

ISSUE

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A Journal of the
Montgomery Amateur
Radio Club (MARC)
Rockville MD

MARC Proceedings

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N3COB, N4DR, WB2U

Operate Novice Rigs during Novice Rig Roundup

The Novice class was created in 1951 as a entry-level license. It was the primary means of entry until the Morse Code requirement was eliminated for Tech licenses in 1990. One was limited to CW transmissions on HF using a maximum of 75-watts input to the transmitter's final amplifier stage. Novices were limited to segments of 80, 40, and 15 meters. On VHF both code and voices privileges were available on 145-147 MHz. In the beginning only crystal control was permitted on HF. This restriction was lifted in 1972. Other changes occurred such as shifts on 40-meters and revocations on 2 Meter voice and code. Yet 10 Meter privileges were added. In those days to qualify for a Novice license one would have to pass a 5 WPM Morse Code test and pass a 25 question multiple-choice test. This was bumped up to 30 questions. Initially the Novice Class license was valid for one year non-renewable with the expectation that the Novice would upgrade to General. In the 1960's "incentives" were introduced extending the Novice Class to two years. By 1978 further incentives were provided whereby a Novice license would be valid for five years and be renewable. This was the program this Editor WB2U exercised by becoming a Novice. Many more enhancements unfolded throughout the 1980's up until the dropping of the Novice Class licensing as an entry into Amateur Radio. To this day there exists bona-fide licensed Novices.



The Novice Rig Roundup (NRR) is an annual event held in the Spring. This year it was held from 0000Z March 2, 2019 though 2359Z on March 10, 2019. SUGGESTED CQ: CQ NRR. BANDS: Allowed bands were 80m, 40m, 15m, 10m and 2m. SUGGESTED FREQUENCIES: Around: 3550 - 3650 kHz 3579, 7055, 7060, 7080, 7100 - 7125 kHz 21.114, 21.120, 21.150 MHz 28.114, 28.120 MHz 144.085 and 144.450MHz CW and AM where allowed. Literally anywhere that you have a crystal for. Operations using CW happened anywhere that it is legal for one's license class in these 5 bands. USE OF NOVICE ERA Frequencies suggested where possible. USE: 3550-3650 and 7100-7125 kHz, plus 21.100 - 21.200 MHz and 28.100 MHz - 28.200 MHz. Part of the art of opening NRR included scanning up and down the band for any replies to one's CQ-ing remembering that most of the stations were "rock-bound"

that is to say limited to crystal frequencies. For example if one was sending CQ using a 3.560 crystal it was possible that the replying station would not have a 3.560 crystal available but perhaps have a 3.565 crystal. Use of mechanical keying was encouraged, but not mandatory. CLASSES OF STATIONS: **CLASS ONLY REFERS TO HOW TO LOG YOUR CONTACT IN THE LOGGER FIELD LABELED "Your Rig".** NOVICE-1 Up to 75W plate input and crystal frequency control and NOVICE-2 for everything else EXCHANGE: Call, Name, QTH. Optional: Rig, NRR Number

SAMPLE EXCHANGE:

N3PDT - CQ NRR

AF4K - N3PDT DE AF4K

N3PDT - AF4K DE N3PDT GA ES TNX CALL BT UR RST 559C QTH MO NAME DOUG BT HW CPY? BK

AF4K - R ES TNX DOUG BT UR RST 569K QTH FL ES NAME BRY BT RIG HR HB TX 6AG7 TO 807 FNL XTAL CNTL N3PDT DE AF4K

N3PDT - FB BRY UR HB SOUNDS GOOD WID A LIL CHIRP BT TNX K ILL WRK ON CLICK BT RIG HR DX40 WID XTAL TO 148FT INV L ABT 40W OUT BT MY NRR NR 9 BK

AF4K - FB DOUG MY NRR NR 1 BT TNX QSO ES CU SN OM 73 N3PDT DE AF4K K

N3PDT - R FB BRY TNX AND BCNU SN GL ES 73 AF4K DE N3PDT

For many it is not enough to play with Novice Rigs once a year, hence NRR has what is called "Novice Rig Night" held every Monday in the USA, from sunup on the east coast, to midnight on the west coast. They can be found around 7100-7125 Kc, 3550-3600Kc, plus any other CW-legal frequency on 80, 40, 15, and 10 meters you care to arrange, or find someone. Note the term "Kc" in the spirit of the times. The exchange is whatever you'd like to talk about such as bragging about your station, your projects, your other hobbies, or just whatever you enjoy talking about. No logging is required. It is simply a time to get on the air with others with Novice-style equipment. Use of the sked page, <http://n8fq.org/sked/index.php?board=nrru> is highly encouraged, for those that are inclined. Others may choose to announce operations, or make skeds via the Yahoo Group, or the NRR Facebook group.

There were three MARC Hams that participated; Glenn N3COB, Marc N4DR and Vic WB2U. The following are their reports:

Glenn N3COB



So here is my input on my experience with this year's Novice Rig Roundup.

I probably put in a combined 10 hours over the course of eight days. My goal was to make at least 50 QSO's. After the dust settled, I only achieved half of my goal with 25 QSO's which included working 14 different states. I found the band conditions especially on 40 meters was not very cooperative plus it appeared participation in general was low.

I used both my vintage Collins 75S-1 Receiver with my Heathkit DX-60 Transmitter that is crystal controlled for most of the QSO's. I was able to work a handful via QRP on the crystal controlled Paraset 80 that I had built as well.



So below is a copy of my log:

Count	Date /	Time	OP Callsign	Contact Callsign	Contact Name	Band	Rig Sent	QTH	RST Sent	RST Received	PWR sent	PWR Received	NRR#	SKCC#
1	190302	1411	N3COB	KW3U	JIM	80	NV1	PA	579	559	5	40	206	1452
2	190303	0202	N3COB	WB2U	VIC	80	NV1	MD	229	449	5	0	456	
3	190303	1838	N3COB	WA4LJJ	DOUG	40	NV1	KY	559	559	50	50		16280
4	190303	1900	N3COB	N4DR	MARK	80	NV1	MD	599	559	4	75	520	15081
5	190304	0108	N3COB	AA8LF	JOHN	80	NV1	MI	339	559	50	5		
6	190304	0115	N3COB	VE1AHX	BEN	80	NV1	NS	559	559	50	0		18100T
7	190305	0032	N3COB	AG4ZA	PAUL	80	NV1	KY	579	589	50	5	7342	7571
8	190305		N3COB	ND9M	JIM	80	NV1	FL	449	579	50	5		
9	190305	0244	N3COB	W8PU	GARY	80	NV1	OH	579	589	50	50	92	13440
10	190305	0312	N3COB	`N4NQ	SID	80	NV1	GA	599	599	50	40		5432T
11	190305	0315	N3COB	KA4UPI	MARK	80	NV1	GA	559	559	50	50		2582T
12	190306	2332	N3COB	WB9DKL	RON	40	NV1	IN	559	449	50	0		
13	190306	2355	N3COB	WR2E	JEFF	40	NV1	NY	559	559	50	5		14585T
14	190307	2348	N3COB	K1FT	DEKE	80	NV1	RI	599	589	50	0	249	16617
15	190308	0139	N3COB	K0SM	ANDY	80	NV1	NY	559	579	50	3		15256
16	190308	0220	N3COB	WB9EGZ	DAVE	80	NV1	WI	559	559	2	5	83	
17	190309	0255	N3COB	WB9RCE	BOB	80	NV1	IL	579	579	50	0	541	18305
18	190309	0301	N3COB	NS8S	DAVE	80	NV1	MI	589	589	50	0	563	14831
19	190309	1857	N3COB	W8TAF	TOM	40	NV1	MI	559	559	50	0	1179	
20	190309	1905	N3COB	KA9ERV	CRAIG	40	NV1	IN	589	599	50	0	1970	
21	190309	1920	N3COB	N1QWI	DANIEL	40	NV1	MA	559	529	50	100		
22	190309	1932	N3COB	K8TDM	TOM	40	NV1	MI	229	579	50	0		
23	190310	2015	N3COB	KI8JY	DAVE	40	NV1	OH	579	579	50	0	95	
24	190310	2025	N3COB	AA9OM	DARRELL	40	NV1	IN	579	599	50	0		17229T
25	190310	2035	N3COB	KA4UPI	MARK	40	NV1	GA	579	579	50	0		2582T

Marc N4DR



Transmitter is a single 6V6 in MOPA (Master-Oscillator-Power-Amplifier) configuration. Receiver is a Ten Tec 1056 any band DC receiver built for 40 meters. Antenna is usual Inverted Vee at 40 feet. Stats as follows:

Total QSOs 33 CFMD QSOs 27 UNCFMD 6 Unique QTHs 18 (States/Countries/Territories)

Total points. 1782

I did way better than last year. I used my Ten Tec Argosy 1 for most QSOs. It is VFO controlled. I did use my 6V6 rig with XTALS for some. The Argosy is a rig from 1982.



Vic WB2U

In the Spring of 2018 I participated in the NRR as a Novice 2 using my Elecraft K3S. I logged about fourteen contacts. I became so intrigued by the event having listened to the genuine tones coming from an array of real Novice Rigs during last years event; so much so that I took the plunge and searched for Novice rigs on eBay. I settled on the Drake 2C ham-bands only (80 to 10 meters) triple conversion receiver. The matching Drake 2NT served as my transmitter. The 2C has each band as 500 KHz wide. The basic



tuning range of 3.5 to 4.0 MHz works as a tunable IF with the other bands converted to this range via crystal controlled oscillator. (Crystals are 11, 18 and 25 MHz). An accessory socket enables the receiver to cover any 500 KHz segment from 3 to 30 MHz with the proper crystal. I have never used this option. A review can be found in the December 1966 QST (p. 40-42). The receiver uses 5 tubes and 7 transistors. The matching 2-CQ speaker on the left contains the Q-multiplier (one tube) and controls. Accessories include the crystal calibrator (tube) and noise blanker (solid state) which plug into the 2C chassis. (Both are in this set.) The Drake 2-NT is a CW transmitter. It is build up around 3-tube, and also has some semiconductor parts. Tubes include the 6EA8, 12BY7 and 6HF5 PA. Coverage includes the CW portions of the 80, 40, 20, 15 and 10 meter bands and frequency is controlled by a crystal or external VFO. Input variable to 100 watts with a "redline" at 75 watts for novice operation. The 2-NT has an

internal 117 VAC power supply. Unfortunately I was not very successful this year.

Had problems getting full power to the antenna even though I employed an antenna tuner. Back to the drawing board.

John KJ4KPW Hosts WETA Tour

I fell into broadcasting a year and a half ago, when I became a full-time announcer for Classical WETA 90.9. Last summer I became Production Manager for the station, but kept my Monday evening air shift. It's also a job that has ham radio advantages, like having two radio engineers that seem to know every technical question I ask! Chief Engineer Mike Byrnes retired this past December, and this month, William Harrison was promoted to Chief Engineer. After getting a personal tour of our transmitter site last year from William, I knew this was something MARC would enjoy. This past February William graciously gave us a tour.



In no particular order: Chuck KB3FKH, Isaac AC3CJ, Robyn KA3CUE, Bob WO3E, Al NW2M, Aleks W3JAG, Nancy W3NN, Raymond AC3CD, David W2LNX, Fred K3TAZ, John KJ4KPW.

Because of how crowded and loud the transmitter building is, there is a limit of 10 people for tours. Not pictured here is Fred K3TAZ. Fred was talking with former Chief Engineer Mike Byrnes. They discovered they actually worked together decades ago in a summer after high school at TV station in Baltimore, small world!

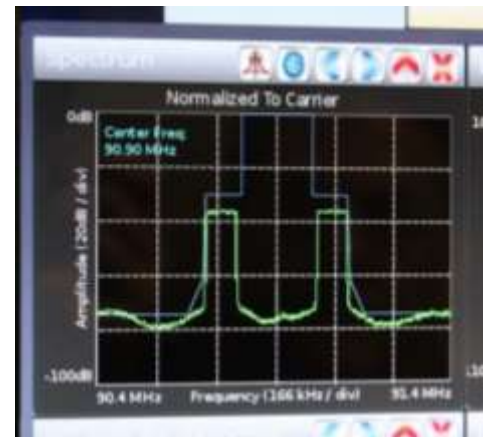
Inside the building, the ceiling is lined with what looks like plumbing you would find in a basement. (Pictured to the left) This is actually coax and can be up to 6 inches in diameter. William mentioned it has also confused a plumber when entering the building. The tower is 495 feet tall and is 610 feet HAAT (Height Above Average Terrain) and is



home to many antennas. The main signal is 90.9 FM, which includes 2 digital channels. The first is a copy of the FM signal, and the other is Viva la Voce (our station for classical vocal music).

Pictured below is the combiner filter for digital and analogue signals.

The two digital stations are shown on the computer before being combined with the analogue signal. There are



also several other radio stations on the tower, government communications, taxi, amateur radio repeaters, cellular, and WETA's 3 television stations.

Inside there is also an emergency broadcast booth. This would be used by an announcer in the event of something happening to our office building in Shirlington (or worse). I hope I never have to use it! The board is an Axia and on the right are 3 CD players. The microphone is a far cry from the Neumann U87 we use in our normal studios. But will certainly get the job done in the situation.



Outside under the tower can be dizzying when looking straight up.

William discussing the generators and answering some questions outside. It is very loud inside the building with fans, cooling, and machinery.



The tour was a lot of fun, and so much was discussed at length it's hard to put into words. I hope we can offer another tour in the future.

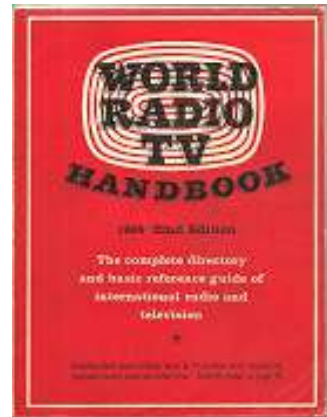
Aleks W3JAG has videos of the tour on the MARC Facebook page, I highly recommend watching them. Thanks to everyone for coming! 73 John KJ4KPW.

I started as a Shortwave Listener (SWL)

By WB2QOK "Mike"

Like many hams, my introduction to shortwave radio was as a shortwave listener or "SWL". My father bought me a used National 183D general coverage receiver around 1967. (I was 13 years old.) I spent many hours listening to that radio, always trying to log a new shortwave broadcaster. My best friend was also an avid SWL and we would spend many hours listening together. Late at night, when we were supposed to be asleep, we would tune into WWV. Then, one would telephone (sometimes at 3:00 a.m.) and the other would pick up the phone at the exact pre-arranged time pip on WWV. It worked great and the phone rang barely half-a-ring. That way we could still listen "together" and try to catch a broadcast from some exotic broadcaster, without awakening the entire house!

I looked back at the propagation for 1969 and it wasn't too bad at all. I logged quite a



few interesting broadcast stations during the late 60s. I got my ham license in 1977, but still enjoyed SWLing well into the 90s. I had a lot of fun collecting QSL cards, especially those from some rather exotic places.

Our guide was the World Radio TV Handbook or "WRTH". It listed all the world's broadcasters and all their broadcasts, including those in English. As you can imagine, some of the broadcasts were at

I thought you might like to see examples some of the QSLs received in those years. Perhaps they will bring back some nice SWL memories!

(P.S. The Far East Broadcasting Association in Seychelles had a no-QSL policy outside their



quite outlandish hours. My friend and I would be up at all sorts of insane hours trying catch some rare DX. I am still trying to catch up my sleep from those years.

"service areas". But I was very persistent and finally sent a cassette recording of their transmission. A member of the station staff actually wrote a personal note verifying my "report as correct"!)

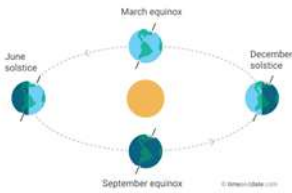
SPRING EQUINOX: Equal Day and Night, Almost

Citation - <https://www.timeanddate.com/calendar/spring-equinox.html>

"Equinox" literally means "equal night", giving the impression that the night and day on the equinox are exactly the same length; 12 hours each. But this isn't entirely accurate. Equinoxes and solstices mark the start of astronomical seasons. The equinoxes start spring and fall, while solstices start astronomical summer and winter. Earth spins around its own axis approximately every 24 hours (a sidereal day is 23 hours, 56 minutes, 4 seconds).

The time it takes Earth to orbit once around the Sun is around 365 days, 5 hours, 48 minutes and 45 seconds

(365.242189 days). And, like two spinning tops connected at the tips, it also wobbles around on its axis, making a complete rotation every 26,000 years (axial precession).



sky. As Earth makes its yearly orbit, 1 hemisphere faces the sun more than the other, the side that has summer.

On any other day of the year, the Earth's axis also tilts a little away from or towards the Sun. However, the equinoxes marks the exact moment twice a year when the Earth's axis is not tilted toward or away from the Sun at all. However, the axial tilt of around 23.4 degrees, remains the same.

Earth is actually tilted at an angle of around 23.4 degrees toward the celestial pole, which is a certain point in the

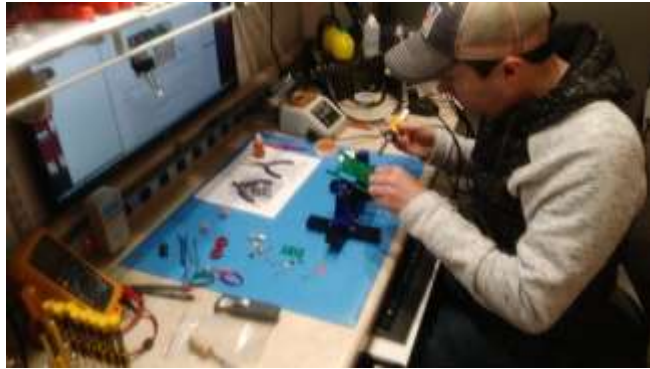
Following left is an image from the PSKReporter taken Wed. March 20th at 7:35 PM. The Spring Equinox actually started at 5:56 PM Local. Note how the shadow (grey line) terminators are straight line verticals even though the image was taken at 7:35 PM. Compare the two screen shots the second of which is dated Sat. March 30th at 8:00AM. Note how quickly the "grey line" or sun shadow terminators have changed already becoming less vertical.



The "grey line" is a band around the Earth that separates daylight from darkness. Avid DX-ers will be alert to those times when the grey-line is near or upon their station taking the opportunity to work stations along that line. Propagation is known to be available due to the "D-layer" that ordinarily absorbs HF signals. This absorption disappears rapidly on the sunset side of the grey-line and has yet to build up on the sunset side of the line. Looking at the first image one can see East coast of the USA intersects with central China on the sunrise side of the grey-line. The second image shows the morning grey-line for the East coast of the USA intersecting with the sunset terminator in East Asia.

There are many references one can turn to in order to learn more about propagation. www.voacap.com is an excellent one useful for planning events such as Field Day. The following is a presentation you might find useful <http://www.voacap.com/ctu/propagation-ctu-en.pdf>. Happy DX-ing!

NW2M's BENCH TALK



Our very own John Banther, KJ4KPW, races to get his QRP antenna kit ready for his trip to Florida! From a handful of parts to a finished kit took 4 hours- including making a 25' coax feedline with BNC connectors and a counterpoise. This was John's first kit and first time soldering. The kit is the deluxe version of a QRPGuys 40m-10m UnUnTenna Plus. Here is the URL with all of the information: <https://qrpguys.com/ununtenna-plus> The complexity is a 2-3 (out of 5) depending on your kit building experience. John will have stories and photos to share upon his return. Stay tuned!

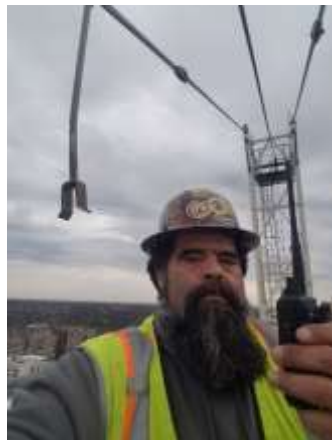
DAWN PATROL

Weekdays
5:00 – 11:00 AM
MARC Repeater 146.955 -

Dawn Patrol Reaches New Altitudes

“High Crane Drifter KB3WUM “Jack”” now at 350-feet

Dawn Patrol activity has taken on an additional venue whereby about six or more participants frequently QSY to the 224.940-repeater located in Rockville. This repeater has remarkable coverage.



New Dawn Patrol stations continue to drop by. The latest heard was Brad KE7U. participation continues to grow KC3LBS Matt getting back on. Vijay AB3VZ and John N3KBS, KC3MOA Mike. “AI” NW2M joins formation off and on.

Wed. March 13th Brendon, KM4HRR was heard doing a test first-time access to 146.955 from Reston. Brendon was testing out his Kenwood TM-D710G 144 /

430 MHz FM Transceiver that sports APRS / TNC - Built In GPS / Echolink. WB2U in QSO learned that Brendon has been ARES/RACES Emergency Coordinator for Fairfax County since 1988. He is also DMR capable with ID 3151516. Other hats Brendon wears are Dir. and Emergency Operations Officer for



the Vienna Wireless Society and a member of RADO. He is also a Skywarn Spotter FX-185. Judging from his performance on the repeater running low power to a Diamond at 30-feet he has an excellent station for accessing many EMCOMM

related systems. Brendon was motivated by an email he received inviting him to attend the March 20th MARC meeting that featured a presentation by Al KN3U Montgomery County Auxiliary Communications Service (MCACS) at the Stella B. Werner Council Office Building (“COB”).

Here is a list of those active in the morning on 146.955: W3KIT, WM1E, N3BAB, N4DR, N3COB, W3NN, K4HSI, W3MGZ, W2LNX, KP4N, KN4LJF, K3ICI, W3ALH, W3EME, KE7U, N6MEJ, N3YHF, WB2QOK, N3YOZ, KV4FA, K3DHS, KV4FA, KA3INZ, WB2U, W1GHR, KB3WUM, K3MRI, KB3PBZ, K7OR, KC3JHK, WA1EIG, KN4RBR. KC3JUW, AF9B, NW2M .

PUBLIC SERVICE

Public Service Events schedule for 2019

April 27	Rockville MS Walk	April 28	Pike's Peek 10K	April 28	Rockville Science Day
May 5	BCC Rescue 1 Run	July 4	Takoma Park July 4th Celebration	July 28	Riley's Rumble
July 12	Damascus Days Parade	July 20	Rockville Rotary Runfest	Nov. 3	Rockville 5K/10K
Sep 8	Parks Half Marathon	Oct 27	Marine Corps Marathon		

Paul N3RQV provided the following report via the MARC Reflector March 8th. MARC is seeking volunteers to support radio communications for the below listed events taking place in April and May. If you have already volunteered, thank you. If not, and you would like to help with radio communications, please email me at N3RQV@arrl.net.

MS Walk – Rockville Date: Saturday, April 27 Site opens at 9:00 am, walk begins at 10:00 am Time: 8:30 a.m.-1:30 a.m.
Location: Three mile walk through Old Town Rockville, beginning and ending at Rockville Town Center Square, 30 Maryland Ave., Rockville. Frequency: 443.900+ CTCSS 156.7 Hz repeater

Pikes Peek 10K Run <http://pikespeek10k.org/#sthash.wWkXQqUZ.dpbs> Date: Sunday, April 28
Race starts at 7:50 am Time: 6:30 a.m.-10:00 a.m.
Location: 10K run from Shady Grove Metro Station to Pike and Rose (Rockville Pike and Rose Ave), Rockville.
Frequency: KV3B 146.955- repeater

BCC Rescue 1 Run <http://www.rescue1run.com/home-page> Date: Sunday, May 5 Time: 6:30 am - 9:30 am
Race starts at 8:00 am
Location: starting and ending at the BCC rescue station at Battery Lane and Old Georgetown Road, Bethesda
Frequency: NIH K3YGG 145.290- CTCSS 156.7 repeater

MARC's primarily mission at these events is the safety of the participants, course volunteers, and the public, as well as situational awareness for the race directors and coordination with police and medical personnel. This is accomplished by establishing a tactical radio net with volunteer radio operators on the course at key locations and shadowing race directors, police, and medical personnel, depending on the event. Communication is via HT through local repeaters and/or simplex frequencies.

Don't know if this is something you want to do? Maybe you simply want to observe what goes on before you commit to working an event? Contact us and we will arrange for you to work with an experienced volunteer to observe and understand what is involved in working a public service event.

Don't have a radio but want to participate? MARC has appropriate equipment you can use to participate in an event.

If you have any questions or would like to help with radio communications, or logistics, or planning and administration for any MARC Public Service Event, please email me at N3RQV@arrl.net

The complete list of 2019 MARC Public Service Events is maintained on the MARC web site [https://www.marcclub.org/ Public Service Events](https://www.marcclub.org/PublicServiceEvents) page.



Featured Radio Shack

The *MARC Proceedings* is asking readers to submit photos of their radio shack along with descriptions, stories or anecdotes. This month the WM1E "Bob" shack is featured:

I was originally licensed in 1959 as KN9QJM. By the end of that year I had passed the General test and became K9QJM. My first transmitter was a Heathkit DX-40. When I got my General license I built an Eico 720 CW transmitter and later the AM modulator. I also built the Knight VFO so I could do away with crystals. My receiver was a Hallicrafters S-85. Eventually, I traded everything in for a Johnson Viking Ranger transmitter and a Hammerlund HQ-170 receiver.

When I went to the University of Wisconsin in 1963 I didn't have the time or the space to pursue amateur radio and eventually my license lapsed.

Fast forward a few years to 2012, after I retired from my career, I became interested in Ham radio again. I got my Technician license and then General.

In March 2015 I passed the Extra.

Lately I am mostly on FT8. My Digital voice capability consists of Digital Voice Dstar - 62C, 30C Fusion - 290 (America Link) DMR - Brandmeister TAC 310



Upcoming Events: VHF Super Conference

On 2/1/19 4:43 PM, Al Rabassa via MARC-MD wrote:

For those interested in technical programs, vendor sales, and everything weak-signal, the VHF Super Conference may be for you. The VHF Super Conference only comes to town every three years. This is the year! The dates: April 26-28, 2019. Web Site: <https://vhfsuperconference.com> Location: Sterling, VA (28 mile drive).

AMSAT 50th Anniversary Symposium

David W2LNX sent out the following FYI:

From the ARRL newsletter:

The AMSAT 50th Anniversary Symposium will take place on October 18 - 20 at the Hilton Arlington in Arlington, Virginia, next to Washington, DC. Connected to the Ballston metro station, the hotel offers easy access to the capital's top tourist destinations, and tours will be available; it's 6 miles from Reagan National Airport. The AMSAT Board of Directors will meet on October 16 - 17. -- Thanks to AMSAT News Service

NETS

The following tabular data is provided by K3TJC "Bill":

Net	Mode	Day	Time (local)	Freq.	PL	Purpose
MARC Sunday Net	FM	Sunday	7:30pm	146.955- MHz	—	Information
Public Service Net	FM	Tuesday	8:00pm	146.955- MHz	—	Public service & emerg
MARC 6-M Net	FM	Tuesday	9:15pm	53.270- MHz	156.7	Information
MARC Rapid Deployment Net	FM	Thursday	8:00pm	146.955- MHz	—	Rapid deployment
Maryland Emerg. Phone Net (MEPN)	SSB	Daily	6:00pm*	3.820 MHz	n/a	Formal traffic
Empire Slow Speed (ESS)	CW	Daily	6:00pm	3.569 MHz	n/a	Training & traffic
Baltimore Traffic Net (BTN)	FM	Daily	6:30pm	145.330- MHz	—	Traffic
Maryland Delaware DC Net (MDD)	CW	Daily	7:00pm, 10:00 pm	3.557 MHz	n/a	MDC section traffic
Maryland Slow Net (MSN)	CW	Daily	7:30pm	3.563 MHz	n/a	Training & traffic
Radio Relay International East (RRIE)	CW	Daily	8:00pm	3.552 MHz	n/a	Formal traffic – long haul

*When band conditions degrade in late fall or winter, the MEPN may start an hour earlier.

D-STAR Nets

The MARC D-STAR repeater (444.200+) gateway is programmed to link to other reflectors to access nets hosted elsewhere. At the end of the programmed time the gateway links back to REF062C.

Net	Day	Time (local)	Reflector
International D-STAR Net	Sunday	8:00 to 8:59pm	REF001C
Philadelphia Digital Radio Net	Monday	8:00 to 8:59pm	REF020A
Raspberry Pi Net (1st and 3rd Mondays)	Monday	10:00 to 10:59pm	REF038C
PAPA System D-STAR Net	Tuesday	11:00pm to 12:59am	REF012A
Mid-Atlantic Auxiliary Communications Service	Wednesday	8:00 to 8:59pm	REF062A
National Capital Region Net (Washington DC)	Wednesday	9:00 to 9:59pm	REF062A
Ham Nation After Show Net	Wednesday	10:00 to 10:59pm	REF014C
PAPA Technical Round Table	Thursday	11:00 to 12:59am	REF012A