DELAWARE - LEHIGH AMATEUR RADIO CLUB, INC. W3OK

July 1993

W3OK CORRAL

D.L.A.R.C.

KA3TTY DICK

SPECIAL SERVICE CLUB ARRL

ARRL Affiliated Club

HISTORY AND USES OF ELECTRONIC SURVEILLANCE

ELECTRONIC SURVEILLANCE

by Bill Goodman, K3ANS, Program Chairman

John J. Dancey, N3NUE, President of Dancey Associates, Inc., of Coopersburg, Pa., and a member of our Club will speak at the July 1st meeting.This will take our listeners on a short trip into the electronic surveillance history as well as areas of our constitutional rights and rules regarding laws and guidelines which law enforcement agencies must follow.

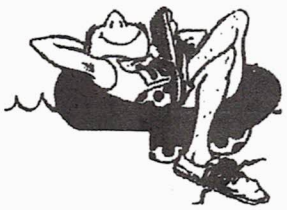
John comes from an electronic and law enforcement background. He spent three years in the electronic industry, working on analog and digital computers, ship radar, and flight simulators. He worked as a local police officer in the city of Long Branch, N.J., and enlisted in the N.J. State Police in 1977. After duty as a road trooper, he was assigned to the Electronic Surveillance Unit, where he performed court authorized surveillance activities in an undercover capacity. He trained detectives in the uses of surveillance equipment, and was responsible for equipment evaluation and design. He has testified in court as an expert witness, and continues to train law enforcement agencies and narcotics officers in the uses of surveillance equipment which he designs and supplies.

John is also a motivational speaker, and gives seminars and talks on Positive Mental Attitude. He writes a bi-monthly column for the Quakertown Free Press on motivational subjects, and has given his seminars to thousands of people in the tri-state area. He received his Amateur Radio License in January.

This meeting will be held in KIVA hall on the Northampton County Community College Campus. If there is any question on location, give a call on the W3OK club repeater, 146.70.

DERRIERE IN THE DELAWARE and LEHIGH RIVER RUN JULY 25th

by Clarence, W3PYF, RO,EC



The biggest group of amateurs for any event in which DLARC participates will take place on Sunday July 25th

Needed will be about 35 communicators to cover the Lehigh River Run, and then the Derriere in the Delaware float.

Adrienne, KA3YEB will again be heading the Race event with Dick, KA3MOU at the lead in the float.

This is a fund raiser for the Lehigh Valley Red Cross and we will need all the help available. Many of our members have done this before and even if you have not participated before, volunteer.

Acting as a safety watch, NOT police, we will as usual keep an eye on the river to check for any problems with children or adults who are in difficulty. The County Communications Van will be the base of operations from the Riverside, Scott Park Easton areas.



It is important that we have the names of all who will be participating, at least one week before the event, to notify the Red Cross, because of insuance. Please contact either Dick, KA3MOU, Adrienne, KA3YEB or me, Clarence, W3PYF if you want to help.

PROTECT YOUR MOBILE RIG

by Bob, KE3AW

Ever forget to turn your mobile rig off when you park your vehicle? Maybe worse, ever forget to turn your rig off before you start your vehicle? Are you pushing your luck?

Don't drain your battery by leaving the radio on when your vehicle isn't running. And don't risk damage from a voltage spike by starting your vehicle with the radio turned on.

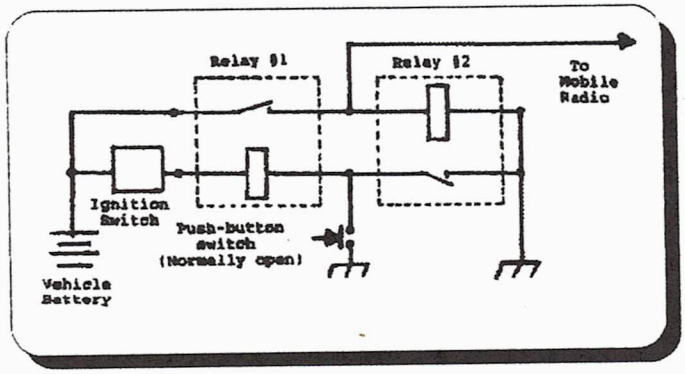
Here's a simple device that will allow you to use a dedicated power line from the battery to the rig, yet disconnect power from your rig when you shut off your vehicle. After you start your vehicle it requires only the push on the push-button switch to turn on the rig.

The power sources used are a) a direct line from the vehicle's battery and b) a tap off a line controlled by the vehicle's ignition switch, such as the power source to the AM-FM radio.

The circuit is simple. It uses two SPDT 12 volt relays and a push-button switch. The relays can be bought at popular electronics parts stores (i.e., RS Part 275-248). Practically any normally-open push-button switch can be used. The cost of the relays is under $7.00.

Since each relay is only about one cubic inch, both can be mounted side by side on the outside end of a small project box by drilling ten small holes through the box for the terminals. Mount the push-button switch on the opposite end of the box. Carefully solder wires to the terminals inside the project box as shown in the schematic diagram. Mount the box under the dash so there is easy access to the push button.

When the vehicle's ignition switch is on, both relays can be energized only after the push-button switch is pushed. The circuit will then remain energized, delivering power to your rig until the ignition switch is turned off.



CONFESSIONS OF A "GREENIE VE"

by Jeff, AI7D

There is was. The big envelope, white with green triangles all around saying FIRST CLASS. And in the center was even stamped "hand stamp only". Straight from Newington CT. $.75 postage even. Yes it had arrived.

Yet there was no excitement. Bells did not peel the arrival of VE badge and paperwork. They even included a certificate, suitable for framing or birdcage or whatever.

There it was, the highlight of my 30 year ham career, and well..so what now?

However, there I was, yesterday, driving to work going down Route 33, talking with the boys on the repeater, and someone mentioned today was VE testing at Gracedale. Hmmmmm, I thought, Bill NS3J and Glade WA3MVQ were going to be VE's for the session, and it was suggested that I join them.

Hmmmmm...but what if they don't need any help or maybe just don't want it? Well, I thought about it all day and I talked about with Debbie, my wife(N3NCZ at the time). She figured I should show up and help.

Well I got on 146.70 and asked if anyone knew who supervised the VE team for this session. I don't remember who just suggested I just go.

So, after inhaling dinner, I turned the car back down Route 33 and I went to the Greystone Building test site.

There were 12 applicants or so. At first I didn't know what to do to help. But there was plenty to do. As I corrected the written tests, I wanted each one to get a passing grade. I thought about the many tests I had taken as I upgraded over the years. I thought about the frustrating times I had with the code in the past.

Well, a bunch of people passed a bunch of exam elements, and some passed code tests too. Some left disappointed, but most were smiling on the way out. As for me, that was a nice experience! XYL Debbie and son Ben got their licenses and upgraded in the past. It was exciting to see their progress, even if they didn't ask me for any help, other than rides to the testing sessions.

I want to thank Robin, WA3T and the Delaware Lehigh Amateur Radio Club for making these testing sessions available, and for allowing me to help, even if in small way. I hope that I will be able to help in the future.

de Jeff, AI7D

IMA LIDD

by Van, K3CP

Resonance



"Hi Elmer," said Ima Lidd. "I would like to talk about resonance and its relationship to frequency and wavelength."

"OK, Ima," replied Elmer. "That's a good subject and maybe it will help if we define the terms first. Resonance is said to occur when two or more objects are vibrating at the same speed, frequency is the speed at which they are vibrating and wavelength is the length of the wave formed.

"When we throw a stone into a lake, we produce waves. The distance between the crests of the wave is the wavelength and the number of waves is the frequency. Since frequency is related to time we say the frequency is cycles per second. Are you with me, Ima?"

"Yes, I think I am, Elmer. It's like snapping a rope and watching the waves that result."

Elmer said, "That's another example of the same concept. In both examples, the waves would continue forever if it were not for resistance or friction. If the rope vibrated at the rate of once per second, we could say that it's frequency was one cycle per second or one hertz. Now if we snapped the rope once per second our snapping would be in resonance with the vibration of the rope.

"In amateur work we use frequencies much higher than that, of course. If we had a tuned circuit that resonated at 1 million times per second, the vibration would be 1 megahertz (mega is just another way of saying million). As in the water and rope waves the vibration would decay due to the resistance of the circuit. Now, if we connected a transmitter that was running at 1 Mhz. to a 1 Mhz. tuned circuit, we could say that the transmitter and the tuned circuit were resonant. Going one step further and connecting a resonant antenna to the tuned circuit, we could cause the current in the antenna to vibrate at 1 Mhz."

Ima interrupted, "Good, I understand that, but what would be the wavelength of the 1 Mhz. signal?"

"There's a very simple formula for converting frequency to wavelength. It is, WL = 300/f where WL is wavelength in meters and f is frequency in Mhz. So the wavelength of one Mhz. would be 300/1 or 300 meters. Now let's take an example using one of our ham bands. We know that the frequency band from 3.5 Mhz. to 4.0 Mhz. is called the 75 and 80 meter band. Here's how that happens. 300/4.0 Mhz. = 75 meters and 300/3.75 Mhz. = 80 meters. There is some rounding off of these numbers for other bands. For instance 300/7.0 Mhz. = 42.9 meters, but we call it the forty meter band. You can figure some other examples for yourself, Ima."

"Let's see," said Ima. "300 divided by 148 Mhz. equals 2.03. I guess that's close enough to call it 2 meters."

"Yes, that's right, Ima," said Elmer. "You have it right. Now let's take an example where we have a transmitter at 4 Mhz., a tuned circuit that is also resonant at 4 Mhz. and an antenna cut for 4 Mhz. The vibrations (power) would be transferred from the transmitter to the tuned circuit to the antenna. Do you understand?"

Ima answered, "I do, but how do we know how long to make our antenna so that it will be resonant at 4 Mhz.?"

"That's what I am going to explain. 4 Mhz. is 75 meters long. Since we are not on the metric system, yet (although we are getting there) we must convert 75 meters to feet. One meter equals 39.37 inches. A 75 meter antenna would be 246 ft. That means that in our system of measurement, the wave length of 4 Mhz. is 246 ft. long. Since we only need a half wave length for our antenna it would be 123 ft. long. The formula for calculating the length of a half wave antenna is L=492/f where L is the length in feet, f is the frequency in Mhz. We see that 492/4 Mhz. also equals 123 feet. The formula in the handbook is 468/f which comes to 117 feet. Something called 'end effect' is responsible for the difference in length. End effect is caused by the capacitance of the insulators and other things and results in a formula which is (492 X 0.95)/f or 468/f."

"Thanks, Elmer. That was a good explanation. I'll see you next time."

de Van, K3CP

ON BUILDING FOR THE FUTURE

by Robin, WA3T, president DLARC



Over the last few years, our bank balance has grown steadily. This is the result of several factors: our growth in membership, a successful hamfest, annual raffles, and very conservative spending.

But we're not an investment group: we need only sufficient cash reserves to carry us safely through each year, between the annual payment of dues. Our dues, and our other income, should be used to further the interests of our members, not left to accumulate interest in our bank account.

Thanks to the past efforts of club members, and to their commitment to public service and to the future, our '70 repeater is one of the best there is, and offers service over a wide area.

Our 444.9 repeater is not of the same caliber: with two watts output, not even originally designed as a repeater, and with a less-than-perfect duplexer, it is essentially a local repeater, and it stays on the air only through the personal efforts of Don, W3LR and Ron, K3LPR. (These gentlemen are the unsung heroes of our club. Their commitment of time and personal resources to keep our repeaters on the air goes far beyond the call of duty.)

At our recent club meeting, some members made a very reasonable request for a full discussion of the benefits and costs associated with the proposal that we would upgrade our 444.9 repeater to the point where it would have a range comparable with that of the 146.7 repeater, and would be capable of separate free-standing operation.

This subject will be addressed at length in the next issue of the "W3OK Corral".

At this time, I would like to make just two points, and ask one question...

First: as a public service club, we should be looking at ways of increasing our communication capability. Increasing the range of our 444.9 repeater, and making it capable of independent operation, would substantially increase the reliability of our system, as well as providing an additional service for our members.

Second, we owe it to the future - to future hams and to our own future - to invest in projects of this nature, just as past investments were made in the facilities we now enjoy. We may choose not to upgrade the 444.9 repeater, and if that is the will of the club, so be it; but let's invest in the future in one way or another!

My question: six months ago, I listed some of the opportunities we had to extend or improve the club's equipment, and asked for your opinions of these, and for suggestions of other ways we could use our cash surplus to the benefit of our members. Did you consider this? Please let me or any other member of the Executive Committee know what you think. We want to be responsive to the needs of the majority, and we need your input. What we should NOT do is preside over a steadily increasing accumulation of funds without purpose.

Please give us your thoughts!

73 de Robin, WA3T

ARE YOU INTERESTED IN A FOX HUNT? LVARC TO HOST ON JULY 10th

by Vic, N3IQD

The L.VA.R.C will host a hidden transmitter hunt on July 10th and all amateurs are invited to participate.

After Harold, WZ3L and my experiences in the hunt sponsored by the Cherryville Repeater Association, we decided to try one here in the Lehigh Valley.

We are planning the hunt for Saturday July 10th at 10:00 AM and the starting point will be the Emmaus High School parking lot, if you are interested, get in touch and I can supply information on types of gear necessary for this event so that you may win one of the prizes. . Registration fee is $5.00.

DLARC DXERS STRIKE AGAIN!!!

Delaware-Lehigh ARC members, Wayne Kline, KY3N, and Bill Goodman, K3ANS, placed 10th and 11th in the United States in the Multi-operator, multi-station position catagory of the October, 1992 CQ Magazine World Wide DX Phone Contest. See page 38 of CQ Magazine, June, 1993.

At K3ANS other DLARC operators included Chris, NU3L; Bob, KU3K; and Beorn, WU3M. They and KF2BH and WA2MKM the other operators are all members of Frankford Radio Club.

CLUB STATION BACK IN OPERATION

The W3OK HF station, located at Gracedale, in the Greystone Building is back in operation after repairs to the dipole antenna by KA3MTY, KU3X, and KE3AW. The antenna was damaged by the winter storms.

Club members who wish to use the station may do so at any time. If you are not familiar with the Kenwood TS-430 or any other features of the station, and you want to operate on HF, contact a club officer or board member. He will help arrange a session to show you how to operate the station properly.

de Bob, KE3AW, V-President DLARC

With this mailing you will find a copy of the new Constitution and By-laws of DLARC. Also commemorative pens for all particpants in the 1992 PA-QSO PARTY. If yours is not there, please notify the club Secretary or Treasurer.

de Ray. W3TDF

** CONTEST CALENDAR **

by Barry KU3X, Contest Editor

July 3-4	Venezuela SSB DX Contest
July 6	West Coast Qualifying Run 10 - 40 WPM
July 9	W1AW qualifying Run 35 - 10 WPM
July 10-11	CQ WW WPX VHF Contest
	IARU HF World Championship
July 11	ARCT QRP Summer Homebrew Sprint, CW
July 17	Colombian Independence Day Contest
	July 17-18 AGCW-DL-QRP Summer Contest
July 24-25	Venezuela CW DX Contest
July 27	W1AW Qualifying Run 10-35 WPM

CONTEST TIP #14

If you are listening up and down the band and hear a station answer a CQ, and you need that station, listen and see if that new station is going up the band or down. When you hear who he answers next, you will know what direction he is going. Move your VFO ahead of him by about 3 khz's and try to call him. Some stations never call CQ and if you don't either, you will never work him.

de Barry, KU3X

MORE NONSENSE

from ARNS Bulletin, June 1993

Q: "Who was Alexander Graham Bellski?"
A: "The first telephone Pole" -- *unknown*

If Noah had been truly wise, he would have swatted those two flies.--- *H. Castle*

The best car safety device is a rear-view mirror--with a cop in it.-- *Dudley Moore*

Flying is hours of boredom, sprinkled with a few seconds of sheer terror.-- *Gregory "Pappy" Boyington*

I have yet to hear a man ask for advice on how to combine marriage and a career.--- *Gloria Steinmen*

WHAT'S GOING ON?

by Robin, WA3T

Here are some items of general interest from the May Executive Committee meeting...

Bill, K3ANS reviewed the status of the hamfest committees. The number of licensed hams in eastern Pennsylvania and neighboring parts of New Jersey is 25,000. The ARRL has offered to make mailing labels available at no cost to the club, but it was agreed that this was too large a mailing (ie., at $3,000 to $4,000, too expensive!) for our Hamfest, and that we would mail only to our list of previous attendees and to our vendor mailing list.

Norm, N3GXW reviewed his design for the Hamfest tickets. We will have separate tickets for vendors, tailgaters and buyers, and will have special tickets for guests (such as spouses).

Ray, W3TDF reported on his progress in planning the Hamfest parking: we will be able to accomodate more vehicles than had previously been estimated, even without the possible use of neighboring industrial parking lots.

Norm, N3GXW showed the pair of magnetic signs he purchased. These are a definite improvement over the existing signs. W3TDF moved that the club purchase five more sets of signs. With the consent of the mover, K3ANS amended this motion, and Bob, KE3AW seconded, that we get five more sets at a discount price. The motion carried.

W3TDF reported on the extensive work Don, W3LR has done in shopping for a repeater to replace our present low power (2W) 440Mhz repeater, to extend its range and make it capable of operation independent from the 2-meter repeater (for emergency or other purposes). Ray moved that the Committee recommend the purchase of this new repeater to the membership at the June meeting. It was the consensus of the Executive Committee that while the club must build for the future, the decision on this substantial expenditure should be delayed until we know the financial results of the Hamfest. The motion was tabled: the Executive Committee will discuss the matter at its August 26th meeting, and will bring a recommendation before the membership at the general meeting on September 2nd.

K3ANS suggested that the club consider adding a packet station to the club station, intended for the on-site use of club members, rather than as a node or digipeater. The suggestion was well received, and will be discussed again at the next Executive Committee meeting.



W3TDF reported that the PAQSO Party trophy should be available for the June club meeting, and that the Byelaws are printed and ready for distribution.

de Robin, WA3T, president

TWO AMATEURS PRESUMED DEAD IN WACO TRAGEDY

from the ARRL Letter

Two Amateur Radio operators apparently perished in the fire at the Branch Davidian compound near Waco, Texas, on April 19. Douglas Wayne Martin, KJ5HK, and Jeffrey C. Little, KJ5HJ, were among those listed buy the Federal Bureau of Investigation on April 20 as previously identified and presumed dead.

According to Waco area amateurs, both Martin and Little passed Novice class exams in June, 1992 and progressed through Extra Class by the end of the year. In December Martin had told one Waco amateur that he had a HF transceiver and an inverted V antenna for 20 and 15 meters and "could work anywhere," although local amateurs had not heard either of the two call signs on the air.

Just five days before the siege began on February 28, Martin had attended a meeting of the Heart of Texas Amateur Radio Club. He was a Harvard-educated lawyer. Jeffrey was 32 years old according to FCC records.

Wayne Martin's wife, Sheila Judith Martin, 46 and three of the couples children left the compound before the fire. Two other Martin children were listed by the FBI as presumed dead.

Editors note, according to the April 1993, CD Rom call book server, KJ5HJ call changed to AB5KZ and KJ5HK call changed to AB5LA.

MILESTONE REACHED IN LICENSES

from the ARRL Letter

An Amateur Radio milestone was reached at the end of March when the total number of FCC licenses eased over the 600,000 mark. Here is the breakdown:

Amateur Extra	62,397
Advanced	110,656
General	126,011
Technician	201,670
Novice	99,711

Clubs(2,067), Military-Recreational (113) and RACES (251) brought the grand total to 602,876.

NOVICE TESTING

by Robin, WA3T

The other shoe has dropped! The FCC has now set the date after which all Novice testing must be included in the Volunteer Examiner Coordinator System.

As of July 1st, 1993, Novice license examinations may be administered only at regular VE sessions.

Candidates who pass either Element 2 or 1A under the informal system before July 1st will, of course, be credited with that element provided they pass the remaining element within one year of the date they passed the first element.

Even though the FCC has authorized the VECs to charge for administering the Novice elements, the ARRL has decided that it will absorb the cost of these examinations. There will be no charge for Elements 2 or 1A at ARRL-coordinated VE sessions. The ARRL is extending this no-charge policy to Technicians who want to upgrade by taking the code Element 1A (previously there was a charge for this).

The FCC has made provision for General-class licensees to be accredited by the VECs, for the purpose of administering Novice and Technician license examinations. Three accredited VEs are be required, and the test sessions must be publicly announced in advance.

The Delaware Lehigh Amateur Radio Club will continue its practice of offering examinations for ALL license grades at its monthly ARRL-coordinated VE sessions; 7:00pm the Friday immediately after the first Thursday of each month, at the Greystone Building.

It has been a long tradition in this club that Novice examinations are administered as part of its Novice-Technician classes. This offers the aspiring ham the opportunity to take the test in a comfortably familiar setting. In order to continue this benefit, while complying with the new FCC ruling, we plan to offer formal VE sessions scheduled on the same nights as some of our classes, towards the end of each series of classes.

73 de Robin, WA3T, Team Liaison Alternate

FUNNY STUFF

supplied by Dave, WD5BRP

Any day now some scientist is bound to issue a report that waking up is bad for your health.



Some folks say what they think -- others have friends.

Did you ever notice that children are to biased? Whenever I take my grandchildren out, it's "bias this" and "bias that."

The astronomical salaries that major league baseball players get bring new meaning to the phrase "ballpark figure."

I'm giving my quirky new computer one more week . It's shape up or chip out!

The VCR I brought has a very generous warranty. It's guaranteed until I can learn to program it.

OUR ESTEEMED GOVERNMENTAL WISDOM

It was recently reported that researchers have just completed a $650,000 government study to determine if too much money is spent on government studies. The results were inconclusive, and further studies are planned.

A BIT OF WISDOM FROM A 3 YEAR OLD

Sometimes we get a bit too caught up in this hustle-bustle world as demonstrated by the following story:

One morning, a busy mother was hurrying her three-year old's dressing procedure because she had only minute to spare before she had to leave for an appointment. In the middle of the commotion and hustle, the little girl cleverly enjoyed a little joke of her own about something unrelated to the job at hand. The mother ignored her fun but indicated her disapproval.

The three-year old's thought-provoking response was... "Mommy, don't we even have time to laugh?"

from the El Rancho Gazette, El Rancho, CO.

1993 ARRL ATLANTIC DIVISION AWARDS

The ARRL Atlantic Division awards were presented by Director Hugh Turnbull, W3ABC, at the Division Convention banquet in Rochester, NY, on May 16.

The "Grand Ole Ham" for 1993 is **Jim Spencer, W3BBB**, of Lansdale, PA. This is a lifetime service award for a ham who has been licensed at least 30 years or is at least 50 years of age. Jim is a founding member and current Director of the Phil-Mont Mobile Radio Club. Among his many contributions, Jim built and maintained a series of Phil-Mont communications vans, used for public service and emergency work. He also designed and built the W3TKQ station at the Franklin Institute Science Museum, shown on the cover of the July, 1992, issue of QST.



W3BBB

The 1993 "Amateur of the Year" is **Tony Young, WA3YLO**, of Bowie, MD. This award recognizes an outstanding all-around ham who has made significant contributions to the Amateur service. Tony is an active traffic-handler on CW, voice, and packet. He coordinates the successful license courses sponsored by the Anne Arundel Radio Club. He is also the current president of the Foundation for Amateur Radio, a consortium of clubs in the Washington- Baltimore area that sponsors a program of college and technical school scholarships for hams.

The 1993 "Technical Achievement" award winner is **John Hansen, WA0PTV**, of Fredonia, NY. This award recognizes outstanding technical contributions in any phase of Amateur Radio. John established the world's first packet satellite gateway node and has written software permitting hams who do not have satellite equipment to access the PacSats. He is a member of the Northern Chautauqua Amateur Radio Club and is involved in many club activities including license course teaching and public service.

73 de Hugh Turnbull, W3ABC, Director , Kay Craigie, WT3P, Vice Director Atlantic Division @

NEW SKYWARN 2 METER SYSTEM

by Bob, KB3YS, ARRL SM EPA

With the changes in the National Weather Service's closing of many of it's offices next year, the Skywarn Net's from Harrisburg will be using the "Complex Hub" system of repeaters for supplemental communications this year.

As the Harrisburg office will move to State College, it will also pickup many counties in Western Pennsylvania for it's area of warning. To help serve and cover this area, as well as established coverage area the following repeaters served by the "Hub" will be used;

Allentown.....146.655...N3DZM/R
Beadford.....145.490...K3SAK/R
Bloomsburg....147.120...N3DZM/R
Blossburg.....147.060...WB3GPY/R
Dubois.....147.390...K3PS/R
Ephrata.....145.450...K3RZF/R
Indiana.....146.910...W3BDM/R
LaPort.....146.895...K3QFW/R
Long Pond.....145.230...N3DZM/R
Mt. Pleasant..147.015...KA3JSD/R
Quakertown....145.310...K3AJ/R
Wilkes-Barre..146.610...WB3FKO/R
Williamsport..146.730...W3AVK/R
Harrisburg....145.470...WA3KXG/R, the Central Pennsylvania Repeater Assn. that has provided this service for use of the National Weather Service.

Because of the location of the Lehigh and Northampton Counties, and our close association with the National Weather Service at the ABE Airport it should be of great help.

Eight northern counties in Pennsylvania will pass from EPA and State College to the WPA Binghampton NWS office. Their has always been a problem with communicating with them, but the new head of that office will be Peter Ahnert, N3NSD, who now heads the Harrisburg office. The State College WX station will be headed by a man from the Miami Hurricane center, which has a long history of Amateur Involvement and I hope this will continue.

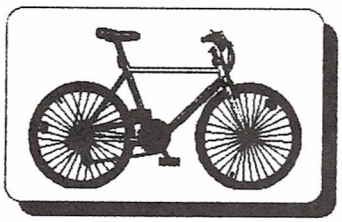
de Bob Stanhope, KB3YS, SM EPA

**ARRL IS NOT JUST A MAGAZINE SUBSCRIPITON
JOIN NOW, CALL DICK, KA3MOU FOR INFO**

American Lung Association Clean Air Challenge

by Bob, KU3K

May 15th was a beautiful day. the American Lung Association Lehigh Valley Chapter held its second annual Clean-Air Challenge. This bike run is held throughout the United States as a major fund raising event for the Lung Association. Its also lots of fun and a great way to catch up on your exercise. The Local chapter makes a day of it, kinda like a mini country fair, by having entertainment, educational displays, kite flying and food. All this is available for the bikers when they cross the finish line, or for those who just happen to drop by and would like to learn more about the Lung Association and its fight against lung and related diseases.

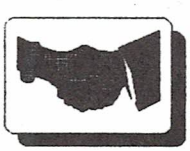


Members of the DLARC were on hand to provide emergency communications throughout the day, keeping track of the bikers as they wound there way to 25, 50, or 100 miles of pedal pushing!

Personal thanks to **KD3SQ/Chuck, N3OLH/Bob, KE3AW,/Bob, N2MWQ/John, W3FYK/Bill,** and **KC3CR/ Dick** who blasted off at 7 AM and didn't finish until after 3. Hey! Notice the calls of some newcomers to our volunteer force. Yes! You can help too! It just requires re-scheduling some of your time. You'll feel very good about it! Thanks again everyone!

de Bob, KU3K

LET'S KEEP W3OK, THE FRIENDLY REPEATER!

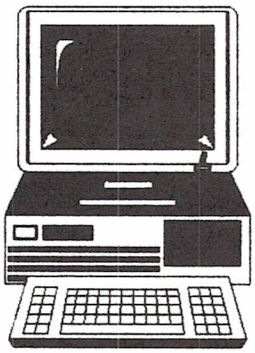


I do it, why don't you? When you hear someone on our repeater, 146.70 or 145.11 calling, at least say hello A quick hello, even if your busy, can make a trip much shorter for a traveler through the area.. I've heard it and many of you have as well, someone calls and no one will even give them the time of day. Lets all change our attitude ***.de Clarence , W3PYF***

Digital Communications

*by **Joel, K9TBD***

Intensive Use of a Computer



Preface: As a radio amateur - our fundamental objective for our hobby is reliable communications. Secondly - all information is public and cannot be encrypted. These two are in direct conflict and are embodied in the subtle difference between encoding and encryption. The first hopes to enhance reliability of communications between all parties and the second hopes to obscure communication between all but the intended parties. Both have the same mathematical properties - the difference is how they are used.

Factoring large numbers is a difficult task. In fact, it is not known at this time how difficult the task actually is. Although we studied factoring in grade school, those methods (algorithms) which work for small numbers are quite inefficient for large numbers. An incentive to factor large numbers will be presented and perhaps you can burn CPU time trying to factor some numbers. It is very easy to verify if you have the correct factors for a number. All you have to do is to multiply the factors together to get the original number.

Why would you ever want to factor a number? One reason is you can figure out some Swiss bank account number and reap the benefits. Another is to copy encrypted messages coming through on some digital mode on your continuous coverage receiver. Another reason is to be able to create error correcting schemes which may be public - thus usable on amateur radio - to help fight QRM.

What is factoring all about? Let's only think about integer numbers (no decimal points in this arithmetic) for the moment. The number 15 has the factors 1,3,5,15. In otherwords 15 may be divided (without a remainder) by al of those numbers. All but 3 and 5 are called trivial. All numbers may be divided by 1 and themselves with no remainder. So 15 = 3*5. Three and five are the non-trival factors of fifteen. But how do we actually figure out that 3 and 5 are the non-trivial factors of 15? One way is what we learned in grade-school - If the number ends in '0' it is divisible by 10, if the number is even it is divisible by 2, if the sum of the digits of a number adds up to 'x' and the sum of digits of 'x' adds up to 'y' etc. until there is only one digit left - then the number is divisible by 9. Example: 81 => 8+1 = 9 which is divisible by 9, thus 81 is divisible by 9. There are more rules that your 5th grader will give you regarding numbers...(what happens if a number ends in a 5 for instance?). You get the picture.

These are some rules for good guesses at 'trial divisors'. This method has worked in the past but becomes very slow after the numbers become very large. Large today is on the ORDER of a string of digits that may be 100 or so digits long. Here is a challenge for those who wish to play with factoring:

What are the non-trivial factors of: 55,481? (1, and 55,481 are trivial).

How did I construct this number? Why did I construct it the way I did? Why will it take some time to figure out what the factors are - even for this somewhat simple number? After all, the number I provided is only 5 decimal digits long. Why does it end in a '1'? Is there something special about this number? Lots of questions one could ask. Solution will be published next month - I hope that some will give it a try and explain how they got the answers.

If 'as some refute' there are "Other life forms - some of which are more intelligent than the 'Earthie-things' ". What one question would you ask this 'more intelligent life-form' to determine if they really were "more intelligent (than us)?". One proposed, "What are the non-trivial factors of (two times itself 1024 times plus 1 ?). This is Fermat's F(10) number - for the computer buffs - you will win a prize (bunches) if you find the factors - the number may be expressed as **2**(2**10)+1.** A brief sequence of numbers of the powers of 2 follow **(i.e. 2, 2*2, 2*2*2, etc.) 2,4,8,16,32,64,128,...**, - double the previous one each time.

The problem of F(10) has not been solved. There are companies out there that will provide a real prize (k-Bux) for the answer. F(9) and F(11) have been solved. The compute time is approximately 2-3 Cray weeks or 400 PC months of compute time. If you can solve the F(10) factors - get your reward as you may have actually solved why we cannot figure out how to FACTOR numbers.

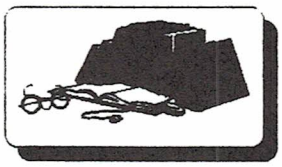
p.s. The companies which provide account security realize that the current cability of FACTORIZATION cracking is only up to 120 digits - so they set their 'passwords' to 200 digits. The 200 digit passwords have been estimated at 25 million years on a 486 computer! Maybe you will find a better way to factor numbers.

Food for Thought -

73 Joel, K9TBD,

JUST THE MINUTES

by John, N3IGA, Secretary



The June meeting of DLARC was called to order by Robin, WA3T, at 7:30 pm at NCCC in KIVA Hall. There were 80 members and guests present. The minutes were approved as written in the newsletter with Blair, K3YD, making the motion and Ray, W3TDF, seconding.

The Treasurer's report showed and ending balance as of May 31, 1993 of $6212.21. W3TDF made the motion to accept the Treasurer's report with Phil, N3KWN, seconding.

New members voted into the DLARC

Brad Pomeroy, KA1RAH
Michael Ruggiero, W2NVR
Richard Bassett III, N2MIX
Charles Martin, KB3AJF
Debra Leone, call pending
Anthony Pacelli, call pending

Chris, NU3L, made the motion to accept the new members with John, N3DSP, seconding.

Bill, K3ANS, talked about the Hamfest. He had a few of the committee chairmen stand up and inform members of the progress that they have been making. Volunteers are still needed, so please help the club and support the Hamfest.

Chris, NU3L, informed the members that there will be computer classes starting August 9 for four weeks. These classes will be held at the Greystone Building. He also gave the date for the new Novice classes as September 13 also held at the Greystone Building.

Bill, K3ANS also informed the members some of the future programs August program will be on Radio Control Model Airplanes with a few of our own members like N3MKZ and N3NNI to name a few. September program will be Ray Bilger, W3TDF, talking about contesting especially the PA QSO Party.

Robin informed the members present that the Executive Committee has recommended that the 440 repeater be updated but no action taken till after the Hamfest. After a lengthy discussion, it was decided to bring the subject up again at the September's meeting

Ray, W3TDF, presented to the club members the PA QSO Party Trophy. Bob Stanhope, KB3YS, was going to present the Trophy, but was called away.

The program was about ARES and RACES. Walt Jones, KB3QW , the Section EC, Clarence, W3PYF, Northampton County EC & RO and Mike Priebe, N3DZM talked about what will be coming in the future as far as emergency communication. Mike gave a demonstration of the linked repeaters

de John, N3IGA

You're a Real Ham When....

from the ARNS Newsletter

The mail arrives and you read the ham magazines before you balance your bank statement.

You put off mowing the lawn to chase a rare DX station, though the grass is ten inches high.

You turn a Sunday drive with the family into a stop at a hamfest

You shudder at a thunder storm, wondering what is happening to your antennas at home.

You send out more QSL cards than Christmas cards.

You use your HT more than your telephone.

When you go on the roof, it's to fix antennas, not clean rain gutters.

You answer with your callsign when you pick up the telephone.

You sign maritime mobile as you lounge in the pool.

Every time you see a tall object (building, flagpole, bridge pier) you wonder how it would load on 160m or think of it as a repeater site.

The thing you don't leave home without is a repeater directory.

Your car's bumper sticker says, "The Ham Radio bug is catching. Be a carrier, transmit it to someone else."

from the November '92 IBM ARC (Boca Raton, FL), WB4QNX--N4PYB editor

JUNE VE TESTING

by John, WX3C

At the June 4 VE session at Gracedale, 6 candidates took a total of 7 elements. Their were no up-grades at this session.There was one new codeless tech was earned by:

William E Lagler.

The VE team members at this meeting were: Robin Moseley, WA3T; Tom Dow, N3EBH; Bob Green, KE3AW and Team Liaison John Greenage, WX3C.

The next test session at Gracedale will be on July 2 at 7:00 pm.Team 3 will be in attendance. Those members are: Robin, WA3T; Glade, WA3MVQ; Bill, NS3J; Bob, WF3H. If any member cannot attend, please call Robin WA3T at 820-0944 so that other arrangements can be made.

73 de John, WX3C

MS 150 MILE BIKE TOUR

de KE3AW, Bob

Over 700 cyclists left the Velodrome in Trexlertown early Saturday morning, June 12, in the annual Multiple Sclerosis 150 mile bike tour. By about 4 pm they arrived in Millersville University near Lancaster. Sunday morning they left for the return trip. Once again amateur radio operators provided the invaluable help for the emergencies as well as coordinating the logistics across the 75 mile span of the tour. The list of organizers and operators included:

KA3AUZ, Tony; KE3AW, Bob; KE3FF, Bob; WF3H, Bob; N3LUX, Rich; KA3ONZ, Bruce; KA3JWE, Don; N3JAJ, Paul; N3JNV, Dennis; KA3MTY, Paul; N3NEK, Bob; KA1RAH, Brad; N3LAI, Chuck; N3LJO, Cathy; N3MUP, Luis; N3ODB, Elaine; N3OLH, Bob; N3CLCP, Karl; WA2PAC, Gus; KA3WSL, Earl; KA3YEB, Adrienne; and WA3ZGL, John.

Big thanks to all these amateur radio operators who helped on either or days. This was an interesting experience from the communications standpoint. By using three area repeaters, communication was available via net control at Millersville. Those working two days received complimentary Saturday night lodging at Days Inn. All had plenty of food, drinks and a good time.

Activities such as these are charitable and fun, but they are also opportunities to practice communication skills. You might wish to join us in the MS 150 next year.

de Bob, KE3AW

FOR SALE

Kenwood TS-440S with Antenna Tuner, CW filters and mobile mounting bracket.
Kenwood PS-50 Power Supply
Kenwood SP-430 Remote Speaker
Hustler Mobile Antenna System consisting of :
Mast, Model MO-2
Resonator Spring, Model RSS-2
Quick Connect Model QD-2
Super Resonators RM-75-S RM 40-S RM-20-S RM 15-S and RM 10-S.
All in mint condition..and the price is $1,100 for the complete package.

Call Harlan, N3IUW @ 253-4234

Ham IV Rotator, $370 new Sell for $100.00
6 Element Tribander, $690. new sell for $175.
35 ft Fold-over Tower New $620. sell for $158.
Total new $1790.00 $450.00 takes it all.

Call Ben N3CNH 282-1382

ACCUMULATED RADIO TREASURES OF W2SPK

Bart a long time member of the club, and a friend to all, has accumulated many treasurers over the past years. Due to an unfortanate accident all will be sold soon .

Keep your ears to 146.70 for information on when a gigantic sale of this material which will be held

de Harlan, N3IUW

All Amateur Radio Operators are invited to
Participate to the DLARC. RACES & ARES nets
on 146.70 W3OK/RPT with an alternate of 145.11
The Nets are held on Sundays at 9:30 AM and Wednesdays at 7:00PM

DLARC INFORMATION LINE 820-9110

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CLUB MEETINGS

All regular meetings of the D.L.A.R.C. are held on the first Thursday of each month at 7:30 PM at Northampton County Community College
TALK IN ON 146.70

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