

This information sheet provides details about Private Business Radio (PBR). A business radio system is used to pass messages between a base station and mobile sets and mobile to mobile as an aid to conducting business. The different Business Radio licences allow the licensee to operate different types of systems in accordance with licence conditions and Wireless Telegraphy legislation.

On-Frequency Repeater Stations for Use by Private Business Radio (PBR)

OfW130 (formerly Radiocommunications Agency information sheet RA 269)

1. Introduction

This leaflet explains Ofcom's (the Office of Communications) policy for the licensing of 'on-frequency repeater' (OFR) stations on channels allocated to PBR licensees with nationally exclusive, regionally exclusive and on-site channels.

OFRs may **not** be used by:

- PBR UK General licensees (pre-packaged licence)
- licensees operating in Band III; and
- PBR Suppliers licensees

This leaflet does not cover the OFR licensing policy for Private Wide-Area or On-Site Paging (including local communications). Nor does it cover policy for channels assigned to services within the Public Networks sector, such as Public Access Mobile Radio (PAMR) including mobile data networks, Common Base Station (CBS), public Band III services, and public paging operations.

2. Background

The PBR UK General licence allows you to use hand-portable or mobile equipment anywhere in the UK without the need to inform us. It gives you access to one or more of 15 frequencies spread across four PBR bands.

As this is a 'go-anywhere' service, you may **not** use base stations unless you have obtained prior authorisation from us. There is no limit on the number of sites where you may use hand-portable or mobile equipment covered by this licence, or on the duration of use at any location.

The PMR (Standard) UK General licence was replaced by the PBR UK General licence in July 2002. If you still have a valid PMR (Standard) licence, you may be able to use frequencies that are not available under the new licence; you can continue to use these frequencies until 2006. Please refer to your licence document for the terms and conditions of use. Use of OFR's on this licence will be considered on a case by case basis by the relevant Ofcom licensing office.

3. What is an on-frequency repeater?

Ofcom considers an OFR to be a device that receives a radio frequency signal and re-transmits or re-radiates it on the same frequency without any significant delay.

OFRs can enhance a radio service's coverage in areas where it is otherwise necessary to use a repeating base station because of inadequate coverage from a main base station (e.g. in tunnels and other spectrum dead spots caused by local terrain).

OFRs covered by the UK Radio Interface Requirement IR2001 can be single-channel, or non-contiguous multi-channel with a common power amplifier. They can be used in areas of poor propagation to enhance signals between base stations and mobiles, between mobiles and base stations, or in both directions.

4. Why do we restrict OFR operations?

OFRs can re-transmit or re-radiate unwanted signals as well as wanted signals, causing interference. They can also be unstable. If they are not site engineered with great care, oscillation can occur, causing serious interference to the licensee and other users.

Our OFR policy aims to facilitate the use of OFRs for licensees' benefit, as long as there is little potential for interference to other radio users. OFR users should not extend the boundaries of their coverage area.

5. What is permitted?

Our policy on OFR use by PBR (Standard) UK General licensees varies according to the type of channel used.

The policy does **not** vary according to the technology employed by the OFR, although all OFRs must comply with the provisions of IR2001; this covers 12.5 kHz, 20 kHz and 25 kHz channelled equipment, but in general 12.5 kHz channelling is used in the UK.

The maximum effective radiated power (ERP) for all channels is 5 watts or less, as specified on the licence schedule.

You must not buy or install any OFR equipment until you possess a licence permitting its use.

(a) Nationally exclusive channels

We will license OFRs on nationally exclusive channels on an unprotected, non-interference basis, as long as their use does not lead to additional frequency spectrum requirements.

(b) Regionally exclusive channels

We will consider applications for OFR use on regionally exclusive channels on an unprotected, non-interference basis, as long as their use does not:

- lead to additional frequency spectrum requirements; nor
- increase the interference potential to other users, e.g. by extending the PBR service's coverage area.

(c) PBR on-site channels

We will consider applications for low-power OFR use on on-site channels, on the same basis and under the same conditions as in (b) above.

(d) Shared wide-area channels

OFRs are **not permitted** on shared wide-area channels, because of the high potential for interference to channel sharers with overlapping operational coverage areas.

6. How to apply for OFR use

If you want to apply for a licence, or to amend an existing licence to use an OFR, please write to:

Ofcom Contact Centre
Riverside House
2a Southwark Bridge Road
London
SE1 9HA

Tel: 0845 456 3000
Fax: 0845 456 3333
Email: contact@ofcom.org.uk
Web: www.ofcom.org.uk

Your application should explain why you want to use an OFR, and should include the following details:

- the type of OFR you wish to use;
- your existing licence reference number(s), if applicable;
- the locations (national grid references etc) of your base station and proposed OFR;
- ERPs and/or equipment terminal powers;
- your antenna type(s) and performance criteria (e.g. gain); and
- your antenna height(s) and orientation(s) (pointing etc).

Your application will be carefully evaluated. If it is successful, you will be told the technical conditions (i.e. ERPs and antenna heights) that will apply, and you will be issued with a licence schedule.

7. Enquiries

If you have any questions about OFRs, please contact either your local Ofcom office or the Ofcom Contact Centre.