Handling In-Bound Interference to Amateur Radio

What this guidance is about

Interference to amateur radio reception takes essentially two forms. One is from other radio transmitters, which radiate legally or illegally in our bands. The other is from non-radio sources, known as electromagnetic compatibility (EMC) problems. This leaflet is about these EMC matters.

What is the position regarding "protection"?

It is often thought that amateurs are not entitled to protection against interference - from any source. However, the term "protection" is often misunderstood and is used out of context. "Protection" properly refers to an agreed ratio of wanted to unwanted signals, which provides a specified quality of wanted signal. The nature of the amateur service means that individual amateur stations could not have protection ratios in these terms and in the strict meaning of the term the amateur service is not protected from harmful interference from other authorised services within its permitted bands.

However, as authorised users, amateurs are entitled to protection from harmful interference from **un**authorised radio services and, in the context of this leaflet, from non-radio sources. Indeed the various pieces of legislation which control interference – the Wireless Telegraphy Acts, the EMC and RTTE (Radio Equipment and Telecommunications Terminal Equipment) Regulations - that do not differentiate between types of radio services. The revised EU EMC Directive, 2004/108, which must be applied in the UK by 20 July 2007, actually recognises the position of amateur radio in its pre-amble:

"Members States are responsible for ensuring that radio communications, including.... the amateur radio service.... are protected against electromagnetic disturbance."

So what can amateurs expect?

As the number of electronic domestic devices that can cause EMC problems increases and as wired telecommunications systems, like DSL and Power Line Technology (PLT), increasingly use radio frequencies for fast access and greater throughput, the more under threat the spectrum will become. However, while amateurs may be entitled to action being taken when they get EMC problems, they have to be realistic in their expectations. Ofcom has limited resources to tackle interference problems. Its field operations services operate a priority system for dealing with interference. They give first priority to interference affecting safety of life services – including fire, police, ambulance, air traffic control, coastguard – and second priority to business users of radio such as taxis, courier services and security guards. Other users, including amateurs, have to come after these. It is also not realistic to expect Ofcom staff to come to your QTH and wait for hours to hear intermittent and perhaps transient interference, like a faulty thermostat arcing.

Self Help

To some extent the solution to EMC problems is in the hands of individual amateurs. An arcing thermostat, faulty fluorescent light or a radiating PIR lamp may be able to be traced very easily and the owner approached politely. In the case of thermostats it is likely that the arcing may lead to a safety problem with its associated boiler, so you may be doing the

owner a favour by telling them. An exchange of a faulty new unit by the supplier, or a visit by a service engineer may be the answer. Some new TV receivers, digital set top boxes and wall mounted plasma screens have also been found to cause interference on amateur bands and it may be possible to trace the source to a particular neighbour. In most cases the device or equipment manufacturer will take a responsible attitude and provide a fix – often free of charge.

However, if making an approach **do act diplomatically**, as your neighbours may well not understand why you are concerned if their equipment appears to them to be working normally - you may even find the complaint turned back on you and your antenna system, however innocent or irrelevant that may be! Most of us want to live peacefully with our neighbours and this often means a degree of give and take.

RSGB assistance

If you can't find the source or you find you are getting nowhere with the owner of the offending equipment, the Society's EMC advisers may be able to offer advice, although they will not normally make home visits. If they cannot help, or if the problem has some complex or novel aspects. the EMC Committee may become involved and investigate further. They may ask if they can take measurements of the radiation or ask the official services to intervene. A list of the EMC advisers and further information about EMC matters can be found on the Society's web site www.rsgb.org.uk - Leaflet EMC04 in particular gives examples of types of in-bound interference and how to trace them.

Official intervention

In persistent cases Ofcom field operations staff can investigate the interference for you, subject to resources as described above.

There is no charge for this. If necessary they have enforcement powers against interference under the Wireless Telegraphy Acts, although these do not normally need to be employed. As an example, an amateur found he had a continuous very high noise level across several HF bands. It got worse when it rained. Investigating officers traced the source to a cracked insulator on an electricity pylon, which was subsequently replaced by the power company.

Ofcom also enforces the EMC and the Radio and Telecommunications Terminal Equipment (RTTE) Regulations, which implement EU Directives about electromagnetic radiation from new electrical, radio and telecommunications equipment placed on the market. Local Trading Standards Officers also have powers under these regulations. However, interference in the amateur bands could have a wider effect on other radio services, so Ofcom should normally be approached first on matters where interference affects the radio spectrum.

There is also a TV licence condition, which forbids a person to let their TV receiving equipment interfere with any other radio or TV reception. Ofcom has powers to enforce this condition. There have been several examples where spurii from digital set-top boxes have triggered alerts on distress frequencies. Ofcom has acted very quickly in these instances.

The EMC Committee recommends that you make your complaint to Ofcom in writing or by e-mail. Ofcom prefers that you approach the Head Office first, at Riverside House, 2a Southwark Bridge Road, London SE1 9SA, e-mail contact@ofcom.org.uk. Otherwise contact your local office, whose address can be found on their web site – www.ofcom.org.uk.

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