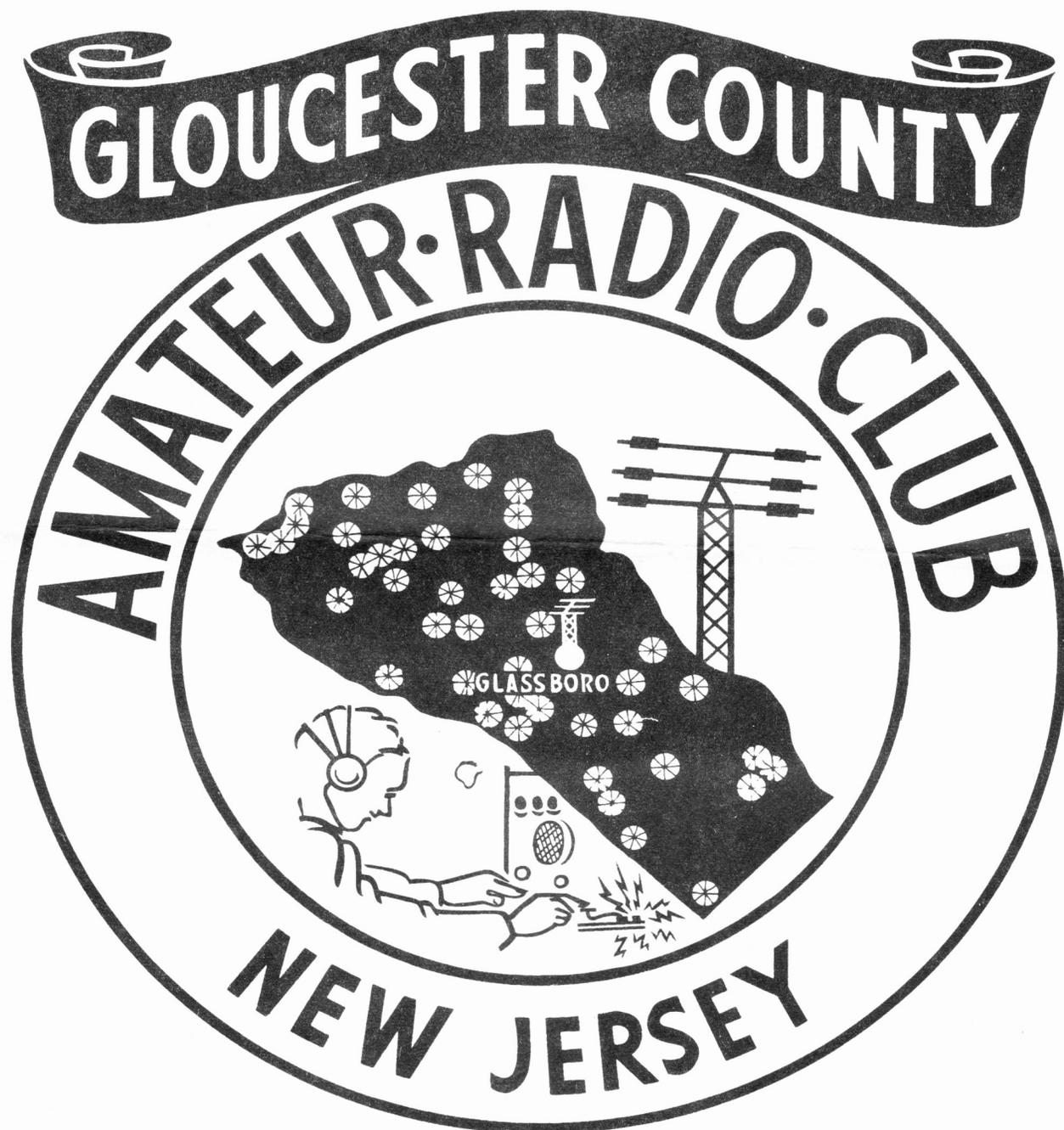


# CROSSTALK



**THE OFFICIAL PUBLICATION**

# THE OFFICIAL PUBLICATION OF THE GLOUCESTER COUNTY AMATEUR RADIO CLUB

Volume 1 : Number 7

October 1959

**Where: Owens-Illinois Onized Club House, Glassboro, NJ**

**When: October 8, 1959 @ 2000 Hours Sharp**

**Who: All members and interested parties**

**What: Regular meeting of the Gloucester County Amateur Radio Club**

## Guest Speakers:

**John Struckell**, President of the New Jersey Broadcasters Association and Program Director of WKDN.

**George Voorhis Jr, K2JII**, Antenna design engineer with Communications Products Company of Marlboro, NJ

## *de K2JKA*

FREE – Yep, that’s what I said, FREE. However the way some people shy away from writing articles for the club paper you might be inclined to think that they had to pay by the word to have it published.

We're not running a classified ad paper, it's FREE---FREE---FREE---FREE!!!, free for the writing. Let's face it, to date this paper with a few exceptions has been the work of a few. No, I'm not trying to blow my own horn, but I am trying to make you fellows realize that this is your paper, not Al's and mine.

The cooperation received on this issue has been a little better than on previous issues, but there is still an awful lot lacking. We've got a lot of good heads in our club that could do an awful lot to further the progress of this club paper.

We've had a few people who have volunteered to write monthly columns, but as of this date no material has been received. I am very sorry that I am unable to chase all over the county every month collecting these articles. If you can't afford a stamp to send it to me, send it anyway and I'll have the club treasurer refund the cost. And I hope I don't hear the excuse that you don't know my address because I am making it a point to list it at the end of this article. So, what say let's get on the ball. We would like to hear how you modulated that kilowatt with a 6AL5, or how you worked that ZL using a bent hairpin for an antenna. Remember that it costs you nothing but our time to get it printed.

Getting back to more pleasant things; this month's meeting brings to the floor two very interesting speakers. A short talk will be given by Mr. John Struckell, President of the New Jersey Broadcasters Association and Chairman of the State Industry Advisory Committee on the back up communications in the event of emergency. John has a very novel and practical plan involving the amateur in conjunction with commercial broadcast stations in the event of an emergency. Mr. Struckell is at present, program director for station WKDN in Camden.

Our second speaker of the evening will be Mr. George Voorhis Jr, K2JII, who at present is an antenna design engineer for Communications Products Company of Marlboro, NJ.

All in all, it should be a very interesting and enlightening meeting. If at all possible try to get out and have a night of fun and meeting the rest of the gang.

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### Crosstalk Staff

**Editor: Jack Layton, K2JKA, Woodbury, NJ**

**Co-Editor: Al Roche, K2HHJ, Paulsboro, NJ**

**Swap Shop: Ray Gianchetti, WA2CUB, Woodbury, NJ**

**Contributors to this issue:**

**Abe Winters, W2EIL, Oak Valley**

**Dave Gross, ex-W2HMP, Paulsboro**

### Splatter and Stuff

I believe that **Bob Walton**, one of our club members, is going to bring some spare copies of radio magazines that he has no use for to the meeting for free distribution.

Every Friday night at 2130 Hours, the county CD station goes on the air on 28.65 mc. The net control station is manned by the following club members:

**George Stuart, K2SOL**

**Woody Frantz, K2AQL**

**Jack Layton, K2JKA**

**Frank Ritter, K2UUY**

Quite a few of the fellows are getting interested in Teletype and are already on the air or are getting equipment together to do so. To name a few:

**Larry Scarpa, WA2CVV**

**Al Roche, K2HHJ**

**Jack Layton, K2JKA**

**Jim Fluck, W2OEM**

**Al Roche, K2HHJ**, is helping the Gibbstown Explorer Post get their radio merit badge. Who knows might be a lot of potential hams in this group.

**Mal Mason, W2MMD**, has twenty five years as explorer scout adviser. Congratulations, Mal!

**Gurdon Cooper, W2PAX**, is busily engaged on 6 Meter mobile equipment. At last report he was pretty well ready to go.

**Woody Frantz, K2AQL**, is heading up the club construction project. It has been suggested that a 6 Meter transceiver might be a logical choice. If you have any ideas, Woody would be glad to hear from you.

**Larry Scarpa, WA2CVV**, passed the word along that he is building a digital computer type of key for CW. Complete with storage circuits and memory unit. If you are curious see Larry for details.

**George Stuart, K2SOL**, has been appointed to look at the advisability of entering the sweepstakes on a club basis. If you like contest operating see George.

You might be interested in knowing that of the total number of members paying dues of which there were 64, a total of 46 are on the rolls as charter members.

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Don't forget the date of the **First Annual Christmas Party** of our club. **December 12** is the date so keep it open. Details and further information at a later date.

Why not bring a friend to this meeting. If we all could talk a fellow into attending, it wouldn't take long to swell our ranks. To keep growing it's going to take the cooperation of all of us. So spread the word, the doors are open.

**Mal Mason, W2MMD**, informs us that permission has been received by the club to have a club station in the clubhouse building. Here is a chance for a cooperative effort to get a club station on the air. We certainly owe a great deal of thanks to the **Owens-Illinois Glass Clubhouse** trustees and officers of the company for their attitude toward us. I would like to suggest to the committee that the officers, etc. be invited to one of our meetings and perhaps to our Christmas party.

If you have any ideas for the paper, why not grab **Jack** or **Al** and let them in on what you think.

Plans are being worked out on a sort of club contest by **Ray Gianchetti, WA2CUB**, and **Al Roche, K2HHJ**. More at the regular meeting.

Congratulations are in order for those who passed their General exams. I think that there were four, but can't remember who they were. Nice going fellas and lots of luck.

**Ed Stetser, K2JJC**, and **Hal Kutz, K2JGU**, are net control stations on the New Jersey Emergency phone and traffic net, which meets nightly on 3900 kc at 1800 Hours. If you have traffic or like net work why not check in.

**Jack Layton, K2JKA**, is running a gallon on SSB with a Gonset GSB-100 and 101 linear.

**Frank Van Turner, W2KE**, welcomes all comers to the County CD net. Meets on Fridays at 2130 Hours.

### **The Third In A Series Of Articles**

#### **The Radio Observation of Artificial Satellites**

**By S. D. Gross, ex-W2HMP**

**Paulsboro, NJ**

#### **Satellite Tracking**

Sputnik 111 was overhead at Philadelphia, PA, on August 20 and 21 between 8 and 9 pm and was passing through a point in its orbit between perigee and apogee. Notice that we have not said "the exact same orbital point passes overhead at the same time", but have said "at about the same time"! The principal factor that makes the approximation necessary is the rotation of the earth around the sun. The motion of the sun around the earth makes the orbit appear to move west at about 1 degree per day.

Finally the precession effects must be discussed. It may be recalled from childhood experiences with a gyroscope top, that if the top was tipped slightly the upper end described a small circle. This phenomenon is called precession and in the case of the top was due to the force of gravity acting upon it in an unsymmet

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rical manner. Similar phenomena occur with a satellite and are caused principally by the equatorial bulge. These effects are as follows:

- A. The orbital plane precedes west.
- B. The perigee and apogee points move in the direction of the satellite rotation.

The last effect is very evident in radio observations. If one measures the distance of closest approach day after day, it will be noticed that the distance varies considerably. This is because perigee may be overhead one day and several weeks later apogee will be overhead.

### **Equipment Required**

A stable sensitive receiving system is required especially if the American satellites are to be followed. For example, to hear Explorer 1 when it first rose above the horizon, required a system capable of receiving a 0.01 watt signal at 3000 miles.

A crystal controlled converter is recommended feeding a regular communications receiver and only the receiver will require tuning to peak up the signals. The 144 mc converter described on pages 391 and 392 of the 1957 ARRL Handbook will be satisfactory if it is modified for 108 mc. A crystal oscillator at a frequency of 29.675 mc., followed by two doublers is recommended in the circuit. All of the coils will require additional turns so that a grid dip meter will be required to cut the coils correctly. The amateur receiver needs a stable oscillator and BFO. With this converter the IF is at 10.7 mc.

The antenna need not be high above the ground, 20 to 30 feet is adequate. A five element beam of director driven element and reflector is recommended. Since considerable gain is needed, the polarization is not critical since the satellite tumbles and the signal is subject to large polarization changes.

A good clock is required so that an accurate log can be kept. It should be checked against WWV each day before the listening period begins. Audio frequency measuring equipment is desirable, but not necessary. This would permit one to measure the distance of closest approach, but its use will not be discussed here.

### **Radio Observation**

At least an hour before listening, turn equipment on to permit the various oscillators to settle down and minimize drift. One of the biggest problems is knowing when to listen. For example, Explorer 1 could be heard about 15 minutes per orbital period for about 5 orbital periods per day when it was radiating signals.

***To be continued in next issue***

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### Thru The Co-Ax

This story for our purposes has its beginning in the year 1947 as two young fellows are leaving their place of employment in Camden. At the suggestion of Jack Sterner, W3GQK, who resided in Germantown, PA, at the time, our friend started to build a 7 inch TV set. As each component was completed our hero would jump into his car and chase up to Germantown and have Jack check it out for him.

It was while he was so engaged that Jack introduced him to ham radio. The further he progressed in TV construction, the more he became interested in amateur radio. That radio bug had delivered its deadly sting. Several homebuilt TV sets later and with a look to the future our two enterprising friends opened up a TV service and repair shop. All this time our boy was diligently studying the code and boning up on the questions, with the aid of Jack who helped him stay on course with the aid of an assortment of hammer locks, arm bends, and strangle holds. But fate stepped in and in 1951, our boy was transferred to Detroit, Michigan, where ham study took a back seat.

On his return to the east coast, Jack applied his peculiar brand of psychology this time with more effect, because in August of 1956 he passed his Novice exam and received that coveted license from the FCC.

To get on the air now he homebrewed a receiver from junk box parts scrounged from old receivers and TV sets. Used the same technique to build his transmitter. As usually happens while in the middle of a nice QSO the phone rang and he was duly informed that he was putting a beautiful 5-9-9 plus signal smack in the middle of the 20 Meter phone band. This shook him up to the extent that he went out and bought himself a Viking Adventurer and HQ-110 receiver.

With daily code practice and study of the Q and A manual, he got up enough courage to go to Philadelphia and take the General exam. As he sat down at the table to take the code test he remembered the advice of Jack Sterner "write down all you can copy". With a nod of his head he signaled that he was ready. The machine started and after writing two rows of solid copy V's, a smile crossed his face - he had it made.

Suddenly plain text started coming through the cans and a look of consternation crossed his face and with a great deal of effort he managed to get the pencil moving. He doesn't remember what he wrote, but does recall that he almost fell out of the chair in a dead faint when he was told that he had passed this portion of the test. The theory part wasn't too rough due to his background in TV work. So on the day after Christmas 1957 he lost the "N" in his call and could join the ranks on the phone bands.

He purchased a DX-100 kit, assembled it, and put it on the air on 15 meters. He was enjoying a nice contact with a station in Sault Ste. Marie, when the doorbell rang. Dashing up from the basement shack he opened the door to be confronted with the borough chief of police who politely informed him that he was causing widespread television interference. Shaken, he stumbled down stairs and turned off the rig. put it on 10 Meters and it's been there ever since.

Using a di-pole isn't too effective, so he got hold of a three element beam which he now uses. Although he is not a DX hound he does enjoy working DX stations, so far his best DX is ZL2MU. His first DX contact was with G3BKH. He is still amazed that it is possible to span oceans and continents and have friendly chats.

Although he does not have a phone patch, he does bring parents of boys overseas to his home and many times they have talked to their loved ones overseas. He held weekly skeds with F7SU in Paris so that a

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mother could talk to her son.

He derives his greatest pleasure from talking to and meeting hams over the air and having friendly rag-chews.

His other interests include hunting, fishing, boating photography and blue-rock shooting. His lovely wife enjoys all his interests and is also an accomplished trap shooter. He has no definite plans for the future as far as ham radio is concerned, perhaps SSB at a later date. He is involved in putting a Gonset Converter in his car and is looking around for a transmitter to get on the air mobile. He is a member of the Gloucester County Civil Defense Net and is employed at RCA as a purchasing agent.

This then is a segment out of the life of our good friend and club treasurer [Horace Simpson, W2JOZ, of Wenonah, NJ.](#)

## Swap and Shop

### **FOR SALE:**

25 Watt Modulator.

2 Meter Converter with power supply, 14-18 mc. IF.

6 Meter transmitter - 6146 Final.

150 Volt DC Regulated power supply.

Turner 33-D microphone and special stand.

Will sell all above or swap for receiver

See Dick Mehnert, W2PQV.

D-104 Mike, Original Vibroplex. See Denny Murray, K2RRT

S-38-D. See Bill Smith, WV2FHE.

Just 3 left: 2 Meter transmitters, 50 watts input, HOT. See Jack Layton, K2JKA.

DX-40 with VFO : \$55.00

70 Watt HI-FI Heathkit audio amplifier with pre-amp.

See Larry Scarpa, WA2CVV.

### **WANTED:**

Receiver: See Oscar Miller, WV2JZQ.

Hey now, this is getting more like a Swap & Shop should be. We've got some luscious items this month.

*Just mention that you saw it in Crosstalk.*

That's it for this month, fellas. If you have anything to get rid of or need let anyone on the staff know, or phone Ray at Woodbury, any evening after six, Ray Gianchetti, WA2CUB.