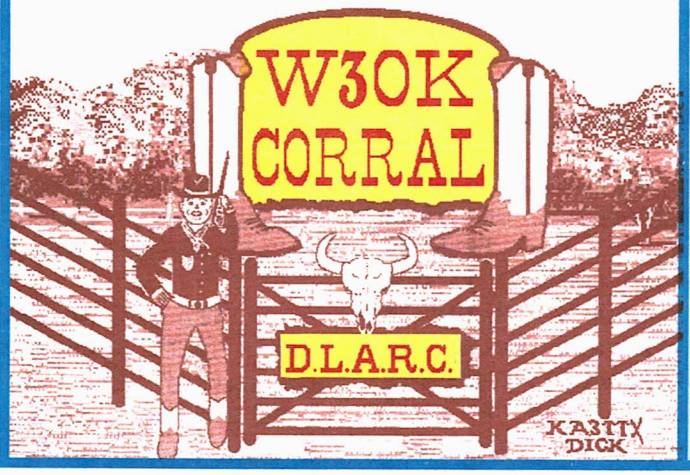
DELAWARE-LEHIGH AMATEUR RADIO CLUB, INC. W3OK

April 1991



SPECIAL SERVICE CLUB
ARRL Affiliated Club

THE GAVEL SPEAKS
by Ray, W3TDF

I noticed a slightly smaller turnout for the March meeting, but still more than we could accommodate at Gracedale. If the reason is because of the exceptionally long meeting in Feb. I wish to appologize. In retrospect, the March meeting was one of the shortest that I can remember, and it's a good thing, because the program was outstanding. Mr. Carl Brown, who was well prepared, with considerable memorabilia pertaining to Edison, presented a very interesting program that was enjoyed by all who remained.

This W3OK CORRAL (Newsletter) was put together, for the most part, by Van, K3CP. He is to be complimented. All of us who got involved, now have a better understanding of the frustrations that Clarence must, at times, feel. Fortunately, all who contributed, were sufficiently prompt, which gave us time to iron out the difficulties. A little help and suggestions from K3NZ and myself, AND, one heck of a lot of work and determination by Van brought the whole thing together.

After 3 weeks motoring through the southland, particularly Florida, I found no other repeater with as much activity as W3OK. With almost 350 DLARC members, and a bunch who are not members, potentially listening, it is appropriate to go to other repeaters whenever it is expected that your QSO will be a long one.

Thanks to Robin, WA3T, for that clarification on processing in last months W3OK CORRAL. Do you have any more old gypsy sayings that we can apply to our lives?

FOUNDATION ANNOUNCES SCHOLARSHIPS
by KA3CUP

Lehigh Valley amateurs planning to attend college next academic year should apply for one of 36 scholarships offered by the Foundation for Amateur Radio.

Amateurs pursuing full-time studies beyond high school may win up to $2000 for studies at an accredited university, college or technical school during the 1991/92 academic year.

Lehigh Valley amateur Mike Krensavage, KA3CUP, reports that the scholarships provide tremendous financial assistance to college hams facing daunting educational expenses. FAR scholarships helped Mike pay for his studies at the University of Georgia.

FAR, a non-profit group based in Washington,DC, consists of 50 amateur radio clubs. Applicants may request more information by sending a letter or QSL card, (postmarked not later than May 31), to: FAR Scholarships, 6903 Rhode Island Ave., College Park, MD 20740.

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STILL FOR SALE
BY W3TDF

Heath SB-102, with External LMO (used for split freq oper), spare tubes and a replacement power transformer. Good working order. Heath HL-2200 Linear, Mint condx. This was a limited edition of the famous SB-220. Does not have 10 Meters, but the modification kit is available from Heath for about $30 Call me if interested. Both items currently loaned out and being used daily.

A NOTE FROM THE SUBSTITUTE EDITOR

It won't take the observant reader very long to detect a difference in this month's W3OK Corral newsletter. The lack of its usual good appearance and content is due to the absence of our regular editor - Clarence Snyder, W3PYF. Although being our editor is only one of Clarence's numerous contributions to our club, it is a most important one. Only after doing the job myself can I understand what he does for us each and every month.

I want to thank all the authors and others who helped me get this issue together. Please, make Clarence's job a little less work when he returns by sending him material for the news letter - and on time.

Hurry back OM. You're missed and needed.

de Van, K3CP

THE JOY OF DX-ING
by Harry Burhams, W3FM

The April 4, 1991 meeting of the DLARC will feature, Harry Burhans, W3FM, from Malvern, Pa. speaking about earning and collecting ham operating awards from all over the country and the world. Harry used to be one of the third call areas QSL Bureau operators and has vast experience in chasing DX, collecting QSLs, and obtaining exotic certificates. You will be amused by the strange areas he has contacted. You can do it too! Bring your QSLing questions.

de Bill, K3ANS

SECOND CALL FOR VOLUNTEERS
by Amy, KD3TI

The March of Dimes will hold their annual Walkathon fund-raiser on April 27. As last year, they requested the assistance of Amateur Radio Operators to provide communications. They will run both the Easton and Bethlehem races simultaneously with 5 check points and 4 to 7 sag-wagons per course. Contact me on W3OK or at my home at 820-8554 if you can help. We need all the help we can get.

ARRL NEWS BULLETIN

From ARRL Headquarters
Newington CT March 14, 1991
To all Radio Amateurs

The FCC on March 14 issued a report and order in PR Docket 89 552, adopting rules for the use of 220 to 222 Mhz. by the private land mobile service. Amateurs will be required to discontinue all operations in the 220 to 222 Mhz. band 90 days after the effective date of these rules, which has not yet been announced. Amateurs probably will have to vacate the 220 to 222 Mhz. part of the band in late July.

March VE Test results
by John, K3GQJ - Coordinator

At the March 8, test session, 19 candidates took a total of 28 elements. There were 6 up-grades and 2 new Novices. They included:

Jason Young, KA3WAY-Extra
John Warner (no call), General
William Page, KA3YJX-Tech
Beorn Sunflower, KA3YEA-Tech
Brett Holland, (no call) Tech
David Moyer KA3YNH-Tech
William Gantz, new Novice
Scott Haney, new Novice

The VE team consisted of Van, K3CP; Glade, WA3MVQ; Boll, NS3J; Charles, NE3K; Robin, WA3T; Bob, WF3H; and John, K3GQJ. The April 5 session will have team 4 in attendance. I hope I haven't missed anyone this time.

73 de K3GQJ, Team Liason.

USED EQUIPMENT DEALER
de W3TDF

I recently was made aware of the fact that K3UKW, in Phila., operates a used Ham equipment outlet. (No new stuff). He sends out a flyer once a month, which can be gotten by sending him a S.A.S.E. #10 envelope only, to Tony Musero, K3UKW, 1609 Iseminger St., Phila., PA 19148. His current flyer has goodies like TS-530, TS-440, IC-735 and Drake L-75 Linear. Quoted prices appear to be fair.

HELPFUL HINTS ON RFI
(Part 3)
By Barry, KU3X

AM/FM stereo radios can also be a problem. If this radio is also hooked up to the cable, then treat this cable as if it were hooked up to a television. One of the biggest causes of interference is the ground terminal on the back of the radio. I have not seen anybody hook these things up to a good ground source, or any ground at all. They were not put there because the manufacturer had 12ØØ extra screws left over and wanted to get rid of them. Use a good ground source to hook this unit to, avoid ground loops, and again try an AC line filter. For the speaker wire, use some RG-8X coax cable with a .Ø1 microfarad capacitor on each end. Be careful not to cut the speaker cable to a resonant length. If you are getting into the system when you are operating on the twenty meter band, make sure that the speaker cable length is not sixteen feet long. You can also try some ferrite beads on the speaker cables. Amidon part number FB-77-5621 or a two piece type that you do not have to slide on from the end of a cable or power cord. The part number for the two piece is 2X-43-251. When using the two piece version, both halves must touch each other.

There is a lot of information available on RFI. Some is for free and some you have to pay for.

Free for the asking :

Amidon Associates ; Phone 213-763-577Ø ; They have a good article on RFI and are one of the best suppliers of ferrite beads and ferrite cores.

FCC ; Phone 215-752-1324 ; Ask for their Interference Handbook. In there you will find lots of good information on solving RFI problems. They also have tested high pass, low pass, and power line filters. The results of these test are published in this manual. Also ask for Telephone Interference Bulletin # FO-1Ø. That publication is dated September, 1986. They may have come out with a newer publication since then.

Books you have to pay for : Interference Handbook by William R. Nelson. Editor is William I. Orr, W6SAI $ 8.95

Radio Frequency Interference published by the American Radio Relay League $ 4.ØØ

The ARRL Handbook $ 24.95

The above ARRL publications can be purchased directly from the American Radio Relay League. Phone 2Ø3-666-1541 All three of the above publications can be purchased from CQ's Ham Radio Book Store. Phone 1-8ØØ-457-7373

CONTEST CALENDAR
by Barry, KU3X

Apr. 6	W1AW Qualifying Run
Apr. 6-7	SP-DX Contest CW
Apr. 8	ARRL VHF/UHF Spring Sprints
Apr. 13-14	QRP ARCT Spring QSO Party
Apr. 16	ARRL Spring Sprints 22Ø MHZ
Apr. 2Ø-21	Alabama - Georgia QSO Party
Apr. 2Ø-26	Morse Memory Week
Apr. 24	ARRL Spring Sprints 432 MHZ
Apr. 27	ARRL Qualifying Run
Apr. 27-28	Swiss Helvetia Contest

Looks like a lot of VHF/UHF contesting for the month of April. Time to go for a ride in the mountains. Take a nice ride on top of Camelback in Tannersville. I'm sure that you will be able to work a lot of VHFers and UHFers. QRP is a fun way to operate your station. You will be surprised to see how far you can get. Fire up the station on April 8 and try working a few people in the QRP QSO party. Good luck and good contesting.

de Barry

****** FOR SALE ******

Ernie Smodish W3QBF Estate

SP 2ØØ ----- Linear Amplifier
HW 1ØØ ------Transceiver
SB 61Ø ------Station Monitor
2Ø36 ------ 2 Meter FM
HD 125Ø -----Grid dipper
and more.

Contact his XYL at
3635 Wilson Ave.
Bethlehem, PA 18Ø17
691-8549

DIGITAL COMMUNICATIONS

by Joel, K9TBD

The Mysterious Deviation

This article will not be a high tech discussion regarding FM (Frequency Modulation) or PM (Phase Modulation) deviation ratios. Rather, this is a practical consideration on how to get your "dev's" right. Various people, with various (usually expensive) equipment will suggest you set your "dev's" according to their instrument, however, they're never there to measure your signal when you need that reading. Here is an alternative!

Question: How do I set my "dev's" right? (Why should you? - So you can talk) Answer: Use the best instruments that you have available - your ears and the grey matter between them.

FM deviation basically is how wide your signal is after modulation. Voice or tone - 'much of a muchness'. If it is too wide, you will sound "mushy" in the other persons receiver. If it is too low, you won't be heard. There must be a happy 'middle' that is just right! There is! Here is how to achieve that 'right' setting without fancy equipment.

Nowhere in this article, will I give numbers - This means, you can set up your rig properly without quantative instruments. Really!

Method - Voice or Data ----------

1) If you have a handie-talkie or scanner - listen to your transmitted signal. This will provide a first guess as to your transmit quality. The local receiver is only a first pass guess at the proper settings for your radio (as it may be swamped by your local signal).

   a) By ear - compare your signal to a local with 'good' signal quality. Adjust your knobs for similar sound.

   b) Have an impartial remote station do an A-B compare between your signal and another station of reliable quality.

This gives you a first pass setting of the two knobs which set your radio up -The mike - (audio gain) and the deviation (dev pot). They act a little like the old 'load and tune' controls of a transmitter.

2) REPEAT Step (1) with another impartial remote observer. Make an educated guess as to the difference between the two reports. You're getting closer -Note: No instruments except your ears and mind!

3) Attempt a QSO with another station.
   a) Success - Close to the right settings. b) Bummer - Start again with step (1) and select a new 'impartial' station. Not all stations have good ears or are truely impartial.

That is all there is to it. Once you get a reliable QSO in the mode you've tweeked - Don't mess with the knobs!

RECAP:

A) Modern radios are not off-frequency unless you punched the 5 KHz button. Old radios require - getting it on!

B) Play with the (dev) and (mike) pot's until you acheive desired results.

C) When it works right - "Spike 'er where she lays" - Dab finger nail polish on the pots and "button 'er up"!

Here are some common problems and common solutions:

Problem	You sound mushy
Possible Solution	----------
Hit the 5 KHz switch.	You're weak
Hit the repeater offset switch	You got

.....Continued

The Mysterious Deviation (Cont.)

hm m m m m Hit the low power switch and try again You still got hm m m m Bad power supply - filter more or discard Three lemons but I dont print Try HI/LO power switch -try grounding Too many retires QRL QRG - look those up. You sound hollow. Get out of the closet.

Obviously I can't answer all the questions that come up, but please recognize that not everyone has listened to 'noise' on the radio for over 3Ø years (who would want to?). I love noise - really - Mom nature gave noise to us as a challange. You may get varied answers to your questions regarding your signal quality. Some may be in ernest - others may be intentionally missleading -Read between the lines!

What are 'Devs' anyway?

In plain terms, deviation (FM/PM) is the spread of your modulating signal from its center or carrier frequency. Currenrt technology (say 2 Meters) uses a 5 KHz deviation as standard maximum. This standard says: Confine your modulation so it does not significantly interfere with the next channel (up or down).

A fellow by the name of Bessel, figured all this out years ago, Armstrong fiddled with some of the concepts to make - THE MODERN FM - the way of the future! Although this concept would never work - but- whaddu think? It does work - all you have to do is trim your rig to 'Get it right on'!

73 Joel, K9TBD

P.S. You can make FM work! GE, Motorola, etc did it very well! W3OK made it work! You can too!

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DID YOU SAY "E" OR "B"
By Jeffrey Steward

As the interest in short wave radio grows there is a need to learn the International Phonetic Alphabet.

The alphabet is made of words substituted for letters (ex: a=alpha). This is needed when there is static, a foreign person, or other interruption while talking over the radio, the message could be understood.

The program was written by four local hackers: Jeff Steward, a student at Parkland School District, Jim and Justin Hebelka, Josh Kramlich, students at Northwestern School District.

The program was written in basic, for Atari computers. All test letters were written with control characters. The program consists of two parts. The first part teaches the alphabet. At the beginning of this part you can choose from three different speeds at which the words will be shown to you.

The second part is the test. The test will show you a letter on the screen and you must type the word associated with it. Once you have taken the test you have the option to retest or end the program.

de Jeff Steward

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DIFFERENT KINDS OF PEOPLE
by Van, K3CP

There are many different types of people in this world. Among these types we find some who are stupid, some who are intelligent, and others who lazy or ambitious. Many times one or more of these traits are found in the same person. Some of the more frequent combinations are illustrated in the next paragraph. Do you see anyone you know?

If a person is intelligent and lazy, they are not much benefit to anyone. If they are stupid and lazy, they don't hurt much. If they are intelligent and ambitious, they can surely be a boon to mankind. BUT if they are stupid AND ambitious, they are dangerous.

JUST THE MINUTES
by Dave, N3EYT, Secratary

The March 7th, 1991 meeting of the DLARC was called to order by Ray, W3TDF, at 7:40 p.m. A total of 59 members and friends attended the meeting held on the campus of Northampton County Community college.

A motion was passed to suspend the reading of the minutes of the February meeting. Roy, KA3MNY, reported a balance of $6390.67 in the club's checking account as of February 28th, 1991. This year's raffle provided the club with more than $1300 in operating funds.

Another SAREX mission is scheduled for early April. This time the bay doors should be facing earth. Tentative launch date is April 4th which may give a window for amateur communication on the 6th or 7th. Check the club phone BBS for the latest information.

Norm, N3GXW, did a sample third class bulk mailing from the LV post office. Many club members received the test mailing the next day. The DLARC Board will discuss mailing options at an upcoming Board meeting. Ray, W3TDF, requested volunteers to help set up tables prior to the general meetings.

Adrienne, KA3YEB, and Bruce, KC3FC said they would come early to set up tables.

Joel, K9TBD, reported a cooperative effort with Sammons Cable TV as he reported an interference problem and received quick response in helping track down problem connections in the cable system in his area.

Amateur radio entry level classes combining Novice and Technician theory and code practice have started with about 20 enrolled, reports Chris, NU3L. Chris also noted about half the class has interest in learning the code.

Mike, N3NWM is working on putting together material for a repeater conduct guide.

Visiting this meeting: former PJ2BE and 3DGAT, Dick Olson of Trans World Radio was the guest of Bob, W3CCE.

Rick, K3OO, worked more than 600 JAs on 15 mtrs. and played a tape of part of a contact he had with a Japanese pilot.

A fascinating program on the life of Thomas A. Edison was presented by Carl Brown.

DR. JOHN BARDEEN
A Transistor Pioneer
by Ray, W3TDF

I recently received a newspaper clipping regarding the passing of a Dr. John Bardeen, on Jan. 30, 1991. I was unimpressed until I read the Obit. notice. How quickly we forget! Dr. John Bardeen and 2 colleagues, Walter Brittain and William Shockley, developed the transistor in the late 1940's while working at Bell Labs. He won the Nobel prize in 1956 for this. He also won it again in 1972 as co-developer of the theory of superconductivity.

He once told a reporter, "I knew the transistor was important, but I never foresaw the revolution in electronics it would bring."

How many thousands of them do you suppose are in my TS-940, or that Yaesu or Icom sitting at so many operating positions? The original one probably was the size of a marble. Now they can put a whole multitude of 'em in an area the size of a pinhead!

Editor's Note:-
The transistor is the main element in integrated circuits.

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MISCONDUCT APOLOGY
by W3TDF

At the March meeting, in an attempt to needle my good friends K3ANS and K3OO, I made an uncomplimentary remark about DXing. Apparently the remark was not received too kindly with some of the members, for which I am truly sorry. Of even greater importance, a guest of one of our members may have been offended.

Barry, KU3X, will attest to the fact that I work DX, since he issued me a DX-100 award. I do, occasionally, work DX. There are other modes and/or pursuits of amateur radio that I do not care for, but I don't ridicule others for having an interest in them.

Please accept my deepest apologies for this improper conduct.

de Ray, W3TDF.

HOW TO USE AN OSCILLOSCOPE
(Part 4)
By Van, K3CP

"Hi Elmer," said Ima Lidd. "Our discussion regarding phase of signal voltages and currents in our last session has raised a question in my mind about measuring AC voltages."

"In what respect?" replied Elmer. "Can you be more specific about your question?"

"Yes I can. You said that in alternating current, the voltage and current start at zero, then rise to their maximum amount at 1/4 of the cycle, then come back to zero at 1/2 cycle and then reverse direction and repeat the first half of the cycle."

"That's right, Ima. What is your question? You seem to understand the composition of an AC voltage pretty well."

"Thank you, Elmer. Let's take 12Ø volts AC for example. It goes from zero to 12Ø volts and back to zero. Now, my question is how do you measure it if it's constantly changing?"

"Good question, Ima," said Elmer. "It is different from measuring DC alright. In DC circuits, the voltage would go from zero to 12Ø and stay there until you turned it off. In the laboratory, Ima, we would measure the amount of heat generated in a resistor by 12Ø volts DC. Then we could substitute AC for the DC and adjust it until we produced the same amount of heat. Now we would know that we had an equivalent amount of AC."

Elmer continued, "We can't run to the lab. every time we need to measure AC. Here's where the 'scope can be of use. Let's put 12Ø volts DC on a 'scope and adjust the vertical gain to give a deflection of 5 centimeters on the screen. Now if we substitute an AC voltage and adjust the AC to give the same deflection as the DC, we would have 12Ø volts also.

"Unfortunately," continued Elmer, "it's not as simple as that. Although the DC is average voltage the AC is peak. AC voltage is generally measured as RMS. (Root Mean Square). Now we must convert AC peak to AC RMS. The relationship between peak and RMS. voltage (in a pure sine wave) is found with the following formula: RMS. voltage is equal to the peak voltage divided by 1.414. Do you follow that, Ima?"

"Yes," replied Ima. "I think I do. The AC voltage that produces the same deflection as 12Ø volts DC would be 12Ø volts AC peak. To get the RMS. value we would divide 12Ø by 1.414 or 84.8 volts RMS."

"That's very good, Ima. We discussed peak voltage and RMS. so far. Now we should talk about peak to peak and average voltage. Peak to peak is simply 2 times the peak voltage. Again, with a pure sine wave the average voltage is equal to the peak voltage times Ø.637. So our 12Ø volts RMS. becomes 12Ø times Ø.637 or 76.4 average."

Ima Lidd interrupted. "Let me see if I have that right. You say that AC is usually measured as RMS. That means that the 12Ø volts at our house outlets would be 169.7 volts peak, 1Ø8.1 volts average and 339.4 peak to peak."

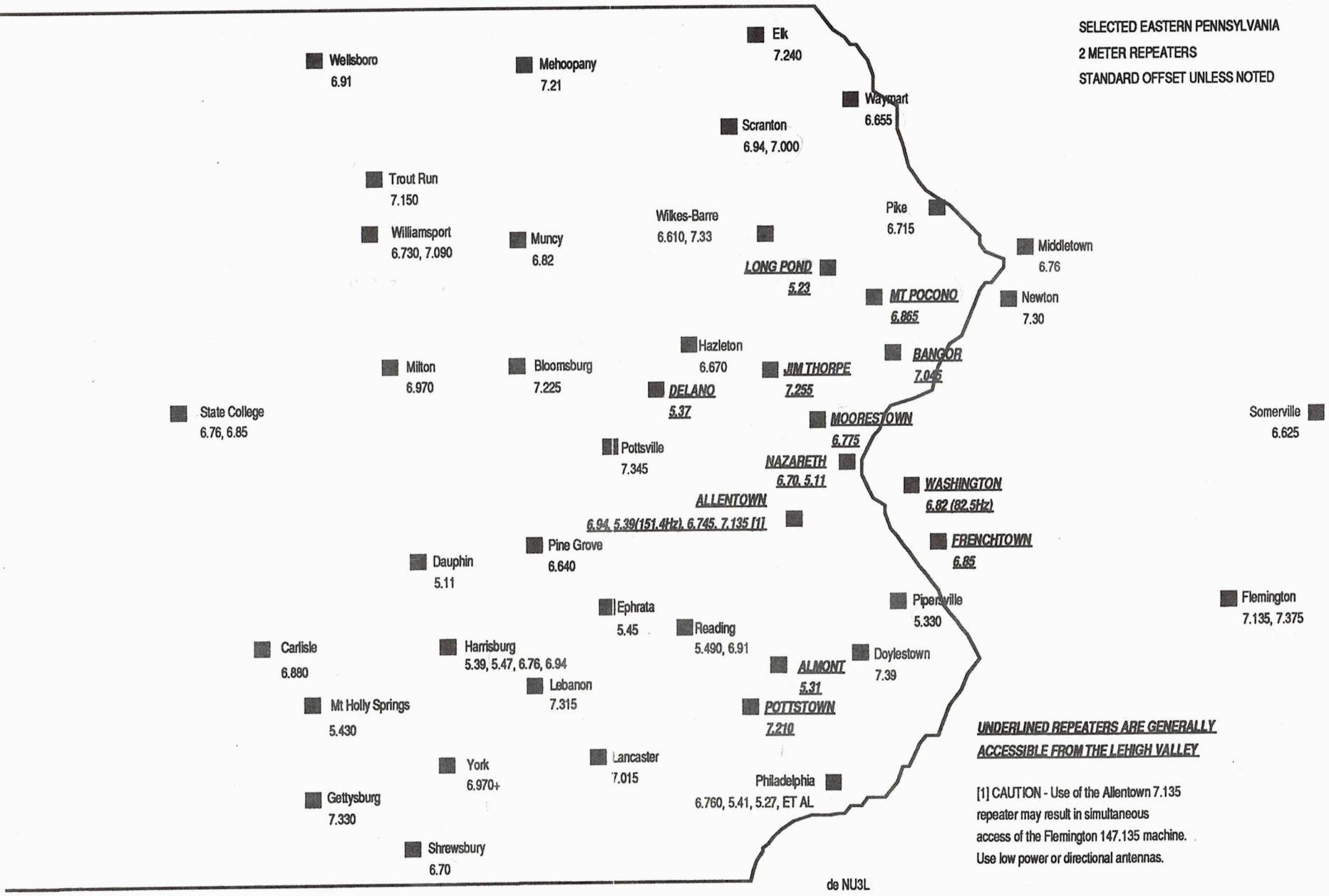
"That is correct," said Elmer. We don't really have to worry about all this because there is a much simpler way to measure AC. The engineers who design our multimeters just rectify the AC into DC and then measure it. It is accurate enough as long as we are dealing with low frequency AC.

"Remember when we said that if we put the same voltage on the vertical and horizontal plates we would get a circle? Well, if we double the frequency on the vertical plates we would get a figure 8 laying on its side. There would be 2 loops along the horizontal axis and one along the vertical. If we started with 6Ø Hz. from the AC lines on the horizontal plates and connected an audio oscillator to the vertical plates, we could calibrate the oscillator. When we got our figure 8, we would know the oscillator is set to twice the frequency on the horizontal plate or 12Ø Hz. Increasing the oscillator frequency to 18Ø Hz. would produce 3 loops to one. These are known as Lissajous figures.

"There are many more uses for oscilloscopes. They include measuring frequency, peak power, calibrating audio oscillators, tuning linear amplifiers (to make sure they are operating in a linear fashion) and many more. They don't have the inertia of a mechanical device and therefore respond much quicker to changes in a circuit. We have taken a brief look, but I encourage you to learn more about the oscilloscope. It is not that difficult, Ima."

"I will," said Ima. "Before our talk, I was afraid of them, but now I am beginning to see how useful they can be. Thanks, Elmer."

de Van, K3CP


SELECTED EASTERN PENNSYLVANIA
2 METER REPEATERS
STANDARD OFFSET UNLESS NOTED
Elk
7.240
Wellsboro
6.91
Mehoopany
7.21
Waymart
6.655
Scranton
6.94, 7.000
Trout Run
7.150
Pike
6.715
Wilkes-Barre
6.610, 7.33
Williamsport
6.730, 7.090
Muncy
6.82
Middletown
6.76
LONG POND
5.23
MT POCONO
6.865
Newton
7.30
Hazleton
6.670
BANGOR
7.045
Milton
6.970
Bloomsburg
7.225
JIM THORPE
7.255
DELANO
5.37
State College
6.76, 6.85
MOORESTOWN
6.775
Somerville
6.625
Pottsville
7.345
NAZARETH
6.70, 5.11
WASHINGTON
6.82 (82.5Hz)
ALLENTOWN
6.94, 5.39(151.4Hz), 6.745, 7.135 [1]
FRENCHTOWN
6.85
Pine Grove
6.640
Dauphin
5.11
Flemington
7.135, 7.375
Ephrata
5.45
Reading
5.490, 6.91
Pipersville
5.330
Carlisle
6.880
Harrisburg
5.39, 5.47, 6.76, 6.94
Doylestown
7.39
ALMONT
5.31
Lebanon
7.315
Mt Holly Springs
5.430
POTTSTOWN
7.210
UNDERLINED REPEATERS ARE GENERALLY
ACCESSIBLE FROM THE LEHIGH VALLEY
York
6.970+
Lancaster
7.015
Philadelphia
6.760, 5.41, 5.27, ET AL
Gettysburg
7.330
[1] CAUTION - Use of the Allentown 7.135
repeater may result in simultaneous
access of the Flemington 147.135 machine.
Use low power or directional antennas.
Shrewsbury
6.70
de NU3L

yANKEE dOODLING

SAREX-Again!

Thanks to the hard work of Tom Daniels, N3CXP, and a bit of good luck, a Lehigh Valley school and DLARC will be participating in another SAREX QSO. This QSO is scheduled for the second day of the next Atlantis mission and could happen as early as April 5th. As before, communications will include an amateur radio UHF link to the W3OK repeater, then several landline links to amateur uplink/downlink stations in Brazil and Ecuador.

Right now, the Atlantis shuttle mission is scheduled for liftoff on 4 April at 09:20 EST. The SAREX QSO is scheduled from [Day] **1** : **6** [Hours]: **ØØ** [minutes] of the flight, until **1**: **6**: **21**, or 21 minutes duration. This would place the earliest possible QSO time at 15:20 EST on Friday afternoon, 5 April. Of course, if the mission is delayed, the QSO will be also. DURING THE QSO, WHENEVER IT HAPPENS, THE W3OK REPEATER WILL BE TEMPORARILY OUT OF SERVICE.

During this communications window, the shuttle crew will be communicating only with the local school and two others in Pennsylvania--in Downingtown and Pittsburgh. Students will ask questions in round-robin order until LOS [loss of signal]. Throughout this mission, communications is scheduled to be attempted with a total of only ten schools. Unlike the last SAREX QSO, the shuttle antenna should be pointed at earth, not deep-space. This could be a much better contact than the last mission.

How did this second SAREX QSO come about? Well, the Atlantis mission crew includes an astronaut named Ken Cameron [KB5AWP], brother of Doug Cameron of Hanover Township [Bethlehem], Northampton County. Doug's children attend the Hanover school on Jacksonville Road. For the past several months Doug & wife Linda have been working with Principal Burke, teachers, and students to explain amateur radio and SAREX and to prepare them for communications with the shuttle during the mission. Besides asking DLARC to handle the two-way amateur communications, the Camerons' have arranged to have downlink video from the shuttle brought into the classroom by Twin-County Cable.

The local Cameron family, after all of their preparation, won't be at the school during the QSO. They found better seats with Ken's family at the Kennedy Space Center in Fla.

Tom, N3CXP, is asking your help and involvement in making this space QSO a great teaching opportunity for amateur radio. **"Since the QSO may happen on a Friday afternoon during the school day, think about volunteering to bring it to your son's/grandson's/ daughter's/ nephew's school if you can. SAREX is an event not just for us hams, but is designed to excite young people about science and technology and, of course, amateur radio.**

"As you all know, it has been difficult to count on SAREX due to the difficulties with pinning down a launch time, However I encourage you to go ahead and make plans anyway. Things may go as planned! The communications promise to be better this time as the antenna located in the pilot's window will be pointing to earth ...."

HAMFEST SEASON

Saturday, March 16th saw the beginning of the 1991 Hamfest season for most of us at Flemington, NJ. Remember your first hamfest? If you want to make a friend for life, why not take a new ham to the next hamfest. You can explain the mystery of a classic radio like the Collins 75A-4 (and how much it should cost) and show him or her how to find the stainless steel hardware in the parts bins (with a magnet, of course!). What, you don't know any new hams? Well just talk to Bob, WF3H, coordinator of the Elmer program, or any of the Novice class instructors : K3EX, NU3L, or WA3T. I'm sure they all know a new novice or two

Some upcoming hamfests include:

GREATER BALTIMORE HAMFEST at the Maryland State Fairgrounds in Timonium, MD. April 6 & 7. Info available by calling 1-800-HAMFEST (This is a big one!) For talk in, try the 146.67 repeater.

Closer to home is the LEBANON HAMFEST at the Lebanon (County), PA, fairgrounds, on April 13th. Talk-in is on the Pine Grove 146.64 MHz repeater. This one is about a 1-hour drive west on I-78.

PA QSO PARTY-1990

Still no word. Keep watching your mailbox.

QSLing HINT OF THE MONTH

Having trouble getting a card from an amateur or QSL manager in the third-world where postal security isn't too great? Here's an idea to help your card reach the amateur instead of the green stamp thief.

1. Use the complete name and address of the amateur, but NOT his CALL on the envelope. You can get this from the DX callbook.

2. Indicate your return address as Mr. & Mrs. "First 'N Lastname" BUT DON'T LIST YOUR CALL. Better still, use senders name same as addressee's name, c/o you.

3. Have your wife, daughter or girlfriend address the envelope in an obvious feminine handwriting.

The whole idea is to make the envelope look like a personal or family letter, not a QSL card with a GREENSTAMP [$1] inside. FOR EXAMPLE:

A. Mendoza
c/o Mr & Mrs Bill Goodman
Youngs Hill Road
Easton, PA 18042

Sr. Hector Mendoza de Ocampo
Calle 95-21-78
Bogota, Columbia S.A.

04.91

73 de K3YD

All Amateur Radio Operators are invited to participate in the DLARC, RACES & ARES nets on 146.70 W3OK/rpt. with an alternate of 145.11, W3PYF/rpt.

The Nets are held on Sundays at 9:30 AM and on Wednesdays at 7:00 PM.

+++++++ DLARC INFORMATION LINE 820-9110 ++++++++

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1991

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All regular meetings of the D.L.A.R.C. are held on the first Thursday of each month at 7:30 PM at the Northampton County Community College

TALK IN ON 146.70

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Any comments or articles contributed to this newsletter should be addressed to

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THE DELAWARE-LEHIGH AMATEUR RADIO CLUB, INC.

The W3OK CORRAL

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