



Citizens' Band (CB) radio spectrum use – information and operation

Of 364

Guidance
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Contents

Section		Page
1	Regulatory and equipment information	1
2	Frequently asked questions	5
3	CB operating practice	8

Section 1

Regulatory and equipment information

Citizens' Band ('CB') radio

- 1.1 Citizens' Band ('CB') radio operates in the 27 MHz band. It is a short-range radio service for both hobby and business use. It is designed to be used without the need for technical qualifications. However, its use must not cause interference to other radio users. Consequently, only radios meeting certain specific requirements may be used. These are described below.

How Ofcom authorises the use of CB radio

- 1.2 Ofcom seeks to reduce regulation, where possible. In 2006, we therefore made exemption regulations¹, removing the need for a person to hold a licence to operate CB radio equipment using Angle Modulation (FM/PM).
- 1.3 In 2014, Ofcom made further exemption regulations², which permitted the operation of CB radio equipment using two additional modes of Amplitude Modulation (AM) - Double Side Band (DSB) and Single Side Band (SSB). This followed an international agreement³ made in 2011.”.
- 1.4 CB users share spectrum in a frequency band used by the Ministry of Defence (MOD). CB users must therefore accept incoming interference caused by use of this spectrum by the MOD.
- 1.5 CB radio equipment must be operated on a 'non-interference' basis. This means that its use must not cause harmful interference to other authorised uses of radio.
- 1.6 It is an offence to use any station for wireless telegraphy or any wireless telegraphy apparatus to send a message, communication or other matter in whatever form that is grossly offensive or of an indecent, obscene or menacing character⁴.

Equipment requirements that must be met

- 1.7 Any CB radio equipment being used in the UK must meet certain standards, designed to minimise the risk of causing or suffering interference. These are set out in two Interface Requirements, which we have published⁵. We believe that if apparatus operates in conformity with a UK Interface Requirement, it should be able to demonstrate conformity with the essential requirements of the Radio Equipment Directive ('RED')⁶, which supersedes the Radio and

¹ The Wireless Telegraphy (Exemption) (Amendment) Regulations 2006

(http://www.legislation.gov.uk/ukxi/2006/2994/pdfs/ukxi_20062994_en.pdf)

² The Wireless Telegraphy (Exemption and Amendment) (Amendment) Regulations 2014

(http://www.legislation.gov.uk/ukxi/2014/1484/pdfs/ukxi_20141484_en.pdf)

³ ECC Decision (11)03 on "The Harmonised use of frequencies for Citizen Band (CB) radio equipment – June 2011 (<http://www.erodocdb.dk/docs/doc98/official/pdf/ECCDec1103.pdf>)

⁴ The Wireless Telegraphy (Content of Transmission) Regulations 1988

(<http://www.legislation.gov.uk/ukxi/1988/47/contents/made>)

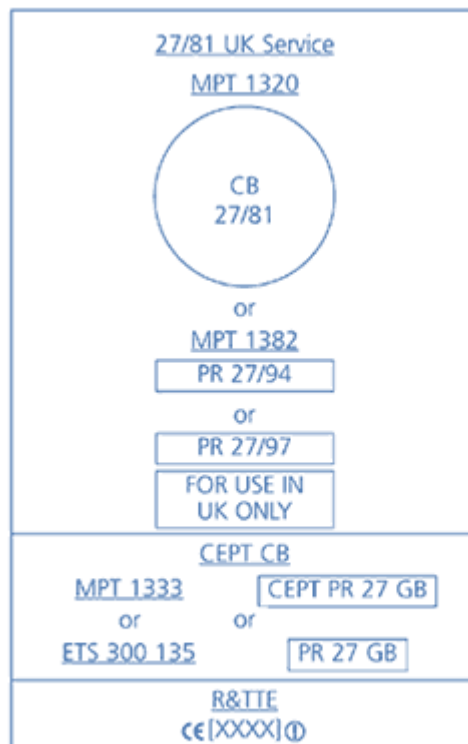
⁵ Interface Requirements IR 2027 (https://www.ofcom.org.uk/_data/assets/pdf_file/0028/84673/IR_2027.pdf)

and IR 2027.2 (https://www.ofcom.org.uk/_data/assets/pdf_file/0030/84765/ir_2027.2.pdf)

⁶ Directive 2014/53/EU of the European Parliament and of the Council (<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0053&from=EN>)

Telecommunications Terminal Equipment Directive ('R&TTE Directive')⁷. Our Interface Requirements also include references to the agreed international standards to which CB equipment must be manufactured.

- 1.8 Under the exemption regulations (see 1.2, above), apparatus must conform to these requirements and it is an offence to use CB radio equipment that does not conform.
- 1.9 Any new CB equipment that is placed on the market, too, must conform to the RED. Equipment that conforms to the RED must bear the 'CE' mark. It must also carry the identification number of a notified body, where one has been consulted by the manufacturer as part of the conformity assessment procedure. Equipment must be accompanied by instructions and a Declaration of Conformity. If a short form Declaration of Conformity is used then the full text can be made available through a website link. We have published more detailed information about equipment conformity on our website⁸.
- 1.10 Old CB radio equipment that was type approved under the arrangements that applied before April 2001 may still be used, as long as it complies with the minimum requirements of UK Interface Requirement (IR 2027 and/or IR2027.2). This equipment is likely to have been type approved to MPT 1320, MPT 1333, MPT 1382, or ETS 300 135 or EN 300-433.parts 1 & 2.
- 1.11 Typical marking of old CB radio equipment that conforms with regulatory requirements is shown below:



XXXX denotes the identification number of the Notified Body if relevant

⁷ Directive 1999/5/EC of the European Parliament and of the Council (<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31999L0005&from=en>)

⁸ https://www.ofcom.org.uk/spectrum/information/rtte_faq

Section 2

Frequently asked questions

Can I use converted equipment?

- 2.1 Any CB equipment that you use must conform to an applicable UK Interface Requirement. Converted equipment will almost certainly not conform and should not be used. This includes radios that have been fitted with proprietary conversion boards. Converted equipment poses an increased risk of causing interference to other radio users.

Which modes of modulation may be used?

- 2.2 The use of either Frequency Modulation (FM) or Phase Modulation (PM) is permitted, as well as the use of Amplitude Modulation (AM) Double Side-Band (DSB) or Single Side-Band modulation (SSB).

What is the maximum power allowed?

- 2.3 The maximum transmitter RF carrier power output allowed for Angle Modulated equipment is 4 Watts. The use of power amplifiers (often referred to as “burners” or “boosters”) to boost output power above the 4 Watt limit is illegal. For Amplitude Modulate equipment, the maximum permitted effective radiated power (ERP) is 4 Watts (measured as a root mean square) for DSB modulation, and 12 Watts (measured as a peak envelope power) for SSB modulation
- 2.4 For all modes of modulation, equipment with an integral antenna, the maximum effective radiated carrier power is limited to 4W.

What channels may I use?

- 2.5 There are two sets of frequency bands allocated to CB radio in the UK. These are listed below.

Table1: CB radio channel and frequencies

Channel	UK Channels (MHz)	CEPT/EU channels (MHz)
1	27.60125	26.965
2	27.61125	26.975
3	27.62125	26.985
4	27.63125	27.005
5	27.64125	27.015
6	27.65125	27.025
7	27.66125	27.035
8	27.67125	27.055
9	27.68125	27.065
10	27.69125	27.075
11	27.70125	27.085
12	27.71125	27.105
13	27.72125	27.115
14	27.73125	27.125
15	27.74125	27.135
16	27.75125	27.155
17	27.76125	27.165

Channel	UK Channels (MHz)	CEPT/EU channels (MHz)
18	27.77125	27.175
19	27.78125	27.185
20	27.79125	27.205
21	27.80125	27.215
22	27.81125	27.225
23	27.82125	27.255
24	27.83125	27.235
25	27.84125	27.245
26	27.85125	27.265
27	27.86125	27.275
28	27.87125	27.285
29	27.88125	27.295
30	27.89125	27.305
31	27.90125	27.315
32	27.91125	27.325
33	27.92125	27.335
34	27.93125	27.345
35	27.94125	27.355
36	27.95125	27.365
37	27.96125	27.375
38	27.97125	27.385
39	27.98125	27.395
40	27.99125	27.405

UK Channels are for angle modulation (FM/PM) only. CEPT/EU Channels can use angle modulation (FM/PM) and Amplitude Modulation (AM) Double Side Band (DSB) and Single Side Band (SSB)

Is 934 MHz still available for CB use?

- 2.6 No. The Performance Specification MPT 1321 to which 934 MHz CB transceivers were manufactured was withdrawn in 1988. No new sets were manufactured from that date and no sets were imported. The use of 934 MHz CB equipment has been prohibited since the beginning of 1999.

What about the 27/81 UK service?

- 2.7 MPT 1320 was withdrawn in March 1995 and replaced by a new Specification MPT 1382. All equipment type-approved to MPT 1320 may continue to be used for its foreseeable useful life (but see the section, above, on equipment standards).

Section 3

CB operating practice

Operational and other information

- 3.1 It is sensible to keep to good operating practices built up over the years of CB operation.
- 3.2 No one has preferential rights at any time or place or on any channel and keeping to good operating practices should assist in mitigating potential interference amongst users. Priority should be given to calls for help, and in particular Channel 9 should be left clear for emergencies and assistance only. All operators are recommended to follow this advice and other points listed below:

Remember:

- i) Be legal
Ensure that CB radio equipment is operated in accordance with the exemption regulations (see above)
- ii) Don't cause interference
Remember that other radio services may be affected by your transmissions.
- iii) Be patient
Show patience and consideration towards other users.
- iv) Be safe
Don't risk your life or anyone else's.

Interference

- 3.3 Although the CB service has been designed specifically to minimise interference to other radio services, all radio transmissions can cause problems to other users. There are several things you can do to minimise this:

Remember:

- i) Only use legal CB equipment (it's an offence to use other kit).
- ii) Don't tamper with your rig. Modifications to change the power output or the number of channels can cause interference and may place you in breach of the law.
- iii) Use the low power switch where possible.
- iv) Don't transmit close to radio masts, airfields or the emergency services. Their radio could be saving a life.
- v) You may not use your CB station on any aircraft.
- vi) Don't use your CB station on ships without obtaining the authority of the master of the vessel.

- vii) Don't site your antenna near to TV reception aerials.
- viii) Using a low-pass filter between your rig and antenna may help to reduce interference.

Using CB radio

Remember:

- i) Be considerate to other users.
- ii) Respect operating conventions – you should leave Channel 9 clear for emergencies, Channel 14 for calling and Channel 19 for mobile use. Also respect any local conventions regarding the use of a channel for a specific purpose.
- iii) Always give priority to emergency calls on any channel. The next emergency call may concern you, your family or friends.
- iv) If you hear a call for help and if no-one else is providing assistance, give any help you can.
- v) CB is not a substitute for the 999 () service or marine distress and calling channels. There is no official organisation monitoring CB, and there may not always be a "local volunteer" monitor listening.
- vi) Before you transmit, listen with the "Squelch" control turned fully down (i.e. background noise at a maximum). Don't barge in on existing conversations.
- vii) Where possible, keep conversations short. Don't hog channels. Everyone has an equal right to use them.
- viii) Be patient towards newcomers; everyone has to learn. Help them with interference and other problems if you can.
- ix) Be sympathetic to neighbours suffering interference to their radio or television reception.
- x) CB can be an aid to business as well as an entertaining and useful hobby. Help others to enjoy it as much as you do.

Safety

Remember

- i) Never erect or remove an antenna near to or under electricity transmission lines. CB users have been killed doing so. If in doubt ask your local electricity supplier for advice.
- ii) Take care at railway level crossings when driving a vehicle fitted with a CB antenna. High antennas can touch low wires causing electrocution so do not fit long antennas to vehicles or use any type of long antenna for mobile operation.
- iii) Use common sense when transmitting. Do not let your use of CB interfere with your ability to drive.

- iv) Do not transmit with the antenna less than 15cm (6 inches) from your face. Remember that concentrated radio energy can be dangerous.
- v) Use Channel 9 only for emergencies and assistance.

Is Channel 9 a "legal" emergency channel?

- 3.4 Channel 9 should be left clear for emergencies but this is not a legal requirement and is not a condition of the exemption regulations

Why isn't Channel 9 protected by law from abuse?

- 3.5 Volunteers do valuable work by giving up their time to monitor Channel 9 for emergency calls and their frustration when the channel is misused is understandable. However, implementing legal protection for the channel would be complex.

Do I have to register with Ofcom to become a monitor?

- 3.6 No. Any group or individual licensee may monitor Channel 9 or any other channel. No permission is needed and Ofcom does not maintain a register of monitors.

Should I register with the emergency services?

- 3.7 This is not necessary but you may like to contact the emergency services to let them know you are there (some like to keep a list of known CB monitors in their area) and to get any advice they may wish to give you about the passing of emergency calls.
- 3.8 It is also important to get in touch with the local police if you wish to help in incidents such as searches for lost children. Sometimes the emergency services can be hindered rather than helped when people turn up on the scene of an accident or search and it is therefore very important to make sure that your efforts are properly directed.

Do the emergency services monitor Channel 9?

- 3.9 Generally no. Some informal monitoring may be done locally by services such as police traffic controls but this is not usually on a regular basis. The emergency services certainly do not have sufficient resources to undertake monitoring on anything but a small and selective scale. CB is no alternative to the maritime emergency service, for example.

Can I use my CB radio abroad?

- 3.10 You will not be permitted to use CB equipment which incorporates the UK channels (27.60125-27.99125 MHz, i.e. UK Channels 1-40), abroad.
- 3.11 Use of CB equipment abroad, with EU channels only as denoted in (and based on) ETS 300 135, may be permitted, but before travelling you should check with the administration of the country concerned whether it may be used and whether any conditions apply.
- 3.12 When operating abroad, you must comply with the conditions of authorisation of the country which you are visiting.