



Next Meeting

Tuesday, November 3, 6pm, Bullock's BBQ
Program: The Dual-band J-pole Antenna - Design and Construction

By: Ed Fong, WB6IQN

This month's program will be a talk by Ed Fong, inventor of the DBJ dual-band J-pole antenna. Ed will discuss the antenna's theory and construction. Some of you may recall building the antenna at the OCRA antenna party organized by Steve (W3AHL) in 2010. For the talk, we will beam Ed live from California via Skype.

Ed was first licensed in 1968 as WN6IQN. He later upgraded to Extra Class with his present call of WB6IQN. He obtained BSEE and MSEE degrees from the University of California at Berkeley and his Ph.D. from the University of San Francisco. A Senior Member of the IEEE, he has 11 patents and over 40 published papers and books in the area of communications and integrated circuit design. Presently, he is employed by the University of California (previously at Berkeley and presently at Santa Cruz) as an instructor teaching graduate classes in RF design and high speed interface design. During his 30 year career he has performed work for Motorola, National Semiconductor, Phillips Semiconductor and Advanced Micro Devices.

It sounds like this will be a "lively" presentation. Our thanks to Mark Sidell, KR3AM, for his help with bringing the program to life.

- Karen, KD4YJZ

President's Corner - Neighbors

The topic of "neighbors" can cause heated feelings. "Good fences make good neighbors" is putting the feelings and experiences of many people into a nut shell. However, in our hobby and in our situation, things can be quite different.

The most obvious example is the DFMA's relationship with OCRA. When, at a Board meeting several years ago, Wilson, W4BOH, suggested that the DFMA and OCRA should team up at Field Day, I remember that I was worried about what I saw as rather different Field Day cultures and wondered whether it could work. My fears were unfounded and the latest results show what a fruitful partnership that has been. (I don't mean to discount the many other

things that took place to make the spectacular progress in our rankings happen.)

When Laurie, N1YXU, was the OC ARES EC, she worked with then Durham EC, Randy, K4XRM (sk), to cooperate on the backing up of each other's repeaters. This has carried through to the use of repeaters in public service events where the OCRA 442.150 was used in public service events originating in Durham and the use of the DFMA 444.450 for a Hillsborough event. And most obviously, the DFMA 145.45 on TV Hill repeater is currently providing backup for OCRA's normally spectacular 442.150 repeater. So, again, neighbors can be nice to have.

I've often heard the argument (and I have used it myself) that we should have ARES exercises in adjacent counties because during a local emergency, most hams would be busy taking care of their own homes and families and any real help would come from areas not affected by the emergency. Some ARES exercises in the past have made an effort to work with neighboring counties and Durham County and Orange County have had some joint exercises. We probably need more, for the reasons mentioned.

So, it is clear that the Durham-Orange partnership has been quite fruitful. However, more effort should probably be made to work with our other neighbors. I know that several DFMA members are also members of RARS. Should we make more effort to work with Wake County and other neighboring counties? I have no simple answers but suggest that is something to think about.

73, Dee, KU4GC

Flash: Field Day - We're #3 !!!

I did not dream we'd do so well, given the propagation challenges, but then, the competition was challenged also!

We placed:

-Overall: #3 out of 2,720

-QRP: #2 out 307 (K6EI got us beat again)

-Roanoke Division: #1 out of 213

-North Carolina Section: #1 out of 82

Thanks to all in the DFMA and OCRA that did a capital job of preparation, and put in some long hours of operations. I am so looking forward to FD 2016!

73, Dave Snyder,

W4SAR, OCRA/DFMA Field Day Coordinator

Ham Bio – Chuck Anoaia, KW4KZ

How Ham Radio found me...

I remember that one Christmas around 1975 when everyone got a CB radio. Our house was no exception. My father was bitten by the CB bug and got our family involved in all sorts of community service activities. He was really active in our town's REACT club.

It wasn't long before a group of local hams reached out and invited everyone to explore ham radio. They even organized a study group to help folks prepare for the novice license test in the hopes of growing a larger ham community.



Chuck Anoaia, KW4CZ at the Egg & I breakfast

My first impression of the members was that they were largely electrically inclined. Some worked as electricians or repairmen. Others worked at the Radio Shack store. They all hung out at a TV/Appliance repair store. Which I thought was really neat. It was always interesting to see what was being worked on in the shop. My father, being a part-time handyman, would often visit these guys to help with their homebrew projects. Most of the hams were seniors and needed help around the house. They all had a common setup which involved a large metal cabinet about the size of a refrigerator and about half the height. When turned on, it would glow

and then doubled as a space heater in winter. All of them also possessed a mysterious ability to hold two distinct conversations at one time. Later I learned they were actually having QSO's in Morse code or at least copying it as background noise and meshing that into our conversations at hand. At the time I thought this was really a unique talent.

I participated in their "Ham School" as we called it. After several weeks of school and building a Radio Shack Morse code oscillator kit, I took the novice class exam and passed! My first call was WB3LTX. This was it for about 20 years. I never even got on the air that I can remember. My license expired.

My second time around was after college. I had a good work friend, Larry Weissman AD3Y, that also seemed to have the same mysterious ability to converse in... you guessed it, Morse code. He used to say that everything speaks in Morse code. Even chairs being pushed across floor squeak out in Morse code. Just listen and you will hear it. Well I tried but all I heard was noise. Equipment looked different. Gone were the big glowing boxes. Everything now seemed to fit in your car and involved a mag mount antenna. So I started studying on my own and took advantage of the VE testing sessions held monthly at the Franklin Institute in Philadelphia PA. A few months later I had an Advance class license and my call sign was now KA3VDB. I bought my first radio, a Kenwood TS440AT. I was very active on 10 meters worldwide. My father was thrilled and shared in my re-found interest in ham radio. We again visited from time to time with the original hams that started the "Ham School". Most were still active but long retired now. I used to talk to them on their Sunday afternoon 2 meter net. I started studying antenna design and soon was building my own wire dipole antennas. This allowed me to bring my rig indoors. Well as in the first time, life happened, the sun spot cycle that provided such good propagation conditions came to an end and I lost touch with ham radio. Eventually this license, too, expired.

Third time around, again inspired by a work friend, Carl Rasmussen KM4GDU, I looked into VE testing opportunities. I found that OCRA/DFMA offered sessions held in Orange County. I passed the Technician exam, was given credit for General class and was issued call sign KM4JZC. I took advantage of the membership invitation for new licensees and joined both DFMA and ORCA clubs. I participated in Field Day 2015. I studied on my own and upgraded to Extra class. The call sign is now KW4KZ.

I have greatly enjoyed club activities and the camaraderie with all my new ham friends. I look forward to attending club meetings and hearing all about member's homebrew projects.

73, Chuck KW4KZ

*(This is another of an ongoing series of articles to help everyone get to know their fellow hams better. While labeled as a Bio, it is really an autobiography. That means you get to say what you want to. **Please send me your bio or material I can use to write it for you.** Thanks, Chuck, for this one!)*

Red Cross Recruiting Volunteers to Install Smoke Alarms

A few weeks ago, Mark, KR3AM, participated in a Red Cross program operating in Orange County to install smoke alarms. He found this to be a very satisfying experience and plans to do it again. Volunteers worked in teams of three including the "installer", the "educator" to make sure the residents were well informed, and the "documenter" to take care on any needed paper work. Mark forwarded the announcement shown below on the plans to repeat this operation in Durham.

"Did you know that 60% of all home fire fatalities occur in residences without a working smoke alarm?" Join the American Red Cross, Durham Fire Department, and Durham County Fire Department on **Saturday, November 14 at 9am** as we install over 200 alarms in high-risk neighborhoods throughout Durham. We will be kicking us off at NCCU's McDougald-McLendon Arena (616 E. Lawson St, Durham 27707) for a short training and then we'll head out in the community in teams. Don't want to be an installer? No worries! We have roles for discussing fire safety with residents and documenting the event. No skills or prior experience necessary - bring your friends!

We would prefer individuals and groups to sign up at

<https://tinyurl.com/DurhamAlarms2015>.

However, walk-ins are fine too! For more information contact Jeffrey at **(919) 489-6541 ex. 4120** or Jeffrey.isaacson@redcross.org. Thank you for helping to save lives!

Jeffrey Isaacson | Volunteer Specialist
American Red Cross of Eastern North Carolina

4737 University Drive
Durham, NC 27707

Interested in volunteering? We need you! Please visit www.redcross.org/volunteer today!

MCU Work Party

A recent inspection of the MCU revealed that moisture had been getting inside and that there was noticeable mildew on some surfaces and furniture. Dan, KR4UB, had seen signs of leaks before and decided that it was urgent that we do something. The MCU was still on the W4BOH property from Field Day, so Dan and Wilson convened a work party there.

Participants in this event were Dan, KR4UB and Willson, W4BOH who tackled working on the roof to deal with the leaks. Bob, W4RWC, and Rhett, KE4HIH gave the MCU a thorough washing on the outside. MK, W4MKR, concentrated on trying to remove mildew from the chairs and Dee, KU4GC, concentrated on removing mildew from the inside surfaces of the MCU. Of course, at times, everyone helped everyone else as needed.



Wilson, W4BOH & Dan, KR4UB working on the MCU roof

On the roof, near the front, where the fiber glass front joins the sheetmetal back, there is a seam that showed considerable corrosion and obviously allowed water entry. The work on the roof exposed this seam removing rust and other loose material with a wire brush. The plan developed was to apply cold galvanizing paint and then special sealers that Dan had used for RV repairs.



The exposed seam showing the state of corrosion.

The work session ended to allow the paint to dry and set. The plan was to have another session to apply the sealer. Weather and the failure of the OCRA 442.150 repeater (Dan is also the OCRA repeater manager) have delayed the the next session, but a tarp is keeping the water out for now. Wilson provided a nice lunch for participants

The state of things also highlighted the need to find a new shelter for the MCU. Plans at Parkwood vanished when the city took over operations from the volunteer organization.

Station Upgrade in Many Acts - Where were we?

In Act 1 I related how I had gotten interested in getting a small push up tower for my station. Dewey, WA4AHR had agreed to help me get one like his. I described the site prep, clearing an area of plants and shrubs and putting a 10' 6x6 pressure treated post into the ground as the mounting point.

Station Upgrade - Act 2 - Power

OK, with the site ready with a mounting post in the ground, I was ready to acquire some parts. I only partly understood some of the details - looking at the Dewey's tower in use was not enough. However, conduit was obvious and I had some suggestions on a winch. I purchased 10' sections of conduit and ordered a winch. Now what? Well, unfortunately, Dewey and Adriano, KV7D, still worked for a living and that obviously had priority. And I was not in a

big hurry. When you are retired, it seems that there are always plenty of things to do.

So there was a detour. OCRA was the beneficiary of the ham radio estate of Ed Lappi, AE4EC, a long time, but in recent years, inactive, member. Steve, KZ1X undertook the task of selling this equipment and produced a nice list with prices. There was lots of nice stuff. Most of it was fairly current since Ed had been an active ham until the end. One item was probably priced too low. An MFJ Antenna Analyzer was snapped up in minutes.

MK, W4MKR, and I were having a Saturday morning breakfast at the Carolina Brewery in Pittsboro. Steve showed up and discussion turned to how the items on the list were moving. Many of the big items were gone but there were two things that turned out to be earmarked for me.

I had gotten pretty used to working at 100 watts. I was well aware that many people bought (and sold) amplifiers. Most of these used vacuum tubes and seemed to require tuning for each use. I had never worked with tubes and (gasp - yes), was not particularly interested in starting. Tubes seemed expensive and the whole process seemed to be a pain. It's not that I'm allergic to tubes. I still have a complete set of replacement tubes for the low end AM receiver we had at home when I grew up. (I no longer have the radio :-). Anyway, long story short, Steve convinced me that the 600 watt Ameritron Solid State amplifier was just what I needed. (Steve is a great salesman!) Now that left me with the built-in auto tuner on the FT-450, essentially useless, since it only works with the 100 watts coming from that rig. Well, Steve had the answer for that. Also on the list was a 1.5 kW MFJ auto tuner. So, I bit. The price was right, getting both the amp and the tuner for less than half price.

Now, I'm usually wary of used equipment, more specifically, modern electronics with countless menus and options. There's no way to really check them out, especially when they come from EBay or otherwise from afar. I've only bought used equipment from people I know. Well, Steve fit that bill as well and I knew he would give me any support I needed if there were problems.

Next came interfacing this gear to my FT-450. There were no interface cables for my setup. Hooking up the antenna tuner was not really a problem. It senses the band from the signal it receives from the rig (or the amp when not in bypass mode). The menu system for the FT-450 allowed for an external tuner,

so pushing the tune button on the FT-450 should have worked producing a low power carrier. However, that never worked right. Fortunately, the FT-450 has an option to send a 30W tone when

external amp (think Yaesu) but the information is all there. So, I ordered a cable that was close to what I needed and modified that. (Only much later did I find out that an interface cable is now - so much for original manuals - available. That would have been a lot less trouble and probably about the same amount of money.)

The bottom line: all is now working. Antenna tuning works essentially like it did before except I use a different button. My standard operating procedure is to try a contact without the amp once or twice. If that does not do the job, I turn on the amp. About 10 seconds later, I am ready to go. Often, that makes the difference.

One wrinkle that I associate with that upgrade is changing the power on the FT-450. I needed to do that even before in order to use PSK31 or RTTY where reduced power is recommended. The problem is that it uses a menu and is a real pain to use. Now I also needed to reduce power when on the 30 meter band to keep the total output with the amp (if needed) below 200 Watts. Since I use the Ham Radio Deluxe

software for logging and rig control (and for Digital modes with the SignalLink USB) there was help available. Skip, WB4P, pointed out that there are software sliders you can program for many of the FT-450's functions. One of these is for changing the power level. I now use that a lot. Another one is the keyer speed control for operating CW with the paddle (the FT-450 has a built-in keyer). I seldom change that (unfortunately that seems to be stuck on about 15 wpm :-)

73, Dee, KU4GC



MFJ-998 1.5kW Automatic Antenna Tuner
(with Yaesu FT-450 below)

triggered. There is one programmable button on the rig and that now generates the tone. So, tuner functionality: done.

The amplifier has a band switch on the front, and using that, it all worked and was functional. But also in the package was an optional controller that can pick up band information from the rig and automatically change bands on the Amp. That's where the cabling gets interesting. All of the original manuals came with this used gear (unfortunately). It stated that a cable for the FT-450 was not available from Ameritron but it had all of the specs for a do it yourself attack. The FT-450 does have jack for an



The Ameritron ALS600 Solid State Amplifier

Antennas for Everyone

- Max, KO4TV (From the November, 1998 DFMA Link)

(Below is a copy of Max's next article on building antennas. Another reprint of Max's articles is planned for a future edition of the Link. - Dee, KU4GC, editor)

The "Arnold Special" Dual-bander

This one may not be for everyone, but if you live in an apartment or (HEAVEN FORBID!!) a "Restricted Neighborhood" and need a 2-meter/70-cm antenna, then maybe this is the one for

you. It was named for Arnold Schmidt, KG4AFF, who was one of the recent graduates of the RARS class for the visually handicapped. Arnold lives in a basement apartment near North Hills, and was very anxious to become a member of the illustrious "Possum Trot" group, but could not put up an outside antenna. It is yet another adaptation of the versatile "J-Pole".

First, determine if you have a tall window or glass door (it must be five feet or more in height) facing the general direction of your favorite repeater. Next, obtain about a 7-foot strip of "Burglar Alarm" metal tape and determine whether you want a semi-permanent mount or an easily movable antenna. For semi-permanent, just stick the metal tape directly to the window, or for an easily moveable antenna, obtain a strip of 1/16" thick Plexiglas about 4" wide and 5 feet long for a mounting surface. I was able to find some lead adhesive-backed tape, which is very easy to solder. If you cannot find this, regular aluminum tape is O.K., but you will need to drill it for a couple of small screws to fasten the coax. If you mount it directly to a window, you can use a couple of small paper clips to fasten the coax. The tape is fastened to the mounting surface in a "J" shape, the long element 55 1/2 inches long, the Short element 18 3/4 inches long, and the inside spacing between them is 1 3/4 inches. The coax is connected to the tape 23/4 inches up from the inside bottom of the "J". Contrary to popular opinion, it makes absolutely no difference to which leg of the "J" you attach the center and ground leads of the coax. The one that I built for Arnold used 3/4" wide tape. If you use different width tape, it may be necessary to make it slightly longer and trim for resonance. (Hint: Adhesive backed metal tape is also available at auto parts stores, for use in filling rusted-out places prior to priming and painting cars.) Installation is simplicity itself: just hang the Plexiglas strip over the window or door with a small suction cup or whatever you find convenient. For on-glass mounting, no further installation is required. Sometimes it helps greatly to move the antenna a few inches while receiving the repeater to locate the strongest signal. This antenna is practically invisible from the outside, and should cause no problem with neighborhood "Esthetic Police".

If you really want to get ambitious and do some experimenting on your own, you might try the same material and construction technique to build a multi-element Yagi. It is not necessary to have a metal "boom"-just stick the elements directly to the glass at the proper spacing.

Best 73 & Happy Constructing! Max KO4TV

Board Meeting Minutes

Durham FM Association (DFMA)

DFMA Board Minutes - 10/20/2015 - Dan, KR4UB, Secretary

Location: 1920 Front Street, Durham

Attending: (y) Dee, KU4GC, president; (y) Karen, KD4YJZ, vice president; (y) MK, W4MKR, treasurer; (y) Dan, KR4UB, secretary; (y) Charlie, NC4CD, repeater manager; (y) Dave, W4SAR, Field Day coordinator; Board Members: (y) Dan, KK4DMS, DurhamFest chair, ARES/AUXCOMM; (y) Michael, KK4EIB; (y) Mark, KR3AM; (y) Bob, W4RWC; Rhett, KE4HIH; Joanna, KE4QOZ

REPORTS

President: Dee, KU4GC called the meeting to order at 7:05 pm.

Treasurer – MK, W4MKR

Members: 105 (whose dues are current).

Secretary – Dan, KR4UB The minutes for the 9/15/15 Board and 10/06/15 Club Meetings were approved unanimously.

Vice President – Karen, KD4YJZ reported that the speaker for the next club meeting will be Ed Fong, WB6IQN with a presentation on antennas. Ed has published numerous antenna articles in the QST, CQ magazines, and the ARRL VHF/UHF Antenna Classics & Antenna Compendium publications. Ed is currently on the faculty of University of California Santa Cruz, where he teaches the RF Wireless Communications course and I/O Design Fundamentals. Previously he was with UC Berkeley, teaching RF Wireless Communications.

This presentation will be a first for DFMA in that Ed will join us from California by video teleconference via Skype. This will be a two screen presentation, one live with the video and voice of Ed and, the second screen with Ed's presentation charts. Ed builds and sell antennas to the amateur radio market, at a reasonable cost, with the proceeds donated to support his group for RF studies at UC Santa Cruz. His antenna web site is <http://edsantennas.weebly.com>.

Mark, KR3AM has volunteered to survey and make the necessary preparations for the cellular data bandwidth needed for this presentation.

Repeater Manager – Charlie, NC4CD reported that repair of the APRS packet station is still awaiting the availability of a tower crew but should be soon. This work is being coordinated with other commercial antenna work at the site to make the cost minimal to DFMA.

ARES/AUXComm - Dan, KK4DMS No activity to report. Mark, KR3AM reported on his participation in a project by the American Red Cross to provide, install and test smoke detectors in local homes. The first phase that Mark participated in was for homes in the Chapel Hill area. The program at some later date will be offered to homeowners in the Durham and Hillsborough area.

DurhamFest - Dan, KK4DMS reported on negotiations to obtain use of the Durham Schools Staff Development Center located on Hillandale Road just off Interstate 85 for the 2016 DurHamFest. The amenities, cost and location accessibility make this a much improved site for DurHamFest. A motion was unanimously approved submitting the application for this to be the 2016 DurHamFest site. The application will be for the site to be available from 6 to 8 PM the preceding Friday for initial setup, open 7AM Saturday morning for final setup, separate classroom availability from 10 AM to 12 noon for VE session, hamfest end at 12:30 PM, knock down and cleanup complete by 1:30 PM.

Field Day Coordinator – Dave, W4SAR expects the ARRL to publish 2015 Field Day results mid-November.

NEW BUSINESS

Rhett, KE4HIH and Joanna, KE4QOZ attended the meeting to report some interference problems occurring during the DFMA Possum Trott net held on the 145.450 repeater with the 147.225 link active. The interference is in the form of distant repeaters and operators from the Charlotte/Gastonia area and a repeater near Wilkesboro, NC. Dan, KR4UB offered to make audio recordings of the 147.450/147.225 repeaters during the Possum Trott Net which will be useful in further analysis and possible solution of the problem.

Dan, KR4UB reported that the recent heavy rains and a leaking roof on the MCU has resulted in mildew growing on the walls and chairs and needs immediate attention to prevent permanent damage. A work group was formed with Dee, KU4GC, M.K. W4MKR,

Bob, W4RWC, Rhett, KE4HIH, volunteering to clean and disinfect the interior and with Wilson W4BOH and Dan, KR4UB to open up the fiberglass/metal seam on the MCU and make needed repairs to arrest the metal corrosion and reseal the roof. The work party will perform the work on Thursday October 22nd.

Discussion continues on the need for covered a storage site that can accommodate the MCU's height and provide AC power for the battery chargers.

Meeting adjourned at 8:15pm.

Club Meeting Minutes

Durham FM Association (DFMA)

DFMA Meeting – 10/06/2015 – Dan, KR4UB, Secretary

Location: Bullock's Barbeque, Durham

Attending: KR4UB, Dan; W4MKR, M.K.; KU4GC, Dee; W4SAR, Dave; KD4YJZ, Karen; KE4IHX, Al; NC4CD, Charlie; N2XZF, Paul; K0OUX, Vic; KD4DNX, Heath; KK4DMS, Dan; KK4BPH, Michael; KE4JYJ, Sue; KD4WVZ, Bill; WA2ROC, Dick; KM4MBG, Jack; WB4P, Skip; KF4PAB, Lenore; KR3AM, Mark; KF4LJZ, Linda; KA4AVM, Sue; WB4YYY, Jim; KE4HIH, Rhett; K2MZ, Duke & Nancy; W4RWC, Bob; KA1HPM, Nick; W4FS, Tucker; N8BR, Bill; W4KSZ, Jim; KI4HQO, Jim; KK4CCX, Dick; WA4OPI, Jim & Gail; W4ORD, Lad; KW4KZ Chuck & Mary; KG4NNT, J.R.; KI4RAN, Bill & Pres; N4TSV, Mario; K1OC, Tony; KE4UVJ, Don

A total of 43 attending, 39 of them hams.

President: Dee opened the meeting at 7pm with introductions.

REPORTS

Vice President – Karen, KD4YJZ Karen reported that the speaker tonight will be Dan, KR4UB with a presentation on "A Look at the Internal Workings of AGM VRLA Batteries, How to Achieve Maximum Battery Life".

Treasurer – MK, W4MKR

Members: 105 (whose dues are current).

Secretary - Dan, KR4UB - Nothing to report.

Repeater Manager – Charlie, NC4CD reported repair of the APRS packet repeater is being scheduled with a tower crew concurrent with other work on that tower to minimize cost of packet antenna/feedline repair.

ARES - Dan, KK4DMS reported he would like the DFMA ARES members to participate in the 9:30AM Saturday morning Orange County ARES net on the 442.150 MHz repeater, PL 131.8. This is a good training opportunity for ARES Net procedures and training on other applicable topics.

DurhamFest - Dan, KK4DMS reported that DurhamFest will definitely be moving to a new location closer into the Durham area. Negotiations on the new location are going well and more information will be announced at the next club meeting.

Field Day Coordinator - Dave, W4SAR reported the next VE session will be on October 14th during the Orange County Radio Amateurs club meeting at the Orange County EOC.

Presentation of the DMFA "Lid" Award - The Lid was last presented to Steve, W3AHL for the generous assistance he has provided to many hams in the area. The LID will be awarded to a new recipient in the near future.

Door Prizes - Door prize winners were Rhett, KE4HIH - ARRL Book on Wire Antennas; Dan, KR4UB - Hex bit Extension Drive; and Sue, KE4YJ Hex Tool Set.

Announcements - Dee announced the 2015 DFMA annual Christmas dinner meeting on December 1st. The club will pay dinner costs for members in good standing + 1 guest attending the event. In keeping with Christmas spirit, members are asked to bring toys for kids, wrapped or unwrapped. Wrapped toys should be marked to indicate the appropriate recipient age and gender. Also a charitable donation will be made by DFMA and, members wishing to make additional contributions to the Food Bank of North Carolina and the Durham Rescue Mission.

Dee again made the call for members to submit ham BIO's and photographs for the DFMA Link. An important goal of the club is to encourage fellowship and for members to get to know each other's interests and expertise in the ham radio field. Given the rising membership, wearing name tags to the club meetings assist all in getting to know fellow attendee

names, call signs and faces. To encourage the wearing of name tags, the practice will be continued that attendees must have a name tag to receive a raffle ticket for the meeting door prizes.

Program Presentation

The program presentation was by Dan, KR4UB on the topic "A Look at the Internal Workings of AGM VRLA Batteries; Insights on How to Achieve Maximum Battery Life". Referencing authoritative sources, the presentation focused on the internal construction differences and the gas recombination process that allow AGM VRLA batteries to be sealed. The program went into some detail on the critical processes that generate and recombine the gases and liquids as part of the normal operation of a sealed battery. Insight into these processes provides an understanding of the failure mechanisms that can significantly shorten the life of a sealed battery. The program included a video and information on new charging practices solves a major issue causing internal corrosion in a battery. The new charging practices have been implemented by major UPS manufacturers that in their words, achieve up to 50% longer life.

Dan has used a commercial size UPS at his home to power critical electronics and communications equipment since 2001. While this used equipment works great as a UPS, a problem in the internal UPS battery charger required him to build an external charging system, that quite by accident employs the same charging practice now being used by UPS manufacturers to significantly extend battery life. Thanks to Dewey, WA4AHR, data has been collected from this system using commercial test equipment that can make precise measurements of battery internal condition. Data was presented from periodic measurements on 6 batteries that have been in Dan's system for 12 years, and one battery for 14 years. This data provides supporting evidence that the new charging methodologies do in fact significantly extend the life of sealed lead acid batteries. The new charging methodologies would be easy for a ham to implement by several methods.

Meeting adjourned at 8:30 pm.

Buy – Sell – Trade

Wanted: Dead Microwave Ovens

I can use dead/dying/unwanted microwave ovens. The power transformers can be used for power supply construction. Thanks.

Wilson – W4BOH

For Sale: High Quality Coax

Wilson is usually putting together a bulk order for high quality, LMR-400 equivalent coax. By ordering full spools he can usually get it for about one half the typical retail price. Contact him before buying larger lengths on your own.

Upcoming Events (dfma.org for details)

- 11/3 6pm DFMA Meeting, Bullock's BBQ
- 11/9 7pm VE Session, Orange County EOC
- 11/9 7pm OCRA Meeting, Orange County EOC
- 11/15 8am-3pm JARSfest, Benson
- 11/17 7pm DFMA Board Meeting
- 12/1 6pm DFMA Christmas Dinner, Bullock's BBQ

Web Site: dfma.org

73 - Dee, KU4GC, Editor

- MK, W4MKR, Proofreader

Send copy to ku4gc@amsat.org

Deadline: one week before the Club Meeting

(Images and copy: KU4GC or as credited)