

DELAWARE LEHIGH AMATEUR RADIO CLUB inc

MAY 2017



W3OK

CORRAL

**Club Meeting May 4th, 7:30 PM at the
Bethlehem Township Community Center**

MAY MEETING PROGRAM

“DMR: (Digital Mobile Radio)”

MARK / W2MB

APRIL MEETING



“THE WNP EXPEDITON”

PAUL / N3YNT

MINUTES FROM THE APRIL MEETING

A general membership meeting of the Delaware Lehigh Amateur Radio Club was held on April 6, 2017 at the Bethlehem Township Community Center, Bethlehem, Pennsylvania.

Called to Order: Bill / W3MJ, President at 19:30 hrs.

Pledge of Allegiance: Led by Our President.

The President welcomed and thanked all for coming and asked if anyone had anything special ham happenings or events from and for the membership. There was none. And We still need Elmers and the need to get more members qualified for FEMMA ARES & RACES. AI / WC3T announced that we will not be doing the Annual Charity Bike Ride as per the organizers in charge.

Secretary's Report: Lester / W3LES since the March Minutes were published and sent out to all last Month, and as there was no discussion except a correction to be made with Ben's call KB3CTX, a Motion to accept with correction was made from Jay / N3OW and seconded by Ben / KB3CTX, the Motion was so moved by vote.

Treasure's Report: Mike / KB3LOD gave his report and on a Motion to accept from Jay / N3OW and seconded by Jo Ann / ND3JJ the Motion was so moved by vote.

Club Station: Lester / W3LES reported that the Kenwood 590 has been sent back with the updates and repairs and working as per specs from Kenwood. He also stated that there was some old Station business that will brought up under Old Business that is needed at the Milkhouse.

Club Repeater: No report.

By-Laws Committee: Our Chairperson Jo Ann / ND3JJ reported that the updated by-laws are almost done and will keep us updated.

Web Site: Our new Web Master Rich Hurd / WC3T spoke on getting things straighten out, and if anyone finds something on the site that needs to be redone or any info that needs to be updated, send it to him and let him know. He also stated that there is a need to find someone to Help update the content on our page and also contact him.

Membership: Jo Ann / ND3JJ reminded all to see her for membership Cards, address or any update info. Membership applications were presented for two new members John McCarty / KC3OK and Terry Pundiak / N3BDC. Seconded by Mark / W2MB, the motion was approved by by vote.

Classes: Bob / KE3AW stated that the 26 tech are going along fine.

Old Business: The President reminded all that if you need Club Badges please see David / N3EYT. Jay / N3OW reported on the Laptop purchases, stating the ones the committee was looking at are not available and will keep looking. The Station Manager stated that Mark / W2MB of the Milk House Committee has spoken to Barry / KU3X and have discussed and they have decided on the two types of wire antennas and items that will replace privately owned items that were removed during the station transition. Which will be along with coax, connectors, a OCF80, a 2 Band 40/160 meter antenna, and a 5000KW 10-160 meter Balun from Hy Power Antenna Co. These items would provide the club station with the ability to run 3 stations simultaneously. A Motion to accept and purchase the above from Lester / W3LES and seconded by Jo Ann / ND3JJ the Motion was so moved by vote.

New Business: Jay / N3OW said he did some networking for the Club and spoke with the Make Lehigh Valley origazion in Allentown who do kit building projects and we possibly may get involved with them on ham related projects.

Classes: Bob / KE3AW reminded all of the East Hills School Since Fair event upcoming and will be announcing what band / frequencies we will be using though the club repeater, starting time will be 5-8pm.

Trivia: Pete / NL7XM relinquished his part of the evening so the main presentation could have extra time. He did state that the cost of buying pre WWII Japanese QSL cards have gone up in value as there were only about 400 hams back then.

Adjournment: 8:12PM

Respectively Submitted
Lester Morrow / W3LES

VE TEST SESSION

There will be a test session this month on May 5th at 7 PM at the Northampton County 911 center. Pretest registration is required. Contact Dean / N3HOG at dk28@ptd.net

NEW MEMBERS

The DLARC is continuing to grow, so be sure to greet our new members, shake their hands, and give them a warm welcome to our club. The newest members are John McCarty / KC3OK, and Terry Pundiak / N3BDC.



MAY CONTESTING AT THE OK CORRAL

- May 6 & 7 – 10-10 International Spring Contest - CW
- F9AA Cup – PSK
- May 13 & 14 – HPC World Wide DX Contest
- CQ-M International DX Contest
- May 20 & 21 – Aegean RTTY Contest
- Portuguese Navy Day Contest – Digital
- May 27 & 28 – CQ WW WPX Contest - CW



MAY QUICK CHECK CALENDAR

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1	2	3 DLARC Net (KC3II)	4 DL ARC MEETING 7:30 PM	5 VE SESSION	6
7	8 VE-Day	9	10 DLARC Net (N3SQD)	11	12	13
14 Mothers Day	15	16	17 DLARC Net (KB3CTX)	18	19	20 Armed Forces Day
21	22	23	24 DLARC Net (K3PDL)	25 DLARC BOARD MEETING	26	27
28	29 Memorial Day	30	31 DLARC Net (W3NAM)			

WPN RADIO EXPEDITION

From the 1900s through the 1930s, some 40 recognized expeditions occurred, and became increasingly dependent on wireless for communication. For radio amateurs, two expeditions are of particular interest: the MacMillan Arctic Expedition of 1923, which for the first time provided amateurs with an organized opportunity to participate on medium wavelengths,

Amateur in the Arctic Dr. Donald B. MacMillan had experienced eight previous trips to the Arctic, and recognized the value of two-way wireless communication. His two previous journeys had been equipped with conventional long wave transmitters, which were unable to penetrate the screen of the aurora borealis. MacMillan turned to the American Radio Relay League for assistance in outfitting his expedition with better wireless communications — and it was enthusiastically provided. Hiram Percy Maxim and the Board agreed to furnish support as well as recruit an expert operator to accompany the expedition. Donald H. Mix, 1TS, of Bristol, Connecticut was chosen for the task.

The radio equipment used by the expedition was specially designed by League Board member M.B. West and constructed by amateurs at his firm, Zenith Electronics, then an American manufacturing company. The transmitter emitted on 185, 220, and 300 meters — medium wave frequencies — with a total input power to two Western Electric “G” tubes of 100 W. The station aboard the ship was given the call WNP — Wireless North Pole. WNP transmitted weekly 500-word press releases and listings of stations worked and heard. Once received by amateur stations, these reports were delivered to local affiliated newspapers of the North American Newspaper Alliance; from there, they were distributed syndicate-wide by telegraph. Amateur stations confirmed this delivery with the League, which had published detailed directions for this process in QST.

In the process of working various stations, records were set for several aspects of communications. While broken in subsequent expeditions, they showed the world the value of wireless communication.

Fine history lesson from Paul / N3YNT, and another program that should not have been missed.

NEW PRODUCT

A new product is ready to marketed which will revolutionize amateur radio as we know it today. Ask yourself these questions;

Are you bothered by increasing QRM on the bands?

Does your monster antenna array have difficulty turning in high winds?

Does your XYL get after you to clean up the bird droppings under your antenna?

With new **ANTENNA WAX** your troubles are over. Just apply to your yagi or dipole, quad or vertical and you will notice the difference instantly.

Here are testimonials from hams from all over the world.

“With **ANTENNA WAX** I can actually see QRM and QRN slide right off my antenna”

“**ANTENNA WAX** lets me turn my 36 element 20 meter array with an ordinary electric egg beater, even in the fiercest Santa Ana winds”

“Birds don't roost on my beam anymore since I started using **Antenna WAX.**”

The secret formula for **ANTENNA WAX** is rumored to contain a mixture of ordinary household wax, 30 weight diesel oil and powdered QSL cards from Albania. Easy to use **ANTENNA WAX** simply wipes on and lasts 3-4 weeks. It is available in the following colors; Red (for that Russian DX), Green (for Irish DX), Blue (For moonbounce) and Yellow (for generic DX. The cost is only \$19.95 plus S/H at antennawax.com.

MONTHLY BRAIN TEASER

"A special prize awaits the first Club Member to submit the correct answer to this month's Brainteaser to the Pete / NL7XM, *only*, at nl7xm@arrl.net The winner must be present at the next Meeting to receive it, or it goes unrewarded. Officers, Board members, Newsletter staff, and Brain Teaser Authors are not eligible to win."
de Pete / NL7XM

APRIL BRAINTEASER ANSWER



The note said "Question Mark"



The winner is Doreen / K3PDL

MAY BRAINTEASER

A man in a restaurant asked a waiter for a juice glass, a dinner plate, water, a match, and a lemon wedge. The man poured enough water onto the plate to cover it. "If you can get the water on the plate into this glass without touching or moving this plate, I will give you \$100," the man said. "You can use the match and lemon to do this." A few minutes later, the waiter walked away with \$100 in his pocket. How did the waiter get the water into the glass?

REFLECTIONS OF THE PAST



Ed Hart / W3NF's Shack (From the W3PYF Collection)

REVISED MEMORANDUM OF UNDERSTANDING BETWEEN ARRL AND FCC

Still a Work in Progress

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In his remarks, General Counsel Chris Imlay, W3KD, was complimentary of new FCC Chairman Ajit Pai and told the EC he thinks enforcement efforts may be more successful in the future, due to the new chairman's interest in the issue. Imlay also said the new chief of the Enforcement Bureau, Michael Carowitz, is reported to be "amateur friendly." He told the EC that he foresees a potential window of opportunity for improved spectrum enforcement work, as well as the opportunity to build a stronger working relationship with the FCC on all issues.

RUBBER DUCK ANTENNA TEST

Barry G. Kery, KU3X

I was having problems hitting the 146.70 / W3OK repeater using an HT from my back yard, so I decided to invest in a better rubber duck antenna for my three band HT. After searching Universal Radio's web page, I decided to get the Diamond SRH320A. Figuring it was a little longer than the stock Kenwood antenna supplied with my Kenwood TH D74A, I thought it had to be a little better and yet not so long that it looked like a whip used to train horses.

How would I really know if this antenna was better than the stock antenna? My first test was to mount the antenna on a steel framework and use the Rig Expert AA-600 to take some SWR readings. This proved to be fruitless. I tested numerous antennas and the SWR readings did not agree on the better performance I seemed to be getting from the Diamond antenna. Some of the antennas tested showed a very positive SWR dip within some of the bands and others never went below 2 to 1 anywhere in any of the bands. After doing some research on the internet I came across a site where they used a spectrum analyzer to take readings. Sounded like a great idea to me!

Now I made the my tests using a Rigol DSA815TG spectrum analyzer. I attached an SMA antenna mount to a metal cabinet and ran some coax from the antenna mount to the TH D74A. I also put a ferrite balun at the feed point of the antenna. I used the stock tri band antenna off of my Kenwood HT for the reference antenna. All antennas tested use an SMA connector. Keep in mind that the SMA connectors for the Baofeng were backwards. The antenna was a female and the HT was a male type SMA.

Brand and model / Frequency	146.52	223	444	Antenna Length
Kenwood stock tri band (TH D74A)	0db	0db	0db	7-1/4"
Kenwood stock dual band (TH D7A(G))	+2db	X	-1db	8"
Diamond SHR320A	+5db	+6db	+2db	13-3/4"
Jetstream JT776SMA	+7db	+4db	-2db	17"
Pryme RD9	+2db	X	0db	7-3/4"
Maldol MH-209SMA	+4db	X	-2db	3"
Baofeng UV-5R's antenna ***	-24db	X	-27db	7-3/4"
Baofeng no name replacement from Ebay ***	+2db	X	0db	7-3/4"
Nagoya NA519 ***	-1db	X	+1db	8"
Nagoya NA771 ***	0db	X	+4db	14"
Diamond RH901S ***	-34db	X	-4db	19"

X= not designed for this band

*** = Antenna female SMA

I was shocked to see the performance of the little Maldol stubby antenna. I purchased this little antenna many years ago and only used it at hamfest for simplex operation. I found it hard to believe the results and decided to retest this antenna as well as some others. The results were the same for the stubby antenna.

Comparing a three band average of the Diamond SHR320A and the Jetstream, I think the Diamond would be a better choice. For one thing it is 3-1/4" shorter. There's only a 2 db difference between the two models and that's not a lot.

The stock Baofeng antenna is really terrible. My first test showed a 30 db difference. I retested a few times and the above results seemed pretty consistent, 24 db down.

From the results of the test I read on the internet, the Icom rubber duck antenna off of their D Star HT showed close to the same results as I got with my Kenwood stock antenna.

RADIO AMATEURS SUPPORT COLUMBIA LANDSLIDE DISASTER RELIEF AND RECOVERY EFFORT

A disastrous landslide in Colombia overnight on March 31-April 1 left more than 260 dead and devastated the town of Mocoa. Many others are injured or missing, and search crews are scrambling to find survivors in the rubble. An emergency Amateur Radio network was activated on 40 meters (7.093-7.095 MHz, to support the relief and recovery effort.

"The Mocoa and Garzón Fire Departments are aware of the network and also the additional support of HK3NOL, who is mounting additional antennas," said Roberto Rey, HK3CW. "Radio amateurs from La Plata and Garzón were critical in supporting personnel and rescuers," he said. "We're paying attention [to the situation]."

Heavy rainfall in Colombia's Putumayo Province triggered the mud and rockslide after a river burst its banks and debris swept into the town, burying homes and residents. President Juan Manuel Santos declared a state of emergency after visiting the town.

Nearly 1,300 National System for Risk and Disaster Management (SNGRD) team members are at work in the area. A flotilla of aircraft, vehicles, and watercraft has been deployed for the effort. -- *Thanks to UNGRD Director Carlos Iván Márquez Pérez; IARU Region 2*

Silent Key

The D.L.A.R.C. Wishes to honor and to express its sadness at the passing of a former club member,



***Delores "Dee" Navarre
KA3WOB***

ARISS MOVES CLOSER TO LAUNCHING NEW RADIO SYSTEM TO SPACE STATION

Amateur Radio on the International Space Station reports it has met a major milestone and now is "one giant step" closer to flying its new interoperable radio system to the International Space Station. Eventual plans call for installing a new JVC Kenwood TM-D710GA-based radio system on the station as part of an overall approach that will allow greater interoperability between the *Columbus* module and the Russian *Service Module*.

Lou McFadin, W5DID, and Kerry Banke, N6IZW, travelled to NASA Johnson Space Center (JSC) in Houston in mid-February for preliminary testing of Banke's "breadboard" version of the ARISS multi-voltage power supply that's essential to the upgrade. They worked with JSC engineers and Electromagnetic Compatibility (EMC) Lab personnel to put the specially built power supply through its paces, checking against US and Russian space specifications for preliminary power quality and EMC tests.

With positive test results in hand, ARISS now can move on to the next step -- fabrication of prototype and flight units. The JSC engineers said the ARISS breadboard power supply was the first hardware to have passed all of the space agency's tests and complimented the ARISS Team on its professional-level hardware development and design.

"I was looking to come away with what we needed to move forward," said Banke. "We achieved that." Banke also said he was impressed with the support he and McFadin received from the testing group. Key players on those teams, who are also radio amateurs, told him and McFadin that they find equipment supported by hams earns particularly good marks. ARISS-International Chair Frank Bauer, KA3HDO, thanked Banke and McFadin for spending several days putting the unit through the rigorous battery of NASA and Russian preliminary electrical tests. McFadin credited the level of cooperation and experience within the ARISS Team with the multi-voltage power supply's high marks.

Now that testing of the breadboard unit has been completed, McFadin can purchase the necessary -- and pricey -- space-certified parts, to fabricate the final prototype and flight power supplies. He and Banke expressed confidence that the prototype and flight units will pass the even more rigorous final testing with flying colors.

The ARISS radio gear on board the ISS is aging. A February supply vehicle carried a new Ericsson 2-meter handheld radio to replace one that failed a few months ago, disrupting ARISS activities. The VHF radio in the *Columbus* module was used for school group contacts and for Amateur Radio packet, temporarily shifted to UHF after the VHF radio failure. The newly arrived Ericsson radio will replace the Ericsson UHF radio supporting APRS packet and some school contacts, but Bauer made it clear last month that the new Ericsson transceiver is an interim measure.

To help support final fabrication and flight tests of the ARISS interoperable radio system, [visit](#) the ARISS website. Contributions are tax deductible. Those contributing at least \$100 will receive an ARISS Challenge Coin.

THE OLDEST COMPUTER

The oldest computer can be traced back to Adam and Eve. It was an Apple. But with extremely limited memory. Just 1 byte. Then everything crashed.

THE OFFICIAL NY7N BEDSPRING CHALLENGE

Background: This all stems from a (mostly) [joke reply](#) I made in a thread about whether HF is “worth it” or not. Enough people expressed interest in it being a real thing, I decided to put together a set of actual rules.

Summary: You, as a licensed amateur radio operator in the United States, attempt to make two-way contact with a station located in Australia (VK) or New Zealand (ZL) using no more than 5W, on 10m, at local night, using a bedspring for an antenna.

Dates: Between the time this thread is posted to [/r/amateurradio](#) and 0000z January 1, 2020.

Times: QSOs for credit must take place between sunset and sunrise at the US operator’s QTH.

Bands: 10m only. *No exceptions.*

Mode: Any. SSB, CW, RTTY, PSK, JT65, whatever. *If you can have a two-way QSO with it, it’s valid.*

Power: 5W maximum. *No exceptions.* This is a QRP challenge.

Eligible operators: Any amateur radio operator in the lower 48 United States (sorry Alaska and Hawaii, we’re using DX entities for this one - Hawaii is too much like cheating anyway). Canada, sorry. I’m not even going to try to ship beer across the border.

The rest of the rules that don’t fit neatly in bullet points with headers:

The DX station is allowed to use any power level (to the maximum legal limit at their QTH) and any antenna. All transmitters and receivers on the DX side *must be located within that DX entity*, and all transmitters and receivers on the US side *must be located within the continental United States*. *No internet linking (i.e., Echolink, IRLP, etc.) of any kind may be used to make the contact. No satellite QSOs will be permitted.* This is an air-to-air, ionospheric bounce kinda deal.

For US operators, you must use a bedspring for an antenna. The bedspring may be located anywhere you like, but *it has to remain in the shape of a bedspring*. You can’t unwind it and make a yagi or a quad or anything else out of it - *it has to be recognizable as a bedspring*. You may remove the cover/insulation/foam as you see fit. You want to phase two bedsprings together? Go for it. You want to use a 2nd bedspring as a reflector? Fine. You want to mount a bedspring at the top of your tower for a year while you work on this? Want to dangle it from a tree? Haul it up on a hot air balloon? Take it to the top of Pikes Peak? More power to you. You’re obviously willing to put a lot more work into this than a \$5 beer is worth, so have at it. Photographic proof of your setup (see below) must be provided for prize verification.

The use of antenna tuners is allowed. I know most of you aren’t running tube rigs here. I’m not sadistic and I don’t want to break your radio. The tuner can be located wherever you like - in the radio, at the base of the bedspring, somewhere in between, wherever.

You may feed the bedspring from the tuner using whatever feedline you see fit. Coax, twinlead, a coathanger, a single conductor of stranded copper, your tongue, I don’t care. *The bedspring must be at the end of the feedline - you can’t use it as a loading coil for a vertical or any other clever tricks like that.*

The use of scheduling is permitted - if you know someone in VK/ZL who’s willing to try this at a given time every night, more power to you.

To receive credit: You must receive a QSL, in either LOTW or paper format (sorry eQSL, I don’t trust you) and either send me a link to the screenshot from LOTW or a scan of the paper card via reddit DM. You must also provide photographic proof of your setup - bedspring and it’s connection to your radio. Photographic proof of power output would be nice, but not required. If you get the QSO on video, you’re a rockstar, but again, not needed. If you prefer, you may DM me and I will provide my email address so you can send your documentation directly.

Winners: The first five (5) people to accomplish the above feat, who submit proof of two-way contact and the required photographic proof will receive the beer of their choice from the [San Tan Brewing Company](#). I’m sure you’ll find something you like in there. If you’re under 21, you’ll receive a nice box of chocolates.

Disclaimer: While this is for fun, entertainment, and furthering the art and science of radio, I, NY7N, am the final judge, jury, and executioner for this contest. *All my decisions are final.* You can complain in the reddit all you want if, for some extremely unlikely reason, I disallow your entry, but it’s not going to change my mind.

Other thoughts: Look, I realize how difficult/unlikely this is. This all started from a mostly joking reply to a post asking about band conditions and if HF is “worth it.” The idea here is to have fun, screw around, throw a little RF around, and maybe create some interesting stories. I hope you’ll work folks on other bands with your bedsprings and get a few laughs out of it. You’re welcome to share those QSOs and stories, even if I won’t send you a beer for them. Not in the US? You’re welcome to play, just know customs/shipping is going to preclude me sending you alcohol in the mail, okay - DM me if you do, maybe we can work something out. Just have fun - that’s the most important part.

Good luck!

Edit @ 1400z 3/23/2017: Added verbiage explicitly disallowing satellite QSOs.

Edit @ 2200z 3/25/2017: Clarified maximum power verbiage, since I hear some of you smart asses were commenting about how the previous wording didn’t disallow amplifiers. Now I have. This is a QRP challenge.

Warminster Amateur Radio Club, Warminster, PA. is proud to announce that this year our Hamfest will also be the ARRL EPA Section Convention and at a New Location.



Date: Sunday, May 7, 2017 - 7 am to 1 pm

NEW LOCATION: Bucks County Community College - Lower Bucks Campus, 1304 Veteran Highway, Bristol, PA 19007 (40.1128° N, 74.8765° W)

Hamfest will include: Inside Tables, Outside Flea Market Space, Forums including Norman Fusaro, W3IZ, from the ARRL, DXCC card checking, Door Prize every hour, Equipment Testing, Food Vendor and VEC Testing Session

Talk-In Freq: 147.09+ pl of 131.8
General Admission fee: \$5.00
Unlicensed spouses & children under 13 free

65 Indoor spaces available: \$15.00*
Flea Market: \$10.00*
*not including admission

Advance Reservations for inside Tables are highly recommended.

Please contact:
George Brechmann
Warminster Amateur Radio Club
PO Box 113 Warminster, PA 18974
Email: N3HBT@ARRL.Net
Phone: 215-443-5656
Website: <http://wp.k3dn.org/hamfest/>



General Hamfest contact information:
Mike Shanblatt, Chairman, W3MAS@ARRL.net
Irwin Darack, KD3TB@ARRL.Net

The Warminster Amateur Radio Club is a ARRL Special Services club that meets at the Ben Wilson Senior Citizens Center in Warminster, PA on the first Thursday of every month starting at 7:30 pm. Amateur Radio FCC (VEC) exams are offered on the last Monday of every month at the same location.

Warminster Amateur Radio Club General Club Contact: K3DN@ARRL.net

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MOTOROLA SUES HYTERA OVER DMR TECHNOLOGY

In a press release dated March 14, 2017, Motorola Solutions says: Motorola Solutions, Inc. (NYSE: MSI) ("Motorola Solutions" or the "Company") today announced it has filed complaints in the U.S. District Court for the Northern District of Illinois against Hytera Communications Corporation Limited (SHE: 002583) ("Hytera") of Shenzhen, China. The complaints assert that Hytera's two-way radios, base stations, repeaters and dispatch systems, as well as its related commercialization and sales activities, are infringing patents owned by Motorola Solutions and utilizing stolen Motorola Solutions trade secrets.

Motorola Solutions believes that Hytera is intentionally infringing its intellectual property and misappropriating its trade secrets, which has enabled Hytera to compete unfairly by bypassing investment in innovation.

Hytera's illegal behavior was assisted by three engineers who resigned from the Company to join Hytera, where they had key roles in developing Hytera's infringing products using misappropriated Motorola Solutions technologies and continue in senior-level positions today. In the period leading up to their resignations, through a series of serious misrepresentations and carefully planned illegal acts, these engineers maliciously accessed, downloaded and transferred more than 7,000 highly confidential files related to Motorola Solutions' technologies, including confidential technical, marketing, sales, legal and other types of trade secret materials. Subsequently, Hytera began illegally manufacturing and marketing a line of products and technologies containing technologies invented, designed, developed and in some cases patented by Motorola Solutions.

The complaints can be accessed at <https://newsroom.motorolasolutions.com/presskits/motorola-solutions-intellectual-property.htm>.

Apparently, Motorola thinks that Hytera is infringing on several features associated with Motorola's MOTOTRBO (aka DMR) radios, including:

Voice-Operated Transmission (VOX)

Telemetry;

•Dynamic Mixed Mode (DMM) priority scan;

• Location-based services;

•GPS Revert Channel;

•Digital Telephone Patch (DTP); and

•Digital emergency ("Man Down") and "Lone Worker" capabilities.

I'm not a DMR expert, but I'm not sure that any of those features are really used by amateur radio operators. According to an [article on Urgent Communications](#), Hytera is disputing the charges, but if it's true that the engineers downloaded and absconded with "more than 7,000 files," I think they'd be hard-pressed to actually claim that.

The post [Motorola Sues Hytera over DMR Technology](#) appeared first on [KB6NU's Ham Radio Blog](#).

(Courtesy of the Monday Morning Message)

INTERNATIONAL CRYSTAL MANUFACTURING GOING OUT OF BUSINESS

International Crystal Manufacturing of Oklahoma City has announced that it will be going out of business, probably at the end of May. Royden Freeland Jr., W5EMH, son of the company's founder, posted a letter this week on the ICM website.

"We will be honoring all orders that we have already taken and will be able to fill a limited amount of new orders dependent upon raw materials available," Freeland said. "We would like to thank you for your past business. The success of ICM over the previous 66 years has been largely due to its amazing customer base."

International Crystal produces RF control devices — quartz crystals, oscillators, QCM crystals, filters, TCXOs/VCTCXOs, and precision crystals.

Royden R. Freeland Sr. founded International Crystal in 1950, at first operating out of his garage. One of his first contracts was to produce crystals for Collins Radio. The elder Freeland and his wife died in a 1978 air crash, and his son took over the company, which expanded into the production of other electronics in the 1980s.

In the 1990s, though, it sold off some of its equipment and distribution business to concentrate on its core enterprise — the manufacture of crystal and oscillator products.

The announcement caught some manufacturers off guard, and they are seeking to source the products they had been buying from ICM, one of the few remaining US-based manufacturer of crystal products. Radio amateurs requiring crystals for projects or as replacement parts for older equipment also will have to look elsewhere.

F.Y.I.

The June Program will be "1992 DLARC FIELD DAY" (Original Film) – Tom / N3EBH

The D.L.A.R.C. meets the "FIRST" Thursday of each month. Membership, friends and interested persons meet at the Bethlehem Township Community Center, 2900 Farmersville Road, Bethlehem, Pa. 18020) at 7:30 PM. Committee reports and announcements of all present and future activities will be presented at that time. Followed by that month's program.

ARES, RACES AND DLARC NET

All Radio Amateurs are welcome to participate in the ARES, RACES and DLARC net. This net meets Wednesday at 1900 hours local time, on the W3OK Repeater 51.76, 146.70 and 444.90 (pl 151.4). With an alternate frequency of 147.370 (DCS 315) W3OI Repeater.

QCWA Chapter 17 holds a net Monday evenings at 8:30 PM on 3960 +/- depending on conditions. Other inputs are the 146.85 repeater, (151.4 PL) and Echolink at K2PM-R.

Mid-Atlantic D-Star Net meets each Tuesday at 7:30 PM. The following repeaters Dstar repeaters are available in the Lehigh Valley. W3OK -145.11000MHz -0.600 Port C – W3OI -147.16500MHz +0.600 Port C, – W3OI - 445.02500MHz -5.000 Port B All repeaters on the net are linked through **Reflector 020 port A**, so all stations checking into the net should make sure that they have *their local repeater call sign followed by the letter "G" in the eight position of the RPT2 field*. Otherwise, you will only be heard locally and not over the Reflector. Dongle users wishing to check into the net should Log On by connecting directly to Reflector 20, port A, rather than through your local repeater in order to conserve local bandwidth.

The OK Corral is an organization publication for the purpose of informing members of the D.L.A.R.C. of educational and training opportunities, club events, relevant news articles and a monthly calendar of daily activities, meetings and dates.

The Clubhouse telephone number is 484-895-7038.

**EXECUTIVE COMMITTEE 2016 – 2017
OFFICERS**

President – Bill Connelly / W3MJ ----- president@dlarc.org
Vice President – Steve Harper / W3NAM ----- vicepresident@dlarc.org
Secretary – Les Morrow / W3LES ----- secretary@dlarc.org
Treasurer – Mike Gower / KB3LOD ----- treasurer@dlarc.org

BOARD of DIRECTORS

Gabe Lantos / KZ2A ----- gpl-3639@gmail.com
Dean Guth / AB3BD ----- babydean1@hotmail.com
Skip Leslie / KD2BDA ----- mleslie105@yahoo.com
Dave Mellman / KA3IWC ----- dbm073@gmail.com
Jo Ann Schaffer / ND3JJ ----- jo.schaffer.pa@gmail.com
Jay Mason / N3OW ----- n3ow@rcn.com

**PHONE NUMBERS FOR THE EXECUTIVE COMMITTEE OF THE DLARC
CAN BE FOUND ON THE WEBSITE / MEMBERSHIP LISTING
CLUB MEETINGS**

All regular meetings of the D.L.A.R.C. Are held on the first Thursday of each month at 7:30 PM at the Bethlehem Township Community Center
TALK IN ON 146.700 (PL 151.4)

THE W3OK TRUSTEE --- Barry Vogt / N3NVA

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**14 Gracedale Avenue
Nazareth, Pa. 18064-9211**

THE NEWSLETTER STAFF

Editor – Don Holmes / KC3II ----- editor@dlarc.org
Web Master – Rich Hurd / WC3T ----- rich@wc3t.us
Circulation – Paul Morrison / N3YNT ----- n3ynt@aol.com