



Australian Government

**Department of Broadband,
Communications and the Digital Economy**

Report on Digital Television Transmission and Reception

July 2011

REPORT ON DIGITAL TELEVISION TRANSMISSION AND RECEPTION

1 APRIL 2011 TO 23 MAY 2011

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1. Introduction

Legislative basis for the report

Clause 5H of Schedule 4 to the *Broadcasting Services Act 1992* (BSA) provides that:

On the first sitting day of each House of the Parliament after each 1 January, 1 April, 1 July and 1 October from 1 April 2009 until 1 September 2014, the Minister for Broadband, Communications and the Digital Economy (the Minister) must cause a report to be laid before each House of the Parliament containing the following information:

- (a) action taken to identify and rectify transmission infrastructure that would otherwise prevent the transmission of free to air television broadcasting services in SDTV (standard definition television) digital mode in any area achieving the same level of coverage and potential reception quality as was achieved by the transmission of those services in analog mode; and
- (b) the local market areas and regions where transmission issues have been identified and how many households will be affected.

This report updates the previous report tabled on 13 May 2011, and covers the period 1 April 2011 to 23 May 2011.

Previous reports can be found on the Department of Broadband, Communications and the Digital Economy's (the department) website at:

www.dbcde.gov.au/television/digital_television_switchover/reports_on_digital_television_transmission_and_reception.

Initiatives to address digital television terrestrial blackspots

Satellite service

On 5 January 2010, the Australian Government announced it would fund a new free-to-air satellite service to provide viewers in remote licence areas, and those in digital television terrestrial blackspots in metropolitan and regional licence areas, with access to the same range of digital services (including digital multichannels such as ONE, Eleven, GO!, GEM, 7TWO, 7mate, ABC2, ABC3, ABC News 24 and SBS TWO) as are available in capital cities. This is known as the Viewer Access Satellite Television (VAST) service. Viewers will also have access to the same commercial broadcaster local news as is provided on terrestrial services in regional and remote licence areas.

On 29 June 2010, the *Broadcasting Legislation Amendment (Digital Television) Act 2010* (the Digital Television Act) received Royal Assent. The Digital Television Act established the legislative framework for the provision of the new satellite service for digital television blackspot areas.

From 15 December 2010, the VAST service was made available to all residents in the Remote Central and Eastern Australia (RCEA) television licence areas and non-remote viewers who the Australian Communications and Media Authority (ACMA) has authorised

the RCEA broadcasters (Southern Cross Media and Imparja Television) to provide their services to 'out of area' viewers. Southern Cross Media and Imparja Television provide the commercial digital television channels on the satellite service available to viewers in Eastern Australia. From 30 March 2011, an interim VAST service has been available in Western Australia which contains the main standard definition commercial channels from WIN, GWN and TEN, in addition to the full range of channels from the national broadcasters. The full VAST service will be available from 30 July 2011, when WIN and Prime will provide the full range of digital television channels via the satellite service to eligible viewers in Western Australia.

The VAST service is also available to eligible viewers in non-remote licence areas that have already switched over to digital television in regional Victoria and regional South Australia, as well as the regional Queensland licence area which switches over to digital television on 6 December 2011. The new satellite service will be made available to viewers in digital television blackspots in metropolitan and regional switchover areas six months before their area is due to switchover. A copy of the switchover timetable is at **Appendix 4**.

In order to access the new satellite service, viewers will require direct-to-home satellite reception equipment, including a satellite dish and set-top box. The costs of installation will vary depending on the location, the size of the satellite receiving dish required and characteristics of the viewer's home. To check their eligibility for the new satellite service and/or apply to access the service, an applicant should enter their installation address in the mySwitch application on the website www.digitalready.gov.au. Further details of how to access the new satellite service can be found on the website www.digitalready.gov.au or www.mysattv.com.au.

The new satellite service will provide services for viewers in digital television terrestrial blackspots, including those currently located in areas served by analog television self-help retransmission sites that are not converted to digital by the broadcasters or their operators (see 'Enhanced terrestrial coverage' below). To assist viewers, the government is providing a satellite conversion subsidy to eligible households currently served by self-help retransmission sites which are not upgraded to digital by the broadcasters. Details of how to access the subsidy can be found on the website www.digitalready.gov.au.

Enhanced terrestrial coverage

The free-to-air broadcasters have agreed to upgrade a number of analog self-help retransmission facilities to operate in digital. The free-to-air commercial broadcasters have developed, and provided to the government, candidate lists of existing analog television self-help retransmission sites in regional and metropolitan licence areas for conversion to digital. Free TV Australia, the industry's peak representative body, has advised the government that a total of 149 sites in metropolitan or regional areas are expected to be digital-enabled, either through the conversion of some existing self-help retransmission facilities or the installation of new broadcaster-operated facilities to cover gaps in digital coverage. Further information on these sites is provided in **Section 4** below.

Viewers served by the remaining analog television self-help retransmission sites in metropolitan and regional licence areas, and all self-help sites in remote areas, will be eligible to access the new satellite service.

The conversion of self-help retransmission sites on the broadcasters' list will be managed and funded by the broadcasters themselves, but will still require the involvement of the local council or other operator of the site. It will be open to the operators of any self-help site on the candidate list to reach terms with the broadcasters on the offer of an upgrade, or to pursue an alternative arrangement such as upgrading the site to digital themselves. Broadcasters are not currently proposing to upgrade any self-help retransmission sites in remote licence areas.

The ACMA Television Coverage Evaluation Program

The ACMA has a multifaceted television coverage evaluation program that can contribute to identifying transmission infrastructure issues that would otherwise prevent the transmission of television broadcasting from achieving the objectives relating to same level of coverage and potential reception quality in local markets and licence areas. As part of the planning process the ACMA requires broadcasters to identify any potential transmission issues that may need to be addressed in order to achieve the objectives relating to same level of coverage and potential reception quality. The ACMA has an active measurement program to support the evaluation program.

The ACMA's measurement program has the capacity to identify potential coverage issues, including areas of potential reception difficulties. The ACMA also has regular and ongoing dialogue with senior broadcasting engineers through professional forums and directly with commercial and national broadcasters and their infrastructure providers.

The ACMA's measurement program is tracking ahead of the switchover timetable. The program is currently operating in local television markets in Northern New South Wales (due to switchover in the second half of 2012) and has been completed in Southern New South Wales (due to switchover in the first half of 2012). Measurement results are analysed and reported to the broadcasters, infrastructure providers and the department.

Digital television transmission regulatory framework

Schedule 4 to the BSA requires the ACMA to formulate *Commercial Television Conversion Schemes 1999* (CTCS) and *National Television Conversion Scheme 1999* (NTCS) for the conversion, over time, of the transmission of commercial television broadcasting services and national television broadcasting services from analog mode to digital mode.

The BSA requires the conversion schemes to be directed toward a number of policy objectives relating to digital transmissions achieving the same level of coverage and potential reception quality as is achieved by corresponding analog services.¹ The CTCS and NTCS include a range of specific planning and licensing provisions that flow from the objectives relating to the same level of coverage and potential reception quality.

Under the conversion schemes, the ACMA makes Digital Channel Plans (DCPs) that, amongst other matters, assign channels to commercial and national broadcasters for the provision of their digital television services to particular areas.

¹ See, for example, clauses 6(3)(f), 6(3)(j), 19(3)(f) and 19(3)(j) of Schedule 4 to the BSA in relation to non-remote licence areas, and Part B of the Commercial and National Conversion Schemes in relation to remote licence areas.

The conversion schemes require commercial and national broadcasters to submit for approval one or more implementation plans (IP) relating to digital transmission. The IP is a broadcaster's commitment, approved by the ACMA (for commercial licensees) or the Minister (for national broadcasters), to:

- provide transmission of a television broadcasting service in digital mode from specified sites;
- cover specified areas by specified dates; and
- meet the objectives relating to same level of coverage and potential reception quality.

Section 2 and **Section 3** of this report deal with the progress commercial and national broadcasters have made in non-remote (metropolitan and regional) and remote licence areas towards meeting these objectives respectively.

In addition to the transmission facilities operated by commercial and national broadcasters, there are more than 600 analog television self-help retransmission sites operated by local government authorities, Indigenous or community groups, or other parties. These are designed to obtain, or to improve, analog television terrestrial reception in areas unable to obtain adequate reception from existing broadcaster-operated transmission facilities. Such services are not covered by the conversion schemes, and so the obligations and policy objectives of these schemes do not apply to their operators.

It is likely that many areas with deficient analog television terrestrial reception will also have deficient digital television reception unless (as per 'Enhanced terrestrial coverage' above):

- the broadcasters' wider digital footprint reaches the area;
- the broadcasters or current operator convert an existing analog television self-help retransmission site to digital; or
- a local council or group establishes a new digital television self-help retransmission site.

The VAST service, which is funded by the government, provides digital television services to eligible households where no terrestrial coverage is available. Satellite reception equipment needs to be installed to receive this service.

Section 4 of this report provides information on the candidate list Free TV Australia has developed of existing self-help retransmission sites in non-remote licence areas that the commercial broadcasters intend to convert to digital. It also provides information on proposed gap-filler sites that will enhance digital television coverage and hybrid transmission sites from which a mix of broadcaster-provided and self-help retransmission services are transmitted.

2. Commercial and national free-to-air broadcasters in metropolitan and regional television licence areas

This section reports on the progress made by commercial television broadcasting licensees and national broadcasters in metropolitan and regional television licence areas with the objective of achieving the same level of coverage and potential reception quality for their service in digital mode as is achieved by the transmission of that service in analog mode.

Progress in achieving “same level of coverage and potential reception quality”

The ACMA currently expects approximately 1275 IPs to be submitted for services in metropolitan and regional licence areas.²

To 23 May 2011, there have been 1066 IPs approved in metropolitan and regional licence areas; 471 for national broadcasting services and 595 for commercial broadcasting services. As of the same date there were 33 IPs undergoing the approval process, culminating in 1099 IPs approved or in process. Nine test licences have been issued so that services could commence in advance of IP approval and a further 20 test licences have been issued in advance of the submission of IPs.

Between 1 April and 23 May 2011, there were 20 IPs approved for commercial broadcasting services in metropolitan and regional licence areas. No IPs were approved for national broadcasting services in metropolitan and regional licence areas in the same time period.

Digital services covered by the conversion schemes have commenced at all transmitter sites within metropolitan licence areas.

Areas where no digital services have commenced transmission

The following table lists areas in regional television licence areas where no broadcaster provided digital services (required under the commercial or national television conversion schemes) had commenced transmission as at 23 May 2011. This list is based on advice provided to the ACMA by the broadcasters.

Licence area	Switchover market	Area Served	Reason for no commencement
Darwin		Batchelor	Only TND service licensed to a broadcaster.
		Darwin North	Alternative site being considered for digital services.
Northern NSW	Hunter	Collaroy	Only service is an NBN analog service.
Regional Qld	North Queensland	Bowen	Alternative site being considered for digital services.

² The precise number of IPs finally submitted may differ from these figures, as broadcasters have discretion regarding which of their services are described in which IP.

Licence area	Switchover market	Area Served	Reason for no commencement
Southern NSW	ACT and Southern Tablelands	Captains Flat	Only CTC service licensed to broadcaster.
	Illawarra and the South Coast	Bega/Cooma	Only ABC analog at this site. Alternative sites implemented.
	South West Slopes and Eastern Riverina	Adelong	Only CTC and WIN services licensed to broadcasters.
		Talbingo	Only CTC and WIN services licensed to broadcasters
		Tumbarumba	Only CBN service licensed to broadcaster.
Tasmania	Maydena	Only TNT and TVT services licensed to broadcasters.	
	Hillwood, Mangana, Pyengana Valley, Rokeby, South Springfield, Strathgordon, Weldborough	Only one or two analog services. May not be required in digital.	

A list of broadcaster callsigns is at **Appendix 3**.

Areas where some digital services have yet to commence transmission

The following table lists areas in regional television licence areas where some digital services provided by broadcasters and required under the commercial or national television conversion schemes had yet to commence as at 23 May 2011. This list is based on advice provided to the ACMA by the broadcasters.

In the period 1 April to 23 May 2011, all digital services required under the conversion schemes have become operational at Hay in the Griffith and Murrumbidgee Irrigation Area; Stuart, Clermont, Glenden, Tieri and Nebo in the regional Queensland licence area; and Braidwood and Cooloolah in the Southern New South Wales licence area. The table below has been updated to reflect these changes.

Licence area	Switchover market	Area Served	Broadcasters yet to commence digital transmission ³
Northern NSW	Hunter	Cassilis	NBN
		Merriwa	NEN, NRN
		Murrurundi	NRN, NEN
	North Western Slopes and Plains	Ashford	NEN
		Glen Innes	NEN
		Walcha	NEN
	Richmond/Tweed	Bonalbo	NBN, NEN

³ Digital channels were planned for the three commercial services at Elizabeth South in the Adelaide licence area and for NRN at Bouddi and Gosford in the Northern NSW licence area overlap with the Sydney licence area. These services are not required to be implemented in digital as the relevant commercial broadcaster does not have analog services at those sites.

Licence area	Switchover market	Area Served	Broadcasters yet to commence digital transmission
Regional Qld		Kyogle	NBN, NEN
		Tenterfield	NEN
	Darling Downs	Tara	RTQ
	Far North Queensland	Atherton	ABNQ, RTQ, TNQ
		Cardwell	RTQ
		Gordonvale	RTQ, TNQ, STQ
		Mission Beach	RTQ, STQ, TNQ
	North Queensland	Collinsville	RTQ, TNQ
	QLD Central Coast and Whitsundays	Moranbah Town	RTQ, STQ, TNQ
Southern NSW	ACT and Southern Tablelands	Thredbo	CBN, CTC, WIN
		Weston Creek/Woden	CBN, CTC, WIN (may not be required in digital)
	Central Tablelands and Central Western Slopes	Cobar	CBN in overlap with remote licence areas
		Condobolin	WIN
		Kandos	WIN
		Nyngan	CBN, WIN
	South West Slopes and Eastern Riverina	Tumut	CTC, WIN
Tasmania		Bicheno	TDT, TNT, TVT
		Derby (Tas)	TDT, TNT
		Dover South	TDT, TNT, TVT (may not be required in digital)
		King Island	TDT, TNT, TVT
		Lileah	TDT, TNT, TVT
		Queenstown/Zeehan	TDT, TNT, TVT
		Rosebery	TDT, TNT, TVT
		Savage River	TDT, TNT
		Smithton	TDT, TNT, TVT
		Strahan	TDT, TNT, TVT
		Swansea	TDT, TNT, TVT
		Waratah	TDT, TNT, TVT

A list of broadcaster callsigns is at **Appendix 3**.

A complete list of the areas covered by the conversion schemes and their digital rollout status is at **Appendix 1**.

3. Commercial and national free-to-air broadcasters in remote television licence areas

This section reports on the progress made by commercial television broadcasting licensees and national broadcasters in remote television licence areas with the objective of achieving the same level of coverage and potential reception quality for their television service in digital mode as is achieved by the transmission of that service in analog mode.

There are five licence areas in Remote and Regional Western Australia (RRWA) (South West and Great Southern TV1, Kalgoorlie TV1, Geraldton TV1, Western Zone TV1 and Remote and Regional Western Australia TV1) and three licence areas in RCEA (Remote Central and Eastern Australia TV1, Remote Central and Eastern Australia TV2 and Mt Isa TV1). The ACMA has now set commencement dates for all the RRWA and RCEA licence areas.

Progress in achieving “same level of coverage and potential reception quality”

The ACMA expects approximately 437 IPs to be submitted for commercial and national television services in remote licence areas.⁴ To 23 May 2011, there have been 127 IPs approved in remote licence areas – 115 for national broadcasting services; and 12 for commercial broadcasting services. As at the same date there were 75 IPs undergoing the approval process. A test licence has been issued for one of the IPs so that the service could commence in advance of IP approval.

Between 1 April and 23 May 2011 there were no IPs approved by the government for national broadcasting services in remote licence areas and no IPs approved for commercial broadcasting services in remote licence areas.

The following information about the commencement of digital television services is based on advice provided to the ACMA by broadcasters.

At 23 May 2011:

- all digital services required under the conversion schemes had been implemented at 25 transmitter sites;
- one or more (but not all) digital services required under the conversion schemes had been implemented at a further 59 sites; and
- no digital services had been implemented at the remaining 85 sites covered by conversion schemes.

All digital services required by broadcasters under the conversion schemes have now commenced at the following areas:

Remote and Regional Western Australia licence areas:

Central Agricultural, Cervantes, Dalwallinu, Denham, Jurien, Kalgoorlie, Karratha, Lake Grace, Leeman, Leinster, Marble Bar, Mingenew, Northampton, Onslow, Southern Cross and Wongan Hills.

⁴ The precise number of IPs finally submitted may differ from these figures, as broadcasters have discretion regarding which of their services are described in which Implementation Plan.

Remote Central and Eastern Australia licence areas:

Alice Springs, Caralue Bluff, Injune, Leigh Creek South, Mount Isa, Quilpie, Richmond, Streaky Bay and Wudinna.

In all the above areas, except Central Agricultural, Kalgoorlie, Karratha and Mingenew, only national services are required under the conversion schemes as there are no commercial services licensed to the broadcasters.

A complete list of the areas covered by the conversion schemes and their digital rollout status is at **Appendix 1**.

Areas where no digital services have commenced transmission

The following table contains areas in remote television licence areas and covered by the conversion schemes where no commercial or national broadcaster provided digital services had commenced transmission as at 23 May 2011. This table is based on advice provided to the ACMA by the broadcasters.

Licence area	Area served
Remote Central and Eastern Australia	Adelaide River
	Alpha
	Andamooka
	Araluen
	Aramac
	Augathella
	Avoca
	Bathurst Island
	Bedourie
	Birdsville
	Borrooloola
	Boulia
	Bourke
	Bourke Town
	Brewarrina
	Camooweal
	Coen
	Collarenebri
	Cooper Pedy
	Corfield
	Crookwell
	Croydon
	Daly River
	Dimbulah
	Dirranbandi
	Emmaville
	Galiwinku
	Georgetown
	Goodooga
	Greenvale
Groote Eylandt	
Hawker	
Isisford	
Ivanhoe	

Licence area	Area served
	Jabiru
	Jericho
	Julia Creek
	Karumba
	Lakeland
	Laura
	Marree
	Mataranka
	Meandarra
	Menindee
	Morven
	Mount Garnet
	Mount Molloy
	Mungindi
	Muttaborra
	Newcastle Waters
	Nhulunbuy
	Normanton
	Omeo
	Pentland
	Pine Creek
	Surat
	Swifts Creek
	Tambo
	Taroom
	Thursday Island
	Tottenham
	Wandoan
	Weipa
	Wirrulla
	Woomera
Remote and Regional Western Australia	Argyle
	Bayulu
	Bruce Rock
	Carnamah
	Condingup/Howick
	Cue
	Eneabba
	Hopetoun (WA)
	Katanning
	Koolyanobbing
	Laverton
	Leonora
	Menzies
	Mullewa
	Narembeen
	Perenjori
	Ravensthorpe
	Salmon Gums
	Southern Cross Town
	Yalgoo

Areas where some digital services have yet to commence transmission

The following table contains areas in remote television licence areas covered by the conversion schemes where some broadcaster-provided commercial or national digital television services had yet to commence as at 23 May 2011. It reflects advice provided to the ACMA by the broadcasters.

Licence area	Area Served
Remote Central and Eastern Australia	Barcaldine
	Blackall
	Ceduna/Smoky Bay
	Charleville
	Cloncurry
	Cooktown
	Cunnamulla
	Hughenden
	Katherine
	Lighting Ridge
	Longreach
	Mitchell
	Roma
	Roxby Downs
	St George
	Tennant Creek
	Walgett
Wilcannia	
Winton	
Remote and Regional Western Australia	Albany
	Augusta
	Bridgetown
	Broome
	Bunbury
	Carnavon
	Dampier
	Derby
	Esperance
	Exmouth
	Fitzroy Crossing
	Geraldton
	Halls Creek
	Kalbarri
	Kambalda
	Kojonup
	Kununurra
	Kununurra East
	Mandurah
	Manjimup
	Margaret River
	Meekatharra
	Merredin
	Moora
	Morawa
	Mount Magnet
	Nannup
	Narrogin
	Newman

Licence area	Area Served
	Norseman
	Northman
	Pannawonica
	Paraburdoo
	Pemberton
	Port Headland
	Roebourne
	Southern Agricultural
	Tom Price
	Wagin
	Wyndham

4. Existing analog self-help retransmission sites and other likely terrestrial digital reception deficient areas.

As terrestrial digital television channel planning is designed to provide digital television services at the same level of coverage and potential reception quality as existing analog television services, it is likely that many areas with deficient terrestrial analog reception will also have deficient terrestrial digital reception.

Analog self-help sites are *potentially* areas of digital terrestrial signal deficiency because they are not required to be converted under digital conversion schemes. Signal deficiency can be addressed where:

- the broadcasters' wider digital footprint reaches the area;
- the broadcasters or current operator convert an existing analog television self-help retransmission site to digital; or
- a local council or group establishes a new digital television self-help retransmission site.

As noted above, the VAST service, which is funded by the government, provides digital television services to eligible households in almost all areas where no terrestrial coverage is available. Satellite reception equipment needs to be installed to receive this service.

Analog self-help retransmission sites

There are many areas across Australia where self-help retransmission facilities are serving communities which do not have access to adequate free-to-air terrestrial television services provided by the broadcasters. These facilities are located mainly in regional and remote areas of Australia. These self-help retransmission facilities are designed to extend, or enhance, analog television reception in areas that are unable to otherwise obtain adequate reception from existing broadcaster-operated transmission sites. In some cases, a mix of self-help and broadcaster-provided services are transmitted from the same site (hybrid transmission sites).

Local councils or community and Indigenous groups often operate self-help retransmission facilities of behalf of the relevant local community. Remote Indigenous community television services operate at some sites. In each case, the local council or community group is responsible for operating and maintaining the facility and for meeting associated (ongoing) costs.

A list of existing known analog self-help retransmission sites is at **Appendix 2**.

Metropolitan and regional analog self-help retransmission facilities

The ACMA estimates that there are 144 sites with one or more analog self-help retransmission services located in metropolitan and regional licence areas. Of these sites, 37 are located in metropolitan areas and 107 are located in regional licence areas. Metropolitan and regional self-help retransmission sites have generally been established to fill areas that the broadcasters' signals fail to cover and extend coverage to areas far removed from the broadcasters' main transmission site. These sites typically receive off-air program feeds from the analog terrestrial transmitters of the local broadcasters. Prior to any licence area switching over to digital-only transmissions, there were approximately 22,000 households served by

self-help retransmission facilities in metropolitan areas, and 48,000 households in regional areas.

Remote area analog terrestrial self-help retransmission sites

The ACMA estimates that there are 307 sites with one or more analog self-help terrestrial retransmission services in RCEA licence areas and 183 in the RRWA licence areas. The total number of households served by self-help retransmission sites in the RCEA licence areas and RRWA licence areas is estimated to be 50,000 and 35,000 respectively. Self-help retransmission sites in remote licence areas have generally been established to extend coverage to areas far removed from the broadcasters' main terrestrial transmission sites. These sites are predominately satellite-fed.

Conversion of self-help retransmission sites

A number of self-help retransmission sites around Australia will be converted to digital by commercial broadcasters. Other self-help retransmission sites may be converted to digital by the local council or other related organisation. Free TV Australia and Regional Broadcasting Australia (RBA) have developed a candidate list, which is comprised of self-help retransmission sites identified by the commercial broadcasters for digital conversion. In addition, ABC and SBS analog self-help services will be converted to digital at sites where all of the other services have been (or will be) converted to digital by the broadcasters.

The following lists provide information on existing self-help retransmission sites in metropolitan and regional areas that:

- are on the broadcasters' candidate list for conversion to digital; or
- have been issued licences for council-funded conversion to digital; or
- will have their ABC and/or SBS service converted because all other services at the site will be operated by broadcasters.

There is a separate list for hybrid transmission sites where some services are converted to digital by the broadcasters under the conversion schemes and other services will be implemented outside the conversion scheme process.

In most cases, new or converted transmission sites will be established no later than six months before switchover in the area. Establishment of new sites will be subject to the availability of broadcasting spectrum. Commercial broadcasters have confirmed that they will not be converting existing self-help sites located in the RCEA and RRWA licence areas. The primary option for communities in these areas that currently rely on self-help retransmission sites would be to receive digital services from the VAST service.

Self-help retransmission sites for conversion from analog to digital

Commercial broadcasters have identified the following analog television self-help retransmission sites as candidates for conversion from analog to digital. The final decision about whether any specific self-help site will be converted will be matter for negotiation between the current licensee of the site and broadcasters, and will depend on agreement being reached.

The broadcasters' offer to licensees is understood to be for broadcasters to pay for digital transmission equipment and transmitter maintenance for ten years, with the existing licensees being responsible for the ongoing maintenance and operation of the site infrastructure. The licence for the transmitter will be held by a broadcaster company (i.e. RBA) rather than individual broadcasters or the council or group.

In addition to the sites nominated for conversion by the broadcasters, some self-help retransmission sites may be converted by the local council or group that operates the self-help site.

Table A outlines the self-help retransmission sites that are nominated for conversion, where all the services provided at that site are retransmission services. As at 23 May 2011 there were a total of 80 self-help retransmission sites on the broadcasters' candidate list (22 in metropolitan areas and 52 in regional areas). There were an additional 6 self-help retransmission sites (all in regional areas) that will be converted by non-broadcaster organisations such as a local council or community group. This list is being updated as switchover progresses nationally and broadcasters complete more detailed assessments of the commercial or technical viability of converting these sites to digital.

The following table represents the department's current understanding of proposed or operating digital retransmission sites. Sites in areas that are due to switchover later than regional Queensland (6 December 2011) are indicative only at this stage.

Table A: Self-help retransmission sites for conversion from analog to digital

State	Area Served	Market	Commencement date
Queensland	Canungra	Metro	TBA
	Conondale	Metro	TBA
	Kooralbyn	Metro	TBA
	Rathdowney	Metro	TBA
	Agnes Water	Regional	21 May 2011
	Cooloola Cove (Tin Can Bay)	Regional	13 May 2011
	Crows Nest	Regional	6 June 2011
	Flame Tree and Jubilee Pocket	Regional	25 May 2011
	Goldsborough Valley (Little Mulgrave)	Regional	23 June 2011
	Mossman South [non-broadcaster]	Regional	TBA
	Mount Morgan	Regional	14 May 2011
	Redlynch	Regional	16 June 2011
	Speewah [non-broadcaster]	Regional	TBA
	New South Wales	Megalong	Metro
Woronora		Metro	TBA
Armidale North		Regional	TBA
Batlow		Regional	TBA
Booral		Regional	TBA
Byron Bay		Regional	TBA
Cootamundra		Regional	TBA
Eastgrove		Regional	TBA
Eugowra		Regional	TBA
Forster		Regional	TBA
Gundagai		Regional	TBA

	Gunning	Regional	TBA
	Hartley	Regional	TBA
	Hillston	Regional	TBA
	Junee	Regional	TBA
	Lismore East	Regional	TBA
	Long Flat	Regional	TBA
	Macleay/Ashby	Regional	TBA
	Mount Kembla	Regional	TBA
	Mudgee Town	Regional	TBA
	Mullumbimby Creek	Regional	TBA
	Narrandera	Regional	TBA
	Oberon	Regional	TBA
	Ocean Shores	Regional	TBA
	Peak Hill	Regional	TBA
	Portland Town	Regional	TBA
	Smiths Lake	Regional	TBA
	Stroud	Regional	TBA
	Telegraph Point	Regional	TBA
	Uralla	Regional	TBA
	Warialda	Regional	TBA
	Wellington	Regional	TBA
Australian Capital Territory	Conder	Regional	TBA
Victoria	Anglesea & Aireys Inlet	Metro	TBA
	Geelong (Newtown)	Metro	TBA
	Healesville	Metro	TBA
	Monbulk	Metro	TBA
	Apollo Bay	Regional	16 June 2011
	Boolarra	Regional	13 Feb 2011
	Falls Creek [non-broadcaster]	Regional	TBA
	Harrietville [non-broadcaster]	Regional	16 June 2009
	Howqua	Regional	31 Dec 2010
	Jeeralang/Yinnar South	Regional	9 Feb 2011
	Learmonth [non-broadcaster]	Regional	30 April 2010
	Lorne	Regional	15 April 2011
	Underbool	Regional	10 June 2010
	Waubra [non-broadcaster]	Regional	1 October 2009
South Australia	Angaston	Metro	TBA
	Cape Jervis	Metro	TBA
	Carrickalinga	Metro	TBA
	Eundunda	Metro	TBA
	Gumeracha	Metro	TBA
	Lyndoch	Metro	TBA
	Mannum	Metro	TBA
	Myponga	Metro	TBA
	Normanville	Metro	TBA
	Swan Reach	Metro	TBA
	Yankalilla	Metro	TBA
	Orroroo	Regional	24 Nov 2010
Western Australia	Lancelin	Metro	TBA
Tasmania	Forth	Regional	TBA
	Hillwood	Regional	TBA
	Meander	Regional	TBA
	Neika/Leslie Vale	Regional	TBA
	Paloona	Regional	TBA
	Ringarooma	Regional	TBA
	Upper Derwent Valley	Regional	TBA

Self-help retransmission sites for conversion from analog to digital – ABC and SBS self-help conversions

In the 2010-11 and 2011-12 Budgets, the government provided funding for the conversion of a total of 65 ABC and SBS analog television services at sites where the remaining services are all provided by broadcasters. This will enable the communities relying on these sites to receive in digital the television services that were provided in analog mode. The conversion of these services will be managed by the ABC and/or SBS. The services funded are outlined in the table below.

Table B: ABC and SBS self-help conversions

No	Service	Area Served*	State	Switchover window	Market Area	Year funded
1	SBS	Balranald	NSW	1 January - 30 June 2011	North Central Victoria	2010-11 Budget
2	SBS	Kandos	NSW	1 January - 30 June 2012	Central Tablelands and Central Western Slopes	2010-11 Budget
3	SBS	Khancoban	NSW	1 January - 30 June 2011	Goulburn Valley/Upper Murray	2010-11 Budget
4	SBS	Springsure	QLD	1 July - 31 December 2011	Capricornia	2010-11 Budget
5	SBS	Burra	SA	1 July - 31 December 2010	Spencer Gulf	2010-11 Budget
6	SBS	Quorn	SA	1 July - 31 December 2010	Spencer Gulf	2010-11 Budget
7	SBS	Tawonga South	VIC	1 January - 30 June 2011	Goulburn Valley/Upper Murray	2010-11 Budget
8	SBS	Bourke Town	NSW	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
9	SBS	Brewarrina	NSW	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
10	SBS	Lightning Ridge	NSW	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
11	SBS	Jabiru	NT	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
12	SBS	Barcaldine	QLD	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
13	SBS	Blackall	QLD	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget

No	Service	Area Served*	State	Switchover window	Market Area	Year funded
14	SBS	Cloncurry	QLD	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
15	SBS	Cooktown	QLD	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
16	SBS	Cunnamulla	QLD	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
17	SBS	Hughenden	QLD	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
18	SBS	Thursday Island	QLD	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
19	SBS	Weipa	QLD	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
20	SBS	Winton	QLD	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
21	SBS	Cooper Pedy	SA	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
22	SBS	Derby	TAS	1 January - 30 June 2013	Tasmania	2011-12 Budget
23	SBS	St Helens	TAS	1 January - 30 June 2013	Tasmania	2011-12 Budget
24	SBS	Bridgetown	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
25	SBS	Carnamah	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
26	SBS	Dampier	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
27	SBS	Fitzroy Crossing	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
28	SBS	Halls Creek	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
29	SBS	Kambalda	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
30	SBS	Kojonup	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
31	SBS	Kununurra East	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
32	SBS	Meekatharra	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget

No	Service	Area Served*	State	Switchover window	Market Area	Year funded
33	SBS	Merredin	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
34	SBS	Moora town	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
35	SBS	Mt Magnet	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
36	SBS	Mullewa	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
37	SBS	Norseman	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
38	SBS	Pannawonica	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
39	SBS	Paraburdoo	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
40	SBS	Pemberton	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
41	SBS	Roebourne	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
42	SBS	Southern Cross Town	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
43	SBS	Wyndham	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
44	SBS	Adelong*	NSW	1 January - 30 June 2012	South West Slopes and Eastern Riverina	2011-12 Budget
45	SBS	Captains Flat*	NSW	1 January - 30 June 2012	ACT and Southern Tablelands	2011-12 Budget
46	SBS	Talbingo*	NSW	1 January - 30 June 2012	South West Slopes and Eastern Riverina	2011-12 Budget
47	SBS	Tumbarumba*	NSW	1 January - 30 June 2012	South West Slopes and Eastern Riverina	2011-12 Budget
48	SBS	Batchelor*	NT	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
59	SBS	Cardwell*	QLD	1 July - 31 December 2011	Far North Queensland	2011-12 Budget
50	SBS	Glenden*	QLD	1 July - 31 December 2011	Qld Central Coast and Whitsundays	2011-12 Budget
51	SBS	Maydena*	TAS	1 January - 30 June 2013	Tasmania	2011-12 Budget

No	Service	Area Served*	State	Switchover window	Market Area	Year funded
52	SBS	Bruce Rock*	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
53	SBS	Batlow*	NSW	1 January - 30 June 2012	South West Slopes and Eastern Riverina	2011-12 Budget
54	ABC	Adelong*	NSW	1 January - 30 June 2012	South West Slopes and Eastern Riverina	2011-12 Budget
55	ABC	Captains Flat*	NSW	1 January - 30 June 2012	ACT and Southern Tablelands	2011-12 Budget
56	ABC	Talbingo*	NSW	1 January - 30 June 2012	South West Slopes and Eastern Riverina	2011-12 Budget
57	ABC	Tumbarumba*	NSW	1 January - 30 June 2012	South West Slopes and Eastern Riverina	2011-12 Budget
58	ABC	Batchelor*	NT	1 July - 31 December 2013	Remote Central & Eastern Australia	2011-12 Budget
59	ABC	Cardwell*	QLD	1 July - 31 December 2011	Far North Queensland	2011-12 Budget
60	ABC	Glenden*	QLD	1 July - 31 December 2011	Qld Central Coast and Whitsundays	2011-12 Budget
61	ABC	Maydena*	TAS	1 January - 30 June 2013	Tasmania	2011-12 Budget
62	ABC	Bruce Rock*	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget
63	ABC	Batlow*	NSW	1 January - 30 June 2012	South West Slopes and Eastern Riverina	2011-12 Budget
64	ABC	Tieri	QLD	1 July - 31 December 2011	Qld Central Coast and Whitsundays	2011-12 Budget
65	ABC	Mandurah	WA	1 July - 31 December 2013	Regional and Remote Western Australia	2011-12 Budget

Hybrid transmission sites

A mix of broadcaster provided and self-help retransmission analog television services are currently transmitted from a number of sites – sometimes referred to as hybrid transmission sites – with the self-help services typically being provided by a local council, community group or another organisation. The party responsibility for the operation and maintenance of these varies depending on the arrangements at the site.

At some of these hybrid sites, the analog retransmissions have been, or are proposed to be, converted to digital outside of the conversion scheme processes.

Table C below lists additional digital services at hybrid sites classified by four categories of hybrid transmission services, as listed below.

1. Broadcaster funded and licensed addition	Sites where a commercial service is or was not present in analog, and the broadcaster has decided to implement that service in digital from the site and hold the licence.
2. Broadcaster funded and licensed conversion	Sites where a commercial or national service is or was provided as a self-help retransmission by a local council or group, and the broadcaster chooses to convert the analog self-help service to digital and hold the licence.
3. Government funded and council licensed	Sites where a national broadcasting service is or was provided as a self-help retransmission by a local council or group and the government has provided funding to convert the analog self-help service to a digital retransmission with the licence to be held by the council or group.
4. Council funded and council licensed	Sites where a service is or was provided as self-help retransmission service by a local council or group and that entity decides to convert the self-help service to digital itself.

Table C: Hybrid transmission sites

State	Area Served	Market	Services to be provided (and by whom via note)	Commencement date
Queensland	Atherton	Regional	ABC ¹ , SCM ¹	SCM 6 June 2011
	Bell	Regional	Seven ⁴ , WIN ⁴ , SCM ⁴	TBA
	Cardwell	Regional	ABC ³ , SBS ³ , SCM ¹	TBA
	Eisvold	Regional	SBS ⁴ , Seven ⁴ , WIN ⁴	TBA
	Glenden	Regional	ABC ⁴ , SBS ⁴	TBA
	Moranbah Town	Regional	Seven ²	3 June 2011
	Springsure	Regional	SBS ³	TBA
	Tara	Regional	Seven ¹ , SCM ¹	TBA
	Tieri	Regional	ABC ³	TBA
	Barcaldine	Remote	SBS ³ , Imparja ²	TBA
	Blackall	Remote	SBS ³	TBA
	Cloncurry	Remote	SBS ³	TBA
	Cooktown	Remote	SBS ³	TBA
	Cunnamulla	Remote	SBS ³	TBA
	Hughenden	Remote	SBS ³	TBA
Thursday Island	Remote	SBS ³	TBA	
Weipa	Remote	SBS ³	TBA	
Winton	Remote	SBS ³	TBA	
New South Wales	Adelong	Regional	ABC ³ , SBS ³ , Prime ²	TBA
	Balranald	Regional	SBS ³	13 May 2011
	Batlow	Regional	ABC ³ , SBS ³	TBA
	Captains Flat	Regional	ABC ³ , SBS ³ , Prime ² , WIN ²	TBA
	Kandos	Regional	SBS ³	TBA
	Khancoban	Regional	SBS ³	13 May 2011
	Merriwa	Regional	SBS ⁴	TBA

State	Area Served	Market	Services to be provided (and by whom via note)	Commencement date
	Talbingo	Regional	ABC ³ , SBS ³ , Prime ²	TBA
	Tumbarumba	Regional	ABC ³ , SBS ³ , WIN ² and SCM ²	TBA
	Walwa/Jingellic	Regional	ABC ³	4 May 2011
	Bourke Town	Remote	SBS ³	TBA
	Brewarrina	Remote	SBS ³	TBA
	Lightning Ridge	Remote	SBS ³	TBA
Northern Territory	Batchelor	Regional	ABC ³ , SBS ³ , Nine ²	TBA
	Jabiru	Remote	SBS ³ , Imparja ²	TBA
Tasmania	Derby (Tas)	Regional	SBS ³ , WIN ²	TBA
	Maydena	Regional	ABC ³ , SBS ³	TBA
	St Helens	Regional	SBS ³	TBA
South Australia	Burra	Regional	SBS ³	8 Dec 2010
	Naracoorte	Regional	WIN ¹	11 May 2010
	Quorn	Regional	SBS ³	7 Dec 2010
	Coober Pedy	Remote	SBS ³	TBA
Western Australia	Augusta	Remote	Prime ²	TBA
	Bridgetown	Remote	SBS ³	TBA
	Bruce Rock	Remote	ABC ³ , SBS ³ , Prime ²	TBA
	Carnamah	Remote	SBS ³	TBA
	Dampier	Remote	SBS ³	TBA
	Fitzroy Crossing	Remote	SBS ³ , Prime ²	TBA
	Halls Creek	Remote	SBS ³	TBA
	Kalbarri	Remote	Prime ²	TBA
	Kambalda	Remote	SBS ³	TBA
	Kojonup	Remote	SBS ³	TBA
	Kununurra East	Remote	SBS ³ , Prime ²	TBA
	Mandurah	Remote	ABC ³	TBA
	MEEKATHARRA	Remote	SBS ³	TBA
	Merredin	Remote	SBS ³	TBA
	Moora Town	Remote	SBS ³	TBA
	Morawa	Remote	WIN ² SBS ⁴	TBA 3 June 2010
	Mount Magnet	Remote	SBS ³ , Prime ²	TBA
	Mullewa	Remote	SBS ³	TBA
	Norseman	Remote	SBS ³	TBA
	Pannawonica	Remote	SBS ³	TBA
	Paraburdoo	Remote	SBS ³	TBA
Pemberton	Remote	SBS ³	TBA	
Roebourne	Remote	SBS ³	TBA	
Southern Cross Town	Remote	SBS ³	TBA	
Wyndham	Remote	SBS ³	TBA	
Victoria	Casterton	Regional	WIN ¹	17 March 2011
	Cobden	Regional	Prime ¹ , WIN ¹ , SCM ¹	10 Dec 2010
	Colac	Regional	Prime ¹ , WIN ¹ , SCM ¹	10 Dec 2010
	Tawonga South	Regional	SBS ³	13 May 2011

Gap fillers

In addition to upgrades to existing sites, broadcasters have proposed establishing gap filler sites at locations where no services are currently available. Gap fillers are new, digital-only terrestrial transmission sites that are typically owned and operated by the broadcasters. They provide services to areas that have not previously been served by digital terrestrial transmitters.

Most gap fillers will be implemented by the broadcasters, with the support of local councils, and licensed to a broadcaster company rather than individual broadcasters. Ongoing operation and maintenance may be provided by the broadcasters or local council. In some cases, local councils or communities may initiate the implementation of gap filler service without the assistance of the broadcasters.

If viewers cannot receive adequate television reception from the new gap filler in their region (or any other nearby broadcaster provided digital services) they may be eligible to receive the VAST service.

Communities that may be covered by new gap fillers

The following table represents the department's current understanding of proposed gap filler sites. The table also includes sites where broadcasters or community organisations are selectively adding digital transmitters to complement existing digital transmitters. There are a total of 73 gap filler sites currently proposed (15 in metropolitan areas and 58 in regional licence areas).

Coverage information for these new sites can be found in the mySwitch application which is accessible from the digital ready website at www.digitalready.gov.au.

Table D: Communities that may be covered by new gap fillers

State	Area Served	Market	Commencement date
Queensland	Brisbane South East (Wolffdene)	Metro	TBA
	Brisbane North West (D'Aguilar highway)	Metro	TBA
	Brisbane South West Mt French)	Metro	TBA
	Donovans Knob IBL	Regional	TBA
	Mapleton	Regional	TBA
	Moura	Regional	23 June 2011
	Munduberra	Regional	6 June 2011
	Nanango	Regional	29 April 2011
	Peregian Beach	Regional	TBA
	Point Arkwright	Regional	TBA
	Rainbow Beach	Regional	17 June 2011
	Sarina Beaches	Regional	3 June 2011
	Tin Can Bay	Regional	25 May 2011
	Toowoomba East	Regional	6 June 2011
	Toowoomba South	Regional	30 June 2011
	Wonga Beach	Regional	30 July 2011
Yarraman	Regional	31 May 2011	

State	Area Served	Market	Commencement date
New South Wales	Sydney North West (Kurrajong Heights)	Metro	TBA
	Sydney South West (Razorback)	Metro	TBA
	Picton (Vault Hill)	Metro	TBA
	Bellbrook	Regional	TBA
	Bendemeer	Regional	TBA
	Bingara/Bundarra	Regional	TBA
	Boambee Peak	Regional	TBA
	Boorowa	Regional	TBA
	Broken Back	Regional	TBA
	Bungendore	Regional	TBA
	Grenfell	Regional	TBA
	Gulgong	Regional	TBA
	Harden	Regional	TBA
	Marulan	Regional	TBA
	Mawsons Lookout	Regional	TBA
	Merimbula	Regional	TBA
	Mooball/Burringbar	Regional	TBA
	Narromine	Regional	TBA
	Port Macquarie	Regional	TBA
	South Durras	Regional	TBA
	Stokers Siding	Regional	TBA
	The Rock	Regional	TBA
	Trangie	Regional	TBA
	Tura Beach	Regional	TBA
	Warren	Regional	TBA
	Wauchope	Regional	TBA
West Wyalong	Regional	TBA	
Woolgoolga	Regional	TBA	
Victoria	Melbourne City/CBD (Rialto Building)	Metro	TBA
	Melbourne North West (Gisborne)	Metro	TBA
	Barwon Heads	Metro	TBA
	Ocean Grove	Metro	TBA
	Ballarat East	Regional	16 Dec 2010
	Birchip	Regional	20 Dec 2010
	Broadford	Regional	22 Jun 2009
	Charlton	Regional	12 Nov 2010
	Cohuna	Regional	5 May 2011
	Inverloch	Regional	20 Dec 2010
	Koondrook/Barham	Regional	4 Nov 2010
	Learmonth (Vic)	Regional	30 April 2010
	Mt Cowley IBL	Regional	15 April 2011
	Newborough	Regional	17 Dec 2010
	Tanybryn IBL	Regional	20 Apr 2011
	Terang	Regional	15 Feb 2011
	Timboon	Regional	9 Dec 2010
	Trafalgar/Yarragon	Regional	16 Dec 2010
	Warracknabeal	Regional	19 Dec 2010
	Waubra	Regional	1 Oct 2009
Wycheproof	Regional	19 Dec 2010	

State	Area Served	Market	Commencement date
	Strathalbyn	Metro	TBA
	Morgan	Regional	22 Nov 2010
Western Australia	Perth City/CBD (Central Park)	Metro	TBA
	Perth Coastal (City Beach)	Metro	TBA
	Mandurah (Turner Hill)	Metro	TBA
Tasmania	Currie	Regional	TBA

Note – the references to IBL in Table C refer to ‘in-band link sites’. These are transmitters that are primarily designed to feed a signal to another transmission site, although they may also provide digital television services to a small number of viewers.