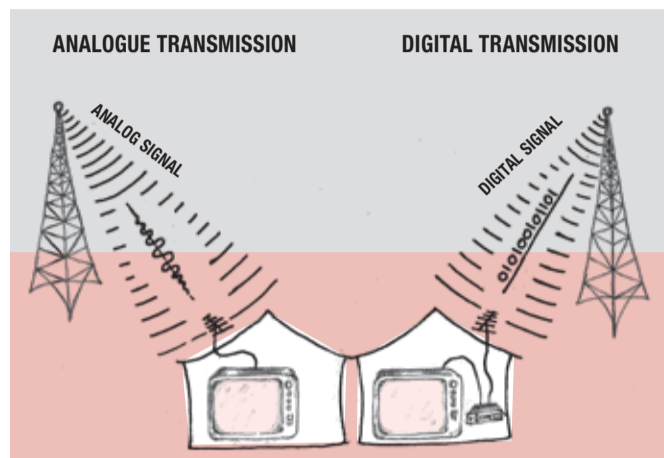


South Africa is Going Digital – What does this mean?

South Africa is changing the way it transmits terrestrial television – by moving from analogue to **digital terrestrial television (DTT)**.

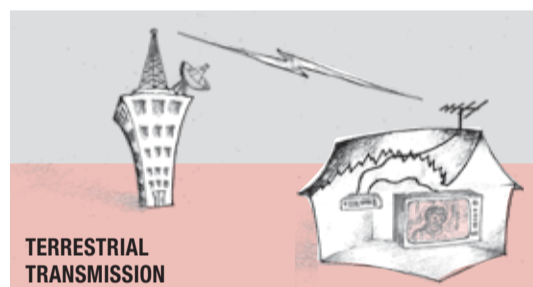
This process is called **digital migration**. SABC, e.tv, M-Net and community television stations will move from transmitting signals in analogue format to digital format.

DTT is about the way television is transmitted and not the formats High Definition (HD) or Standard Definition (SD) television is produced in.

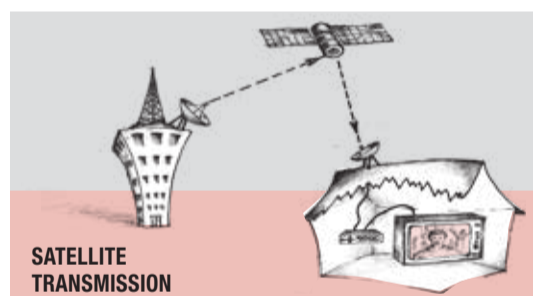


Various ways in which television is transmitted

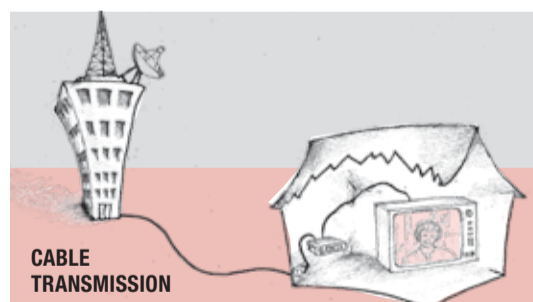
Terrestrial transmission – transmitted by a network of transmission towers (located at ground level) to relay the signal across the country. Each tower has a specific area of coverage and you will receive your signal from the tower closest to you.



Satellite transmission – transmitted by satellites that orbit the earth and can be accessed from anywhere as long as you have a satellite dish and receiver.



Cable transmission – transmitted through cables dug into the ground. There is no Cable TV in South Africa. It is mainly an European and American phenomena.



Cable and satellite television have traditionally been transmitted in digital format and terrestrial TV has been transmitted in analogue format.

Now you also can watch television streamed via the Internet (**Internet Protocol TV or IPTV**) and on your cellphone – like Netflix.

South Africa's broadcasters

Free to air (FTA) TV

- SABC, the public broadcaster, is free-to-air (you only pay your annual tv licence fee) and currently broadcasts in analogue terrestrial format.
- e.tv is a commercial station, but is also free and currently broadcasts in analogue terrestrial format.

You only have to pay your annual TV licence – there are no subscription fees.

Commercial broadcasters

- M-Net is a pay channel that transmits in analogue terrestrial format.
- DStv is a pay-TV broadcaster that transmits in digital satellite format.
- StarSat (previously Top TV) is a pay-TV broadcaster that transmits in digital satellite format.

Free Satellite

- Frevision is a free Standard Definition (SD) satellite service offered by Sentech
 - OpenView HD (OVHD) is a free High Definition (HD) satellite service offered by e.tv
- You pay once-off costs for a decoder, dish and installation but no subscription fees.

What does digital migration mean for me?

You will get:

- Free access to more channels – SABC will now have up to 18 channels. New free-to-air broadcasters will be licensed, adding to viewer choice.
- More choice and diversity as a result of more channels
- Better picture and sound quality (not necessarily HD)
- An electronic TV guide (also known as an electronic programming guide or EPG) that enables you to plan what to watch at a touch of a button
- Multi-language tracks, descriptive video for visually impaired and blind people, and closed captioning facilities for deaf and hard of hearing people.
- To listen to radio via your television set

It also means that you will have to:

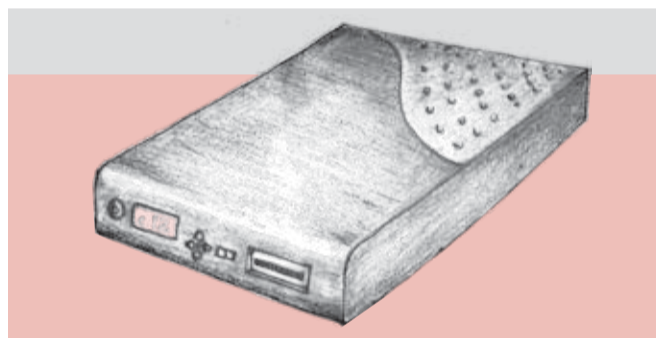
- Buy a STB and an aerial (once-off cost). The final costs of STBs are not yet available. So far, the cost for the STB and aerial are estimated between R750 and R1200.
- Pay your annual television licence fee

Set top boxes (STBs) or decoders

In order to watch digital television you will need a set-top box (STB).

A set top box is a decoder that converts digital television signals back to analogue signals so that old television sets can still receive the signals – it is the 'key' that unlocks the digital signal. Most people will need to change their aerials because not all aerials (like the 'bunny ears' aerial) can receive the digital signal.

This is an example of what the South African STB is likely to look like.



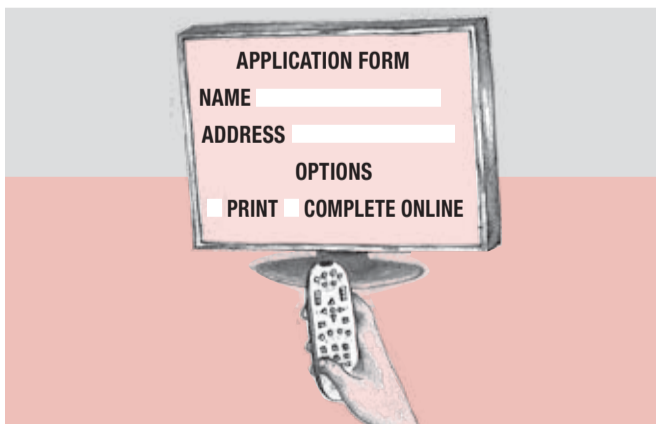
If you have more than 1 television in your house, you will need a separate 'standard issue' STB for each television.

Characteristics of set top boxes

The characteristics of the STB are important because it determines what features the STB will have and also impacts on the cost of producing a STB.

STBs should enable return path capability which enables basic Internet access and will allow the viewer to communicate back – for example, you can fill in a government form without having to leave your home.

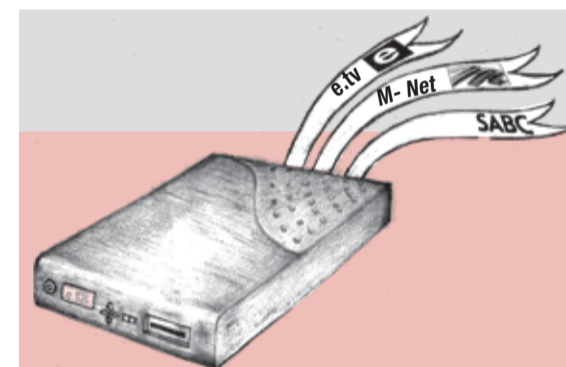
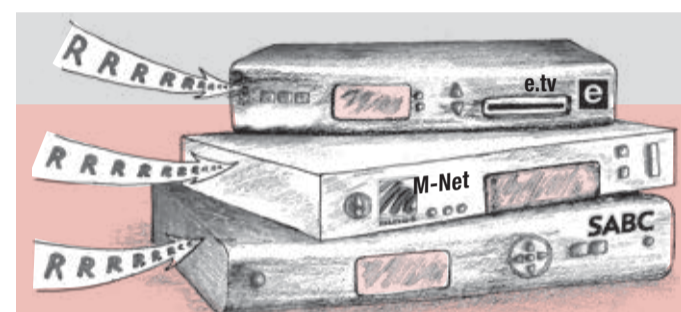
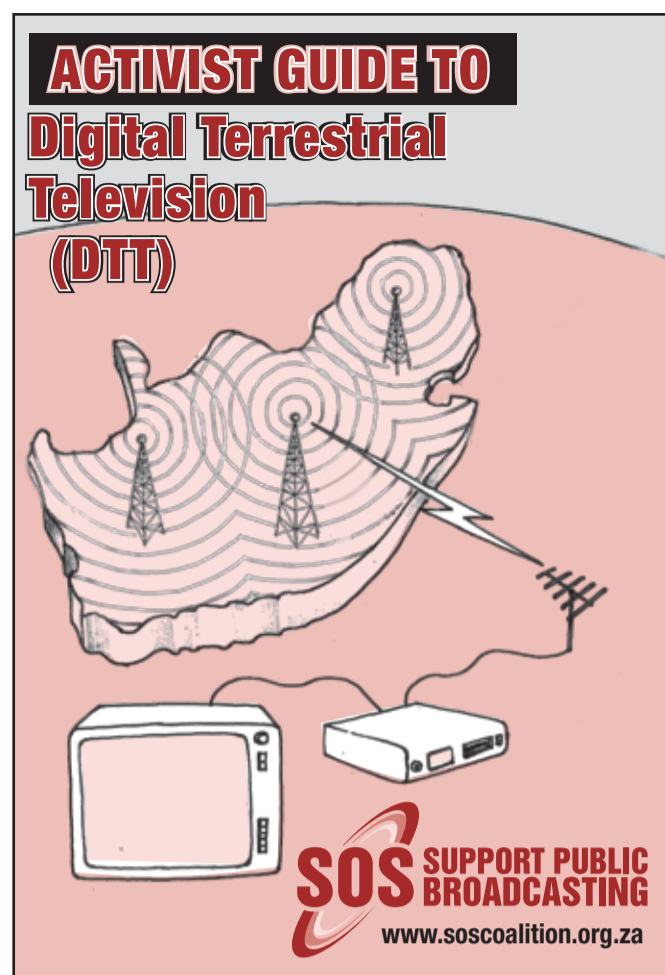
- This will ensure the roll out of the internet to households throughout SA.
- It will add to the cost of the STB and TVs are not ideal for internet access



Conditional access (CA) or set top box control is a system that is put into a STB to control access to content. M-Net and DStv currently use such a system to make sure that only those who pay can watch.

Conditional access in STBs enables:

- The creation of 'smart box' so that citizens can access a number of benefits from their televisions like an electronic TV guide;
- The delivery of e-government services in a variety of languages;
- Prevent theft – the STB would only be able to work in South Africa and for its registered user;
- Limit piracy of programming – this is a big problem, especially for High Definition (HD) content.
- Adds to the costs of the STB
- Will enable broadcasters to switch viewers off
- Security and surveillance



STBs should be interoperable. This means that all broadcasters can provide their services (possibly through a system of access cards) through a single STB so that viewers do not have to buy different STBs to access different services.

Will I have to buy a new television set?

There is no need to buy a new TV set because the set top box will decode the digital signal to make sure it is compatible with your existing set.

Technology for television sets is also changing. We now have:

- LCD or Liquid-crystal-display television set use LCD technology to produce images
- LED televisions are television sets that have light-emitting-diodes backlighting to create sharper contrasts in images is power-efficient.
- Plasma television sets use glass panels have plasma screens to enhance contrast and colour accuracy. Now you can get curved plasma screens too.
- Smart television sets is any television set that has Internet access built into it. If you have a smart television set you will probably still need a 'standard issue' STB.
- Integrated Digital Television (IDTV) sets come with a built in decoder. Many of these can interpret the new signal. These are already available, but it is not yet clear whether they will be able to interpret the new digital signal. You will probably need to get a STB.

Where do I buy a STB?

STBs will be available at most retailers and also at the South African Post Office.

What if I can't afford to pay for a STB?

Government has made a commitment that people on social grants will not have to pay the full cost of a STB. The details of this are still under discussion.

There are no details yet on the subsidy application process but people will have to 'prove' they are poor and it is likely that you will need to submit your ID, bank account details, details of employer or financials, etc.

What happens if I don't want a STB?

If you do not have a 'standard issue' STB you will no longer be able to watch television produced by terrestrial broadcasters once the dual illumination period is over.

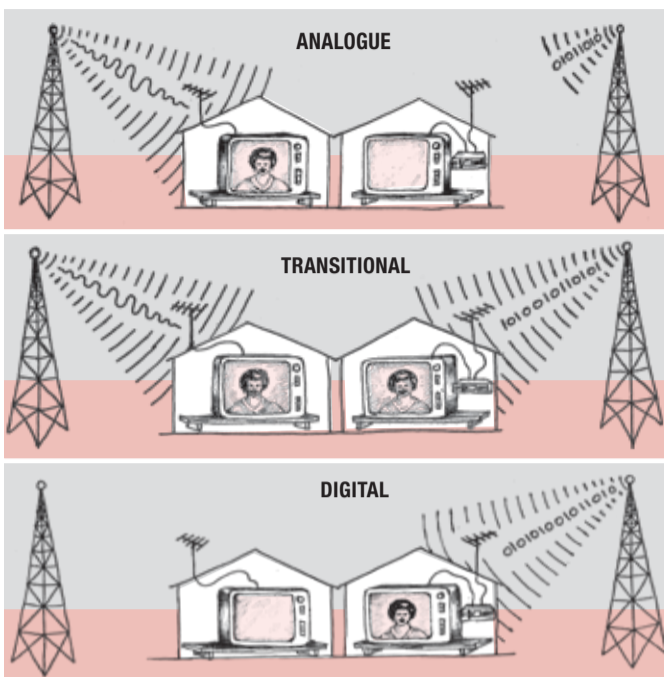
How is the STB installed?

Again, the details of this have not been finalised.

Government and FTA broadcasters have said that call centers will need to be set up to assist.

The migration process

Digital switch-on: Is the date from which the digital signal is switched on. This has been shifted at least four times and it is unclear when it will actually happen, only that it is imminent.



Dual illumination period is the period when broadcasters must transmit their signals in BOTH analogue and digital formats.

Analogue signals cannot be switched off until viewers have bought a STB.

This is a tricky period as broadcasters will be using space for both analogue and digital signals.

This period therefore has to be as short as possible.

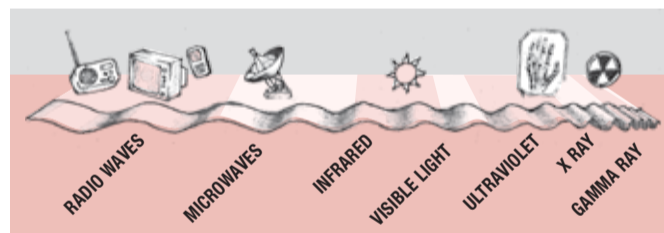
Digital switch-off is the date from which there will no longer be any analogue transmissions. The current date for digital switch-off is July 2015. The government can apply to the International Telecommunications Union (ITU) for an extension.

Why do we need digital migration?

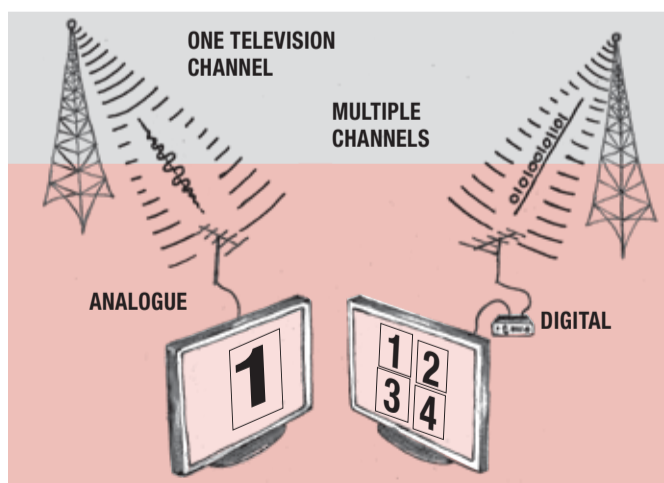
The main reason for digital migration is to make scarce, valuable spectrum available for other services, especially for telecommunications (voice and data).

Spectrum is the limited electromagnetic frequency space on which signals are carried. Currently, broadcasting uses a lot of that spectrum limiting access for other ICT services.

Different parts of the electromagnetic spectrum are used for different purposes depending on their characteristics.



Digital transmission is more efficient than analogue transmission – for every one channel broadcast in analogue, up to 20 channels can be broadcasted digitally.



The extra radio spectrum space that is freed up is called a 'digital dividend'.

In theory, this means that if the spectrum is released, more service providers can access it and the cost of telecoms services will go down. This is good for the ICT and cellphone industry.

What about radio?

There is no technical pressure for FM radio to be switched off because those frequencies are not needed. Sentech and radio broadcasters have already started testing the technology. In the future, we may also need to undertake a radio broadcast digital migration process

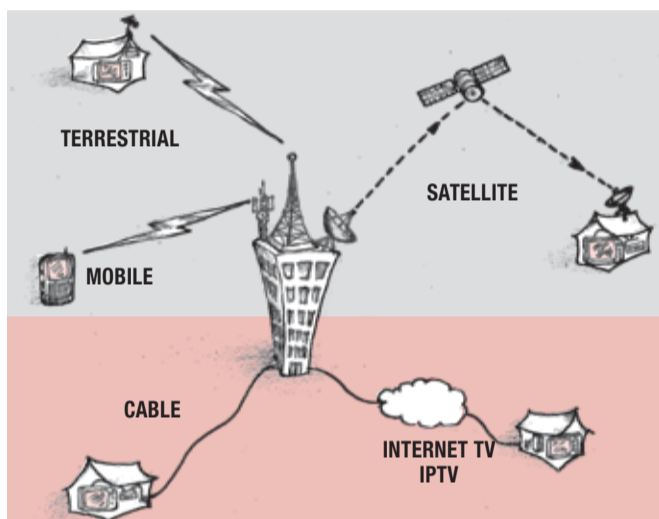
Digital radio promises:

- Better signal and audio quality
- No fading problems in cellphone environments
- Allows for additional datacasting services – you can see images and videos alongside audio for example. You will also be able to interact with the radio station through your listening device. The listening device can be any device with a radio receiver – from a standard digital radio set to your television

What will digital migration cost?

There are huge costs involved in digital migration – for government, broadcasters and for citizens. This is because digital migration is a complex process and involves changes to technical infrastructure (like signal distribution equipment), new incentive channels to attract people to migrate to the new technology, costs of dual illumination, call center costs and popular education.

Citizens will have to bear the costs, Government has promised to subsidise some of the costs.



Citizens will have to bear the costs of buying STBs and aerials.

A whole new set of masts and technical upgrades to existing masts will need to be put in place through the country – Sentech has been given R2.4bn for the **DTT network rollout**.

Government has promised to subsidise the costs of 5 million STBs – R940m will come from the Universal Service and Access Fund (USAF) for this subsidy.

Government will need a massive **communications** campaign to make people aware of the changes – Government is spending R 143.5m on communication costs.

The Department of Communications (DoC) and the SABC has been given money to establish call centers to provide support to users.

The DoC call centers will provide information about the DTT process and the SABC call center will provide technical support to users.

Broadcasters will pay for:

- Costs to launch new digital incentive channels.
- Dual transmission costs
- Digitization of studios, equipment, etc. The SABC was allocated R202.9m for these costs.

Want to know more?

For copies of our guides or posters, please email info@soscoalition.org.za or admin@r2k.org.za

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Key issues

- Some households may be totally cut off from television when the analogue signal is switched off – if you have not bought a STB.
- If the digital signal is lost, you will not be able to see anything. In analogue, you can still see a blurry image
- In terms of the subsidised STBs, we do not know if government will be paying a portion for the manufacturing cost or the retail cost. Free-to-air TV should be free so why should viewers have to pay to access a free service?
- To date it is not possible to assess precisely how much this project is costing South Africa, but it is estimated to run into the billions of Rands. It could be the most expensive national project SA has ever undertaken, yet we don't know what its costing us. The DoC should provide a detailed cost breakdown as this is public money.
- Where we can save costs, we should. This means that it might be cheaper to import STBs rather than produce them locally.
- The focus of government policy should be to ensure access to free and affordable programming and information, and not job creation through the manufacture of STBs.
- How do we ensure useful and relevant channels? Quality programming, premium content and locally produced programming is very expensive.
- The new channels will be filled with repeats, cheap foreign produced programming. We need to know what plans the DoC and SABC to address this problem?
- Technology is changing rapidly – there is more satellite & internet streaming TV than terrestrial. Also, by the time we migrate, almost everyone who would have been able to afford a STB will be subscribed to satellite anyway. In other words, the only ones who will need the STB, will be the poor.

SOS's principles for STBs

- STBs should be cheap and affordable;
- STBs should be easy to operate;
- STBs should be easily available – viewers should be able to buy boxes easily from a number of retailers including the South African Post Office;
- STBs need to be easy to install – with support systems in place to assist with both installation and with faulty boxes;
- STBs need to be able to endure the rapid change of technology;
- They need to be able to operate well with all TVs and not diminish their capabilities (like the problems between Smart TVs and "dumb" decoders).
- STBs must be interoperable – all broadcasters should be able to provide their services (possibly through a system of access cards) through a single box so that viewers do not have to buy different boxes to access different services.

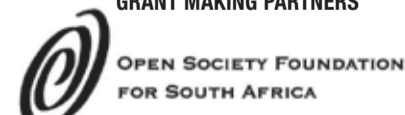
Right2Know's principles on STBs

- STBs must remain useful even when users eventually upgrade to digital TV, digital-to-analogue conversion being only one of their functions.
- STBs must have sufficient connection ports to become part of a low-cost internet access point (e.g. for USB keyboards).
- STBs must use free/open-source software to give users the right to modify it and the assurance that no surveillance is taking place.



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