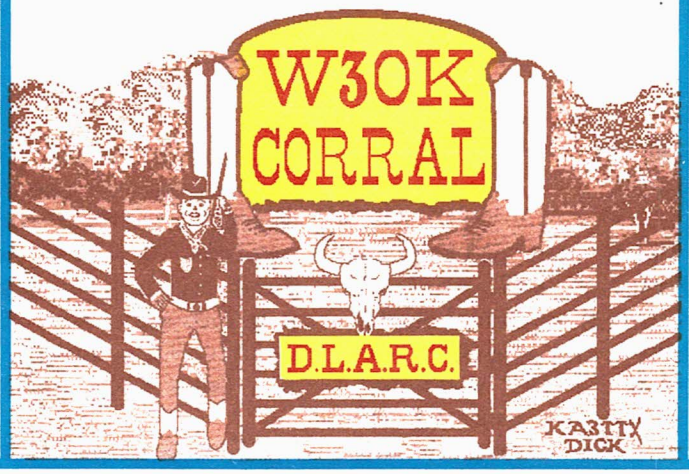
DELAWARE-LEHIGH AMATEUR RADIO CLUB, INC. W3OK

November 1992



SPECIAL SERVICE CLUB
ARRL

ARRL Affiliated Club

HOW TO GET THOSE QSL CARDS!!

QSL Bureau program at DLARC

by Bill, K3ANS, Program Chairman

Did you ever work DX? Did you get a QSL confirming that prized QSO? What did the postage and handling cost? Figure about $ 2.00 first class round trip, maybe more! Suppose you send hundreds or thousands of QSLs to DX stations? Can you afford thousands of dollars for the mail? I can't, and most hams cannot. The ARRL world created a solution. They formed a voluntary world wide QSL mail service. Outgoing QSLs are mailed through the ARRL to DX stations for only $2.00 per pound (approximately 150 cards per pound). Incoming cards are handled for free by separate organizations in each call area. The third call area is managed by C-CARS in New Kingstown,PA, a volunteer ham group. Your only cost is to provide self addressed stamped envelopes to C-CARS. Brian R. Greenway, K3WKK is the manager of C-CARS QSL Bureau. He can explain the details of the QSL system and set you up to benefit. It is a great system, typical of ham radio volunteer services.

Come to the Delaware-Lehigh Amateur Radio Club, Inc. meeting November 5, 1992, 7:30 PM at Northampton Community College between Easton and Bethlehem.

He is employed by the Pennsylvania Emergency Agency since 1985 as Warning and Communications Officer.

He served in the US Air Force as Armed Forces Radio Station Engineer and then worked for the Harrisburg Police Department and next for the Swatara Township Police Department.

Get started on DXCC and WAZ!

de K3ANS; DLARC Program Chairman >>

THIS MEETING IN THE COLLEGE CENTER, ROOM 220. GO UP LEFT SIDE OF AUDITORIUM CROSS BRIDGE AND INTO THE AREA. TALK IN ON 146.70

PAQSO PARTY OVER!!!

by Clarence, W3PYF

Well it's all over, October 11 and 12 are things of history. The question..How did we do?

With 48 members coming up with their scores by Wednesday, the 14th, it shapes up this way:

Total Contestants Listed: 48
Total Cumulative scores: 1730598.

This of course is not the finals. There are some who have not been listed. I would like to run the entire list as shown, but to do that would take up more room than we have.

Top dogs, however were K3ANS with 205000 points, W3LR with 172700, and W3TDF with 138000

Not to bad, sure wish we had a few more like them on the list.

For those who wish, please send your score sheets and $1.25, which goes to the sponsoring State College Club to Ray, W3TDF and he will send all in one pack to them with return receipts and stuff like that.

PACKET NEWS

WB3DTG, Bob Unger, has given up his local Packet BBS. All local mail will now be handled by W3BI, Rick Johnson, also on 144.97

Call in to W3BI, register with your name, QTH, ZIPCODE, CITY, and your Home BBS, you may wish to change to W3BI if you want the usual stuff to run.

73 Clarence

JUST THE MINUTES

by Chris, NU3L

The meeting of the DLARC was called to order by president Robin Moseley, WA3T at 7:30 PM on October 1, 1992 at Northampton County Community College. 58 members and guests were in attendance. K3CP moved and W3PYF seconded that the minutes of the September meeting be approved as printed in the W3OK Coral. The motion carried. The treasurers report was given by KA3MOU noting a balance of $6246.99. W3PYF moved and W2CCE seconded that the report be approved as read. The motion carried.

Candidates for membership in the DLARC included: Randall Stemler, KD3UN;
Paul Fritsch, W3HHG;
Gregory Black, WA2EPK;
Armando Moya, N3ICH;
Carl Maurer, N3NGL;
Darrel Cummings and Andrew Young, calls pending.

W5YID moved and W2CCE seconded that they be accepted into membership. The motion carried unanimously.

The results of the election of officers was as follows:

President - Robin Moseley, WA3T;
Vice President - Robert Green, KE3AW;
Secretary - John Holmes, N3IGA;
Treasurer -KA3MOU, Richard Dech;
Board of Directors (5)
Norm Daniel, N3GXW,
William Goodman, K3ANS,
Chris Hornaman, NU3L,
Robert Kratz, KU3K,
Clarence Snyder, W3PYF.

Ray Bilger, W3TDF continues as a board member as past president.

K3ANS reported on the potential use of Eastern Northampton County Vocational-Technical School as the site for the 1993 hamfest. The executive committee will consider the recommendation.

VE testing will be held on Friday, October 2, 1992; team number 2 will officiate. Novice/tech classes started. Twenty students started out and have continued. Most are staying on for the CW portion. General classes will be held in January.

K3ANS reported on upcoming programs. Details appear elsewhere in the newsletter. KA3WJF reported on the upcoming Scout Jamboree on the Air. For more details see the article elsewhere in the newsletter. More operators are needed for the Halloween parade in Emmaus. For more information contact KA3TEQ. Communications for both the Wheelmen race and for the fund raising run for Habitat for Humanity were a great success. Thanks to all who participated. Clem Semper sent a thank you note for his dues free instatement in the club.

WA3T reported that the executive committee recommends that members not advise visitors of the repeater *1 capability to help minimize abuse.

1991 PA QSO Party awards were as follows: N3HKX, top novice and tech; WD5BRP, top mobile; K3WPI, top QRP; WD3TDF, top portable; K3ANS, top club score. W3TDF reminded the membership of the 1992 Party to be held the weekend of October 17.

K3NZ and AJ3H have been appointed by ARRL as local DXCC field checkers. Cards can now be checked locally and the paperwork sent to the ARRL. This saves sending cards away and should expedite award process.

A suggestion was made that a portable repeater for the lower Delaware River area be considered to aid communications at public service events. This will be considered by the executive committee.

K3CP moved and W3PYF seconded that the meeting be adjourned. The motion carried.

Paul Siprioni, AA2AV presented a most interesting program on the Worked All Counties Award program.

Respectfully submitted by
NU3L, Chris Hornaman, acting secretary

WHAT KIND OF A CLUB MEMBER ARE YOU?

from Val, W3EFL

Some members are like wheelbarrows:
no good unless pushed
Some members are like canoes:
they need to be paddled
Some members are like kites:
if you don't keep a string on them they fly away
Some members are like kittens:
they are more contented when petted
Some members are like footballs:
you can't tell which way they will bounce next
Some members are like balloons
full of wind and never down to earth
But some members are like gems
they glow and become more valuable every day.

Which one are you?..
de Val, W3EFL

THE GAVEL SPEAKS

IT'S EASY!

by Robin, WA3T

The other day, someone asked me whether it has been a burden to be president of the DLARC, and whether I had reservations about continuing for another year.



As to whether it has been a burden, the answer was a quick and definite "No!". As to my continuing for another year, the only reservation I have is the certain knowledge that there are many club members who are better qualified; hams who I hope will take their turns as president.

The reason that being president of the DLARC is a pleasure, and not a burden, is that although we are a large club, with a mixture of strong personalities, a wide diversity of interests and varying degrees of enthusiasm, we seem to have very few of the conflicts and disagreements which seem to plague other clubs.

From the moment I first came into contact with the DLARC several years ago, it has impressed me as a body of people who are willing to put aside individual preferences and work for the good of the club as a whole.

In this past year, many members have served the club and our local communities in many ways. If I tried to list them all, I would inevitably miss someone. But I should not miss this occasion to especially thank, on behalf of the club, those who served on the Board in 1991-1992, and whose term has just ended. When next you speak with our past Vice-President Ann, KO3M, and our past Secretary Dave, N3EYT, don't forget to add your personal thanks for the work they have done to keep the club running.

One of the advantages that our size brings is the large pool of highly qualified people who are available to serve the club and our local communities. Our nominating committee found it easy to come up with a full slate of candidates, and was impressed with the willingness of our members to allow themselves to be nominated to work for the club. We should thank those who ran for office. All were highly qualified; all were so good that it was hard to choose.

Particularly, the thanks of all of us go to those who were willing to stand for election, but did not make it on this occasion. When you speak with Bob, WF3H; Ed, W3APE; Wayne, KY3N; and Bob KA3TER, please offer them your personal thanks for their willingness to stand for election, and encourage them to run again next year.

To the new and continuing officers and members of the Board, the thanks of all of us, and best wishes for another great year.

73 de Robin, WA3T

HABITAT FOR HUMANITY RACE

by Clarence, W3PYF

The second bicycle race of the month, for the benefit of the Habitat for Humanity, did not have the good weather that the Lehigh Wheelmen had on the previous week.

In spite of rain, heavy at times, 12 members of DLARC did it's usual good job of acting as safety eyes for the riders.

With the race scheduled for 50, 25 and 10 miles, many of the 50 milers changed to the 25 when the rains came down.

The following members participated: Robin, WA3T; Paul, NOKIA; Greg, KB2ANG; Bob, WF3H; Bill, W3FYK; Chuck, KD3SQ, Bob, KE3AW; Ray, W3TDF; Bruce, KA3ONZ; Dave, N3EYT; Phil, N3KWN; and Clarence, W3PYF.

All went well as members rode in the Sag Wagons, until one rider disappeared completely. He finally turned out at his home, without letting the race operators know about it.

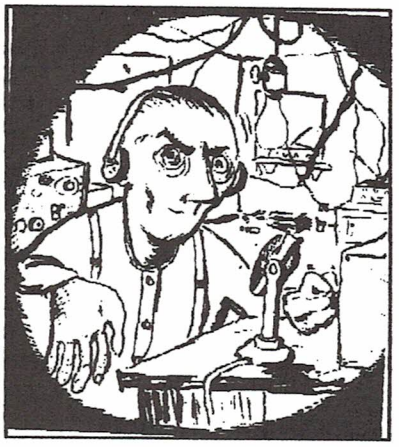
Thanks to all who participated.

Clarence W3PYF.

DUES COMING DUE!!

Don't wait for the Red Line on Your Mailing Label next month. 1993 Club Dues can be made payable now. Make check out to DLARC and send to the treasurer:

Dick Dech KA3MOU
120 McIlhaney Avenue
Bath PA 18014-1612



FROM THE GROUCH!
by Clarence, W3PYF

It has been a long time since I have taken the time to let you know just how I feel.

First let me compliment the new members of the Board of Directors.

As editor of this OK Corral, I want to invite more of our members to contribute to the production of this monthly curse of mine. (No not what you think).

There are many in the technical fields in their occupations, or operators of different types of Amateur Radio who could make it an easier job for those of us who work monthly to get this publication to you.

If you feel you can help, let me, the Old Grouch (W3PYF) know and see what we can arrange.

If you did not participate in the PAQSO party this time, you missed a good week-end. Conditions were great and a lot of good operators were on the air. The number from Berks County looks as though they are after us again.

Elsewhere in this news letter is a reminder that DUES are DUE. Why not save the last minute rush and get it paid before the December meeting. Dick, KA3MOU's address is in the story.

Be the first kid, or maybe the second on the block with your new membership card.

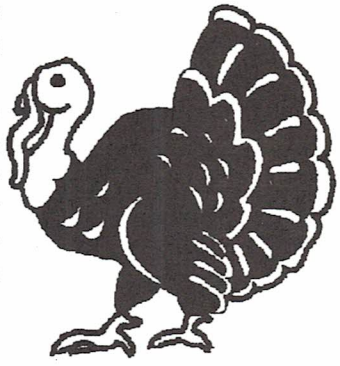
This old grouch for years has been trying to make W3OK a happy repeater, I try, and I wish others would as well, welcome the stranger to the area when you hear one. If you don't recognize the call, at least say hello. Tell him that someone is listening. The Board of Directors, at it's last meeting voted not to tell all of the emergency autodial for Northampton County Control, because of the abuse by some. If you are busy and it is one of our members, except in an emergency, it is not important, but W3OK has become known as a friendly repeater, let's keep it that way.

Let us all help make the Delaware-Lehigh Amateur Radio Club continue to grow.

REMEMBER, JOIN OR RENEW YOUR ARRL MEMBERSHIP BY CONTACTING TREASURER DICK, KA3MOU
OUR CLUB BENEFITS

IT'S TURKEY TIME, AND NOT ONLY THANKSGIVING
by Val, W3EFL

I think it is about time we had a good old fashioned TURKEY HUNT. I don't mean with guns, that's too old fashioned. I mean a turkey hunt all of us can be a part of. I am issuing a call to all true blue 2 meter FMers to get out there and hunt them down. Drive them out of their lairs. Haul them into the open and bring them to the DLARC meeting. The member bringing in the most turkeys will receive a special prize.



Not all turkeys count the same. A turkey who breaks into an important conversation just to say hello is not in the same league with a gobbler. We will awards different points for different kinds of birds.

10 POINT POULT: A baby turkey is called a poult. In FM circles breaking up an interesting conversation when you have nothing to contribute is definitely infantile.

25 POINT CAPONE: Our machine doesn't have a beeper and I don't care if it ever has. Amateur Radio Operators should be adult enough to pause five seconds before transmitting. Maybe puppy-dogging doesn't make you a full-pledged turkey, but it makes me wish you were back on the CB BANDS.

50 POINT HEN: If you don't like the way someone operates, the tone of his voice, his jokes, don't talk to him and don't listen but to put carriers on the repeater makes us all sound like fools.

75 POINT TOM: He's a big one. He thinks he owns the repeater. No one can tell him how to operate and we are all sick of listening to him.

100 POINT GOBBLER: Drunkenness, foul language and nasty comments have no place in Amateur Radio!

I CHALLENGE YOU to find these **TURKEY** and bring them to the next meeting where we can stuff them with proper operating procedures. I suspect many of us will come in carrying ourselves by the scruff of our necks.
FIRST PRIZE: Quiet, enjoyable conversations and interesting repeater.

** CONTEST CALENDAR **

by Barry, KU3X

Nov 7-9	ARRL November Sweepstakes, CW
Nov 9	W1WA Qualifying run 10-35 WPM
Nov 14-15	ARRL International EME Competition
	European DX Contest, RTTY
	OK DX Contest, CW
Nov 21-23	ARRL November sweepstakes, SSB
Nov 22	ARRL Qualifying Run 10-35 WPM
Nov 28-29	CQ WW DX Contest, CW

CONTEST TIP #6

Use fast automatic gain control (AGC). Never put the AGC in the slow position during any contests. There are even times when you will find it helpful to turn the AGC total off.

When the static crashes are high, it takes the receiver too long to recover if the AGC is in the slow position and you can miss too much information. When the signal is very weak and the noise level is too high, turn the AGC off and sometimes you will be able to hear that weak signal.

73 de Barry, KU3X

THE CAR AND FEEDING OF YOUR PET HAM

from the Gabiilan Amateur Radio Club Newsletter

The Ham is most difficult to keep. Only a person with a great deal of patience and understanding should attempt to keep a pet ham.



1) LIVING AREA: Your pet ham should have a private area of his own, an entire room, if possible, where he will not be disturbed. This will bring him home regularly. He should be encouraged to confine his activities to his nest room in order to protect the rest of the house from his natural tendencies toward noise, clutter, and making holes in the walls.

2) EXPENSES: Raising your pet ham can turn into an expensive hobby. But unlike most pets, the pet ham can be trained. The well behaved pet ham will be able to eat with the family on occasion.. But he usually feels more comfortable and secure if he can take many of his meals in the privacy of his nest room.

3) HOUSEKEEPING: Pet hams can usually be trained to use the family bathroom facilities.

4) OBEDIENCE TRAINING: Most pet hams can be trained to respond to a few simple commands the easiest for him being sit and speak. Once our pet ham has learned these commands, he will sometimes practice them on his own for hours at a time.

5) HEALTH CARE: The pet ham is especially subject to minor irritations of the lower back and sore throat from too much sitting and speaking. The special CW breed tends to have a tired wrist rather than sore throat, and the digital vision may suffer from tired and hurting eyes depending on his age and monitor.,

6) TRAVELING: Your pet ham will gladly travel with you in the family car if he is allowed to bring some of the collection from his rest room collection.

7) BREEDING: If you plan to breed your pet ham, you should do so as early as possible, before he gets his nest room collection.

by Laura Sargent, not a ham, but has a pet ham at home.

ANOTHER SUCCESSFUL CENTURY RUN

by Bob, KU3K

September 20 was a beautiful day! I guess thats why the Lehigh Wheelmen had a record attendance for their annual century bike run.



100 Miles is not an easy distance when on a bicycle but year after year several hundred stalwarts manage to pedal that distance; many in less than half a day!

Well enough of that...Once again several members of our club also went the distance providing a vital communications link between mobile bike repair shops and check points! Many club members gave up there entire Sunday (7A-5P) to provide this service. On behalf of the club I'd like to thank; KE3AW (I have a tee shirt for you Bob), KA3TEQ and Marcia, N3EBH, KC3II, KD3SQ (I have your coffee mug Chuck), and KA3MTY who came through at the last minute! A handful of very skillful operators...THANK YOU AGAIN!

de Bob, KU3K

FOR THE BENEFIT OF ALL WHO ARE INTERESTED IN ESTIMATING WIND, THE FOLLOWING IS A TABLE FROM THE NATIONAL WEATHER SERVICE:

Wind Equivalent
BEAUFORT SCALE

MPH	International Description	Specifications
<1	**CALM:**	smoke rises vertically
1-3	**LIGHT AIR:**	Direction of wind shown smoke drift not by wind vanes
4-6	**LIGHT BREEZE:**	Wind felt on face; leaves rustle; vanes moved by wind
8-12	**GENTLE BREEZE:**	Leaves and small twigs in constant motion; wind extends light flag
13-18	**MODERATE:**	Raises dust, loose paper; small branches moved around
19-24	**FRESH:**	Small trees in leaf begin to sway; crested wavelets form on inland waters
25-31	**STRONG:**	Large branches in motion; whis tling heard in telegraph wires; umbrel las used with difficulty
32-38	**NEAR GALE:**	Whole trees in motion; incon venience felt walking against the wind
39-46	**GALE:**	Breaks twigs off trees; impedes progress
47-54	**STRONG GALE:**	Slight structural damage occurs
55-63	**STORM:**	Trees uprooted; considerable damage occurs
64-72	**VIOLENT STORM:**	Widespread damage
73-82	**HURRICANE**	

By now, all who have taken the SKYWARN training should have received a mailing from the ABE Weather Office with your spotter number on the front of your mail label. If you have not received it, let me know.

73 Clarence W3PYF

QSL CHECKING NOW LOCAL
by Norm, K3NZ
ARRL DXCC Field Represenatives

Norm K3NZ joins Stokley, AJ3H as an officially appointed ARRL Field Represenative. This is a relatively new program by ARRL for processing first time only DXCC awards. This means that you can submit your cards to us for field checking instead of sending them to ARRL. We then forward your application to ARRL for processing and issuance of awards. You must be a member of ARRL and there is a $10.00 fee. For more information contact:

Norm Zoltack K3NZ
4333 Locust Drive
Schnecksville, PA 18078-9342
Telephone, (215) 799-4044

Stokley Benson, AJ3H
1192 Divot Drive
Wescosville, PA 18106-9628
Phone (215) 398-2359

de Norm, K3NZ

FOR SALE

For sale from the estate of KV3G:
All Contacts to Barry, KU3X

Kenwood TS 530S with CW filter/mic/speaker..-.....$400
Amp Supply AT-1200 antenna tuner.$100.00
Hallicrafters S-120 receiver....$25
Free Mini-Products Inc. model HQ-1 Quad Antenna. This antenna will cover 6, 10, 15, and 20 meters. You take down. Also has free rotor. Located in Bethlehem.

If interested call me, Barry, KU3X at 215-691-8888 before 9 PM.

de Barry KU3X

For sale from estate of Bob Smith N3DXQ
All contacts to Bill Werner W3FYK @ 691-0963

Kenwood 120S with Microphone..$350.00
Kenwood PS30 Power Supply 80.00
Kenwood AT200 Antenna Tuner 75.00
Kenwood 2 meter 7950 with mike 175.00
Kenwood SW2000 Power Meter 60.00
Kenwood Headphones 5.00
Heath Dummy Load HM31 .....10.00
Hustler 5BTV 50.00
Cushcraft Ringo Ranger 2M 15.00
Johnson Low Pass Filter 8.00
B&W Antenna Switch 593 (two).... 5.00
100 ft of RG213 Coax. (Unused) 23.00

If interested call Bill, W3FYK at 215 691-0963

Under no circumstances attempt to contact the residence of the deceased members of our club, all arrangements are by those listed above.

THE ROVER
by Dave, WD5BRP

What's a Rover? That is the question I asked Bill Murphy, W0RSJ when he asked me if I would be interested working the September QSO party. W0RSJ proceeded to explain to me what it's like to operate a on VHF and this is what this story is all about.

He said we would need to put together some antennas for 6 Meters through 1296 Mhz that we could attach to my motor home. The weekend before the contest we got together at his place to build and rebuild some antennas. We started to figure out how we could attach them to the motor home and I discovered the vent pipe was just the right size for the mast, so that is where we put it. We have 5 antennas on the same mast and then Bill found the 1296 would not be back in time, had to go back to Japan.



Well 4 bands will be enough for this first tryout. It's contest day and we checked out the radios with the antennas and find almost a 1:1 on all the bands we will work. We hear K2AA/3 on 2 M from Bill's home, and he says we have a strong signal from FN21. What's this FN21, well that is the grid square we are in and the one he's also in. The VHFers use that to give their location and we are going to attempt to work from FN20, FN11, and FN10. These grid squares are 50 miles wide and 100 miles long. We work a few more on 2 M and the work W2SZ/1 on 220, he's in FN32 to the east. W0RSJ tries out 432 and works WD3R in FN21, also works him on 50 Mhz.

With Radio's and antennas working, we packed them on top and head for the highest hilltop we could find. We're at Camelback in FN20. Raise the antennas, I think they're higher than K3ANS. We start the generator and were off and running. The highest antennas are the 432 and 220, and once I get them up W0RSJ is on the air and works W4IY in FM08, that's in Virginia. Also works VE3BQN in FM04, a few more and he tries 220 and works an N8FMB in FN08, somewhere to the west. By this time I have the other antennas ready to go and we work W1QK on 50 Mhz in FN31, Connecticut. We're using W0RSJ's bricks, actually these are more like concrete blocks for the signal they put out. We don't hear any weak signal reports from anyone. Every time we key the mike the generator lugs down.

It is after 8 PM and the park closes at 8 and we could not find the ranger to get permission to stay overnight, but we figure he will show up. Sure enough he does and wants to know what we're doing. I told him what we were doing and ask if we can stay the night. Says he has to lock the gate and will not open again until morning. He ask me what we will do if we have an emergency. I just tell him we will call someone on the radio. W0RSJ talks to him and finally convinces him to let us stay the night.

Back to the radio and before long we hear KB4NT from FM07 (Virginia) on 144 Mhz, not bad for 2 M but how about something higher. We go to 432 next and no problem, then work again on 220. This is almost as much fun as the PA QSO party working mobile.

Another ranger shows up a couple hours later and the first one didn't tell him we were here. We invite him in and show him what we're doing and he decides to let us stay. On with the party.

About 1 AM I decide to get some zzz and Bill continues for a few more hours. I'm surprised he is still finding new contacts this late or early. This VHF works ok. We wake up in the morning and cook up the pancakes, eggs, and bacon and make a few more, one which is K1TR another one of the big VHFers in New Hampshire. We take the antennas down and head out for a new grid.

Next month I'll tell you the "rest of the story" if you would like to hear it. It really tells what "rovering" is all about.

de Dave, WD5BRP

FOR DLARC INFORMATION
820-9110
CALL FOR CLUB INFO

IMA LIDD

Transformers

by Van, K3CP

Ima Lidd and Elmer have been meeting once a month and discussing radio theory for 4 years. Each month Ima would pick a subject for their talks, but he is running out of ideas and subjects. After some thought he decided to ask Elmer about transformers.

"Hi Ima, what would you like to talk about this month?" asked Elmer.

"Hello, Elmer, I would like to learn a little more about how transformers work. How do they increase or decrease voltage? Why don't they work on DC? Are there solid state transformers?"

"OK," said Elmer. "That's a good topic, but let me tell you at the beginning, there are no solid state transformers. There are solid state capacitors, resistors, diodes and transistors, but, unfortunately, no transformers.

"Let's begin by reviewing what we know about inductors, because transformers consist of one or more coils. Suppose you tell me what you remember about inductors."

"Well," Ima began, "I think that they resist the flow of current."

"No, no," Elmer interrupted, "they resist any changes in current flow. And there you have one major reason why they don't work on DC. In a DC circuit, the current flow remains constant unless the resistance and/or the voltage are changed. That is very important. Do you understand?"

"I am not sure that I do," said Ima. "Why are inductors used in DC power supplies as filter chokes? That is DC."

"I said that transformers consist of one or more coils (inductors), but not all inductors are transformers. That's a good example of how inductors work. Let's examine that application a little more. You said that they are used as filters in DC power supplies and you are right. They are used to decrease the 'hum' (ripple). Hum from a power supply is caused by an AC ripple voltage riding along with the DC voltage. For example, if we had 15 volts DC and a 0.5 volt AC ripple component, the output voltage would swing from 14.5 to 15.5 volts. The inductors' job is to limit that variation and thereby reduce the hum. The choke resists the change in current produced by the change in voltage. Are you with me, Ima?"

"Yes, I am," replied Ima. "By it's action, the inductor smoothens the 1.0 volt change in the voltage."

"Right you are," said Elmer. "In solid state power supplies the filter choke is replaced with a voltage regulator circuit. Although the regulator's main job is to keep the voltage the same between light and heavy load conditions, it gives us a bonus by maintaining our DC voltage level at 15 volts, thereby reducing the hum.

"Let's proceed with how a transformer works. Most transformers consist of two on more windings. Let's consider a transformer having just two windings, a primary and a secondary. When an AC voltage is applied to the primary, current builds from zero to its' maximum. As the current increases it creates magnetic lines of force about the windings. Now, because the secondary is very closely coupled to the primary, these lines induce a voltage into the secondary. This voltage has a polarity. When the AC cycle goes through zero, this magnetic field collapses and cuts through the windings producing a voltage of the opposite polarity. So we have an AC voltage produced in the secondary even though the two windings are insulated from each other. The amount of voltage appearing at the secondary terminals will depend on the turns ratio between the two windings. For example, if the secondary has twice as many turns as the primary, the voltage would be twice that of the primary.

"Don't think we are getting something for nothing though. The power remains the same (less the losses in the transformer) So when the voltage is doubled, the current is cut in half. The transformer is one of the most efficient machines known to man, however. If you put 100 watts in you can get almost 100 watts output."

"I understand, Elmer. Thanks for another good session. I will ask some of my friends for some subjects for future discussions."

"Yes, do that Ima. I will see you then. So long for now.

de Van, K3CP



Digital Communications
by Joel, K9TBD, Oct 92
Network Operating System from KA9Q



Phil Karn really started something when he adapted existing TCP/IP code for use in amateur radio. This is the same code that was started twenty or so years ago to allow network access from a variety of interconnected different networks and is the defacto standard for getting around the world on the high speed Internet networks. It is like a glove on top of our existing AX.25 (standard packet) transmission protocol but it allows a much richer set of functions for the user.

For instance, you may be logged into on station reading the mailbox information or whatever browsing you wish and at the same time someone may be logged into your mailbox system, at the same time you may be downloading a file from some other station. This multi-tasking may go on up to the limit that you set as to how many sessions that your station may wish to engage in at one time. For my feeble 8088 computer I find that about twenty sessions is about all it can manage without too sluggish of performance. One can 'pop' between sessions with one keystroke; one also can shell to DOS to do some things that only DOS supports. For instance, I am writing this newsletter with multi-tasking set on so that any station that connects to me while I'm typing this letter will see no difference if I had not been engaged with this DOS task. Indeed, the system is a 'new' operating system which is like some of the more modern multi-tasking operating systems in that the user is unaware that all the other tasks are supported at the same time.

For the regular packet user you also have access to all of the features of this system even though you are not a 'TCP' station, in that all you have to do is to log into any of the local TCP station (usually identified by the call letters followed with an '-8' SSID and go from there. If you do log into one of the '-8' stations you will see a mailbox like banner (if it does not come up right away - just hit one Carriage Return (enter) key to get the prompt string. I logged into myself and captured the (I)nfo screen and here is what it looks like:

```
KA9Q NOS version 911229 (PA0GRI v2.0f_ss)
(?)help    (A)rea  (B)ye     (C)onnect
(D)ownload (E)scape (F)inger(H)elp (I)nfo     (J)heard
(K)ill   (L)ist (M)busers (N)odes    (O)perator (P)orts
(Q)uery  (R)ead (S)end     (T)elnet  (U)pload(V)erbose-
(W)hat   (X)pert  (Z)ap
Current msg# 1 :
 ?,A,B,C,D,E,F,H,I,J,K,L,M,N,O,P,Q,R,S,T,U,V,W,X,Z >
```

For those not familiar with the various commands and how they work, the next will be a little discussion on some of them - (I'll omit ?,Help) - if you wish more information on a particular command just type that commands first letter and you will get some more help on that command, if you type Help followed by that command you will get some more information. For instance if you type S followed by a return you will get information on how to send a message... If you wish to send me mail just type S K9TBD on my system or S K9TBD@K9TBD on anyone else system and just follow the prompts. Here are a few commands

(A)rea - see what discussion groups that this station supports
(C)onn - connect to another station
(W)hat - gets you a list of files and directories that are available to you
(D)own - will start a download of the file that you specify
(J)hea - will get you a list of stations Heard on all the ports
(N)ode - will get you a list of the nodes that station hears
(M)ail - tells you how many stations are connected to the mailbox
(P)ort - will give you a list of the ports on that system
(Q)uer - followed by a callsign will automatically look up a callbook entry
(U)plo - followed by a filename will start an upload receive procedure
(D)own - followed by a path and filename starts download procedure:

Just type A (enter) and see what are available and then type A TCP to change to the TCP discussion area on my computer and then do a (L) for list to see what is there.

It is incomprehensible what is all available from any station (AX.25 or TCP) that logs into one of these stations - For instance, in the early mornings you can have a direct link to England (yes starting out on two meters) with good response time. All of these stations are just sitting there in full service by dedicated hams and provide most of the message, traffic, and general connectivity for the rest. For detailed information, start looking around on some of these (-8) stations or buy a current book on this stuff called DATA NETWORKS by Dimitri Bertsekas and Robert Gallager, Prentice-Hall, 1992.

73 Joel, K9TBD

All Amateur Radio Operators are invited to participate in the DLARC, ARES, RACE Nets on 146.70 W3OK with an alternate of 145.11. The Nets are held on Sundays at 9:30 AM and on Wednesdays at 7:00 PM.

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DLARC INFORMATION PHONE LINE 820-9110

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CLUB MEETING NIGHT

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

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