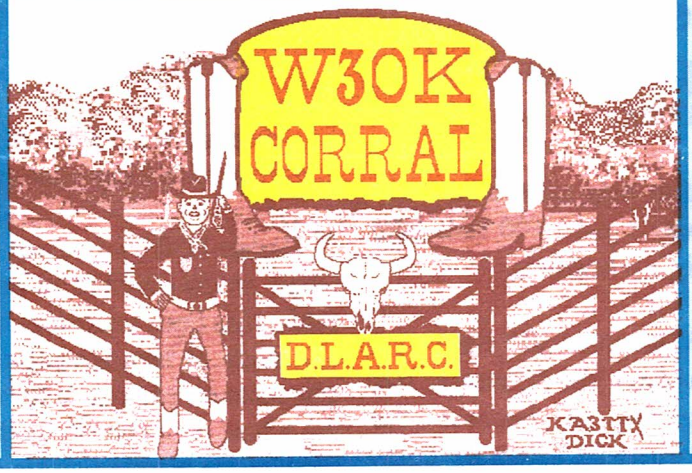
DELAWARE-LEHIGH AMATEUR RADIO CLUB, INC. W3OK

September 1993



SPECIAL SERVICE CLUB

ARRL Affiliated Club

MEETING SEPTEMBER 2nd KIVA HALL, NCC 7:30

Let's Keep the Trophy

by Ray, W3TDF

The 'ONE and ONLY' PA-QSO Party has become one of the major Club activities, along with Field Day, our Hamfest and of course our club Picnic. After having taken the State Trophy 3 of the last 4 years, we should endeavor to keep it a while longer, like perpetually, huh!

DELAWARE-LEHIGH Winner PA QSO PARTY 1992 Amateur Radio Club Inc

At the September meeting I will attempt to entertain you, and maybe even help the newer hams to pick up some pointers in the art of making points. Then I will try fielding some of your questions, and maybe call on some of the big gun contesters in this phase of the program.

I will be pointing out common errors in log keeping both with hand written logs as well as with computer logging, Also some hints on dupe sheet housekeeping for the hand loggers.

The State Club aggregate record of 2.6 mil, held by us, is going to be tough to top, but we can do it. Come out and find out how!

This meeting on September 2nd will be held in Kiva Hall at Northampton Community College. 7:30PM

Thanks. de Ray, W3TDF

P.S. The Party is as usual, on the second full weekendof October, which is the 9th and 10th this y ear

DID, Lehigh River Race

by Clarence, W3PYF, ec, ro

We did it again, we did what we do best, and that is communicate.

For the benefit of the American Red Cross, the Lehigh River Run and the Derrière in the Delaware float, were completely covered by our group.

AMATEUR RADIO EMERGENCY SERVICE

Adrienne, KA3YEB, who ran the communications for the LEHIGH RIVER RUN, was ecstatic in her compliments of the group who worked her part of the Summer Splash.

Dick, KA3MOU, and Dave, N3HQE ran the communications from the County Communications Van.

Operators, and some were in both events included: **KA3YEB, KA3ONZ, KA3WSL,KA1RAH, N3LAI, N3ODB, K3CP, KC3CR, W3FYK, and N3AHE** operated the Race, with the following participating in the DID communications: **N3MSK, N3HQE, W3FYK, KA3JWE and Sharon, N3GOC, WA3ENE, KA3MTY, N3NXF, WA3T, WF3H, N3GRK, W3TDF, N3NGL, KB2ANG, N3IGA, KB3AJF, KA1RAH, KA3RBH, KA3TEQ,and Marcia N3GLZ N3NET and Jeannie, , KA3MOU, N3ODB, N3LAI, KD3SQ, N3OWG, N2LAT, N3DSP and W3PYF.**

de Clarence, W3PYF

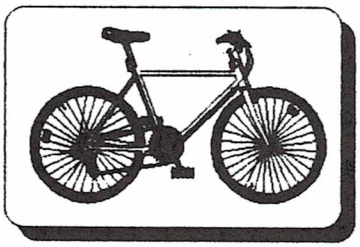
Latest information is that at the September Meeting, Bob Stanhope, KB3YS, Section Manager for Eastern Pennsylvania will be visting.

He will be telling us how to continue to beat the Dauberville Club. (You know, the one he said in his column that beat us in 1992.)

Lehigh Wheelmen Century Run September 19th

by Bob, KU3K

Volunteers are needed to help with radio communication for the Century Run, a giant 100 mile bike trek held each year by the Lehigh Wheelmen.



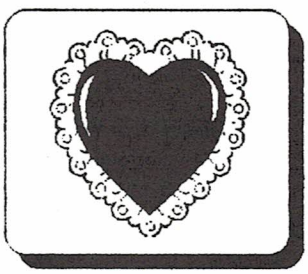
With over 300 bikers involved, the "Century" has grown to become the largest participatory competition conducted by the Wheelmen! They depend on the competency of the DLARC volunteers to supply any needed communication for this day long event. Started more than a decade ago by the late Herb Taylor (K3CIS), this is the granddaddy of the major volunteer efforts of the DLARC. If YOU can give some (All?) of your Sunday Sep 19, (anytime from 7 AM-5 PM) please let me know as soon as possible.
Tnx and 73.

de Bob, KU3K

American Heart Association 10mile Walk

by Clarence W3PYF

On Sunday October 3rd beginning at 10.00 AM, the American Heart Association has asked us to again do what we do best ,that is act as a safety watch for the activity which will take place in the Palmer Township Area.



After traveling the route with officials, it looks as though over the 10K (6.3 mile) we can cover for the 2 hours or so of the activity with about 10 amateurs.

If you can help please let me know either on 70 or on the phone if you can help. Once more, members of the communities are finding out that, although we are Amateurs as operators, we act as professional communicators.

de Clarence, W3PYF EC

What's Going On

by Robin, WA3T, President DLARC

Here are some items of general interest from the July 30th Executive Committee meeting...

Harlan, N3IUW attended as a guest of the Committee, to report on his activities as Prize Chairman for our Hamfest. Harlan has been in continuous contact with the major manufacturers of ham equipment for over a year, negotiating discounts on equipment for use as door prizes, and obtaining a host of "freebies", such as hats, log-books, maps and the like. He reported on his conversations with the promoter of the upcoming commercial "HamShow", who would like to meet with the Executive Committee and with the club. Bill, K3ANS suggested that any such meeting should follow our Hamfest and the "HamShow". The Committee agreed, and it was agreed that Robin, WA3T should communicate this to the "HamShow" promoter. Harlan suggested that the Committee authorize an expenditure of $746 to purchase a Yaesu FT-5100 two-band mobile rig and an FT416 2-meter handi-talkie. Bob, KU3K moved that the Committee should thank Harlan for his efforts on behalf of the Club, and authorize the proposed expenditure. Dick, KA3MOU seconded. The motion carried.

Bill, K3ANS moved, and Bob, KU3K seconded, that the Club begin, at the 1993 hamfest, selling advertising space in the flyer for our 1994 Hamfest, with the goal that this advertising would pay for the cost of the 1994 hamfest flyers. The vote was evenly divided; the chairman cast the deciding vote in favor, and the motion carried.

Bill, K3ANS reported that everything is going smoothly for the hamfest. Some dealers would like to set up on Saturday, and the indoor dealers have asked that the doors be kept closed until the official opening time of 8am, so that they can get set up in an orderly fashion. Norm, N3GXW reported that his XYL has donated prizes for the spouses of attendees.

There was much discussion on the question of free tickets for club members who work at the hamfest. The main issue was that of avoiding dissension because of questions of perceived fairness between those performing various duties or donating differing amounts of time. Finally, on the suggestion of Bob, KE3AW, it was agreed that tickets would be available on the honor system through the chairmen of the individual committees; hamfest workers who judge that they should get a free ticket should see their committee chairman.

de Robin, WA3T

The Gavel Speaks

by Robin, WA3T, President DLARC



There are several subjects I'd like to write about, but which lack certainty until after our Hamfest. Will we have good weather for our Hamfest? Will it be a financial success? By the time you read this, we will all know.

One important task which relies on the financial success of our Hamfest is the upgrading of our 444.90 repeater. Will our Executive Committee recommend this at it's August meeting? Will the club vote to do it? I hope both answers are, "Yes!".

Will we vote to link our 146.70 repeater with the 147.045 repeater, to provide our northern members a way into '70, the social center of our club? I hope the answer to this, too, is, "Yes!".

As our club grows, we must change accordingly. We cannot put the club as it is, or was, into a bottle and keep it forever. If we try to keep things the way they were, and do not meet the changing needs of our members, the DLARC will stagnate and dwindle: we will take it to the grave with us. If, on the other hand, we change with the times, the DLARC will be vigorous and powerful long after any one of us is still around to see it. It will serve our grandchildren, and their children. Because this is my hope for the club, I believe the longevity of the DLARC should be our guideline in any major decisions we make.

NOMINATING COMMITTEE

Van, K3CP has agreed to serve as chairman of the Nominating Committee for the elections to be held at the October 7th meeting of the DLARC.

His committee has been chosen to represent the diversity of our club; old-timers as well as relatively new members. We look forward to hearing their nominations at the September 3rd meeting.

We will be electing our next President, a Vice-President, five Directors, and a Secretary and a Treasurer.

If you have someone in mind who could well serve the club in one of these ways, please contact Van or one of his committee members. They are Elmer Bush, W3FVT; Joe Brue, N3MKZ; Carl Maurer, N3NGL; and Chuck Spafford, N3LAI.

If you would be willing to serve yourself, don't be bashful; speak to Van or any nominating committee member.

Nominations from the floor will be accepted at the September 3rd meeting, following the presentation of the proposed slate by the nominating committee. Nominations will close at that meeting.

In accordance with the by-laws, nomination for each office will only be re-opened if there is no candidate for that office. With this possible exception, no nominations will be accepted at the October 7 meeting at which we will be voting.

73 de Robin, WA3T

Answer to last months quiz supplied by Paul, KA3MTY was: (according to Paul, 147.058. micro-amps).

Only had two replies, both very close:

N3IQD reported the answer as 147 micro-amps

W3TDF reported it as .145 milli-amps -plus or minus a couple thousandths.. Which one do you think should get the prize?



Join DLARC, make new freinds and learn more about AMATEUR RADIO

WHAT IS FIELD DAY?

follows a letter from Field Day Chairman, KU3K to ARRL, following Field Day

ARRL FIELD DAY COMMITTEE
ARRL HEADQUARTERS
NEWINGTON, CT 06111
20 JULY 1993

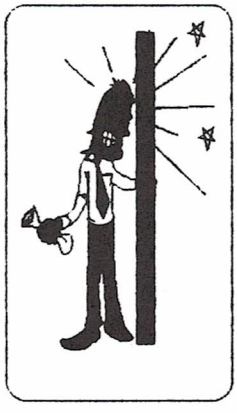
The Delaware-Lehigh Amateur Radio Club (W3OK 3A EPA) had a humbling experience at the conclusion of the 93 Field Day activities. We are of course "computer literate" here in Eastern Pennsylvania and used a computer logging program at our three main operating positions. The whistle blew at 1800 UTC June 27 and as Chairperson of the FD committee I quickly rounded up all of the computer disks each containing their precious bits of information. These were deposited carefully in my brief case. We put the show to bed, everyone went home, and at about 2130 UTC I settled into my comfy hamchair and booted the computer. I placed one of the logging data disks into the floppy drive and ...

General failure error reading drive B:
Abort, Retry, Ignore, Fail

It was as if I had been hit by lightning! I put ANOTHER disk into the drive...SAME THING! Finally the third disk of three released its precious information. We now had a hardcopy score for the 40 meter position, zilch for 80/15 and 20. What happened? We simply do not know!

All of the local computertechs tried EVERYTHING, using every disk repair program known to man, in efforts to restore the damaged files! We aborted, we retried, we ignored, WE FAILED!

My first thought was to blame myself and schedule a



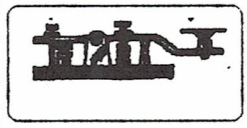
trip to Antarctica the day of the next club meeting when I had to make the Field Day report. But wait a minute, this "Field Day" is an emergency preparedness drill, and we prepared and we drilled! Our setup team seemed to work instinctively and quickly. Soon the towers and beams, generator, dipoles, radio gear and operators were all in place. Cleanup was just as slick. Wonderful food and drink kept us awake and alert for the entire weekend. We had a great deal of fun and walked away from the exercise secure in the knowledge that our club CAN provide necessary services in an emergency. Yes, our score is not as high as we would like, but these things are banished to the record books. We're going to do things differently next year. Someone suggested paper and pencil!

Every ham who participates in this national event should be proud of that participation. Field Day has been a personal favorite of mine for nearly 40 years.

Bob Kratz KU3K
FD Chairman, DLARC
1938 West Broad Street
Bethlehem, PA 18018

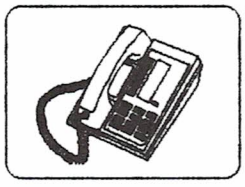
NOVICE-TECH CLASSES
to begin September 13th
de Chris, NU3L

The Delaware-Lehigh Amateur Radio Club will again sponsor classes for those wishing to obtain novice or technician class licenses. Classes will begin on **September 13th** and continue each **Monday for 10 weeks.**



Classes begin promptly at 7:00PM and are held in the Greystone Building at Gracedale near Nazareth. There is no charge for these classes but preregistration is encouraged to ensure adequate materials for the class.

For a complete information package please have



prospective students call the DLARC telephone answering machine at 820-9100 and leave their name and complete address. We will send them all the information they need. Please pass this message to anyone showing any interest at all.

de Chris NU3L

OVERHEARD AT HRO

A new ham came into the radio store to return a CW filter whcih he had purchased for his Kenwood HF tranciever. The salesman behind the counter wanted to know what ws wrong with the filter.

The new ham explaind that he had installed it per the supplied instructions, but when he turned on the radio, he could still hear CW!...From ***The Intermod, June 1993***

** Contest Calendar**

by Barry, KU3X, Contest Editor

Sept 4	Panama Anniversary Contest
Sept 4-5	Bulgarian DX Contest
	All Asian SSB DX Contest
Sept 11-12	Worked All Europe SSB Contest
Sept 11-13	ARRL September VHF QSO Party
	European DX Contest
	North American Sprint, CW
Sept 13	W1AW Qualifying Run 35-10 WPM
Sept 18-19	ARRL 10 GHZ Cumulative Contest
	Scandinavian Activity Contest, CW
	North American Sprint, Phone
Sept 25-26	CQ WW RTTY Contest
Sept 30	W1AW Qualifying Run 10-35 WPM

CONTEST TIP #16

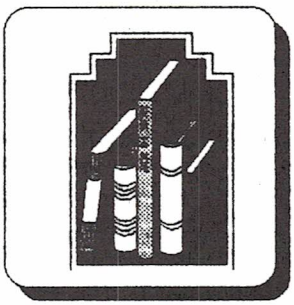
Time to change from push to talk to VOX or a foot switch. Free up your hands to do other tasks, like logging. This is where a good boom mic or a Hiel headset will do wonders for your audio and let you lean back in your chair to give you some relief. When using VOX, be sure to set it up properly. Don't set it up for a long delay. Make that delay as short as possible. If your delay is too long, when you send your call in a pileup, the station that you were trying to call may have answered you and you would not have heard him because your VOX didn't release yet. Use a good quality foot switch. You could pick one of these up at a fest for $2 to $20. Shop around.

de Barry KU3X

JUST THE MINUTES

by John, N3IGA, Secretary

The August meeting of the DLARC was held in KIVA Hall at NCC. Robin, WA3T, called the meeting to order at 7:30 pm. There were 85 members and guests present.



July's meeting minutes were approved as printed in the W3OK Corral with Clarence, W3PYF making the motion, and Al, WO4H, seconding.

The Treasurer's report, presented by Dick, KA3MOU, showed an ending balance as of July 31, 1993 of $4228.47. Tom, N3LLL, made the motion to accept the report, and Van, K3CP seconded it.

The newest members of DLARC are:

Robert Learn, K3GOX
Anthony Good, KA3NGH
Pat Salotto, N2ROD
Robert Bajor, N3PON
Jeffery Finkel, WT1N
Gregory Dipple, N2UVV

The Nominating Committee members for upcoming elections are Wm Van Horn, K3CP, chairman with Carl Maurer, N3NGL; Elmer Bush, W3FVT; Chuck Spafford, N3LAI, and Joe Brue, N3MKZ.

Robin, WA3T, read a card from Bart, W2SPK, and his family thanking the DLARC members who organized and participated in the sale of Bart's Ham gear and assorted equipment and parts. Bart is in good spirits and looks forward to visitors. Drop by and see Bart, he would love it. The best time to see him is between 10:30 am and 8:30 pm at Leader Nursing Home, Bethlehem.

Novice-Technician Classes start September 13 and will run for ten weeks. If you know anybody that is interested, please have them call 820-9110 and leave their name and address so information can be sent to them.

Bill, K3ANS, informed members present about next month's program. Members don't want to miss September's meeting. The program will feature the DLARC PA QSO Party Chairman, Ray Bilger, W3TDF, who will give a presentation on how to keep the trophy. If you want the DLARC to continue to dominate the QSO Party, don't miss this program. Ray will try to answer all questions members may ask so that we can top our high score of 2.6 million with 3 million points.

Bill, K3ANS also gave the last minute update on the Hamfest. Hope to see you there.

The feature program was about Radio Controlled Airplanes. The speaker was Joe Brue, N3MKZ. He brought and assembled two airplanes. He also showed different engines and explained how the controls operated on 6-meters. It was very interesting program.

de John, N3IGA

A Two-Tube Superhet Receiver

by Paul, W3HHC

A few weeks ago just before my 75th birthday, I decided to build this two-tube set which I had built 50 years ago. I did it to satisfy myself as being an old-timer, which meant constructing something from scratch. I was amazed the receiver worked, and it wasn't hard to get the touch of a regenerative receiver again.



"It's not really an antique... it's a kit that took Paul 43 years to finish."

The article on this receiver is in the 1942 and 1946 ARRL Handbook. I wound only two coils thus far, and with my eagle eye and sharp ears, I found the 40 meter band plus or minus plenty of short wave stations. I used it to work CW and a bit of AM phone. Just SWL'ing I've heard VK5, Europeans, etc.

Although all the advantages of the superhetrodyne type receiver cannot be secured without going to rather elaborate multi-tube circuits, it is possible to use the superhet principle to overcome most of the disadvantages of the simple regenerative receiver. These are chiefly the necessity for critical adjustment of the regeneration control with tuning antenna "dead spots", lack of stability (both in the detector circuit itself and because of slight changes in frequency when the antenna swings with the wind), and blocking, or the tendency for strong signals to pull the detector into zero beat. These effects can be largely eliminated by making the regenerative detector operate on a fixed low frequency and designing it for maximum stability. The incoming signal is then converted to the fixed detector frequency before being detected."

The previous paragraph was the first one from the handbook article showing the difference between a simple regenerative set and the simplest form of a super-hetrodyne circuit.

The set uses a 6K8 to convert the incoming signal to the intermediate frequency around 1700 Khz and a 6C8G (I used a 6SL7GT since I had no 6C8G) as a detector and audio amplifier. The description in the handbook gives the bill of material, coil winding data, and other hints on construction. It wasn't as easy as building a foxhole razor blade crystal set, but sure was fun...

de Paul W3HHC

August VE Session

by John, WX3C

The August VEC session at Gracedale had 10 candidates who took 22 elements. There were 2 new Extra's, 1 new advanced and 2 new Tech's.

The one up-grade to Extra was

Walter R Talbott II, N3MHW.

The new Extra class candidates were

Anthony Gold, from New York City

Chester J Blaszcak from Oxford, New Jersey.

The two new Techs are:

John R Shaffer

George Hollabaugh

The VE's present at this session were:
John Greenage, WX3C; Bob Green, KE3AW; Ed Gigliotti, W3APE and Bob Puharic, WF3H.

The next regular VE session will be at Gracedale on September 3 at 7:00 pm. Team #1 will attend.

73 de John, WX3C

VE team coordinator

FCC Fines Vero Beach Amateur

from ARRL Bulletin 84

The FCC has fined William P. Irwin, K3CQR, $2,000. The Commission's Vero Beach, Florida office said Irwin, 51, of De Bary, Florida, was found causing willful and malicious interference on or near 14.313 mhz over a period of months.

Irwin, a General Class licensee, was issued a Notice of Apparent Liability for $2,000. He was found and identified by the FCC on July 22, 1993, while he was operating from his residence, the FCC said in a release. The FCC inspected Irwin's station the next day.Irwin had identified himself on the air as raincoat charlie, and had vowed on the air that the Commission would never find him, the FCC said.

Robert Mckinney, Engineer-in-charge at the FCC's Vero Beach office, said some amateurs, it seems, have lost sight of the concepts 'good amateur practice' and 'enhance international good will' enbodied in the purpose of the service. Mr. Irwin's sole purpose for being on the air appeared to many to be to harass and ridicule other amateurs in a particularly vulgar way.

It is widely known, Mckinney said, that budget restraints limit the Commission's enforcement efforts but blatant, repeated violations such as these will not be tolerated or go unpunished.

Mckinney also said, however, that it should be pointed out that a considerable number of concerned amateurs cooperated in the investigation. We appreciate the efforts of these amateurs as a community willing to take responsibility for being self-policing.

from ARRL Bulletin 84

IMA LIDD

Modulation

By Van, K3CP



Ima Lidd had a question for Elmer. "What are amplitude and frequency modulation," he asked, "and what is the difference between them?"

"OK, Ima," replied Elmer, "Modulation is the process of varying a carrier according to the intelligence (voice or music). If you modulate (combine) a 7100 Khz. and a 1 Khz note in such a manner as to vary the amplitude, it is called Amplitude Modulation (AM). You can actually see this with an oscilloscope. It would look like a carrier (7100 Khz.) that is varying in amplitude at 1 Khz. rate. When the signal is detected and the RF (7100 Khz.) filtered out, all that remains is the 1 Khz. note."

"In other words," replied Ima, "the receiver detector extracts the audio from the signal."

"Exactly right, Ima," said Elmer. "Let's examine how the modulation occurs. In the heyday of Amplitude Modulation (AM), the modulation (audio) was added to the RF carrier after the final amplifier. In order to achieve 100 per cent modulation (very desirable), it was necessary to provide audio power equal to one half the RF power."

"Do you mean that if a ham were running a kilowatt," interrupted Ima, "he would need 500 watts of audio in addition to his KW of RF?"

"That's right, Ima," said Elmer. "The carrier started at the oscillator and was amplified to the desired level. The audio started at the microphone, then it too was amplified to one half the RF power. That was the reason that there weren't too many kilowatt rigs in those days. The carrier was generated in an oscillator and amplified to the kilowatt level by using class C drivers and amplifiers. A class C amplifier has very high efficiency, but it is non linear and this non linearity would have caused distortion to the audio. Therefore the audio had to be inserted after all RF amplification had taken place.

"In today's modern rigs, most RF amplifiers are of the linear type. Now the audio can be added at one of the low level amplifiers. The audio could be introduced in one of the buffers where power levels are low - a couple of watts or so - now the audio level has only to be about one watt. Then the modulated carrier can be fed to one or more linear amplifiers with no fear of distortion to the audio."

Again Ima interrupted, "Boy! that's incredible. But how about the fellows who are not using linears?"

"Well, Ima," said Elmer, "mostly everyone uses a linear amplifier today, if they are on Single Sideband (SSB)."

"Wait a minute there, Elmer, I am not running a linear. I am just running my transceiver barefoot."

"Well, you are using linear amplifiers in your transceiver. All your buffer stages and driver stages in your transceiver are running in a linear mode. It's a common mistake to think that only KW amplifiers are linear.

"In the case of Frequency Modulation (FM)," continued Elmer, "the audio is introduced to the signal (carrier) in such a way as to vary the frequency of the signal. There are several ways of doing this. For purposes of explaining FM, we will discuss the method known as reactance modulation which actually varies the oscillator frequency. The oscillator is usually of the self excited type as it is difficult to achieve sufficient deviation in a crystal controlled type. The microphone signal is amplified in a speech amplifier and fed to the reactance modulator. Now we have a low level carrier that is modulated with audio. It is now frequency doubled and amplified to the desired power and frequency."

"I think I understand," said Ima. "AM has two common types in use today. Double Sideband, which is used more on the commercial broadcast bands than ours and Single Sideband which most amateurs use."

"Yes, that's about it, Ima," said Elmer. "Let's summarize the major points. Both systems of modulation produce sidebands which occur on both sides of the carrier. In the case of AM, these sidebands are above and below the carrier a distance that is equal to the highest modulating frequency. That is why amateurs must limit their audio to about 2700 Hz. on the HF bands. The higher the audio frequency, the broader the signal. FM, on the other hand swings the frequency in accordance to the audio. On 2 meters we use audio frequencies of 3500 to 5000 Hz. This results in higher quality audio, but it takes up more of the radio spectrum.

"Well, that ends this session. See you next time."

de Van, K3CP

DLARC Golf Open

September 25th

by Ray, W3TDF

Do you play (at) golf. Do want to join with some of your fellow DLARCers and lose your balls in the rough? Since I'm a committee of one arranging this affair, I have decided to inaugurate some small incentives for such things as longest drive, closest to pin etc.



There will be a small fee to cover the incentives, which will put you on the list. Expected starting times about 8AM.

We will be playing at the Wedgwood Course, just outside of Coopersburg.

Please register with me ASAP.

de Ray (W3TDF).

AND YOU THINK YOU HAVE TROUBLES

downloaded from Packet BBS

Dear Sir/Mme,

In reply to your request to send a cheque, I wish to inform you that the present condition of my bank account makes it almost impossible. My shattered financial condition is due to federal laws, provincial laws, state laws, brothers-in-law, sisters-in-law and outlaws.

Through these laws I am compelled to pay a business tax, amusement tax, school tax, gas tax, light tax, water tax, sales tax, liquor tax, income tax, food tax, furniture tax, excise tax, franchise tax, automobile tax, poll tax and telephone tax.

I am required to get a business license, car license, operator's license, truck license, not to mention a marriage license and dog license.

I am required to contribute to every society and organization which the the genius of (wo)man is capable of bringing to life: women's relief, unemployed relief, and gold diggers relief and also to every hospital and charitable institution in the city, including the Salvation Army, United Way, Red Cross, Purple Cross, Blue Cross, White Cross, Boy Scouts, Girl Scouts, YMCA, YWCA and all the waystations for wayward girls.

For my own safety I am required to carry health insurance, life insurance, fire insurance, tornado insurance, compensation insurance and old age insurance.

My business is governed that it is no easy matter to find out who owns it. I am inspected, expected, fined, commanded, reprimanded, compelled until I provide an inexhaustible supply of money for every known deed, need and desire of hope of the human race.

Simply because I refuse to donate to something or another, I am boycotted, talked about, lied about, held up, held down and robbed until I am almost ruined.

I can tell you honestly that except for a miracle that happened I would not have been able to enclose this cheque. The wolf that comes to so many doors now-a-days just had pups in my kitchen. I sold them and here is the money.

Yours very broken-ly,

de VE3VOC

Easton Hospital Run and Walk

On Sunday August 1st, beginning with a 1 mile walk, a wheel-chair 5k run and a 5k run for the stronger ones, ARES personnel from the DLARC again furnished the communciations.



With Dick, KA3MOU as Net control, the followiing acted as a safety watch for the entire event which is a benefit for the Easton Hospital Neo-Natal Care unit.

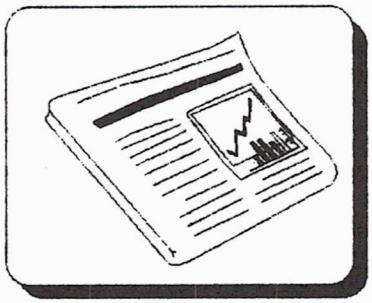
The following participated: KA3MOU, W3PYF, N3LAI, KA1RAH, KD3TI, KB3RI, N3IGA, KE3AW, N2MWQ, N3HQE, KA3YEB,and KA3TEQ with Marcia.

de Clarence, W3PYF, EC

The World of Advertising

Supplied by Dave, WD5BRP

For sale: antique desk suitable for lady with thick legs and large drawers.



Dinner special -- Turkey, $9.75; Chicken, $8.75; Children, $5.00.

Now is the chance to have your ears pierced and get an extra pair to take home, too!

Tired of cleaning yourself? Let me do it.

Dog for sale: eats anything and is fond of children.

Get rid of aunts, Zap does the job in 24 hours!

Stock up and save. Limit: one.

Man, honest, will take anything.

Used cars: Why go elsewhere to be cheated? Come here first!

Wanted: Man to take care of cow that does not smoke or drink.

We will oil your sewing machine and adjust tension in your home for just $10.00.

Wanted: Part-time married women to work in craft shop.

Man wanted to work in dynamite factory. Must be willing to travel.

Will work for food, if necessary.

Remember: ARRL is more than a Magazine Subscription Contact KA3MOU for membership

Everything takes longer than you thought it would, cost more than you plannd spending. and has problems about which your friends will say, "how come youd didn't know?

---Ann Landers

from the Sierra Intermountain Emergency RA "SIERA"- Dorothy Uebele, N7MXA, Editor and the ARNS Aug/93

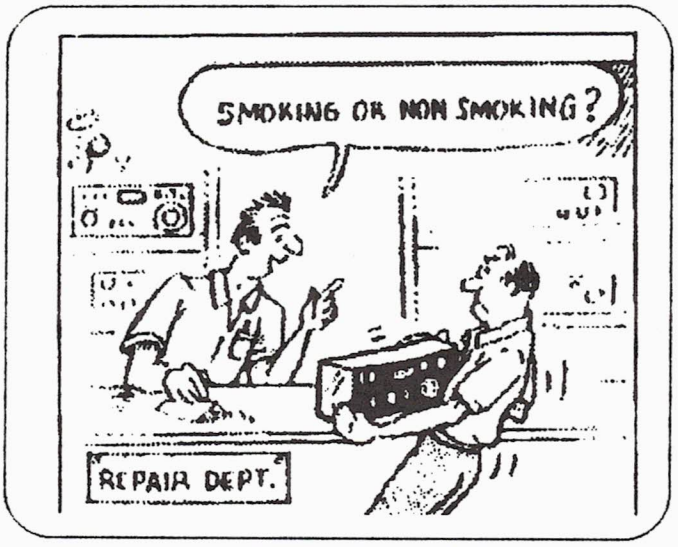
The FCC at Work

from Dick, KA3MOU

The FCC has fined a Florida woman for unlicensed operation on 2 meters.Margaret G. Taylor of Vero Beach received a Notice of Apparent Liability for $2000.00 for allegedly operating on 145.53 MHz. In another action, the FCChas fined Rodney Sedeno, NH6UC, a Technician-class amateur, $2000.00 for unlicensed operation on 27.085 MHz. Two others were also fined $2000.00 for "out-of-band" CB operation.

So the FCC is out there doing a job, hope they get to the Lehigh Valley..

73 Dick , KA3MOU



from the Fall '92 QCWA Journal via the April '93 "10-10 Internationals News"--Chuck Insanda, W6YLJ, Editor

Quotes:

The Lord gave us two ends--one to sit on and one to think with. Success depends on whcih we use the most.

Ann Landers

People always call it luck when youve acted more sensibly hat they have.

Anne Tyler

Just remember! They never raised a statute to a critic.

Martha Graham

Have you wondered?

At the present time, there are 412 members of the Delaware Lehigh Amateur Radio Club.

Digital Communication

by Joel, K9TBD

Piezoelectric Devices for Ham Radio

Piezo (Greek 'press')



Three very important applications of piezoelectric devices for radio communications are clear microphones, stable oscillators, and sharp filters. With these developments, during and shortly after, the Second World War it became possible for amateur radio operators to find one another and be selective enough to actually maintain reliable communications with **crystal-clarity**.

Continuous wave (CW) transmitters no longer had to 'chirp' and amplitude modulated waves did not warble (FM). The sharpness of piezoelectric (crystal) filters allowed the development of single side band (SSB) **filter rigs** as opposed to **phasing rigs** which sounded like "A Chinese hog talking Japanese while gargling peanut butter - upside-down in a rain barrel." This quote is attributed to my father (K9YYB, ex W9IDI). It was his response after listening to my home-brew phasing SSB transmitter which only had 35 dB carrier suppression and 25 dB opposite sideband suppression. That is what started my interest in crystals for a filter type SSB transmitter.

MICROPHONES:

General considerations of piezoelectric devices used as microphones incorporate the effect that a voltage developed from a piezoelectric device is proportional to mechanical strains. This linear relationship has been employed bilateral (i.e. transducer) applications. The device may be used as a speaker as well as a microphone. The basic mechanical configuration for a microphone consists of an enclosure, one face of which consists of a movable diaphragm. This diaphragm is linked (usually a pin or rod) to the free end of a cantilevered piezoelectric device. As the diaphragm moves, so moves the piezoelectric device. The output (voltage) of the piezoelectric element is proportional to its deformation and depends on the type of deformation and the orientation relative to the axis of the crystal.

OSCILLATORS:

Quartz crystals cut for thickness (compression) resonance may be used in circuits to make very stable oscillators. The equivalent electrical circuit of a quartz crystal may be viewed as a series R-L-C resonator shunted by a holder capacitor which is composed of the metallized electrode capacitance, crystal holder capacitance, and other stray circuit capacitance.

Practical considerations must be made to assure oscillation, suppress undesired modes of oscillation, and attain spectral purity. The power available from such crystal oscillators is limited by heat generated in the crystal from circulating radio frequency currents. The crystal may fracture from excess heat. The basic method of constructing an oscillator is to use an amplifier (operational amplifier, transistor, etc. for the active device) together with appropriate feedback. The feedback should be just sufficient to reliably start the oscillator since the circulating current in the crystal is proportional to this feed back. In addition, excess heating may cause frequency drift. Unless a bandpass filter follows the oscillator, various harmonics of the crystal fundamental frequency may appear on the output.

FILTERS:

The design of various filters has been known for some time and applied quite successfully utilizing discrete inductors and capacitors and associated components, however these devices are bulky and drift with time and temperature. Clever mechanical resonators were invented (called mechanical filters) which are made with transducers coupled to mechanical resonators. Collins corporation used them at I.F. frequencies of 250 and 455 kHz for single sideband generation and detection.

Shortly after World War I, Professor Walter Cady developed the first quartz crystal oscillator and in 1922 proposed these elements for use in filters. In the 1930's and 1940's a variety of cuts were developed for frequency response and temperature compensation and were applied to telephone and VHF radio applications. Full lattice filters were developed which incorporated a number of discrete crystals, capacitors, and coils. In the 1960's monolithic (multiple resonators on the same crystal blank) were developed for substantial size and cost savings. Resonators made from piezoelectric materials which have been employed include PZT ceramic devices, surface-acoustic-wave (SAW) resonators, mechanical resonators, as well as the quartz resonators. Complete designs can be found in popular handbooks. Here is what you must specify:

CRYSTAL SPECS:

Nominal freq:{kHz, MHz}; Nominal tol:{ppm at 25 deg C}; Operating mode:{fundamental, 3rd overtone}; Stability:{ppm from x to y deg C}; Motional cap:{pF and tolerance}; Q:{min}; Static cap:{pF}; Spur atten:{dB min from x to y (freq range)}; Aging:{ppm/year max}; Holder type:{HC-6, etc}; and Markings:{special/shock, vib, temp range etc.} Perhaps you will have a better appreciation of what goes into the making of a modern 'rig' with all the crystals used.

My apologies for not including the solution to my little puzzle regarding factorization of 55,481 in an earlier newsletter. The answer is 55,481 = 109*509. Both numbers (109 and 509) are primes.

de Joel, K9TBD



Ham Dealers Cited

from Amateur Radio Newsline



Henry Radio of Los Angeles, Jun's Electronics of Culver City and Ham Radio Outlet of Van Nuys California have been fined $7000 each for what the FCC says was -- and we quote -- the marketing of an unauthorized transmitter in violation of Section 302, sub-part D of the Communications Act and Section 2.803 of the Commission's Rules -- close quote. The particular piece of equipment for which the three retailers were cited is the new and very popular Kenwood TS-50S High Frequency amateur band transceiver. That's a 100 watt all-band high frequency transceiver that is not much bigger than the average dual band VHF rig. According to the Notices of Apparent Liability, back in March the Commission's Los Angeles Office received a complaint alleging that each of the dealers was marketing transceivers capable of operation outside of the amateur radio frequency bands.

The unidentified complainant alleged that the these transceivers did not have the proper FCC authorization for sale ccording to the Commission, between March 8th and 10th it conducted an investigation of its own. It's personnel visited the three stores. At each location they it was found that the Kenwood TS-50S was being sold. Also, that the literature accompanying the unit indicated that it was capable of operation on frequencies that are not authorized for Amateur Radio use. At two of the three locations, the sales personnel confirmed that the literature was accurate and that out of band operation of these units was possible.

Los Angeles FCC Engineer Jim Zoulek who issued the fines says that transceivers capable of operating outside of the amateur bands are required to have Commission authorization before being placed for sale. Zoulek contends that the TS-50S transceiver lacks such FCC approval and therefore the dealers are liable for the alleged violation.

So far, the enforcement action against those selling the TS-50S has been limited to the Los Angeles area. The three dealers were given thirty days to pay the fine. Each is expected to file an appeal. Kenwood has issued a brief statement on the matter. It says that the company has contacted its Washington, DC attorney who is in the process of dealing with the situation. He has assured the Kenwood that this action by the FCC will be dismissed. And oh yes, the TS-50S will continue to be available for sale.

--from Amateur Radio Newsline

Amateur Services Departments

by Pete, Kemp, KZ1Z

AEA:	206/775-7373
Alinco:	213/618-8686 fax: 213/618-8758
Ameritron:	419/531-3024
Azden:	404/769-8706 fax:404/769-7970
B&W:	215/788-5581
Butternut:	512/398-7112
Cushcraft:	603/627-7879
ETO:	719/250-1191 fax:719/260-0395
Hy-Gain:	402/465-7021(motor parts) 402/465-7022(antenna parts) 800/328-3771(technical assist)
Icom:	206/454-7619(service) 206/454-8155(parts) fax: 206/454-1509
JRC:	212/355-1180
Kenwood:	213/639-7140(service) 213/639-9000(parts) fax: 213/609-2127
MFJ:	601/323-5859
Ten-Tec:	615/453-7172
Yaesu:	213/404-4884(service) 213/404-4847 fax: 213/404-1120

from the Johnson City (TN) ARA newsletter-Ed Ingraham WX4S editor--who credits N8EMA's ham bbs and ARNS.

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 Clarence Snyder, W3PYF, Editor..717 Porter Street, Easton, PA 18042

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