



Australian Government

Department of Broadband,
Communications and the Digital Economy

Digital Switchover Taskforce



General information on digital TV

What is digital free-to-air television?

Digital free-to-air TV consists of the same TV channels you currently receive through analog television, as well as some additional channels (such as ABC2 or SBS World News). Free-to-air broadcasters (Seven, Nine, Ten, the ABC and SBS) are expected to be progressively adding new digital channels and content over the next few years.

What is digital switchover?

Digital switchover is the process of progressively turning off analog TV broadcasts across Australia and replacing them with digital. Free-to-air television signals are currently broadcast in both analog and digital formats. During the digital switchover all free-to-air analog television signals across Australia will be progressively turned off and the broadcasters will provide only digital television signals.

When did digital TV broadcasts commence?

Digital TV commenced in 2001 in metropolitan areas and digital signals have been broadcast in many regional areas since then. Digital broadcasts are currently transmitted alongside analog broadcasts, but when the analog signals are switched off, only TVs which are capable of receiving digital signals – through a set-top box or built-in tuner - will work.

How do I know if I'm watching digital?

If your TV isn't capable of receiving digital signals, it's likely that you're still viewing TV that is transmitted via analog broadcasts. An easy way to tell is whether you receive ABC2 or SBS World News – these are standard definition digital channels and if you can view them (and you don't have subscription TV), it means your TV is capable of receiving digital broadcasts.

What is Freeview?

Freeview is a company formed by the free-to-air television broadcasters to promote and drive the take-up of digital free-to-air television in Australia. This includes the gradual introduction of new standard and high Definition channels which will come on air over the next few years. Freeview also intends to supply its own digital receiver and personal video recorder (PVR), which will include features such as an integrated Electronic Program Guide and recording functionality. However you will not need to have a Freeview receiver in order to view the additional free-to-air channels. Freeview is not a government organisation. For more information on Freeview visit www.freeview.com.au.

What benefits will I get from digital television?

Digital television provides vastly improved picture and sound quality, including widescreen pictures and digital audio, including radio broadcasts. Digital television also offers the benefits of more channels and content. For example, the ABC has already introduced ABC2 which is only broadcast in digital. SBS has the SBS World News in digital. The Seven, Nine and Ten networks have introduced High Definition digital



Australian Government

Department of Broadband,
Communications and the Digital Economy

Digital Switchover Taskforce



channels. Network Ten has also announced a digital-only sports channel, expected to be named One, to begin in 2009. Gradually, each of the free-to-air television broadcasters will be introducing new digital channels and content.

Why is the government turning off analog signals?

Currently, analog and digital broadcasts are transmitted side by side. This process is costly and inefficient and uses most of what is known as the 'broadcast spectrum' – or the space that's available for terrestrial television broadcasts. Turning off analog signals will free up a considerable amount of the spectrum so that it can be used for additional products.

Digital technology is being adopted all over the world, and it's important that Australia keeps pace with global technological advances. Because digital technology is replacing analog, the equipment being produced globally (such as television production equipment, digital recording and playback equipment, and televisions) is now only compatible with digital formats. Before long, analog TV equipment will no longer be available in Australia.

I have subscription TV or I am planning to subscribe – what do I need to do?

If your subscription TV package provides access to some or all of the free-to-air channels, you'll still be able to watch these through your subscription TV box provided the broadcasters continue to allow their signals to be carried by the subscription TV provider. However, you may not be able to access all the free-to-air channels through subscription TV, so if you want to see the standard definition or high definition channels available in your area, you may need to connect a set-top box (if your TV is analog) or get a TV with a built-in digital tuner. If you are already subscribing or planning to subscribe to a subscription TV service, you should check with your provider and enquire about their options.

Can I get digital free to air channels through Subscription TV?

Some subscription TV companies provide their customers with access to digital free-to-air channels as part of their package of channels. In this case, subscription TV provides an alternative option to convert to digital television. If you are already a subscription TV customer you may not need to do anything further to convert to digital TV if you are currently able to view free-to-air channels through your subscription TV box. If you are considering subscription TV as a means of viewing free-to-air television, you may wish to check with the provider in your area as to which of the digital free-to-air channels are offered. You should also consider what will happen to your free-to-air channels if you end your subscription TV contract after analog broadcasts are switched off in your area. At this stage, one of the subscription TV providers, AUSTAR, offers, to those customers who subscribe to their MyStar service, the option of retaining their access to free-to-air services if they end their contract by supplying them with a digital receiver. If you have a MyStar digital box you should check with AUSTAR about the details of this offer. Monthly fees apply to subscription TV services. Other than the AUSTAR service mentioned above you would generally lose access to free-to-air television if you were to end your subscription TV contract after switchover unless your television has a digital tuner built in or has been adapted by the addition of a digital set-top box.



Does it cost more to run a digital TV or set-top box?

A set-top box consumes a small amount of additional electricity. A new television may consume more electricity than your old one, depending on what type you choose. From April 2009, Energy Efficiency labels will be mandatory on all new televisions to help you choose the most efficient model. Like all electrical equipment, televisions and set-top boxes continue to use power while in stand-by mode, so it's best to turn them off completely when you're not using them.

What are standard definition (SD) pictures?

Standard definition broadcast quality is superior to that obtained from analog television broadcasts, traditionally viewed on 4:3 television sets, and is ghost-free and in widescreen format. The SD picture resolution is 576 lines x 720 active pixels @ 50Hz interlaced (576i).

The Government requires broadcasters to provide a digital SD signal at all times, even when high definition programs are broadcast. This is to ensure that viewers with SD receivers will always receive a digital television service, even when the higher quality high definition television signal is transmitted.

What are high definition (HD) pictures?

High definition broadcasts have image resolution that is superior to SD and the existing analog television broadcast.

Australian broadcasters are currently using four different levels of HD:

- 1920 active pixels x 1080 lines @ 50Hz interlaced
- 1440 active pixels x 1080 lines @ 50Hz interlaced
- 1280 active pixels x 720 lines @ 50Hz progressive
- 720 active pixels x 576 lines @ 50Hz progressive

The benefits of HD pictures at the highest resolution are particularly noticeable on larger screen sets and when using projection equipment. HD pictures are also ghost-free and in widescreen format. When viewed on a HD capable television screen the viewer can enjoy cinema-quality viewing with Dolby Digital sound (where available with some HD programming).

More information is available from www.digitalready.gov.au.

What is an integrated digital television (iDTV)?

This is a television with a built-in digital tuner for receiving and displaying digital television transmissions. A set with iDTV generally incorporates a high quality widescreen display and a high-level audio capability with appropriate audio/video connectors. It does not require a digital television set top box, although connection of an additional set top box could provide recording or other functionality.



Australian Government

Department of Broadband,
Communications and the Digital Economy

Digital Switchover Taskforce



I have rabbit-ears/mobile antenna, will it still work?

Generally, it is unlikely that reliable, ongoing digital reception will be received via an indoor antenna. Even the movement of people can cause problems, but the biggest issue is likely to be the availability of all digital channels with the same orientation of the indoor antenna. However, there may be occasions (i.e. in areas of high signal strength) where indoor antennas may be sufficient.

Who is managing the Digital Switchover?

The Government has established the Digital Switchover Taskforce to manage the digital switchover process. The Taskforce is part of the Department of Broadband, Communications and the Digital Economy and is located in Sydney.

For more information visit www.dbcde.gov.au.

Can I continue to watch the Community TV?

The Community TV channels (available in Adelaide, Brisbane, Melbourne and Sydney) are currently being transmitted in analog only. If you buy a digital set-top box for your analog TV you will still be able to receive the Community TV channels if you have your TV set up to receive both analog and digital signals. If you do not know how to do this your local TV supplier should be able to supply you with the correct cabling. Many new sets on the market now have dual analog and digital tuners and are capable of receiving the Community TV channels. If you're buying a new digital TV and want to continue to watch the Community TV channels, you should ask your retailer to advise you which digital TV sets also have analog tuners.

The Government is working with Community TV to ensure Community TV channels are available to viewers in digital.

Can I still see Imparja with digital TV?

If you currently watch Imparja through an antenna, as opposed to a satellite dish, then depending on when Imparja's digital television network is rolled out you will be able to watch the digital services of Imparja and other remote area broadcasters.

If you receive Imparja via a satellite, then these services will continue to be provided in the same way.

I've tried but can't get a digital signal - does this mean I'm in a black spot?

If you have tried to switch to digital by installing digital equipment and you can't get it to work, you should first ensure that your cables are in good condition and connected properly.

If you still can't receive a picture, contact an experienced antenna installer to see whether digital signals are available where you live. Digital services may not be available; however, the Government is working on a number of solutions to deliver digital television signals to all households in the country by the time analog signals are switched off.



Australian Government

Department of Broadband,
Communications and the Digital Economy

Digital Switchover Taskforce



Will the weather affect digital TV?

If you are living in an area that experiences certain weather patterns, such as heavy rain or frequent storms, there can be an impact on digital television. This is much the same as the impact weather can have on analog television, however the on-screen results can be quite different. This kind of weather can produce snow or ghosting with analog signals. But with digital, the result can be freezing of the picture, pixilation, or a temporary loss of signal.

What do I do if I get 'freezing' and have pixilation problems?

This depends on how often this is occurring. If it is regular, you should contact a qualified antenna installer to see if the situation can be improved.

What's the difference between high definition and standard definition TV?

Both standard and high definition television are digital formats. Standard definition (SD) television provides digital images and sound that is considerably better than analog. High definition (HD) television is an enhancement that provides higher resolution images and Dolby Digital surround sound. If you connect a set-top-box to an analog television, or have a television with a standard definition digital tuner, you will receive all the standard definition free-to-air digital channels. To see all the benefits of high definition television, including the free-to-air HD channels, you need a television capable of displaying high definition images that either has a built-in HD tuner or is connected to a high definition set-top box.

More information is available from www.digitalready.gov.au.

Is digital TV available in my area?

Your local broadcaster can confirm whether a digital TV service has commenced in your area. Contact details for broadcasters can be obtained from Free TV.

Additionally you can check the broadcasters' websites for digital rollout information. The ABC and SBS provide detailed information on established digital services and information on the expected coverage of most of their digital services.

Local digital reception quality can be affected by trees, geography, buildings and other obstructions near your residence.



The switch to DTV

What do I need to do to prepare for the switchover?

After the switchover free-to-air television will only be available in digital so you'll need to have a television that is capable of receiving digital signals. You can either convert your existing analog TV using a digital set-top box, upgrade to a television with a built-in digital tuner, or subscribe to a subscription TV service that offers your digital free-to-air channels. If you don't know whether or not your TV already has a built-in tuner, check to see if you can receive ABC2 or SBS World News. If you can your TV is already digital and you don't need to change or upgrade it. If you are receiving ABC2 and SBS World News through your subscription TV service, you will need to check with your provider about access to other free-to-air digital channels. If you connect a set-top box to your analog TV and don't get a good digital signal, you might need to check your antenna. Most people who are getting a good analog TV signal should receive a good digital signal.

Will I have to replace my TV when the switchover happens?

Most analog TVs will be able to receive digital TV by connecting a digital set-top box. So unless your analog TV is very old (and not able to be connected to a set-top box) you won't have to replace it unless you want to. However, different TVs use different connections, so it's important to check the connection points on your TV before you purchase a set-top-box. Your local TV supplier should be able to supply you with the correct cabling.

Which other countries have already switched over?

Some European countries have already completed the switchover to digital television, including the Netherlands and Sweden, while others such as Germany are close to completion or in the process of switching over. All European Union countries plan to be digital-only by the end of 2012. Like Australia, many of these countries are currently broadcasting digital television alongside analog television (simulcasting) while they phase-out analog. The United Kingdom has already commenced switchover, with the first region going fully digital in October 2007, and the United States will conduct a nationwide switchover on 17 February 2009.

How much will the digital switchover cost me?

Standard definition set-top boxes typically cost between \$30 and \$80. High definition set-top boxes are available from approximately \$100. Replacing your television set with a set that contains a built-in digital tuner will cost more, depending on the brand, size and features that you choose. If you've already got digital TV, you won't need to do anything more.

What happens if I don't do anything?

If you choose not to do anything you will lose access to free-to-air TV when the switchover is complete in your area. That's why it's important that you plan ahead and, if necessary, budget for the change to digital.



Helping you plan for the switch

When is the switchover happening?

The switchover will begin in 2010 and continue until the end of 2013. It will be rolled-out progressively around the country, region by region.

When is the switchover happening in my area?

To find out when switchover is happening in your area visit www.digitalready.gov.au .

Converting to digital

When should I start thinking about converting?

You should think about converting now. The sooner you convert the sooner you will be able to enjoy the benefits of digital television. If you have more than one television in your home, you might want to plan to convert each set over a course of time. But once all the TVs, VCRs and DVD recorders in your house on which you want to watch or record digital TV are converted, you don't need to do anything more, and you probably won't notice when the switchover occurs in your area.

What equipment will I need?

You will need either a digital set-top box to connect to your existing analog television to receive digital signals, a television with an integrated digital tuner, or a subscription TV service that offers digital free-to-air channels.

What should I do before I buy new equipment or a new TV?

There are a number of options available to you when deciding what equipment to install ahead of switchover and your choice of equipment will depend on your personal preferences. Before you make a purchase you should:

- Check that digital TV broadcasts are available in your area
- Decide how many of your household TVs, VCRs, and/or DVD recorders you wish to convert (you may decide to keep a VCR or DVD for playback only)
- Set a budget to ensure your purchase is affordable
- Decide whether you would prefer a set-top box or a TV with built-in digital tuner
- Check that your antenna and cabling are in good condition. If not, you may need the help of a qualified antenna installer
- Speak to family and friends about their experience with digital TV equipment and what works best for them
- Shop around to see what's available (various set-top boxes and/or digital-ready TVs) and decide what best suits your needs and budget



Can I keep my analog TV?

Yes, unless it is so old that it can't be connected to a set-top box. Once you connect a set-top box to your analog TV you'll have improved picture and sound quality as well as the extra digital channels. There are many models of set-top box, from the basic to the highly sophisticated, so you can choose the option that is best for you. It must be remembered that a set-top box will not give you all the possible benefits of digital TV, such as widescreen pictures or high definition picture quality.

Can I convert my TV myself or will I need someone to help me?

If you are able to connect a DVD player or VCR to your television, you should have no trouble connecting a digital set-top box. The vast majority of people will be able to easily convert their TVs. However, if you're worried about conversion, ask your family, friends or neighbours first. The many TV retailers should also be able to help you. If you choose subscription TV, your service provider should provide full service installation and support.

Set-top boxes

What is a set-top box?

A set-top box enables you to watch digital TV broadcasts on an analog TV. If you want to keep your existing analog TV, you'll need a set-top box to be able to see digital free-to-air TV after the switchover. Set-top boxes range from basic Standard Definition (SD) models to High Definition (HD) models and may include electronic program guides and interactive features such as pausing and replaying live TV. It's best to shop around before you decide which set-top box suits your needs.

Is there a difference between set-top boxes?

The main difference between set-top boxes is in their ability to display either standard definition (SD) or high definition (HD) digital television. More sophisticated models have features such as an electronic program guide and let you record programs to an internal hard disk drive or DVD. Whether you choose to have an SD or HD set-top box depends on your television. An SD set-top-box will let you see all the standard definition free-to-air digital channels, while an HD box will also let you see the HD channels provided by the free-to-air networks. If you connect an HD set-top box to a TV that is not capable of showing programs in high definition, you'll still get the additional channels but without the high definition quality.

If I have more than one TV so how many set-top boxes will I need?

You will need to convert every television if you want to continue to watch free-to-air television broadcasts. So a set-top box will be needed for every television you want to convert unless it already has a digital TV tuner built-in.



Australian Government

Department of Broadband,
Communications and the Digital Economy

Digital Switchover Taskforce



Which option is better – set-top box or built-in tuner?

This depends on your circumstances. A set-top-box is usually the cheapest option to convert an existing television. Many new television sets contain a built-in digital tuner and don't need anything other than an antenna. If you are already subscribing or planning to subscribe to a subscription TV service, you may wish to check with your provider and enquire about their options.

How much will a set-top box cost?

There are many different types of set-top boxes. Basic standard definition models can be purchased from around \$40, while high definition models range from \$100 up. Very sophisticated models (which may include recording capability) can cost up to \$800. The type of set-top box you purchase will depend on your individual needs. If you decide to watch free-to-air channels through a subscription television digital box, check with the provider in your area about monthly subscription costs.

DVD and VCRs

Will my VCR still work?

You can still use your VCR to play videos or recordings you've already made. If you want to use the VCR to continue recording television, you will need to buy a set-top box to attach to the VCR as well as one for your television.

Will my DVD recorder still work?

You can still use your DVD recorder to play discs or recordings you've already made. If your DVD recorder has an integrated digital tuner you will still be able to record digital television. If not, you'll need to connect a set-top box to the DVD recorder. If you're not sure what type of tuner you have in your DVD recorder you should check the manual.

Digital TV features

What TV channels will I get on digital TV?

There are currently five additional multi-channel services provided by the ABC, SBS, Seven Network, Nine Network and Ten Network:

In addition to these, new Standard and High Definition channels will be introduced by each of the free-to-air broadcasters. For more information visit the website of broadcasters in your area/region.

What does an electronic program guide (EPG) do?

An EPG is the electronic version of a printed program guide. Using your remote control you will be able to see on-screen what's on now and what's on next for all free-to-air services. You may also be able to search for a particular program by theme or category e.g. sporting programs or movies. Extra text and picture information (such as story line,



Australian Government

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

Digital Switchover Taskforce



episode description, etc.) can be called up as well. The EPG is available at the click of a remote control button.

What is closed captioning?

Closed captioning provides deaf and hearing-impaired viewers with a text version of the dialogue, songs and sound effects included in television programs. The text is usually shown in a black box at the bottom of the picture. Current analog captioning is received on analog receivers with teletext capability. Captioning is normally closed to viewers but can be accessed by those who need it. Closed captioning does not interfere with normal viewing. Some digital television set top boxes and integrated digital televisions include closed captioning decoding capability.

Consumers intending to purchase a digital television set top box or an integrated digital television and use closed captioning should, before purchase, check on the set top box or integrated digital televisions capabilities.

Closed captioning of programming is incorporated in all English language news and current affairs programs as well as for all prime time programs (6.00pm to 10.30pm).

What does multichannelling provide?

Because a digital television broadcast signal can carry much more data than analog, it is possible for broadcasters to provide more than one channel of SD programming at the same time. This is known as multichannelling. Turning off analog signals will provide viewers with extra channels, while also freeing up the broadcast spectrum for other purposes such as wireless broadband or mobile phone services.

