

B

EXPERIMENTS IN WIRELESS TELEGRAPHY.

N.B.—Under the Wireless Telegraphy Acts, 1904-1926, the Postmaster General's authority is necessary before any apparatus for wireless telegraphy is installed or worked.

AUTHORITY FOR SENDING AND RECEIVING.

SUMMARY OF CONDITIONS OF ISSUE.

NOTE.—All sending stations must also be equipped for reception.

(1) The applicant shall produce evidence of British nationality and two written references as to character. A certificate of birth should be furnished if possible; but this will not be insisted on if the referees testify of their own knowledge that the applicant is of British nationality. The referees should be persons of British birth and of standing, not related to the applicant.

In the case of a company, society or other body, application should be made by one of the principals on behalf of the company, etc., who will be personally responsible for the observance of the terms of any license granted.

(2) The installation shall be subject to the approval of the Postmaster General and shall be open to inspection at all reasonable times by properly authorized officers of the Post Office, who will produce their cards of identity on request.

(3) Secrecy of correspondence shall be observed.

(4) Applicants must satisfy the Postmaster General as to their qualification and intention to conduct experiments of scientific value or public utility. If scientific research is intended, they should be certified as competent investigators by a Government Department or some recognized scientific body. Authority to use wireless sending apparatus, even with an "artificial" aerial (i.e., a practically non-radiating aerial) can be granted only if the nature of the proposed experiments and other circumstances warrant that course.

SENDING STATIONS AUTHORIZED TO USE A RADIATING AERIAL.

(5) Each radiating station must be under the charge of a person who has satisfied the Postmaster General, by examination or otherwise, that he has attained:—

(a) an adequate knowledge of the adjustment and operation of the apparatus which he wishes to work;

(b) an operating speed of at least 12 words (morse) a minute, sending and receiving. This qualification is necessary under international regulations, even when wireless telephony only is used. The person in charge of the station must be in a position to act upon instructions in the morse code issued by Government and commercial stations.

A fee of 5s. will be charged when the examination referred to above, is necessary.

The person in charge of a sending station must make himself acquainted with the regulations of the International Convention in so far as they relate to the prevention of interference and impose certain duties on all wireless operators. This information is contained in Section V of the Postmaster General's Handbook for Wireless Operators, which may be obtained through any bookseller, or direct from the Stationery Office, Adastral House, Kingsway, London, W.C.2, price 6s., postage 1½d.

A licensee not possessing the necessary operating qualifications may be allowed, exceptionally, to employ a qualified operator to work and take charge of the sending apparatus.

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(6) **Fees.**—Small fees are payable in order to cover the Post Office expenses in connexion with the grant of a licence and subsequent inspection, etc., of the station. For each station authorized to use power up to 10 watts the charges, which will cover also the use of receiving apparatus (for experimental purposes only), will comprise an initial licensing fee of 10s., plus an annual fee of £1, payable in advance (i.e., 30s. for the first year and £1 for each succeeding year). Higher fees will be charged for more powerful stations. If apparatus is also used for receiving broadcast programmes for entertainment, etc., a Wireless Receiving Licence (obtainable at most Post Offices, price 10s.) must be held.

(7) **Sending Frequencies.**—Sending will be limited to the band of frequencies shown in Table A. These bands represent the bands allocated by International Convention less a tolerance of 5 kc/s.

The sending frequency should be selected within the bands shown in Table B in order to ensure that crystal variation or transmitter instability shall not cause the frequency to vary outside the figures shown in Table A.

TABLE A.

Frequencies in kilocycles per second.	Approximate equivalent wave length (in metres).
1725-1985	174.4 - 150.4
7005-7265	42.83 - 41.12
14005-14265	21.43 - 20.53
28005-28265*	10.71 - 10.09
56005-56265*	5.357 - 5.004

TABLE B.

Frequencies in kilocycles per second.	Approximate equivalent wave length (in metres).
1722-1992	174.2 - 150.5
7012-7258	42.78 - 41.16
14012-14258	21.40 - 20.88
28012-28258*	10.70 - 10.01
56012-56258*	5.351 - 5.005

NOTE.—Special justification must be shown before sending in one or both of the bands marked * will be allowed.

(8) **Systems of Transmission.**—Ordinary transmission will be limited to pure C.W. and telephony. The use of Spark sending apparatus will not in any circumstances be allowed. The use of unrectified alternating current for transmission will be forbidden.

(9) **Tuning; Measuring Instruments, etc.**—The sending apparatus must always be tuned as accurately as possible to the particular frequency within the authorized bands on which it is intended to send, and in this connexion every licensee of a sending station must satisfy the Postmaster General that he possesses apparatus of the piezo-electric crystal, or other approved type, for accurately controlling or measuring the frequencies of the emissions. A certificate in respect of each crystal, showing the degree of accuracy of calibration to be not less than 0.1 per cent must be furnished. The licensee must also take all practicable steps to maintain the accuracy of such controlling or measuring apparatus, and must observe any detailed instructions to that end which may be issued by the Postmaster General.

Emissions must always be kept as stable as possible (i.e., free from variation, other than necessary modulation, from the frequency intended to be used), and must also be as free as possible from harmonics and other unnecessary emissions.

(10) **Communication Allowed.**—A licensee will be allowed to send messages relating to his experiments to any station in this country which is co-operating in these experiments and also to co-operating stations in any country abroad, unless the Administration of that country has prohibited communication of this kind.

(11) **Aerials.**—Dimensions allowed are as follows:—The length of the aerial (including the external part of the lead-in, or transmission line, if any, unless this is non-radiating) shall not exceed 100 feet.

(12) **Portable Stations.**—General conditions same as for fixed stations.

Power of portable stations will usually be limited to 10 watts.

Use will ordinarily be authorized only within a radius of 10 miles of a fixed point.

SENDING STATIONS AUTHORIZED TO USE AN ARTIFICIAL AERIAL ONLY (i.e., A NON-RADIATING AERIAL).

(13) **Minor qualifications are not essential.**

The fee payable is 10s. per annum. If apparatus is also used for receiving broadcast programmes for entertainment, etc., a Wireless Receiving Licence (obtainable at most Post Offices, price 10s.) must be held.

The applicant for authority to use wireless sending and receiving apparatus for experimental purposes only should complete the form of application forwarded herewith and return it to The Engineer-in-Chief, Radio Section, General Post Office, London, E.C. 1, together with the required evidence of British nationality, etc.

No fee should be forwarded until application is made for it.

All applications are considered on their merits.

GENERAL POST OFFICE,
London.

December, 1934.