
Aeronautical Radio Licensing Policy Manual

GUIDANCE:

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About this document

- 1.1 The Aeronautical Radio Licensing Policy manual gives general guidance on the licensing of radio in Aircraft and Aeronautical Ground Stations. This manual gives an outline of this policy and covers Aeronautical Radio, Equipment Compliance, types of licences, frequency planning, Interface Requirements, Technical Frequency Assignment Criteria and international coordination. This guidance complements the General Licence Conditions Booklet https://www.ofcom.org.uk/_data/assets/pdf_file/0032/89744/General-Licence-Conditions.pdf

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1. Introduction

What is aeronautical Radio licensing?

- 1.1 Aeronautical radio licensing means granting licences under the Wireless Telegraphy Act 2006 (as amended – ‘the WT Act’) for aircraft stations and aeronautical ground stations, including temporary stations or hand-held equipment.
- 1.2 An aeronautical ground station includes any ground station, radar or navigational aid associated with air safety or traffic management, movement or control.
- 1.3 The main licensing functions cover:
 - Authorising the use of radio equipment by issuing licences under the WT Act;
 - Issue reminders, intentions to revoke and revocations;
 - Manage WT Act licensing provision for the Crown Dependencies (Guernsey, Jersey and the Isle of Man);
 - Process Fees
 - Maintain a licensing database; and
 - Maintain a licensing enquiry service.
- 1.4 Aircraft owners and operators are responsible for ensuring that:
 - Radio equipment and the overall radio installation are both correctly approved
 - The user of the equipment holds a valid operator certificate; and
 - The radio equipment and installation are covered by a WT Act Radio Licence issued by Ofcom.
- 1.5 All aeronautical ground station installations must be assessed under the Air Navigation Order before a radio licence can be issued.
- 1.6 The ground station licences that we issue cover the installation and use of the radio equipment that provides ground to air communication. Typically, licences cover a single site and the fee is charged according to the number of frequencies allocated to each site. Fees are either ‘generic’ or ‘bespoke’. ‘Generic’ fees are a flat rate per frequency, depending on bandwidth. ‘Bespoke’ fees also take into consideration the service type.
- 1.7 In 2012, we introduced a fee structure, based on ‘Administered Incentive Pricing’ (‘AIP’), which reflects the value of the spectrum as a commodity. At the same time, we introduced a new suite of licence products for aeronautical ground stations, with names that more closely reflected ICAO service types.
- 1.8 However, these new licence products and the associated AIP-based fees do not apply to licences that authorise stations situated in the Crown Dependencies (CDs). As a

consequence, the licences that we grant for stations in the CDs (and the fees that we charge for them) are those that existed before we introduced AIP-based fees.

Equipment Compliance

Ground station equipment

1.9 Radio equipment for ground stations must conform to the essential requirements of the Radio Equipment Directive ('RED'). We believe that, if apparatus operates in conformity with an 'Interface Requirement' ('IR') that we have published, then it should be able to demonstrate conformity to the RED.

1.10 We have published the following IRs for aeronautical ground station equipment.

[IR 2050 - Primary Aeronautical Radar \(PDF, 109.9 KB\)](#)

[IR 2051 - Monopulse Secondary Surveillance Radar \(MSSR\) \(PDF, 118.3 KB\)](#)

[IR 2052 - VHF analogue voice and ACARS data link \(PDF, 126.8 KB\)](#)

[IR 2053 - Distance Measuring Equipment \(DME\) \(PDF, 122.2 KB\)](#)

[IR 2054 - Ground based augmentation systems \(GBAS\) \(PDF, 122.5 KB\)](#)

[IR 2055 - Instrument landing system \(ILS\) glide path \(PDF, 94.8 KB\)](#)

[IR 2056 - Instrument landing system \(ILS\) localiser \(PDF, 98.2 KB\)](#)

[IR 2057 - Microwave landing systems \(MLS\) \(PDF, 94.7 KB\)](#)

[IR 2058 - Non directional beacons \(NDB\) \(PDF, 98.4 KB\)](#)

[IR 2059 - HF single side band \(SSB\) voice and data link \(PDF, 106.6 KB\)](#)

[IR 2060 - VHF mode 2 and mode 4 datalink \(PDF, 109.7 KB\)](#)

[IR 2061 - VHF marker beacons \(75 MHz\) \(PDF, 100.2 KB\)](#)

[IR 2062 - VOR and DVOR \(PDF, 99.5 KB\)](#)

[IR 2063 - Secondary Surveillance Radar \(SSR\) site monitor \(PDF, 113.0 KB\)](#)

Aircraft radio equipment

1.11 Radio apparatus for aircraft must be approved by EASA or by the CAA. Further guidance is available from the CAA.

2. Types of licences

Aircraft

- 2.1 The **Aircraft Radio Licence** covers all the radio equipment on board a single aircraft, which the licence identifies. The licence fee is determined by the maximum take-off weight of the aircraft. Short-term aircraft licences are available for temporary use of aircraft, for example for the delivery of an aircraft.
- 2.2 The **Transportable Aircraft Licence** covers the use of hand held VHF radio equipment for use on multiple aircraft and has a flat fee.

Ground Stations

- 2.3 We issue the following licences, which reflect the different types of aeronautical services.

Product Name	Service Types	Description
Aeronautical Station - (Recreational Aviation)	Microlight Balloon Glider Parachute Hang/Para Glider	Common air to ground frequencies which have been assigned to general aviation operations and sporting use such as the common glider frequency
Aeronautical Station – (A/G, AFIS and Tower)	Air/Ground AFIS Aerodrome Flight Information Service TWR Aerodrome Control Service	Air/Ground (A/G) - A two-way communication between an aircraft and a ground station in which the ground operator may only pass advisory information regarding the situation local to the aerodrome. Aerodrome Flight Information service (AFIS) - A two-way communication between an aircraft and a ground station, in which the ground operator may only pass advisory information regarding the airborne situation local to the aerodrome but can pass instructions to aircraft on the ground at the aerodrome. Tower (TWR) - A two-way communication between an aircraft and a ground station, in which the ground operator controls the aircraft in the vicinity of an aerodrome traffic zone when the aircraft is flying with visual reference to the aerodrome.
Aeronautical Station – (Approach)	APP Approach Control Service	Approach (APP) - a two-way communication between an aircraft and a ground station, in which the ground operator controls the aircraft in the vicinity of an aerodrome traffic zone when the aircraft is not flying by visual reference to the aerodrome.

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<p>Aeronautical Station (Area Control)</p>	<p>ACC Area Control Centre Service</p> <p>FIS Flight Information Service</p>	<p>Area Control Centre Service (ACC) - A two-way communication between an aircraft and a ground station, in which the ground operator provides control instructions to the aircraft within a defined geographical region or sector.</p> <p>Flight Information Service (FIS) - A two-way communication between an aircraft and a ground station, in which the ground operator may only pass advisory information as requested by the pilot. This information may include situation awareness and weather information.</p>
<p>Aeronautical Station – (Aeronautical Broadcast)</p>	<p>VOLMET</p> <p>ATIS Arrival Automatic Terminal Information Service</p>	<p>VOLMET - A broadcast transmission from a ground station to one or more aircraft in which meteorological information relating to several aerodromes as defined in the UK AIP. Within the UK this service is regarded as an air traffic control service.</p> <p>Automatic Terminal Information Service (ATIS) - A broadcast transmission from a ground station to one or more aircraft in which information relating to the aerodrome from which the transmission is being made is conveyed. Within the UK this service is regarded as an air traffic control service and may only be provided by an aerodrome which also provides a tower and/or an approach service.</p>
<p>Aeronautical Station – (ACARS)</p>	<p>ACARS Aircraft Communications Addressing and Reporting System</p>	<p>Aircraft Communications Addressing and Reporting System (ACARS) - Slow speed data communication known for operational control.</p>
<p>Aeronautical Station (VDL)</p>	<p>VDL VHF Air-Ground Digital Link</p>	<p>Very High Frequency Data Link.</p>
<p>Aeronautical Station (Aerodrome Surface and Operational Control)</p>	<p>OPC Operational Control</p>	<p>Operational Control (OPC) - A two-way communication between an aircraft and a ground station for the purposes stated below:</p> <p>Operational Control. The exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of safety of the aircraft and the regularity and efficiency of the flight."</p> <p>Currently OPC services are either provided by voice communications or a slow speed data communication known as ACARS.</p>

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		Operations Control licences can only be issued to radio stations set up to communicate with company aircraft, or aircraft for which the licensee is the operating agency.
Aeronautical Station (Aerodrome Surface and Operational Control)	AS Aerodrome Surface GMC Ground Movement Control DATIS Departure ATIS	Aerodrome Surface (AS) - Either a two-way communication between an aircraft and a ground station, in which the ground operator provides either control to or information for an aircraft on the ground. Or: An automated broadcast service passing aerodrome information from a ground station to an aircraft on the ground at that aerodrome. This category covers departure ATIS (DATIS).
Navigation Aid	Aeronautical Navigation Aid	This licence covers the installation and use of aeronautical navigation aids. The main types of navigation aid covered by the licence are as follows: The Non-directional radio Beacon (NDB) service is used for short and medium range navigation. When used with automatic direction finder (ADF) equipment in aircraft the NDB provides a bearing with moderate accuracy. The NDB is used by larger aircraft over sea or over land routes and is extensively deployed at general aviation aerodromes where it provides a cost effective and easily installed facility. The Instrument Landing System (ILS) is one of the International Civil Aviation Organization (ICAO) standard approach and landing systems. The ILS localizer is coupled with glide path frequencies and with Microwave Landing System (MLS) and or Distance Measuring Equipment (DME). MLS is a newer system, which operates in a similar manner to ILS. The VHF omnidirectional radio range (VOR) is a short/medium range navigation aid. VOR is normally associated with Distance Measuring Equipment (DME). Distance Measuring System (DME) is the ICAO standard system for the determination of ranges within radio line of sight using pulse techniques and time measurement. DME is the standard system used for en route and terminal navigation.

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Aeronautical Station – (Fire and Emergency)	EMERG	<p>Emergency Frequency - 121.5MHz</p> <p>Auxiliary Frequency Search & Rescue (SAR) 123.1 MHz</p> <p>Aerodrome Fire Vehicle 121.6MHz</p>
AGS (HF)	Aeronautical Ground Station: HF	Aeronautical ground stations where an HF assignment is required.
AGS (Radar)	Aeronautical Radar	A licence is available to cover Aeronautical Primary radar and Secondary Surveillance Radar (SSR). SSR is an ICAO standard system employing secondary radar principles used either by itself or co-located and synchronized with primary radar. All SSR installations have a frequency for ground-air interrogation and a frequency for the air-ground reply.
Aeronautical Station (Offshore)	Offshore Fixed/Mobile Installations and Vessels – Traffic/Logistics (A/G) {Can also cover mobiles}	Offshore platforms operating in UK territorial waters that are assigned a Traffic Frequency (A/G) and/or a Logistics Frequency (OPC), or, a single frequency to be used for both traffic and logistic services.

3. Licensing Process

Applying for a licence

- 3.1 All Aircraft and Ground Station applications are received by our Spectrum Licensing team. Please use the up-to-date forms found here; <https://www.ofcom.org.uk/manage-your-licence/radiocommunication-licences/aeronautical-licensing/licensing-process-applications>. Please submit application forms via spectrum.licensing@ofcom.org.uk

Aircraft radio licences

- 3.2 We validate and process applications for an Aircraft Radio Licence or an Aircraft Transportable Licence and then issue an invoice. **We aim to process applications within 5 days of receipt. Then we will issue an invoice for payment.** After payment has been cleared, the licence is issued. Fees are set out in Section 4.

Ground station licences

- 3.3 Ground Stations require frequency assignment and coordination by the CAA. When we receive a radio licence application, we send it to the CAA, to complete these steps. The CAA may require additional information, which they will ask you for direct. Once a frequency has been assigned, the CAA notifies Ofcom so that we can complete the licensing process and issue an invoice. However, if a channel cannot be assigned, we will send a letter advising this.
- 3.4 If you have a query regarding your licence, please contact Spectrum Licensing. This is also the address to which applications should be sent:

Spectrum Licensing
Riverside House
2a Southwark Bridge Road
London
SE1 9HA
Tel: 0300 123 3333 or 020 7981 3131
Email: spectrum.licensing@ofcom.org.uk

Licence Variation

- 3.5 To vary (change) your radio licence please download the appropriate form from <https://www.ofcom.org.uk/manage-your-licence/radiocommunication-licences/aeronautical-licensing/licensing-process-applications>. You can also submit application forms to spectrum.licensing@ofcom.org.uk.

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- 3.6 If you wish to change the equipment covered by an Aircraft Radio Licence, you may also need to notify the appropriate aircraft registry. The individual registry can give you advice of what they need.
- 3.7 When contacting Ofcom about a change to your licence, please quote the reference number(s) of the licence(s) that you wish to change and submit all changes no later than four weeks before the month in which your licence fee(s) are due to be paid. Ofcom cannot change licence and contact details during the month in which we collect your licence fee.
- 3.8 Ofcom may vary licences from time to time. This may be at the request of the licensee or where Ofcom wishes to make a change. Most customer requests fall into two categories:
- Customer Details e.g. a request to change the administrative details of the company;
 - Technical Details e.g. a request for an additional channel.
- 3.9 Licensees must not make any changes to the radio equipment in an aircraft or ground station, unless or until it is covered by the radio licence. This includes installing radio equipment as well as using it.
- 3.10 If we wish to vary (or revoke) a licence, we must send a notice to the licensee setting out what we are proposing and why. The licensee will then have time (usually one month) in which to make representations about our proposal. We shall consider any representations in reaching our final decision on whether to revoke or vary the licence.
- 3.11 Examples of customer detail amendments
- Legal/Licensee name or address (but not where the licensee changes);
 - Contact names and addresses;
 - Bank details;
 - Account and transactions
- 3.12 A technical amendment is a change to anything that relates to the use of the radio, such as:
- Changing aircraft equipment;
 - Moving an aeronautical ground station;
 - Requesting a new channel or frequency assignment for an aeronautical ground station;
 - Change in power or another operating parameter for an aeronautical ground station.
- 3.13 While administrative changes do not attract a fee, the addition of a new chargeable channel would result in a change to the fee, in accordance with the prevailing legislation. A revised fee will be charged when the fee next falls due for payment. If an amendment changes any of the details that appear on the licence document or any of its schedules, revised documentation

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will be sent to the licensee. If you change the equipment on the licence, the new or changed equipment may not be used until the change to the licence is confirmed by Ofcom.

Paying your licence fee

- 3.14 Every year for ground station licences and every three years for aircraft radio licences, we shall write to you to request the fee for your licence. Licensees have until the due date to pay the fee.
- 3.15 The invoice includes advice on how to make your payment. Payments should be sent, with the remittance advice, to: Cash Management, Finance, Ofcom, Riverside House, 2a Southwark Bridge Road, London, SE1 9HA. You may also pay online at <https://secure.ofcom.org.uk/payments/>. Paying online is quicker.
- 3.16 Any changes that the licensee has requested since a fee was last collected will be reflected on the new invoice.
- 3.17 The Request for Payment reference number should be quoted if paying by BACS or International Bankers draft.
- 3.18 The reference number helps to identify payment. If a payment cannot be matched with the request for payment number, it will be returned by the Ofcom Finance Team to the remitting bank.
- 3.19 The payment that you make should be the exact amount on the invoice. This is because we cannot accept over- or underpayment against a request for payment.
- 3.20 The payment will be returned if it does not match the amount specified on the fee notice.
- 3.21 International banking charges are not included in the fee. You should clearly instruct your bank NOT to charge Ofcom any fees, as we do not accept them and cannot allocate any payments which do not exactly match the invoice amount quoted.
- 3.22 Once Ofcom has received and processed payment, we shall send out an updated licence document. This is sent to the Licence contact specified on the Licence.

Surrender of licence

- 3.23 A licensee may surrender (cancel) their licence by writing to Ofcom.
- 3.24 These changes should be submitted four weeks before the month in which the licence/s fees are requested.

Revocation of licences

- 3.25 Ofcom may revoke a licence for several reasons. These are set out in Section 11 of our Licensing Policy Manual (https://www.ofcom.org.uk/_data/assets/pdf_file/0025/77209/licensing.pdf) The most common reason for revoking a licence is non-payment of licence fees for licences which run on from year to year. Consequently, the reminder process for payment of aeronautical radio licence fees starts six weeks before the due payment date, when Ofcom sends the licensee a letter stating the date by which the fee must be paid. The day after the fee should have been paid, an intention to revoke letter is sent to the licensee, stating that they have one month to make representations or pay the licence fee.
- 3.26 For all revocations and variations, Ofcom (except where the licensee consents) must give the licensee a notice stating the reasons for the proposed revocation and specifying a period (generally a month) during which the licensee may make representations.
- 3.27 If a licensee disagrees with Ofcom's decision to revoke a licence, they may appeal that decision to the Competition Appeals Tribunal ('CAT'). This process is explained in Section 13 of our Licensing Policy Manual.

4. Charging basis for aeronautical licences

- 4.1 The licence charges for aeronautical services are based on three mechanisms, these are:
- a) 'Bespoke' AIP-based – an AIP-based licence fee proportionate to the extension of the area of airspace within which wireless telegraphy is authorised under the licence (the DOC) and the surrounding separation zone necessary to prevent interference (the TSA). The method for calculating the TSA varies according to the type of service which is authorised under the licence - Area, Broadcast or Circular;
 - b) 'Generic' AIP-based - this is a flat AIP-based fee that is not dependent on the extension of the TSA. Each licensee will pay the same rate for the spectrum assignment.
 - c) Cost recovery – this is a flat fee based on the costs to Ofcom on managing the WT Act licence.
- 4.2 'AIP' means 'Administered Incentive Pricing'. This is a means of valuing the radio spectrum as a commodity. The fee gives licensees an incentive to use it efficiently.
- 4.3 For more detailed information on how we calculate licence fees for aeronautical radio licences, please see
https://www.ofcom.org.uk/_data/assets/pdf_file/0022/120793/aeronautical-radio-licensing-fee-guidance.pdf &
https://www.ofcom.org.uk/_data/assets/excel_doc/0024/120795/aeronautical-radio-licensing-fee-calculator.xlsm

5. Frequency Planning for Ground Stations

Assignment of channels

- 5.1 Ofcom will forward all applications to the CAA for frequency assignment and coordination. The CAA will also carry out the approval process under the ANO (this process is not described in this document).
- 5.2 The CAA frequency engineer will carry out an analysis of the station and available spectrum allocations to determine if a suitable channel can be found. If suitable channel is available this will be coordinated under international arrangements. If coordination is successful, the CAA will send all information to Ofcom so that the billing process can begin.
- 5.3 Applicants will be informed of the following outcomes
- i) Additional technical information is required,
 - ii) Frequency assignment was unsuccessful
 - iii) Frequency coordination was unsuccessful

In such cases the CAA will contact the applicant to seek information or advise of frequency assignment status.

6. Contacts

6.1 Spectrum Licensing

Telephone: 020 7981 3131/0300 123 1000

Email: spectrum.licensing@ofcom.org.uk

Address: Ofcom, Riverside House, 2a Southwark Bridge Road, London, SE1 9HA

6.2 CAA

Email: frequency.approval@caa.co.uk