THE DELAWARE-LEHIGH AMATEUR RADIO CLUB, INC.

NEWS

RD #4
GREYSTONE BUILDING
NAZARETH, PA
18064

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* AUGUST 1988 *
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AUGUST 4=====AUGUST 4======AUGUST 4=====AUGUST 4=====AUGUST 4======AUGUST 4======AUGUST 4

WHAT IS THE HISTORY OF COMPUTERS

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CHARLES NOWALK
The History of Computers

1. Which device (still in use today) is the earliest known mechanical computing machine? Approximately how old is it?

2. For thousands of years(well, maybe a single millennia) the development of computing devices was retarded not by hardware design but by the theoretical or motivational problem. What was the major problem, and how did the Moors in the 800's A.D. solve it?

3. Which teenager of the early 1800's made a significant advance in computing devices? What was his contribution? (Hint, his first name was Blaise).

4. the theory of today's modern Computer -- I/O, Memory, CPU -- who gets credit for it? Von Neumann, Sir Isaac Newton, \Charles Babbage, or Leibnitz.

If you get all four of these questions correct you do not need to come to our meeting. If not, join us Thursday, 7:30 PM, August 4th to hear Charles Nowalk speak about the history of computers. Charles is a teacher of mathematics and computers at Phillipsburg High School and Warren County Community College. Plus, he does computer consulting. His subject will not be the technical complexities of solving computer problems such as K9TBD, NC3P, and KB3UD, or other computer whizzes of DLARC whizzes of DLARC have mastered. Instead, he will speak about the highlights of computing history within the framework of a 24 hour clock.

Personal computers came into Charles's life when the first one was installed at Phillipburg High School. He soon found himself spending a lot of his free time around the, working on Hewitt-Packards, Apples, Radio Shacks, Tandy's and IBM's. (Do you remember PET's and OS's?) He has been programming in Basic, Logo, Pascal and Assembly. DLARC is often accused of being a computer club. Is it true? We'll find out on August 4. See you there.

Answers: 1. Abacus -- 4000 years old.
2. Roman Number System -- Base 10 system.
3. PASCAL
4. Charles Babbage -- 1830's-- father of the computer.

How do you write a zero in Roman Numeral? Tell me at the meeting.

de Bill, K3ANS
Program Chairman

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JAMBOREE ON THE AIR 10/14 & 10/15

by Skip, K3ZTJ

This year I'm asking for volunteers to man one or two stations for the South Mountain Fall Scout Camporee at Evergreen Lake. If you would like to stay at home we will supply the names of scouts who would come to your station and let you demonstrate it capabilities.

I will be coordinating this activity for DLARC, and with the operation of the club station at W3OK and others around the area, we can show the young people in scouting, both Boy and Girl Scouts, what our hobby has to offer.

This can help your club, your community and the youth of today.

de Skip, K3ZTJ

CLUB TOURS AT&T SATELLITE STATION AT HAWLEY
by Bill, K3ANS

Does your antenna have 30dbB of gain? To keep your noise level down in your receiver do you use liquid helium to cool the preamplifier to near absolute zero? Is your TV satellite dish 100 feet in diameter? Does it automatically track the TV satellite so you don't miss a signal? Do you have 75 million dollars to spend on your antenna? AT&T does, and that is the system we saw in Hawley, Pa. On June 4th, ten hams and one XYL visited the AT&T Satellite Operations Management Center. We were lead by DLARC member Dave Porter, K2BPP, who is an engineer specializing in color television systems on the satellites. Dave gave us a very detailed tour to every room and operation. The center is far more extensive than any of us expected. In our tour were W3EGY, NC3P and his wife, W3FYK, KA3IJL, W3LR, K3YU, N3FBU, W3BCA, K3ANS and K2BPP. The Operations Management Center is located in a valley 3 miles north of PA Route 6. This Operation Center provides two types of communications, known as Skynet Television Service and Skynet Digital Service. The television service provides almost all of the broadcasting of TV network programs from CBS and ABC, plus smaller networks. Every time you watch a network program, the odds are it is coming through the Hawley facility. Dave, K2BPP, said "This Skynet Television Service offers uplinking and downlinking capability on a full time or part time basis, as a flexible, economical, and reliable two-way non-simultaneous system for distributing raw broadcast quality programing to widely separated stations and, to receive feeds from remote locations."

AT&T then provides a network of earth stations configured to meet various transmission requirements. Their customers can lease any combination of these stations.

The Skynet Digital Service is designed to broadcast textual information to multiple locations; transfer data between two locations; distribute data from one location to many; collect information centrally from many sources; hold full motion color video teleconferences, and backup customers' terrestrially based networks.

Our tour began in a parking lot outside of an electronically operated gate. We had to call through an intercom to identify ourselves. We were not allowed to enter until Dave arrived, and then the gate was opened by remote control. We saw the satellite control room where technicians and engineers constantly watch all of the TV network transmission going through the satellites. They also monitor the technical performance of the satellites so that any adjustments can be made. Of course they use extensive computers for this operation.

The facility contains three major dishes which are approximately 100 feet in diameter. Plus there is a smaller dish, about 30 feet in diameter, which is used for providing control information to and from the satellites. The Hawley station automatically tracks three satellites across the equator, at the east coast, the center part of the continent, and the west coast. It uses computers to automatically compensate for drifts and other movement. In addition there is a microwave tower which provides feeds to and from New York City and other studios of the TV networks and AT&T lines.

Dave explained that as part of its service AT&T will build on customer premises earth stations which they can use to transmit to the AT&T satellites. That construction and management is headquartered at Hawley. Dave went to Montego Bay, Jamaica in to construct a telecommunications system tied in with these satellites. Dave is hamming as a 6Y5 on 20 and 15 meters, SSB Listen for him.

We then moved into the RF and Orbital Analysis areas, where we saw the transmitters and receivers. The transmitters operate at approximately 100 watts output.

By the tremendous gain of the antenna system and the high efficiency feed systems, the 100 watts put out a strong signal to the satellite dishes by using waveguides, which are hard line transmission cables that look like square conduits. Each dish is located several hundred feet from each transmitter and stands approximately 200 feet in the air. Their bases contains the helium cooled preamplifiers to keep the noise down. What a trip, those who missed it, missed a very informative visit.

FIELD DAY ROUNDUP
by Clarence, W3PYF

Everything worked. Everybody worked, and we made over 2000 contacts on the three transmitters at our Field Day on June 24th and 25th. The two generators never missed a beat, they just kept rolling along.

With the weather perfect, except for a short shower on Saturday night, about 30 members of the Delaware-Lehigh Amateur Radio Club made more contacts then we have ever made in past Field Days.

From the time the antennas arrived at Hacketts Park, to ready to operate time it was only about 2 hours. The beam went up, with ease and grace, and with a little more exertion the antenna pole for the 75 meter radiator made it to its full height in a matter of about 1/2 an hour. It only took about 1 hour of operating in the 75 meter position to find out that it was a 160 meter antenna. The remedy of putting the 75 meter antenna below it fixed that quick. Operators never missed a beat, just changed bands.

The publicity we received in the Easton Express and the Bethlehem Globe Times made us look good in the eyes of the public and we once again proved that in case of an emergency, our group is ready to go. With the three rig class, we were able to work almost all modes available to amateurs, from CW and Phone to Packet. Operation took place on 10 meter Phone, 15 meter Phone and CW, 20 meter Phone and CW, 40 meter Phone and CW, 75 meter Phone and 80 CW, as well as 2 meter Solar Power, and Packet. I am told that 160 meters never quite made it.

The thing about this years effort that made it all possible was that, at no time were there any unmanned or unwomaned (for KA3NJR) positions regardless of the time of day or night.

Nobody went hungry or "thirsty", and when it came time to knock down the set-ups, it only took about an hour or so and the stuff was ready to move back to Gracedale and to the homes of those who brought their equipment to the site.

The use of computer logging in two of the positions sure proved to be a success. It made it possible to check for dupes as we went, without use of paperwork and automatically printed out the logs as well. Maybe next year, we can do it in all positions.

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FROM THE OLD MAN

The call of CQ Field Day has gone for another year, but it would be rough not to mention some of the things that happened that I did not mention in the Field Day Roundup.

Ken, KA3EED, did his usual yeoman job in getting the generators to site and John, WA3OIO really babied them along. We couldn't have done better with Met-Ed or PP&L power.

Some of the iron men, who never seemed to sleep, included K3ANS, KB3RI, W3TDF, KU3K, KA3OEG, W3LR, W2SPK, KA3ODI, KC3QO, N3EBH, WA3BOM, N3EOF and W2CCE. I probably missed someone but if so, I'm sorry.

The large pot of hot stew that Jan, WB3BJL sent up for the night shift sure was appreciated. I almost wish I had been there to have some of it.

The operators were so busy that Ray, W3TDF's efforts to start a game of horseshoes, never made it. He even drove the stakes, clanked them together, but all those on site were busy on the air. Guess he will have to wait 'till the picnic. We can not forget those who helped with the housing. W2CCE and WA3OEG's house trailers, with K3ANS's tent camper and W3BPP's tent sure did a great job of keeping everyone from the sun. It was amazing, in the interest in the packet position that W3BPP was running. The news media could not believe that all that they were seeing was moving on radio. Even the Field Day message to the SM Kay Cragie was transmitted over the packet setup.

Bart, had the stove hot most of the time with the hamburgers and hot dogs, the drinks which were collected by KB3RI, kept all from being thirsty. It was amazing, though, I guess that because I lived the closest to the site, I made three trips home for things like coax, computer fittings and other things like that. Lets make our plans for next year now.

73

de Clarence W3PYF

WELCOME TO COUNTY CONTROL
by Kurt, KA3MOB
Part 2

Last month, I told of the operation of County Control, this month, I'll give you the tour of the electronic activities.

Walking into the radio room, one is confronted with a large bank of buttons which, while confusing at first, is easier to understand by realizing the bank of buttons breaks down into two identical consoles, and a common console containing the special equipment.

Each operating console breaks down into modules which provide the control functions for 10 different transceivers and repeater systems. Each module controls a single base station. Other modules provide dedicated receivers on special frequencies that the dispatcher needs to maintain as status of various emergencies and incidents that are going on in the County, but not directly related to this control center.

The common center console provides the tone encoder computers used to process the alerting tones that activate the receivers and sirens of the various response groups under the dispatchers control Paging of various Government Officials is also performed through the encoders.

The center console also provides the switching equipment which allows the ambulance and medic crews to communicate with a hospital and the command physician.

Other equipment allows the dispatcher to communicate with the speech and hearing impaired persons, and to communicate with officials at the state level of Emergency Management.

Taking a quick look at how the system operates reveals two tower sites, one on the hill above Nazareth which puts the main antenna at approximately 800 feet above sea level. Most of our base stations are located at this site, and all control signalling and information to be transmitted is provided to the tower site by way of a Cardion 25 channel microwave link.

All transmitters and receivers are tone controlled from the consoles through the microwave link. What this means is that tones, generated within the consoles, will cause certain functions, such as transmit, to occur when seen by the base station.

The main dispatch channel, "County Fire" is located on the top of the tower and provides County-wide coverage for alerting. Also located on the tower are the various medical channels, both VHF and UHF, used by the ambulances, and the local government repeater used by the County Government. (The .70 Repeater is located at this tower.)

At the Greystone building, where the Control Center is located is another tower containing several peripheral channel base stations and our "County Fireground" base station which provides a second channel on "County Fire". This allows for redundancy on the main dispatch channel should the main transceiver fail. (The 145.11 repeater and the 443.450 repeaters are also on this site.)

Both sites are covered by emergency power in the form of generators in case of power failure, and additionally most of the base stations at the hill top site are supported by high capacity batteries which are maintained by the generator.

Hospital communication is achieved by way of remote control stations at each hospital, tied to the console by wire line. When switched into the console channels, the hospital then controls the hill top base station through the microwave.

All communications, both phone and radio are recorded twenty four hours a day on multi-track logging recorders.

Well, I hope you enjoyed the mini-tour of County Control. To bring you up to date, while we were taking the tour, we MedEvac'd an accident victim, operated a car fire and two medical emergencies, AND, and after obtaining fresh ice, finally got the glass of iced tea, I talked about in last month's article.

de Kurt KA3MOB

Editors Note: As I indicated in last month's article, Kurt is Chief Dispatcher for Northampton County Control. <W3PYF>

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GET YOUR FRIENDS TO JOIN THE DLARC...IN NUMBERS THERE IS STRENGTH!!!!...JOIN THE BEST CLUB IN THE AREA.

FROM THE PREZ
by Bob KU3K

I love to write this column when my words are in gratitude for a "volunteer" effort that was one of the best ever. I am talking about Field Day, not only did we have one of the greatest equipment parades (940-930-430) Kenwood loves us, but our final score with over 2000 QSO's will put us in the top of our 3A category.

This did not happen by accident. It took the efforts of a great many people, you know who you are. You felt great after it was put to bed, having shared in a successful club project that proved WE ARE READY for any emergency. I thank all of you who participated in anyway.

Personal thanks must go to co-chair KA3EED and to our "French" chef W2SPK.

Now, on to the PA QSO party--Warm up those finals (small transistors acceptable) and lets get this club on the books in State College.

Concerning operating, I would like to see us make a bravo effort to run the Christmas City station this year, complete with our tower and beam!! Perhaps run only 20 meters one day 40 another, and 80 on a final day. Comments will be appreciated.

The club now has QSL cards. Multicolor-they have to be seen. Another K3NZ labor of love. My personal thanks goes beyond personal thanks Norm -- everyone please show your appreciation, sit down at the club station and work a few, lets get our beautiful QSL on the wall of every shack in the world.

de KU3K

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WHAT HAPPENED TO OUR LAW SUIT?

Many of our club members know that a former printer of our newsletter, an amateur radio operator, started a lawsuit against our club to recover the costs involved in printing the paper.

In the last hearing in the Berks county Hearing room, three lawyers sitting as a jury decided in our favor. Despite this judgement in our favor, the plaintiff decided to appeal to the Berks County Court, and in order to avoid further litigation, on advise of our attorney, the board decided to settle the case even though the club was not liable.

Our attorney estimated the costs of a full hearing before a judge would exceed $1000. Our settlement at $700.00 will prevent any need for further action.

FOR SALE

Kenwood TR-9130 SSB-FM-CW Two meter transceiver with manual. Excellent condition. Asking $300. Icom IC-2AT, two meter hand held with manual, alkaline battery case, two rechargeable battery packs, soft vinyl case, wall charging unit, DC mobile operation module, and speaker microphone. HT needs work. Has intermittent problem. All accessories in good condition. Asking $100. Call Jim (N3EYJ) at 253-7086 evenings.

NOVICE/TECH STATION FOR SALE CW/RTTY/SSB

Kenwood TS-520 w/External VFO, CW Filter, Shure Microphone, New 6146W's and 12BY7, w/new spares and speaker.
Kantronics interface, w/Vic-20 Cartridge and Cable, (Never Used.) Microlog Airdisk Software for C-64.

Radio Shack TV Antenna Rotator, (Still new in box). Heath Cantenna Dummy Load. Archer Low Pass filters(2), Antenna Patch Panel with BNC Connectors and Jumper cables. Heath 1410 Auto Keyer. Mini Quad 6-10-15-20 Meter antenna. Bilal 80 meter Isotron Antenna. Complete documentation. $500 TAKES ALL. Prefer to sell as a package. Call Bob, N3DMI 253-2177 Evenings.

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SOME TRY
(some don't)

If all the cable companies in the area try as hard as Sammons, there will not be the problems with interference to Amateur and Aircraft bands from radiation from Cable companies, that exists today.

In a letter sent by Sammons headquarters in Dallas to all their companies, they stress the need to clean up radiation from the cable systems. The complete story by one of their engineers, Bob Saunders, will appear in the July Issue of Communications Technology. de W3PYF from N3ELM.....

FOR SALE

From the estate K3TSO, one of our members the following equipment is part of the material for sale. If you are interested contact Roy, K3OZU at 759-5037 or me W3PYF, DO NOT CALL HIS WIFE!.

Drake Twins, T4XC, R4C and MS4 with power supply. Matching Station control that includes clock and phone patch plus antenna switches, Heath HM102 power meter and Microphone...All for $450.00

Drake 6 meter TR6 with MS4 speaker and supply..$400.

Heath SB200, with spare set of new 572B's, $300.00.

Waters Model 334 Dummy Load...$ 75.00

MFJ J962B, antenna tuner, brand new in original box....$175.00.

New (in box) Cushraft A3 tri-bander beam, never opened.....$200.00

40 Meter Element, sold with beam.$40.00.

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MONEY TALKS

Secretary Roy, KA3MNY

The meeting was called to order by KU3K, and due to the absence of the Treasurer the Secretary was report was read first and approved.

The president reported that the Board of Directors, by a unanimous decision voted to settle the Bonnelli, Emmaus Printing Company vs W3OK law suit.

Next in order was a big "thanks!" to all who helped make Field Day a success! It was duly noted at this time that things ran right on even when the President had to leave for a while, and besides that we even had an excellent score with over 2000 contacts in the 3A class.

The next reminder was to the group is the "Club Picnic" to be held on August 28th. The club will furnish the hot dogs, hamburgers and drinkables! Each Family coming to the picnic shall bering a covered dish of salad or desert. KA3MNY will be monitoring 70 to put your selection on the list and to guide you in selection as needed.

Due to the absence of Barry KU3X, Ray, W3TDF reported on the up and coming PA QSO PARTY He suggests that if we prearranged meeting frequencies between club members, we could run up a good score just contacting members. Just remember the more involvement the better. So get your gear in order for October.

W3PYF reported on the Derriere on the Delaware. All is set for Sunday July 17th. He has a good group of volunteers but anyone else is welcome so that perhaps the time could be divided. Lunch is provided for the workers by the Red Cross. 145.11 simplex will be used with 70 as an alternative.

KU3K, reminds us that in September volunteers will be needed for the Lehigh Valley Wheelmans Assn. 100 miler, more detail to follow as the time draws near.

A card of thanks was received from the Hildenbrandt family for our gift of flowers.

At this time, the club policy of rememberances was revived and reaffirmed by unanimous approval. The policy is that the club will send flowers for members or their spouses and cards for any other family members as soon as we are made aware of their passing.

Jan, KA3NJR will head the committee.

A discussion was held on the possibility of the club making a donation to the ARRL toward the upgrading of W1AW. This was matter was tabled to be acted upon in the future, because of the expense of settling the law suit.

The president is looking for a nominating committee for next month. It is that time of the year when we must select a slate of officers for the coming year. The slate must be presented in September so that the October elections can take place. No volunteer came forward. So! be prepared to become a volunteer at the next meeting.

A discussion on bulk mailing was held, however it was decided to stay with first class.

The meeting was adjourned and our speaker was introduced by Chairman Bill Goodman. Don Cammel did a super job in explaining his experiences with the presidents of the United States and the product line he represents, Digital Microwave.

de KA3MNY

REMEMBER THE PA QSO PARTY, BE PART OF THE ACTION.

DIGITAL COMMUNICATIONS

Joel, K9TBD

Packet Simplified

The packet explosion is probably close to the birth rate these days - something like a new station on the air every minute and a half. Great to see so much interest! This article is to give a few hints for the total newcomer to packet and get you up and running as soon as possible. Packet can be intimidating because of all the funny acronyms e.g. FRACK, TXD, XFLOW, etc.

FIRST Hurdle: The first problem is getting a terminal or computer to talk to your newly acquired packet box. See last months article for hints. Most packet boxes accept RS232 at 1200 Baud with 7 data bits, 1 stop bit, and Even parity. If you have no luck talking to your packet box try swapping pins 2 and 3 (rx and tx data). My packet controller is the PK232 and it has an autobaud detect simplifying this a bit. Some controllers accept TTL signals as well as RS232.

SECOND Hurdle: See if you can talk to yourself! Really! Most controllers allow you to ring back your sending signal to an input - called LOOPBACK and it can be either analog or digital. The PK232 suggests that you tie two pins together to connect your tone output to the tone input and see if you can connect to yourself. You don't need a radio even connected to do all of this, in fact it is desirable to check things out one at a time. To connect to yourself, at the command prompt (cmd:) just type C K9TBD (of course substitute your call for mine). Just remember that you have to first have to tell your packet box what your call is by typing MYCALL K9TBD.

THIRD Hurdle: Radio interfacing. The only signals that you need between your packet box and your radio is audio from the radio to the box, audio from the box to your mike line and of course the PTT line. Each radio interface is different but most packet box vendors have suggested hookup diagrams for a variety of radios. I put a T-Pad (available at Radio Shack) in my speaker line so I can turn the volume down on the speaker after everything seems to be working ok. Get a fellow ham to listen to your output to see if your sending signal is to strong or too weak. It is just like setting your TT Pad right, if you are overblasting or too weak on level nobody is going to print you! Also, you should set your incoming level to the TNC properly. I set mine at -10dBm which is lower than you would set for receiving voice. Your squelch should be just on the hairy edge- just breaking on a weak signal. My box also has a threshold control on it and i set it like the squelch control just on the edge of breaking.

FOURTH Hurdle: Talking to someone other than yourself. Once you think that you are ready to fire up a real QSO get an experienced packeteer to give you a hand. The most confusing thing to remember is that there are two modes with the packet controller. One is talking to the packet box and giving it commands - this is called command mode (indicated by the cmd: prompt) and the other mode is the converse mode when what you are typing is actually send out of your box. If you talk to you box with a dumb terminal you would give it the command CONV (short for converse) or in my case (K) is all that is required. To get back to command mode your box may take a control-C (that is holding down the control key while typing the letter C). If you are not connected to anybody a packet will be sent out that is like a CQ in other modes. This happens every time you press the return key. Listen first and if you see someone that you think is close enough to contact that is not already engaged in a connection just type C W9XYZ followed by a return. If you get connected you should see a message stating that fact.

Since the other person doesn't know when it is his turn to type, end your message with something like >> to indicate that you are finished with your message. Message are usually short - like a line or two at most. Once you have gotten over the keyboard fright of the first contact (D for disconnect when done at the command prompt) listen a lot. There are bulletin boards and mail boxes and all sorts of nifty stuff out there - the FRC for instance has a special computer dedicated to giving out DX information. Hope you have fun with this exciting mode.

FRAC FRAC ..ACK ACK ACK..BRAP BRAP BRAP..

YANKEE DOODLING

de EPA Feedline

EPA Feedline is a section newsletter published by Kay Craigie, KC3LM, EPA (ARRL) Section Manager. The newsletter is published quarterly and is mailed to ARRL station appointees, and club officers--among others. It is also available on packet BBS's. The following article was re-printed from the July 1988 issue:

"DX QSL BUREAU NEWS de K3WKK

"The management of the Third Call Area ARRL DX QSL Bureau is continuously amazed at the number of amateurs who are not familiar with the current postal rates and the number of amateurs who waste money by placing incorrect stamps on envelopes and sending them to the bureau in order to claim cards. In just the past three days, several envelopes from users were received containing a 25 cent stamp and a 14 cent stamp. Others were received with a total of 84 cents on each of 10 envelopes Current postal rates are 25 cents for the first ounce and 20 cents for each additional ounce or fraction thereof. That is, 25 cents for one ounce of cards (including the weight of the envelope), 45 cents for two ounces, 65 cents for three, and so on. The post office will not forward portions of ounces, so if you place an additional 14 cent stamp on your envelope, you have just wasted 14 cents. With the recent [postal rate] increases, many users of the bureau forgot that they had envelopes on file, but with the old rate. If you have envelopes on file and you think that they may have old postage on them, please forward some 3 cent stamps to the bureau. They will be sent to your sorter and he/she will upgrade them for you.

"If there are any comments or questions concerning the operation of the Third Call area ARRL DX QSL bureau, please feel free to write to the manager in care of the following address:

Third Call Area ARRL DX QSL Bureau
c/o Cumberland County Amateur Radio Service
Post Office Box 448
New Kingstown, PA 17072-0448

"The bureau is now operating a full-time packet BBS. It can be accessed directly on 145.05 MHz in the Harrisburg area, through NE3H-1 Digi north of Mechanicsburg, or through the normal traffic systems. If you have a question or comment for the bureau, if you want to find out the current status of your file, or if you just want to say hi, you can do so by addressing your traffic to K3WKK @ K3WKK and you will be answered. Please direct your comments or questions to Brian K3WKK, Bureau Manager, Third call area ARRL DX QSL Bureau in care of this BBS. Thanks and good DX."

BASIC QSL BUREAU PROCEDURE AND HINTS

Brian's comments address a couple of current QSL bureau issues, but back to some basics.

1. The ARRL INCOMING bureau which C-CARS operates in the 3d District is for ALL amateurs, not just ARRL members.

2. **EVERY LICENSED AMATEUR** should have at least one envelope on file with his bureau, even if he doesn't work DX or HF. Why? Someone could be bootlegging his call to work DX, or he could get a SWL card from a DX-listener. (In many countries, a prospective amateur must acquire a number of amateur QSL's from SWL-ing before he can get a license.) Under good conditions it's possible to work DX with very modest gear--even on VHF. Do the bureau a favor, send 'em an envelope! (Remember, Canadian stations can send you QSL's via the bureau.)

3. If you absolutely DO NOT WANT any QSL's, at least send a note to the bureau to tell 'em so. That way they can legally and morally trash any addressed to you

4. There are over a dozen U.S. incoming bureaus, for all ten districts, the Islands, Alaska, Hawaii, etc. Your call, not your location, governs which bureau you use My buddy W3TB in Florida uses the 3d District bureau, while KA5XYZ in Bethlehem will get his cards from the 5th district bureau.

4.The bureaus want **5" x 7.5"** (brown) **envelopes**, only. They are available at most good office supply stores. DON'T SEND ANY OTHER SIZE! ADDRESS THE ENVELOPE TO YOURSELF, AND PRINT YOUR CALL IN LARGE BLOCK LETTERS IN THE UPPER LEFT CORNER. I recommend enough postage for 3 ounces--65 cents.

5. If you have changed calls in the last 3 to 4 years, you'll need to keep an envelope at the bureau for EACH CALL. A well run bureau will have different sorters for each leading suffix letter, and sometimes for different prefixes, also.

6. If you are working DX on a regular basis, don't expect cards quickly. My last envelope, received 2 months ago, had QSL's for QSO's from 1983 thru May 1987. Most cards were from 1985 and 1986.

7. If you have a 3d district call, your SASE goes to C-CARS at the address shown on the other column. Stations in the 2d District send their SASE to: **ARRL 2d District QSL Bureau, NJDXA, P.O. Box 599, Morris Plains, N.J. 07950.** If your call indicates another district, check QST, the ARRL OPERATING MANUAL, or ask me on a Sunday or Wednesday net.

8. Say, I wonder if W3OK has an envelope on file with the bureau . . . ?

de K3YD

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LOST FIELD DAY...1 ICOM, TOUCHTONE MICROPHONE. PLEASE CONTACT BOB, W2CCE IF YOU FIND YOU HAVE ENDED UP WITH THIS ITEM...73. Bob, KU3K.
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GALAPAGOS IS. - 31 July - 10 Aug. HC8DZ by HC2DZ and HC2LZ. They plan to be on 10-80 with cw and ssb - plus RTTY and Packet on 15 and 20. QSL via HC2DZ.

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GUAM - KH2D is usually near 14,027 KHz from 1230 UTC. QSL via KA3T.

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ICELAND - From 29 July. LA4LN/TF - 10 on Packet and LA2UR/TF on RTTY, Amtor, ASCII and Packet. QSL to their '88 CBAs. ... DK2OY/TF on 14,025 KHz at 0045 UTC. QSL to his home CBA.

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INDONESIA - A prime target these days is YL YC7BDF who, with YC7DF, is regularly near 21,313 KHz from 1500 UTC. QSL via YC7DF. ... YC4FCL on 21,250 KHz from about 1300 UTC. ... YCØMCA on 21,218 KHz starting at 1630 UTC. QSL via YBØSY. ... YC7NI on 21,330 KHz from 1700 UTC and YC7BS on 21,277 KHz from 1730 UTC.

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JAN MAYEN I. - JX6HS on 21,235 KHz from 1330 UTC. QSL via JX Buro.

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JOHNSTON I. - WY5L/KH3 on 14,027 KHz at 1250 UTC, offering skeds to provide you with an ssb contact. QSL via N5DAS.

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JORDAN - JY9LC on 14,202-205 KHz daily from 0130 UTC. QSL to Jack Sproat, P.O. Box 290, Tia'a Al Ali, Amman, Jordan.

***

LESOTHO - 7P8DX joins NCS TI2CC Saturdays on 14,190-195 KHz at 1200 UTC for QSOs with US stations. QSL Ed to P.O. Box 333, Maseru 100, Lesotho, South Africa.

***

LIECHTENSTEIN - 29 July - 1 Aug. HBØ/N9RD and HBØ/DJ6RD with cw in the bottom 25 KHz of 10-40 and ssb near 14,195, 21,295 and 28,495 KHz. QSL to the CBA of N9RD.

***

MICRONESIA - KC6JC likes 14,235-240 KHz from 1000 UTC. QSL Fr. Cav to his CBA.

***

MOROCCO - YL CN8FB and her OM CN8EK are in the various 20m DX nets several days each week. QSL via the '88 CBA of CN8EK. ... CN8FC on 28,005 QSX 28,030 KHz from 1530 UTC offering cw and ssb skeds on all bands. QSL Steve via WA4QMQ.

***

MOZAMBIQUE - Momentarily! Kjell, C9MKT, back after a vacation at his home in Sweden, says his C9 license permits operation only 3 days each month. He is trying to expand those privileges. Watch for him in the various 20m DX nets. QSL via SM5KDM.

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NAURU - C21RK on 3795 KHz most days from 0930 UTC. QSL Reuben via his '88 CBA. ... C21BD near 14,195 KHz, often as early as 1000 UTC. QSL via KA6V.

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NEW CALEDONIA - FK8GB on 14,175 KHz from 1000 UTC. QSL Antonio to P.O. Box 3125, Noumea.

***

OGASAWARA - 20 - 27 July. KA2IJ (who might be using 7J1ADJ/JD1 for this operation) should be there now if his transportation clicked. He plans cw and ssb on 10-80.

***

RODRIGUEZ I. - 3B9FR on 14,190-195 KHz every Saturday from 1200 UTC. With TI2CC as NCS, Robert is QRV for US stations - then the world. QSL via F6FNU.

***

SABA I. - PJØM roams 14,020-030 KHz from 0200 UTC. QSL via K2MUB.

***

SRI LANKA - 4S7GF near 21,010 KHz most days from 0130 UTC. QSL via Buro.

***

TANZANIA - 5H1HK on 21,035-040 KHz from 2030 UTC. QSL via JH4RHF.

***

TOGO - 5V7SA on 14,155 KHz at 2200 UTC says he will be a frequent check-in on the W7PHO Family Hour, 21,345 KHz from 1900 UTC. QSL Steve via WB4LFM.







All Amateur Radio Operators are invited to participate in the DLARC Nets on 146.70 W3OK/rpt.
The Nets are held on Sundays at 9:30 AM and on Wednesdays at 7:00 PM.
The alternate repeater for these Nets is 145.11 W3PYF/rpt.

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The DLARC NEWS is the Official Publication of the Delaware-Lehigh Amateur Radio Club Inc.

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1988

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NEWS STAFF

Editor - Clarence Snyder.....W3PYF..252-2109
DX Column - Norm Zoltack.....K3NZ...799-4044
Circulation - Dick Peischl.....KC3CR..759-0294
Digital Editor - Joel Elston.....K9TBD..252-1515
Mailing List - Robert Mulrooney..KB3RI..759-2674
Printer - Norm Zoltack.....K3NZ...799-4044

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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 in the Greystone Building at Gracedale.
Phone....759-2600

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Any comments or articles contributed to this newsletter should be addressed to
CLARENCE SNYDER W3PYF
717 PORTER STREET
EASTON, PA 18042-1548





THE DELAWARE-LEHIGH AMATEUR RADIO CLUB, INC.

NEWS

RD #4
GREYSTONE BUILDING
NAZARETH, PA
18064

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Raymond Bilger W3TDF
R.D.# 1 Box 178 State Road
Coopersburg Pa. 18036

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