Jan 1989

THE DELAWARE-LEHIGH AMATEUR RADIO CLUB, INC.

NEWS

RD #4
GREYSTONE BUILDING
NAZARETH, PA
18064

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** JANUARY 5 ** 1989
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THE TRANSISTOR AND HOW IT GREW

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THE DEVELOPMENT OF THE TRANSISTOR

We all using transistors in our rigs today, but where was it developed.

Bill VanHorn, K3CP, a member of our club was a manager at Western Electric the manufacturing arm of AT&T in Allentown.

Although it was invented by Bell Laboratories, it was turned over to Western Electric for manufacture.

There was a problem, and Bill had the problem of making these complex devices using high school graduates and housewives.

Where did he get test instruments for these complex units and how he supervised their manufacture will be the subject of this weeks program..Be there.

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A NEW RECORD

On the Sunday morning EMA drill on December 11th, I was amazed to count up the number of call-in's. A total of 93 stations participated. That is by far the largest in one session since we started. Lets keep it up. de Clarence

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NEW PACKET DIGI ON 144.97

Joe, N3ELM has installed a new packet digi on a tower about 750 feet above sea level,in Easton. Call is N3ELM-2...It will ultimately have the node LVPA as a call..

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NEW ROSTER COMING

In the March issue we will be publishing the new roster of the club membership. This year unless anyone asks, we will print not only the name, address, and autodial number, we would like to print the telephone numbers as well. If anyone who is a member, does not want his number printed, please contact NC3P, the data base manager for the club..

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A GREAT CHRISTMAS PARTY

Hosted by Roy, KA3MNY and with other committee members, Judy, KA3PZI and Dave N3FWU, 66 members and friends of DLARC had a great time at the Cedars Club in Bethlehem, on December 16th.

With the entertainment supplied by KA3TIU, Marvin; KA3TEO, Bruce and KA3MNY, Roy with assistance from Marvin's wife Dee, the program was for sure at a musical success.

I am sure that those who attended had a ball, I know I did. Our thanks as well to Jan, WB3BJL for the favors for each of the women, and the prizes donated by Harry, W3TEB.

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1989 DUES ARE DUE, MAKE SURE YOU GET YOUR DUES IN TO TREASURER, KA3MNY SOON!!

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RAFFLE TICKETS MUST BE IN WITH MONEY TO BROWNIE, W3CJI BY JANUARY 30th.....

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SECOND FOX-HUNT A SMALL SUCCESS

With Ray, W3TDF as the Fox and Wally, W3YXS and Vern, N5IEP looking, on Sunday December 18. Wally found Ray, in about 20 minutes. Rumor has it that they are still looking for Vern. Next Hunt on January 7th, check 10-70 for details.

A FEW MINUTES WITH NQ3D
by Mike, NQ3D secretary

The monthly meeting of the DLARC was called to order on Thursday evening, December 1st by President W3PYF. There were 58 members and guests present at the Greystone Building. The minutes of the November meeting were as read. KA3MNY reported a treasury balance of $1658.76.

New members welcomed to the club were:

N3GOC Nick Falcone	KA3TEQ Carl Ettyl
AI7D Jeff Porter	W3BPZ Robert Dressell
NS3L Steve Nardahl	WB1BRE William Burden
KA1LOS Dorothy Burden	

W3PYF reported that after the report of K3YD on the state of the club at the Board of Directors meeting, there will be no dues increase for regular members for 1989. The dues will remain at $12.00 per year, with the $3.00 fee for extra family members. The Newsletter subscription price will increase from $5.00 to $7.00 per year to cover the cost of printing and mailing.

The recommendation by K3YD suggestion was that the monthly drawings should continue. This generates a n;ice profit for the treasury and also gives the members a chance to win some nice prizes. W3PYF also announced that a "donation can" will be placed at the food area during the 1989 Field Day for those who are **"non-operators".** No charge of course for those who are participating.

In New Business, K3EX and W2CCE offered to contact Twin County Cable in an effort to work out a solution for the problem of TVI on cable Channel #18. Local cable companies may be asked to limit their use of this channel. It was mentioned that Sammons Cable has been very cooperative in working with the local amateur community.

DLARC members and non-members with a minimum of 25 licensed years were asked to contact Brownie, W3CJI, if interested in the formation of a local QCWA chapter.

K3ZTJ asked for members to consider helping out the Boy Scouts the first weekend in February, by volunteering to provide communications at the annual Klondike Derby at Camp Trexler in the Poconos. Contact K3ZTJ or KA3RBH for more details. A minimum of 12 operators will be needed each day, so please give this event some consideration!

W3PYF asked members not already signed up for the RACES, to please sing up. Amateurs not signed up will not be covered by insurance at RACES events in which they participate.

W3PYF also read a nice Thank you note from the Lehigh Valley Wheelmen to KU3K and club members for providing assistance with their annual 100 mile bicycle event. A check for $50 was also included in the note from Paul Bednarczyk. Members were made aware that the club has magnetic door signs available for anyone who operates mobile during these or similar events.

The meeting was adjourned and a hands-on presentation of the new Icom 781 was made available by Chuck Keneagy, N2FUO of Hamtronics, Trevose.

de Mike, NQ3D

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FROM THE PREZ
by Clarence, W3PYF

I don't have to say much this month as it has been a great one. With a great transmitter hunt on Saturday the 10th and a great Christmas party on Friday, the 17th.

The club participation, as well as the offers to help in the various committees of the club has been a great satisfaction.

The turnout at the last meeting of over 58 members and guests was great and it makes it seem as though it is all worthwhile.

I have had a note from KC3LM, Section Manager advising me that very shortly the DLARC will receive the Special Service Club award from the ARRL. This will be a great feather in our hat.

Brownie, W3CJI, has been doing a great job in pushing the tickets for our annual raffle. If you haven't done your thing yet, let's get out and sell or buy, your choice. This is the only money raiser our club has, and it makes it possible for us to continue without raising dues or other assessments.

My welcome to all the new members of the club. Don't become just a member, join in the fun of participating in all our events, not just the repeater.

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REMEMBER, WHEN IT IS TIME TO RENEW YOUR MEMBERSHIP IN THE ARRL, DO IT THROUGH OUR CLUB, IT HELPS OUR TREASURY.

WHO AM I?
by Dewi, N3FNW

First, let me answer my own question. I am one of the new members who joined both W3OK and W3OI as a result of the Lehigh Valley Night Owls. I admittedly have much to learn about the technical aspects of amateur radio. My talents lean more in the direction of writing an occasional blurb for this newsletter. Since the vast majority of the members of both clubs can talk or write technical circles around me, you won't learn anything about radio per-se from my writings. I do feel however, I can possibly lend something for the good of the order, although there are several of you that I have not had the pleasure of personally meting. It is an accurate picture of my experiences with my introduction to the Lehigh Valley.

WHO AM I? I'm that guy who comes to the meetings and sits alone. No, I'm not an introvert, on the contrary I'm somewhat extroverted but it takes a handshake to get me started.

WHO AM I? I'm that guy who seems to be snooping when a group is talking. You know, the stranger who stands on the outside of the circle and listens. I'm just trying to learn something, not snoop.

WHO AM I? I'm the guy who has the answer to the problems under discussion, you see I had the same situation, just last week.

WHO AM I? I'm the just the guy who might just be able to lighten up a dull conversation with the latest joke.

WHO AM I? I'm the guy who belongs to the club, but am alone because I haven't yet been admitted to a clique.

WHO AM I? I'm the guy who hangs on to my sponsor like a leech and very self conscious about it. I would rather turn him lose to join the group that he used to fraternize with, but that would leave me alone, and bored with the whole thing.

WHO AM I? I'm the new member starving for little friendship.

I hope that this does not hurt anybody's feelings. On the contrary, if you see yourself anywhere, I hope that you will take it personal enough to greet guests and new members with a warm handshake and welcome.

de Dewi, N3FNW

WISH LIST
by Bob, KU3K

In this holiday season each of us has our yearly "Wish List"! Your "List" may include things like a "940 and maybe a TH7DX (Tower and rotor included)and some computer and/or packet stuff for your large stocking!

I would like to make some suggestions for a realistic wish list. These items should be in every shack.

1. DUMMY LOAD (The original name for this item was 50 ohm non-reactive load..however it was never purchased by the one who needed it most...the "DUMMY" who tunes up "ON-THE-AIR". In a marketing ploy the name was changed however sales are still rather "SLOW".

2. MODULATION MONITOR (This item is usually included in most newer rigs.. Its called ALC..unfortunately its NOT automatic., you have to watch the meter indicator and NEVER exceed the "red line"..to coin a phrase-.."LEST IS BEST" or "LESS IS BESS"..anyway you get the idea.

3. SIGNAL STRENGTH METER (The old "S" meter is built into almost every rig you can buy. It's the only thing that should never have been built into any rig since they all read differently and most signal reports are "five and nine" anyway. What's the use?

4. FREQUENCY MONITOR (Every rig has one of these..Its called the dial indicator. When you get to close to the edge of the band don't transmit!) If you have to ask what's too close" you had better stay off the air completely.

5. HAND KEY (They make nice paper weights , but if you really want to delve into the real history of ham radio pick one up and learn how to send 25 wpm with it as was done in yesteryear. You may have to pay a few bucks for one cuz it's an antique.

6. LIGHTNING ARRESTOR (EVERYONE has this item so there is no need to purchase anything. REMOVE the ANTENNA from the RIG during an electrical storm and GROUND it!)

This list is certainly not complete but I hope it has given you some ideas and worthwhile additions to next years "wish list".

HAPPY NEW YEARS de KU3K

WHAT'S A GROUND?

by Van, K3CP

Ima Lidd didn't know what a ground was because nobody told him.

So he looked it up in a book. (Ima is ignorant about a few things, but he is not stupid). The book said a ground was an electrical connection to perfectly conducting earth. It also said that a perfectly conducting earth did not exist, but some good ones were to be found. Ima wondered, which would be the best ground available.

1.. A plastic pipe?
2.. A copper pipe?
3.. A rod driven into the earth?
4.. A rod driven into the sea shore?

Well, the correct answer is "all of the above are equally poor for certain situations.". Ima had some good questions here, but they must be clarified (or for Kenwood owner's RIT'd). He must also ask is the ground for DC, AC, RF or lightning. A DC ground in radio work is most commonly used for a chassis ground. It's a common return for DC and as such serves as a safety measure. It's also a low impedance return for signal paths and is quite straight forward (except for ground loops which nobody understands anyway). Then there's the AC ground. That's generally the ground for the house wiring and again is a safety feature. It's connected to the house plumbing and/or a stake driven into the ground where the AC line enters the house. Older houses may have it tied to the AC neutral. Not a good practice.

The lightning ground will not be discussed at this time. That leaves the RF ground which is very interesting. Now let's address Ima's choices of the above answers.

Certainly answers 2, 3 and 4 are better for DC and AC. But what about RF? If he tunes up on ten meters and the wire connecting the radio equipment to the ground system is a little longer than 8 feet long, then all the above are equal, because a 1/4 wave presents high impedance almost an open circuit to the radio. Let's suppose Mr. Lidd took his rig to his summer cottage by the seashore and drove a long rod into the beach at water's edge. He then connected it to the rod with an eight foot wire.

His actual ground would be about the same as if he had connected it to a PLASTIC pipe in the basement of his house in the desert!

What's the solution to Mr. Lidd's dilemma?

1.. Stay off ten meters.
2.. Increase the length of the wire.
3.. Tune his ground wire.

Before we try to answer these questions, let's see what Ima learned from the book. It said a quarter wave length reverses what it sees. If there is low voltage at one end, there is high voltage at the other. If there is low impedance at one end there is what at the other? Right you are. High impedance will be found there. Ima also read that a half wave repeats what it sees. Can you tell Ima what current is at the ends of a half wave antenna?

Sure you can if you know what it is in the center. OK. Ima knows that the current at the center of a half wave antenna is high because the impedance is low. Normally 72 ohms. So the current at the ends of a half wave antenna is low. Remember the ends of his antenna are only one quarter wave length from the center.

And a quarter wave reverses itself. So the current is low at the ends. Notice that the current is low at both ends - one half wave length away. Half wave repeats what is at it's end...Quarter wave reverses.

(continued on following page)

What's a ground (continued)

The above answers are all correct. 2 or 3 are better choices if Ima wants to work all the DX on ten. So he adds another eight feet to his ground wire making it a half wave length. Now he has an effective RF ground for ten meters. But if he changes frequency to twenty, he is back where he started. He knows a half wave on ten is a quarter wave on twenty. A better solution would be for Ima to use a ground tuner. Then he can fool his ground into thinking and acting as if it were a half wave on all bands.

Now Ima has a good DC, AC and RF ground. He even knows that these principles would work in his fourth floor apartment back home. I told you he is ignorant, but not stupid.

He wondered if he could apply his new knowledge about quarter and half wave lengths to his antennas as well as grounds. Aha, said Mr. Lidd, if a half wave repeats itself that means if he made his lead in wire one half wavelength long he would have a match between the antenna feed point and his rig. In other words, if the feed point at the antenna is 72 ohms and he connected it to his rig with a wire that is one half wave length, then the impedance at his rig would be 72 ohms. A very good match indeed.

And if one half wave length is too short, he could use two, three or more half wave lengths. Unfortunately this solution presents the same problems as the ground wire length. It only works on one band.

Ima knew that everything he wanted to know about this subject was not written in books. He decided to talk to his Elmer about some practical solutions to his problem. Elmer said he was successful using a length of wire laid around his shack floor.

He said Ima should make the wire 1/4 wave length long. Elmer cautioned that he should insulate the far end of the wire. (The end away from the rig because high voltage would be present.)

Elmer also suggested that Ima could make or buy a "Ground Tuner". MFJ offers one for about $75.00, but he could make one using a variable inductor he had in his junk box.

Ima now knew why it is not necessary to insulate the driven element of a yagi (plumber's delight) beam at the center feed point. There is high current there and very little voltage. A short circuit certainly favors high current and if there is no voltage there why bother to insulate the center?

If Ima Lidd keeps reading all those books and talking to his Elmer, he won't be a lid much longer.

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ARRL VIDEO ON CHANNEL 12

A note from SM Kay Cragie, KC3LM indicates that Channel 12 in Philadelphia will broadcast the "The New World of Amateur Radio", on Saturday, January 7 at 4:00PM...

NM3S, Dan Amoroso brought this to the attention of Channel 12 and he joins amateurs like N3ELM, who brought this same video to the Sammons Cable network last month.

If you watch this show, drop a note to the station and thank them for bringing Amateur Radio information to the public.

If you can, call the attention of science departments at your local high schools to this program.

de W3PYF

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FOX HUNT A BIG SUCCESS

With Wally, W3YXS as the fox, it still took 1.5 hours for W3DTF and his XYL Gloria to find him. The event held on Saturday December 10th found the following participating. KA3RBH, KA3MTY with YL Nancy as Copilot, and N5IEP with KA3IJL as Copilot. Those who participated now know where the Windmill Restarurant is located.

SELL YOUR RAFFLE TICKETS NOW!

FROM THE OLD MAN

by Clarence W3PYF

With all that is going on this month it should be easy to fill up this column. Ray, W3TDF does enough to give me all kinds of material, this month, he found the Hidden transmitter during the month, because he tripped over it. I saw Juli, N3CSQ the other night and she is not on the air cause Howard her XYL, will not fix her rig, any volunteers call her.

Nice to have Jeff, AI7D back in the club, he was a great source of Power Supply stories for this newsletter. Come on Jeff, start writing.

As I write this, I think how important our annual roster is, with all the changes in calls, it is getting so you can't tell who is who, it like having a stepchild. The upgrades by the VE's and the changes keeps, Bill NC3P and I busy with the data bases.

Rod, W3GYJ and Tom, N3CXP have been busy working through the sattelites all over the world. How about a story from one of you for the rest of us dummies?

With the March issue, we will be publishing a complete directory of all our members who are paid up by February 1st. Make sure your dues are paid to KA3MNY, treasurer.

My thanks to Harry, W3TEB for the great DLARC calendars, he handed out at the last meeting. Unless you are on packet, you'll never know what a sage he is.

73 till next month

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ANTENNAS AND HOW THEY GROW AND MATCH

by Barry, KU3X

While working with 75 ohm matching stubs for my delta loop antennas, I realized that I could run, if cut properly, all 75 ohm coax to the shack from the antenna. If you cut multiples of 1/4 wave length, you can run the coax direct to the radio, or S.W.R. meter. In other words, the line must be 1/4; 3/4, 1 1/4; 1 3/4, etc long. If the antenna is 1:1 S.W.R. then it will show 1:21 S.W.R. at the radio.

I have used all 75 ohm coax on my 75 meter and 30 meter delta loops and it works just fine. You will be able to run full power output from your amplifier, 1500 watts, on 75 meters and 160 meters. On 40 meters, I feel safer at 1200 watts output. That is if you are using RG-59 Coax. Same coax that you use on your TV set.

Also keep in mind to use the velocity factor when cutting the cable.

EXAMPLE:

You want a 1/4 wave stub for 7.15 Mhz.

246 divided by 7.15 Mhz = 34.4 feet.

34.4 Ft times .79 (Velocity Factor of RG59 Foam) = 27.17 Feet.

27.17 Feet = 1/4 Wave stub. 3/4 wave line = 81.51 Feet.

Will that much coax take you to your shack? If not, make it 1 1/4 Wave length long.

Now comes the good stuff. Not everyone uses loop antennas, which are about 100 ohm antennas. We like to use 50 ohm antennas. Don't we all? Now hat can I do to save money because I got a great buy on 75 ohm coax at the last hamfest? Did you know that if your antenna is 53 ohms at the feed point, at lets say 7.150 Mhz, then if you cut apiece of 50 ohm coax exactly one wavelength long, don't forget the velocity factor, the impedance will also be 53 ohms at the other end of the coax. Now comes the good stuff. What can I do with my 75 ohm Coax? I'm glad I asked!

If you put a piece of 75 ohm coax, one wavelength long, don't forget the velocity factor, in the same place the 50 ohm coax was, you will also see 53 ohms at the station end of the coax. So if you have a 75 meter dipole and you have a lot of 75 ohm coax, you can now use it.

EXAMPLE:

One wavelength of 75 ohm coax for 3.8 Mhz

984 (1 wavelength) divided by 3.8 Mhz = 258.9 Feet.

258.9 Feet time .79 (Velocity Factor) = 204.57 Feet.

SO, if you use a piece of RG59 TV cable, 204.5 feet long on our 75 meter antenna, you will get the same match as if you took your radio and hooked it up to the feed point of the antenna. You don't have to use pieces one wavelength long. They can be multiples of 1/2 wavelengths.

In other words, 1/2, 1, 1 1/2, 2, and so on. Radio shack has adapters to go from "F" connectors to PL259's. I hope that this will put that 75 ohm cable to good use.

73 de KU3X

Digital Communications
by
Joel, K9TBD

Proper Format of Text

Here is a response to a question from a new packet user curious about using Word Star for preparing text for transmission on the radio.

Hi Walter, If you want to send anything on any mode on Amateur Radio - it should be pure ASCII. If you use WordStar - do your editing in non-document mode and don't put in anything special (like centering or dot (.) commands). After you have saved your text from WordStar, run the program calaled WS2ASC (standing for WordSart to ASCII) and that will translate the file from WordStar to pure ASCII .

You see, WordStar and other word processors usually jam the high order bit on ea ch lead character of each word to use that bit as a flag to tell where the start of a word is. That (high order bit) messes up transmissions on packet (or for that matter RTTY, AMTOR, etc.) really badly. Those characters are taken as special or control sequences and may latch up you system as well as other systems (i .e. the mailbox).

Another utility to do the same thing is the utility (under DOS) called T. T is like Type, in that you can do the same thing - i.e. strip the high order bit on all characters and redirect your output. That is also what WS2ASC (WordStar to ASCII) does.

Another utility to do the same thing (strip high order bits) is the utility (aga in under DOS) called F. F stands for Filter, it will change files from WordStar to pure ASCII and v.v.. One more utility is mine called LST which has a mask (default at 127 decimal) to strip everything to 7 bit ASCII. It may be found on various land-line BBS's as LIST or LST. It does some more things than just translating WordStar (or for that matter any standard word processor output - to pure ASCII).

Please reread my article about a year or so ago in the W3OK newsletter on File C onventions. Please send everything as pure ASCII (7 bit). If you have almost a ny word processor on nearly any machine they have a "print to disk" function. U se that function and most of the translation will be done for you.

One more thing to think about: If you are going to send a long file (say one or more pages) you must go into hardware handshake mode so your system will hold o ff while the last packets are being send (for that matter - similar thing on RTTY or AMTOR). The XON and XOFF modes are only so good and you do have to go to CTS/RTS (Clear To Send / Request To Send) modes on your box. These are real hard ware handshake signals and work just great. If you have a C-64 please ask me fo r a program that does just that (my brothers "Blaster" terminal emulation program - it's got 40+ kBytes of buffer - unbelievalbe for a C64).

Please reread the article about sending "Pure" ASCII files from the W3OK newsletter last year by - K9TBD.

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DLARC TEST SESSION REPORTS
by Don KC3II

How are we doing as VE testers? That question is often asked. You be the judge.

The Delaware-Lehigh Amateur Radio Club test session on December 3rd showed the following results.

7 Candidates-3 Upgrades
2 Theory Credits

There were no club members this month. For the year these are the statistics:

73 Candidates-43 Upgrades
18 Theory Credits issued
11 Club members upgraded this year.

Next session: January 6 with VE Team 1 attending.

de Don KC3II

7X - Algeria - 7X2ARA, the Club Station, is on 28.535 MHz from 1500 UTC. QSL via CBA.

V2 - Antigua - Look for W4LZZ/V21 on 28.561 MHz at 1455 UTC. He may be signing V21ZZ soon. QSL via W4FRU

BY - China - BY4AA is near 21.235 MHz most days from about 2300 UTC. QSL via Box 205, Shanghai, P.R.C.

KC6 - E. Carolines - KC6TO is regularly near 28.030 MHz listening up 3 to 5 KHz from 1900 to 2300 UTC. QSL to the 1989 CBA of KX6DS.

GD - Isle of Man - GD4UOL/A on 14.009 MHz from 1300 UTC. QSL via GD bureau.

JD1 - Ogasawara - JH7EAY/JD1 on 28.536 MHz at 1330 UTC. He will be there until April. QSL via the JA bureau.

VR6 - Pitcairn I. - VR6HJ is near 28.510 MHz from about 2130 UTC. QSL Helen to P. O. Box 24, Pitcairn Island, via New Zealand.

FP - St. Pierre I. - FP5HL on 28.035 MHz at 1645 UTC. QSL to Box 1107, St. Pierre Is.

9J - Zambia - 9J2BO on 28.550-565 daily from 1800 UTC. QSL via W6ORD.

4K - Antarctica - 4K2YL (home call RA3AM) has been reported on 14.205 MHz at 1700-1800 UTC, 14.005 MHz at 1245 UTC and 14.010 MHz at 2200-2300 UTC. She may be the first Russian YL to operate from Antarctica. QSL via UW3TW.

UAØY - CQ Zone 23 - RVØYF from rare zone 23 has been reported on 7.006 MHz around 1200 UTC. UZØYWA is on 14.011 MHz at 1200 UTC and UAØYAL on 14.039 MHz at 0245 UTC and 14.022 MHz at 2200 UTC. Zone 23 calls from Asiatic USSR have a "Y" as the first letter of the suffix.

FO - Marquesas I. - FO5LZ operating from Marquesas I. in French Polynesia may qualify as a new DXCC country under the 225 mile separation distance from the "parent" country DXCC rule. The same rule is being applied to the recent Rotuma I. operation of 3D2XX.

4J - Malyj Vystoskij I. - The operation from M-V Island last July counts as a new DXCC country. In case you missed it, another DX-pedition is being organized for early Spring 1989. Do not submit QSL cards for this one to the DXCC desk before 1 March 1989.

RTTY - 20m RTTY (UTC) except as noted: CT3BX (1415 - 10m - QSL to CT3EE) ... EA8JG (2050) ... EL2JJ (2055 - 15m - QSL to KNØJ) ... FO5LO (0615 - QSL to Box 4694, Tahiti) ... GIØHCJ (1105) ... HG8FH (1430) ... NY6M/KH2 (0100 - 10m) ... LX1DA (1415 - 10m) ... OX3FB (1405 - 10m) ... P21DX (0140) ... RM5RY (2015) ... T53RC (2200) ... T77J (1915 - 15m) ... TF3LB (1305 - 10m) ... UA3KAR (1040) ... VU2LO (1225 - 10m) ... YBØARC (1325) ... 4X1KP (2035) ... 6W6JX (1800 - 10m) ... VK6ZQ (0130) ... RF8F/UA3TT (1300 - 15m) ... 6Y5SG (1330) ... GW4GJT (1430 - 10m) ... YO2IS (1545 - 10m)

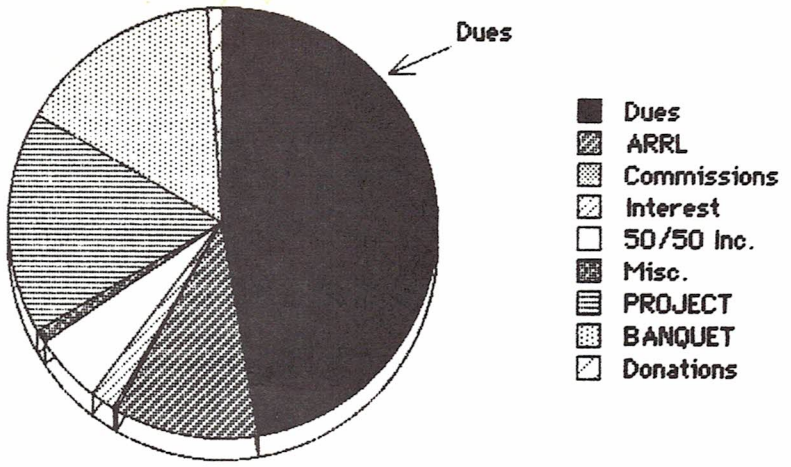
73 de AJ3H

YANKEE DOODLING

Here's a quick look at how your radio club did last year. When we hear a monthly Treasurer's report, we don't get the whole picture. The bottom line? No dues increase now, but sell those raffle tickets, support the 50/50, and please pay your dues on time! 73 & Happy New Year de K3YD.

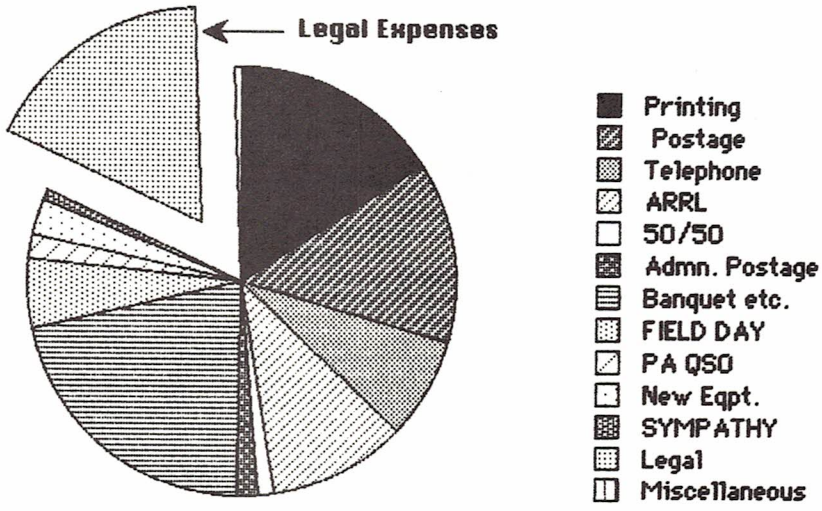
DLARC FINANCIAL RESULTS
ANNUAL SUMMARY AND ANALYSIS
RESULTS FROM 11/87 TO 10/88

INCOME	Total Year	Equiv. Mbr
Dues	$2688.00	224
ARRL Dues Collection	$617.00	
ARRL Commissions	$11.00	
Interest	$109.77	
50/50 Income	$293.00	
Miscellaneous	$45.00	
Project Income [NET]	$966.00	
Banquet	$880.75	
Donations	$86.00	
TOTAL INCOME	$5696.52	



1988 DLARC INCOME SOURCES

EXPENSES		Cost/Mbr.
Newsletter Printing	$858.60	$3.83
N.letter Postage/Labels	$746.23	$3.33
Telephone	$406.25	$1.81
ARRL Membership	$575.00	$2.57
Admin. Postage	$66.00	$0.29
50/50 prizes	$85.11	$0.38
Banquet/Party/picnic	$1155.22	$5.16
FIELD DAY	$281.52	$1.26
PA QSO PARTY	$91.24	$0.41
New Equipment	$152.90	$0.68
SYMPATHY	$46.50	$0.21
Legal Expenses	$950.00	$4.24
Miscellaneous	$53.84	$0.24
TOTAL EXPENSES	$5468.41	$24.41



1988 DLARC EXPENSES

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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1989

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Vice President - Ray Bilger.....W3TDF..346-7313
Secretary - Michael Schooley.....NQ3D...253-2239
Treasurer - Roy Buss.....KA3MNY.759-2674

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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
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THE DELAWARE-LEHIGH AMATEUR RADIO CLUB, INC.

NEWS

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