

# Pro Talk

## Bill Wright reaches for his chainsaw



Bill Wright

If there's anything other than fresh air between your TV aerial and the transmitter your reception might be affected.

Buildings and hills are the obvious culprits, but I think it's trees that cause the most grief for installers, mainly because they are forever changing.

You can install an aerial at this time of year and scarcely notice that half-a-mile away the signal path has a few straggly branches poking through it. Then, sometime during the following spring or summer, the job will

bounce. The analyser will show a ragged mess, with muxes looking like Alpine peaks or the Grand Canyon, or simply being conspicuous by their total absence.

Climbing wearily onto the roof, you will look towards the transmitter and all you will see is greenery. The moral is, of course, to keep a wary eye open throughout the winter for possible seasonal tree cover, and warn the customer accordingly. You are responsible for your workmanship and the quality of your materials, but make it plain in the politest possible way that you can't predict what the trees might do to reception when they come into leaf.

And yes, it's the leaves that do it. Coniferous trees with needles can often look forbiddingly dense but may turn out to be surprisingly RF-transparent. Yet the lovely old sycamore, as it broadens its leaves through the season, can become a proper villain, scrambling signals in a most deplorable manner. The effect can be very frequency-selective, so deep notches might appear in muxes, and analogue channels might lose their sound carrier or colour sub-carrier. The devil of it is, the degree of attenuation and the frequencies affected can vary all the time. The trees might be dry or they might be wet; they might be still or they might be bending in the wind. As the season progresses the leaves get bigger and this can alter the channels affected. What's more, an aerial can have perfect reception through trees for twenty years, then one fine spring day it all goes horribly wrong, for no apparent reason.

### Looking through the trees

So what's to be done? The first rule is, try hard to find an aerial location that isn't looking through trees. If it's unavoidable, warn the customer, and then if there is a come-back you can approach the problem in mid-summer when the enemy is at its worst. Most tree problems occur when the aerial is, by misfortune, in just the wrong place. Even behind fairly dense tree cover the field strength will vary enormously along a line at right angles to the transmitter, so try other locations in that plane. That means up and down and left and right. A couple of feet can make a lot of difference. Very often you'll find that the aerial just happens to be in the very worst place, and re-siting to virtually anywhere else will bring an improvement. Don't be content with improving the signals 'just enough' though. Always go for the absolute best practicable aerial location you can find, even though lesser locations seem adequate. If you can obtain signals that are within 10dB of the line-of-sight figure there's a good chance that there will be no further trouble. Although the effects of trees varies a lot with frequency, if you can get up to that sort of signal level the best location for one channel is likely to be the best for all of them. But if the foliage attenuation is in the 15 to 25dB range the best aerial location is likely to vary from channel to channel and to be unreliable anyway.

Although it might look from the ground as if a tall mast will lift the aerial above the trees, when you climb on the roof the trees often still tower above you! It's always worth experimenting with the height of the aerial though, but just don't imagine that it's a cure-all. Sometimes the field strength will be better low down, and I've put many an aerial on the wall of the house, looking through the less dense lower foliage. In one memorable case the only viable location was on a short post in the back garden!

■ [www.wrightsaerials.tv](http://www.wrightsaerials.tv)