SPECIAL SERVICE CLUB (ARRL)

Nov 86

# SPLATTER

This Sardine Wrapper is printed from time to time and distributed to the membership of the TAMAQUA TRANSMITTING SOCIETY, Tamaqua, Pa. 18252

FILE COPY

FALL WINTER ISSUE

EDITORIAL

## MATHEMATICS IN RADIO

By T. Sarli W3CMA

"The greatest hobby in the world!" That is the opinion of thousands of licensed radio operators. Anyone can get inot radio with a limited amount of study. But to some its a far away dream. Why, you may ask? A young person looking over some of the questions and schematics sees in them a jumbel of straight lines-crooked lines and numbers and is therefore a little scared. Radio is technical and anything technical must contain mathematics. Some are afraid of numbers. Not being too well versed in slinging math around they stay away from radio. If the beginner would only realize that the math used involves no more than a basic knowledge of fractions, the foundation received in school is sufficient to pull them through the most intricate of problems.

In practically all the problems you come to in radio, there are special formulas that apply to the problem. In the Radio Amateur's Handbook the first two chapters is devoted to all electrical laws the novice need to know. The most important to the beginner being OHM's L'W, (E= IR). E equals Voltage or (Volts); I is Current (Amperes) R is Resistance (Ohms).A simple method of working with Ohm's Law is by drawing a triangle.

"E" always at the top of the triangle-"I" in one corner and "R" in the other. Now by looking at the triangle you can find the three formulas with no trouble. Wanting to find I or Current simply put down $I=\frac{E}{R}$ E being at the top of the triangle so it becomes the top of the fraction or the numerator. R being at the bottom of the triangle becomes the denominator. Substituting the correct values, the problems becomes a simple fraction. If R is the unknown quantity $R=\frac{E}{I}$ If E is the unknown quantity--E=I X R; both the I and R being on the bottom of the triangle you simply multiply.

As you advance in radio there will be more formulas to learn but keep in mind it still breaks down to simple arithmetic.

NOTE- While cleaning out my dark room I came across this box of old Sardine Wrappers. The above editorial was printed in the March 1955 issue. The meetings were held in Tamaqua Borough Hall on Rowe Street. There are many interesting items in this pack of bulletins and we shall reprint them in future bulletins.

## TAMAQUA XMTG. SPECIAL CALL

For one week- Dec.12 to 18th. your club will be permitted to use a commerative call sign. The membership picked the most easiest and eye (ear) catching call from all the members. The call to be used will be W2ØØTI for one week only.

The reason for this occasion and event was the signing and adoption of the Constitution of the United States. Complete details will be found in the September issue of QST. Special log sheets have been printed for club members use during this weeks activity.

A special commerative QSL card is being printed and sent to all stations requesting same. Every member participating will have their call listed on the card.

This is a club activity. Take pride in our Constitution. Take an active part that week.



Don't tell me your having radio club meeting here again !

## CHRISTMAS PARTY

Since this is our Fall-Winter issue, it is time to mark the calander for our annual Christmas Party. Mark Saturday, December 19th. Our activities manager has aquired the same location as last year, Vitali's country house, at Hometown along Rt 54. If you passed over the date, it's Saturday Dec. 19.

As in prior years there will be NO registration nor entrance fee. Dinner and refreshments are dutch treat, order from the menue. The group gathers between 6:00 to 6:30 PM with target time to eat at 7 o'clock.

The evenings program is still in the hands of the committee but we have been informed that a very interesting session is in store for us.

NOW - Last minute instructions Saturday, Dec. 19th. Vitali's Country House, Rt 54 at 6 PM.

GET THERE -----

## FCC EXAMINATIONS

Each year the Anthracite Repeater Asso. and the Tamaqua Xmtg. Society sponsor FCC exams. One at the Annual Hamfest in May and the other on the first Saturday of November in the Tamaqua Municipal building. Due notice is hereby given that the next amateur exams will be held on Saturday November 7th. at 9 A.M.

Candidates who require code tests, elements 1A, 1B, or 1C are to be availavle at 9 AM. All written exams shall follow the code exams.

The VE team will accept walk-ins on a first come basis. However, you may reserve any exam by contacting W3TI before Oct. 17th.

Instruction sheets and 610 forms are available by mailing a large business size SASE to A. Breiner K3NYX, 127 Market street, Tamaqua, Pa. 18252.

Again-- November 7th. 9 AM
Tamaqua Municipal Building
320 East Broad Street
Tamaqua, Pa.

FISHING - VE 3 STYLE

What has the sport of fishing got to do with Ham radio ? Well quite a lot when we tell you of the latest Xmtg society activity and safari into VE3 land.

A number of society members were contacted and asked to go along to Canada for a week of fishing and roughing it. It ended up with 3 members who braved the wilds and elements of Ontario Canada.

On the morning of August 29 N3FGY, K3NYX and W3TI left Tamaqua to return a week later. The safari was made in the RV van of K3NYX who was piolet. W3TI was first mate and navigator while N3FGY held down the crews quarters and supplied us with entertainment during the seven and a half hour trip.

We arrived at the cabin which is located about 75 feet from waters edge and boat dock. The cabin is equipted with hot/cold running water, shower es bath, electric stove, refrigerator, electric heat and TV. Half of the channels are in french. You should hear the Pepsi commerical in french, yikes ---

OH ! Fishing - Yes, we spent many hours on the water. With K3NYX in the engine room, W3TI as forward watch and N3FGY manning the oars in case the engine would quit.

Yes, we did catch fish. Sizes varied between 24 to 30 inches. The smaller ones were returned to grow bigger.

We also did some 2 meter repeatering and found out that their repeaters also time-out. Canadians welcome us with open arms and pocket-books because they like our american $ $ $. Each of our dollars is worth $ 1.29 in canadian money.

As in the words of "McArthur" we shall return - Next year.

THANKYOU es KUDOS

As all our active Society members know, according to our by-laws, there are no monthly nor annual dues required to be a part of our active group. All of our postage and other expenditures are derived from membership donations. We wish at this time to extend a Special Thanks to our recent donors.

An additional thankyou to any society member for their contributions such as: The antenna crew who keeps our skywires ship shape; The TVI committee who was active during the summer; To the bulletin printer for his expertise with the Xerox machine; To our municipal officials for favors granted, and to our Hamfest Committeeand the societies Volunteer Examiner team who give time and services freely. To any member and friends of the society, KUDOS. You did a great job in 1987.



SHACK OF THE MONTH award goes to John K 3 S L J

ELECTION

If you were of age on Nov. 3rd. then you may have cast your ballot for local, state and National candidates. Well, it's time to nominate and elect a slate for society officers for 1988. There will be a few minutes of Xmas party time for officer elections.

Have you got your eyes on one of the elective offices ? Let the nominating committee know of your intensions. It is rumored that all officers wages would be increased in the coming year.

Asside for officers in the society there are committees such as; Hamfest Committee, Field Day committee, TVI committee, Volunteer Examiners, Bulletin editors - Just to name a few. We're sure there is some place to put your special traits to good use. Don't wait to be asked, Volunteer. You may be surprized when we say "You got it".



"YOU KNOW WHAT YOU NEED, LORETTA? YOU NEED A HOBBY."

EXTRA - EXTRA - EXTRA

This info just received in time to make the last page. It seems ARRL has received info that NOT all applicants for the special call sign, as noted on page one, will not get them. Wow, what are we going to do with 500 special QSL cards ?

PENN QSO PARTY

Once more to the fore. No, there will be no refreshments served at this party. What say fellas, let's put Schuylkill County on the list again. The PA QSO party will be held on Oct.10, 11 this year. Starting at 1600 Z to 2200Z on the 11th. All we are asking is that each member become active that week end. Swap your QSO number and county with the other station, mark it on the log sheets provided by the society. At the close of the party pass your logs to the club secretary. THey will be xeroxed and originals returned for QSLing etc.

The club will compute your score and forward log copies to get national recognition at State College. Each QSO logged, be it CW, SSB or FM (repeaters don't count) will add up. States and ARRL sections count as multipliers. If you need WAS award, here is the quickest way to make it in one week end.

You will be contacted in early October as to your operating status and availability to assist your Xmtg society

SOCIETY OFFICERS

| | | |
|---|---|---|
| NI3H | Dave | President |
| W3CMA | Tony | Treasurer |
| W3TI | Al sr. | Secretary |
| K3NYX | Al jr. | Act. Mgr. |

ARE YOU AN ACTICE MEMBER ?
OR - JUST A NAME ON OUR LIST

At the recent meeting of the judiciary board, the activity report of a few members were appraised. If you have become lapse in society activities in the past 2 years you might be dropped from our mailing list. If the address label on this mailing envelope is underscored in RED, then your activity has been sorely missed. This will be your last club bulletin. However, you can be reinstated at any future meeting by geting active with the society.

# QST

## The Official Organ of the A·R·R·L·

VOLUME IX JULY, 1925 NUMBER 7


# Television Arrives

By G. L. Bidwell*

MOTION PICTURES BY RADIO ARE HERE! I saw them with my own eyes. The present motion pictures are silhouette. That is, they are just black and white pictures without half tones. But the half tones are coming just as sure as the sun will rise tomorrow morning. And then we will see as well as hear broadcasting.

The physical laws back of it are all

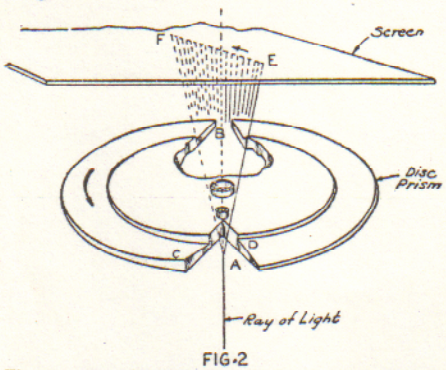



FIG-2

**The construction of the Jenkins prismatic disc. The image oscillates along the path EF.**

easily understood and I will try to tell you how it works.

### First Pictures, Then Television

In the beginning, C. Francis Jenkins invented pictures-by-radio or telephotography.[1] At first it took twenty minutes to send a picture. Motion pictures would result by simply speeding up so as to receive sixteen separate pictures per second. That was only 19,200 times as fast. He has now accomplished that little feat.

At the sending station is a motion picture projector, a small machine for cutting up the image, a light sensitive cell and a transmitter. At the receiving station is a radio receiver, a small machine to put the picture back together again and a screen (say 6 x 8 inches) upon which the picture appears.

### The Picture Speaks

A very interesting thing about this apparatus of Jenkins is that he modulates his carrier wave with voice frequency also and so *speech accompanies the picture with no interference.* You see the picture. It is a Dutch wind-mill with vanes spinning. The loud speaker says: "The mill will now slow down." It slows down. Again: "The mill will now stop." It stops. "The mill will turn backward." It turns backward. After studying the process for two weeks it seemed almost uncanny since the motion picture film and the speaker were ten miles away.

### Telephotography First

How does it work? We must first understand telephotography. Place a nickle under a piece of thin paper and draw parallel lines over it with a pencil. The Indian's head appears. A picture may be composed then of lines varying in intensity. By means of a light-sensitive cell passing over the lines these variations in the lines may be transformed into a pulsating electric current. If the lines be placed end to end, such a current could modulate a carrier wave. This is the way Jenkins does it.

* Atlantic Division Director of the A.R.R.L.

1—See "Visible Radio" by Dan C. Wilkerson, p. 15. May, 1925, *QST*, especially the portion relating to the "high speed" system.

## Arcless Keying


307 Cabot Street,
Newtonville, Mass.


Editor, *QST*:

Probably a large per cent of us place our keys in the negative high-voltage lead, and are troubled with arcing across the contacts of the key. I tried a condenser across there but instead of an arc the current gave vent to its feelings by a nice fat spark. I have always understood that if the key is placed in the grid circuit the plate current will heat the tube up and keep it that way, but when I changed to keying in the grid circuit I happened to leave a small fixed condenser of .001 μfd capacity across the key. I was surprised to notice that the plate current was practically zero when the key was up.

There is absolutely *no* sparking at the key, and practically all of the advantages of keying in the plate circuit are at the same time retained. *Henry S. Keen, 1AEL*

### ATLANTIC DIVISION
E. B. Duvall, Mgr.

EASTERN PENNA.—The shorter wavelengths are best for handling traffic this summer. 3QN, the D.S., is going to dig up the "dead" ones with the old "rock crusher". (It may take dynamite—D.M.) 3ADP is using a forty meter wavelength. 3BNU is working consistently on both 40 and 84 meters. He has one "fifty" in service. 8AVL is heard on 20 and 40 meters. 8AOL is installing some phone sets on an airplane. 8BDN, 3LK and 3AVM are traffic handlers.

Traffic: 3BAU, 5; 3BNU, 46; 8AVL, 23; 3AVM, 2; 3BLP, 131; 3CDV, 2; 3BLC, 9; 3CJN, 18; 3MQ, 10; 3TP, 17; 3UE, 7; 8BPN, 5; 3AUV, 26; 3QT, 29

# England and Australia Work in Daylight!

## g2OD and a2CM in Constant Communication on 20 Meters

A DAYLIGHT two way communication record of 10,300 miles was recently made when, on May 3rd British 2OD, owned and operated by Mr. E. J. Simmonds, Gerrards Cross, Bucks, England, and Australian 2CM, Mr. Chas. D. Maclurcan of Strathfield, N.S.W., connected on 20 meters at 5:52 A. M. (G. M. T.). Communication was held until 7:15 A. M., when contact was lost due to the fact that Mr. Simmonds had to stop to shave and pack up for business!! We can't imagine ever stopping if we were participating in a communication like that one!

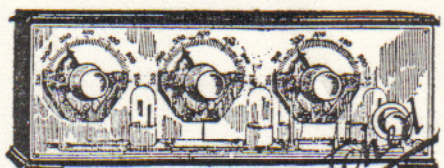
## Amendment to Regulations

THE regulations governing amateur stations, dated Dec. 24, 1924, paragraph entitled "Intercommunication," have been amended to read as follows by Bureau of Navigation General Letter No. 265a, dated April 1:

*Amateur stations are not permitted to communicate with commercial or government stations unless authorized by the Secretary of Commerce, except in an emergency or for testing purposes which may be construed to cover official government business.*


**Duplex Condenser & Radio Corp.**
**32 Flatbush Ave. Extension**
**Brooklyn, New York**

MATCHED DUPLEX CONDENSERS



*Always Read Alike Because They Are~~ Matched*


DAYS OF YORE The above article was found in with my antique collection and I thought a bit of history would be an asset to our bull sheet. Please note Eastern Penna. section news in upper right. W3TI

# Midsummer Short-Wave Tests

Our own John L. Reinartz has started us off by doing some real development work. He summarized this work in his article "The Reflection of Short Waves" which appeared in the April *QST*. Since this article appeared there has been much discussion on the subject. Some of us have not agreed entirely with his theory of radio transmission. If his theory is correct it means that by using the right wavelength, suited to the right time of day, we may cover any distance desired with absolute certainty and with very low power. These tests will create new data on short wave transmission. The Reinartz theory will be confirmed or disproved by sufficient new data. At any rate we shall have fresh information in quantity and it may be possible to draw certain definite conclusions that will be of value.

We are going to give detailed schedules this month as well as to make a first announcement of the tests because we want to give our friends in New Zealand and South Africa a chance to do their pa[rt]. We want transmitting and receiving sta[tions] in every part of the world to join us in some tests which may contribute valuable knowledge to the art of radio co[m]nication. Both the experimenter and DX man can participate to advantage.

**Dates of 48 Hour Tests**

| | | |
|---|---|---|
| July 18-19 | Test on | 3[5] |
| July 25-26 | " " | 25-26 |
| Aug. 1-2 | " " | 4.8-5.3 " |


## YOU TELL 'EM, BUICK--

or Flivver, or Franklin, or Fiat! Tell the whole durn road that your boss is a member of the A.R.R.L., by wearing on your radioator the new A.R.R.L. Automobile Emblem.

5 x 2½", heavily enameled in gold and black on sheet steel base, holes top and bottom for easy attachment.

Watch them multiply on boulevard and by-way!

Postpaid to League Members only at 50c—that's all!

**The Ame[rican] R[adio] Relay League, Hartford, Conn.**


## 50 Years of Amateur Radio

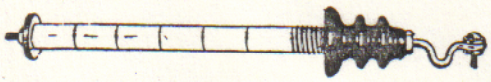
BR[ASS] [PO]UNDERS' LEAGUE

| | |
|---|---|
| [1]70 | |
| 2AHK | 168 |
| CPM | 168 |
| XL | 167 |
| [2]P | 162 |
| 1BD[I] | 151 |

[Hon]or in the Br[ass] Pounders' [Le]ague Last Month.

## At Last—An Approved In Bushing

THE Underwriters' Laboratories have consistently refused to investigate the matter of lead-in tubes and bushings for radio purposes on the premise that almost everyone used ordinary porcelain wiring tubes for lead-ins and as these porcelain tubes are not approved in general wiring they should not be approved as radio devices. No one knew what was approved in the way of a lead-in—a specific lead-in device—until the M. M. Fleron & Son company of Trenton, N. J., undertook to convince the Underwriters that there was no reason why there should be any "fire hazard" when using their lead-in bushing. At our instigation they fought the matter out and we now have at least one lead-in tube which *is* approved by the Underwriters' Laboratories. It seems to us that a bushing



of the Pyrex bowl type should be approved also, but the Fleron bushing is the only one we know of which has been officially accepted.


AMERICAN HARD RUBBER COMPANY,
Dept. L5, 11 Mercer St., New York City

Please send me your new booklet, "Building Your Own Set" for which I enclose 10 cents (stamps or coin).

*Name* _____

*Address* _____

*City* _____ *State* _____



SELLING OUT. DeForest D-6 receiver with honey comb coils from 25 to 1500 turns will get all waves 150 to 25,000 meters, used less than 90 days, cost complete $160.00 will take half. Kennedy Universal detector and tuner number 110, brand new, cost $370.00 will take $200.00. Radiola Superhetrodyne with speaker and indoor aerial, perfect, cost $285.00 take $175.00. Radiola 3-A brand new in original package, cost $65.00 take $42.00. Western Electric three tube power amplifier and horn, cost $165.00 take $75.00 complete. New Frost, Brandes, Dictaphone head set, Manhattan horns, other new equipment 30% off list. All material guaranteed new. EARL BILLITER, Dell Rapids, South Dakota.


### Inchulation

Reedley, Calif.

Hon. Ed., *QST:*

In yearning to comment in your admonishable magazine may I propound in recent "Stray" in re which declare "Pie-wrecks" small custard cup with hole in bottom make excellent insulator for lead-in (or out as case may be).

Now, Mr. Hon. Ed., Pyre-Ax custard cup do not come furnished with hole so as per fidelant ham what am myself start and set about to drill said mon-included hole. By unfortunate coincidance three cup are broken by myself before Precision Machine Co., contract to attach hole. Precision Mach Co break two cup before finishing one which, Ohell, I am break on sidewalk on journey homeward. Not unfastened however I am remember system of Mr. Houdide which drive small wood splinter in chair arm by quick force I erect two cup on rear of barn and with six shooter firearm attempt to shoot hole in cup only succeeding to break them after which I bury broken pieces and unfortunate rooster fowl which are killed meanwhile.

Since and now I use old style moulded mud insulator and sputter when I see accursed pirex custard cup.

—*Topo Hongo, Opr jIOU*

## Additions to the Headquarters Staff

IN January 1924 we told the story of all the Headquarters gang. Since that time there have been five additions, meet them:



A. L. BUDLONG

Arthur L. Budlong. Not half as serious as this picture. Bud joined the gang in February 1924 as Editor of Current Radio, our newspaper syndicate service. He has graduated to Assistant Traffic Manager and is in charge of all Emergency Railroad work. Signs 1ASN and hails from Washington, D. C.

As acting traffic Manager during Schnell's absence with the Pacific Fleet we were lucky enough to get F. E. Handy from the Westinghouse people. Handy hails from Maine, originally, and owned and operated 1XAH-1BDI at the University of Maine. He has been with Westinghouse for nine months in their training course at KDKA, WBZ and the Radio Engineering Department at East Pittsburg.



F. E. HANDY