

## Section 7. The TV aerials in use in the relevant areas

### 7.1. Amelioration issues

This section will consider the aerials in use in the relevant areas. The main considerations are whether in fact it will be possible to use aerial upgrades as part of the amelioration process, and if so what upgrades would be necessary.

### 7.2. The aerials in use

We traversed the relevant areas, parking at places where plenty of aerials were visible, noting the types in use and counting the numbers aligned on the various transmitters. The main intention was to compile a list of transmitter percentages. It soon became obvious that this would make boring reading however, because it was unusual to see an aerial aligned on anything other than Sudbury, and of these most appeared to be disused. There is no point in reproducing here a list of locations with almost all of them having ‘100%’ written in the Sudbury column, but Fig 7.2.1 shows the locations surveyed.



Fig 7.2.1. Locations where the types of TV aerials were surveyed.

The aerial survey did throw up a few interesting facts about the types of aerials in use. The large majority of them are aligned on the Sudbury transmitter, of course. Of these almost all of the older examples are clearly intended to provide adequate analogue reception of BBC1, BBC2, ITV1, and Channel 4. Typically they are ten- and eighteen-element ‘contract’ (i.e. cheap) types, although there are quite a few decent quality branded aerials amongst them. This is pretty well the mix of aerials that would be expected. Nationally, in areas where analogue Channel 5 is a less powerful signal than the other four channels, very few people upgraded their aerial when the channel started ten years ago, and even aerials installed since then often aren’t adequate for good Channel 5 reception. So amongst the older stock the larger, better quality aerials that would be suitable for good reception of analogue Channel 5 (and as many DTT multiplexes as possible) are quite few in number.

It is noticeable, however, that amongst the newer aerial stock (five years old or less) these larger aerials actually predominate, if obvious DIY attempts are excluded. These newer aerials are almost all wideband types and are clearly intended to receive as many DTT muxes as possible. They are wideband because (as shown in Table 5.3.1) two of the muxes are outside the channel group used for the analogue channels (Group B).

This mix of older smaller aerials and bigger newer ones is typical of areas where DTT reception is possible but difficult.



Fig 7.2.2. Typical aerials in Clacton. Every aerial is aligned on Sudbury. The older aerials are almost all Group B, whilst the new ones tend to be ‘high gain’ wideband types.

### 7.3. *The use of masthead amplifiers*

The use of masthead amplifiers to improve DTT reception is problematic in this area because the weak DTT signal levels are accompanied by much stronger analogue signals, as shown in Table 6.3.1. Masthead amplifiers are likely to be overloaded by the analogue signals, or the DTT tuner is likely to be overloaded by the amplifier’s analogue signal output. In either case local installers are likely to have concluded that masthead amplifiers do not help much. Low gain masthead amplifiers are now available, and these are better able to cope with the ‘analogue overload’ problem, but their use is not yet widespread.

### 7.4. *Will the older Sudbury aerials provide adequate DTT reception?*

In a word, no. The troublesome multiplex is the ITV one on channel 56. These aerials are all designed for Channel Group B (see Table 5.3.1). Channel 56 is outside Group B. The mux is on very low power, and it is near the upper end of the band, so reception on a Group B aerial will be hopeless. At best, reception would be ‘stop-start’ with picture and sound break up. To attempt amelioration by simply providing DTT receivers is not an option.

### 7.5. *Will the newer, bigger Sudbury aerials provide adequate DTT reception?*

In the words of a local installer, “I makes no promises about ITV.” In the Constable Avenue area, reception of the ITV mux is very doubtful indeed. In the rest of the area under discussion it is generally difficult, and nowhere is it easy. We are in the sort of territory here where an individual might well buy a big expensive aerial and trust to luck that he will then have worthwhile DTT reception, but where an amelioration programme based on DTT would be

full of hazards. An aerial installer can justify an expensive aerial by saying “It will be worthwhile in 2011 when analogue is switched off” but this line is unlikely to satisfy viewers who are looking to have their reception restored immediately following the construction of a large building.

#### *7.6. DTT take-up in the area*

The national market penetration of DTT suggests that we should be seeing new high gain wideband aerials on the roofs of perhaps 35% of all dwellings using Sudbury transmitter. (Source: OFCOM: Communications Market: Digital Progress Report for the first quarter of 2006). This is certainly not the case in the relevant areas; in fact the proportion of such aerials, whilst being difficult to quantify accurately, is far less, at about 5%. Conventional wisdom in the area is that DTT reception is poor; this is supported by the DTG postcode checker and advice given in local retail outlets.

However, there will certainly be a few more DTT receivers in use than the number of appropriate aerials would suggest. A few people will undoubtedly be making do with their old aerial. How many is ‘a few’? It’s impossible to say but I would make a guess at a further 5% of dwellings. These people will have reception of BBC3, Cbeebies, BBC News 24, and a few other channels. They will probably have been advised that a better aerial would cost a lot and still wouldn’t get all the channels, so they accept what they’ve got. It is known that this behaviour is quite common nationally in places where expensive aerials are needed.

#### *7.7. DTT where the viewer has consciously failed to buy adequate aerial equipment*

The relevance of the above to the *xxxxxx xxxxx* amelioration issue is that these dwellings are watching DTT via aerials that are inadequate. Channels that work will be watched, even though the signal quality might only be 1% above the failure threshold; channels that don’t work will not be watched and will probably not be missed. The ‘sudden death’ nature of DTT reception means that a signal quality drop of only 2% can make the difference between acceptable and unacceptable reception. Now, DTT reception is largely immune to *xxxxx xxxxxx* interference, but it is not completely immune, and a 2% drop in signal quality can easily be caused. Normally this would have no effect at all, but under the circumstances described here it could be crucial. The *xxxxxx xxxxxx* interference could be ‘the straw that breaks the camel’s back’.

However, when a TV interference issue is examined it is always taken as read that the householder is responsible for equipping himself with a good quality outdoor aerial *of the correct type*. OFCOM, for instance, will not entertain complains of poor reception from householders with inadequate aerials. This means that any complaint of *xxxxxx xxxxxxxx* interference to DTT reception could reasonably be met with the question ‘Have you got a wideband aerial installed specifically for the best possible DTT reception?’ I would think that a very large percentage of the complaints would fall at this first hurdle.

It is also taken as read that the dwelling is in an area where the relevant transmissions are actually available. Since the DTG advice is that people can only expect to receive 13 out of about 35 channels in the area they cannot reasonably complain about channels that are not, in theory, available, even if they claim to have had reception of these channels before.

#### *7.8. Aerials aligned on other transmitters*

There are very few aerials aligned on transmitters other than Sudbury. The total must be a fraction of one percent. The number of aerials aligned on another transmitter as a result of poor reception conditions from Sudbury was even smaller. (Outside the relevant areas, especially on the coast, there were more.) Even in locations where there was local screening from Sudbury there was an insignificant number of aerials directed towards other transmitters. An example is the section of Station Road, Thorpe-le-Soken that has trees in the way of the Sudbury signal. Tall masts abound, but every aerial we saw was directed towards Sudbury. Another example is the Meadowview Holiday Park, which is also affected by tree screening, yet has only two non-Sudbury aerials out of over two hundred.



## **8.0. Satellite and cable reception**

### *8.1. Cable penetration*

There is no cable TV service in the relevant areas.

### *8.2. Satellite penetration*

Satellite penetration varies in the relevant areas along the usual demographic lines, being generally higher on council estates than private ones. A local factor is the higher than normal percentage of retired people, who generally have a lower take-up of subscription TV than the average. A few quick counts in different localities showed that about 25% overall have dishes. This is below the national average, which is quite a surprise because the poor DTT reception in the area could be expected to encourage the take-up of Freesat and even Sky. The figure will relate one-to-one with actual satellite receivers because we excluded from the counts places with communal systems where one dish serves many dwellings.

The figure of 25% is, as I said, below the national figure for all satellite viewers (Sky and Free to Air) of 35%. The national figure for Sky alone is about 31% incidentally. These figures come from an OFCOM press release of March 2007 and refer to the main television in the home. Taking our base figure of 25% (dish count) we need to subtract something because some dishes are unused at any given time due to subscriber 'churn', which runs at around 10%. However, lapsed Sky subscriptions automatically default down to a 'Freesat' facility, so the equipment still provides reception of the free-to-air channels, including the five PSB channels that must be provided as part of any windfarm amelioration programme. This continues with no further payment until the equipment breaks down. Another factor is that Sky do not remove dishes when a subscriber moves to a new address, so some of the 'orphaned' dishes are not in use. It seems reasonable to assume therefore that perhaps 20% of dwellings in the relevant areas are wholly or partly reliant on satellite delivery for their TV reception.

The older type of Sky receiver allows reception of only one channel at once. This usually means that people will retain the use of an aerial for recording and for second TV sets. The newer Sky+ receivers allow the user to record one channel and view another simultaneously, but they prevent the simultaneous viewing of two channels. At present Sky+ receivers are in 23% of UK homes that have some form of satellite TV.

15% of Sky subscribers pay Sky an extra amount in order to have two receivers in simultaneous use in different rooms. In reality these subscribers are almost entirely Sky+ users. This 15% equates to 5% of all dwellings. The majority of these dwellings will not be reliant on reception via the aerial to any significant extent.

Even in dwellings with only one Sky receiver and no Sky+, many viewers will use the satellite receiver for all reception. The limitation of being able to view and record only one channel at any one time will not greatly bother some one- and two-person homes.

What all this means is that there is a proportion of viewers who don't use terrestrial reception, or use it only rarely. This proportion will rise over the next few years.

### *8.3. Satellite reception and amelioration*

We have attempted to make allowances for all the above in the amelioration calculations. It must be remembered, however, that if and when amelioration starts and people are perceived as benefiting from it, viewers who never use their aerials might suddenly decide that they do, or that they might do one day.

This adherence to Sudbury tells us two things. One: reception from other transmitters is generally poor; and two: most of the viewers of Essex have either an ambivalent or a positive attitude to BBC East and Anglia ITV when compared to the alternatives.

The few non-Sudbury aerials are irrelevant in the areas where Sudbury reception (only) will be affected by the ~~xxxx xxxxxxxx~~. They are so small in number as to be statistically negligible. We will deal with the areas where reception of Dover and Bluebell Hill might be affected by the ~~xxxxx xxxxxxxx~~ in the amelioration sections.