

The Link

Newsletter of the Durham FM Association

May 2019



Next Meeting is Tuesday, May 7th, 6pm, at Bullock's BBQ. Program Info on Page 3

President's Corner

It's May - It must be **DurHamFest** 5/19

There's this speeding freight train coming down the track at us. You can already hear its horn. It's getting louder and louder. Why yes, it is DurHamFest!

This is the annual event where we show the ham community what we are about and that we can run an excellent hamfest. And, more than anything else we do as a club, it is an "all hands" event. There is room for everyone to contribute positively. Jack, KM4MBG, our Hamfest Chair, will spell specific, "must be done" tasks for all and at the coming meeting, you will have a chance to sign up.

But there is more than the specific tasks. Helping out, wherever you can makes it a better event. Make all visitors, both vendors and attendees feel welcome. Make them want to come back next year. Another way you can get involved is to sell things at the club table. If you have a lot of stuff, you can even rent a table (inside - air conditioned) or rent a tailgate spot (outside - in the weather). Finally, your budget permitting, buy some stuff. Make it worthwhile for our vendors who have made an extra effort to be here and for anyone paying for a place to sell their stuff. There are bargains to be had. (And if they turn out not to be the bargain you thought, you can always sell it at a lower price next year :-)

Finally for you newcomers, this is a way to really get to know some of your fellow members (and have them get to know you). There will be plenty of chances Friday evening and Saturday to work with people. I'm sure that many of you, in your workplace, have encountered "team building" exercises. Well, here's one for the DFMA. Join the team!

73, Dee, KU4GC

Jimmy Dixon KF4KHU Donates Projector in Memory of Tim Nibbe KW4GP



In the past, I borrowed the projector from the Computer Science Department at Duke (my former department) and returned it the same night. That arrangement had a few disadvantages. That projector was getting old and our using it was depending on good will from a place I had retired from almost twelve years ago. Also, if there had been an in-house need for the projector, we would have been out of luck. The best way to describe the arrangement is “fragile”, yet I am very thankful for the years of use we had through it.

At a DFMA Board meeting earlier this year, the Club agreed to share the cost of a new projector with OCRA. Jimmy, present at that meeting, volunteered to research a good projector that would work in the setting we have at Bullock's BBQ. He also had contacts at work that he wanted to consult with.

To our surprise, he bought the DFMA an Optoma EH334 Projector, complete with a carrying case and various cables and adaptors. This machine is brighter, higher resolution (1080p) than our loaner and has a modern HDMI interface, built-in speakers and all of the standard bells and whistles. Thank you, Jimmy, for this generous gift. (The OCRA Board members also expressed their thanks at their last meeting.)

73, Dee, KU4GC

Program for Club Meeting on Tuesday, May 7th

At the meeting I'll cover the logistics and how you can help for DurHamFest. While we do great work that weekend, there is also work that goes on behind the scenes for much of the year. I'll shed light on that work and talk about what I have learned running DurHamFest for the past three years.

Since I started working on DurHamFest, I've also learned about the other work that needs to happen to keep the club running smoothly. I'll talk about that work as well. It ranges from getting miscellaneous equipment cataloged and ready to sell at the club table to the duties of named officers such as treasurer and, or course, vice president.

After the meeting, I hope that your fondness for the club will grow as your knowledge about it increases, and you will appreciate the value we are creating by doing things together.

73 Jack Hill, KM4MBG

The DFMA Club Tables at RARSfest

Let's start with the good news. The DFMA did extremely well and after paying for the table rental (\$54) we netted \$566. This is a nice addition to the treasury. While that won't pay for our annual Christmas dinner, it is definitely a plus.

But, this income is mostly due to the sale of equipment donated by one person: Gordon Duff, KA2NLM of Chapel Hill, who is not a DFMA member. This makes it all look a bit precarious. Yes, we did have contributions from few others including used batteries from Charlie, NC4CD and some left-overs from previous club table events. Other than that, disappointingly little was brought and sold there by DFMA members. Thankfully, JR N4JQR, Dan KR4UB, Paul N2XZF and Wilson W4BOH, helped running the club table, but there could have been more. With a club of over 100 "active" members, there were, let us say, a few absences. So the note for the future is: "We could use more help from all of you."

There are things still left, some of which you can see on the DFMA web site at <http://dfma.org/dfmaGifts.html>

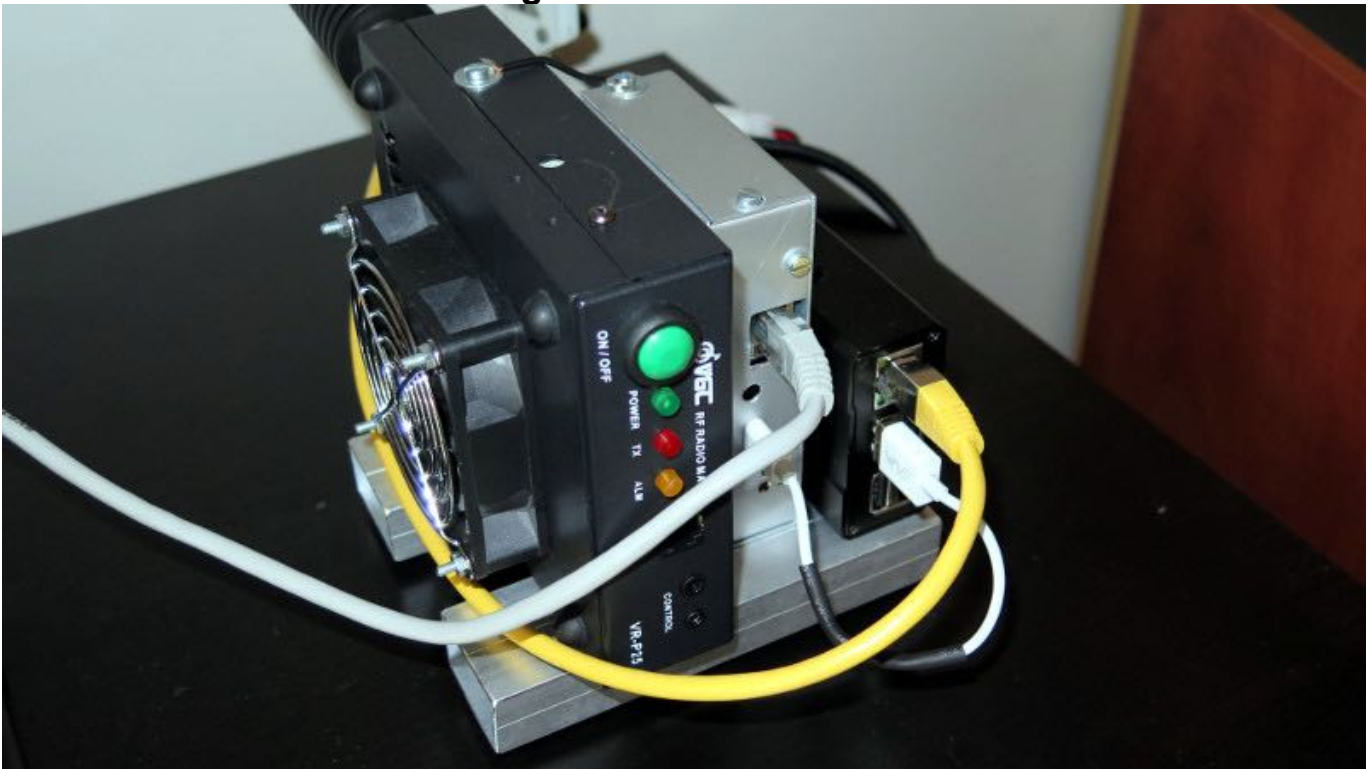
(Or go to DFMA.org. Click on Gallery at the left. Click on DFMA gifts near the top right.)

The story doesn't end there. Since RARSfest, Wilson has sold the portable Hallicrafters radio on the internet. Unfortunately he had to charge more for the shipping than the radio. But that's a bit more for the Club. Thanks to Wilson for the time and effort spent.

And I finally figured out why so little went to the club table at RARS. You all were saving it for DurHamFest. So thank you for that. I look forward to seeing your treasure there!

73, Dee, KU4GC

A New Digital Mode For Radio Amateurs



There used to be a time when amateur radio was a fairly static pursuit. There was a lot of fascination to be had with building radios, but what you did with them remained constant year on year. Morse code was sent by hand with a key, voice was on FM or SSB with a few old-timers using AM, and you'd hear the warbling tones of RTTY traffic generated by mechanical teletypes.

By contrast the radio amateur of today lives in a fast-paced world of ever-evolving digital modes, in which much of the excitement comes in pushing the boundaries of what is possible when a radio is connected to a computer. A new contender in one part of the hobby has come our way from [Guillaume, F4HDK], in the form of

NPR is intended to bring high bandwidth IP networking to radio amateurs in the 70 cm band, and it does this rather cleverly with a modem that contains a single-chip FSK transceiver intended for use in license-free ISM band applications. There is an Ethernet module and an Mbed microcontroller board on a custom PCB, which when assembled produces a few hundred milliwatts of RF that can be fed to an off-the-shelf DMR power amplifier.

Each network is configured around a master node intended to use an omnidirectional antenna, to which individual nodes connect. Time-division multiplexing is enforced by the master so there should be no collisions, and this coupled with the relatively wide radio bandwidth of the ISM transceiver gives the system a high usable data bandwidth.

Whether or not the mode is taken up and becomes a success depends upon the will of individual radio amateurs. But it does hold the interesting feature of relying upon relatively inexpensive parts, so the barrier to entry is lower than it might be otherwise.

Here is yet another version of “What is HAM RADIO?”



Submitted by Charles Durst, NC4CD ... sent to him by his son-in-law, who is not a ham!

DurHamFest Needs You

The arrival of May means that it is time for us to put the finishing touches on DurHamFest. Thanks to those who have already signed up to help out. If you haven't got around to it yet, please do so now at <<https://durhamfest.km4mbg.org/signup-2019>>. We particularly need friendly volunteers who are good navigators to run talk-in on the 145.45- repeater. The schedule for DurHamFest weekend at the Durham Public Schools Staff Development Center, 2107 Hillandale Road is as follows:

Friday, May 24th:

* 6pm - 8pm Set up signage and tables and chairs in the cafeteria.

Saturday, May 25th:

* 6:45am-8:30am Arrival, and vendor setup. The doors to the cafeteria space open at 7, but many vendors will arrive earlier to start staging their stuff. Coffee and biscuits will also be set up at this time.

* 8:30am Doors open to the public. There will be a great need for parking assistance at this time.

* Approximately 10:30: Burger and Hot Dog service starts.

* 10am - 12pm VE Session.

* 12:30-1:30 End of the Fest and cleanup.

We use the simplex frequency of 146.46 for onsite communications.

Please come to the May meeting at Bullocks to hear more about DurHamFest Weekend, and the work of yours truly, the HamFest chair. I'll talk a little bit about what being HamFest chair is like, and how it compares to the other important jobs that need to be done to run the club.

73 Jack Hill, KM4MBG

Message from Your Editor

If you come across some information or an article related to our hobby, that you find interesting and that others might also, please send to me or write something that can be shared with the members through "The Link". Don't worry about formatting, editing, etc., as I can take care of that for you. Here is your editor's contact info:

Martin Brody, KA5JUJ martin@brody1.com 919.260.0632

Field Day Practice

By Bruce Meier, N1LN

To all potential OCRA and DFMA Field Day operators and anyone from either club that would like to get some excellent QSO practice in.

As we have discussed at several meetings, state QSO parties provide an excellent low stress and pressure way to work on your QSO skills. These skills are also very important for Field Day to assist in maximizing our overall score and trying to retain 2nd place. That will not be easy this year.

Those skills include:

1. Search and Pounce
2. Running (give it a try!)
3. Timing
 - a. when to put your initial call out there
 - b. when should you call again if no response from the CQing station
 - c. how long should you continue to try to contact the CQing station before moving on
4. Logging software:
 - a. N1MM+ is excellent for State QSO parties. Here is the process:
 - i. File drop down
 - ii. Click on NEW LOG
 - iii. In the LOG TYPE window select QSO PARTY
 - iv. Another window will pop up on the mid-right side.
 - A1. State for Log Type (QSO Party)
 - A2. Select the state name for the QSO party you are participating in
 - A3. Click on OK at the bottom of the window
 - v. DONE!!!!

If you have any issues – send me an email. If the answer is easy I will respond via email. If it needs a conversation, send me the email with your phone number. I will call you back.

Hope many of you can get on the air and practice!

73, Bruce N1LN

Minutes of Last Club Meeting

Durham FM Association (DFMA)

DFMA Meeting – 04/02/2019 – Dan, KR4UB, Secretary

Location: Bullock's Bar-B-Cue, Durham

Attending: KR4UB, Dan; K4CTD, Shawn; KN4BBA, Bob; N3UZ, Jim; W4SAR, Dave; KD4YJZ, Karen; WB4ROI, Henry; N2XZF, Paul; KV4ZR, Loren; NA4VY, Dave; KW4XL, David & David Jr.; KK4BPH, Mike; KA5JUJ, Martin; KE4HIH, Rhett; KE4QOZ, Joanna; NC4CD, Charlie; W4OFZ, Banks; KR3AM, Mark; KU4GC, Dee; W4MKR, M.K.; WA4ROC, Dick; KA4AVM, Sue; WB4YYY, Jim; KN4SVO, John; KF4KHU, Jimmy; AJ2X, Mark; W4LMW, David; KM4MBG, Jack; KF4PAB, Lenore; KN4PTU, Charles; KF4NTC, Bob & Renu; N4JQR, J.R.; KW4KZ, Chuck & Mary; KJ4NPF, Mark; KE4UVJ, Don; Guest: Bill Dyer

A total of 39 attending, 35 currently licensed hams.

President: Dee opened the membership meeting at 7 pm with introductions, announcements and brief officer's reports.

REPORTS

Vice President – Jack, KM4MBG reported that tonight's speaker will be Mark, KR3AM on Software, A Painful Subject. The main agenda for the May club meeting will be DurHamFest volunteer sign up and planning. Jack also solicited ideas and leads for future club presentations.

Treasurer – Lenore, KF4PAB provided the treasurer's report. There are 100 members with dues current. Club Treasury

Secretary – Dan, KR4UB requested confirmation that all had signed the attendance roster and solicited attendees to fill out ham interest/assistance and field day sign up sheets.

Repeater Manager – Charlie, NC4CD reported that internet access for remote maintenance and control of the repeaters including Echolink and the 220 remote base are in place. Lowell, KK4PH has ordered factory EPROMs to replace the temporary EPROMS installed to fix the "macro error" announcement repeater problem.

AuxComm – Shawn, K4CTD reminded all of the Durham AuxComm meetings on the 4th Tuesday of the month. Training topics planned for the meetings at the [Durham EOC at 2422 Broad St, Durham](#) are VIPER system and use of the DFMA repeater network for emergencies. He reminded all to check in to the DFMA Auxcomm, Club & rag chew net occurring each Thursday night at 8PM on the linked 147.225 & 145.450 repeaters for additional information.

DurHamFest – For the 2019 DurHamFest to be held on May 25th, Memorial day weekend, Jack, KM4MBG requested all to get the word out and that the time is approaching for volunteers to sign up for the Friday night setup and staffing of the numerous roles including ticket sales at the door, tables, food, parking. Let Jack know what you are willing to help out with. Jack made DurHamFest 2019 flyers available to pass on to possible attendees.

Field Day & VE Coordinator - Dave, W4SAR reported the next VE session is planned for Saturday April 13th at the Efland Baha'i Center. *Late update: This VE session has been canceled due to a scheduling*

conflict at the site location. Dave requested members to start volunteering for Field Day roles. Contact Dave or use the sign up sheets to indicate your areas of participation interest.

Presentation of the DMFA “Lid” Award - The DFMA LID was last presented to Jack, KM4MBG for his DurhamFest leadership by Dave, W4SAR.

Door Prizes - Door prize winners were as follows: Tape Measure - Dave, NA4VY; Allen Metric/SAE Sett - Renu; Flashlight - Lenore, KF4PAB.

Program Presentation: The program presentation was by Mark, KR3AM on the topic of “Software - A Painful Subject”. This was a repeat presentation Mark made to his fellow work associates at VIASAT, a major provider of satellite based communication to the military, in flight airlines and soon, satellites offering internet capability to small towns and rural areas overlooked by current ISPs. The presentation was presented in humor, but also pointed out some of the issues in today’s world of software development. Mark reflected on the early days of computer development when hardware was very expensive and software had to be highly efficient and tightly written to get the best performance out of the then limited hardware capability. He then went on to list a survey of most popular software development languages including Java, Python, Clojure (cult?), Go, Javascript, C, C++ (a better C?) and offered a humorous view of hating them all because they allow insane(ly complex) code to be written. This view is actually supported by Bjarne Stroustrup, former head of [AT&T Bell Labs](#)’ Large-scale Programming Research, currently a managing director at Morgan Stanley, a visiting professor at Columbia University and the creator of C & C++ languages. He recently stated “Individually, many proposals (for enhancing today’s software languages) makes sense; together they are insanity to the point of endangering the future of C++”.

Mark then reflected back to the 60’s when the PDP-8 computer developed by the Digital Equipment Corporation had only 8 basic instructions using a 12 bit data path. By comparison the x86 architecture found in today’s Windows computers have over 2034 instructions, some for backward compatibility with ancient MS-DOS programs and forward to function like today’s wonderful instruction pipeline look ahead bringing us unbelievable performance, albeit with the occasional data leak.

Mark passed out copies of the technical reference card for the PDP-8, typically found in the shirt pockets of all programmers back in the day (some still do!). In those pockets was the worn, tattered reference card constantly used in daily activities. He then proceeded to display several code routines doing what many programmers and engineers did in the era, that all important task of making early processors flash their control panel lights in interesting and delightful ways! Of course today that demo would not be complete without showing the complexity of trying to make today’s LED lights approximate the unique glow of the incandescent lamp as they come to full brightness and then fade down in that characteristic dimming that only an incandescent can do. Worthy of at least two Raspberry PI proto cards Mark built, he not only showed the code routines trying to make an LED do likewise, but of course had the LEDs flash to the rhythm of his call sign in CW.

Lastly to illustrate the glory and tasks that all good programmers learned to do by memory was to load the 20 or so instructions by hand using the front panel data switches to provide the processor with the most basic intelligence to further read some code from a state of the art device such as a paper tape reader, or really advanced state of the art device being some form of a magnetic tape reader. As one member in the audience read out instruction by instruction, with another member cross checking, Mark loaded the instructions for his latest incantation of flashing lights into his PDP-8 (actually a replicated PDP-8 control panel with a Raspberry PI emulating the PDP-8 processor. And the group witnessed yet another favorite pattern of flashing of lights come to life for all to enjoy.

Mark's presentation with all the humor was greatly enjoyed and brought back memories for some members in the meeting who similarly watched and participated in this technology growing from an infant to what it is today.

Meeting adjourned at 8:30 pm.

Minutes of Last Board Meeting

Durham FM Association (DFMA)

DFMA Board Minutes – 04/16/2019 – Dan, KR4UB, Secretary

Location: 1920 Front Street, Durham, NC

Attending: (y) Dee, KU4GC – President; (y) Jack, KM4MBG – Vice President & DurHamFest Chair; (y) Lenore, KF4PAB – Treasurer; (y) Dan, KR4UB – Secretary; (y) Charlie, NC4CD - Repeater Manager; (n) Shawn, K4CTD – AuxComm; (y) Jimmy KF4KHU – Deputy AuxComm; (y) Dave, W4SAR – Field Day Coordinator; (y) Martin, KA5JUJ – Link Editor; At Large Board Members: (y) Dave, KW4XL; (y) Paul, N2XZF; (y) Chuck, KW4KZ; (y) Karen, KD4YJZ; Guests: KW4XL, David Jr., MK, W4MKR

President – Dee, KU4GC, called the meeting to order at 7 pm with the call for officer reports. Minutes of the last Board and Regular meetings were passed out.

REPORTS:

Vice President – Jack, KM4MBG reported the May club meeting topic will be DurHamFest planning and the June meeting will be Field Day planning by Dave, W4SAR.

Treasurer – Lenore, KF4PAB resented the treasurer's report and membership status as follows:

Members 101 (whose dues are current)

Secretary – Dan, KR4UB - The minutes for the 3/19 Board and 4/2 Club Meetings were approved unanimously.

Repeater Manager – Charlie, NC4CD reported high temperature alarms activated at Red Mountain and Hillsborough repeater sites. Visits to the sites corrected the air conditioner settings and also the DMR repeater software was changed so it can run on the 12V battery power in addition to 120VAC.

Auxcomm – Shawn, K4CTD unable to attend. The topic for the next Auxcomm meeting will be a presentation by Charlie, NC4CD on the DFMA repeater network.

DurhamFest – Jack reported per conversation with Michelle at DPS, a security officer will not be needed since the flow of visitors to the site will not exceed 200 people at any time. Jack will be writing an article on DurHamFest for the next DFMA Link issue.

Field Day Coordinator - Dave, W4SAR reported the previous VE session was cancelled due to a scheduling error for the site. Field Day, including networked logging will be the topic for the next club meetings.

NEW Business:

Jimmy, KF4KHU has donated an Optoma EH334 projector, the required cables and carrying bag for use in meeting presentations at DFMA and also available for OCRA meetings. The Optoma model is designed for close in screen projection with wide view and high brightness and includes HDMI, VGA and with the included adapter Display Port inputs. Jack requested that Dan continue to video future presentations as was done for Mark, KR3AM's presentation "Software, A Painful Subject".

Dee requested additional material needed to finalize the 2019 DFMA Directory for member distribution at DurHamFest. Charlie will provide a repeater information update for the additional page to be include in the DFMA directory. Paul, N2XZF requested that an additional listing sorted by member first names be included in the directory.

A standardized "goto" information resource needs to be clearly identified to all members in the event meeting cancellations or other impacts are caused by severe weather or other emergency. A specific DFMA repeater will be designated for this purpose. OCRA/DFMA groups.io will be the designated email list/website for this purpose.

Lenore presented the DFMA Annual Financial Report to the board. This included year-to-year trending for prior year result comparison. Expenses are in line with income.

Dee reported that gifts of surplus ham radio gear and related hardware to the club has accumulated to a level that is difficult to manage. Additional help is needed to identify, test, determine fair market value, store, transport and sell this equipment. Charlie, NC4CD suggested that for unsold, unsellable hardware that the option to give away, or scrap the excess equipment be exercised on an accelerated schedule. Another suggestion was to take photographs of donated items and do a photo slideshow at club meetings on a regular basis and included in the DFMA Link.

Charlie, NC4CD reported deterioration of the DFMA Hoover Road storage building and needed repair of the roofing, doors, other deterioration or, outright replacement with a new shed.

The meeting was adjourned at 8:30 pm.