



625-line Television Services

RECEPTION IN SOMERSET

The purpose of this leaflet is to try to answer some of the questions that are being asked by the people of Somerset, about reception of the 625-line television services. It has been prepared by the BBC Engineering Information Department at the request of Mr Jerry Wiggin MP and Mr Paul Dean MP.

The general situation

The ultra-high frequencies (uhf) are the waves used for the transmission of the 625-line television services for reception in colour or monochrome. Some viewers who live within quite short distances of the uhf transmitting station, and well within its overall service area, find that they are unable to receive the transmissions satisfactorily. Many of them are, however, able to obtain good reception from a different, and probably more distant station. They may be puzzled, but they are not usually disturbed by this, provided the two stations broadcast the same programmes. When the programmes are intended for different regions, however, and the station which can be received best is carrying the 'wrong' service, a great deal of annoyance can be caused.

The difficulty arises from the fact that uhf signals travel mainly in straight lines so that people screened from a transmitting station (usually by a hill) receive a weak, low-quality signal while the main power of the station passes over their heads. An example of this problem is illustrated in the diagram (figure 1). Reception is very good nearer to the station and also further from it: but the shadowed area constitutes a gap in the service area. At the same time, all or part of this gap might be well served from another direction by a more distant station.

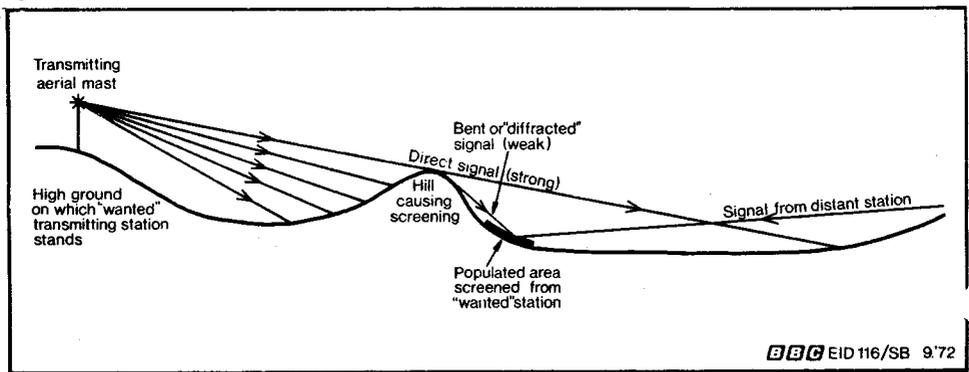


Figure 1: The diagram illustrates how a hill can prevent the direct signal from a wanted station reaching the area in its shadow. The much weaker diffracted signal is quite often inadequate to provide satisfactory reception.

In planning the location of stations, the BBC looks out for problems of this sort and where necessary builds an extra relay station to serve as much as possible of an area affected in this way with the appropriate regional programmes. This planning is, however, very complicated and it may be several years before the people concerned are able to obtain a service carrying programmes from their own region.

How Somerset is affected

The Mendip Hills, on which the Mendip uhf transmitting station is situated near Wells, cover a fairly extensive area and in many places at their edges the ground falls steeply to the surrounding plain. There are, in consequence, many small areas where reception of the transmissions from this station is difficult or even impossible. Most of the affected places are, however, well served, (in the technical sense) by the uhf station at Wenvoe in South Wales, but this station, of course, radiates BBC-Wales, not the version of BBC-1 intended for English viewers. Many viewers who have replaced their television receivers with new single-standard models have been very disappointed to find that they have lost the ability to receive some of their favourite programmes.

The services radiated by the stations concerned are:

	Mendip (near Wells)	Wenvoe (near Cardiff)	St. Hilary (near Cardiff)
Vhf 405-lines	None	BBC-1 (West) BBC-Wales	HTV (West) HTV (Wales)
Uhf 625-lines	BBC-1 (West) BBC-2 HTV (West)	BBC-Wales BBC-2 HTV (Wales)	None

Clearly, receivers which operate only on 625-lines cannot obtain from Wenvoe the television services intended specifically for the West. Viewers relying on such receivers arriving in areas where reception from Mendip is not available will not, therefore, be able to pick up these programmes. The main areas where this problem causes trouble are illustrated on the map (figure 2). The satisfactory uhf reception from Wenvoe available to most of these viewers will, of course, provide the whole of BBC-2 and also most BBC-1 programmes, because BBC-1 and BBC-Wales carry the same programmes for much of the time. Plans to build relay stations to extend the appropriate regional service into these areas are being investigated but the best course of action for viewers to take meanwhile depends on the circumstances.

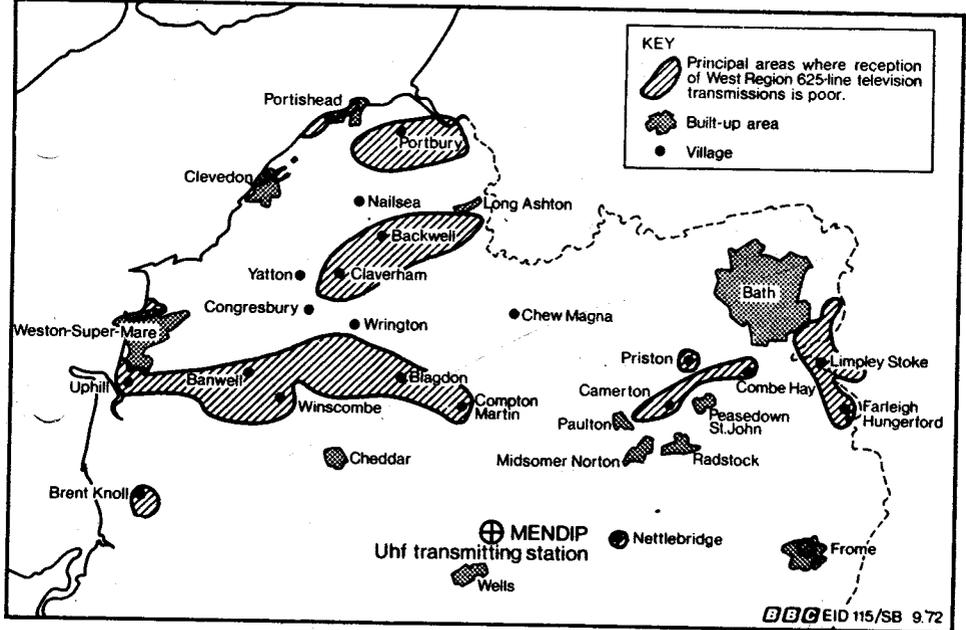


Figure 2: Map showing principal areas where reception of West Region 625-line television is degraded by screening due to hills. Not all viewers in the shaded areas will be affected but there will also be others in additional pockets of poor reception too small to be shown. Good reception of Wenvoe is available in most of these cases.

For many of those who can receive the Mendip transmissions tolerably well for short periods of viewing it might be worthwhile to have two uhf receiving aerials, one for Mendip and one for Wenvoe. The former could be used for those programmes which are not radiated by Wenvoe, and the latter for all other programmes, in order to take advantage of the better reception available. A simple change-over switch can be bought to facilitate this. Other viewers, particularly those who cannot receive Mendip at all, might find it preferable to retain their old 405-line only or dual-standard receivers in order to make occasional use of the 405-line transmissions from Wenvoe and St. Hilary (which carry the West of England programmes). New dual-standard receivers are becoming rare; they can still be obtained although the supply position is not easy and a wait may be necessary.

Where a change of receiver is being considered, it is wise first to discuss with the supplier the prospects of good reception of the preferred station and the costs likely to be involved in the various courses of action.

For the technically minded, the channels and polarizations used for the various services are as follows.

Uhf 625-line services

	Mendip	Wenvoe
BBC-1	58 horizontal	—
BBC-2	64 horizontal	51 horizontal
BBC-Wales	—	44 horizontal
HTV (West)	61 horizontal	—
HTV (Wales)	—	41 horizontal

The receiving aerials required for the uhf services are: Mendip, Group C; Wenvoe, Group B. For both stations the aerial rods must be horizontal.

Vhf 405-line services

	Wenvoe	St. Hilary
BBC-1	5 vertical	—
BBC-Wales	13 vertical	—
HTV (West)	—	10 vertical
HTV (Wales)	—	7 vertical

If you require further advice or information, please write to:
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