SPECIALISED INFORMATION ABOUT RECEPTION

Radio&Television Investigation Service

Fact Sheet 6

This Fact Sheet, produced by the Radio & Television Investigation Service (RTIS) describes some specialised issues about reception. It should be used in conjunction with the other Fact Sheets in this series.

WHAT THIS SHEET COVERS

Temporary licensed radio stations ('RSLs')

Communal aerials

Digital Switchover—the effect on analogue TV reception

The 'Digital Cliff' threshold

Ideal signal levels for good reception

TEMPORARY LICENSED RADIO STATIONS (RSLs)

From time to time Ofcom license temporary low power stations to coincide with an event or festival. These are known as RSLs (Restricted Service Licences). In some cases these stations re-appear every year at the same time. The maximum duration is normally a calendar month. They often take their name from the event or festival they serve, e.g. Truckfest FM, Radio Ramadan.

A variety of different FM frequencies are used but a common one is 87.7 MHz, just below BBC Radio 2. Normally they do not cause a problem to reception of Radio 2 but occasionally we hear from a listener who is very close to the temporary transmitter, and the strength of the signal 'pulls' their receiver away from Radio 2 and onto the temporary station. It only tends to affect portables and bedside radios, not HiFi tuners. In such cases there are a few things to try:

- Retract the aerial to reduce the signal strength, so long as Radio 2 is still audible
- Move the radio to different positions
- Try looking for another Radio 2 frequency a little higher than the one you normally use
- Try another set – radios vary greatly in their susceptibility to being drawn off frequency in this way

RSLs normally run quite low power and therefore such problems are rare. Note that such stations are legal and not pirates – therefore listeners cannot take action to have them moved or closed down.

COMMUNAL AERIALS

All the advice in our Fact Sheets is based on the premise that you own any aerial that you use. In cases of communal (shared) aerials, which are more typical in blocks of flats, responsibility for maintenance rests with the owner of the system. This is often the landlord or agent, though it could be a residents' management committee. Although you can check the connecting leads within your home, *please do not attempt to investigate suspected aerial problems yourself before speaking to the landlord or owner*. You may well find that, under your maintenance or tenancy agreement, it is the owner's responsibility to call in an aerial installer at their expense—not yours.

Digital Switchover has placed new challenges on communal aerials. In some cases, though they may have been adequate for analogue TV, the extra demands made by digital TV signals could cause them to become unreliable. From the start of the Digital Switchover programme, information has been available to landlords. This advises them how to upgrade an existing communal aerial system in preparation for Switchover, should it be necessary. Precise details of this advice are outside the scope of the RTIS Fact Sheets, but if you believe your reception problems began following Digital Switchover in your area, please tell your landlord this. Digital UK has a special number for landlords: 08458 455 455 but please note that this is not their general enquiry line (which is 08456 50 50 50).

In the case of external interference to users of a communal aerial system, it is normally helpful for RTIS to speak to an engineer called in by the system's owner. They have measuring equipment which may tell them if residents' problems are due to issues with the aerial system (which they can sort out), or interference from outside the system over which they have no control.

You can, however, provide helpful information to the owner if there appears to be a problem with your communal aerial system. For example, if disruption occurs when the lifts are being used, there could be a problem with suppression of the lift motor. Also, if there is thermostat-type interference, and your building has a centralised central heating boiler, this could be the cause and should be checked. Giving the owner such information may help bring a speedier solution.

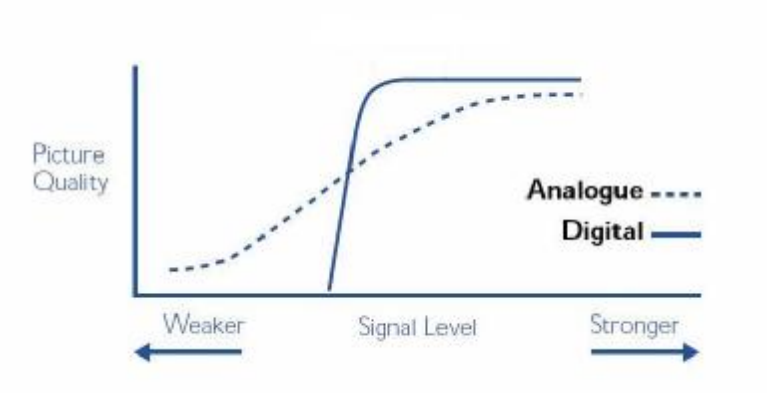
DIGITAL SWITCHOVER—THE EFFECT ON ANALOGUE TV RECEPTION

Continuing until the end of 2012 the UK is switching from analogue to digital (Freeview) television. This programme of Digital Switchover entails work at every one of the UK's 1100+ TV transmitters, and in some cases certain elements of the work must be done well ahead of the switchover date. As a result, transmitters – especially the main high-power ones – may be subject to periods of reduced power and occasional short shut-downs. This can also affect FM radio and DAB digital radio, as well as analogue TV. Although the duration of the work can be several months, the effect on your picture or sound is likely to vary and may only be noticeable for part of the period. You can check for this at www.digitaluk.co.uk/engineering_works or by ringing Digital UK on 08456 50 50 50. Please note that this work is being carried out on behalf of Digital UK, and not the BBC, Ofcom or RTIS.

THE ‘DIGITAL CLIFF’ THRESHOLD

When interference or a reception problem affects analogue TV or radio, normally the weaker the signal, the worse the effect – or the greater the interference, the worse the effect. In other words, the degree of degradation is in proportion to the depth of the problem.

Digital systems degrade very differently when signals become weak or there is interference. In many cases there is a distinct threshold. If you’re above this, you will get excellent reception; if you’re below this, even by a tiny amount, you will get degradation which may become intolerable.



Digital systems degrade very differently when signals become weak or there is interference. In many cases there is a distinct threshold. If you’re above this, you will get excellent reception; if you’re below this, even by a tiny amount, you will get degradation which may become intolerable. Just at the threshold pictures can begin to look ‘blocky’ (known as pixellation) and sound can start to burble. Creeping below the threshold, pictures can break up into streaks then re-form, and sound can stutter and crack. Further below the threshold, pictures can freeze or even blank out, you will only get occasional bursts of sound or none at all, and you might even find your receiver telling you there is no signal (when in fact there is some). The difference in the signal or interference level which pushes your reception from ‘good’ to ‘dreadful’ can be very small indeed – a bit like the straw that breaks the camel’s back. Installers try to ensure that signals fed to digital equipment are well above this threshold, to allow a good margin for reduced power at the transmitter, fading due to weather, the effects of trees etc. If your Freeview pictures are prone to break up at the slightest provocation, it’s likely that this margin is too small. Having checked that you have no loose cables or plugs and sockets, you should consider calling an aerial installer who may be able to improve this margin. People often put up with quite poor analogue reception before they do anything about it, particularly if it’s a gradual worsening over time. With Digital TV, reception may quickly fall apart even though analogue is still holding up tolerably well.

Digital Cliff diagram reproduced by courtesy of the Digital TV Group

IDEAL SIGNAL LEVELS FOR GOOD RECEPTION

These are the terminated signal level ranges recommended for good reception, measured at the aerial input terminals to the receiver:

- Analogue TV: 60-80 dBµV
- Digital TV: 45-65 dBµV
- FM radio: 48-64 dBµV

In practice the upper level can be exceeded in some equipment, though if overload is suspected, an attenuator can be fitted to reduce levels to within this range.