THE DELAWARE-LEHIGH AMATEUR RADIO CLUB, INC.

NEWS

RD #4
GREYSTONE BUILDING
NAZARETH, PA
18064

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* MAY 3, 1990 *
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HOW TO GET THAT QSL FROM THAT RARE DX STATION

DOUBLE HEADER MEETING
by Bill, K3ANS

Harry T. Burhams, Jr., W3FM will speak on QSLing at the May 3, 1990 meeting of DLARC. Harry is from Malvern, Pa. and was active in running the QSL bureau for the third call area under the leadership of W3KT. He was also a member of the Frankford Radio Club when it managed the QSL bureau. A long time DXer, Harry will speak about the best ways to get the QSL from that rare, new country you just worked.

Thanks to KO3M, for bringing Harry to us.

The regular meeting starts at 7:30. Prior to the meeting, Chuck, N2FUO, Sales Manager of Hamtronics, Trevose, Pa. will bring the latest ham radio goodies for us to play with. He will be ready at 6:00 PM to show the new Kenwood TS-950 and TS-950DS, the Yaesu FT-1000, and other radios you need. This will be a great meeting will a double-header. The meeting will be held at the Greystone Building, Nazareth

de Bill, K3ANS

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WHAT A MEETING!

The April meeting was one that anyone who attended will not forget. With the presentation of the Nittany Radio Club Award, to us by its president, WB8EIY, as the winner of the PAQSO Party,



This was followed by one of the highlights of our year with a talk by Kay Craigie, KC3LM, Vice-Director of the Atlantic Division of the ARRL..Her comments on the problems facing United States Amateurs was enjoyed by the 65 members and guests present. Ray says get ready for this year's contest.

A WINNER IN MANY WAYS
by Ray, W3TDF

If you read last months news letter and if you were present at last months meeting, you will know we won the PA QSO PARTY. How well we won is shown below:

The results should have been received by all participants by now. Contrary to the published results, we had 60 members participating. (KB3RI was listed twice). The notable statistics are as follows.

Our score was about 1.6 million!

New all-time records were set in 24 counties, 4 of which were set by DLARC members. (I'll have a new record list available at next meeting).

The significant accomplishments of our members are; 7 county winners; Carbon(**KO3M**), Cambria(**W3TDF/3**), Elk **N3IK/3**), Lehigh(**W3LR**), Monroe(**KB3TS**), Northampton(**K3ANS**) and Pike-(**KA3OEG/3**). **N3EOF** was first in QRP. (5 DLARC entrants), **W3TDF/3** - 2nd in Portables(2 other DLARC), **KA3TIU** - 3rd in Novice-/Tech(9 entries by DLARC), **KA3OEG/3** - 4th in Multi-Single(2 other DLARC), **W3TDF** worked all counties done by only 13 other entrants. **WD5BRP** 10th in Mobile Division(6 DLARC entrants).

There were 8 counties with winners scores of less than 10,000 points! There were 15 counties with 3 or less entrants, and if not for the mobiles there would have been a lot more. Next Party - Oct. 13/14 - GET READY.

de Ray, W3TDF

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CLUB BANQUET

Remember, the Annual Club Banquet will be held this Saturday night, May 5th. There is still time to get in touch with Ray, W3TDF and make your reservation..Remember $12.50 each for a great family style Dinner.

We can only handle 120 people..Be sure to be one of them. de W3PYF, Clarence

Hints on TVI/RFI & CATv

by Chris Crosby KA2RAF

One of the many questions I have received since taking the job of ARRL TC/SNJ has been "why do I have TVI?" Well, there are some real obvious places to start in the investigation of TVI complaints. Most hams are well aware of the most common fixes for MINOR TVI/RFI disturbances but MAJOR disturbances do not go away with easy work. It takes time & thought to track the evil demon but it can be a little easier to find than you think.

Let us consider the case of transmit interference to a neighbor's TV. It is the most common and will bring a smile to some and tears to others.

The first place to start: The Station Ground

Is it ground or a ground radial?

More often than not, BEST is not EASY. If you use a cold water pipe, unless you are next to the well's final plunge or close to it, you are too far. The best is a ground rod and some heavy braid or stranded conductor.

If you are a basement dweller, it will be work but you may consider a floor bore through the concrete. Hidden in a corner, it will pay for itself. You must have a good earth ground to run any large power amplifiers. Moist earth is preferable to dry sand. Take this into consideration when selecting a perspective ground rod site.Enough said, I know you all have heard it before, just some different thoughts found through my own experience.

The next thing to think about is: Antennas

Aerial or Underground?

This can be a MAJOR consideration since you emanate and receive electrical energy from this point in a radio system. The first you have heard before. What is the SWR on the antenna? Is the antenna in any proximity to the receiving antenna? Does the complainant have an Antenna Preamp or Cable Television installed in their home?

Usually hams like to get the antenna way up high but we don't always have our dreams fulfilled. No 100'oaks, so we deal with the problem at a realistic 30-40' level and works great for wire antennas but having them parallel to telephone and cable runs has been found to be a Trouble Zone! A typical situation is a 160 Meter "V" next to a neighbor's telephone run. Moved one leg of the antenna and the interference was gone.

I am going to explain CATV or Cable in finer detail since a MAJORITY of past instances have been related to cable television installations. I have assisted many people with regard to this facet of interference. I have also worked in the CATV industry,therefore, I have a lot of hints to share with you.

If the complaint comes from someone with cable, is it overhead or underground entry? They both have the same characteristics but the plan of attack is different in each instance. All cable systems are subject to massive leakage. If our stations had 1000's of cable connectors, they would leak too!

Think of what cable is: a matrix of RF cable, amplifiers and signal splitters to complete a signal path. Ahh! think of it as a giant RF swiss cheese! The problem is that if the cable system leaks out signals, we can leak in signals as well. Open shields and oxidized connector's are commonplace in the CATV industry because of the lack of Good Installation Practice. This is present in almost ALL above ground systems. Underground systems are less prone to this problem since they use aluminum hardline and better quality connectors as opposed to aluminum foil coax and tinplate connectors in above ground systems. Once your signal enters the system, it is amplified & amplified & amplified! Everyone,s TV is different but all you need is one guy who don't want to hear why his $22 TV can't compete with your "!@$%&*&%$#@! radio!" Cable TV companies are just as liable for their transmissions as we are but we are easier to blame. You must make sure your cable company is clean & tight or you stand to loose your credibility as a ham! If you have a 2 meter or 220 MHz handheld and an external antenna(preferably directional), please try this:

1. Connect your handheld and antenna so that you can easily take it outside.
2. Tune to the picture carrier frequency(*) +or-30 KHz(depends on local company). The frequencies are:

Cable Channel	Video Channel	Color Channel	Sound Channel
E	*145.250 MHz	148.830 MHz	149.750 MHz
J	217.250 "	220.830 "	221.750 "
K	*223.250 "	226.830 "	227.750 "

* - Denotes places where a 30 KHz AM carrier can be found in the Amateur bands. All other frequencies for information ONLY!

If you tune to (*) frequencies and hear a wide, open carrier, you are hearing the cable company's signal leaking from somewhere. By using the directional antenna, you can 'DF' the source(s) easily using an attenuator if necessary. If you detect and note leakages, Please call your local company and MAKE SURE THEY SEAL THE LEAK! I have heard pro & con on Field Engineers of such-companies. Be POLITE and tell them you are a ham and you have found some leakage. You may be asked to or find a chance to demonstrate this method for them and get it fixed immediately. Some companies have leak detectors but never use them. In some instances, the detectors will not be believed by the techs because they go off so easily. That will be your que' to show them it is TRUE! If you tune to (*) frequencies and hear nothing, don't be depressed, this is one you won't want to hear!

Be very careful not to think this is the only reason you have TVI/RFI but a well informed operator is the best defense in case the finger points at you. I do not lay all the blame on the above subjects, however, this article is written to expose some facts which have been ignored or hard-to-find.

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VAL SEZ

by Val, W3EFL

WHAT HATH GOD WROUGHT?

On the 24th of this month, hams should celebrate a 146th anniversary. On May 24, 1844, Sam Morse ended years of living hand-to-mouth on his income as an artist, reaching a payoff to his experiments with the new-fangled notion that electricity traveled along wires. He sent the world's first telegraph message along 40 miles of wire between Baltimore and Washington. His words: "What hath God wrought?"

The effects on the world were not exactly instantaneous. Ten years later, Senator Gwin (California) was still trying,, unsuccessfully, to convince the U.S. Congress of the marvelous communications potential of the Pony Express. Private enterprise come through, however, and in 1860, the country marveled at the speed with which Lincoln's inaugural address reached all the way from Mississippi to California. Relays of horses got it there in only seven days and seven hours.

The Pony Express headed for the history books a year latter. Telegraphy finally triumphed with the 1861 opening of a 3,595 mile cable between New York and San Francisco.

de Val, W3EFL

RECEIVERS

by Van K3CP

Ima Lidd and Elmer had discussed tuned circuits in their last session. Elmer had explained how the proper values of capacitance and inductance could tune to any frequency desired. "Elmer," asked Ima, "how does the signal get to the headset or loudspeaker?"

"Let's start with the front end and trace it through the various circuits necessary to transform the signal from radio frequency (RF) to audio frequency (AF)."

"I often thought about that, but I was afraid to ask. It seemed to me to be very difficult to understand all the processes that were required to make a radio receiver work."

"It's not all that difficult," replied Elmer. "We have already discussed capacitors, resistors and inductors." "Yes, I know we have and I have a good understanding of how they work, but how about all the other components in a radio?" Elmer said "The only other components in a radio are either transistors or tubes and you don't have to have a complete understanding of how they work. We will talk about WHAT they do rather than HOW they do it. We will confine our discussion to solid state devices rather that vacuum tubes since transistors, diodes and integrated circuits are used almost exclusively."

Why are transistors and diodes called solid state devices?" asked Ima.

"Good question, Ima," replied Elmer. "The conduction takes place in solid material (Silicon or Germanium) rather than in a vacuum as is the case with vacuum tubes. A transistor usually amplifies a signal or switches a circuit on or off. The most common uses for diodes are as rectifiers and detectors. We will discuss their functions a little later in our talk." "OK," said Ima, "What about integrated circuits? They are a mystery to me."

"Everything is a mystery until you understand it," Elmer responded. "Integrated circuits are made up of many, many transistors, diodes, capacitors and resistors all integrated or united together in one chip of silicon. Although the package that contains the chip is an inch or two long, the actual chip is only about one tenth the size of the package. The small size of the chip presented a problem to manufacturers so the engineers "amplified" the package to make it manageable on the production line. Advances in handling techniques have now done away with the need for the package and the chips are bonded right on the circuit board. This is called surface mount technology (SMT)." "Do you mean that integrated circuits are made up of transistor, diodes, resistors and capacitors? IC's seem so complicated."

"They are complicated, but you don't have to understand how they work. We just need to know what they do.

"Let's start tracing the radio signal through the receiver. Pick a signal you want to hear," stated Elmer.

"How about WWV on 10 megahertz." said Ima.

"That's a good choice. WWV is the National Bureau of Standards frequency and time standard. The signal (along with many others) is picked up by the antenna which should be resonate to 10 Mhz. The desired signal is selected by the tuned circuit we discussed last time. It is then directed to an RF amplifier. This is a transistor stage that is designed to work at this frequency and signal level. The amount of amplification is in the order of 100."

"What signal levels do we encounter at this stage?" asked Ima. "It varies," replied Elmer. Several microvolts to a hundred or so millivolts."

"Then a hundred microvolt signal would be amplified 100 times in this stage," said Ima. "Let me see. That would be .01 millivolts. That's still a small signal. Boy oh boy. All we have to do is use several of these stages and we will be able to hear the weakest signal on the air. Is that right?"

"No," replied Elmer. "Unfortunately there are other factors other than amplification (gain) to be considered. Gain is cheap. The most important consideration is signal to noise ratio. Each transistor and the other components generate noise. The overall sensitivity is determined by the amount of amplification to the desired signal in comparison with the noise generated in the entire receiver." "I see," said Ima. "We don't get anything for nothing. So how do we get the best performance out of our receiver?" "We will discuss that at a later session," said Elmer. "I understand what you said so far," said Ima. "I'm just afraid that it's going to get complicated."

"Not to worry," stated Elmer. "It's not that tough and we will proceed slowly."

FEBRUARY VE TESTING
by John K3GQJ

It sure was a busy session at the April VE testing section at the Northampton County EMA headquarters.

There were 20 candidates who passed 20 elements with 11 Upgrades and 1 new novice.

Congratulations to the following who already hold licences:

KA3VVD to Technician
KA3VRQ to Technician
KA3VQL to Technician
KA3VVD to Technician
N3HKY to General
N2GST to Advanced
WB2WPU to Advanced
N3GKV to Advanced

Others passed direct to Technician and Novice. Their calls will be announced after they receive their identifications.

VE's in attendance included: NX3R, W2CCE, K3PGW, NE3K, W3APE, W3TDF, KD3HS and K3GQJ.

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FOR SALE

Kenwood TS520SE w/CW Filter, VFO520, SP520, MC50..$500.00...MFJ 1224 RTTY/CW/ASCII intefrace w/C64 Software $45.00...K5B Lil Bugger keyer w/HK-1 HamKey paddles $35.00...Radio Shack 12v/12.5 Power Supply $15.00...Contact KD3LW, Richard Zella, 437-7949.

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RAMBLING ON
by Dewi, N3FNW

It has been a few months between my writings but I found a couple of minutes this evening to provide you with an update. We have been busy here at the ranch. In November I underwent surgery for a hernia repair and I provided a graphic description to Clarence entitled "My Antenna." I was sure that he wouldn't publish it even though he said he would but my prediction prevailed, so there.

As soon as I could get around, Christmas started and you wouldn't believe it if I told you. Just a reminder, Ida hates to shop, period. Now you fill in the blanks. During the Christmas rush a package arrived from California and of my "spare" time was consumed by the contents. It was a manuscript of a book written by one of Hollywood's greats and I provided a critique on it for him. This finished, another series of books arrived from several agencies of our government. They too wanted my input so I proceeded to prepare the information for the I.R.S., Penna. Dep't of Revenue, etc. etc. By the end of January I had mailed out sixteen envelopes pertaining to 1989 taxes. Did you ever notice, every year they reduce paperwork and the tax reporting requirements increase??

Dewi's job jar provided the necessary input to prove the domino theory. The Master Bath needs painting, so I proceeded to fulfill it's needs. Now the light fixture and medicine cabinet, age about forty years looked terrible so off to get new. The stocks of at least a dozen stores could offer none of the required sizes so I decided to refinish what we have. This finished, the Master bedroom looked somewhat shabby so guess what, you got it. Now the hallway and cellar way took on a stained and discolored appearance so off to the paint store again. Notice how the little dominoes keep falling down? The vanity in the family bathroom looks like a forty year old vanity. So far, at least eight supply houses cannot supply a suitable replacement. It's a bastard size and a cabinet maker's dream come true. Now I can fool the guys in the Yellow Pages, I too am a frustrated cabinet maker. With golf season a little more than a month away, I guess I better get busy.

In the middle of this a letter arrived from my friend in California. It seems that he wants Ida and me to collaborate with him on a new book that he is writing. He even sent a copy of chapter one. With the initial information that I sent him we concluded that he probably will have to make several changes. He said that he is going to include us on the 'dedication page'. Of course I told him that if it becomes too dirty to forgo that honor.

Did anybody ask what contacts I have made on HF lately? Read the preceding four paragraphs and look at the pile of stuff on my desk waiting for my expertise.

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WANTED!

I need someone to help me fill out QSL cards. I will supply everything. I don't have the time, and any help will be appreciated.

de K3OO, Rick

by Bob Scupp WB5YYX

Sporadic E-Layer Propagation, or "E's", have been the study of scientists and radio amateurs for several decades. What we know to date is that while Sporadic-E does not bare direct correlation with the 11 year Solar Cycle, it sometimes does relate to Solar activity. In addition, ionospheric disturbances can occur that have no correlation to extra-terrestrial phenomena, yet some say are caused by thunderstorms , which create "E's". But before I get too involved, let's start from the beginning.

The E-layer of the ionosphere is the lowest ionospheric layer which can reflect radio waves (below 30 MHz) back to earth. It is approximately 65-75 miles above earth and most active during local daylight hours, although I personally have noted some exceptions. When local sunset occurs, incidence of Sporadic E's are greatly reduced do to a change in solar angle, radiation levels and solar winds effecting the ionosphere. It is believed that Sporadic E's are created by the "wind shear effect". This occurs when ionized particles are trapped between two layers of solar wind of differing directions. The result is an intensified electromagnetic field, thus pushing its Maximum Useable Frequency (MUF) above 50 MHz and beyond. It was thought that Sporadic E's were "clouds" or boiling masses of rich fields with high electron density. However, more recent evidence suggests that they are in fact "sheets" rather than "clouds" and the solar winds that create them are horizontal and not vertical in movement. It is interesting to note here that how Sporadic E-layer propagation is generated is still only theory and not a proven fact.

The Sporadic E season is between May and August each year and they are most likely to occur during the late morning or early evening hours. Once again, however, they can also occur at any time. While there is a minor season peak between December and January, chances of an opening during the winter months are far less than during the summer. Subject to many variables, Sporadic E's can vary greatly in intensity, polarization and size. Usually, a Sporadic E "sheet" is about half a mile vertical and sixty miles horizontal in size, although this may vary. Signal strength can be strong or weak and vary in-between, seemingly disappear and regain intensity covering different geographic "sheet" is active extended propagation from many locations are possible. Openings may be brief or last several hours and cover distances of 1300-2500 miles, especially if more than one Sporadic E source is available. One can see that Sporadic E's have been appropriately named.

One of the best indicators of the coming of Sporadic E-layer openings is watching TV channel 2 direct or listening to VHF low band (30-50 MHz) commercial communications. The 6 meter amateur radio band (50-54 MHz) is best suited for Sporadic E's. Stations usually communicate slightly above 50.1 MHz on voice via single side-band (ssb) or by cw (morse code). Signals have rapid-flutter or watery sounds when Sporadic E's occur or can be steady. Occurrences on the 2 meter amateur radio band (144-148 MHz) are much less frequent and very rare on the 1.25 meter amateur radio band (220-225 MHz). This article is by no means complete, but is simply an introduction into the world of VHF and above radio wave propagation.

Happy DX!

de Bob WB5YYX

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IN MEMORY
RICHARD JACOBS
KB3TK

1932 - 1990

SILENT KEY
April 15 1990

On Sunday April 15th, one of our members, Dick Jacobs died at Allentown hosptal from Pneumonia.

Our deepest sympathies go to his wife, Sandra and his two children. He shall be missed by all of us. SHALOM

de W3PYF

AMTOR PRACTICE

DIGITAL COMMUNICATIONS

by, Joel, K9TBD

AMTOR (Amateur TOR - Teletype over radio) was started in 1977 (in the Amateur circles). This method of digital communications added to the RTTY methods an error correcting method to the already popular Teletype mode. Remember the days of copying pictures on RTTY? I spent two entire weekends copying the Olympic pictures from Lake Placid (NY) on RTTY. If those Olympic (great pictures) were sent today, it would have only taken the time to send them - not the time to retransmit the sections that were taken as hits! AMTOR is a slightly different code (from RTTY) that has an error correcting technique added to the regular transmission of information bits. AMTOR is a seven-level code (RTTY is a 5 level code) in which four bits are one way (one or zero) and the other three bits are the other way (zero or one). It does not make any difference which way is up - rather it does make a difference that the receiver recognizes that the wrong proportion (on a character basis) is received.

A burst of three characters is sent. The receiver (in mode A) determines if the right combination of one's and zeros for each character is received. If that is the case, a special signal called an ACK (acknowledge) is sent to the transmitting station. The transmitting station will then send the next three characters. Maybe if you have been listening to 20 meters and have heard the "chirp chirp" you have been hearing the intimate communications between two stations in ARQ (Automatic ReQuest - Mode) talking to one-another. If the receiving station did not get the proper set of one's and zero's ... it will ask for a retransmission - called a NAK (Negative Acknowledgement). A retransmission of the prior sequence will be initiated... All automatically!!!

There is another mode called FEC (Forward Error Correction) mode. It does not expect the receiving station to send anything (i.e. a request to send again). Quite often you will send a CQ using this mode ... The receiving station will answer in the "linked" mode of ARQ and intimately tie the two stations together. Once tied together, the linked stations will "chirp" back and forth in mating calls of the 'crickets'. Errors are detected from the receiving station and a request is made for a retransmission. The duty cycle of your transmitter is more forgiving than RTTY in that it is close to 50 percent. Most stations do not have to modify their transmitters to accommodate anything unusual (in terms of duty cycle in AMTOR). The exact duty cycle can be gleaned from the technical articles in your modem book.

Caution: Mode B (like when you call CQ) is continuous duty! You may fry your transmitter calling CQ too long. Mode A (when linked) is about 50 percent duty cycle so don't worry even though your transmitter is going "clickie-clickie" all the time - it is only 50 percent duty cycle at worst!

Ok, Enough about the technical side of AMTOR. How do you get going say on 20 Meters? Here are a few tips:

o Listen before you leap!

o If you wish to answer a station then (whatever your box wants) answer in ARQ mode with the callers letters. (By convention - these letters are: the first letter of your call followed by the last three letters) For example K9TBD becomes KTBD for your call. (please don't use mine!) If you have a 1x2 or 2x1 call then double the first letter (e.g. N3XY becomes NNXY). You must set your SELCAL (Selective Call) otherwise nothing will work! There is a newer convention for assigning SELCAL letters that does not apply to our locale at the present time thus will not be discussed.

o If you wish to call CQ (just like CW or RTTY or Voice), then go into mode B (FEC), and do just that. If the receiving station figures out what you are doing, they will call you back in mode A (ARQ) and make the connect. Very similar to packet in this regard. You will then be linked in ARQ mode.

o The convention to turn around (OVER) is a +? (plus question-mark). This might seem odd but that is the convention. Just accept it and use it otherwise all stations will become confused, i.e. when you are done with sending your text, just type +? and the other station will know that it is their turn to send.

o Oh My Goodness - how do I stop this link? I M P O R A N T ! This depends on your Box.. I use the PK232 and MBA-TOR....

(CONTINUED ON PAGE 7)

EDITORIAL
by Clarence W3PYF

For nearly forty years the Novice License has opened the world of Amateur Radio for young people still in grade school and junior high because of the basic understandable written exam, and the slow code speed which isn't too time consuming to master. Technician and General exams can be passed by those with a good memory, however, in most cases, intelligent understanding of the technical portion is not a factor for the young would-be amateurs. If the communicator license, as it is currently proposed should become the gateway to ham radio, the written exam will discourage the young prospects to becoming licensed.

Now is the time to express your opposition to the elimination of the Novice Class, before we lose one of the most valuable resources to the continuation of ham radio...THE YOUNG.

The Novice License has given the ham a "taste" of the HF and VHF modes. I'm not saying eliminate the no-code, just don't make it the entry point. Most of us should write a letter to the FCC and ARRL, and our discussion of the matter on the air will stir up our ARRL Directors, and have them voice our opinion. Lets not be silent. This is perhaps the most significant development effecting our hobby.

If you have similar views to mine, put it in a letter to the FCC, and send a copy to me and our director Hugh Turnbull, W3ABC...I will be making up a letter to all to both of these people expressing the thoughts of our club. Those who attended the last meeting heard Kay, KC3LM express the ARRL's feelings on this important issue, let us follow up on them.

My thanks to Harry, K2JOV for some of his ideas for this editorial.

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THANK YOU

I want to thank all in the club who helped me, and congratulated me on the awards I received at the last meeting from Emergency Management and the County Council..Remember it was your cooperation that made a hero out of me. Without the participation of all nothing would have worked...73 and thanks, Clarence W3PYF

AMTOR
by Joel, K9TBD
(continued from Page 6)

Here are the suggestions from the PK232 box directions on how to disconnect:

<ctrl-c> then R to break the link (emergency shutdown)

<ctrl-f> break the link and send your Morse ID

<ctrl-d> stop sending when transmit buffer is empty.

Of course you can always turn your transmitter off and that will break the link, but the other fellow will not time out until his timeout timer is exhausted!

Sorry that this was such a brief explanation of AMTOR but just get into it and play with it and you will get the hang of it! It is one of the most reliable modes on HF for digital communications! RTTY is still popular - try that too! Packet on HF is for the "gunners" - the fellows with the "JUGS" and not us humble folks.

Try AMTOR on HF - you can compete with 50 Watts! No problem!

de Joel, K9TBD

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SUPER GROUND ROD
by Stanley, W3INK.

I was looking for an easier way to ground my tower than to drive another 8 foot ground rod into the rocky ground. I remembered seeing my father-in-law drive a water well 90 feet down by using water pressure. He simply connected his garden hose to a pipe and stuck the pipe into the ground. The water flowing from the open end cleared the dirt out of the way and the pipe went in. I decided to try it with a 10 foot piece of 1/2 inch copper water pipe I had around. As it turned out the pipe just fit into the end of the garden hose. A small radiator hose clamp held it in place adequately. The water was turned on and the open end of the pipe was stuck into the ground. It penetrated easily until it apparently struck a rock at about 9 feet. Since that was deeper than the standard 8 foot ground rod would go, I left it. A piece of 1/4 inch copper tubing was clamped to the bottom of the tower and to the exposed end of the copper pipe ground.

JUST THE MINUTES
by N3EYT, Dave

The April meeting of the DLARC was called to order at 7:30 p.m. by Clarence Snyder, W3PYF. More than 57 members and friends attended the meeting held in the Greystone building at the Gracedale complex in Nazareth. Roy, KA3MNY, read the treasurer's report which was approved as read. The minutes of the March meeting were approved with two corrections.

Old Business

Banquet Report: Ray, W3TDF, encouraged those who want to go to the banquet to sign up soon. There is a limit of 120 maximum for the banquet which will be held at the Camelot on route 378 just north of route 309. The date is May 5th and the price is $12.50. Walkathon: April 28th is the date for the March of Dimes walkathon. Vern, N5IEP, asked for about seven more to help with communications between the hours of 8 a.m. and 2 p.m. DLARC Digi: The DLARC digi was ready to be tested and Bill, K3ANS, plugged it in at his station location for short term testing. Field Day: Coming soon to a park near you. Allen, N3GMI, is looking for some help with the food committee. Can you spare a couple of hours? Contact N3GMI.

New Business

The DLARC welcomes the following new members into the club: Peter Kroeger, N3HWR; and John Reeves, N3GVY. These two new members put club membership at just over 300! Shuttle Program: Two schools, one in Bath and one in Pittsburgh, have asked for low band mobil communication help for their "shuttle" program May 2-3. No volunteers were immediately available.

Shad Tournament: Communication assistance for the April 27th shad tournament is needed.

Club Awards: Barry, KU3X, presented two DX-100 awards. The first to Mike, KD3HN, for J3E/mixed operation. The second award went to Ann, NO3M, for mixed/mixed operation. Congratulations! More Awards: Nick Tylenda, Northampton County Coordinator of the Emergency Management Agency, made several special presentations to Clarence Snyder, W3PYF, for his many dedicated years of outstanding service to Amateur and civil radio communications. A proclamation honoring Clarence for his service to Northampton County was presented. (This appears in the April DLARC News). A certificate of appreciation was also presented as well as an ELMER award from the Northampton County EMA. Finally, a plaque from the people of Northampton County was presented. Thank you, Clarence.

PA QSO: The president of the Nittany Amateur Radio Club presented the DLARC with the first place trophy for the PA QSO Party. The club did it and everyone should be proud. Final Award: Clarence presented Ray, W3TDF, with a certificate of merit for outstanding leadership in the PA QSO Party. Program: Kay Craige, KC3LM- Vice Director of the Atlantic Division for the ARRL, spoke about the future of the 220 MHz band, Spectrum management as a world issue, and the FCC proposal on a "no-code" license.

de Dave, N3EYT

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DO YOU STILL WANT 6 METERS?
by Bill, K3ANS

Lawrence J. Tighe, Jr., President of WRNJ-AM radio station of Hackettstown, NJ, petitioned the FCC to take away the amateur radio 6 meter band for low-band commercial radio FM broadcasting. Tighe is an amateur radio operator, K2JTA (turncoat). He believes we are not using the 6 meter band to its fullest potential, and therefore do not need it.

See a recent issue of Popular Communications for the full information, or write Mr. Thomas Kneitel at Popular Communications for the information. 76 North Broadway, Hicksville, NY 11801. Kneitel is also an amateur, K2AES, who does care about losing our band. Apparently Tighe has received only about eight cards against his proposal and he feels that the amateur radio community could care less if we lose the band or not. If you care, you should write to him, c/o WRNJ Radio, P>O> Box 100, Hackettstown, NJ. 07840. Since we are so close to Hackettstown, you should consider personally visiting him to correct his assumption. He probably received little opposition since his proposal had little publicity, until now. It was announced in The Dx Magazine, April, 1990, page 28.

It is doubtful if the FCC would ever take any action on his petition, because this band is internationally established by WARC conventions. However, who is to say if the FCC would support the continuation of this band in this country at future WARC conventions, if there were a big interest in converting it to other uses. Mr Tighe has used our meager responses as justification for his petition for reconsideration at the FCC. It is a good idea if you also send a copy of your objections to the FCC, so that they will know we are awake and concerned. Another 220 MHZ deal?

Be sure to tell you friends who are 6 meter fans. Best of luck. Bill, K3ANS >>

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REMEMBER IF YOU ARE JOINING ARRL OR RENEWING, GIVE YOUR MONEY TO ROY, KA3MNY, THE CLUB BENIFITS FROM THIS.

YANKEE DOODLING

"THE DLARC ALTERNATE REPEATER IS 145.11." I was sitting in a DLARC meeting a month or two ago and a friend leaned over and asked me, "Why did you make '.11 the alternate repeater?" He continued, "You know, I can't hit the it from over in Clinton, or up in the Slate Belt." Before I could answer him, the meeting started and I was never able to answer him. Anyway, here are some of the things which the Board was thinking about when we designated 5.11 as the alternate machine.

DLARC IS A VERY BIG RADIO CLUB, the biggest general interest amateur radio club in eastern Pa as far as I know. We are 300+ members and according to our recent survey, nearly every member with a Tech or higher class license operates 2 M. FM--say, about 270 of us. If everyone of us operates on 146.70 sometime between 6 A.M. and 1 A.M. the following day, we can each have about 4 minutes of repeater time.

MOST LARGER CLUBS OPERATE OR SPONSOR MORE THAN ONE REPEATER. For example, the Nittany Club has 2(.76 & .85), Dauberville DX Assn.-2(5.15 & 5.49), Radio Assn. of Erie has 2 (.61 & .82). Closer to home, the Lehigh Valley ARC sponsors 146.94 & 147.135. And, you should hear the 6 repeaters which serve the Columbus, OH area--all sponsored by one club! One repeater can't satisfy the "prime time" demands for repeater use for a large group.

NO TWO REPEATERS HAVE THE SAME COVERAGE PATTERN. There are lots of variables in a repeater such as: location, antenna height & gain, transmitter power, & receiver sensitivity. The key in repeater operating is to use a repeater which communicates between your location and the other station's location. Sometimes there are several possible repeaters, sometimes only one. If 146.70 is the only possible or best communications link, use it! If another, less-busy machine will do the job, and you're gonna be rag-chewing for a while--it's usually better to change frequency. One alternate is 5.11; there are others!

WE'VE BEEN USING 5.11 AS AN UNOFFICIAL ALTERNATE ANYWAY. Both the Sunday morning and Wednesday night net preambles mention the .11 repeater as the place to go "in case of repeater failure or interference." Why not think of it a little more often?

IT WAS AVAILABLE AND USABLE. Several machines were considered as "Official" alternates. One didn't have open access, and we wanted an alternate which could be used by tourists and travelers, too. Another had less coverage than '.11. The 5.11 machine was offered to us, to use and designate as the alternate, with no strings attached. We accepted it on the condition that DLARC be responsible for maintenance & upkeep. We're renting it for the cost of repair bills, and it doesn't break down too often!

PA QSO Party-1989

Unless you've been on a long vacation, you know that DLARC won the 1989 PA QSO party--as a club. In the process, we set a new, all-time club aggregate score of over 1.6 Million points! Some accomplishment. How did we do it?

The big key was lots of club support--from 61 members. The average DLARC score was 26,363 points--lower than the average score of the 2d, 3d, 4th, 5th, 6th, 9th, 10th & 11th place clubs. We just had more scores!

We had our share of BIG-GUNS, too, though. DLARC members or teams turned in the top score from SEVEN of the SIXTY SEVEN counties. The county-winners were:

CALL	COUNTY	SCORE	NOTES
K03M	Carbon	57010	
W3TDF/3	Cambria	107932	
N3IK/3	Elk	41251	QRP
W3LR	Lehigh	119144	
KB3TS	Monroe	76154	
K3ANS	N.hampton	162421	Big Signal!
KA3OEG/3	Pike	83270	w/K3NZ & KC3QO

Three of the top score were turned in by portable stations, either groups or individuals. If you want to feel wanted, a trip to a rare county for PA QSO Party is sure one way to get the feeling. Where to go? Here are some counties where the average DLARC score would have been the county winner:

COUNTY	BIG TOWN/MAJOR ROAD	TOP SCORE
Armstrong	Kittanning (US 422)	1424
Bradford	Towanda (US 6 & US 220)	1970
Clarion	Clarion (along I-80)	16835
Clearfield	DuBois (along I-80)	22484
Clinton	Lock Haven (on US 220)	9652.5
Cameron	Emporium (PA 120)	760
Cumberland	Camp Hill (I-81, PA TPK)	9380
Delaware	Media (US1, I-95)	19789
Forest	Tionesta (on US 62)	3164
Lawrence	New Castle (US 422)	1130
Lebanon	Lebanon (on I-78)	12328
McKean	Bradford (on US 219)	22940
Montour	Danville (on I-80)	13561
N.umberland	Sunbury (US 11 & 15)	14136
Susquehanna	Montrose (on I-81)	22496
Warren	Warren (on US 6)	2240
Washington	Washington (I-70, I-79)	16320
W.moreland	Greensburg (I-70, I-76)	9272

Do any of these give you an idea? A hunting club you belong to, a nice campground you visited, or maybe Uncle Joe & Aunt Jean who live on a farm with a nice windmill watertower perfect for stringing a few dipoles. All you need is a 100 W transceiver + some antennas + a weekend = BIG SCORE & COUNTY WINNER. Reserve your county now, before W3TDF buys it!

Sorry I couldn't do the column last month, I hope I'm never so busy at work again!

05.90 **73 de K3YD**

All Amateur Radio Operators are invited to participate in the DLARC, ARES, EMA 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 published monthly and is the Official Publication of the Delaware-Lehigh Amateur Radio Club Inc.

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1990

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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
RD #4
GREYSTONE BUILDING
NAZARETH, PA
18064

LEHIGH VALLEY,PA 180
PM
28 APR
1990

ALWAYS USE ZIP CODE



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Amateur Radio News Service