its services to a new satellite and transitioned HD services from DVB-S to DVB-S2. This included transitioning services within the satellite and moving transponders (a broadcast transmitter which repeats, or reflects the signal of the satellite, usually to an area not covered by the signal of the original signal) from one satellite to another. FOXTEL managed the transition without customers being required to re-tune their set top boxes. This was achieved because FOXTEL operates its platform as a single network whereby service information is cross carried on each transponder. When a multiplex is changed the service information carried across all multiplexes is changed to reflect the new or changed services. Any set top box tuned to any multiplex receives the new information and immediately knows about the new services or multiplex, so that the set top box can navigate to the new or changed services without any customer interaction. This transition is similar to what will be required for re-stacking terrestrial broadcasting signals.

¹² Digital Switchover Tracker, Tracking Report, September 2009, includes 14% of households who have subscription television

¹³ 2.3 million television sets sold in last year; 36% of households have 'digitally integrated tv sets; Freeview spec.

While ASTRA acknowledges that FOXTEL has control of the set top boxes which makes this transition easier to manage, there is no technical reason why the terrestrial re-stacking could not be achieved in the same way. In addition, this makes the transition to new technology such as MPEG 4/ DVB-T2 less cumbersome and more efficient, which would, we assume, be in the interests of the FTA broadcasters.

In the event that the FTA broadcasters do not agree to cross carry their service information, it would be open for ACMA to mandate this as a digital TV standard as part of the restacking process.

8. Conclusion

ASTRA supports the Government's proposal to allocate 126MHz of spectrum for the new services, products and jobs of the 21st century by redeploying the spectrum gifted to the FTA networks during the transition to digital terrestrial television.

As is widely accepted, rapid technological change and the rise of the digital economy are fundamentally affecting consumer behaviour. Audiences are fragmenting, consumers are demanding greater personalisation and control over what they watch, and traditional business models are under threat.

Share of viewing of free to air networks is declining and additional free-to-air multichannels will be, by their nature, more genre specific and niche. The delivery of niche channels via a mass market medium such as terrestrial television is not the most efficient means of distribution. That is, the spectrum will not be being put to its highest value use.

The Government should maximise the digital dividend in order to ensure the greatest benefit for the Australian economy and community. Spectrum should not be reserved or provided on a free or subsidised basis to FTA broadcasters for the expansion of existing services or the migration to next generation technologies.

The Government should be mindful to balance the interests of the commercial and national open broadcasting sector, the subscription television sector and others participating in a digital economy. That is, no sector should be unfairly favoured and the FTA broadcasters should not continue to benefit from additional spectrum at no cost.

Annexure A

List of ASTRA Members

Subscription Television Platforms

AUSTAR
FOXTEL
Optus
Telstra

Program Channel Providers

Aurora
Australian Christian Channel
Australian News Channel
BBC Worldwide
Bloomberg Television
CNBC
Discovery Networks
E! Entertainment
ESPN
Eurosport
Expo Network
KidsCo
MCN
Multi Channel Networks
National Geographic
NBC Universal (Hallmark)
Nickelodeon
Ovation
PAN TV
Premier Media Group
Premium Movie Partnership
Satellite Music Australia
Setanta Sports Australia
Sky Channel Pty Ltd
The Walt Disney Company (Australia) Pty Ltd
Time Warner
Turner International (Australia)
TV1
TVN
TVSN
VH1/MTV
XYZ Networks Pty Ltd

Communications Companies and Other Associate Members

AI Media
Cath Ward Media Services
Full Circle Media
Intelsat
Multiview Analytics
The Playroom Sydney/Omnilab

Affiliate Members

Minter Ellison
TressCox Lawyers
Baker and McKenzie

Annexure B

Questions from the Digital Dividend Green Paper

Improving the quality and scope of existing broadcasting services

3.17 *Should digital dividend spectrum be used to allow expansion or enhancement of existing broadcasting services? What would it deliver?*

ASTRA supports the achievement of a digital dividend of 126MHz is opposed to digital dividend spectrum being used to allow the expansion or enhancement of existing broadcasting services.

ASTRA notes that the achievement of the target digital dividend will not inhibit the expansion or enhancement of existing broadcasting services. ASTRA contends that:

- used efficiently, the 224MHz of spectrum retained by the FTA broadcasters – after the allocation of a 126MHz digital dividend and reallocation of the 49MHz of VHF spectrum - is sufficient for them to deliver existing, as well as enhance or expanded services;
- if the FTAs need to acquire additional spectrum, they should be required to do so via an open, price-based allocation process; and

As such, there is no public policy justification for reserving or allocating spectrum to the FTAs on a free or subsidised basis to extend their services, introduce supplementary channels or additional features such as HD and 3D.

3.18 *How much spectrum would be required to provide these services?*

Not applicable.

3.19 *When would this spectrum be required?*

Not applicable.

3.20 *What would be the benefits of this use? Arguments should focus on to the value this use of spectrum presents for the Australian community and economy.*

The expansion or enhancement of existing broadcasting services – such as HD and 3D – do not deliver on the public policy outcomes outlined in the *Broadcasting Services Act 1992* relating to Australian content, children's programming and access for the deaf and hearing impaired.

In relation to multi-channels, research supports the notion that it is the FTAs primary channels that deliver the most value to the Australian community:

The majority of value for UHF spectrum is concentrated in the first few channels as they account for the majority of the viewing share and therefore the majority of the value consumers place on FTA TV. The economic benefit generated by additional DTT channels, and hence by allocating incremental UHF spectrum to broadcasting, quickly diminishes¹⁴

¹⁴ Spectrum Value Partners/Venture Consulting, 'Getting the Most out of the Digital Dividend in Australia', p52

In addition to the above, ASTRA contends that the expansion of additional broadcasting features – such as HD or 3D television - will be made available to the Australian community by alternative, commercially funded platforms. Examples of alternative delivery platforms include cable and satellite subscription television as well as internet protocol television (IPTV). In addition, the deployment of the National Broadband Network will enable and encourage take up of alternative television services. The FTAs will be able to deliver these additional services using their existing spectrum if it is used efficiently.

A desire by the FTAs to develop HD or 3D services on DTT is not sufficient reason to set aside the market led approach to spectrum allocation. If FTAs believe strongly in the importance of developing HD or 3D services on DTT they should prioritise resources accordingly and provide these services on a fully-funded commercial basis. Extensive spectrum has already been gifted to FTAs and to allocate more would be a distortion of the market. Moreover, it would be an unwarranted increase in the direct public subsidy enjoyed by public service and commercial broadcasters.

Migration to next generation broadcasting technologies – DVB-T2 and MPEG-4

3.21.1 Should digital dividend spectrum be used to implement DVB-T/MPEG-2 to DVB-T2/MPEG4 or DVB-T/MPEG-4 conversion strategies? If so, which strategies?

ASTRA is strongly opposed to digital dividend spectrum being used to implement for the migration to next generation broadcasting technologies at the expense of achieving the target digital dividend. In ASTRA's view, it is the responsibility of the FTAs to manage the technology upgrades of their networks. This will continue to be critical as it is acknowledged that digital broadcasting technology, unlike analogue, is subject to a process of continuous evolution and improvement¹⁵.

The allocation of the maximum digital dividend of 126MHz will leave 224MHz of UHF spectrum designated for digital broadcasting services. Used efficiently, this quantity of spectrum is sufficient to deliver existing services, as well as new broadcasting technologies and services into the future.

When there is a commercial imperative to maximise the efficiency of spectrum assets, this serves as an appropriate incentive to do so. Finally, many overseas markets broadcasters have begun to transition from MPEG2 to MPEG4 and, as a result, are already achieving spectrum efficiencies. Australian FTAs should be developing transition paths to this new technology to ensure that the Australian market achieves the same efficiencies.

3.22 Would additional spectrum be required? If so, how much?

Not applicable.

3.23 When would this spectrum be required?

Not applicable.

3.24 What would be the benefits of this use? Arguments should focus on to the value this use of spectrum presents for the Australian community and economy.

ASTRA contends that there would be greater benefit in providing the FTA broadcasters with incentives to manage their networks efficiently. In addition, greater value to the Australian community and economy would be achieved by through the deployment of the digital dividend spectrum to other uses.

¹⁵ Ofcom, 'The Future of Digital Terrestrial Television', <http://www.ofcom.org.uk/consult/condocs/dttfuture/summary/>

Retention of broadcasting spectrum for new broadcasting or similar services

3.25 *Should spectrum from the digital dividend remain designated as broadcasting services bands spectrum to provide capacity for additional broadcasting services?*

ASTRA strongly supports the Government achieving the target digital dividend of 126MHz. Given this, ASTRA acknowledges that either Channel A or Channel B – currently reserved as broadcasting services bands - may need to be included to achieve a target digital dividend of 126MHz.

3.26 *How much spectrum would be required for this purpose?*

Not applicable.

3.27 *When would this spectrum be required?*

Not applicable.

3.28 *What would be the benefits of this use? Arguments should focus on to the value this use of spectrum presents for the Australian community and economy.*

ASTRA contends that the greatest value to the Australian community and economy would be achieved by through the deployment of the digital dividend spectrum to other uses.

Costs of Maximising the Digital Dividend - Impact of re-stacking on viewers

4.1 *What issues will arise through viewers being required to rescan? Can receivers be developed that are able to automatically rescan?*

ASTRA believes that a reasonable number of digital receivers will be capable of automatic re-tuning when a restack occurs.

However the risks associated with ensuring that consumers have the appropriate equipment for re-scanning would be completely mitigated if the FTA broadcasters agreed to exchange technical information, known as cross carriage of service information.