

Digital TV reception in north-east Wales



Some viewers in parts of north east Wales have reported poor digital terrestrial (Freeview) TV reception since digital switchover took place. In particular, some viewers have reported that they are experiencing problems accessing Welsh national TV channels, including S4C.

Ofcom and the BBC have looked into these reports and have found that the local TV transmitter masts are operating correctly, and are providing good signals over their intended transmission areas. However in some cases, we found problems with viewers' aerials (for example, some households' aerials were not pointing to the most suitable Welsh transmitter). In some other cases, viewers are outside the predicted coverage area of a Welsh Freeview transmitter. Most of the viewers in this situation would have had poor (or no) reception of Welsh analogue channels before digital switchover.




This factsheet provides a step-by-step guide to help local viewers improve their TV reception. It can't cover everything, and some of the information is quite technical, but don't worry - a local aerial installer or retailer can give you detailed advice on your own situation if you need it.

Step 1: Find out which transmitter gives the best service at your address

If you have access to the internet, the Digital UK postcode checker at www.digitaluk.co.uk/coveragechecker will provide a full prediction of reception quality at your address. If you do not have access to the internet, Digital UK can also provide information on TV signal coverage over the phone on 08456 50 50 50.

To use the online postcode checker, type your postcode and house number or name into the boxes on the main screen, and tick the 'detailed view' box.

You will then see a screen similar to the one overleaf (though the results for your own address will be different). Every TV transmitter broadcasts either three or six 'groups' of Freeview channels, and for each transmitter which can potentially be received in your area, the predicted reception quality of the different channel groups is indicated by Green, Amber or Red colour coded 'bars':

	Good reception of this channel group should be possible so long as your aerial and cabling are in good condition and of an appropriate type, and your aerial is pointing towards the transmitter in question. Attention may still need to be paid to the precise positioning of the aerial to obtain best reception results on all channels.
	Reception quality on this channel group is predicted to be 'variable'. Reception may be disrupted or lost occasionally or relatively frequently. It may be possible to improve the reliability of reception by using a very good quality, highly efficient, aerial installation, but it may not be possible to achieve fully reliable reception.
	Reception on this channel group is likely to be poor or very poor, and it is unlikely to be possible to significantly improve reception reliability.
(No colour code)	This channel group cannot be received (or is not transmitted).

Here is an example of the postcode checker results page:

Transmitters carrying Welsh national services are listed as 'Wales' in the Region column

Digital transmitters								
	Name	Region	Parent Transmitter	Grid Reference	Distance (km)	Bearing°	Aerial Group Before	Aerial Group After
Most Likely Transmitter	Wrexham Rhos	Wales	Moel y Parc	SJ 30093 53740	8	316	AV	AV
Alternative Transmitter	Moel y Parc	Wales	N/A	SJ 12334 70135	32	313	C/D H,WH	B H
Alternative Transmitter	Cefn Mawr	Wales	Moel y Parc	SJ 26776 40923	11	232	C/D V	C/D V
Alternative Transmitter	Winter Hill	Granada	N/A	SD 66053 14463	73	24	C/D H	C/D H

Coverage prediction								
Channel	Served	Marginal	Good reception	Variable reception	Poor reception			
N	S	M	●	●	●			

Wrexham Rhos										
Step	Date	BBC A		D3&4		BBC B HD				
		N	S	M	N	S	M	N	S	M
Now	18 Mar 13	28	97	99	22	96	99	25	96	99
Final situation	Oct 13	28	97	99	22	96	99	25	96	99

Moel y Parc										
Step	Date	BBC A		D3&4		BBC B HD		SDN	ARQ A	ARQ B
		N	S	M	N	S	M	N	S	M
Now	18 Mar 13	45			39+			42		
Reception change	Apr 13	45			39+			51- 33 83 52+	29 79 48-	20 77
Final situation	Oct 13	45			39+			51- 34 81 52+	31 81 48-	20 75

Cefn Mawr										
Step	Date	BBC A		D3&4		BBC B HD				
		N	S	M	N	S	M	N	S	M
Now	18 Mar 13	57	36	56	53	34	54	60		
Final situation	Oct 13	57	36	56	53	34	54	60		

Winter Hill										
Step	Date	BBC A		D3&4		BBC B HD		SDN	ARQ A	ARQ B
		N	S	M	N	S	M	N	S	M
Reception change	Mar 13	62-	99	99	59	99	99	54-	98	99
Retune event	10 Apr 13	50	99	99	59	99	99	54-	98	99
Reception change	Oct 13	50	99	99	59	99	99	54-	98	99

Good reception on all three channel groups

No reception on three channel groups, and 'variable' reception on three channel groups

Poor or no reception

Good reception on all six channel groups (English regional programmes)

In this example, the **Wrexham Rhos** transmitter would provide the best reception for Welsh national programmes. English regional services would also be available from the Winter Hill transmitter.

However, Wrexham Rhos transmits fewer channels than larger transmitters such as Winter Hill and Moel y Parc – although these do include BBC One Wales, BBC Two Wales, ITV Wales, S4C, Channel 4, Channel 5, as well as around 10 other standard definition channels.

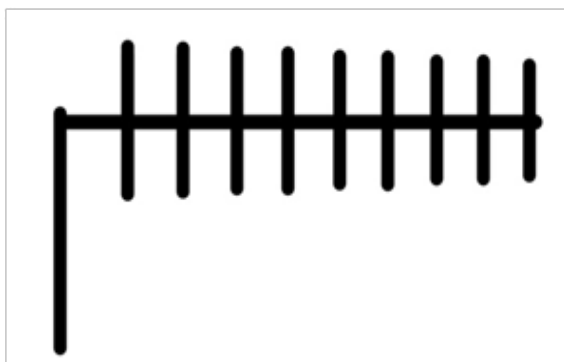
Step 2: Find out which transmitter your aerial is pointing towards

The postcode checker results page provides a compass Bearing from your house to each transmitter. In the example on the previous page, the Wrexham Rhos transmitter is at a bearing of 316 degrees, or approximately north-west. The Aerial Group After column also tells you the suggested aerial 'group' to use, and shows whether your aerial should be fitted with its rods pointing horizontally (H) or vertically (V).

Also in this example, the Moel y Parc transmitter lies in a very similar direction (313 degrees) to Wrexham Rhos. Another way to help find out which transmitter your aerial is pointing towards is to look at which way the 'prongs' on your aerial are pointing. They will either be pointing horizontally or vertically as in the pictures below.



Horizontal (H) Rods: If your aerial has horizontal rods then it will be pointing towards one of the larger 'main' transmitters. In areas of north east Wales where viewers have reported reception problems, aerials with horizontal rods are most likely to be pointing towards the Moel y Parc, Winter Hill, or The Wrekin transmitters.



Vertical (V) rods: If your aerial has vertical rods then it will be pointing towards a smaller 'relay' transmitter. In areas of north east Wales where viewers have reported reception problems, an aerial with vertical rods is likely to be pointing towards either the Wrexham Rhos or Cefn Mawr relays.

If you wish to realign the aerial to a different transmitter, for example, Winter Hill to Wrexham Rhos, you may need to change your aerial from horizontal to vertical. You will also need to ensure that the aerial is the correct 'group' (indicating the range of TV frequencies that the aerial is designed to pick up) – a wideband aerial can pick up all frequencies.

Note that transmitters located in England – those listed as 'Granada' or 'Central' in the Region column – do not transmit Welsh national services.

My aerial is not pointing towards the best transmitter for my address

You will need to consider getting your aerial adjusted or replaced. The organisations at the end of this factsheet can provide the names of their local aerial installer members. My aerial is pointing towards the correct transmitter, but reception is still poor.

My aerial is pointing towards a transmitter which shows good (green) coverage for Welsh channels on the postcode checker, but my reception is still poor

Many reception problems of this kind are to do with the type and quality of viewers' aerial installations. The performance of external aerials gets worse over time because of metalwork corrosion. Therefore aerial replacement is normally recommended every 10 to 12 years. Aerials which previously provided a 'snowy' (weak) analogue TV pictures may not work reliably with digital signals, and may need to be replaced.

Reception problems can also be sometimes be caused by nearby trees or tall buildings, especially if they are between the transmitter and your aerial. In these cases it may be possible to move the aerial to an alternative position (e.g. on the opposite side of the house) where there is less of an obstruction.

My aerial is in the loft or on top of my TV

Internal aerials do not provide as strong a signal as a rooftop aerial, and therefore broadcasters do not recommend their use. You should consider using a rooftop aerial.

The postcode checker shows that I can only receive good signals from an English transmitter

Nearly all viewers in Wales can pick up Welsh national channels on Freeview. However the coverage pattern of the UK's current Freeview transmitter masts very closely matches the coverage pattern of the old analogue transmitters: In fact, Freeview uses all of the former analogue TV masts. A small number of locations have always experienced difficulty picking up signals from a Welsh TV mast, and this remains the case following digital switchover. Viewers in areas of poor Welsh digital signal coverage (who are also very likely to have had poor, or no, reception of Welsh analogue channels) will therefore need to consider alternative reception options.

These alternatives include satellite reception. As well as subscription channels from Sky, digital satellite carries a wide range of non-subscription channels which can be received with Freesat equipment (see glossary) for a one-off equipment and installation charge, but with no ongoing monthly charges.

Full information on likely digital signal quality at individual households was available from Digital UK for some time before digital switchover took place – allowing viewers who would not be able to receive good Welsh signals on Freeview to select an alternative reception option.

My aerial is correctly pointing towards a Welsh transmitter which the postcode checker says will give me good signals, but I am seeing English regional channels in the channel list on my Freeview equipment.

It may be that there is some other problem with the aerial system. Alternatively, a fairly common (and easily resolved) problem is that your Freeview equipment may have tuned itself in to signals from an alternative English transmitter: even when an aerial is correctly installed and pointed, it can sometimes pick up signals from a transmitter outside the local area. This problem can be resolved by 'manually re-tuning' the Freeview equipment so that it only picks up channels from the desired local transmitter. Digital UK can provide more advice on manual retuning on 08456 50 50 50 or at www.digitaluk.co.uk/manualretuning.

I live in a flat or apartment with a shared aerial system

You should contact your landlord or property manager if aerial adjustment or replacement is required.

I have two aerials on my house

Some viewers use two aerials to supply signals to different TV sets in the house. For example, one aerial may supply a living room TV, while a separate aerial supplies a bedroom TV. These types of system should not normally cause special problems.

However, some viewers use more sophisticated dual-aerial installations, which may cause difficulties. In these systems, each aerial points towards a different transmitter, and the signals from each aerial are combined together and are connected to one or more TV sets. Combining two sets of signals does have the potential to cause problems as the signals may conflict with each other, and specialised signal combining equipment ('filters' or 'diplexers') are required. Changes to transmitter frequencies have occurred as part of the digital switchover process, and these mean that some aerial combining systems may need to be professionally adjusted. The organisations at the end of this factsheet can provide the names of their local aerial installer members.

I receive signals from a relay like Wrexham Rhos or Cefn Mawr, and I can't get all the Freeview channels

Relay transmitters such as Wrexham Rhos and Cefn Mawr do carry fewer channels than larger transmitters such as Moel y Parc or Winter Hill. But they do carry all the TV services paid for by the BBC Licence Fee, as well as the other 'public service' channels (ITV Wales, S4C, Channel 4 and Channel 5)

Relay transmitters carry about 16 standard TV channels, compared with the larger transmitters which carry more than 40 channels. The additional channels at the larger transmitters are provided on a purely commercial basis, and are not subject to the same minimum signal availability requirements as the public service channels. The operators of these channels have decided that it is not commercially viable to extend their services to additional relay transmitters.

Viewers receiving TV signals from a relay who want to receive a wider range of channels should consider alternative reception options such as digital satellite. As well as subscription channels from Sky, digital satellite carries a wide range of non-subscription channels which can be received with Freesat equipment (see glossary) for a one-off equipment and installation charge, but with no ongoing monthly charges.

I am still getting interference even after going through all the above

Some people will experience some interference to the Freeview signal from time to time. Atmospheric conditions, specifically, during certain high pressure conditions, can cause TV signals to travel much further than they normally do, and interference from very distant transmitters (both within the UK and in neighbouring countries) can occur. The transmitter networks are carefully planned within the UK and with our neighbours to minimise the likelihood of unusual atmospheric conditions causing disruption to reception, but it is unfortunately not possible to eliminate the effect altogether. If your aerial is correctly installed and aligned, however, this interference should not last for long periods.

Interference can also sometimes be caused by problems such as malfunctioning or poorly installed domestic electrical equipment. The national Radio and TV Investigation Service (operated by the BBC) can assess suspected cases of localised interference and provide advice to viewers. Contact details are provided in the glossary.

Glossary

Aerial Installer Bodies	Confederation of Aerial Industries Limited (CAI) Communications House 41a Market Street Watford Hertfordshire WD18 0PN. Tel: 01923 803030 web: www.cai.org.uk Registered Digital Institute (RDI) 26 E-space South St Thomas Place Ely Cambridgeshire CB7 4EX Tel: 0870 129 8015 web: www.rdi-online.co.uk
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Satellite Services	<p>Freesat from the BBC and ITV provides a range of non-subscription channels for a one-off payment for reception equipment and installation: www.freesat.co.uk</p> <p>Sky also provides a non-subscription ‘Freesat from Sky’ service, as well as full subscription (‘pay-TV’) packages: www.sky.com/shop/freesat/home (Freesat from Sky non-subscription services). www.sky.com (subscription services)</p>
Localised Interference Assessment	<p>Radio & Television Investigation Service PO Box 1922 Darlington DL3 0UR Tel: 03709 016 789 web: www.radioandtvhelp.co.uk</p>
Public Service (PSB) channels	<p>The TV channels carried at ‘PSB’ relays such as Wrexham Rhos and Cefn Mawr are:</p> <p>BBC One Wales, BBC Two Wales, ITV Wales, S4C, Channel 4, Channel 5, BBC Three, BBC Four, BBC News, BBC Parliament, CBBC, Cbeebies, ITV+1, ITV2, Channel 4+1, and More Four.</p> <p>Four additional high definition channels are available for viewers with Freeview HD equipment:</p>
Commercial (COM) channels	<p>The Commercial channels (carried at larger transmitters such as Moel y Parc and Winter Hill) include, amongst others;</p> <p>ITV3, ITV4, 5*, 5 USA, Quest, Pick TV, Sky News, Film 4, Yesterday.</p> <p>Full channel lists are available at http://www.digitaluk.co.uk/industry/channel_providers/post_switchover</p>

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