

CROSS TALK

THE OFFICIAL PUBLICATION OF THE GLOUCESTER
COUNTY AMATEUR RADIO CLUB

VOL. 1

OCTOBER 1959

NO. 7

WHERE-- OWENS ILLINOIS ONIZED CLUB HOUSE GLASSBORO, N.J.

WHEN -- OCTOBER 8, 1959 8:00P.M. SHARP

WHO---- ALL MEMBERS AND INTERESTED PARTIES

WHAT--- REGULAR MEETING OF THE GLOUC. CO. AMATEUR RADIO CLUB.

GUEST SPEAKERS-- JOHN STRUCKELL, PRES. OF THE NEW JERSEY BROADCAST-
ERS ASSOCIATION, PROGRAM DIRECTOR OF WKDN.
GEORGE VOORHIS K2J1J ANTENNA DESIGN ENGINEER WITH
COMMUNICATIONS PRODUCTS CO. OF MARLBORO, N.J.

DE K2JKA.....

FREE--- YEP THATS 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, ITS
FREE---FREE---FREE---FREE---!!!! FREE FOR THE WRITING . LETS FACE
IT. TO DATE THIS PAPER WITH A FEW EXCEPTIONS HAS BEN 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 CO-OPERATION RECIEVED 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 AFEW PEOPLE WHO HAVEVOLUNTEERED TO WRITEMONTHLY COLUMNS
BUT AS OF THIS DATE NO MATERIAL HAS BEEN RECIEVED. 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'Y KNOW MY ADDRESS BECAUSE
I AM MAKING IT A POINT TO LIST IT AT THE END OF THIS ARTICLE.SO----
WHAT SAY LETS GET ON THE BALL, WE WOULD LIKE TO HEAR HOW YOU MODU-
LATED THAT KILOWATT WITH A 6AL5 ,OR HOW YOU WORKED THAT-ZL- USING
A BENT HAIRPIN FOR AN ANTENNA. REMEMBER THAT IT COST'S YOU NOTHING
BUT OUR TIME TO GET IT PRINTED.....

GETTING BACK TO MORE PLEASANT THINGS; THIS MONTHS
MEETING BRINGS TO THE FLOOR TWO VERY INTERESTING SPEAKERS. A SHORT

SPLATTER AND STUFF

GORDON COOPER W2PAK IS BUSY IS BUISILY ENGAGED ON SIX METER MOBILE EQUIPMENT. AT LAST REPORT HE WAS PRETTY WELL READY TO GO.

WOODY W2AQL IS HEADING UP THE CLUB CONSTRUCTION PROJECT. IT HAS BEEN SUGGESTED THAT A SIX METER TRANSCEIVER MIGHT BE A LOGICAL CHOICE. IF YOU HAVE ANY IDEAS WOODY WOULD BE GLAD TO HEAR FROM YOU

LARRY WA2CVV PASSED THE WORD ALONG THAT HE IS BUILDING A DIGITAL COMPUTER TYPE OF KEY FOR C W. COMPLETE WITH STORAGE CIRCUITS AND MEMORY UNIT. IF YOU ARE CURIOUS SEE LARRY FOR DETAILS.

GEO. STEWART HAS BEEN APPOINTED TO LOOK AT THE ADVISABILITY OF ENTERING THE SWEEPSTAKES ON A CLUB BASIS. IF YOU LIKE CONTEST OPERATING SEE GEORGE K2SOL.

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.

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 ITS GOING TO TAKE THE CO-OPERATION 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 CO-OPERATIVE EFFORT TO GET A CLUB STATION ON THE AIR. WE CERTAINLY OWE A GRAT DEAL OF THANKS TO THE OWENS-ILLINOIS GLASS CLUBHOUSE TRUSTEES AND OFFICERS OF THE COMPANY FOR THEIR ATTITUDE TOWARD US. 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 JOK OR BL AND LET THEM IN ON WHAT YOU THINK.

PLANS ARE BEING WORKED OUT ON A SORT OF CLUB CONTEST BY RAY WA2CUB AND AL KRHHJ MORE AT THE REGULAR METING...

CONGRATULATIONS ARE IN ORDER FOR THOSE WHO PASSED THERE GENERAL EXAMS I THINK THÆ 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 NITELY ON 3900 KC AT 1800. IF YOU HAVE TRAFFIC OR LIKE NET WORK WHY NOT CHECK IN.

JACK K2JKA IS RUNNING A GALLON ON SSB WITH A GONSET GSB-100 AND 101 LINEAR.

VAN TURNER W2KE WELCOMES ALL COMERS TO THE COUNTY C.D.NET . MEETS ON FRIDAYS AT 2130

CONTINUED FROM LAST ISSUE
SATELLITE TRACKING

SPUTNIK 111 WAS OVERHEAD AT PHILA. PA. ON AUGUST 20 AND 21 BETWEEN 8 AND 9 PM AND WAS PASSING THRU 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 TOPPED 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 UNSYMETRICAL MANNER. SIMILAR PHENOMENON 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

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 AT R.C.A. IN CAMDEN. AT THE SUGGESTION OF JACK STERNER THAN W3GQK OF GERMANTOWN PA, OUR FRIEND STARTED TO BUILD A SEVEN 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 ALREADY DELIVERED ITS DEADLY STING. SEVERAL HOMEBREW TV SETS LATER AND WITH A LOOK TO THE FUTURE OUR FRIENDS OPENED UP A TV SERVICE AND REPAIR SHOP. ALL THIS TIME OUR BOY WAS DILIGENTLY STUDYING THE CODE AND BONING UP ON THE Q. AND A., 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 MICH. WHERE HIS STUDY TOOK A BACK SEAT.

ON HIS RETURN TO THE EAST COAST JACK AGAIN 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 F.C.C. TO GET ON THE AIR HE HOMEBREWED A RCVR FROM JUNK BOX PARTS HE SCROUNGED AND USED THE SAME TECHNIQUE TO BUILD A XMTTR. AS USUALLY HAPPENS WHILE IN THE MIDST OF A QSO THE PHONE RANG AND HE WAS DULY INFORMED THAT HE WAS PUTTING A 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 NEW ADVENTURER AND AN HQ-110 RCVR.

WITH DAILY CODE AND ON THE AIR CONTACTS AND STUDY OF THE MANUAL HE GOT UP ENOUGH COURAGE TO GO TO PHILA. AND TAKE THE GENERAL EXAM. SITTING DOWN AT THE TABLE HE REMEMBERED THE WORDS OF HIS TUTOR 'WRITE DOWN ALL YOU CAN COPY'. WITH A NOD OF HIS HEAD HE SIGNALED THAT HE WAS READY THE MACHINE STARTED AND AFTER WRITING DOWN TWO SOLID ROWS OF V'S A SMILE CROSSED HIS FACE, HE HAD IT MADE, SUDDENLY TEXT STARTED COMING THRU THE CANS AND A LOOK OF CONSTERNATION SPREAD ACROSS HIS BROW. WITH A GREAT DEAL OF EFFORT HE GOT THE PENCIL MOVING AGAIN. HE CANT REMEMBER WHAT HE COPIED BUT HE DOES RECALL THAT HE ALMOST FELL OUT OF THE CHAIR WHEN HE WAS TOLD THAT HE HAD PASSED THIS PORTION OF THE TEST. THE THEORY END WASN'T TOO TOUGH DUE TO HIS BACKGROUND IN TV WORK SO IT WAS THAT ON THE DAY AFTER CHRISTMAS 1957 HE LOST THE 'N' AND JOINED THE RANKS ON THE PHONE BAND. HE BUILT UP A DX-100 KIT AND PUT IT ON THE AIR ON 15 AND WAS HAVING A NICE QSO WITH A STATION IN SOO STE. MARIE WHEN THE DOORBELL RANG, DASHING UP FROM THE BASEMENT SHACK HE OPENED THE DOOR TO BE CONFRONTED WITH THE LOCAL CHIEF OF POLICE WHO POLITELY INFORMED HIM THAT HE WAS CAUSING WIDE SPREAD T.V.I., SHAKEN HE STUMBLED DOWN STAIRS, TURNED OFF THE RIG, PUT IT ON TEN METERS AND ITS BEEN THERE EVER SINCE. USING A DIPOLE WASN'T TOO EFFECTIVE SO HE MADE A DEAL FOR A THREE ELEMENT BEAM WHICH HE NOW USES.

ALTHO HE HAS NO PHONE PATCH HE HAS BROUGHT THE PARENTS OF BOYS OVERSEAS TO HIS HOME AND MANY TIMES THEY HAVE TALKED TO THEIR LOVED ONES. HE IS NOT A DX HOUND BUT DOES ENJOY WORKING AN OCCASSIONAL SX STATION, BEST DX SO FAR IS ZL2MU. HIS FIRST DX WORKED WAS G3BKH. FINDS HE IS STILL AMAZED THAT HE CAN CROSS CONTINENTS AND SPAN OCEANS WITH RADIO AND HAVE FRIENDLY CHATS.

HE HAD WEEKLY SKEDS WITH F7SU IN PARIS SO THAT A BOYS PARENTS IN THE NEIGHBORHOOD COULD TALK TO THEIR SON.

CONTINUED

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.

HAS NO DEFINITE PLANS FOR THE FUTURE AS FAR AS HAM RADIO IS CONCERNED, PERHAPS S.S.B. AT A LATE DATE.

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 R.C.A. AS A PURCHASING AGENT.

THIS THEN IS A SEGMENT OUT OF THE LIFE OF OUR GOOD FRIEND AND CLUB TREASURER HORACE SIMPSON W2J0Z OF WENONAH N.J.

.... SWAP AND SHOP....

FOR SALE: 25 WATT MODULATOR
2 MTR CONVERTER WITH PWR SUPPLY 14-18 MC. I.F.
6 MTR TRANSMITTER -6146 FINAL
150 VOLT DC REGULATED PWR SUPPLY
TURNER 33-D MICROPHONE AND SPECIAL STAND

WILL SELL ALL ABOVE OR SWAP FOR RECEIVER
DICK MEHNERT W2PQV

FOR SALE D-104 MIKE ORIGINAL VIBROPLEX DENNY MURRAY UL7-1824

FOR SALE S-38-D BILL SMITH 521 S. BROADWAY PITMAN LU9-6097

WANTED RECEIVER OSCAR MILLER 112 NORRIS ST. MANTUA

FOR SALE JUST THREE KEFT 2 MTR XMITTERS 50 WATTS INPUT HOT K2JKA

FOR SALE D-X 40 WITH V.F.O. \$55.00
70 WATT HI-FI HEATHKIT AUDIO AMPLIFIER WITH PRE-AMP
SEE LARRY SCARPA WA2CVV

HEY NOW THIS IS GETTING MORE LIKE A SWAP & SHOP SHOULD BE. WE'VE GOT SOME LUCIOUS ITEMS THIS MONTH. JUST MENTION THAT YOU SAW IT IN CROSS-TALK. TATS 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 PHONE

RAY GIANCHETTI WA2CUB