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Introduction

This guidance is intended to support fire and rescue services in specifying and managing fireground voice communication radio equipment for use at incidents. The guidance sets out the regulatory and operational requirements for using equipment and frequencies.

Effective fireground communications are crucial to the work of fire and rescue services in resolving incidents and ensuring firefighter safety, particularly between sectors and when breathing apparatus (BA) crews are deployed. The intraoperability of communications between services at cross-border and major incidents can also be critical to effective operations.

Frequency assignments and a channel plan for fire and rescue services based on FM analogue radio technology was agreed by the Home Office in 1993. The introduction of new technology has led to fire and rescue services now procuring and using digital radio equipment for incident ground purposes; the channel plan was reviewed and updated in 2017.

The channels are primarily intended for communications between land-based resources. As they are United Kingdom wide and are not geographically assigned to any service, their use must be coordinated between fire and rescue services. During incidents, fireground radio use should be managed to minimise interference between simultaneous incidents in the same service area or across borders.

Manufacturers producing radios to a set standard must adhere to certain criteria to ensure the main functions are compatible, though some manufacturers choose to add additional features. Proprietary features are not guaranteed to be compatible between different manufacturers, so fire and rescue services are advised to consider intraoperability of handsets prior to procurement. This guidance will assist in that process.



National
Operational
Guidance

Fire and rescue service responsibilities

Wireless telegraphy licences are issued by the Office of Communications (Ofcom) under Section 8 of the Wireless Telegraphy Act 2006. The Act authorises the licensee to establish and use stations, install or use apparatus for wireless telegraphy, subject to certain terms, provisions and limitations. Fire and rescue services pay for a licence to use a set of frequencies in the Ultra High Frequency (UHF) 450-470MHz band.

For further information see: [Wireless Telegraphy Act 2006](#)



General regulatory requirements

- Equipment should only be programmed with the licensed channels available for voice communications
- Any equipment procured to provide voice communications using the UHF at-incident channels must be capable of transmitting and receiving on any frequency in the 450-470MHz band, and capable of transmitting and receiving channels with a bandwidth of 12.5 and 25 kHz
- Mobile-base stations are permitted; the aerial height of UHF mobile base stations must not be such that they could cause interference beyond the fireground
- Fixed-base stations may be allowed; where they are allowed, the frequencies and other technical details must be recorded
- Voice channels can be used by non-local authority fire and rescue services, subject to certain terms and conditions.

An example Ofcom licence can be found in [Appendix B](#)

A copy of the Wireless Telegraphy General Licence Conditions booklet can be seen on the Ofcom website: [General Licence Conditions Booklet](#)



VHF fireground radio channels

Very high frequency (VHF) channels in the 80MHz band are no longer licensed to fire and rescue services for fireground use and therefore, using such channels is illegal. Fire and rescue services should disregard any previously published guidance relating to fireground VHF channels.



Ofcom

Ofcom is the UK communications regulator. Ofcom regulates TV, radio and video-on-demand sectors, fixed-line telecoms, mobile phones and postal services, plus the airwaves over which wireless devices operate. Ofcom operates under a number of Acts of Parliament, particularly the Communications Act 2003 and the Wireless Telegraphy Act 2006. It also has powers to enforce competition law alongside the Competition and Markets Authority.

For further information see: Ofcom.org.uk



Public Safety Spectrum Policy Group (PSSPG)

The Public Safety Spectrum Policy Group (PSSPG) is a standing government inter-departmental committee on emergency and public safety spectrum matters. It reports to the UK Spectrum Strategy Committee. The PSSPG comprises representatives from Ofcom, government departments and devolved administrations. Other relevant organisations are invited to attend as required.

UK fire and rescue services are represented by the Home Office for England and Wales and the Scottish Government and Police Service Northern Ireland (PSNI) for their respective nations.

For further information see: [Public Safety Spectrum Policy Group: Terms of reference](#)



Licence fees

Fire and rescue services pay a fee to Ofcom to use licensed frequencies. For further information on licensing fees contact Ofcom.

Fire and rescue services requiring channels or frequencies in addition to those licensed for fireground voice communications should contact Ofcom. Further information on the fees for area-defined and technically-assigned licences can be found on the Ofcom website: [Business Radio Licences](#)



Channel sharing

Subject to the local chief fire officer's approval, non-local authority fire services are permitted to use at-incident channels to allow tactical interoperability at incidents and for training. The chief fire officer must be satisfied that radio interoperability will improve operational effectiveness or personnel safety at incidents and that adequate arrangements exist to prevent the misuse of radio channels. Any use is restricted to incidents involving local authority fire and rescue services and is restricted to the permitted user, who must comply with the terms of the licence. Such organisations include:

- Defence Fire Risk Management Organisation
- Airport fire services
- Works fire services



European Telecommunications Standards Institute (ETSI)

The European Telecommunications Standards Institute (ETSI) is one of several standards bodies that produce the standards applicable to information and communications technologies. Conforming to telecommunications standards ensures interoperability across different manufacturers' products.

All equipment, including that which forms part of an assembly of components, should comply with the relevant ETSI or approved specifications and the Radio Equipment Directive (RED) - 2014/53/EU and should be appropriately CE marked.

Several different digital standards are available for conventional two-way radios and it is important to understand that these different technologies are not compatible with each other. The two main standards are Digital Mobile Radio (DMR) and Digital Private Mobile Radio (dPMR). Both are based on open digital radio standards produced by the European Telecommunication Standards Institute

(ETSI).

For further information see: [ETSI Standards: Digital Mobile Radio](#)

For further information see: [ETSI Standards: Private Mobile Radio](#)

A few other digital technologies are used by manufacturers, such as NXDN. NXDN is an open standard common air interface (CAI) technical protocol for mobile communications developed jointly by Icom Incorporated and Kenwood Corporation.

For further information see: [NXDN Forum](#)



Reporting radio-frequency interference

Radio-frequency interference can arise from several sources, not all of which can be controlled by regulation (atmospheric conditions, for example). Symptoms of radio-frequency interference can include reduced range, messages not being received, distortion, unwanted signals or noises (typically whistling, popping or buzzing). If detrimental interference arises, it is important to first establish that the source is not locally generated (e.g. faulty equipment) before reporting it to Ofcom.

For further information on reporting interference to Ofcom see [Appendix C](#)



Fireground radio frequencies

Eight spot frequencies are available in the 450-470 MHz UHF band for 'at incident' voice communications; four simplex and two duplex channels. These frequencies are licensed to fire services by Ofcom. Two additional frequencies, currently licensed to the Home Office are allocated to the fire service. Each frequency listed in the current license is the centre of a 25 kHz channel. This spacing reduces the risk of interference from radios transmitting on adjacent frequencies by providing a guard band either side of the 12.5 kHz operating channel. A single frequency is also allocated to BA telemetry.



Extract from Ofcom licence (Pre-review)

Tx Frequency (MHz)	Rx Frequency (MHz)	Power (W)	Emissions	Band	Note
457.0375	457.0375	5	16K0F3EJN	UHF2	At-incident channel
457.0875	462.5875	5	16K0F3EJN	UHF2	At-incident channel
457.4875	457.4875	5	16K0F3EJN	UHF2	At-incident channel
457.1875	457.1875	5	16K0F3EJN	UHF2	At-incident channel
457.1375	462.6375	5	16K0F3EJN	UHF2	At-incident channel
457.2375	457.2375	5	16K0F3EJN	UHF2	At-incident channel
469.9000	469.9000	1	25 kHz	UHF2	Breathing apparatus (BA) telemetry

N.B. 16K0F3EJN is the International Telecommunication Union's (ITU) emission designation for current analogue fireground equipment operating in 25 kHz bandwidth.

For more information on the correct channel programming of duplex channels see [Fixed site and portable repeaters](#).

So that services could be rearranged in the future, any equipment procured must be capable of transmitting and receiving on any frequency in the 450-470MHz band, and capable of transmitting and receiving channels with a bandwidth of 12.5 kHz.

The channel plans below suggest primary uses for the Ofcom allocated frequencies that will support interoperability at cross-border incidents and national deployments. Incident commanders should consider a communication plan appropriate to the incident, see also [Fireground considerations](#).



Analogue fireground radios channel plan

Channel	Primary Use	Mode	Tx Frequency (MHz)	Rx Frequency (MHz)
1	General incident	Analogue	457.0375	457.0375
2	Portable repeaters	Analogue	462.5875	457.0875
3	Breathing apparatus (BA) communications	Analogue	457.4875	457.4875
4	Command support	Analogue	457.1875	457.1875
5	Fixed site repeaters	Analogue	462.6375	457.1375
6	BA sector/functional roles	Analogue	457.2375	457.2375
7	Service defined	Analogue	450.1000	450.1000
8	Incident defined	Analogue	464.1000	464.1000



National
Operational
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Digital fireground radios channel plan

Channel	Primary Use	Mode	Tx Frequency (MHz)	Rx Frequency (MHz)
1	General incident - digital	Digital	457.0375	457.0375
2	Portable repeaters - digital	Digital	462.5875	457.0875

3	Breathing apparatus (BA) communications - digital	Digital	457.4875	457.4875
4	Command support - digital	Digital	457.1875	457.1875
5	Fixed site repeaters - digital	Digital	462.6375	457.1375
6	BA sector/functional roles - digital	Digital	457.2375	457.2375
7	Service defined - digital	Digital	450.1000	450.1000
8	Incident defined - digital	Digital	464.1000	464.1000
9	General incident - analogue	Analogue	457.0375	457.0375
10	Portable repeaters - analogue	Analogue	462.5875	457.0875
11	BA communications - analogue	Analogue	457.4875	457.4875
12	Command support - analogue	Analogue	457.1875	457.1875
13	Fixed site repeaters - analogue	Analogue	462.6375	457.1375
14	BA sector/functional roles - analogue	Analogue	457.2375	457.2375
15	Service defined - analogue	Analogue	450.1000	450.1000
16	Incident defined - analogue	Analogue	464.1000	464.1000

Fire and rescue services can define further channels using licensed frequencies such as scanning channels or site-specific repeaters.

See [Appendix A](#) for UK fire service standard DMR Tier II code plug.



Fireground considerations

Incident commanders should ensure there is an effective telecommunication strategy at incidents and let all personnel know about the use of fireground radio channels. The risk of interference

from nearby fire service incidents, analogue/digital radios and other users of the radio spectrum should be managed to minimise risk of telecommunication problems affecting safety.

For further information see National Operational Guidance: Incident command - [Have a communication strategy](#)

For further information see National Operational Guidance: Major incidents - Overwhelmed / overloaded communications systems



Power output

The current licensing condition from Ofcom for fireground radios is a maximum of five watts of radiated power for handheld devices. Radio coverage can generally be improved by increasing radiated power, but this affects battery life.

Radio waves spread from an antenna horizontally and in a straight line, reducing in intensity by a factor of four each time the distance doubles; this is known as 'free space path loss'. Obstructions such as hills, trees and buildings will affect the radio waves, weakening the signal.

The relationship between power output and radio propagation is complex and services should seek specialist technical advice on the subject.

When considering the power output of handheld radios fire and rescue services should be aware of the potential for health effects related to radio wave (RF) electromagnetic radiation. Risk can be reduced by factors such as the amount of time a device is transmitting and the use of remote speaker microphones. For further information see: [HSE non-ionising radiation FAQs](#)



Analogue and digital radios

Fireground radios for voice communications were originally operated using analogue radio technology. From 1993, fire and rescue services have operated handheld fireground radios according to an analogue channel plan agreed with the Home Office. The introduction of new technology has led to fire and rescue services procuring and using digital mobile radio, though the analogue channel plan will continue to operate for fire and rescue services that choose not to

adopt digital technology.

Analogue and digital radios within range of each other that are operating on the same frequency will cause interference; messages sent are unlikely to be received. To ensure cross-border interoperability it is essential that all personnel are aware that transmitting on an analogue radio using the same frequency as a digital radio is likely to generate issues for one or both services.

At incidents where both analogue and digital radio technologies are in use, or occasions where radio equipment may be within range (e.g. service boundaries), an effective communications plan is essential and should be implemented at the earliest opportunity. It should clearly define the channels nominated, including whether they are analogue or digital.



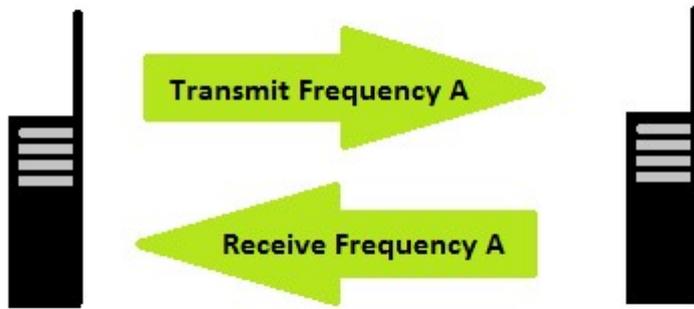
Fixed-site and portable repeaters

It may not always be possible to use radios in 'simplex' mode (direct radio-to-radio) to cover an entire incident ground; the signal coverage may weaken because of the distance and the number of obstruction between radios. Repeaters, also called 'talk-through base stations', can be used to extend the range of handsets; they act as a 'middle agent' to rebroadcast radio messages.

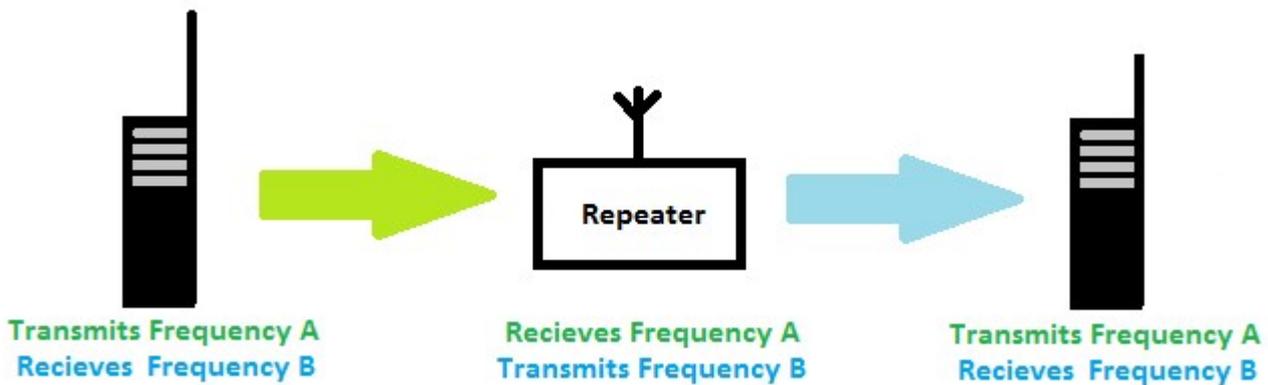
Repeaters may be permanently installed in fixed locations, such as shopping centres, tall buildings, tunnels and hospitals. Fixed repeaters give fire and rescue services the benefit of knowing the coverage they provide before they need to be used.

Some manufacturers have designed portable repeaters that are battery powered and easy to deploy. These portable repeaters can be deployed quickly and easily in areas that have no power sources. Fixed repeaters may give better coverage because of better planning and installation.

In simplex mode, radios transmit and receive on the same frequency. When radios use a repeater to communicate, they operate in half-duplex mode. In half-duplex mode, the radios transmit and receive using different frequencies, although this is invisible to the user.



Radios operating in simplex mode (direct radio-to-radio)



Radios operating in half-duplex mode (via a repeater)

For optimum coverage, repeaters are usually positioned in a central position between the radio users. Radios must be within the coverage range to access a repeater. If two radios have selected a half-duplex channel and no repeater is available, they will not be able to communicate, no matter how close they are.

Depending on the model, repeaters may be operated in analogue or digital mode; the radios accessing the repeater must be using the same mode.

Some radio manufacturers produce repeaters that can be connected over an IT network to allow wide-area radio coverage. In this configuration, the radios will choose the closest or best repeaters to communicate, and the messages are relayed across the IT networks to be rebroadcast via the other connected repeaters. Not all radios have this capability, and careful planning is required.

In the UK, repeater base stations should transmit on the lower of the frequencies and receive on the higher frequency; radios to be used with repeaters should therefore be programmed in the opposite configuration. (See also [Fireground radio frequencies](#))

Fire and rescue services should consider the resilience of the repeater equipment they may rely on for effective communications. Incident commanders should consider a fallback procedure that can be implemented in the event of a communications breakdown (e.g. repeater power failure).

The Dangerous Substances and Explosive Atmospheres Regulations of 2002 (DSEAR) says that where a dangerous substance is, or is liable to be, present at the workplace, employers must make a suitable and sufficient assessment of the risks to their employees.

In the DSEAR, an explosive atmosphere is defined as a mixture of dangerous substances with air under atmospheric conditions in the form of gases, vapours, mist or dust which, after ignition has occurred, combustion spreads to the entire unburned mixture.

For UK fire and rescue services, the recommended standard for general applications where an explosive atmosphere is likely to occur in normal operation is Zone 1, or Zone 21 in the case of combustible dusts.

Equipment for use in places in which explosive atmospheres may occur must be selected based on the requirements set out in the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 1996 (EPS) unless the risk assessment finds otherwise.

It is recommended that radio equipment purchased for use with breathing apparatus (BA) meets the requirements for electrical equipment groups 1 or 2, subdivision IIC and have a minimum surface temperature classification rating of T4 (135° C). For further information on the specification of equipment for use in explosive atmospheres see British Standard BS EN 60079-0:2012+A11:2013 Explosive atmospheres. Equipment. General requirements.

Radio systems where two or more items of equipment are assembled together to form a product in its own right should meet the same standard.

For further information see: [HSE - The Dangerous Substances and Explosive Atmospheres Regulations 2002 \(DSEAR\)](#)



Factors to be considered during radio procurement

Fire and rescue services should consider compatibility issues when procuring digital radio equipment including repeaters, breathing apparatus (BA) and vehicle-mounted devices. They should also ensure that any standard or specification used by the manufacturer is fully understood and tested.

A 2017 survey identified that all fire and rescue services currently operating digital radios have

adopted the Digital Mobile Radio (DMR) Tier II standard. For more information on DMR Tier II see [Appendix A](#).

Fire and rescue services need to consider the benefit of retaining the intraoperability provided by the existing analogue fireground radio channels when migrating to digital fireground radios. It is important that the following steps are considered where practical:

- Procure digital radios that can operate in both analogue and digital modes
- Configure analogue interoperability channels, to enable fireground voice communications with fire and rescue services that have analogue-only radios
- Clearly identify the suitable analogue fallback channels
- Consider any neighbouring fire and rescue service's existing fireground radio configurations
- Ensure that the radio configuration file is compatible with neighbouring services already using digital radio
- Ensure the configuration file setting best reflects regional dialects and accents

The Fire Service Consortium has a framework agreement for purchasing fireground radios. See [The consortium: Fire and rescue](#)



Glossary

Term	Acronym	Explanation
Appareils destinés à être utilisés en AT mosphères EX plosibles	ATEX	Two directives from the European Commission dealing with equipment for use in potentially explosive atmospheres.
Code plug		Radio configuration file that contains the operating frequencies and other parameters that define a radio's operating and control mechanisms.
Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 1996	EPS	Regulations that implement the European Union (EU) Explosive Atmospheres Directive 94/9/EC (ATEX) within the UK.

European Telecommunications Standards Institute	ETSI	Body that produces globally-applicable standards for information and communications technologies (ICT), including fixed, mobile, radio, converged, broadcast and Internet technologies.
Frequency		The waveband at which radio signals are broadcast or transmitted.
International Telecommunication Union	ITU	Specialised agency of the United Nations (UN) that is responsible for issues that concern information and communication technologies.
Ofcom		The UK's communications regulator.
Propagation		Transmission of motion, light, sound, etc. in a particular direction or through a medium.
Public Safety Spectrum Policy Group	PSSPG	A standing government inter-departmental committee on emergency and public safety spectrum matters.
Spectrum		Collective term referring to the entire range and scope of frequencies of electromagnetic radiation
Vocoder		A synthesizer that produces sounds from an analysis of speech input



Bibliography

Publisher	Document	Date
Home Office	Dear Chief Officer Letter 4/1988	1988
Home Office	Dear Chief Officer Letter 7/1990	1990
Home Office	Dear Chief Officer Letter 6/1992	1992

Home Office	Dear Chief Officer Letter 11/1992	1992
Home Office	Dear Chief Officer Letter 8/1995	1995
Home Office	Fire Service Circular 15/1999, Spectrum pricing - Brigade radio licence fees	1999
HMFSI	Fire service Manual, Volume 1, Communications and Mobilising	1998
CFOA	Circular 2011-041, Ofcom Spectrum Audit	2011
CLG	FRS Radio Communications Guidance Note 8, Incident Channels (unpublished)	2012
CFOA	Circular 2014-01, Radio Communications - Reporting Interference	2014
CFOA	Circular 2015-09, Considerations when procuring digital fire-ground radios	2015
CFOA	Circular 2016-11, Digital fire-ground radio programming	2016



Appendix A - Digital Mobile Radio (DMR) Standards

Digital Mobile Radio (DMR) is a digital radio standard specified for business mobile radio users, developed by the European Telecommunications Standards Institute (ETSI) and first ratified in 2005.

The standards that define DMR consist of four documents covering DMR Tier I, II and III. These can be downloaded free of charge from the ETSI website. Tier I is designed for unlicensed radio systems and Tier III is based around digital trunked radio. The DMR standard tiers (Tier I, Tier II and Tier III) are all incompatible. Tier II is the most suitable for fireground communications.

- General system design TR 102 398
- Part 1: DMR air interface (AI) protocol - TS 102 361-1
- Part 2: DMR voice and generic services - TS 102 361-2
- Part 3: DMR data protocol - TS 102 361-3
- Part 4: DMR trunking protocol - TS 102 361-4

Tier II covers licensed conventional radio systems, mobile phones and hand portable radios operating in private mobile radio (PMR) frequency bands from 66-960MHz. The standard is aimed

at users who need spectral efficiency, advanced voice features and integrated internet protocol (IP) data services in licensed bands for high-power communications. ETSI DMR Tier II specifies two-slot Time Division Multiple Access (TDMA) in 12.5 kHz channels.

As well as ensuring that the correct digital standard is being used, several other parameters need to be correct to provide compatibility on a given channel (frequency), including colour code, time slot, talk-group identification and encryption, although regulations require that transmissions are in clear speech (i.e. not encrypted).

Digital fireground radios are configured by software in the radio, referred to as a code plug. The overarching procurement principle for fire and rescue services is to maintain interoperability with all neighbouring fire and rescue services, wherever possible.

When developing their radio specification for procuring DMR (Tier II) fireground radios, fire and rescue services should consider:

Frequency	Based around current channel assignments for fireground radios.
Digital colour code	16 digital colour codes are available. A code is used to allow different systems or organisations to 'share' a frequency without hearing each other. Only one system can use the frequency time slot at any given time.
Group ID	A group ID allows multiple talk groups to share the same colour code. Only one talk group can use the colour code/frequency time slot at a time.
Slot number	DMR allows a 12.5 kHz channel to be sliced into two time slots. Users on time slot one and time slot two can use the frequency simultaneously, effectively creating two channels per 12.5 kHz assignment. N.B. In simplex mode, only time slot one should be used.



UK Fire service standard DMR Tier II code plug

Channel	Mode	Mobile Tx (MHz)	Mobile Rx (MHz)	CC	Slot	Group ID	Primary Use
Ch1	Digital	457.0375	<<<<<<	1	1	901	General incident – digital
Ch2	Digital	462.5875	457.0875	2	1	901	Portable repeaters - digital

Ch3	Digital	457.4875	<<<<<<	3	1	901	Breathing apparatus (BA) communications – digital
Ch4	Digital	457.1875	<<<<<<	4	1	901	Command support – digital
Ch5	Digital	462.6375	457.1375	5	1	901	Fixed site repeaters – digital
Ch6	Digital	457.2375	<<<<<<	6	1	901	BA sector/functional roles – digital
Ch7	Digital	450.1000	<<<<<<	7	1	901	Service defined - digital
Ch8	Digital	464.1000	<<<<<<	8	1	901	Incident defined - digital
Ch9	Analogue	457.0375	<<<<<<	-	-	-	General incident – analogue
Ch10	Analogue	462.5875	457.0875	-	-	-	Portable repeaters – analogue
Ch11	Analogue	457.4875	<<<<<<	-	-	-	BA communications – analogue
Ch12	Analogue	457.1875	<<<<<<	-	-	-	Command support – analogue
Ch13	Analogue	462.6375	457.1375	-	-	-	Fixed site repeaters – analogue
Ch14	Analogue	457.2375	<<<<<<	-	-	-	BA sector/functional roles – analogue
Ch15	Analogue	450.1000	<<<<<<	-	-	-	Service defined - analogue
Ch16	Analogue	464.1000	<<<<<<	-	-	-	Incident defined - analogue
Ch17+	-	-	-	-	-	-	User definable channels

[Click here to download the UK Fire service standard DMR Tier II code plug](#)



The Digital Mobile Radio Association

Digital Mobile Radio Association (DMR) members are companies, organisations and individuals who use or build DMR products, or those who support the DMR standard in other ways. The DMR Association has a number of members classed as ‘category one’. These manufacturers have signed a memorandum of understanding to ensure that their products use mandatory features of the ETSI DMR standard to provide interoperability. Manufacturers may also choose to add optional features.

Although the ETSI DMR standard does not specify the use of a particular vocoder, DMR Association members have agreed to use the Advanced Multi-Band Excitation (AMBE+2) half-rate vocoder to ensure compatibility between equipment.

For further information see: [Digital Mobile Radio Association](#)



Appendix B – Example Ofcom Licence



Business Radio (Police and Fire) - LICENCE

Date:

Licensing Unit: Ofcom Licensing Centre

Telephone: 020 7981 3131

0300 123 1000

Fax: 020 7981 3235

E-Mail: licensingcentre@ofcom.org.uk

Customer Ref No:

Following your recent application for a Business Radio (Police and Fire) licence, please find enclosed your licence document which contains the terms and conditions governing the legal operation of your system. Please check the document carefully to ensure the licence meets your requirements. If you consider that it does not, you should contact Ofcom within one calendar month of the date of this letter at the address shown above.

At a later date, if you wish to make any changes to your installation, you can apply to do so using an amendment form available from the Ofcom website (www.ofcom.org.uk). However, any changes to your radio system must not be carried out until you have received authorisation from Ofcom.

Similarly, if you make changes to the accounts address or any other contact address, please inform Ofcom immediately so that our records can be updated. Please always quote your Customer Account Number/Licence Number when contacting us.

Your licence is an important document. Please keep it - and any subsequent documents - in a safe place for future reference.

Ofcom's preferred method of payment is by direct debit and a direct debit mandate is available from the Ofcom website

at <http://licensing.ofcom.org.uk/binaries/spectrum/business-radio/forms/dd.pdf> should you choose to pay by this method.

Yours faithfully,

Andrew Jacks

[Download example licence](#)



Appendix C – Reporting interference



Spectrum Management Centre Services available in response to Emergency Services Interference investigation requests

Requests for interference investigation to Emergency Services should be directed to Ofcom's Spectrum Management Centre (SMC) on 01462 428528 or via email Usmc@ofcom.org.uk.

The SMC provides triage of incoming requests on a 24/7 basis for interference resolution relating to radio communications services where Safety of Life or Critical Service is at risk.

The Duty Engineering Officer (DEO) on shift requires the following information from the reporting officer:

- Who they are, and their contact details?
- The frequency(s) and channel(s) affected;
- When did the interference first start and how long it has been occurring;
- The area/postcode of the area/users affected by the interference;
- The base station site location (NGR or Postcode will suffice) affected;
- The nature and severity of the interference – impact on service provided;
- Description of the interference identified i.e. warbling or static noise;
- If the report of interference is from engineering staff the following is required:
 - noise or modulation type;
 - if narrow or wideband;
 - spectrum analyser screenshots if available;

- spectrum plots if available.
- Are there any site access restrictions that our engineer should be aware of.

Based on the above information, the DEO will be able to assess, in agreement with the person making the report, what priority of response will be given to the interference investigation. The priority of the response will be based on the information provided in Table 1 Case Impact Assessment v Priority Guidance and Table 2 External Key targets (below).

Table 1: Case impact assessment v priority guidance

Impact on consumer/stakeholder	Severe For example, the system is inoperable or significantly degraded	Moderate For example, the system is degraded but usable	Slight (nuisance) For example, the system is disrupted from its normal operation by the interference
No immediate alternative form of communication is available. There is a life safety risk.	Priority 1	Priority 2	Priority 3
No immediate alternative form of communication is available. There is no immediate life safety risk. Efficient emergency/public services are disrupted or jeopardised. Significant numbers of consumers are severely affected.	Priority 2	Priority 3	Priority 4

<p>An alternative form of communication is available to emergency/public services. No alternative form of communications is available to business/services critical operations. Significant numbers of consumers are affected</p>	<p>Priority 3</p>	<p>Priority 3</p>	<p>Priority 4</p>
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Table 2: External Key targets

Priority	Time to first visit	Resolution
Priority 1	8 hours	2 calendar days
Priority 2	18 hours	3 calendar days
Priority 3	2 working days	6 working days

Originally issued: 30 October 2013