

CONSTITUTION

ADOPTED AT THE FIRST MEETING OF THE INSTITUTE OF RADIO ENGINEERS, MAY 13, 1912: AMENDED NOVEMBER 2, 1914, AND DECEMBER 5, 1915

ARTICLE I

NAME AND OBJECT

SEC. 1—The name of this organization shall be the Institute of Radio Engineers.

SEC. 2—Its object shall be the advancement of the theory and practice of radio engineering and of the allied arts and sciences, and the maintenance of a high professional standing among its members. Among the means to this end shall be the holding of meetings for the reading and discussion of professional papers and the publication of such papers, discussions and communications as may seem expedient.

ARTICLE II

MEMBERSHIP

SEC. 1—The membership of the Institute shall consist of:

- a. Honorary Members, who shall be entitled to all rights and privileges of the Institute except the right to nominate, vote and hold office.

- b. Fellows, who shall be entitled to all rights and privileges of the Institute.

- c. Members, who shall be entitled to all rights and privileges of the Institute except the right to hold the office of President and Vice-President.

- d. Associates, who shall be entitled to all rights and privileges of the Institute except the right to hold the office of President, Vice-President, and Editor.

- e. Juniors, who shall be entitled to attend all meetings and to receive copies of all Institute publications.

SEC. 2—Honorary members may be chosen from among those who have rendered acknowledged eminent service to radio science, or the radio arts.

SEC. 3—A Fellow shall not be less than thirty years of age and shall be either:

- a. A radio engineer by profession. As such he shall be qualified to design and take responsible charge of important radio work; he shall have been in the active practice of his profession for at least seven years, and shall have had

responsible charge of important radio work for at least three years.

When the applicant holds in a principal national society of an allied branch of engineering, membership in a grade for which the qualifications indicate a standing equal to that required for the grade of Fellow herein, such membership shall be considered equivalent to three of the required seven years of active practice of the radio profession.

b. A professor of physical science or of electrical engineering. As such he shall have attained special distinction as an expounder of the principles of radio science and of radio engineering; he shall have had at least seven years experience as a teacher of physical or electrical subjects and shall have had responsible charge, for three years, in a radio course of a principal school of science or engineering. Any years of experience as defined in paragraph "a" that the applicant may have had as a radio engineer shall be considered the equivalent of the same number of years of experience as a "teacher of radio subjects."

c. A person who has done notable original work in radio science of a character to give him a recognized standing at least equivalent to that required for the Fellows under paragraphs "a" and "b".

d. A person regularly engaged in radio work for at least seven years, who, by inventions or special proficiency in contributions to the radio science or the radio arts or radio literature, has attained a standing at least equivalent to that required for Fellows under paragraphs "a" and "b".

SEC. 4—A Member shall not be less than twenty-five years of age and shall be either:

a. A radio engineer by profession. As such, under general direction he shall have designed and taken responsibility for important radio engineering work; he shall have been in the active practice of his profession for at least four years.

When the applicant holds in a principal national society of an allied branch of engineering, membership of a grade for which the qualifications indicate a standing equal to that required for the grade of Member herein, such membership shall be considered equivalent to two years of the requisite four years of active practice of the radio profession.

b. A teacher of physical science or of electrical engineering. He shall have had at least four years experience as a teacher of radio subjects in a school of recognized standing. Any years of experience the applicant may have had as a radio engineer shall be considered the equivalent of the same number of years of experience as a "teacher of radio science or of radio engineering."

c. A person regularly employed in radio or closely allied

work for at least four years, who, by invention or by proficiency in radio science, the radio arts, or radio literature, or as an executive of any radio enterprise of large scope, has attained a standing equivalent to that required for Members under paragraphs "a" and "b". In the case of such an executive the applicant must be qualified to take responsible charge of the broader features of radio engineering involved in the work under his direction.

d. A commissioned officer of the Army or Navy of the United States Government or of any foreign government, who has been regularly engaged in radio work for a period of at least three years, who shall have had responsible charge of important government radio work for at least one year and who shall have attained the rank of Captain in the Army or Lieutenant in the Navy.

SEC. 5—An Associate shall be not less than twenty-one years of age and shall be:

a. A radio engineer by profession.

b. A teacher of radio subjects.

c. A person who is interested in and connected with the study or application of radio science or the radio arts.

SEC. 6—A Junior shall not be less than sixteen years of age nor over twenty-one years of age, and shall be a person who is interested in the study or application of radio science or the radio arts.

On attaining the age of twenty-one years, Juniors shall be transferred to the grade of associate.

SEC. 7—In all cases, graduation from the radio course or electrical course of a school of science or of engineering of recognized standing shall be considered the equivalent of one year's radio experience.

SEC. 8—Any person who is a Member at the time this group of amendments is adopted, shall not be barred from eligibility to the grade of Fellow because of the age limitation, provided he shall otherwise be eligible as herein defined.

Any person who is an Associate at the time this group of amendments is adopted, shall not be barred from eligibility to the grade of Member because of age limitations, provided he shall otherwise be eligible as herein defined.

ARTICLE III

ADMISSIONS AND EXPULSIONS

SEC. 1—Honorary Members shall be recommended by at least ten members of the Board of Direction, and upon unanimous vote of the Board shall be proposed to the membership for election. A person elected an Honorary Mem-

ber shall be promptly notified thereof by letter. The election shall be canceled if an acceptance is not received within six months after the mailing of notice.

SEC. 2—Applications may be made for admission or transfer to any grade of membership. Applicants shall give references to members of the Institute as follows:

For the grade of Fellow, to five Fellows.

For the grade of Member, to five Fellows or Members.

For the grade of Associate, to five Fellows, Members or Associates.

For the grade of Junior, to five Fellows, Members or Associates.

Each application for admission or for transfer from one grade to another shall embody a concise statement, with dates, of the candidate's training and experience, and shall be in such form and such detail as may be prescribed by the Board of Direction. It shall be signed by the applicant and shall contain a promise to conform to the requirements of that grade of membership to which he may be elected.

Each of the members referred to by the applicant shall be requested by the Secretary to address a letter to the Board of Direction stating the extent of the writer's personal knowledge of the applicant and his training and experience. If at least a majority of the corporate members named as references do not furnish the requisite endorsement, the Secretary shall call upon the applicant for additional names, and not until written communications have been received from at least three members shall the application be considered by the Board of Direction.

The requirements of the foregoing paragraph may be waived in whole or in part where the applicant is well-known, either personally or by reputation, to the Board of Direction, or where the application is for Junior or Associate grade.

An applicant who is so situated as not to be personally known to the required number of members of any grade may give the names, occupations and addresses of responsible non-members to complete the required number of references.

SEC. 3—A list comprising the names, ages, addresses and occupations of all new applicants for admission or transfer shall be sent by the Secretary to each member of the Board of Direction.

The Board of Direction may consider applications for admission or transfer to the grade of Member at any regular meeting held at least two weeks after the list containing the applicants names has been sent to each member of the Board of Direction.

The Board of Direction may consider applications for admission or transfer to the grade of Fellow at any regular meeting held at least four weeks after the list containing the applicant's names has been sent to each member of the Board of Direction.

A recorded affirmative vote, oral or written, of at least two-thirds of the Board members voting at any regular meeting, shall elect or transfer an applicant for any grade. A vote on any application shall stand, unless withdrawn by the Board member voting, until the application is finally acted upon.

SEC. 4—A rejected applicant may renew his application for membership at any time after the expiration of one year from the date of the ballot rejecting his previous application.

SEC. 5—All elected candidates shall be duly notified and shall subscribe to the Constitution and Rules of the Institute. Forms for this purpose shall be prescribed by the Board of Direction. If these provisions are not complied with within six months from the notification of election, such election shall be considered void, unless for special reasons the time shall be extended by the Board of Direction. Membership of any person shall date from the date of his election.

SEC. 6—Fellows, Members, Associates or Juniors, if found delinquent in their duties may be tried by the Board of Direction, and upon decision of the Board their names shall be submitted to the Institute to determine their suspension or expulsion. A three-quarters vote of the Institute shall be necessary to ratify such action of the Board.

SEC. 7—A member may resign his membership by a written communication to the Secretary, who shall present the same to the Board of Direction; when, if all his dues have been paid, his resignation shall be accepted.

ARTICLE IV

DUES

SEC. 1—The entrance fee, payable on admission to the Institute, shall be as follows:

Admission to the grade of Fellow, ten (10) dollars.

Admission to the grade of Member, five (5) dollars.

Admission to the grade of Associate, three (3) dollars.

Admission to the grade of Junior, one (1) dollar.

The transfer fee from one grade of membership to another shall be the difference between the corresponding admission fees.

The entrance fees shall be waived until January 1, 1927.

SEC. 2—The annual dues payable by members, whether resident or non-resident, shall be as follows:

a. By Fellows, ten (10) dollars.

By Members, seven dollars and fifty cents (\$7.50).

By Associates, four (4) dollars.

By Juniors, three dollars and fifty cents (\$3.50).

b. Honorary Members shall be exempt from all payments.

SEC. 3—The annual dues shall be payable on the first day of January, in advance of the ensuing year. It shall be the duty of the Secretary to notify each member of the amount due at the time of giving notice of the annual meeting.

SEC. 4—Persons elected after July 1st of any year shall pay only one-half of the dues for that year.

SEC. 5—Any person whose dues are more than three months in arrears shall be notified by the Secretary. Should his dues not be paid when they become six months in arrears, he shall lose the right to vote or to receive the publications of the Institute. Should his dues become nine months in arrears, he shall be again notified in form prescribed by the Board of Direction, and if such dues become one year in arrears, he shall forfeit his connection with the Institute. The Board of Direction may, however, for cause deemed by it sufficient, extend the time for payment and for the application of these penalties.

SEC. 6—The Board of Direction may, for sufficient cause, temporarily excuse from payment of annual dues any member; and the Board may remit the whole or part of dues in arrears, or accept in lieu thereof desirable additions to the library or collections.

SEC. 7—Every person admitted to the Institute shall be considered as belonging thereto and liable for the payment of all dues until he shall have resigned, been expelled, or have been relieved therefrom by the Board of Direction.

ARTICLE V

OFFICERS

SEC. 1—The governing body of the Institute shall be a President, Vice-President, a Secretary and a Treasurer and Editor of Publications, six elected Managers, and three appointed Managers who shall together constitute the Board of Direction.

SEC. 2—The terms of all officers, except the six elected Managers, shall be one year each, and shall begin at the close of the annual meeting at which election is made. The terms of all officers shall continue until successors are duly elected. The President and the Vice-President shall not be eligible for immediate renomination to the same office.

SEC. 3—Two Managers shall be elected each year and serve for three years.

For the year 1915 six elected Managers were voted upon as follows: The two candidates receiving the highest number of votes to serve three years; the two candidates receiving the next highest number of votes, two years; the two candidates receiving the next highest number of votes, one year.

SEC. 4—The three appointed Managers shall be chosen by the Board of Direction to serve for terms of one year. These appointed Managers shall have no vote in the election of their successors.

ARTICLE VI

MANAGEMENT

SEC. 1—The President shall have general supervision of the affairs of the Institute. He shall preside at meetings of the Institute and of the Board of Direction at which he may be present and shall be an ex-officio member of all committees. He shall deliver an address at the annual meeting.

SEC. 2—The Board of Direction shall manage the affairs of the Institute in conformity to the laws under which the Institute is organized and the provisions of the Constitution. It shall direct the investment and care of the funds of the Institute; make appropriations for specific purposes; act upon applications for membership as heretofore provided; take measures to advance the interests of the Institute; appoint all its employees, and generally direct its business. The Board of Direction shall make an annual report at the annual meeting, transmitting the report of the Treasurer and of the other officers and of committees. Five members of the Board of Direction shall constitute a quorum.

SEC. 3—The Treasurer shall receive all moneys and deposit same in the name of the Institute. He shall invest all funds not needed for current disbursements, as shall be ordered by the Board of Direction. He shall pay all bills, when certified and audited, as provided by this Constitution and by the rules to be prescribed by the Board of Direction. He shall make an annual report and such other reports as may be prescribed by the Board of Direction.

The Board of Direction shall secure a satisfactory surety for the faithful performance of his duties by the Treasurer, and shall renew the same during the month of January of each year.

SEC. 4—The Secretary will be expected to attend all

meetings of the Institute and of the Board of Direction; prepare the business thereof, and duly record the proceedings thereof. He shall see that all moneys due the Institute are carefully collected, and without loss transferred to the custody of the Treasurer. He shall carefully scrutinize all expenditures and use his best endeavor to secure economy in the administration of the Institute. He shall personally certify the accuracy of all bills or vouchers on which money is paid, and shall countersign the checks drawn by the Treasurer against the funds of the Institute when such drafts are known to him to be proper, and duly authorized by the Finance Committee. He shall have charge of the books of account of the Institute, and shall furnish, when required by the Board of Direction, a statement of receipts and expenses under their several headings, and also a statement of monthly balances. He shall present annually, to the Board of Direction, a balance sheet of his books as of December 31st and shall furnish from time to time such other statements as may be required of him. He shall conduct the correspondence of the Institute and keep full records of the same. He shall perform all other duties which may from time to time be assigned to him by the Board of Direction.

SEC. 5—The Board of Direction may also, if they deem it necessary, appoint an Assistant Secretary, who shall aid the Secretary and be under his immediate direction in all matters.

SEC. 6—The President, as soon as expedient after the annual meeting, shall appoint from the membership, with the advice and consent of the Board of Direction, the following standing committees:

Committee on Papers.
Committee on Standardization.
Committee on Publicity.

Members appointed shall serve until their successors are appointed or the Committees dissolved.

ARTICLE VII

NOMINATION AND ELECTION OF OFFICERS

SEC. 1—Two months before the annual meeting, nominations for the offices of President, Vice-President, Secretary and Treasurer and two Managers, shall be called for from the membership qualified by this Constitution. Before nominees' names are submitted to the membership for final vote, each nominee shall be consulted and if he so requests, his name shall be withdrawn and the next ranking name substituted.

For the year 1915, nominations for six Managers were called for.

One month before the annual meeting, the Board of Direction shall submit to the entire membership excepting Honorary Members and Juniors, a list of all nominees, which list shall consist of the pairs of names receiving the largest number of nominations for each office. In the event of ties in nominations the Board of Direction shall select the name of the man in its opinion best fitted for that office. The membership shall then submit written ballots in plain sealed envelopes enclosed within mailing envelopes marked "Ballot", and bearing the members' signature, voting for officers from the list of nominees. A majority vote received up to the time of the closing of the polls (twenty-four hours before the opening of the annual meeting) shall elect, and no votes by proxy shall be counted. The method of balloting herein described shall be used for nominating as well as for voting, except the outer envelope shall be marked "Nomination" in the former case. In Nominating, as in voting, no proxies or ballots within unsigned outer envelopes shall be opened for counting. Ballots, whether for nomination or voting, shall be checked, opened and counted by a quorum of the Board of Direction, at a regular meeting of the Board. At the time of call for nominations, the Board of Direction shall submit to qualified voters a list of suggested nominations containing at least two names for each office.

SEC. 2—The Editor of Publications shall be elected by vote of the Board of Direction as soon as possible after May 1st.

ARTICLE VIII

MEETINGS

SEC. 1—There shall be an Annual Meeting, at which the annual reports for the year ending December 31st previous shall be presented, and the Ballot for officers reported. At this meeting fifteen (15) members shall constitute a quorum.

SEC. 2—Business meetings shall be held as prescribed by the by-laws.

SEC. 3—In addition to the Annual Meeting, meetings for the reading and discussion of papers shall be held as ordered by the Board of Direction.

SEC. 4—Special meetings may be called by the Board of Direction, and shall be so called upon request of ten members, which request shall state the purpose of such meeting. The call for such meeting shall be issued ten days in advance, and shall state the purpose thereof, and no other

business shall be taken up at such meeting. At these meetings ten members shall constitute a quorum.

SEC. 5—The Institute may adopt, from time to time, rules for the order of business at its meetings.

SEC. 6—Meetings of the Board of Direction shall be held at the time of the annual meeting and at such other times as the Board may determine, but only on notice to all members of the Board by the Secretary. Notices of time and place of meeting are to be mailed in New York at least two days in advance.

ARTICLE IX

AMENDMENTS

SEC. 1—Proposed amendments to this Constitution must be reduced to writing and signed by not less than twenty Fellows, Members or Associates, and be submitted to the entire membership, except Honorary Members and Juniors, who shall vote by letter ballot. The amendment shall be adopted if seventy-five per cent. of the votes received are in favor of such action, the polls having been open for at least one month after mailing to the qualified membership, notices of the proposed amendments. Votes upon the adoption of proposed amendments shall be checked, opened and counted by a quorum of the Board of Direction at a regular meeting of the Board.

AMENDMENTS

INCREASE OF MEMBERSHIP DUES

In October 1919, in accordance with the provision of Section 1, above, the membership approved adoption of an amendment to the Constitution authorizing increasing the dues as follows:

| | Per Year |
|------------------|----------|
| Fellows | \$15.00 |
| Members | 10.00 |
| Associates | 7.50 |
| Juniors | 5.00 |

At the Board meeting held in January 1920, it was decided to defer advancing the dues to the full amount authorized until a later date. The dues adopted were:

| | Per Year |
|------------------|----------|
| Fellows | \$12.00 |
| Members | 9.00 |
| Associates | 5.00 |
| Juniors | 4.00 |

On January 1, 1926, the dues were advanced as follows:

| | Per Year |
|------------------|----------|
| Fellows | \$15.00 |
| Members | 10.00 |
| Associates | 6.00 |
| Juniors | 4.00 |

This leaves the annual dues for Associate and Juniors below the amount authorized by the membership in October, 1919.

On January 1, 1927, the entrance fees were reinstated. These are:

| | |
|-----------------|---------|
| Fellow | \$10.00 |
| Member | 5.00 |
| Associate | 3.00 |
| Junior | 1.00 |

NOMINATION AND ELECTION OF OFFICERS

In January, 1921, the membership by letter vote approved change in Article VII of the Constitution to read as follows:

Article VII, Section 1 of the Constitution to read:

"SEC. 1—Six weeks before the annual meeting, the Board of Direction shall submit to the entire membership, excepting Honorary Members and Juniors, a list of candidates (nominees) for the offices of President, Vice-President, (Secretary, Treasurer) and two Managers. This list shall comprise at least one name and not more than three names for each office, the names being proposed either by Petition as hereinafter provided, or by (a quorum of) the Board of Direction, at one of these stated meetings. The list shall contain no indication as to whether the candidate has been proposed by Petition or by the Board of Direction.

"Nomination by Petition shall be made by letter, addressed to the Board of Direction, setting forth the name of the proposed candidate and the office for which it is desired he be nominated. For acceptance, a letter of Petition must reach the Board of Direction on or before October 15th of any year, and shall be signed by at least thirty-five Fellows, Members or Associates.

"The list of nominees shall contain the names of all candidates proposed by formal Petition or by the Board of Direction, but before this list is submitted to the membership for final vote, each candidate should be consulted and if he so requests, the fact that he has withdrawn from election shall be stated after his name.

"The entire membership, excepting Honorary Members and Juniors, shall vote by written ballots in plain sealed envelopes, enclosed within mailing envelopes marked "Ballot" and bearing the member's signature, for the officers

whose names appear on the list of candidates. A majority vote received up to the time of the closing of the polls (twenty-four hours before the opening of the annual meeting, the date of which shall be stated in the election notice) shall elect, and no votes by proxy shall be counted. No proxies or ballots within unsigned outer envelopes shall be opened for counting. Ballots shall be checked, opened and counted by a quorum of the Board of Direction, at a regular meeting of the Board."

"SEC. 2—The Treasurer, Secretary and Editor of Publications shall be appointed by majority vote of the Board of Direction as soon as practicable after January 15th of each year, for a term of one year or until their successor be appointed."

BY-LAWS GOVERNING SECTIONS

(The purpose of the Institute in furthering the establishment of Sections is to afford opportunity for members situated in various parts of the United States and other countries to meet in organized groups for the discussion of radio engineering topics.)

1—A petition for the formation of a Section shall be signed by not less than twenty-five members (any grade except Juniors) residing within the territorial limits hereinafter prescribed. The Board of Direction may decline to authorize the formation of a Section when, in its judgment, such an organization would not be compatible with the interests of the Institute.

2—A Section shall be known as: The (name of place or geographical district) Section of the Institute of Radio Engineers.

3—The principal activity of a Section shall be the holding of periodical meetings (monthly or bi-monthly, but not less than five regular meetings annually) for the presentation of original papers or discussions of papers already presented at New York meetings of the Institute, or at other Sections.

4—The territory of a Section shall be the territory naturally tributary thereto, but shall not include territory so remote or inaccessible that members cannot readily attend meetings. For the purpose of determining the maximum amount of money to which a Section is entitled under these by-laws, points more than sixty miles from the regular meeting place of the Section shall not be considered a part of the Section, except when special conditions warrant such action territory within a reasonable distance may be authorized by the Board of Direction. If adjacent Sections should

be so situated that the sixty mile limit embraces common territory, the question as to which Section shall claim such members as reside within this common territory shall, if possible, be decided by agreement between the Sections concerned; otherwise by the Board of Direction. (Sections may carry on their mailing list for meeting announcements the names of members located outside of the prescribed Section territory.)

5—The Chairman, Vice-Chairman, Secretary and any other officers of each Section must be Fellows, Members or Associates of the Institute, and shall be elected for the term of one year beginning January 1, or May 1, and until their successors are elected.

6—The Board of Direction may at any time terminate the existence of any Section when in its judgment the interests of the Institute make such action desirable.

7—Papers and discussions presented before a Section and published in the PROCEEDINGS shall not be republished except with due acknowledgment of the original source.

8—Original papers presented before a Section, suitable for publication in the PROCEEDINGS may be presented to the Meetings and Papers Committee for consideration, which, in judging suitability, will be governed by the same considerations applied to similar matter offered from other sources.

9—The Secretary of the Institute will forward to the Secretary of each Section copies of all printed announcements of the regular meetings in New York, and shall forward also to the Secretary of each Section, three complete sets of proofs, or three pamphlet form copies of each technical paper intended for presentation at New York or for publication in the PROCEEDINGS. This latter is for the purpose of supplying Sections with advance copies for Section discussion.

10—Each Section shall have a Meetings and Papers Committee and a Membership Committee, appointed by the Chairman.

11—Each Section shall conduct its affairs in such manner that no indebtedness shall accrue in excess of the amount due annually as per-member rebate, specified in paragraph 12.

12—The appropriation of Institute funds during any fiscal year for aid in Section maintenance shall be the sum determined as follows: one dollar for each Fellow, Member and Associate residing within the territory of the Section at the beginning of the administrative year, namely, January 1. Each year, beginning in 1926, the Treasurer will place to the credit of each Section the accrued rebate cal-

culated from members' dues paid in the Section as of March 1 and September 1. Section Treasurers may draw upon this account quarterly; that is January 1st, April 1st, July 1st and October 1st.

13—Section Secretaries shall forward to the Secretary of the Institute a report of each meeting held by the Section for the presentation or discussion of papers, and on January 1 of each year a statement of the past year's accounts.

LIST OF TECHNICAL PAPERS PUBLISHED IN THE PROCEEDINGS DURING THE YEAR 1925

February

A Suggestion for Experiments on Apparent Radio Direction Variations.—L. W. Austin.

Recent Investigations on the Propagation of Electromagnetic Waves.—M. Bauemler.

The Marconi Marine Direction Finder.—H. DeA. Donisthorpe.

Recent Developments in Vacuum Tube Transmitters.—B. R. Cummings.

A Method of Measuring at Radio Frequencies the Equivalent Series Resistance of Condensers Intended for Use in Radio Receiving Circuits.—Charles N. Weyl and Sylvan Harris.

April

Some Trans-Pacific Radio Field Intensity Measurements.—L. W. Austin.

The Magnetron Amplifier and Power Oscillator.—Frank R. Eder.

A Novel Current Supply for Audions.—C. V. Logwood.

A Method of Measuring Radio Frequency by Means of a Harmonic Generator.—August Hund.

An Electrometer Method for the Measurement of Radio-Frequency Resistance.—P. O. Pedersen.

Notes on Telephone Receiver Impedance.—E. Z. Stowell.

June

Long Distance Radio Receiving Measurements, in 1924.—L. W. Austin.

Production of Single Side-Band for Transatlantic Radio Telephony.—R. A. Heising.

Power Amplifiers in Transatlantic Radio Telephony.—A. A. Oswald and J. C. Schellent.

Re-Radiation from Tuned Antenna Systems.—Henry C. Forbes.

August

A New Phenomenon in Sunset Radio—Radio Direction Variations.—L. W. Austin.

(Discussion in December PROCEEDINGS.)