

How's my signal?

Before you make the move to Freeview, you'll need to know if your local signal's good enough. Here are a few tips on DIY measurements

As I write this, a sequence of events is playing out in scores of homes throughout the land. The new Freeview set-top box is unpacked, the instructions are consulted, the box is connected up, and the words 'Searching for channels – this might take some time' appear on the TV screen. The family gathers in hushed expectation.

What follows will vary. Sometimes when the searching concludes the screen says something like '80 channels found' and the family collectively punches the air and cries 'Yay!'

But, as often as not, the screen might, instead of boasting of '80 channels', mention only 30, or 20, or eight, or even sadly announce: 'No channels found'. Some boxes add the intelligence-insulting query 'Is the aerial connected?'

Use your postcode

So what's to be done? I assume that you *did* connect the aerial, with the masthead amplifier power supply (if there is one) turned on. The first question you have to ask is, can anyone receive Freeview in your neck of the woods? Despite their sometimes ludicrous inaccuracy, the postcode checkers are a reasonable starting point if you've nothing else to go on. Take a look at <http://www.dtg.org.uk/retailer/coverage.html>, and <http://www.freeview.co.uk/>

If your postcode and all the surrounding ones have the verdict 'Not a chance, mate' (although they put it much more politely than that, of course), then there's a strong likelihood that you might as well put that new Freeview receiver back in its box and go for Freesat from Sky. But don't give up just yet. The

postcode checkers are designed to be pessimistic, and sometimes this results in a completely wrong answer. Ask a few near-neighbours if they can receive Freeview, and ring a few well-established local aerial contractors for an off-the-cuff answer.

If all the evidence suggests that decent Freeview reception should be possible, we need to ask why you haven't got it.

Message in the snow

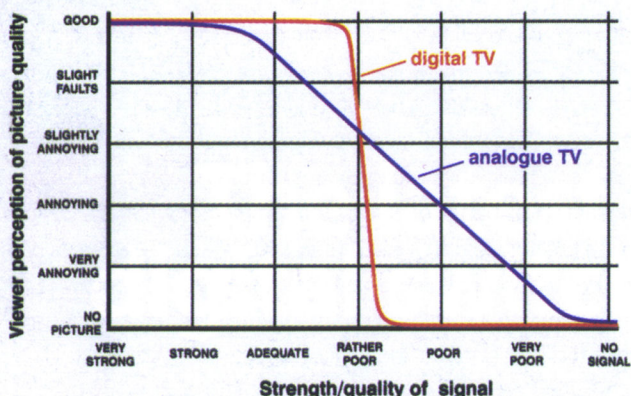
Take a really critical look at your analogue reception. Is it snowy or grainy? If you aren't sure, play a good pre-recorded video tape. If the picture is better in any way than your off-air reception then it's odds-on that your aerial is deficient. Roughly speaking, a slightly snowy analogue picture equates to unreliable Freeview reception, a noticeably snowy analogue picture equates to very unreliable Freeview reception, and a really snowy analogue picture – well, you've guessed it – means no Freeview whatsoever.

You might well ask why, if you can get any sort of analogue reception at all, you can't get any Freeview whatsoever. It's partly because of the different natures of analogue and digital reception. If you imagine that you're on a ship sailing out to sea away from the TV transmitter and watching an analogue channel, the picture will slowly deteriorate as the signal strength gradually fades. The picture will get more and more snowy, but you'll still be able to discern what your favourite soap stars are doing, right up to the point where the picture turns black-and-white and finally breaks up completely. This is called 'the graceful degradation of analogue.'

Let's set off again from the harbour, this time watching a Freeview picture. The picture, curiously, stays absolutely perfect for quite a while, much longer than it did with analogue reception. Just when you're convinced that Freeview is far better than analogue the picture suddenly starts to pixellate, and within a minute or so has disappeared completely. This will occur at about the same place on the ocean as you were previously when you started to notice how very snowy the analogue picture had become.

For the rest of the outward trip you stare gloomily at the 'no signal' message (personally, I'd go up on deck at that point).

So by changing from analogue to digital you have traded a gradual deterioration for a sudden one. The sudden deterioration



Digital TV reception experiences a 'cliff' effect instead of analogue TV's gradual decline as the signal quality falls

is called the 'digital cliff' and, to mix metaphors horribly, your ship has just fallen over it!

The shots of TV screens show how analogue degrades gradually whereas digital stays perfect almost to the moment when it fails completely.

Is it the aerial?

So if you have analogue reception that's even slightly degraded you will almost certainly have unreliable or non-existent Freeview reception. You've lived with a snowy analogue picture, but you can't live with Freeview that breaks up just at the exciting part of the programme. The most obvious cause is a deficient aerial. Any of the good old-fashioned aerial faults – a faulty cable, a misaligned array, or whatever – will seriously affect your Freeview reception.

For the time being, though, let's suppose that your analogue reception is pretty good, but your digital reception isn't. Assuming that your local transmitter carries Freeview – and not all of them do – it could be that you need a wideband aerial. Traditionally, TV aerials have been designed to work on a limited range of channels called a Channel Group, and since each transmitter sent out all its analogue signals within one group, this worked well.

But some transmitters send some of the digital signals outside their analogue channel group, so the viewer needs to change to a wideband aerial, which covers every channel from

21 to 68. If you have some perfect Freeview channels but no reception at all of others, this is a very likely cause. All you need to do in most cases is simply replace the array. It's usually possible to re-use the mast and fixings, but you should replace the cable unless it's in really good condition.

If you're sure you have the correct type of aerial yet your Freeview reception is still not quite perfect, a low-gain (about 12dB) masthead amplifier fitted to the aerial can provide the solution. Don't waste your money on a little 'booster' gadget that fits behind the TV set. These are generally pretty useless.

Are you covered?

Nationally, Freeview coverage is still some way behind that of analogue. The main reason is that most of the relay transmitters don't have Freeview yet, and if your aerial has vertical elements it is pointing at a relay transmitter.

In that case, you need to check whether it's one of the few that send out Freeview signals. Take a look at <http://www.dtg.org.uk/retailer/transmitters.html>. If you know the name of your transmitter, this site will also tell you whether you need a wideband aerial.

A few Freeview transmitters have power restrictions in certain directions to avoid causing interference to analogue channels in other areas. If your Freeview reception is inexplicably poor this could be the cause. The only answer is to wait for more information, closer to the date for analogue switch-off ■

Signal degradation – analogue vs digital



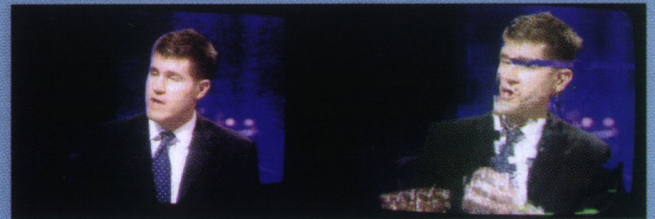
With adequate signal levels both transmission modes perform well, and digital may well look better than analogue, particularly where 'ghost' reflections are present.



Signal levels here are just below the 'official' minimum. Analogue is looking a little bit snowy, but digital is unaffected. At this level the digital didn't drop out at all.



Analogue looks distinctly snowy here, but actually you could watch this picture without too much irritation. Digital is starting to fall over, and would be annoying to watch for a long time. Pixellation is clearly visible and the picture jumps.



Here's the sort of annoyingly snowy analogue picture you might endure for one evening in a cheap hotel! But it would be better than the digital equivalent, which has continuous pixellation, 30-second freezes, and intermittent sound.