
More About the Armour Conference:
Approximately 450 persons are expected to attend the Fourth Conference on Radio Interference Reduction. It is only at such meetings, that it is possible to meet those engaged in all aspects of interference control and to get answers to many of the questions which are uppermost in our minds. Our subject is so new that everybody can have something to contribute. You may have just the answer which somebody else is looking for and he may be able to help you. But we all have to be there.
So, here's seeing you at the Conference. You owe it to your country and yourself to be there.

ITEMS OF INTEREST FROM OUTSIDE SOURCES

Electrical Interference, An Article About:
An article, which discusses the fundamentals of interference reduction, titled, "Electrical Interference" and written by Dr. James Goe, Army Electronic Proving Ground, Fort Huachuca, Arizona, appears on pages 1046-1049 in the June 1958 issue of INSTRUMENT AND AUTOMATION.

Some paragraph headings are: Magnetic fields, electrostatic field, radio-frequency interference, interference generated by instrument interface, detecting interference, reducing the cause; neutralizing transfer; shielding, grounds, correct action and filtering.

Reducing Radio Interference to Missiles:

Jamming Nomograph
A two-page nomograph on jamming starts on page 65 of ELECTRONICS, engineering edition, June 20, 1958. It was prepared by George P. O'Brien, Research Dept., Engineering Research Institute, University of Michigan, Ann Arbor, Mich. It is described as a "Radar free-space jamming susceptibility nomograph which determines susceptibility of radar to noise jamming rather than effectiveness of the jamming..."

Metal-Graphite and Radio Interference Noise Levels:
The Stackpole Carbon Co., St. Mary's, Pa., has page 30 in itselog 12A devoted to results of tests on suitable contact materials which reduce radio interference caused by moving contacts.

Atmospheric Radio Noise:
A report is available on the above subject as follows: Investigat Atmospheres Radio Noise, by P. N. Nawrocki, Engineering a Industrial Experiment Station, Nov. 1956, 40 pp. Microfilm $3.00, photocopy $5.30. Order PB 126602 from Library of Congress, Washington, D.C.

Atmospheric Angels Mimic Radar Echoes:
Transparent Electrically Conductive Coating:

ELECTRICAL MANUFACTURING, March 1958, page 143, has an article with the above title by E. R. Olson and E. H. Lougher, of Battelle Memorial Institute, Columbus, Ohio. It describes a new transparent electrically conductive coating developed for the Air Force primarily for the purpose of preventing formation of fog, frost, and ice on aircraft windshields and side panels. A suggested possible use is as an anti-static coating for electrical instrument windows.

Television Interference, Its Causes and Cures:

Philip S. Rand has brought out a book, under the above title, as a sort of television interference handbook. It is 56 pages and is published and distributed by the Nelson Publishing Company, Redding Ridge, Conn. for $1.75.

Frequency - Diversity Radar:

ELECTROMECHANICAL DESIGN, March 1958, carries an article under the above title which deals with improved radar displays. It describes several solutions found by the Compagnie Generale de Telephonic s.a. of France under the following headings: Improvement of signal-to-noise ratio by operating in frequency diversity or by means of devices that correlate the useful signals; suppression of fixed echoes (or signals from targets having a definite radial velocity) by means of eliminators using memory tubes; and elimination of spurious signals by an equipment designed to deal with the random nature of background noise.

Radar Effects on Electronic Circuits:

W. G. Egan, Ford Instrument Co., has written an article, under the above title, in the March 19, 1958 issue of ELECTRONIC DESIGN, page 52. The article states "High power radar transmitters have considerable effect on electronic circuits... When used near operating radar equipment, they are subject to serious error... Digital computers and nuclear scalers are also subject to triggering from radar pulses.

Calculating Noise in Electrical Resistors, A Nomogram:

A. E. Maine, DeHaviland Aircraft of Canada, Ltd., has prepared a 4-page nomogram in the March 1958 issue of ELECTRONICS INDUSTRIES, page 70. The introduction states "Johnson noise for a given amplifier can be quickly determined given the value of input resistance and ambient temperature of operation."

Bridge Method of Measuring Noise in Low-Noise Devices at Radio Frequencies:

a the PROCEEDINGS OF THE IRE, April 1958, page 779 is a letter by Keith S. Champlin, Dept. of E. E., Univ. of Minnesota, describing a system used for accurately measuring the noise of junction diodes biased in the forward direction. A schematic of a noise bridge circuit is given.

Theory of Stronger-Signal Capture in FM Reception:

a the PROCEEDINGS OF THE IRE, April 1958, page 728, is an article by Elie J. Baghdady, Dept. of E. E., M. L. T., Cambridge, Mass., under the above title. The characteristics of the FM disturbance that causes two-signal interference are pointed out and compared with the characteristics message modulation. The comparison suggests a new role for the amplitude limiter in FM receivers.

Harvard Observatory Cosmic Noise Maps Available:

series of eight grid cosmic noise maps, with two pairs of transparent overlay radio noise maps of the sky, has been published by the Harvard College Observatory, Cambridge 38, Mass. at a cost of $0.00 plus postage.

a pair of maps represents the radio sky as it would appear to an observer with an antenna of half-power beamwidth 20° at a frequency 100 mc sec-1. The second pair shows the sky for an antenna of half-power beamwidth 10° at frequency 200 mc sec-1. Each map thus consists of two parts; one covering the northern celestial hemisphere, to declination -20°; and the other covering the southern hemi-
sphere, north to declination 20°. The maps employ equatorial coordinates on the polar stereographic projection.

Interference Reduction Program of the U. S. Army Signal Corps:

The April 1958 issue of SIGNAL carries an article under the above title by J. J. O'Neill, Deputy Chief, Suppression & General Engineering Branch, Communications Dept. U. S. Army Signal Engineering Labs., Fort Monmouth, N. J. The article states that a booklet entitled "Suppliers of Radio Interference Suppression Components" is periodically prepared and distributed to all Army contractors to assist in procuring components approved under specifications MIL-C-12889 & MIL-F-15733 and MIL-S-12944.

Interference Problems on Small Boats:

RADIO & TV NEWS, May 1957, carried an article by Elbert Robbers under the above title. It describes the various suppression methods now in use and the short-comings of each. It also mentions other sources of interference on a small boat which are often blamed on the ignition of the motor. (Also reprinted in BuShips Journal for July 1958).

Radio Fading Seen Caused by Gas Layer:

Hugh Odishaw, executive secretary of the U. S. National Committee for the International Geophysical Year, made a report before the American Association for the Advancement of Science, in January 1958 that IGY scientists have obtained tentative confirmation of a theory that the earth is sometimes encircled in the high atmosphere by an "electric jet" current of several hundred thousand amperes. There may also be "magnetic fields" in space similar to the one surrounding the earth.

Conclusive evidence has been obtained from rocket experiments that radio fadeouts are caused by a kind of base-layer of electrically-charged gas extending at certain times some 12 miles below the normal lowest level of the ionosphere.

Solderless Grounding for Braided Shields:

ELECTRONIC EQUIPMENT ENGINEERING, June 1958, pages 48-50, has an article, under the above title, discussing the many problems arising from the poor grounding of braided shield and coaxial cables and tests which have been made with solderless connectors.

Atmospheric Noise Interference to Short-Wave Broadcasting:

The March 1958 issue of the PROCEEDINGS OF THE IRE carries an article by S. V. Chandrashekhar under the above title.

Russian Translations:

ELECTRONIC DESIGN, May 14, 1958, page 170 carries the following information about Russian translations:


Pergamon Press, 122 East 55th St., New York 22, N. Y., is preparing translations of "Radio Engineering", "Radio Engineering and Electronics" and "Electrical Communications".

Readers interested in specific Russian journals can obtain more information by writing directly to one of these publishers.

The following translation from the Russian is also mentioned:


Speech Intelligibility Meter Developed:

A Speech Intelligibility meter has been developed by General Electronic Laboratories, Inc., Cambridge, Mass. It gives valid readings with many types of disturbances of non-linearities in the signal channel under test, such as: noise or tone interference, clipping, fast interruptions and frequency distortion. A special RMS voltmeter for speech and noise measurements is included in the equipment.

Noise Figure vs Frequency Curve of Transistors Discussed:
ELECTRONIC DESIGN, July 9, 1958, pages 7-8, discusses the noise figure of present-day transistors for the range of frequencies for which thermal noise is the predominant component. A typical noise figure vs frequency curve is shown in Fig. 2.

MEETING OF ADMINISTRATIVE COMMITTEE, March 24, 1958

A meeting of the IRE-PGRF was held at the IRE Headquarters, 5 E. 79th St., N. Y. C. on the first day of the IRE Convention, Monday, March 24th, 1958. The meeting was called to order at 9:15 AM by Chairman Schwenk.

1. Roll Call
The first order of business was a roll call. Present were the following: Members of Admin. Comm: Messrs. Fairweather, Grobowskid, Kall, Kant, McNaul, Milton, Pakala, Schenker, Schwenk, Showers. Absent: Burrunco, Chrichlow.

2. Minutes of Previous Meeting were read and approved.

3. Correspondence with Dr. Baker on Disputed Item of Scope "Frequency Allocations" was read.

4. Committee Appointments
Of the 11 committees specified by our By-Laws, Chairman Schwenk has appointed nine.

- Technical Papers Committee: Dr. R. M. Showers, 200 South 33 St., Philadelphia 4, Pa.
- Technical Advisory Committee: A. R. Kali, 421 West Tabor Road, Phila. 26, Pa.
- Constitution and By-Laws Committee: M. Kant, Sperry Gyroscope Co., Mall Station I-37, Great Neck, N. Y., New York.
- Chapter Activity Committee: Z. V. Grobowskid, Jeneky & Bailey, 1339 Wisconsin Ave., N. W. Wash., D. C.
- Publications Committee: O. P. Schreiber, 424 Howard Ave., Middlesex, N. J.
- Membership Committee: R. W. Fairweather, 318 Colony St., West Hempstead, N. Y.
- Meetings Committee: 1st Lt. J. P. McNaul, Ass’t Project Officer, Project Monmouth, Signal Eng., Lab., Fort Monmouth, N. J.

5. Report on Professional Groups Committee Meeting, February 13, 1958
It was recommended that PG TRANSACTIONS be sent to colleges and that meetings be held with foreign countries. Other items from this meeting were a review of an ad hoc committee. It was concluded that as long as a professional group can support itself it will exist. Dr. Showers questioned whether this referred to financial solvency and Mr. Ember said the point was successful publications of TRANSACTIONS. It is desirable, on this point, that all PG's use the same format, but this is likely to be expensive.

A collateral point arose on advertising in group TRANSACTIONS as a source of revenue. It was stated at the meeting that advertising rates in a PG TRANSACTIONS cost three times that of the regular IRE TRANSACTIONS. (Mr. Schreiber said that two times was a better estimate.) Some PG's are in favor of advertising in TRANSACTIONS, others opposed. Mr. Emberson explained the higher rate as a defensive measure, to prevent too heavy a cut into ads in the main IRE PROCEEDINGS. Mr. Schreiber commented that some advertisers don't want too general an audience and would rather advertise in PG TRANSACTIONS.

6. Treasurer's Report
Lt. McNaul, Treasurer, gave his report as follows:
For the period 10/10/57 to 2/28/58:

- Income
  - Total Assessments $253.00
  - IRE Matched Funds 253.00
- Total Receipts $506.00

- Expenses
  - Membership Service Charges $44.68
  - Luncheon Ticket Printing 1.97
  - Total Expenses .................. $46.64
  - Balance as 2/28/58 $459.35

Mr. Grobowskid questioned the term "Membership Service Charge" Lt. McNaul said this is an IRE charge for billing. Mr. Schwenk suggested the use of the term "fee" instead of "assessment."

7. Reports from Committees
a) Membership Committee:
Mr. Fairweather, Chairman, reported that no meeting of his committee had yet been held. He reported that we have 150 paid-up members. Mr. Fairweather brought up the question of Group affiliate. He has a list of some 30 possible Groups, which he will weed out.

b) Meetings Committee:
Mr. Milton observed that we have not publicized ourselves enough. Many people to whom he has spoken have read or heard nothing of PGRF since our first meeting (Asbury Park, 8/20/57).

Dr. Showers noted that we have no publicity committee. Mr. Schwenk replied that this is a function of the Membership Committee to publicize the Group, and each Committee is to publicize its own activity.

c) Technical Papers Committee:
Dr. Showers, Chairman, sent out appointment notices last week. functionaries of this committee, he said, will depend on the Meeting Committee's functions. He suggested the idea of a "paper bank", accumulation of technical papers which can be drawn from as required. (See request of Dr. Showers for technical papers for TRANSACTIONS page 6).

d) Newsletter Committee:
Mr. Daniels, Chairman, reported that the second newsletter on PGRF is in process and he urged those present to contribute news it. Mr. Kugler asked whether "Quasies and Peaks" will still be published? Dr. Daniels replied that it would not.

e) Publication Committee:
Mr. Schreiber, Chairman, had consulted on technical details with Mrs. Duffy. For a predicted membership of 900, we will need to produce 1500 copies of our publications:
- 500 for members
- 700 for companies and libraries (paid subscribers
- 200 stock of back issues
- 100 extra cushion
- $1500

Mr. Schreiber urged that we print papers only once and use only first material. He suggested that we publish twice a year. He has consulted with his committee.

f) Chapter Activities Committee:
Mr. Grobowskid, Chairman, reported that 10 have been nominated for his committee, with 5 more to be nominated for a total of 15. Nomination of the Administrative Committee.

g) Nominations Committee:
No nominations yet. No report.

h) Constitution and By-Laws Committee:
Mr. Kant, Chairman, Discussion will be under "New Business."

i) Awards Committee:
No appointments yet. No report.
j) Liaison Committee:

Mr. Milton, Chairman, announced the composition of this committee, as follows:

<table>
<thead>
<tr>
<th>Name</th>
<th>Liaison with</th>
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<tbody>
<tr>
<td>Grobowksi</td>
<td>CIC</td>
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<tr>
<td>Pakala</td>
<td>ASA-C63</td>
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<tr>
<td>Showers</td>
<td>IRE</td>
</tr>
<tr>
<td>Schenker</td>
<td>AIEA (formerly RETMA)</td>
</tr>
<tr>
<td>Pakala</td>
<td>AIEE</td>
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<tr>
<td>Kant</td>
<td>AIA</td>
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<tr>
<td>Milton</td>
<td>CISPR</td>
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<tr>
<td>Randall</td>
<td>Military</td>
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<tr>
<td>Schwenk, Ex-officio</td>
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</tbody>
</table>

h) Technical Advisory Committee:

Mr. Schwenk at this present meeting announced his appointment of Mr. Kall as Chairman, and gave him a list of suggested members.

8. Nominations
At Mr. Grobowksi's suggestion, Mr. Kall re-read the section of the minutes of the last meeting dealing with nominations, for the benefit of new members present.

9. Unfinished Old Business
No word from Dr. Baker.

10. New Business: Constitution and By-Laws

I. Constitution
(a) There was some discussion on 12 vs 15 Administrative Committee members. Mr. Milton suggested a maximum of 15. Mr. Grobowksi said we should hold to 12 now. The motion was made and seconded that the Administrative Committee formally be constituted at 15 members, with 3 positions left vacant until the next period (beginning July 1st, 1958). Passed unanimously.

(b) Art. III, Sec. 2. Dr. Showers suggests we change the word "interference" to "conflict".

Art. V, Sec. 7. Dr. Showers claimed this conflicts with Art. I, Sec. 4 of the By-Laws. Lt. McNaul and Mr. Kant explained that special committees are "ad hoc" appointments. To clarify this point, Dr. Showers moved that the second line be changed to read: "Special committees authorized by the Administrative Committee shall be appointed by the Chairman." Mr. Schenker seconded. Passed unanimously.

(c) Mr. Grobowksi brought up the subject of re-elections of Administrative Committee members. Mr. Emmeron said that some groups have a provision that Administrative Committee members must have a one-year lapse after serving three years, but they still allow the chairman, whose normal term is one year, to be re-elected for a total of three years.

Dr. Showers proposed that no office be held for more than two successive terms. Mr. Grobowksi moved that Art. V, Sec. 2 of the Constitution be amended as follows: "A member of the Administrative Committee cannot be re-elected to the Administrative Committee without a lapse of at least one year." Dr. Showers seconded. There was then considerable discussion. The original motion was then voted on and passed unanimously.

I) Art. V, Sec. 3. Mr. Grobowksi suggested adding to the indicated sentence: "......with an officer not to be elected for more than two successive terms." Lt. McNaul moved that this change be made. Grobowksi seconded. Passed unanimously.

II. By-Laws

a) Mr. Kant, on notes submitted by Mr. Schenker (incorporated here-by reference), made three suggestions which were put in the form of motions by Mr. Schenker:

Art. VI, Sec. 3: In the first sentence "At the Annual Meeting, the coming hold-over members of the Administrative Committee shall elect the members to fill the vacancies on the Administrative Committee" the words "the coming hold-over members" should be stricken out. (Paragraph 3 of the Suggested By-Laws, Appendix C of the IRE PG Manual has no such restriction) Lt. McNaul seconded. Passed unanimously.

The other two suggestions were relatively minor ones on grammatical construction. A fourth related to the Constitution, Art. VII, Sec. 5 and recommended that 8 members constitute a quorum.

(b) Dr. Showers: Art. III, Sec. 2. Suggested that the committees make this consistent with IRE policies and our Administrative Committee.

Dr. Showers: Art. IV, Sec. 3. Suggested that item 12 be stricken.

(c) Mr. Pakala: Art. II, Sec. 15. Suggested that last sentence begin "The name of this representative shall be......"

Because of the large number of proposed Constitution and By-Law changes, it was suggested that Mr. Kant re-write the Constitution and By-Laws (knowing the intent of the Administrative Committee on all the proposed changes) and make a package presentation to the IRE Executive Secretary.

Dr. Showers added the following additional comments:
Art. I, Sec. 3: in the 6th line, delete the words "or all". The present reading is too restrictive on the committee chairman's functions.

Mr. Kant said that these suggestions would be included in his re-writing.

Dr. Showers now moved that the Constitution and By-Laws be approved as amended today, subject to our approval of an editorial version (with indicated amendments and editorial changes). Mr. Kant seconded. Passed unanimously.

Mr. Schwenk had observed that the Constitution and By-Laws must be in effect by the end of April.

II. New Business - Armour Conference

Mr. Schwenk read a letter from Armour Research Foundation stating that a Symposium on RFL sponsored by USASEL, will be held October 1-3, 1950 at the Chicago Museum of Science and Industry, and suggesting cooperation by PGRFL.

There was then varied comment from the group.

The meeting was adjourned at approximately 1:30 P.M.