



CrossTalk

Issue 60:07

60 Years Of Service To Our Community

July 2019

2019 Club Officers

President : James Clark Sr, KA2OSV
Vice President : Anthony Starr, WA2FZB
Treasurer : Alan Arrison, KB2AYU
Recording Secretary : John Zaruba Jr, K2ZA
Corresponding Secretary : Ronald Block, NR2B

Trustees - 4 year term

Mark Gottlieb, KK2L (2016-2019)
Robert Fields, KC6AOH (2017-2020)
Charles Lanard, KD2EIB (2018-2021)
James Wright, N2GXJ (2019-2022)

Board of Directors - 3 year term

Robert Durham, W2RAD (2019)
Herb Dyer, KT2Y (2019)
Charles Colabrese, WA2TML (2018-2020)

William Price, NJ2S (2018-2020)
Jeffrey Garth, WB2ZBN (2019-2021)
Jeffrey Welsh, KD2AZI (2019-2021)

This Month's Calendar

General Membership Meeting
 Wednesday, July 3, 2019 @ 1930 Hours
 Pfeiffer Community Center

Tech Saturday Forum
 Saturday, July 6, 2019 @ 0900 Hours
 W2MMD Clubhouse

VE License Testing Session
 Thursday, July 11, 2019 @ 1900 Hours
 Franklin Township Public Library

10 Meter Swap Meet
 Saturday, July 13, 2019 @ 2000 Hours
 Tune-In on 28.465 MHz or 28.475 MHz

Board of Directors Meeting
 Wednesday, July 17, 2019 @ 1900 Hours
 W2MMD Clubhouse

10 Meter Rag Chew Net
 Every Tuesday @ 2000 Hours
 Tune-In on 28.465 MHz or 28.475 MHz

2 Meter Rag Chew Net
 Every Thursday @ 2000 Hours
 Tune-In on the 147.180 MHz Repeater

Inside This Issue...

President's MessagePage 2
July 3rd MeetingPage 3
Welcome New MembersPage 3
Tech Saturday ForumPage 4
Best Down Jersey DX PicksPage 5
DA's & DIT's.....Page 6
Club History.....Page 7
Welcome To Amateur RadioPage 11
KB6NU's Ham Radio BlogPage 13
Regional Hamfest/Events.....Page 15
WU2S Tech Talk.....Page 16
Field Day Satellite Station.....Page 18
Here Comes FT4!.....Page 20
New FT4 Beta ReleasePage 21
Love Our Repeater!Page 23
APRS Weather @ Clubhouse.....Page 24
2019 Ride MS - City To ShorePage 28
Keystone West.....Page 29
ConversationPage 31
Element 3 Question Quiz.....Page 33
General Meeting Minutes.....Page 35
Board Meeting Minutes.....Page 37
July Birthdays.....Page 39
Last Page CalendarPage 43



President's Message



Dear Fellow Members,

At the time of the writing of this month's message Field Day 2019 has not yet begun, but by the time you read this FD 2019 will be history. I want to thank everyone who came out this year and participated in this very important event. I would especially like to thank Al Arrison, KB2AYU for being our Field Day Chairman; Jeff Garth, WB2ZBN for being our Senior Chef and providing us with the best chow this side of the Mason Dixon Line; and Herb Dyer, KT2Y for being our Safety Officer. I would also like to thank the following Band Chairmen:

- ♦ Herb Dyer, KT2Y - 2 Meter Phone
- ♦ Tony Starr, WA2FZB and Darrell Neron, AB2E - 15 and 80 Meter CW
- ♦ Mark Gottlieb, KK2L - 20 Meter Phone and Digital
- ♦ Merrill Brown Jr., WK2G and Willie Ustaszski, WA2DUV - 20 Meter CW
- ♦ Vinnie Sallustio, N4NYY and Kenny Denson, WB2P - 40 Meter Phone
- ♦ Sheldon Parker, K2MEN; Gene Schoeberlein, AA2YO; Harry Bryant, AA2WN - 40 Meter CW
- ♦ Jim Clark, KA2OSV - 75 Meter Phone
- ♦ Jon Pearce, WB2MNF; John O'Connell, K2QA; John Zaruba Jr, K2ZA - Satellite Communications

A hearty Thank You also goes out to all those who came out and assisted in putting up antennas and operating the various stations. Thank You one and all for a job WELL DONE.

Don't forget to SAVE THE DATE, Saturday, 17 August 2019 for the Annual Club Picnic to be held at the Club Site. Come One Come All and enjoy some fine food and beverage. Meet old friends and make some new friends.

SAVE THE DATE, Sunday, 15 September 2019 for the Annual GCARC Hamfest. Tickets are \$9.00 each, however if you work the Hamfest purchasing a ticket is OPTIONAL. Many volunteers will be needed to make this event a true success. For more details see Sheldon Parker, K2MEN or Bill Price, NJ2S.

I would like to welcome our two newest members; Linda Murphy, KD2RVH and Will DeCuzzi, KD2KZW. Both hold a Technician Class license and hail from Bellmawr, NJ.

Well that's about it for now. See you all in the pile-ups.

73 es God Bless Us All

**JIM CLARK, USN (Ret.)
KA2OSV
President GCARC**

*"Ask not what your Club can
do for you, but what you can
do for your Club"
- KA2OSV*



July 3, 2019 General Membership Meeting

Skype Meeting With :

Dr. Edison Fong, WB6IQN

Designer of the DBJ-1 & DBJ-2 Dual Band J-Pole Antennas

<https://ebay.to/2WJIS7R>

Welcome New Club Members :

William DeCuzzi, KD2KZW, (returning member from 2017), who has a Technician Class license and lives in Bellmawr, NJ.

Linda Murphy, KD2RVH, who has a Technician Class license and lives in Bellmawr, NJ.

We are glad to have you as members of the Club and hope to see you regularly at Club meetings, events, and activities.



Our General Membership Meetings are broadcast live on Periscope.TV

If you have an Android or iOS device, go to the app store and download the Periscope application

Using the search function, just search for W2MMD

Need a ride to a Club meeting, event, or activity?

Just send a message to the Club's e-mail reflector asking if a member can pick you up

GCARC <at> MAILMAN <dot> QTH <dot> NET

All Club members have access to this FREE e-mail service



Tech Saturday Forum July 6, 2019 @ 0900 Hours W2MMD Clubhouse

Open Discussion Of All Amateur Radio Related Topics

We would like to invite all of our new members as well as our veteran members to our Tech Saturday Forums to help answer any questions and discuss any and all issues the new members have come across as they progress through the *Amateur Radio Experience*.

The Discussion Theme is a QSO starting point - a way to initiate a conversation. All Tech Saturdays are an open QSO of all subjects of Amateur Radio interest.

All questions are welcome as well as a venue for hams to show off their latest ham radio projects or gadgets. Have a problem programming that HT, we can help! Not sure what radio or antenna to buy, we can help!

All Club Members who would like Clubhouse access to use its radio equipment would have to have some brief "Elmering" on the Clubhouse rules, such as using the alarm system, the A/C and heaters, the antenna system, and the radio equipment.

All are welcome - Hams and Non-Hams - Club Members and Non-Club Members. Take a guided tour of our Clubhouse. Visit our HF and VHF/UHF/Satellite Operation Facilities and our vast antenna farm.

As always, refreshments and snacks will be served at every Tech Saturday.

The Tech Saturday Forum is held on the Saturday after the General Membership meeting.

THE ORIGINAL 13 COLONIES SPECIAL EVENT GROUP PRESENTS THE 11TH ANNUAL

4th Of July Week - 13 Colonies Special Event

JULY 1ST - JULY 7TH, 2019

K2A - NY.
K2B - VA.
K2C - RI.
K2D - CT.
K2E - DE.
K2F - MD.
K2G - GA.

OLDE FORT TICONDEROGA, NY. - 1777
(Fully Restored in 1909 With Original Period Cannon)

BUILT BY THE FRENCH, OCCUPIED BY THE AMERICANS & CAPTURED BY THE BRITISH

K2H - MA.
K2I - NJ.
K2J - NC.
K2K - NH.
K2L - SC.
K2M - PA.
KU2US
Manager's Bonus Station

CONTACTS

13

*All 13 Colony States
Clean Sweep*

THIS IS TO CERTIFY THAT ARS: **KU2US** HAS PARTICIPATED
IN THIS 4TH OF JULY WEEK CELEBRATION HONORING THE ORIGINAL
13 COLONY STATES & THE INDEPENDENCE OF OUR NATION IN 1776

73'

73'

KEN VILLONE-KU2US-MANAGER: *Ken Villone*

www.13colonies.net



Best Down Jersey DX Picks

July 2019

By Bill Grim, W0MHK

CALL	DATES	HIGHLIGHTS	DIFFICULTY (5=MOST RARE)	ENTITY
9H3IK	07/05 - 07/12	30, 20, 17M/CW, SSB	1	Malta
H44MS	07/05 - 07/20	80-10M, 6M?/SSB	3	Solomon Islands
E44WE	07/06 - 08/03	80-6M/SSB, RTTY, FT8	4	Palestine
9M6NA	07/07 - 07/16	HF/FT8	3	East Malaysia
P44W	07/11 - 07/16	160-10M/Multi-Modes	1	Aruba
MD	07/11 - 07/17	HF/Multi-Modes	1	Isle of Man
V47JA	07/20 - 08/11	160-6M/SSB, FT8	1	Saint Kitts/Nevis
8Q7SU	07/31 - 08/07	20-10M/CW	3	Maldives
CY9C	07/31 - 08/07	160-6M/CW, SSB, FT8	1	Saint Paul Island

DJ DXing Extra! : How well have you done on 6 Meters this season at the bottom of the sunspot cycle??? Share your best QSOs on 6 Meters (Especially with FT8 mode) as the band closes for the Summer at w0hmk7388@aol.com.

Credits : NG3K Announce DX Operations : www.ng3k.com/Misc/adxo.html

Entity Of The Month : Isle Of Man

The Isle of Man, often referred to simply as Mann, is a self-governing British Crown dependency in the Irish Sea between Great Britain and Ireland. The head of state is Queen Elizabeth II, who holds the title of Lord of Mann and is represented by a lieutenant governor. Defense is the responsibility of the United Kingdom. The island has been inhabited since before 6500 BC. Gaelic cultural influence began in the 5th century AD, and the Manx language, a branch of the Gaelic languages, emerged. In 627, Edwin of Northumbria conquered the Isle of Man along with most of Mercia. In the 9th century, Norsemen established the Kingdom of the Isles, which included the Isle of Man. Magnus III, King of Norway, was King of Mann and the Isles between 1099 and 1103. In 1266, the island became part of Scotland under the Treaty of Perth, after being ruled by Norway. After a period of alternating rule by the kings of Scotland and England, the island came under the feudal lordship of the English Crown in 1399. The lordship reverted into the British Crown in 1765, but the island never became part of the 18th century kingdom of Great Britain or its successors the United Kingdom of Great Britain and Ireland and the present-day United Kingdom. It retained its internal self-government. In 1881, the Isle of Man parliament, Tynwald, became the first national legislative body in the world to give women the right to vote in a general election, although this excluded married women.

www.wikipedia.org/wiki/Isle_of_Man



DA's and DIT's

Gary Reed, N2QEE, reports about the June 1, 2019 Ham Cram Session at Cooper University Health Care had 10 Candidates :

- ◆ **Debra, KD2SGI** - New General Class
- ◆ **Jeanine, KD2SGE** - New Technician Class
- ◆ **Andy, KD2SGF** - New Technician Class
- ◆ **Philip, KD2SGG** - New Technician Class
- ◆ **Michael, KD2SGH** - New Technician Class
- ◆ **Michael, KC2SBR** - Upgrade to General Class
- ◆ **David, KD2PZP** - Upgrade to General Class
- ◆ **Michael, KC2RRJ** - Upgrade to General Class

The VE's attending were : **Jennifer KD2EYR, Chuck WA2TML, Urb W1UL, Ed N2RO, Jeff WB2ZBN, Peter W2QB, Woodrow W2WDY, and Mike, N2MHO.**

I wish to thank Cooper Hospital for providing the space and lunch for the attendees of the session.

Gary Reed, N2QEE, reports about the June 13, 2019 VE Licensing Session :

- 3 Candidates :
 - ◆ **Joseph, KD2SHJ** - New Technician Class
 - ◆ **Janette, KD2SHK** - New Technician Class
 - ◆ **Jeff, KD2AZI** - Upgrade to Amateur Extra Class

The VE's attending were : **Chris N2IVN, Frank W2FJM, Ed N2RO, Urb W1UL, and Mike, N2MHO.**

Congratulations to Club member, **Jeffrey Welsh, KD2AZI**, for upgrading to Amateur Extra Class license.

A Big W2MMD Get Well to :

- **Jim N2GXJ** recovery at home from surgery
- **Ray W2RM** recovery from some recent strokes

Condolences to Club member **Glenn N2YIO** and his family on the passing of their mother Pauline.

Congratulations to Club member **Karl Frank, W2KBF**, for becoming the **Gloucester County ARES Emergency Coordinator.**



**New addition to the
Clubhouse Site**

**The N2LAM Fire Pit
and Pig Roaster**

60 Years Ago This Month 1959 Club History : Part 7

THE OFFICIAL PUBLICATION OF THE GLOUCESTER COUNTY AMATEUR RADIO CLUB

Volume 1 : Number 4

July 1959

Where : Owens-Illinois Onized Club House, Glassboro, NJ

When : July 1, 1959 @ 2000 Hours Sharp.

Who : All members and interested parties

What : Regular meeting of the Gloucester County Amateur Radio Club

de K2JKA

My big question is what happened to all those articles that you fellers were going to write for the Club paper? In case it slipped your mind the address is Barlow Avenue, Woodbury, NJ. So what say, let's get on the ball gang.

Everyone seemed to enjoy the tour through the **Owens-Illinois Glass Company** plant at the close of the regular meeting last month. Well as I said last month, "Now we are all experts at making bottle caps and lids". At any rate it was instructional and very interesting to all who took the tour. Our sincere thanks to Mal Mason, W2MMD, and the guides for making it possible.

This month brings Mr. **Jack Sterner, K6JTP**, an ex W2 and via the grapevine a future W2, to the floor as principal speaker at our July meeting. Mr. Sterner has been with RCA for a good number of years and we certainly appreciate his taking time out from his many activities to address the Club membership.

Don't forget the code training classes before the regular business meeting. We had a very good turnout last month and I hope that interest keeps up.

Your editor is looking for someone who will assume a post of article writer on any subject, no pay but beneficial to all Club members. Any takers ?

NEWS and SCRATCHES ?

Bob Stanley, K2CIQ, was in our neighborhood last week and collected his ham gear. Bob expects to be back on the air in a month or so. He is now sporting a new K5 call.

Mal Mason, W2MMD, unfortunately will not be with us for the next meeting. Mal is enjoying a well earned vacation.

Andy Washy, K2ISN, is now back home from college for the summer, we will be looking for him on the air soon. Incidentally, Andy is the president of the **Saint Bonaventure University Amateur Radio Club**. The club call is **WA2DVW**.

Club History - Continued on page 8

George Stuart, K2SOL, is looking for a big turn-out for the field day activity, all details have been worked out and it should be a great time for all who take part in this affair.

Ezra 'Doc' Sirotta, K2BUR, is now the proud owner of a new tri-band beam and is working DX like mad. Lots of luck, Doc, and save some of the rare stuff for us.

Due to lack of material we are unable to add that page a month that we were hoping to do.

THIS MONTH'S STAFF

Editor : Jack Layton, K2JKA

Typist and Publisher : Al Roche, K2HHJ

Swaps : Ray Gianchetti, WA2CUB

SWAP AND SHOP

FOR SALE :

Mallory Vibrapack six volt variable output 225-250-275-or 300 at 100 ma, brand new for \$5.00. See Ray Gianchetti, WA2CUB.

S38-D around - \$30.00

50 foot RG58/U - Sell for \$2.00

See Bill Smith, WV2FHE.

Here's the one we told you about in the last issue. A 2 meter rig for \$15.00. RCA Toastmaster, no conversion NBFM. Can be plate modulated. About 25 watts output. Less power supply and crystal. A real buy. See Ray Gianchetti, WA2CUB.

DB22-A First class - \$35.00

2 - 304TH - \$8.00 each

Will throw in for free another with one side filaments bad with purchase of tubes. See Hal Kutz, K2JGU.

WANTED :

5" oscilloscope. See Denny Murray, K2RRT.

DX 20 or DX 35 in good condition. See John Hirst, WV2FMD.

Anyone having anything to trade, sell, or buy, let me know and we will be glad to help out. Get in touch with **Ray Gianchetti, WA2CUB**.

Gloucester County Amateur Radio Club

General Membership Meeting Minutes

Wednesday, July 1, 1959



Minutes of the July 1, 1959 meeting of GCARC.

Meeting called to order by President Frank Van Turner W2KE @ 2015 Hours with 30 members and 5 visitors present.

Reading of minutes dispensed with.

Treasurer's report showing \$211.54 balance on hand approved as read.

Jim Peck W2LVW, read a proposed amendment to the By-laws, providing for trustees for the Club. After discussion it was moved, seconded and unanimously voted to amend the By-laws accordingly. An election was conducted and the following were elected to serve as trustees :

- ◆ **Frank Andrews W2STW 4 Year Term**
- ◆ **Wayne Wood W2SUA 3 Year Term**
- ◆ **Larry Scarpa Jr WA2CVV 2 Year Term**
- ◆ **Gurdon Cooper W2PAX 1 Year Term**

Al Roche K2HHJ, reported on the Club paper and requested contributions for the same.

President Frank Van Turner W2KE, reported on CD drill and requested opinion on change of time for drill. Question unresolved at meeting so Van Turner suggested interested parties send a postcard to him with any comment.

Al Roche K2HHJ, reported on Field Day and commended everyone for a well organized activity. There will be further information at the next meeting and via the Club paper. Van Turner reported about 1000 contacts with a 4 transmitter setup. Paul Scarpa Sr W2SHE, offered to show color movies of GCARC and Cumberland County Club Field Day activities next meeting.

President Van Turner and Della Parker W2AFZ, described ARRL affiliation forms and passed out same to be filled out and returned by next meeting.

Horace Simpson W2JOZ, announced that this meeting was the last opportunity to meet requirements for charter membership, (dues paid up for the current month and initiation fee also paid.)

Membership voted to pay the following bills :

- ◆ **Al Roche K2HHJ: \$2.79 for Club paper postage**
- ◆ **Treasurer: \$3.39 for postage and gasoline**

President Van Turner introduced Jack Sterner, K6PLT, who gave an interesting talk and answered questions concerning receivers as related to the amateur service.

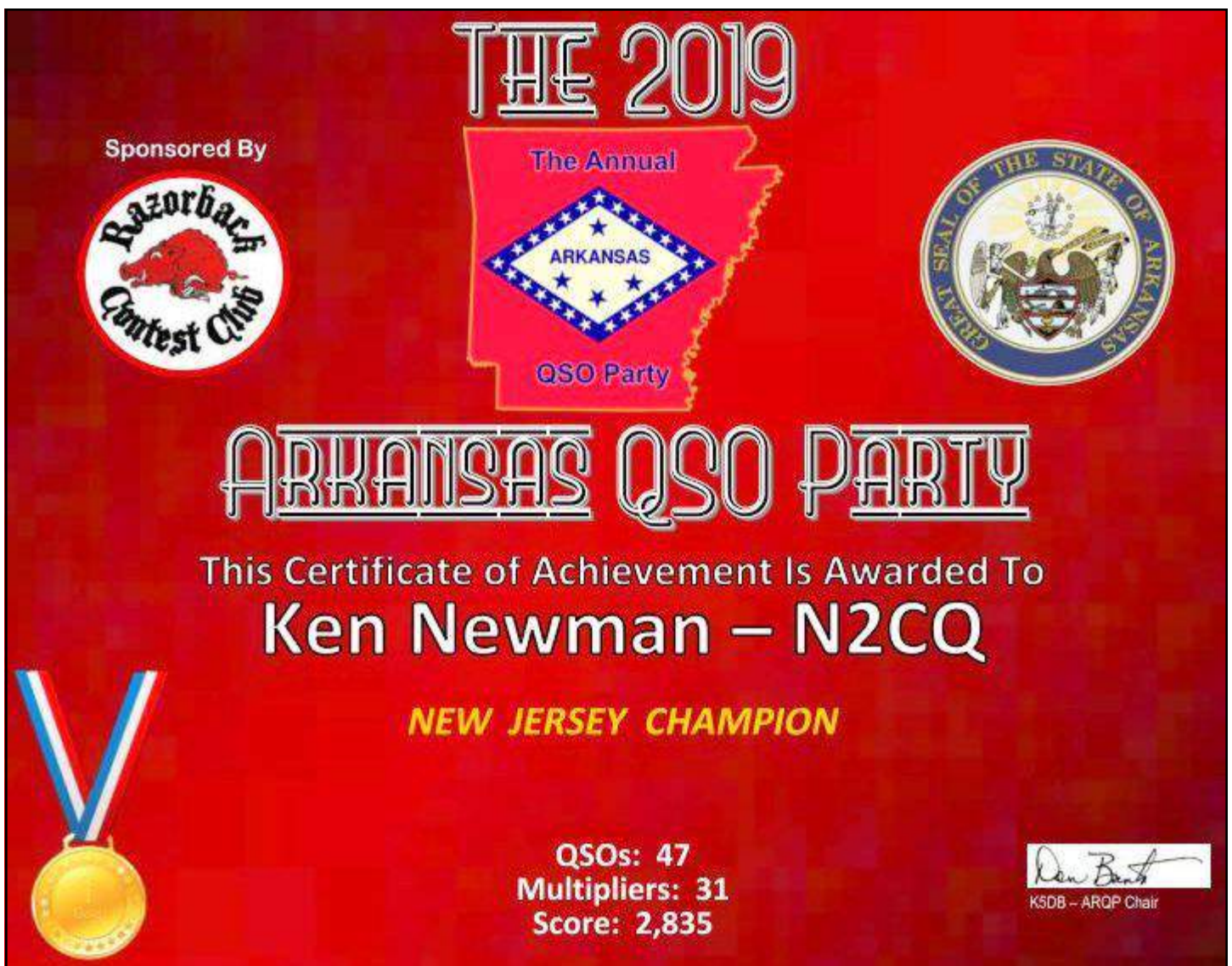
July 1959 General Membership Meeting Minutes - Continued on page 10

President Van Turner introduced the following visitors :

- ♦ **John Firth K2MNZ**
- ♦ **Ian Fritz K2VQD**
- ♦ **Grace Hockensmith K2SHJ**

Meeting adjourned @ 2135 Hours.

Signed : Edwin S Stetser Sr K2JJC, Recording Secretary





Welcome To Amateur Radio! The Basics

By Jim Wright, N2GXJ

Let's face it. There's a learning curve when it comes to Amateur Radio. We know that once you've got your license, taking the next steps can be tricky. And the web can be a confusing mix of data if you don't know what it is that you are looking for before you start looking. Wouldn't it be nice if someone had put together some handy Amateur Radio Getting Started Guides, available as web pages or PDF files, all in one place that you could read on your own? Then, wouldn't it be nice if there was a local club, with helpful members and an open forum each month at a clubhouse where anyone is welcome to come with questions, where you could go and talk with others in the hobby about what you are learning and what you might be thinking of as being the next step?

Well, good news on both!

Though finding Amateur radio getting started guides for free that are any good on the Web is difficult, at best, I think I've found a site you might be interested in : www.essexham.co.uk/getstarted. I'd suggest skipping the "get your callsign" section, and go straight to the "Just Licensed?" section. Be sure to check out the "Set Up QRZ" section. Though there are some differences between being licensed in the United States, and in England (from where this web page is hosted, and where the entry level license class is called a "foundation" rather than a "technician" license), recognize that this is a world-wide hobby, and information you gather from here will be very valuable in promoting questions you'll then want to talk about with someone who is already in the hobby, and has some connection to a club or other radio operators who know what they are doing and operate a 2 Meter repeater system in your local area.

So what about finding that local club? Well, if you are in the Delaware Valley region of NJ, PA, and DE, that's easy. I know of just such a club that has a Tech Saturday Forum open house at their clubhouse each month where you can talk with others already in the hobby about what you are learning, and what you might be thinking of as next steps. And if you're reading this article, you've probably already found them! It's us, the Gloucester County Amateur Radio Club! www.w2mmd.org.

Alright then! Welcome to what can be a great and lifelong rewarding hobby!

We look forward to hearing your questions soon!



Field Day 1989
←

Still working
together

Field Day 2019
→



Field Day 2019





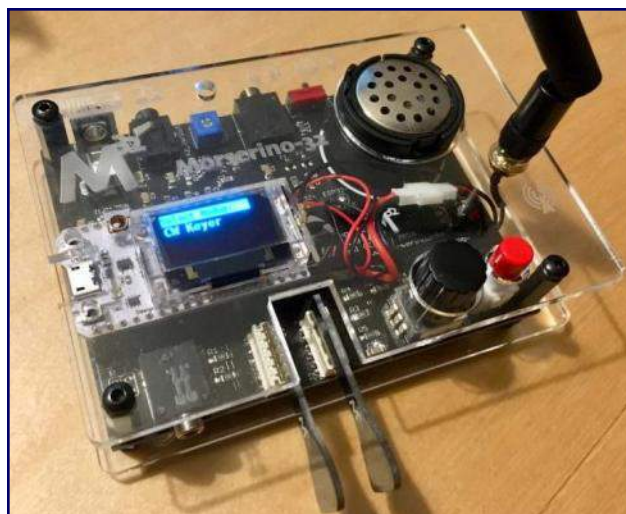
Learning About Batteries

By Dan Romanchik, KB6NU

I often say that getting an amateur radio license is as much getting a license to learn as it is getting a license to operate on the amateur radio bands. Lately, I've been learning about batteries, LiPo batteries to be exact.

It all started when I purchased a Morserino (www.morserino.info). The Morserino is a Morse Code learning aid that has a number of unique features. For example, in addition to helping you learn the characters, it's also supposed to help you learn how to copy in your head. It also has a built-in touch keyer function, and a LoRa interface that lets you send and receive code from other Morserino units.

I'll be writing more about the Morserino in a future column, but let's get back to batteries. The kit did not come with a battery. Instead, it was suggested that one purchase a 600 mAh LiPo battery commonly used for powering drones. I found this battery on Amazon, and purchased a six pack of them, thinking that I'd find uses for the other five in some project or another.



Well, sooner than expected, I did find another application for one of the batteries. I'm building a little Arduino project for a client, and I reckon that this, or one with more capacity, will make a great power source for the project.

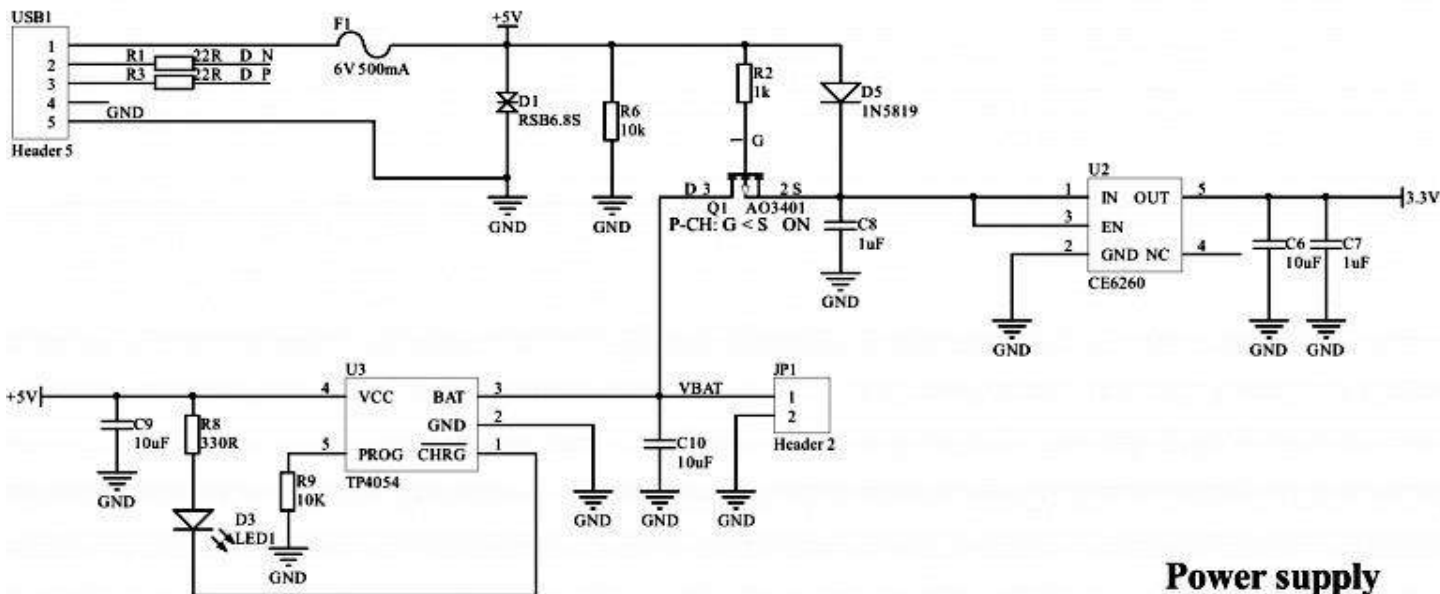
Now, I have two immediate challenges :

1. Figure out how to charge the battery.
2. Figure out how to connect it to the Arduino.

On the Morserino, the battery plugs directly into a connector on the bottom of the computer board (the white board with the LED display). I knew that connecting the 5V line from the USB connector directly to the battery was a no-no, but I'd lent out the Morserino to a friend, and I didn't have the schematics for the board. So, how they managed to charge the battery from the USB port was a bit of a mystery.

KB6NU's Ham Radio Blog - Continued on page 14

I emailed Willi, OE1WKL, the designer of the Morserino, and he sent me a wealth of information. There actually is a battery-management IC, the TP4054, on the board :



He also gave me the part number for the battery's mating connector. He said, "The mating connector for the Molex connector on the battery is a Molex 51006. It is sometimes referred to by vendors as 51005 female, but 51005 is the connector on the battery." You can, of course, buy pre-made cable assemblies on Amazon (www.amazon.com/gp/product/B07P54QTR8).

You can also buy lithium battery charging modules (www.amazon.com/gp/product/B01LZSC7I8). These modules have a TP4056 on them, which is similar to the TP4054. It's amazing to me that you can purchase ten of these things for less than seven bucks.

So, that's where I'm at right now. Once I get the modules and cables, I'm going to hook it all up and get the Arduino system running from the battery. The next step will be to integrate a small solar panel and run the whole thing from solar power, hopefully.

Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the “No Nonsense” amateur radio license study guides (KB6NU.Com/study-guides), and one of the hosts of the No Nonsense Amateur Radio Podcast (NoNonsenseAmateurRadio.Com). He often wonders if he can learn things fast enough.



Regional (Atlantic & Hudson Divisions) Hamfests & Events

July 6, 2019 : Harrisburg Radio Amateurs' Club, 48th Annual Firecracker Electronics Expo & Hamfest, Harrisburg Area Community College, Shumaker Public Safety Center, 3599 Industrial Road, Harrisburg, PA. www.w3uu.org

July 7, 2019 : Murgas Amateur Radio Club, 40th Annual Wilkes-Barrie Hamfest & Computerfest, Polish American Veterans, 2 South Oak Street, Plains, PA. www.murgasarc.org

July 13, 2019 : Wattsburg Wireless Association, 18th Annual 2019 NW PA Hamfest, Greene Township Municipal Building, 9333 Tate Road, Erie, PA. www.wattsburg-wireless.us

July 13, 2019 : Radio Amateurs of Greater Syracuse, RAGS Hamfest, Lakeside Fire Station, 1002 State Fair Boulevard, Syracuse, NY. www.ragsclub.org

July 13, 2019 : Mid-Atlantic Amateur Radio Club, Valley Forge Hamfest, Kimberton Fire Company Fairgrounds, 762 Pike Springs Road (Route 1130 at Firehouse Lane, Phoenixville, PA. www.marc-radio.org

July 14, 2019 : Sussex County Amateur Radio Club, 2019 SCARC Hamfest, Sussex County Farm & Horse Show Fairgrounds, 37 Plains Road, Augusta, NJ. www.scarcnj.org

July 20, 2019 : New Jersey Antique Radio Club's Summer Tailgate Swap Meet, InfoAge Science History Learning Center and Museum, 2201 Marconi Road, Wall, NJ. www.njarc.org

July 20, 2019 : Lancaster Amateur Radio Club, Batavia Hamfest, Alexander Firemen Grounds, 10708 Alexander Road (Route 98), Alexander, NY. www.w2so.org

July 21, 2019 : Somerset County Amateur Radio Club, Somerset County PA Hamfest, Somerset County Technology Center, 281 Technology Drive, Somerset, PA. www.k3smt.org

July 27, 2019 : Cumberland Valley Amateur Radio Club, 2019 Hamfest, 1501 Criders Church Road, Chambersburg, PA. www.w3ach.org

July 28, 2019 : Utica Amateur Radio Club, Radiocom 2019 Hamfest, Deerfield Firehouse Grounds, 5476 Trenton Road, Utica, NY. www.uticaarc.com



Gloucester County 4-H Fair

July 25 - 28, 2019

www.gloucester.njaes.rutgers.edu/4hfair

www.facebook.com/GC4H NJ



Tech Talk

By Randy Smith, WU2S - Fair Lawn Amateur Radio Club ([FLARC](#))

Computers and Ham Radio

Our annual membership survey tells us that a lot of FLARC members are interested in learning about and using various forms of information technology to aid their enjoyment of amateur radio. Our club is fortunate that there are many members who can answer questions and provide mentoring on a wide range of computer topics.

Since scheduling face-to-face meetings is often problematic, it is helpful to have additional sources of guidance. One such source is the long series of audio podcasts named [Linux in the Ham Shack \(LHS\)](#).

The hosts - Russ K5TUX, Cheryl W5MOO, and Bill NE4RD - cover a very wide range of topics. They discuss various Linux distributions and utility programs, of course. Frequent show segments mentioned the next Linux and open-source conferences. They will give you ample time to register and attend events such as the Ohio Linux Fest, GNU Radio Conference, or the Open Source Summit North America. Even if you cannot go to these conferences, it is helpful to know that they exist and when they are held because they often publish a volume of conference proceedings and submitted papers which may address topic of interest to you.

Podcast segments containing Linux information are helpful to the beginner and the expert. You can hear about the latest updates to popular Linux distributions like Ubuntu, Mint, SUSE and others. News about changes to the Linux kernel is always an important topic. Lots of useful utility programs are covered - some briefly and some in detail.

Recent examples of these topics include Linux Audio Deep Dive (episode #247), Linux App Package Deep Dive (episode #235) which tells you how to get applications outside of the standard repositories, SvxLink, an advanced repeater controller and EchoLink software (episode #221), mumbleRF which connects radio transceivers to Mumble/murmur servers in order to extend the range of radio-frequency communications (episode #223), and FFmpeg which is the leading multimedia framework, able to decode, encode, transcode, mux, demux, stream, filter and play pretty much anything that humans and machines have created (episode #223).

Amateur radio segments might give you a brief introduction to a topic or a very deep dive into a subject which needs some time to explain thoroughly. Recent episodes covered FreeDV which is a Digital Voice mode for HF radio (episode #242), a FlexRadio Deep Dive (episode #230), multiple episodes on WSJT and FT8, amateur satellite operations and the open-source SATNOGS project, and explanations of software defined radio and how to use them.

One episode useful for newer hams is Amateur Radio Resources Deep Dive (episode #250) where the gang informs us about where to get news and help on getting licensed, getting smarter, getting gear, getting parts, getting involved and much more.

There are many more topics than can be listed here. Your best approach to finding episodes of interest is to read the available Show Notes which you will find under the Contents menu tab on the LHS website.

They announce the upcoming amateur radio contests and tell you how to participate. Some of these ham contests are obscure and you might have missed them without a reminder from LHS.

Tech Talk - Continued on page 17

Example contest news includes the ARRL 222 MHz and Up Distance Contest, the Worked All Capitals event and the Collegiate QSO Party.

To keep you from getting bored and sleepy, the LHS gang includes some useful non-radio content too. Some favorites are Cheryl's recipes. Try her Pepperoni Pizza Pasta Salad (episode #252) or her One-Pot Teriyaki Chicken and Rice (episode #240). Russ and Bill might comment on a new beer or liquor they have sampled. The gang frequently comments on recent happenings in the world of social media.

So, if a somewhat offbeat podcast which isn't exclusively ham radio oriented is your cup of tea, or pint of lager, then Linux in the Ham Shack might become your favorite entertainment.

73,
Randy WU2S

References :

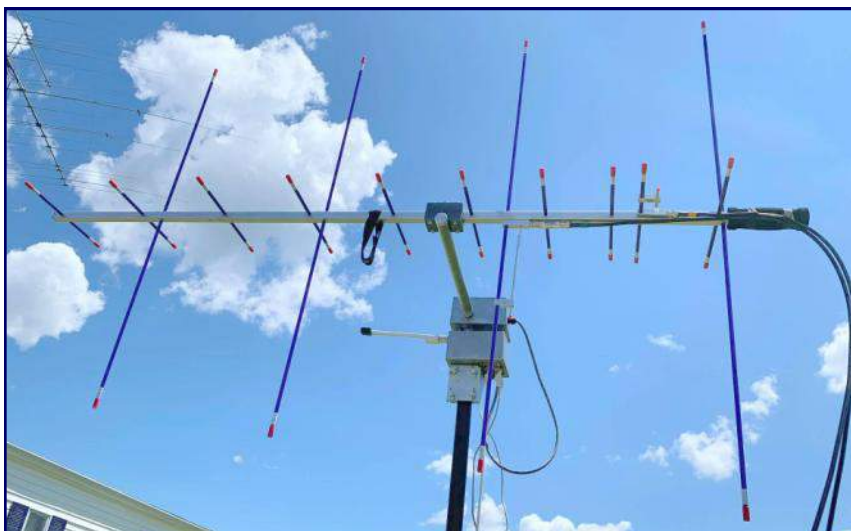
1. Linux in the Ham Shack (audio series 272 episodes) : <https://lhspodcast.info>
2. FreeDV : <https://freedv.org>
3. Flex Radio Deep Dive : [audio : <http://bsmarchive.info/lhs/mp3/lhs230.mp3>]
4. SvxLink : <https://www.svxlink.org>
5. mumbleRF : <https://github.com/dk7lst/mumbleRF/tree/mumbleRF-1.2.19>
6. FFmpeg : <http://ffmpeg.org>



The GCARC 2019 Field Day Satellite Station

By Jon Pearce, WB2MNF

Field Day brings out the creativity in hams since we have to adapt our typical operating configurations and practices to a completely different setting. This was also true for the satellite team (K2QA, K2ZA, N3PUU, KD2RPE and WB2MNF) as we prepared for the 2019 event. Under Field Day rules stations receive 100 bonus points for the first satellite contact, so obtaining this contact is significant to our point score. Last year we barely made it - we made our first and only contact on the last satellite pass of the event, so this year we wanted to be far better prepared.



As in any ham station, there are three primary components - the receiver, the transmitter, and the antennas. For satellite receiving we long ago migrated to software defined radio, so I had to build out my laptop for SDR. This meant installing the PST Rotator program that manages the antennas and sets the frequencies on the radios, the SDR Console program for visualizing and listening to the downlink signal, the com0com program that will allow PST Rotator to talk to the transmitter, and several other programs. Last year we utilized my smaller Toshiba laptop but the screen was too small to see in bright sunlight so I had to do a new installation on my larger HP laptop with a 15 inch screen.

Last year we used my Yaesu 991A rig as a transmitter but found that the uplink signal on 435 MHz caused significant interference on the 2 Meter downlink, which is problematic because the operator needs to be able to hear his signal in the downlink in order to correct for Doppler shift. The 991A is apparently notorious for creating this interference, so we ended up using the ICOM 7100 in my car. Conveniently, that radio has a separate control head that connects to the main unit with a standard Ethernet cable, so we were able to use a 50 foot CAT 6 cable to place the control head on the picnic table with the car parked nearby. The 7100 also allows CAT frequency control, so we ran a 30 foot USB cable from the laptop to the main unit that allowed PST Rotator to correct the transmit frequency for Doppler shift.

Last year we had to use the "Armstrong" method of antenna aiming, but this year K2QA had his Portable Rotation rotors working, which were connected to the laptop through a USB cable and allow PST Rotator to control the azimuth and elevation of the antennas. On the rotator we mounted an Arrow satellite antenna with a 2 Meter bandpass filter to further reduce interference on the downlink. See picture above.

The team met at the Clubhouse a week before Field Day to try everything out, and with a few changes everything worked well. But that was during normal operations with a couple of operators on each satellite, not during Field Day during which dozens of operators were trying to make contacts. We had previously decided to forgo the FM satellites, since only one QSO can occur at a time, and instead focused on the SSB satellites that support multiple QSO's. This included the CAS and XW series of Chinese satellites. Unfortunately, most of the useful passes of these satellites occurred overnight, so we had effective operating window of between 4 PM and 7 PM on Saturday and 4 AM to 7 AM on Sunday. Obviously we hoped we would be successful on Saturday!

2019 Field Day Satellite Station - Continued on page 19

Satellite operation involves hours of waiting punctuated by minutes of frantic operating, so once we had the equipment set up we found other projects to fill the time before the first passes on Saturday afternoon. Unfortunately, we found the limits of the power budgets for these satellites when they're heavily loaded with operators. Each satellite has a fixed power budget that gets divided among the number of simultaneous users. When there are only a couple of users each signal is quite loud, but with a dozen users signals often were unreadable. By about 9:30 PM on Saturday we still hadn't made a contact after about 8 passes. The next pass would be at midnight, but there were several that would occur between 5 AM and 10 AM on Sunday, so we decided to quit and reconvene early on Sunday morning. We had to pack up equipment such as laptops and SDR radios, and obviously disconnect the ICOM from the antennas so I could drive home.

Most of the team showed up around 5 AM on Sunday, and we reconnected everything and waited for the first pass. We weren't successful on that pass or several that followed, but we finally hit pay dirt about 6:30 AM with K4BFT (4A Alabama) on the XW-2B satellite. Apparently many operators had succeeded in getting their bonus point contact on Saturday or didn't feel like getting up early, so the satellite was lightly loaded when we were able to get the much-needed contact. After that we made a few unsuccessful tries, and the satellite passes ended at about 10 AM. We only made one contact, but that's all we needed.

Overall we were satisfied with the current equipment configuration - we didn't have any interference on the downlink and the PST Rotator program handled the rotator and Doppler shift well. Our only significant change in plans for next year is to add another Arrow antenna to increase receive gain. These Arrows only have four elements on 2 Meters, which doesn't appear to be enough to bring in weak signals during Field Day. Hopefully this will increase our opportunities for contacts next year.

The photo below shows the Field Day satellite station. On the table is a laptop and the control head for the 7100, with the SDR Play radio hidden by the laptop. The Portable Rotation rotator with the Arrow antenna is in the background, and the black coaxial cable and blue CAT 6 cable running to the 7100 base unit in my car are also visible. The T-shirt hanging from the umbrella is to block the sun in the early morning.



Here Comes FT-4!

By Jim Wright, N2GXJ

Hold onto your hats again! The new high octane FT-4 digital mode is scheduled to be unleashed for general availability into the wilds of the amateur radio airwaves all over the world on July 15!

This is the latest incarnation in the evolution of digital amateur radio modes from Dr. Joe Taylor's venerable WSJT-X team. First publically announced in April, FT4 combines RTTY-fast contest contact speeds with an FT-8 like weak signals mode.

How fast is it? In its initial incarnation, each transmissions last less than 4.5 seconds! In a QSO, stations alternate between sending and receiving every 6 seconds. That's 2.5 X faster than the 15 seconds between alternate TX and RX with FT-8. In early June, after more feedback from field trials, they've extended the time to sending and receiving every 7.5 seconds. Still "dang fast" if you ask me!



How much low signal ability is lost at these speeds? It's relative. In its initial version, FT4 was claimed to be able to decode successfully down to under -16 dB, which is faintly audible. For those used to using RTTY, that's far superior (by about 10 dB), and with the added benefit of not taking up as much bandwidth. After more feedback from field trials, they've narrowed the bandwidth from 90 Hz to 80 Hz, and added a third decoding pass ability, along with some other improvements, to result an improvement in S/N threshold down to -17.5 dB. For those used to using FT8, where decodes below -20 dB are often possible, it is not as good. But that's still "dang good" if you ask me!

Deemed "too new" to be allowed to be used for field day this year, the RC version purposefully disabled itself so that it could not be used during this event. But it's ready now. And so are your favorite tools, like N1MM+, Logbook of the World, and eQSL.cc to receive your logged contacts. The question is, are you ready? We'll know soon! Starting Monday July 15, check for download availability at : www.physics.princeton.edu/pulsar/k1jt/wsjt.html.

And stay tuned for other new news from the WSJT team. For the "low banders" out there, there are rumors stemming from an offhanded comment Dr. Joe Taylor, K1JT, made of a new mode in development targeting the new 630/2200 Meter low bands with an S/N limit near -35 dB!

Good DX, and have fun everyone!



New FT4 Beta Release "Leaps and Bounds" Better Than Earlier Iterations

The WSJT-X Development Group released yet another new beta version of the FT4 protocol this week, and WSJT-X 2.1.0-rc7 is now available for testing. Developers point out that the FT4 included in this "release candidate 7" version is not compatible with any previous releases. A short mock contest session to wring out the contesting features of FT4 took place on June 4.

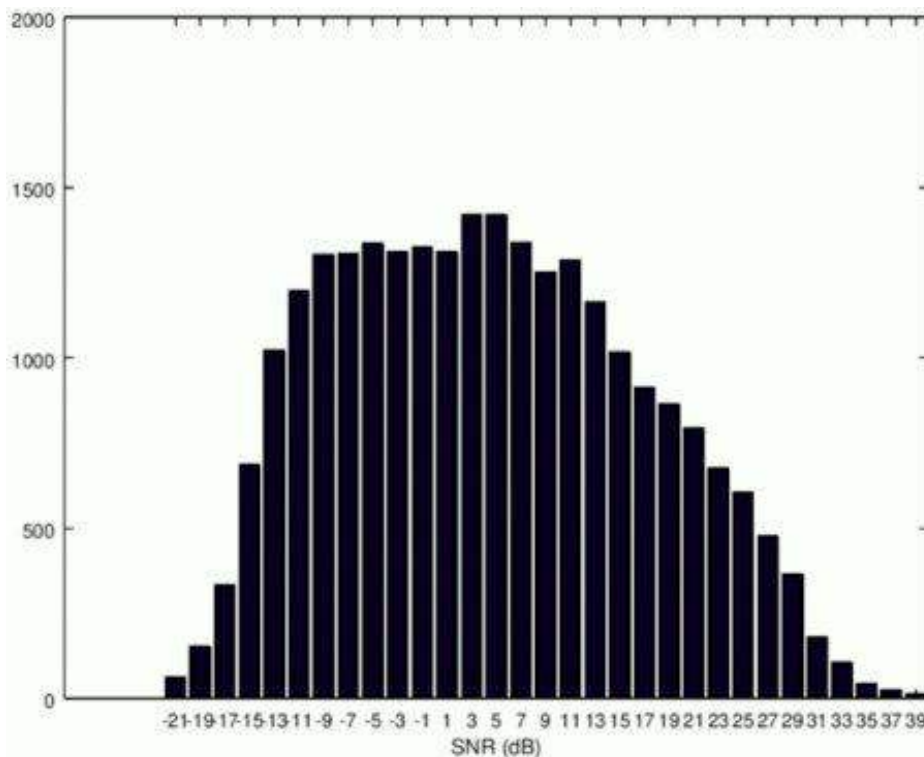
"Thanks to all who participated in yesterday's FT4 mock-contest practice session -- and especially to those who provided useful feedback. It is much appreciated!" said developer Joe Taylor, K1JT. "Everyone likes the 7.5-second T/R sequences, which provide operators with significantly more human interaction time than in previous revisions of FT4. Users also appreciated the sensitivity improvements and a larger range of acceptable time offsets (DT)." DT represents the combined clock difference for the transmitting and receiving computers, he explained.

Based on data compiled by Steve Franke, K9AN, Taylor said that it appears developers have the WSJT-X timing behavior under good control on all supported platforms, and the range of measured signal-to-noise values extended down to -21 dB.

"I operated for about 3 hours using 100 W and a dipole," Taylor recounted. "I copied transmissions from 263 unique call signs and made 143 QSOs in 29 states, 5 Canadian provinces, and 15 DXCCs."

Taylor said the developers anticipate addressing all remaining issues they're aware of. "I believe we are on a good path toward a General Availability (GA) release of WSJT-X 2.1.0 by mid-July," he said.

Steve Franke, K9AN, of the WSJT-X Development Group spent most of his time observing during the mock contest on June 4, decoding some 25,300 FT4 transmissions. This chart represents signal-to-noise ratios reported. →



New FT4 Beta Release - Continued on page 22

"This new version of FT4 is leaps and bounds better than before," said Mike Black, W9MDB, in a June 4 post to the Yahoo [WSJT Meteor Scatter and Weak Signal Group](#). "I worked almost everybody I could see without any repeats. Seems like we have a winner here."

Changes, improvements, and bug fixes that have been made since WSJT-X 2.1.0-rc5 include :

- ♦ T/R sequence length increased from 6.0 to 7.5 seconds.
- ♦ Signal bandwidth decreased from 90 Hz to 80 Hz.
- ♦ Improved sensitivity : Threshold S/N is now -17.5 dB.

Release candidate WSJT-X 2.1.0-rc7 will be available for beta-testing through July 21, and it will permanently cease to function after that date. It will not be usable during the ARRL June VHF Contest or during ARRL Field Day. Taylor advised using WSJT-X 2.0.1 and FT8 for these events.

[Downloadable installation packages](#) for WSJT-X 2.1.0-rc7 under Windows, Linux, and macOS are available on the WSJT-X web page.

Article Credit : The ARRL Letter for June 6, 2019 - www.arrl.org



Super MP1 Antenna + Yaesu FT991A @ W2MMD Clubhouse + 100 Watts - June 7, 2019

By Mark Gottlieb, KK2L

"Testing out the [SuperAntenna MP1](#). Antenna was on an old camera tripod about 9 feet total from top to grass. It's a compromise antenna, but it does have a consistently good performance level."

Time	Call	Band	Freq	Mode	Grid ²	Location	Comment
19:50	KA1AQP	20M	14.074	FT8	FN42cd	West Millbury, MA	Richard Kenadek
19:56	AA1M	20M	14.074	FT8	FN42jm	Burlington, MA	Robert Reiser
20:06	WA2HIP	20M	14.074	FT8	FN54ot	Brewer, ME	John Petrocelli
20:08	VE2QE	20M	14.074	FT8	FN35gl	Greenfield Park, QC	Francois Drien
20:21	KC1ELZ	20M	14.165	SSB	FN31vx	Union, CT	Craig Szwed
20:32	UB7K	20M	14.130	SSB	KN85ec	Russia	Andy Kazantsev
20:43	K8RNM	20M	14.264	SSB	EN80tb	Newark, OH	Charles Cohen
20:58	VA3GA	20M	14.166	SSB	FN03it	Scarborough, ON	Guenther Achleitner
21:02	K5RQ	20M	14.195	SSB	EL87sf	Osprey, FL	David Brandenburg
21:07	S51DX	20M	14.232	SSB	JN75dx	Slovenia	Janez Celarc
21:23	VE3SIZ	20M	14.184	SSB	FN03hp	Toronto, ON	Steve Goodman
21:26	ER4DX	20M	14.189	SSB	KN38vk	Moldova	Vasiliy Romanyuk
21:37	GB0DDR	20M	14.189	SSB		England	D-Day Remembered Peterborough
21:41	TM8FF	20M	14.192	SSB		France	Jean Pierre Desrues

Love Our Repeater!

By Jim Wright, N2GXX

I want to thank our Club. It was Thursday, June 13. Sitting at home in the early evening, it was clear that a storm was brewing outside. The TV program we were watching on ABC was interrupted by a special weather alert. And then the cell phone alarms went off. A tornado had been spotted in our area and we were being instructed to take shelter immediately.

My wife grabbed a folding chair, and with a hand-held 2 Meter radio, we headed to sit this one out in the basement. Memories of being a young scared child back in Illinois came back to me, where tornados and drills were a common occurrence. But this was today, here in Gloucester County, New Jersey. And it was not a drill. With a twist click, I turned on the HT, and from the relative safety of my basement, could still copy the chatter on our local repeater. Being a Thursday evening, a number of club members were already on 2 Meters. Shortly, a SKYWARN® net was started up.

From us being alone in the basement, blind to what might be happening outside, we were now connected, and receiving eye witness accounts from around the area of where the storm was, and what it was doing. Over the air we heard local reports of the storm's progress, from where the front was, to the changing wind and rain conditions - some of the reports coming in mobile, from those stuck out driving in it, unable to get home before it hit.

It was a fast moving front. Before long, the reports changed to how the rain and wind was subsiding, and then to the news that the National Weather Service had lifted the tornado warning for our area.

In retrospective, we are lucky to have this repeater system. Even though I don't use it that often, it is comforting to know it is there when needed. Like it was this night. Thank you, GCARC, for enabling me to connect with a community of hams in a storm.



Picture taken at the Wine Festival by Krystal Nurse of The Mullica Hill Sun on Sunday afternoon
Notice our Clubhouse in the background



APRS Weather From The W2MMD Clubhouse

By Jon Pearce, WB2MNF

“So now that we have a weather station at the Clubhouse, why aren’t we broadcasting real-time weather thru APRS?” said John Zaruba K2ZA one day, signaling the start of another GCARC Skunkworks project. The weather station (a topic for another article) was up and running and its output could be viewed from a web server on the

Clubhouse network, but without a VPN connection to the Clubhouse (or being physically present there) nobody could see it. And the Clubhouse weather was getting increasingly important with the upcoming heat of summer since we wanted to monitor the temperature inside the satellite room because several computers are running 24/7 there. In addition, several of us are working with the Cooper Health System emergency communications team and planning to use APRS as a means to report from remote healthcare facilities, so it made sense for us to get familiar with creating customized APRS messages and figuring out how to transmit and monitor them over the air.

Hardware (*Reference Figure 1*)

The APRS station would require three pieces of hardware - a 2 Meter FM radio, a Raspberry Pi computer and a USB audio device to transfer the sound from the Pi to the radio. I had hoped that we could reuse one of two vintage 2 Meter FM radios (an IC-28H or an IC-27) that I had left over from the packet radio era in the 1980s, but the IC-28 started giving off a burning-component smell when powered up and the IC-27 didn’t appear to have any audio output so we had to pick up a FTM-3100 from HRO to get started. I connected it to a 2 Meter vertical that had been taking space in my garage for about 15 years and set it up temporarily on the Clubhouse “antenna testbed” (formerly known as a “picnic table”) until we can mount it on the mast at the west end of the Clubhouse.

The weather computer runs on its own Raspberry Pi, which is mounted on an acetate plate with all of the sensors and other components on the south wall of the satellite room. It samples the sensors every minute and writes the values to a log file. That log file is summarized by another Python program to develop the graphs as seen in Figure 2. At some future point we hope to link those graphs to the GCARC website. For APRS we elected to use that file and reformat it into the APRS beacon format.

The APRS function runs in Direwolf on another Pi. Direwolf handles the AX.25 packet formation and also populates the frame with the APRS data. By itself it provides full functionality for creating an APRS station. It feeds the audio through a USB port to an audio device that’s connected to the speaker and mic connections on the radio since the Pi only supports audio output, not audio input. Some designs use a cheap USB audio device with mic and speaker ports, but that doesn’t provide the PTT functionality needed for the radio. That’s why we used the more costly Signalink that uses an internal VOX to create a PTT signal on the mic plug, but cheaper options are available that we’ll be exploring later.

Software

Direwolf conveniently will read APRS beacon text from either a text file or the output of a program, so we wrote a Python program that reformats the WX log file (which is copied from the WX Pi to the APRS Pi) into the format required by the APRS protocol. That translation took a while to get right, but it’s now working and the weather data is output in APRS beacons from W2MMD-13 that occur every 10 minutes. You can copy these beacons using an APRS-capable rig like a FTM-400 or FTx HT on 144.390 MHz. You can also see the beacons on aprs.fi. See Figures 3 and 4 for the web and iPhone visualizations from that site.

APRS Weather From W2MMD Clubhouse - Continued on page 25

So far, so good - but we wanted more. Some of the metrics that we wanted to measure via APRS aren't standard APRS weather measurements and don't have a place in the weather protocol. For example, we want to measure the temperature inside the satellite room of the Clubhouse since if the temps get much higher than 95 degrees we'll need to find a way to cool those computers. This gave us an opportunity to explore another facet of APRS, which is the ability to send telemetry in an APRS packet. We formatted the Clubhouse temperature along with the motion sensor reading and the lightning counter (the latter two aren't yet functional) into the first three fields of a telemetry packet and set it up as a second beacon text, which is recognized as telemetry by Direwolf and aprs.fi. That seems to work OK, so we can now monitor the Clubhouse temperature from an HT or from the aprs.fi website. Pretty cool, eh?

Receiving telemetry (*Reference Figures 2,3,4*)

The above setup is one step in this project - the second step is creating a small, inexpensive simple receiver that can monitor the telemetry and alert the user to specific conditions. This has applications for the Clubhouse, but also has uses in our emergency communications project. Frank N3PUU pulled this together into a [Raspberry Pi](#) (about \$35) using an [RTL-SDR](#) radio (about \$21) with a small monitor or touch screen. Frank has this project running using Direwolf to receive and log the packets, a Python script to read the log file and monitor changes, and a json program to display it on a web server running on the Pi. This program can be parameterized to check for specific data values (for example if the Clubhouse temperature exceeds a specified value) and display a notification on the screen. We'll be continuing to develop this capability, but the infrastructure is largely complete.

Next steps (*Reference Figure 5*)

After perusing the APRS [specifications](#) and the Direwolf [documentation](#) it's evident that APRS is a powerful communication medium that we need to pursue. Our next project is to build an AC power sensor to notify if the Clubhouse power goes out. The APRS Pi and radio run from a UPS so they'll stay online for a short period (about 15 minutes) after a power failure, which would give time for a few APRS notification beacons. To do this we need to connect a 5 volt power source (a wall-wart power cube) to an analog to digital converter (ADC) and then to the APRS Pi, and write the Python software that will check the voltage (we only care if it's zero or non-zero). This will let us measure the 5V line and change a telemetry field in the beacon text if the power is off. This can be picked up by the simple receiver and create a notification on the screen. Of course, if the power is off for an extended period, the APRS transmissions will cease, but that could occur for several reasons other than a power failure so this will provide verification of the cause.

Also - a few of the Skunkworks team members have indicated interest in high-altitude balloon work possibly using the new [PicoAPRS-Lite](#) unit. This is a new project that may proceed slowly given that none of us have significant experience with ballooning, but such limitations only provide another opportunity to learn new stuff, which is one of the fun parts of being a ham.

APRS Weather From W2MMD Clubhouse - Continued on page 26





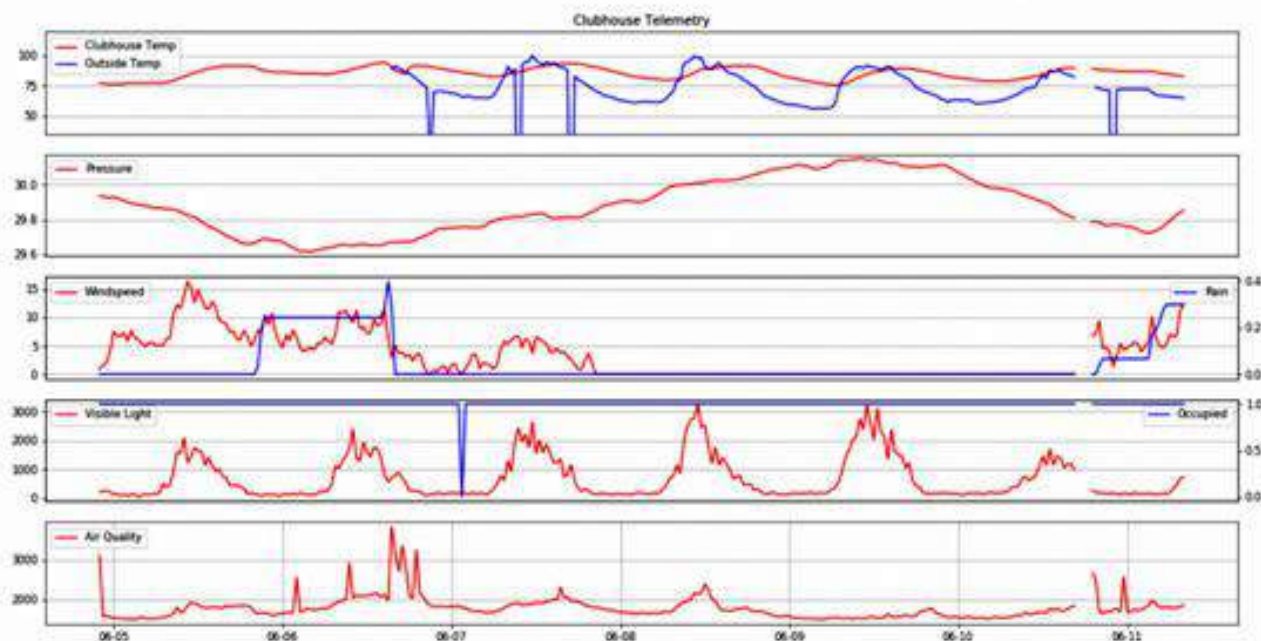
Figure 1 : APRS Station



Figure 3 : APRS-FI app for iOS

Figure 2 : Weather graphics website at the Clubhouse

W2MMD Weather



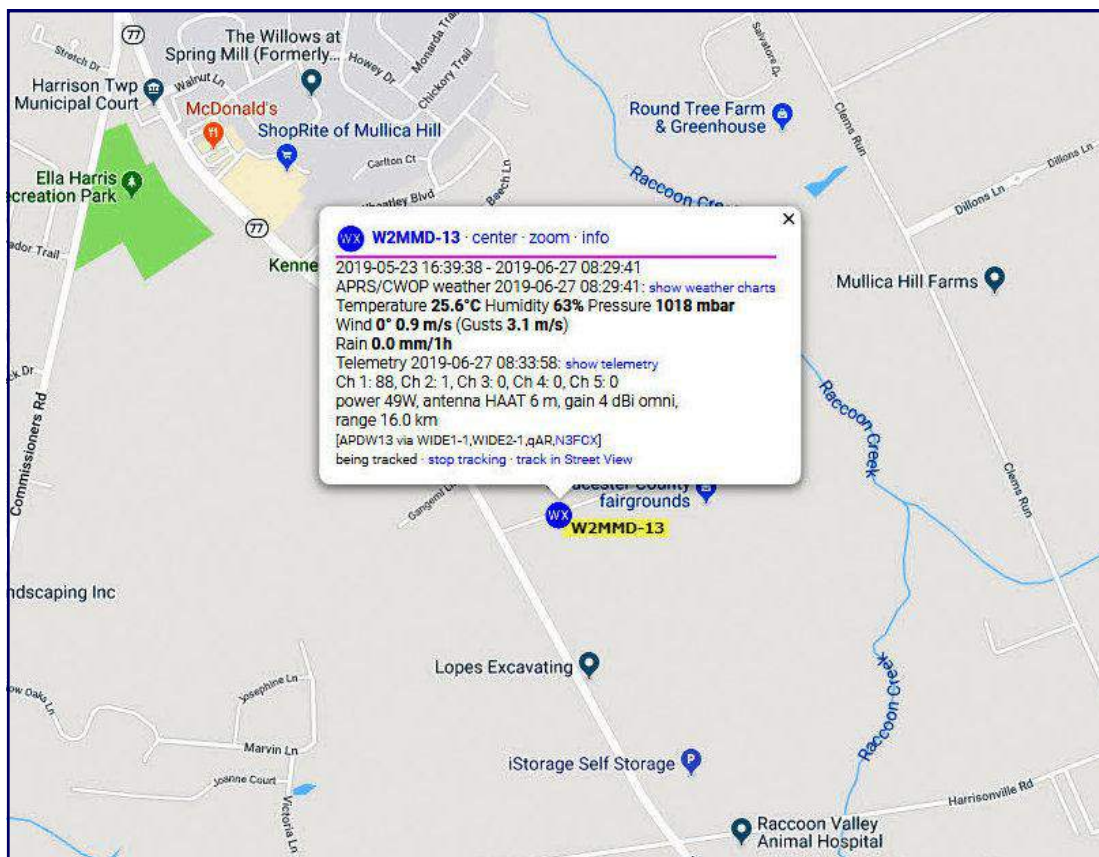
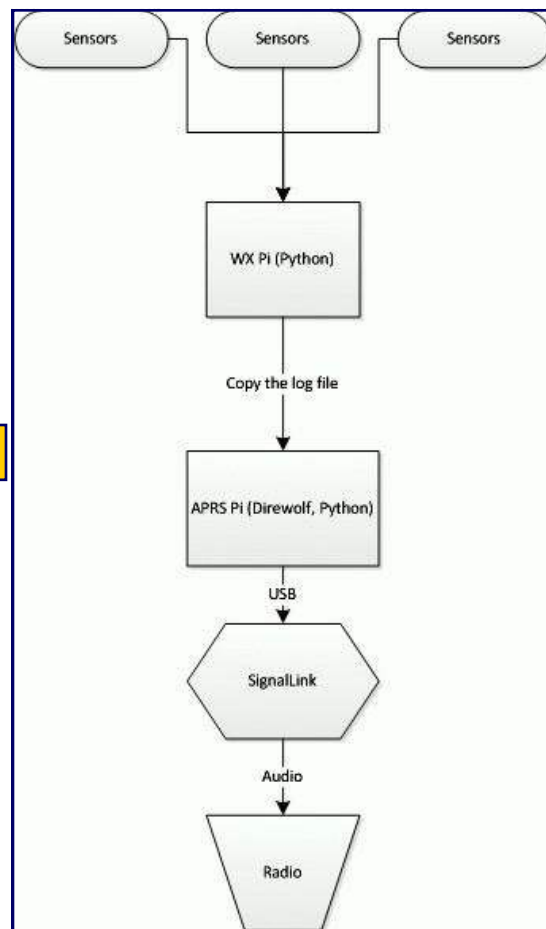


Figure 4 : APRS.FI website depiction of the W2MMD-13 broadcast

Figure 5 : Hardware and Software Configuration





Greetings To All Amateur Radio Operators Young and Old, Newbie or Veteran, Male or Female

Some folks start the summer on Memorial Day. Some start it on the first day of the Summer Season. A lot of our community start the summer with Field Day.

N3MSS starts the summer with this communication to announce our communities big event of :

The 2019 Ride MS - City to Shore

Over the many years in the past, we have always risen to the task of doing all that was asked by the National Multiple Sclerosis Society. Starting as just some guys on the side of the road looking for problems, we now are trusted with helping to bring off an event of up to 7,000 riders, over 1000 volunteers, and a countless number of supporters, family, and folks living with MS to raise over \$6 million dollars that mostly stays within our community to help the folks that are living with this debilitating disease, by having operations primarily in Communications, but add to that Route Support, Command Support, SAG, Situation Teams, Transportation Support, Rest Area Operations, and The Motorcycle HAMS picking up all the areas in between.

Once again we grew last year. With operators and our own support folks, our group brought 141 volunteers to the event.

Once again I say...We Need 150 Volunteers To Support This Event Completely And once again I say...WE CAN DO THIS !!!!!!!!!!!

We can do this by having the tried and true return, and everyone spreading the word on how our community is a major force at this event and help with putting the word out as a recruitment tool for the event.

Come as an individual, a club, a family - it doesn't matter how you come, only that you come.

Well, enough of my begging this early in the process. Here are the particulars : The event is **September 21st and 22nd, 2019.**

The on-line sign up link is : www.signupgenius.com/go/CTSCommunicators2019

Deadline to register is **August 15, 2019.**

Please check you calendars, and sign up early so that we can try to fill all requests for positions. Remember, if you are bringing a significant other or family member to assist you, we need a sign-up form for them also.

As always, it is an HONOR to call myself a HAM and be a part of this elite group of people. Make our hobby proud and volunteer today.

Joe DiBartolo, KC2SFB

With Much Appreciation

73

EvComm 609-316-8220



KEYSTONE-WEST : A WiRES-X Network Room in Western Pennsylvania

By Cory GB Sickles, WA3UVV

Among the many “culture shock” items I had to acclimate myself to - when I moved “back home” to Western Pennsylvania - were the differences in the amateur radio landscape. Probably the most striking difference was the overall lack of a DV (digital voice) infrastructure. While D-STAR was supported quite well with SCERN (Southern Counties Emergency Radio Network), System Fusion repeaters continued to rapidly increase in population and even DMR, NXDN and P25 methodologies were supported by at least one repeater, this was not true in WPA or nearby West Virginia.

D-STAR never took off in this part of North America. For a section that occupies more land than the whole of New Jersey, I found only three repeater installations. I also found one NXDN repeater and one for P25. (The latter has a footprint that would barely cover Pitman.) The Uniontown ARC, W3PIE, had one DMR repeater (purchased as a pragmatic replacement for a high-maintenance analog machine) on 2M. As it still supported analog, no networking was possible. My hometown club also had two System Fusion repeaters - still in boxes.

After some gentle prodding, our UHF and other VHF repeaters were upgraded to System Fusion, while using “leftover” Motorola amplifiers. It’s nice to have repeaters at 1,100’ and 2,500’ HASL elevations with 100 or 200 plus Watts coming out of the duplexers. They joined about 10 other System Fusion repeaters in the section. Around the same time, the Monongalia Wireless Association, W8MWA, in Morgantown, WV replaced two RCA Carphone repeaters (circa late 1960’s technology) with a pair of DR-1X machines. Smartly, we elected not to make use of the Carphone’s tube finals, however.

In WPA, there are presently more than two dozen System Fusion repeaters - much more than any other DV methodology - but they have been standalone, as interest in WiRES-X (Wide-area Repeater Enhancement System) hadn’t been sufficiently sparked. However, 2019 has been something of a “tipping point” for WiRES-X.

As many of you are aware, I spend a good deal of time traveling to various ham radio conventions and larger hamfests across North America. As I am exposed to hams from different areas (while they are exposed to me) and get to see different things going on, I can better spot trends or pick up some useful ideas. While SNJ and DE have been on the forefront DV networking (SCERN is now System Fusion) and Delaware has state-wide solutions, including MESH net) this sort of interconnectivity has just now been taking off in other sections.

At the very end of 2018, Yaesu released new PDN (Personal Digital Node) firmware for the FT2DR portable, plus FTM-100DR and FTM400XDR mobiles, that allowed them to be used as digital nodes without the need for the HRI-200 interface and its requirement of port forwarding. This made the project of setting up a WiRES-X node simpler and less expensive - especially now that you could also use the transceiver to communicate with, instead of acting as just the node radio, through which you had to use another radio to talk into the network. Along with a sale on System Fusion radios, this combination inspired many more hams to get involved with System Fusion, as well as set up WiRES-X nodes.

When I spoke at the Louisiana ARRL State Convention in early March 2019, I learned about a growing WiRES-X network, with the website www.dwarn.org. When I spoke about this topic in March of 2018,

Keystone West - Continued on page 30

there were no linked repeaters. In a year's time, DWARN was conceived and expanded to 12 repeaters, plus some stand-alone nodes. Currently, I understand there are 15 repeaters linked to the DWARN room, with more on the way.

When I attended the West Virginia ARRL Section Convention later that month, I learned about the WV-Link WiRES-X room, set up by the West Virginia Amateur Radio club, WV8AR, near the state capital in Charleston. WV-Link was in its infancy at the time, more or less where DWARN was a year ago. At the next meeting of the Monongalia Wireless Association, I proposed setting up a node to link full-time to WV-Link - thus extending the "string and another can" to north-central portion of the Mountain State. We hope that this will soon encourage other WV ARC's to join in.

Circling back to WPA, UARC had recently been awarded a small grant from the Uniontown Walmart, to help fund a "community service" project. While we had a number of qualifying projects on the table, one more was added. The idea of a section-wide WiRES-X room was floated on the WPA ARRL Facebook page. Less than a week later, at a nearby hamfest, some of the better-known members of UARC were approached and essentially told "If you build it, we will come". This encouraged us to move forward.

Through some private donations and the funding from Wal-Mart, we assembled the station - FTM-100DR transceiver, HRI-200 interface, Computer System running Windows 10, etc. Owing to an excellent AUX-COMM working relationship with the Fayette County Emergency Management Agency, a host location and new antenna system was offered at the 911 Center. Through remote access software like Teamviewer or Anydesk, those responsible for the room are able to access and control the computer running the WiRES-X software.

Within a few days of getting the room established, we had two more repeaters linked through nodes. At the two-week mark, some transient Community Nodes with higher-power ratings began to appear. So far, we have linked Allegheny, Fayette, and Westmoreland counties. (This would be similar to linking Philadelphia, Camden and Gloucester - in the Delaware Valley.)

Of note, we are now in the process of adding a node to our 147.255 MHz repeater, which covers some areas of Fayette County that are shadowed by the ridgeline where the UHF machine is located. This will allow us to provide more complete coverage within the county and surrounding areas - much as if a WiRES-X Community Node were to be added in Franklinville, NJ - to fill in some gaps with the W2MMD 147.180 MHz repeater's coverage.

Talks are now ongoing at additional WPA clubs with plans to add additional nodes in the near future. As the phrase goes: "People like to associate with success." While KEYSTONE-WEST (ID 60328) is intended to provide one more tool to our EMCOMM toolbox, it is also envisioned as a means to connect hams throughout the section together, to share ideas, knowledge, and a better sense of togetherness within our amateur radio community. In time, it should also help out with the all-to-common complaint of "no one is ever on the repeater".

As we encourage all hams to engage with KEYSTONE-WEST, consider this an invitation for GCARC members to point your WiRES-X node(s) to 60328 and give a call. On a personal note, it would be good to hear some distant but familiar voices, from time to time.

CONVERSATION

Try a Different Verb

"X Is Killing Y" - We've all heard it. I'm sure that everyone has their own pet X. Add whatever sub-facet of our hobby you see fit under column Y. Sometimes what was once was a huge issue doesn't mean so much now. For example, if you weren't around in the late 1950's, you might wonder why sideband is even on the list. The 'competition' between AM and SSB was such a big deal we still collectively remember it. Keyers were even controversial at one time.

Sometimes the impact of something isn't really felt until everything has just... changed. How many 1985 repeater users understood the impact that cellular phones would have?

You'd think that SSTV would be "dead," killed by globe-spanning networks and all SSTV capable computers also being on the Internet, but non-SSTV operators still seem to avoid 14.230 - 14.233 MHz even in contests.

CW Skimmers were sure to lead to the demise of contesting about ten years ago, but has instead turned into a tool that gives smaller stations better opportunities to be worked.

FT8 is in the spotlight nowadays as a "disruptor" of all we hold dear. But last January's ARRL VHF Contest saw the largest number of participants in almost two decades, directly attributable to new participants using FT8 on 6 meters. Those new FT8 contesters are having way too much fun to worry about how they might be doing it wrong.

Factors that are "killing" Amateur Radio in general aren't doing that good a job. The absolute number of licensed Amateurs is the highest EVER in the U.S. Over half the U.S. population of Amateurs are Technicians. So something is attracting new people to Amateur Radio, but they're not necessarily making it to HF contesting.

Changing is a more appropriate word to describe the overall effect, because in some cases the X ended up enhancing the Y, in others, diminishing.

But changing is a harder word to use than killing. "Killing" implies that the activity that we enjoy is not going to exist because of some external factor that is maybe beyond our control. "Changing" implies that our favored activity still exists, but we haven't necessarily changed along with it.

73, Brian N9ADG

Article Credit : The ARRL Contest Update for May 15, 2019 - www.arrl.org



**CQ Worldwide WPX Contest, CW
May 25, 2019**

**Call : AB2E
Operator (s) : AB2E
Station : AB2E**

**Class : SO(A)AB HP
Class Overlay : TB-Wires
QTH : NJ
Operating Time (hrs) : 20
Location : USA**

**Summary :
Band QSOs**

**160 : 0
80 : 137
40 : 450
20 : 526
15 : 163
10 : 23**

**Total : 1,299 Prefixes : 587
Total Score : 1,885,444**

Club : Frankford Radio Club

01

Comments :

*Rig : Icom IC-7800/Acom 2000A
Antennas : 80M dipole @ 80 ft
40m full wave delta loop @ 80ft (also 15m)
20m full wave delta loop @ 80ft (also 10m)*

Things looked promising on Fri night. Good start, 20 and 40 open to EU. Cancelled a few things to clear time for the contest and planned to operate the full 36. Couple unexpected things happened that interrupted my time anyway. 10 opened a couple times and worked a couple SA and AF stations in the mostly US mix. Had one of my best runs on 15m Sun afternoon. Last hour was a real boost on 40m, lots of EU mults calling in and many US stations I missed. Funny to work a WB2 last hour and find out it was a needed mult.

*Thanks to all my friends who called in.
See all of you at FD and IARU!
73 Darrell AB2E*

Band	QSOs	Pts	WPX	Pt/Q
3.5	137	384	51	2.8
7	450	1,578	251	3.5
14	526	1,011	251	1.9
21	163	204	24	1.3
28	23	35	10	1.5
Total	1,299	3,212	587	2.5

Score : 1,885,444

**CQ Worldwide WPX Contest, CW
May 25, 2019**

**Call : W2HUV
Operator (s) : W2HUV
Station : W2MMD**

**Class : SO(A)AB LP
QTH : Mullica Hill, NJ
Operating Time (hrs) : 11.65
Location : USA
Remote Operation**

**Summary :
Band QSOs**

**80 : 4
40 : 133
20 : 146
15 : 6**

**Total : 289 Prefixes : 256
Total Score : 222,720**

Club : Gloucester Co ARC

02

Comments : *I would like to thank the Gloucester County Amateur Radio Club in Mullica Hill, NJ for the use of their W2MMD remote HF station during the contest. The rig was an IC-7300 barefoot with a Force 12 tri-bander on 15 and 20 meters and a 3-element 40 meter beam intermeshed at about 55'. An inverted-L was used on 80 meters. This was the first time that the remote station was used in a contest. Virtually all operation was in the S & P mode due to low power operation. This resulted in more frequent antenna position changes. I had to run to the station once on Saturday and again on Sunday to reset the antenna rotator controller when I was no longer able to change the antenna position. I would say that station performance was great otherwise.*



Vinnie N4NYY working 40M phone in the Big Red Tent

2019-2023 Element 3 General Class License Question Quiz

This month we start with **Subelement G1: Commission Rules** (Answers on 'Last Page Calendar')

G1A01

On which HF/MF bands is a General class license holder granted all amateur frequency privileges?

- A. 60 meters, 20 meters, 17 meters, and 12 meters
- B. 160 meters, 80 meters, 40 meters, and 10 meters
- C. 160 meters, 60 meters, 30 meters, 17 meters, 12 meters, and 10 meters
- D. 160 meters, 30 meters, 17 meters, 15 meters, 12 meters, and 10 meters

G1A02

On which of the following bands is phone operation prohibited?

- A. 160 meters
- B. 30 meters
- C. 17 meters
- D. 12 meters

G1A03

On which of the following bands is image transmission prohibited?

- A. 160 meters
- B. 30 meters
- C. 20 meters
- D. 12 meters

G1A04

Which of the following amateur bands is restricted to communication only on specific channels, rather than frequency ranges?

- A. 11 meters
- B. 12 meters
- C. 30 meters
- D. 60 meters

G1A05

Which of the following frequencies is in the General class portion of the 40-meter band in ITU Region 2?

- A. 7.250 MHz
- B. 7.500 MHz
- C. 40.200 MHz
- D. 40.500 MHz

G1A06

Which of the following frequencies is within the General class portion of the 75-meter phone band?

- A. 1875 kHz
- B. 3750 kHz
- C. 3900 kHz
- D. 4005 kHz

General Class Quiz - Continued on page 34

G1A07

Which of the following frequencies is within the General class portion of the 20-meter phone band?

- A. 14005 kHz
- B. 14105 kHz
- C. 14305 kHz
- D. 14405 kHz

G1A08

Which of the following frequencies is within the General class portion of the 80-meter band?

- A. 1855 kHz
- B. 2560 kHz
- C. 3560 kHz
- D. 3650 kHz

G1A09

Which of the following frequencies is within the General class portion of the 15-meter band?

- A. 14250 kHz
- B. 18155 kHz
- C. 21300 kHz
- D. 24900 kHz

G1A10

Which of the following frequencies is available to a control operator holding a General class license?

- A. 28.020 MHz
- B. 28.350 MHz
- C. 28.550 MHz
- D. All these choices are correct

G1A11

When General class licensees are not permitted to use the entire voice portion of a band, which portion of the voice segment is generally available to them?

- A. The lower frequency end
- B. The upper frequency end
- C. The lower frequency end on frequencies below 7.3 MHz, and the upper end on frequencies above 14.150 MHz
- D. The upper frequency end on frequencies below 7.3 MHz, and the lower end on frequencies above 14.150 MHz

G1A12

Which of the following applies when the FCC rules designate the Amateur Service as a secondary user on a band?

- A. Amateur stations must record the call sign of the primary service station before operating on a frequency assigned to that station
- B. Amateur stations can use the band only during emergencies
- C. Amateur stations can use the band only if they do not cause harmful interference to primary users
- D. Amateur stations may only operate during specific hours of the day, while primary users are permitted 24-hour use of the band

Gloucester County Amateur Radio Club

General Membership Meeting Minutes

Wednesday, June 5, 2019



Meeting opened @ 1933 Hours by President James Clark Sr, KA2OSV

Attendance :

- ◆ 40 Members
- ◆ 2 Visitors :
 - ◆ William DeCuzzi, KD2KZW
 - ◆ Linda Murphy, KD2RVH

Previous minutes approved and seconded as printed in CrossTalk by voice vote of members present.

Treasurer's Report :

- ◆ YTD Income : \$2665
- ◆ YTD Expenses : \$1801
- ◆ Net : \$863

Treasurer's report moved, seconded, and approved by unanimous voice vote of members present.

Committee Reports :

Clubhouse : Al Arrison, KB2AYU, hauled old wood from shed to landfill along with trimming the weeds and grass. Bill Price, NJ2S, to call for grass cutting before Field Day. There was a power outage at the Clubhouse last Sunday.

Field Day : Band Captains assigned ready. Jeff Garth, WB2ZBN, would like people to sign up to bring various dishes for the event and to volunteer with food preparation. Need a volunteer to pick up hoagies Saturday morning in Gloucester City.

Hamfest : Bill Price, NJ2S, will be bringing T-shirt samples to the next general membership meeting. Food vendor has been confirmed. Will need volunteers for the event. Bill Price, NJ2S, made a motion to appropriate \$300 to purchase T-shirts. Motion seconded and approved by voice vote of members present.

Contests : Tony Starr, WA2FZB, reported there are not many contests in June besides Field Day, the West Virginia QSO Party, and the June VHF contest. There are also a few European contests during the month.

DX : Conway Reef Expedition to occur this month.

Volunteer Examiner : Gary Reed, N2QEE, reported on the May 9, 2019 Franklinville test session :
1 Extra Class, 1 Technician.

June 1, 2019 GCARC Ham Cram at Cooper Hospital : 4 General, 4 Technician

ARES/RACES : Karl Frank, W2KBF, is the new Gloucester County ARES Emergency Coordinator. He has a goal to improve the Sunday night net.

June 2019 General Membership Meeting Minutes - Continued on page 36

Old Business : None

New Business : Urb LeJeune, W1UL, thanked Cooper Hospital for hosting the June 1st Ham Cram.

Motion to adjourned @ 2004 Hours.

Program for the night was the annual Pizza Party.

Meeting re-opened @ 2036 Hours to consider a motion from John Zaruba Jr, K2ZA, and the Repeater committee to appropriate \$350 to trade-in the existing VHF Yaesu DR-1X repeater for a DR-2X repeater via the Yaesu Repeater Upgrade program. Motion seconded and approved by voice vote of members present.

Meeting adjourned @ 2040 Hours

**Respectfully submitted,
John Zaruba Jr, K2ZA
Recording Secretary**



Fence installed around HF tower by AI KB2AYU



New shed doors installed by AI KB2AYU

The W1UL Ham Cram Website

www.ham-cram.com

Gloucester County Amateur Radio Club

Board of Directors Meeting Minutes

Wednesday, June 19, 2019



Meeting opened @ 1908 Hours by President James Clark Sr, KA2OSV

Attendance :

President Jim Clark Sr, KA2OSV
Vice President Tony Starr, WA2FZB
Treasurer Al Arrison, KB2AYU
Recording Secretary John Zaruba Jr, K2ZA
Corresponding Secretary Ron Block, NR2B
Director Jeff Garth, WB2ZBN
Director Herb Dyer, KT2Y
Director Chuck Colabrese, WA2TML
Director Bill Price, NJ2S
Trustee Mark Gottlieb, KK2L
Member Lee Marino, N2LAM
Member John O'Connell, K2QA

Previous Board of Directors Meeting minutes approved as read by unanimous voice vote.

Treasurer's Report :

- ◆ YTD Income : \$2710.00
- ◆ YTD Expenses : \$2000.00
- ◆ Net : \$710.00

Electric bill high again.

Treasurers report moved, seconded and approved by unanimous voice vote.

Committee Reports :

Clubhouse : AL Arrison KB2AYU reported fencing installed around the base of the HF tower. Shed doors are done and need painting. Roof needs work. Discussion of electric power monitor issues. Discussion of HF remote access issues. Suggestion raised about having HF remote operator training as a Tech Saturday topic. John Hill W2HUV to be invited to next Board of Directors meeting for further discussion.

Field Day : Discussion of de-conflicting with 4-H Wine Festival. Discussion of mowing issues.

Hamfest : Need headcount of volunteers for T-shirts.

Repeater : Discussion of repeater swap logistics.

Old Business :

June 2019 Board of Directors Meeting Minutes - Continued on page 38

Franklinville tower candidate inspection needs to be scheduled per Tony Starr, WA2FZB and Bill Price, NJ2S.

New Business :

Pfeiffer Community Center currently has no janitor, Jeff Garth, WB2ZBN, picks up key before the meeting.

New Members :

- ◆ William DeCuzzi, KD2KZW
- ◆ Linda Murphy, KD2RVH, both of Bellmawr, NJ

Meeting adjourned @ 2022 Hours

**Respectfully submitted,
John Zaruba Jr, K2ZA
Recording Secretary**

**QST de W1AW
Space Bulletin 003 ARLS003
From ARRL Headquarters
Newington, CT June 14, 2019
To all radio amateurs**

**SB SPACE ARL ARLS003 Ham Radio
Satellites to Deploy from ISS**

Three BIRDS-3 satellites with Amateur Radio payloads are scheduled to be deployed from the International Space Station on Monday, June 17. The BIRDS-3 constellation includes CubeSats from three countries: They are Nepal's first satellite, NepaliSat-1; Uguisu from Japan, and Sri Lanka's first satellite, Raavana-1.



The primary mission of the BIRDS constellation is to provide ciphered short messages via its 435.375 MHz beacon, giving the opportunity for the Amateur Radio community to decipher the messages using a publicly available key on the BIRDS-3 website at : <http://birds3.birds-project.com/document/amateur>.

Operators able to successfully decipher the message will be recognized on the BIRDS-3 website and receive a BIRDS-3 QSL card.

Live streaming of the deployment starts at 0835 UTC at :
<https://www.youtube.com/watch?v=rrw3cMw10nQ>.

An April 11 Cygnus resupply mission to the ISS delivered the three BIRDS-3 CubeSats and three other CubeSats.

July Birthdays

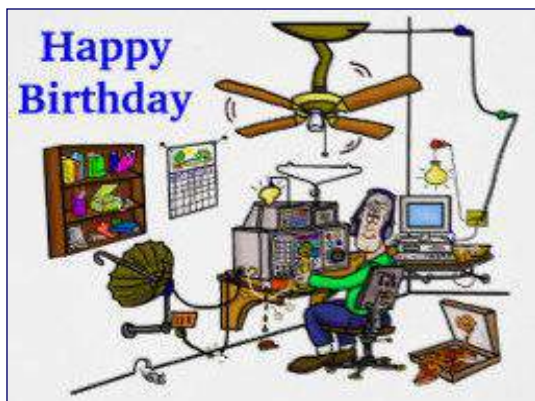
Congratulations to our members who are celebrating their birthday this month

Alex Calabrese, WA2ADS
Chris Chamberlain, N2IVN
Herb Dyer, KT2Y
Gary Hewitt, N2WHV
Jerry Jacobus, WB2QEF
Chris Kelly, KC2PC
Lee Marino, N2LAM
Phyllis Martin, W2PDB
Frank Messick Jr, W2FJM
Linda Murphy, KD2RVH
Charlie Olinda, N2SRQ (President 1994)
Michael Pecorini, KD2RPE
Ron Schaffer, W2RES
Charlie Wahl Jr, KC2STO
Jeff Welsh, KD2AZI

In Memoriam - July Birthdays

Silent Keys :

Francis Applegate Jr, N3DOM
William Bachman, WA2VEE (President 1969)
Alfred Bestwick, N2BTN
Paul Carr, KB2TKV
Mary Coursey, WA2VRR
Richard Dean Sr, KA2BNJ
Ralph Ditore, K2KIT
Wesley Gosbin Jr, KB2IRK
Leon Jones, KC2AAA
John Kull, WB2GKH
John Logan Jr, KB2VSE
Harold Lowther, N2EJN
Alfred Marcy, W4ID
Albert Miller, KB2YDX
Tadeusz Niziol, N2BDC
Conrad Salati, N2HTS
Edward Sumek, W2GSN (President 1989)
James Swyler, WB2ELG
Alan Trueblood, N2FJQ
Wallace Utley, W2CB



Crosstalk Submissions

This is your Club Newsletter. Make use of it.

If you have stories or photos of your hobby that you would like to share with the Club, please do so!

We will keep covering all of the GCARC events, but it is also nice to get those personal perspectives to include in every issue. Connecting through experiences is what makes the Gloucester County Amateur Radio Club a *REAL* Club.

All submissions, queries, comments and editorials should be addressed to
Jeffrey Garth, WB2ZBN at jeff <dot> garth <at> comcast <dot> net.

Submission deadline for the August 2019 issue: Saturday, July 20, 2019

Club Website www.w2mmd.org

Club E-Mail Reflector: GCARC <at> Mailman <dot> QTH <dot> Net

July Contest Calendar

WA7BNM Contest Calendar : www.contestcalendar.com

July 2019

+ RAC Canada Day Contest	0000Z-2359Z, Jul 1
+ 10-10 Int. Spirit of 76 QSO Party	0001Z, Jul 1 to 2400Z, Jul 7
+ IQRP Quarterly Marathon	0800Z, Jul 1 to 2000Z, Jul 7
+ RSGB 80m Club Championship, CW	1900Z-2030Z, Jul 1
+ Fireflies QRP 72 Sprint	0000Z-0200Z, Jul 2
+ ARS Spartan Sprint	0100Z-0300Z, Jul 2
+ QRP Fox Hunt	0100Z-0230Z, Jul 3
+ Phone Fray	0230Z-0300Z, Jul 3
+ CWops Mini-CWT Test	1300Z-1400Z, Jul 3 and 1900Z-2000Z, Jul 3 and 0300Z-0400Z, Jul 4
+ NRAU 10m Activity Contest	1700Z-1800Z, Jul 4 (CW) and 1800Z-1900Z, Jul 4 (SSB) and 1900Z-2000Z, Jul 4 (FM) and 2000Z-2100Z, Jul 4 (Dig)
+ SKCC Sprint Europe	1900Z-2100Z, Jul 4
+ NCCC RTTY Sprint	0145Z-0215Z, Jul 5
+ NCCC Sprint	0230Z-0300Z, Jul 5
+ FISTS Summer Slow Speed Sprint	0000Z-0400Z, Jul 6
+ Venezuelan Ind. Day Contest	0000Z-2359Z, Jul 6
+ DL-DX RTTY Contest	1100Z, Jul 6 to 1059Z, Jul 7
+ Marconi Memorial HF Contest	1400Z, Jul 6 to 1400Z, Jul 7
+ Original QRP Contest	1500Z, Jul 6 to 1500Z, Jul 7
+ PODXS 070 Club 40m Firecracker Sprint	2000Z, Jul 6 to 2000Z, Jul 7
+ Phone Fray	0230Z-0300Z, Jul 10
+ CWops Mini-CWT Test	1300Z-1400Z, Jul 10 and 1900Z-2000Z, Jul 10 and 0300Z-0400Z, Jul 11
+ RSGB 80m Club Championship, SSB	1900Z-2030Z, Jul 10
+ QRP Fox Hunt	0100Z-0230Z, Jul 12
+ NCCC RTTY Sprint	0145Z-0215Z, Jul 12
+ NCCC Sprint	0230Z-0300Z, Jul 12
+ FISTS Summer Unlimited Sprint	0000Z-0400Z, Jul 13
+ IARU HF World Championship	1200Z, Jul 13 to 1200Z, Jul 14
+ SKCC Weekend Sprintathon	1200Z, Jul 13 to 2400Z, Jul 14
+ QRP ARCI Summer Homebrew Sprint	2000Z-2300Z, Jul 14
+ 4 States QRP Group Second Sunday Sprint	0000Z-0200Z, Jul 15
+ Phone Fray	0230Z-0300Z, Jul 17
+ CWops Mini-CWT Test	1300Z-1400Z, Jul 17 and 1900Z-2000Z, Jul 17 and 0300Z-0400Z, Jul 18

July Contest Calendar - Continued on page 41

July Contest Calendar

WA7BNM Contest Calendar : www.contestcalendar.com

July Contest Calendar - Continued from page 40

+ QRP Fox Hunt	0100Z-0230Z, Jul 19
+ NCCC RTTY Sprint	0145Z-0215Z, Jul 19
+ NCCC Sprint	0230Z-0300Z, Jul 19
+ NAQCC CW Sprint	0030Z-0230Z, Jul 20
+ Russian Radio Team Championship	0700Z-1459Z, Jul 20
+ Trans-Tasman Low-Bands Challenge	0800Z-1400Z, Jul 20
+ Feld Hell Sprint	1200Z-1359Z, Jul 20
+ CQ Worldwide VHF Contest	1800Z, Jul 20 to 2100Z, Jul 21
+ North American QSO Party, RTTY	1800Z, Jul 20 to 0559Z, Jul 21
+ SA Sprint Contest	2100Z-2259Z, Jul 20
+ RSGB Low Power Contest	0900Z-1200Z and 1300Z-1600Z, Jul 21
+ CQC Great Colorado Gold Rush	2000Z-2159Z, Jul 21
+ Run for the Bacon QRP Contest	0100Z-0300Z, Jul 22
+ SKCC Sprint	0000Z-0200Z, Jul 24
+ Phone Fray	0230Z-0300Z, Jul 24
+ CWops Mini-CWT Test	1300Z-1400Z, Jul 24 and 1900Z-2000Z, Jul 24 and 0300Z-0400Z, Jul 25
+ RSGB 80m Club Championship, Data	1900Z-2030Z, Jul 25
+ QRP Fox Hunt	0100Z-0230Z, Jul 26
+ NCCC RTTY Sprint	0145Z-0215Z, Jul 26
+ NCCC Sprint	0230Z-0300Z, Jul 26
+ RSGB IOTA Contest	1200Z, Jul 27 to 1200Z, Jul 28
+ ARS Flight of the Bumblebees	1700Z-2100Z, Jul 28
+ QCX Challenge	1300Z-1400Z, Jul 29 and 1900Z-2000Z, Jul 29 and 0300Z-0400Z, Jul 30
+ Phone Fray	0230Z-0300Z, Jul 31
+ CWops Mini-CWT Test	1300Z-1400Z, Jul 31 and 1900Z-2000Z, Jul 31 and 0300Z-0400Z, Aug 1

w2mmd.org



www.facebook.com/W2MMD



twitter.com/w2mmd_gcarc

Facebook Page



Club Committees

Standing Committees	Committee Chairs
Membership and Publicity Hamfest Repeater Hospitality W2MMD Clubhouse Site Field Day Nominations Health, Welfare, & Silent Keys Budget Constitution and By-Laws Membership Badges	Bob Fields, KC6AOH Sheldon Parker, K2MEN and Bill Price, NJ2S John Zaruba Jr, K2ZA Jeffrey Garth, WB2ZBN Al Arrison, KB2AYU Al Arrison, KB2AYU Jim Clark Sr, KA2OSV Bill Price, NJ2S Al Arrison, KB2AYU Ron Block, NR2B Chuck Colabrese, WA2TML
Activity Committees	Committee Chairs
GC-ARES Emergency Coordinator GC-RACES Emergency Coordinator Club Publications License Testing/VEC Liaison Programs Membership Roster Database Club Historian GCARC Family Picnic Foxhunts W2MMD License Trustee Contests and Nets Holiday Dinner Party W2MMD Special Event Station	Karl Frank, W2KBF Ed Champion, N2RO Jeffrey Garth, WB2ZBN Gary Reed, N2QEE Tony Starr, WA2FZB Jeffrey Garth, WB2ZBN Jeffrey Garth, WB2ZBN Laurie Love, KD2EYW Jim Wright, N2GXJ Darrell Neron, AB2E Tony Starr, WA2FZB Jennifer Robinson, KD2EYR Mark Gottlieb, KK2L

GCARC <at> Mailman <dot> QTH <dot> Net e-mail reflector guidelines

1. **No attachments** (e.g. pictures, files) are allowed on the reflector.
2. If you have Club-related pictures that you would like to share, you can send them to the webmaster, he will put them on the website and he will send out a general e-mail to all the members.
3. Otherwise, the pictures will have to be sent to the members' addresses.
4. URLs/Hyperlinks are acceptable on the reflector.
5. Do not send any messages with e-mail addresses in the **BCC (Blind Carbon Copy)** field. The message will be rejected. Use only the **To:** or **CC:** fields.
6. Members are subscribed to the reflector using the member's e-mail address from the roster database. You must use that address when sending an e-mail via the reflector.
7. If you use another address on the reflector, the message will get rejected or "*bounced*", because the reflector does not recognize that address.
8. Whenever a message sent to reflector is rejected or "*bounced*" for various reasons, the administrator has to log-in to the Mailman.QTH website and approve the message. If the admin recognizes the address as belonging to a Club member, the message is accepted and passed on to the reflector.

FYI...If you use Comcast e-mail, you are limited to 100 addresses per message.
 For more information about the e-mail reflector, goto : www.mailman.qth.net

The W2MMD Repeaters

2 Meter Repeater

Output: 147.180 MHz

Input: 147.780 MHz

Offset: +600 kHz - PL : 131.8 Hz

(Conventional FM plus C4FM Capability)

EchoLink : W2MMD-R

70 cm Repeater

Output: 442.100 MHz

Input: 447.100 MHz

Offset: +5 MHz - PL : 131.8 Hz

(Conventional FM)

The above 2 repeaters are all
located in Pitman, NJ
GPS: 39.728481°, -75.131088°

1.25 Meter Repeater

Output: 224.660 MHz

Input: 223.060 MHz

Offset: -1.6 MHz - PL : 131.8 Hz

Location: Sewell, NJ

GPS: 39.746738°, -75.077094°

SKYWARN™ Net

Sunday @ 1945: 147.180 MHz Repeater

Gloucester County ARES/RACES Net

Sunday @ 2000: 147.180 MHz Repeater

10 Meter Rag Chew Net

Every Tuesday @ 2000 Hours

Tune-In on 28.465 MHz or 28.475 MHz

2 Meter Rag Chew Net

Every Thursday @ 2000 Hours

Tune-In on the 147.180 MHz Repeater

10 Meter Swap Meet

2nd Saturday of the Month @ 2000 Hours

Check-in on 28.465 MHz or 28.475 MHz

Meeting Calendar

General Membership Meeting

Wednesday, July 3, 2019 @ 1930 Hours

Pfeiffer Community Center

301 Blue Bell Road

Williamstown, NJ

(Everyone is welcome)

Board of Directors Meeting

Wednesday, July 17, 2019 @ 1900 Hours

W2MMD Clubhouse

(All members are welcome)

July 3, 2019 General Membership Meeting

Skype Meeting With :

Dr. Edison Fong, WB6IQN

Designer of the DBJ-1 & DBJ-2

Dual Band J-Pole Antennas

Field Day Review

**** Badges ****

**Need a new or replacement badge
Contact "The BadgeMan"**

**Chuck Colabrese, WA2TML
colabrese <at> comcast <dot> net**

Question Pool Answers : G1A01:C; G1A02:B; G1A03:B; G1A04:D; G1A05:A; G1A06:C; G1A07:C; G1A08:C; G1A09:C;

G1A10:D; G1A11:B; G1A12:C;