Guide to the use of radio transmitters and the law: an explanation of the regulations which govern the civil use of radio equipment in the UK

Introduction
This note explains the regulations which govern the civil use of radio equipment in the UK. Please note that we can do no more than summarise here the main points of the law in general terms. We seek to do so as of January 2008, since when the law may have changed. Anyone who seeks specific advice about their own legal position should consult a legal adviser.

Why regulate radio?
The use of radio continues to expand rapidly. This applies to business, broadcasting and leisure activities. The use of radio is carefully planned to give as high a standard of service as possible. Unauthorised use of radio can cause harmful interference to legitimate users. Safety of life may be put at risk if, for example, the radios used by emergency services suffer interference. The successful running of a business can be affected by radio interference. Listeners can be prevented from enjoying their favourite radio station by interference. This is why Ofcom takes action to prevent interference and why the penalties that may be imposed by the courts for unlawful use of radio can be heavy.

The international position
Radio does not stop at frontiers. That is why the use of radio is regulated on a worldwide basis, by the Radio Regulations agreed at meetings of the International Telecommunications Union. The Radio Regulations are legally binding in international law on Member States, including the UK.

UK legislation
The main legislation is the Wireless Telegraphy Act 2006 (the ‘2006’ Act’). This empowers Ofcom to:

1. issue and charge for licences for the installation and use of radio;
2. make and enforce regulations on the requirements to be met by users;
3. make and enforce regulations on the requirements to be met by manufacturers and importers of radio apparatus and of equipment which could cause radio interference; and
4. restrict manufacture, sale, import and possession of specified radio apparatus.

The 2006 Act also contains a number of criminal offences prosecuted by Ofcom. Some offences relating to unauthorised use of radio can attract fines of up to £5000 and/or two years’ imprisonment.

How licensing works
Section 8 of the 2006 Act forbids the installation or use of wireless telegraphy equipment (radio) in the UK mainland, including Northern Ireland and territorial waters, the Isle of Man...
and the Channel Islands, unless an appropriate licence has been obtained from Ofcom, or there are Regulations in force exempting it from the licensing requirements.

Licences are usually granted subject to terms, provisions and limitations, which must be complied with. These may include:

1. use only on a certain frequency;
2. use only with a certain power and certain level of emission;
3. use must not cause undue interference;
4. use only within a certain geographical area;
5. use only of apparatus which meets specified requirements; and
6. access for inspection by Ofcom staff and close down in the event of interference being caused.

Licences may be varied either to reflect changes which affect all licensees or a class of licensee (e.g. extending the Amateur Radio band) or to deal with individual problems (such as interference). Notice of Variation will always be issued and affected individuals will be given a chance to comment.

Licences usually expire automatically on non payment of fees and where there is a frequency assignment attached to a licence it may not be possible to reassign the same frequency if a new licence is subsequently taken out.

Licences may be revoked if a user has demonstrated an unsuitability for the responsibility of holding a licence (e.g. by persistently contravening their licence or causing interference). Again those affected would be given a chance to comment on a revocation.

**Exemptions from licensing**

Deregulation is an important aim where this can be done without damage to licensed use. Much radio apparatus is therefore exempted from licensing, including:

1. Citizens’ Band (CB) radio equipment;
2. apparatus capable only of reception
3. cordless telephones and mobile telephone handsets;
4. metal detectors and model control equipment; and
5. a wide range of short range devices, including certain low power FM transmitters (sometimes called ‘car baby’ devices), which wirelessly connect MP3 players and other personal audio devices to radios and in-car entertainment systems.

Generally equipment is only exempt if it meets specified requirements. Some cordless telephones do not meet these requirements and therefore are not licence exempt - in fact their possession is not allowed.
Control of interference
The use of radio is also controlled by Regulations and Orders made under the current and historical Wireless Telegraphy Acts for the purpose of preventing or reducing the risk of interference.

Orders made under section 7 of the Wireless Telegraphy Act 1967 (which remain in force despite the repeal of that 1967 Act and the consolidation of its provisions into the 2006 Act) are used to control the import, sale, manufacture or possession of apparatus which is particularly liable to cause interference. Currently Orders cover non-exempt cordless telephones, CB radios and videosenders as follows:

Cordless Telephones
The Wireless Telegraphy (Cordless Telephone Apparatus) (Restriction and Marking Order) 1999 applies to cordless telephones which are not exempt from the 2006 Act’s licence requirements and which operate below 853MHz.

Cordless telephones (not to be confused with mobile telephones) operate by the use of a low power radio link between the handset and base station, which in turn is connected to the public telephone network. Certain high power cordless telephones operating on frequencies below 853MHz can cause interference to other radio users.

CB Radio
The Wireless Telegraphy (Citizens’ Band and Amateur Apparatus) (Various Provisions) Order 1998 applies to non-compliant CB radios operating in the frequency band 26.1-28MHz and which can cause interference to TV reception and other radio services.

Videosenders
The Wireless Telegraphy (Control of Interference from Videosenders) Order 1998 applies to Videosenders which transmit in the frequency band 470-854MHz.

Videosenders are devices which incorporate a radio transmitter, enabling pictures to be sent from a video recorder or camera to a separate television in, for example, another room of the house. Legal videosenders transmit in the frequency band 1389 - 1399 MHz and are exempt from the requirement of a licence. Illegal videosenders transmitting in the frequency band 470 - 854 MHz can cause of interference to TV reception and frequencies used by the emergency services.

Other Regulations
Other Regulations are also made in relation to certain specified electrical or electronic apparatus which has the ability to interfere with radio. These Regulations set requirements which the specified apparatus must comply with if it is to be used and/or sold, hired, manufactured or imported and cover:

1. CB radio;
2. Electro-Medical Apparatus;
3. Radio Frequency Heating Apparatus;
4. Household Appliances, Portable Tools etc;
5. Fluorescent Lighting Apparatus; and
6. Ignition Apparatus.

Non-compliance with these Regulations is dealt with in some cases by serving a notice on the user. A person who knows of the existence of such a notice but uses or permits apparatus to be used in breach of the notice is guilty of an offence under the 2006 Act.

In addition, the European Community (EC) Directive on Electromagnetic Compatibility has been implemented in the UK by the Electromagnetic Compatibility Regulations 2006. These apply to equipment which is liable to generate electromagnetic disturbance or whose performance is liable to be affected by it, including some radio equipment. They require that such equipment is designed and manufactured to ensure that the electromagnetic disturbance it generates does not exceed a level above which radio and telecommunications equipment, or other equipment, cannot operate as intended. They also require that the equipment has a level of immunity to the electromagnetic disturbance to be expected in its intended use which allows it to operate without unacceptable degradation of that use.

The Electromagnetic Compatibility Regulations do not apply to radio amateur apparatus which is used by radio amateurs and which is not available commercially, nor to radio equipment which is subject to the Radio Equipment and Telecommunications Terminal ('R&TTE') Regulations 2000 (which give force to the EC R&TTE Directive). The R&TTE Regulations set out the procedures, including conformity assessment, that must be applied before radio (or telecommunications terminal) equipment can be placed on the market.

Content of transmissions
The Wireless Telegraphy (Content of Transmission) Regulations 1988 make it a specific offence to send grossly offensive, indecent, obscene or menacing messages.

What can go wrong?
Most people are reasonably law-abiding but some users of radio have very little idea of how radio works and may be tempted not to comply with the licensing regime. Ofcom will often try to help people bring themselves within the law but where necessary or appropriate will prosecute or take other enforcement action under Wireless Telegraphy legislation, for example to prevent interference or other harm. We can seize apparatus found in unlawful use, and courts can order its forfeiture.

Illegal broadcasting stations
Illegal broadcasting stations (pirate radio) can cause serious and prolonged interference to a whole range of radio users including the emergency services. They operate on frequencies which are unlicensed and, by being unregulated, cause unfair competition against legal local stations. On conviction for illegal broadcasting offences, a court may order forfeiture to Ofcom of any apparatus in use by the station, including record collections, mobile phones and other audio equipment. In addition, anyone convicted of a radio offence could find themselves barred from broadcasting on a legal station for 5 years.

Private Mobile Radio (PMR)
To enable large numbers of users to operate on relatively few frequencies, the use of radio by businesses such as taxi firms has to be carefully controlled. Frequencies are allocated on a shared basis and licence conditions imposed so as to permit use by the maximum number of operators. Unlicensed use, or use in contravention of licence conditions, can jeopardise the business activities of licensed operators and interfere with safety of life services. We therefore systematically inspect PMR stations. Enforcement action is taken against those found operating without a licence or in contravention of their licence conditions.

**Marine and aeronautical radio**

For those who use mobile radio in connection with maritime or aeronautical operations, abuse of the radio spectrum is an obvious hazard to safety of life, as well as to commercial activities. The use of radio equipment in ships and aircraft requires a licence. Operators of ship radio equipment also require an appropriate certificate of competence to operate. Ofcom undertakes campaigns to ensure all operators are aware of these requirements and obtain the necessary licence and certificate. We also inspect many marine business and port operations stations and issue new licences for these and some aeronautical ground stations.

**Amateur radio**

Licenses for amateur radio authorise use of a range of frequencies allocated to those who use radio as a hobby rather than for business purposes. Licences are granted only to applicants who have reached a certain level of competence in the theoretical and practical use of radio. Unfortunately, there is a minority which seeks to pursue the hobby without the necessary qualifications or licence. Some deliberately cause interference to amateur frequencies, either by jamming them or by transmitting music, obscenities or other forms of abuse.

**Short range radio devices**

More and more convenience devices now utilise radio in their operation. Car alarms, wireless door chimes and garage door openers are common examples and some are exempt from the 2006 Act’s licensing requirements. Unfortunately, not all of these are manufactured in accordance with the relevant technical requirements and it is an offence contrary to the RTTE Regulations to place on the market non-compliant apparatus.

The use of a short range device known as a 'phone jammer (or blocker)' is also an offence. These are devices which are intended to prevent radio equipment (like mobile phones) from receiving and transmitting signals. Their use therefore constitutes the specific offence of causing deliberate interference with wireless telegraphy (see section 68 offence below) In addition, a mobile phone jammer is a transmitter and depending on how it works a licence may be required to use one. However, because the sole effect of jammers is to disrupt licensed services, we do not issue licenses for their use.

**Who gets prosecuted?**

The largest proportion of prosecutions under the Wireless Telegraphy Acts are for breaches of Section 8 of the 2006 Act. Such breaches take one of two forms, either the user:

- has no licence at all; or
• has installed or is using radio equipment outside the terms of the licence or exemption.

These are offences under section 35 of the 2006 Act. In the interests of an interference free service and especially if there is a risk to safety, we may well have to close down a radio transmitter when it is causing problems.

Other offences under the 2006 Act
The 2006 Act also contains a number of other criminal offences, including:

• section 36: possession of radio equipment for unlicensed or unauthorised use;
• section 37: allowing premises to be used for unlawful broadcasting;
• section 38: facilitating unauthorised broadcasting, for example by financing the unauthorised broadcast station or advertising on it;
• section 47: sending a message which, in the knowledge of the sender, is false or misleading and is likely to prejudice the efficiency of any safety of life service or endanger safety;
• section 48: intercepting and disclosing the content of messages; and
• section 68: using any apparatus for the purpose of interfering with any wireless telegraphy.

Search warrants
A Justice of the Peace in England and Wales, in Scotland a Sheriff and in Northern Ireland a lay magistrate may grant a search warrant under section 97 of the 2006 Act. Such warrants are valid for three months in England and Wales and one month in Scotland and Northern Ireland. They allow those authorised by Ofcom to enter premises etc with or without constables, to search there and to examine and test any apparatus found.

Under Section 99(2) of the 2006 Act, the warrant may authorise the seizure and detention, for the purposes of legal proceedings, of any apparatus or thing found which appears to have been used in connection with, or to be evidence of, the commission of certain offences under the 2006 Act.

Seizure without warrant
Power is given in Section 99(3) of the 2006 Act for constables, or those authorised by Ofcom, to seize and detain without warrant, for the purposes of legal proceedings, certain apparatus or things found where they have reasonable grounds to suspect that certain offences have been or are being committed.

Obstruction
Under Section 98 of the 2006 Act any person who intentionally obstructs an authorised enforcement officer exercising powers under a section 97 search warrant, or who fails or refuses without reasonable excuse to give any assistance which section 97 requires, may be guilty of an offence. Under section 100 of the Act it is an offence intentionally to obstruct a constable or officer authorised by Ofcom who is exercising the power in section 99(3).

The enforcement of this Act is the responsibility of the Home Office. Use of radio equipment to listen to radio messages carried on public or private telecommunications systems, including the cellular systems, can be an offence under this Act.

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If you want advice or to complain to Ofcom please call us on 0300 123 3333 or 020 7981 3040. We are open Monday to Friday from 9.00am to 5.00pm.

We also take online submissions through our website.

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