

Charles
County
Amateur Radio
Club

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Smoke Signals



Volume 24
issue 5

May 2021

Meeting 7th @ 1900 EST via Zoom &/or
Marbury Baptist Church 4670 Bicknell Rd,
Marbury, MD 20658

THE PRESIDENT'S WORKBENCH

Summer is just around the corner. Speaking from experience, you'll want to make sure you keep abreast of any weather forecasts for lightning and thunder. I think I mentioned this before, but in the late fall, when thunderstorms should have no longer been a threat, one popped up in the middle of the night. I didn't take a direct hit, and all my antennas were disconnected, but the power surge that roared through the house did plenty of damage. While my power supply survived, as did the HF linear, the HF and VHF/UHF radios did not. So I now make it a habit to not only disconnect the antennas from the radios when not in use, but I also disconnect the power cables connecting the radios to the

power supply.

Since summer is coming soon, now is a good time to start your advanced planning for Field Day. Take inventory of your equipment, cables, connectors, etc. If there's anything you need to add or replace, get your order in quickly to your favorite ham radio dealer. The supply chain is still pretty kinked up and what used to arrive in a couple days can now take a couple weeks. Even longer if the parts are coming from overseas.

I am happy to announce that we will once again be offering ham radio exams. Our first post pandemic test session will be two hours before our May meeting.

(Continued on page 2)

CALENDAR

May

05 Net 2030

07 meeting

12 Net 2030

19 Net 2030

26 Net 2030 & News
articles due

June

02 Net 2030

04 meeting

09 Net 2030

16 Net 2030

23 Net 2030

26-27 Field Day

30 Net 2030 &
News articles due

(Continued from page 1)

As I am writing this article we have five people already signed up to take exams. Pre-registration is required and cuts off 48 hours prior to the exam.

There are some interesting special event stations happening in May. The weekend of our meeting is the Golden Spike special event. This event commemorates the driving of the golden spike completing the trans-continental railroad at Promontory Point, UT. Also starting that weekend and running through the 15th is the National Police Week special event. This will be a nationwide, multiple station event operated by the FBI Amateur Radio Association. The following week is EMS Week from May 15-23. This is being operated by the Wood County ARES/RACES of Junction City, WI. What makes this one unique is that it will have an online presence as well via AllStar 52770/EchoLink W9WCA-L. On May 20th, the Long Island Mobile Amateur Radio Club will hold a 6 hour special event from 1400Z-2000Z commemorating Charles Lindberg's Transatlantic Flight. The final one that caught my eye for being, um, somewhat unusual is the Strange Antenna Challenge event on May 28-31. For that one you are encouraged to use antennas made from things normally not used for antennas. From their listing they say they've had previous participants using bridges, statues, vehicles, and fences for antennas. If you are using such an antenna you are asked to participate as a "satellite" station by appending "/K0S" to your call sign.

There will also be a great many Memorial Day stations on the air operating from ships, parks, and other places. Some will be operating throughout the month, others just on specific days. Check the ARRL Special Event list or other online sources such as QRZ and eHam.



by Bob, NW3M

If you're looking for states, the pickings are slim unless you got on the air the weekend before our May meeting. After the meeting the rest of the month offers only Arkansas and the Hamvention QSO Parties. If you happened to operate the first weekend in May there were QSO Parties for Indiana, Delaware, New England, and the 7th Call Area.

Get on the air and make some noise. Show the world we're still using our bands. But remember to take time to come out to the meeting on Friday, May 7, at the Marbury Baptist Church as 7:00 PM.

Hamfest

05/30/2021

Location: Howard County Fair Grounds
2210 Fair Grounds Road
West Friendship, MD 21794

Website: <http://www.marylandfm.org>

Sponsor: Maryland F. M. Association, Inc

Talk-In: 146.76, 224.76, 444.0 CTCSS 107.2

Public Contact: John Elgin , WA3MNN
518 Copley Lane Silver Spring, MD 20904
Phone: 301-641-5313

Email: marylandfm@verizon.net

There will be NO indoor tables

A free Magazine

The ham radio club, SARC, VE7SAR, in Surrey, British Columbia, Canada puts out a really good electronic magazine. It is called the Communicator and comes out bi-monthly. The editor is John Schouten, VE7TI. John's magazine is quite interesting in terms of useful content. The typical issue runs to over 100 pages and does not include advertisements. It is chocked full of well written and informative articles, projects, and radio history. One page per issue is reserved for ham radio humor. Best of all, the magazine is free.

Visit their website where you can download the current issue as well as back issues from their archive. <https://ve7sar.blogspot.com/>

Practice questions

1. What type of radiation are VHF and UHF radio signals?
 - A. Gamma radiation
 - B. Ionizing radiation
 - C. Alpha radiation
 - D. Non-ionizing radiation

2. How does RF radiation differ from ionizing radiation (radioactivity)?
 - A. RF radiation does not have sufficient energy to cause genetic damage
 - B. RF radiation can only be detected with an RF dosimeter
 - C. RF radiation is limited in range to a few feet
 - D. RF radiation is perfectly safe

3. Which of the following is required by the FCC rules when operating in the 60-meter band?
 - A. If you are using other than a dipole antenna, you must keep a record of the gain of your antenna
 - B. You must keep a record of the date, time, frequency, power level and stations worked
 - C. You must keep a record of all third party traffic
 - D. You must keep a record of the manufacturer of your equipment and the antenna used

4. What does VOACAP software model?
 - A. AC voltage and impedance
 - B. VHF radio propagation
 - C. HF propagation
 - D. AC current and impedance

Advanced Technical Information Online

By Bob, NW3M

In the last few issues I've covered various types of filters. A few were audio filters that offer band-pass, band notch, low and high pass, etc.

This month I want to touch on the basic RF bandpass filter. This filter uses two passive components; a capacitor and an inductor. If you recall from studying to get your much coveted ham radio license, inductors and capacitors behave in a similar fashion. As the frequency of a signal passing through each changes, so too does the reactance of the device. To refresh your mind again, remember that reactance is the AC equivalent of DC resistance. In fact, reactance is measured in ohms.

Harkening back to your license studies, you will recall that while the reactance of an inductor or capacitor changes with frequency, they change in opposition. As frequency increases, the reactance of a capacitor becomes lower eventually approaching a near dead short circuit. However, in an inductor, the reactance increases as frequency increases.

From our basic Ohm's Law, we recall that as resistance goes down there is less voltage/current drop across that resistance for a given load. Conversely, as the resistance goes up, there is an increase in voltage/current drop across the resistive device. The same is true with reactance, except this time it acts on the voltage/current of an AC signal.

By selecting inductance and capacitance values carefully, you can make a circuit that reduces the passage of AC current except at a specific frequency. That specific frequency is called the resonant frequency. Resonance is the point at which the capacitive and inductive reactance values are equal.

In a series resonant circuit, signals above or below the resonant frequency are attenuated through the high impedance of either the capacitor or inductor. In a parallel resonant circuit connected across the signal and ground, signals above or below the resonant frequency are shunted to ground through the low impedance path presented by either the capacitor or inductor.

By connecting combinations of parallel and series resonant filters you can create much tighter RF filtering. That is the basis of the multiple pole bandpass filters used for contest stations to reduce and often eliminate interference from other radios in the room operating on different bands or even the same band but different modes, i.e. CW and Phone.

Since these are made with just two types of components, they are quite easy to build. Picking component values for a given frequency can sometimes be a struggle for many folks new to electronics. If you're in that group, or are an experienced builder but feeling a bit tired of doing all the calculations, here is an online calculator that will take most of the math out of the process. Simply enter a frequency and it will give you back the values for the capacitor and inductor in commonly available values.

<http://www.learningaboutelectronics.com/Articles/LC-resonance-calculator.php>

CCARC Activities

By Jeff – KB3SPH

7 May 2021 – Exam Session at **5:00 PM**, Monthly CCARC Meeting at **7:00 PM**.

Location: Marbury Baptist Church Hall, 4670 Bicknell Road, Marbury, MD 20658.

Participating Volunteer Examiners are requested by 4:30 PM to prepare for the exam session at 5:00 PM.

Agenda for 7:00 PM meeting:

*Officer Reports

*Discussion of ideas for operating events for the club, such as Park Activations and Special Event Stations. Discuss interest in possible field trip to Skyline Drive to participate in the ARRL VHF/UHF contest (12 - 14 June).

Zoom:

We also plan to have the 7:00 PM meeting available via Zoom:

Meeting ID: 890 0713 4517

Passcode: 530401

Join the 7 May CCARC Meeting via desktop/laptop/smartphone: <https://us02web.zoom.us/j/89007134517?pwd=K2JHK1pzSWNjYkhqeU4zQnl1SjVxQT09>

Dial in via landline/cell phone and follow voice prompts: 301-715-8592

4 June 2021 – Monthly CCARC Meeting at 7:00 PM – Details TBD.

25 – 27 June 2021 – Field Day at Nanjemoy Creek Environmental Education Center, Nanjemoy, MD. Details TBD.

6th Annual Connector Workshop

Mark your calendars for the **6th Annual Connector Workshop** (Red-Righting, Tongue-Upping the World since 2016) to be held at the Nanjemoy Creek Environmental Education Center (NCEEC) on **Sunday, 9/19/2021**. This year's theme is "**Solar Sunday**."

Who: Any interested person. This email is being sent to local area amateur radio operators. **Please feel free to forward this email to any individual/group that may have an interest.**

What: Free Connector Workshop focusing on learning about & constructing power cable assemblies using Anderson PowerPole connectors. Planned speakers include Charles AA3WS & Jeff KB3SPH.

Also: "Solar Sunday" Presentations on Various Solar Power Systems:

Kato – KB3LIB: Home/Cottage Solar Project

Steven – KC3DSO: Camping/Hiking/Vehicle Solar Systems

Jeff – KB3SPH: Field Deployable/Portable Solar System

When: Sunday, 19 September 2021, 1300 – 1700 (1:00 PM – 5:00 PM).

Where: Nanjemoy Creek Environmental Education Center (NCEEC)
5300 Turkey Tayac Place Nanjemoy, MD 20662

How (To): Briefs on how to use Anderson PowerPole connectors (the ARES/RACES standard) and demonstrations on various configurations to assemble
Hands on use of PowerPole crimpers and insulated connector crimpers to assemble cables

Hands on use of other crimp-on connectors, PL-259 connector installation, etc.

Briefs and demonstrations on preparation of cables and soldering various connectors and Crimp-the-Shield/Solder-the-Pin connectors

Hands on use of soldering equipment

Note: No experience or bringing of equipment is necessary, come and learn from others! If you have a situation where you need assistance in getting a connector/advice on equipment, please bring that equipment to the workshop and let the "Brain Trust" have a crack at solving the issue.

Why: Get the creative juices flowing!

If you are interested in attending the workshop, please let me know via return email (humbert1js@gmail.com) and include the number of people you're bringing with you.



On Saturday, April 24, 2021,
members of the Charles

County Amateur Radio Club (CCARC) and the St. Mary's County Amateur Radio Association (SMCARA) combined their time, talent and radios during the 4th Annual STEAM Day at the Patuxent River Naval Air Museum in Lexington Park, MD. More than a dozen vendors and exhibitors shared their displays and activities both inside the museum and outside on the flight line with the families who attended the event, which featured various aspects of Science, Technology, Engineering, Arts and Math (STEAM).

CCARC member Jeff – KB3SPH, set up a Kenwood D710G dual band radio, which was powered by a deep cycle battery, which he kept charged with his 100-Watt Renogy solar panel. CCARC member Pat – KB3UYZ, was stationed at his QTH, and available to speak to guests via Jeff's rig, through the N3PX repeater. The antenna was a Diamond X-50 mounted on a Buddipole tripod and mast system.

Bob – KB3KOW, also with CCARC, did multiple digital radio demonstrations with his rigs. He used a UC-1374-531 VHF APT Weather Satellite Antenna (WXSAT), which collected real time weather satellite data in the Southern Maryland area, and then displayed it on a computer monitor. Bob also demonstrated how to send messages via WinLink Packet.

Bob and Pam – KB3SWS, from CCARC, also conducted a mini Fox Hunt at the site. Instead of hunting for a "fox," Pam created a different version, during which guests learned how to "Track a Shark-Cat." The young trackers used a small receiver and a loop antenna, provided by Bob. Pam created displays that explained Radio Direction Finding (RDF), as well as the Shark-Cat and two decoys, a Spider-Cat and a Dragon-Cat.

In addition to the RDF displays, Pam provided a display about radio's "First Voice," Reginald Fessenden, as well as signs and information about CCARC and ARRL.

Working on behalf of SMCARA, Chris – KB2SKP and Rachel – KF7AWC demonstrated the compact digital “Go Kit” that Chris built. Chris set up a “Slinky” antenna, which could be adjusted for different frequencies, depending on how much, or how little, the loops of the Slinky were stretched apart. Rachel explained the various electrical and electronic parts of the Go Kit to the guests. She also told them that amateur radio operators are able to send “Health and Welfare” messages during emergencies, when other modes of communication, such as cell phones, are not available. Bob demonstrated the concept by sending a text via radio to a guest’s cell phone.

Jon – N3AK, who is also a member of SMCARA, did another digital demonstration, during which he showed guests what music “looks like.” When music was played via radio, it was then translated into various visual graphs on a monitor, via a Cubic SDR program.

CCARC member Bill – W8BL, visited the radio clubs’ displays, in addition to manning the University System of Maryland at Southern Maryland booth. Joe – KB3HNP, from CCARC, also attended the event. Both of them gleaned new ideas from the displays, including options for solar power and transporting HT radios.

Other hams on site during the day included Steve – KA3WAP of SMCARA, Pete – WA3UMY, the SMCARA Vice President, and Joe – N3KWA. Rob – N2OMC, a CCARC member and the SMCARA President, worked behind the scenes as the liaison between CCARC, SMCARA and the STEAM Day points of contact.

Article written and submitted by Pam – KB3SWS

For photos of the event, go to:

<https://www.flickr.com/photos/182237098@N06/albums/72157719061160412>

Contests in May

AGCW QRP/QRP Party	1	EACW Meeting	13
FISTS Saturday Sprint	1	QRP Minimal Art Session	13
Microwave Spring Sprint	1	K1USN Slow Speed Test	14
RCC Cup	1	NCCC Sprint	14
10-10 Int. Spring Contest, CW	1 to 2	Feld Hell Sprint	15
7th Call Area QSO Party	1 to 2	His Maj. King of Spain Contest, CW	15 to 16
ARI International DX Contest	1 to 2	NZART Sangster Shield Contest	15 to 16
Delaware QSO Party	1 to 2	FISTS Sunday Sprint	16
F9AA Cup, Digi	1 to 2	Run for the Bacon QRP Contest	16 to 17
Indiana QSO Party	1 to 2	K1USN Slow Speed Test	17
New England QSO Party	1 to 2	OK1WC Memorial	17
SBMS 2.3 GHz and Up Contest and Club Challenge	1 to 2	Worldwide Sideband Activity Contest	18
Araucaria World Wide VHF Contest	1 to 2	RTTYOPS Weeksprint	18 to 20
K1USN Slow Speed Test	3	Phone Weekly Test - Fray	19
OK1WC Memorial	3	RSGB 80m Club Championship, Data	19
ARS Spartan Sprint	4	CWops Mini-CWT Test	19 to 20
Worldwide Sideband Activity Contest	4	EACW Meeting	20
MIE 33 Contest	4 to 5	NAQCC CW Sprint	20
RTTYOPS Weeksprint	4 to 6	Hamvention QSO Party	21
Phone Weekly Test - Fray	5	K1USN Slow Speed Test	21
RSGB FT4 Contest Series	5	NCCC Sprint	21
VHF-UHF FT8 Activity Contest	5	YOTA Contest	22
CWops Mini-CWT Test	5 to 6	Baltic Contest	22 to 23
EACW Meeting	6	EU PSK DX Contest	22 to 23
NRAU 10m Activity Contest	6	K1USN Slow Speed Test	24
SKCC Sprint Europe	6	OK1WC Memorial	24
K1USN Slow Speed Test	7	QRP ARCI Hootowl Sprint	24
NCCC Sprint	7	Worldwide Sideband Activity Contest	25
50 MHz Spring Sprint	8 to 9	RTTYOPS Weeksprint	25 to 27
Arkansas QSO Party	8 to 9	Phone Weekly Test - Fray	26
CQ-M International DX Contest	8 to 9	SKCC Sprint	26
SARL VHF/UHF Digital Contest	8 to 9	CWops Mini-CWT Test	26 to 27
SKCC Weekend Sprintathon	8 to 9	EACW Meeting	27
VOLTA WW RTTY Contest	8 to 9	RSGB 80m Club Championship, CW	27
4 States QRP Group Second Sunday Sprint	10	K1USN Slow Speed Test	28
K1USN Slow Speed Test	10	NCCC Sprint	28
OK1WC Memorial	10	Feld Hell Sprint	29
RSGB 80m Club Championship, SSB	10	CQ WW WPX Contest, CW	29 to 30
Worldwide Sideband Activity Contest	11	Day of the YLs Contest	29 to 30
Phone Weekly Test - Fray	12	K1USN Slow Speed Test	31
VHF-UHF FT8 Activity Contest	12	OK1WC Memorial	31
CWops Mini-CWT Test	12 to 13	QCX Challenge	31

E D V D T T Y D A T E U U M P
 E N D Q S H E P S Y A M O A G
 K A U U A C R E J A N U A R Y
 D I G J E I W R E T N I W C N
 F U B M L A A P Y N O D C H O
 A E B X D H K R H T R O N J V
 O E B S E P T E M B E R G R E
 R C L R A M U U K J E E N X M
 Z K T L U N M M O M N U I L B
 H X L O A A B R M S Y K R S E
 J L P B B F R U O T F E P C R
 C S R X W E S Y L Z P L S Y G
 I J S W X E R A P U M K P L L
 E J Q M B D R F O L H D S U D
 V G R V E S J F J D K B D J Y

AUGUST

FALL

JULY

MAY

OCTOBER

SPRING

WINTER

DECEMBER

FEBRUARY

JUNE

NORTH

SEPTEMBER

SUMMER

APRIL

EAST

JANUARY

MARCH

NOVEMBER

SOUTH

WEST

Thanks to Martin Blaise AG5T for the new puzzle for the newsletter.

Special events in May

17th Anniversary 7.272 Ragchew Net	1	K1R
2021 Tokyo Olympic and Paralympics Game	1-sep 5	8J10LYMPIC to 8J00LYMPIC & 8N10LP to 8N00LP
303rd Birthday of New Orleans	7	K5N, K5O, K5L, K5A
75th anniversary end of World War II	2	Russian st use RP75 (P=pobeda=victory)
7th Area QSO Party	1	K7T, W7Z,K7N, W7F, N7A, K7E, K7G
All American Week	22	N4C
Audie Murphy	29	W2A
Birthplace of Memorial Day	28	W3M
Cal4Wheel High Desert Round-up	28	K6A
Centralia Mine Fire Anniversary	20	W3C
EMS Week 2021	15	W9A
Feld Hell Demo at Hamvention	20	W8H
FFMA Grid Activation EN48	28	W0W
Gulf Coast Hurricanes Special Event	22	K5H, W4A, W4F, W5M,W5L, W5T
Indiana QSO Party	1	K9I
Memorial Day	16	K1A
Minnesota State Birthday Bash	11	W0M, K0M
National Emergency Medical Services Week	16	N4E
New England QSO Party	1	N1N
NSS AFD	5	N3S
OARC - Golden Spike Special Event	7	W7G
Perrin Field Museum Special Event	15	W5P
Remember The Squalus	22	W1S
RV Radio Network 2021 Spring Rally	6	K0A
Santa Fe Trail 200th Anniversary	8	W1B
Silver State Classic Challenge	14	N7V
Strange Antenna Challenge	29	K0S
Watch City Steampunk Festival	1	W1W
Whiskey Lover's ARC Annual Meeting	20	W8W
WHOA/SCOTA	15	W1M
World Pulmonary Hypertension Day	4	W2H



Team YOTA (Youngsters On The Air) has just announced the new YOTA Contest. More information about the event can be found in today's press release <<https://www.ham-yota.com/new-yota-contest-2021>> or directly on the website <<https://www.ham-yota.com/contest>> .

CCARC weekly net

Charles County Amateur Radio Club net each Wednesday 2030 local time
147.195 MHz, + 600 offset, PL 156.7 Hz. If repeater fails 146.480 simplex
EchoLink N2OMC-L (when available, watch emails)

Follow us on Netlogger

Nets will be roundtable type with a question of the week for discussion. All amateur radio operators are welcome; please join in the fun!

Sign up for net control at

<https://www.signupgenius.com/go/20F0B48ACAB2CA5F85-ccarc>

Emergency Medical Services



Photo 1 EMS founder Jim Page stands with an L.A. County Rescue response truck in 1959. Photo A.J. Heightman
photo 2- 1941 low headroom ambulance called "Black Maria". Photo A.J. Heightman
photo 3 1975 International Travelall Ambulance had limited room for supplies. Photo A.J. Heightman
photo 4 paramedic student practices splinting in ED rotation, circa 1975. Photo courtesy HealthONE EMS

Although modern EMS developed in Napoleon's time by Jean Larrey, (system to treat/transport injured French soldiers) & used by union troop in the Civil War; few major changes occurred in EMS until the 1960s. In 1865 the first civilian ambulance went into service in Cincinnati. The 1960s were a time of rapid improvement in emergency care. During that decade, the importance of cardiopulmonary resuscitation, defibrillation, cardioversion, and new pharmaceutical therapies was demonstrated. In 1966, President Lyndon Johnson received a report defining accidental death as the leading cause of death in the first half of life and citing that in 1965 more Americans died in vehicle accidents than in the Korean war. The report identified that chances of survival would be better in combat than on the average city street if there was a serious injury. R. Adams Cowley, a leader in trauma and critical care, estimated that a quality emergency health system could cut the accident death rate by 50%.

A lack of regulation or standards for ambulance operations and provider training led to a nationally recognized curriculum for EMS-emergency medical technician in 1969. The New York service differed slightly from the modern approach as they arrived equipped with a quart of emergency brandy for each patient.

Walt Stoy, PhD, Nancy Caroline, MD, and others in Pittsburgh believed more could be done in the out-of-hospital setting, including advanced airway management, vascular access, and medication administration. Enter the paramedic (EMT-P) curriculum in the early 1970s. Prior to the new title, several organizations had already begun training personnel including 400 hours of class, lab and clinical rotations in various hospital settings followed by a 100-hour field internship. As prehospital advanced life support (ALS) care gained favor within systems and communities, more paramedic programs sprouted up around the country.

By 1972, the expectation of advanced-level care on the streets and in the homes of Americans grew, fueled by the iconic TV show *Emergency!*, which portrayed paramedics providing care in an advanced manner never before seen, now watched by millions every Saturday night. For more than five years, America watched Johnny and Roy swoop in to save lives and help those in distress. Although just a TV show, *Emergency!* set a standard expectation for the public and served as a catalyst for many to pursue careers in EMS. The EMS Systems Act of 1973 provided funding for the creation of more than 300 EMS systems across the nation, as well as set aside funding for key future planning and growth. In 1972, first residency to train physicians specifically for the practice of emergency medicine at the University of Cincinnati. Advanced cardiac

life support (ACLS) did not exist until 1979 not required for paramedic until the 1980s, so care in cardiac arrest varied. Paramedics were taught by nurses & physicians in emergency medicine who had never worked in prehospital setting or in the back of a moving ambulance. Recognizing the need for standardization & regulation , in 1970, National Registry of EMTs (NREMT) met to create a national certifying exam. In 1971, 1520 personnel took the first NREMT. The initial EMT-P curriculum was updated in 1985, 1998, 2000, and 2009. Programs are also now aligned with collegiate institutions and graduate paramedics are backed with two- and four-year degrees in their field. Evidence-based medicine is changing the practice of medicine in general; prehospital medicine is not exempt. Patient care needs to be vested in what is proven to make a difference in patient outcome given the complexity and structure of paramedic programs today. Gone are the days when a physician could teach some advanced skills to a provider and then call them a "paramedic." NREMT requires that only students who graduate from CoAEMSP-accredited paramedic programs and hold at least a bachelor's degree can take the NREMT-P exam.

EMS has become a focus of intense research especially for acute respiratory distress, cardiac arrest, chest pain and stroke. With increasingly integrated technology between pre-hospital care and the emergency department, patient data is beginning to be transmitted real time allowing for earlier determination of patient severity and care management prior to arrival. While EMTs are not independent practitioners and require operating under a medical director's scope and license, the situations they face require considerable problem solving, judgment, and clinical decision-making skills. Physicians are needed at every step to help develop treatment protocols, provide quality improvement, hold regular training sessions and ensure all personnel have the tools they need to perform high quality pre-hospital care. In addition, physicians may be called upon for situations that require their presence on scene in the field including mass casualty incidents, high acuity and high-risk scenarios, tactical situations, or patients that require advanced skills such as surgical airways, pericardiocentesis, chest tubes and others. Large scale operations including concerts, conventions, and city events also benefit from physician input.

2021 is the 5th year of W9A Emergency Medical Services Week Special Event Station operating May 15 through May 23 on various bands and modes. The Wood County ARES/RACES Facebook page @WoodCoARESRACES will be updated as operators get on the air with the band and mode.

Along with high frequency operation, we will be operating on Allstar 52770, Echolink W9WCA-L and DMR/YSF rooms to be announced. Emergency Medical Services Week has been around for decades to honor the men and women on the front lines of healthcare, taking care of those in the greatest need before arriving at the hospital Emergency Department. Our county ARES group has many members that are active or retired EMS providers, and we strive to have them on the air as well so they can take a moment to talk about their time in EMS and share in the fellowship of amateur radio.

QSL will be QSL with an SASE to W9WCA. Email w9wca.aresraces@gmail.com for any questions.

<https://www.emra.org/about-emra/history/ems-history/>

2001.76<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1470509/>

<https://www.jems.com/administration-and-leadership/birth-ems-history-paramedic/>

April Frequency Measuring Test from W8BL

The frequency measuring test (FMT) started in 1931 and is one of the oldest traditions in amateur radio. The object is simple. Measure as accurately as possible, the over-the-air transmission frequency of an unmodulated CW signal from your location. While the objective and the event have remained largely unchanged, the equipment and accuracy with which the frequency can be determined certainly have. Success is now defined as a measurement with an error of less than 1 Hz from the frequency of the transmitted signal.

Modern equipment is capable of measuring frequency to the nearest millihertz and better; however, ionospheric distortions caused by Faraday rotation and Doppler shift present a major challenge. The FMT, in addition to testing the limits of your equipment and skill also provides an opportunity to be a "citizen scientist" and contribute data to the study of Earth's ionosphere. (Visit the HamSCI website at hamSCI.org for more information about their data collection programs.)

The FMT occurs twice a year with dates, times and approximate transmission frequencies announced in QST. The format for this April's FMT, held the night of Thursday, April 8, had two amateur stations, K5CM and W8RKO, transmitting the unknown frequencies in the CW portion of the 30, 40 and 80 m amateur bands. The format for each transmission was a three-minute "call up" announcing the event and identifying the transmitting station, followed by a one-minute-long "key down" period. The "key down" eliminates the unavoidable splatter that comes with keying and provides time for more accurate counting techniques such as fast Fourier transform (FFT) used by most of the receiving stations.

Participants have until Sunday night to report, via the internet, frequency measurements and grid square location. In addition to submitting their results, stations are also encouraged to report the equipment and methods used well as a "soap box" section for whatever additional comments they may have regarding the event. After the reporting period ends, the exact transmitted frequencies are revealed and each participant receives a report showing how much their measurement deviated from the actual frequency. Stations that managed to measure all six transmissions with an error of less than 1 Hz, make the "honor roll" and have their station call highlighted in green at the top of the results page. The actual frequencies for the April FMT and my frequency report are shown below. I was unable to hear W8RKO on 30 m. and missed the honor roll.

While many of the new SDR radios are capable of directly measuring the frequency to an accuracy of 1 Hz, I'm still making measurements using 1980s technology and a rack cabinet full of synthesizers, mixers, and counters, all using a common 10 MHz frequency standard derived from a GPS disciplined rubidium oscillator. At the end of the process, I use a sound card to produce an audio frequency that is recorded and analyzed using FFT by a laptop running Spectrum Lab, a free software program. Starting from the audio frequency and carefully adding back the various mixer prod-

ucts, the transmission frequency can be determined. Finally, I make several measurements of WWV during the contest. I use the small discrepancy (usually a few hundredths of a Hz) between my measured WWV frequency and the actual WWV frequency of either 5 or 10 MHz as my best guess at a correction for ionospheric frequency distortion and include this correction for my submitted frequency.

I absolutely understand why most folks would not find this is an interesting way to spend a nice spring evening. However, whatever your interest, amateur radio has something to offer, so find your niche, turn on a radio and be part of the community.

Results - April 9, 2021 FMT

Actual Radio Frequencies (Hz):

	80m	40m	30m
K5CM	3,597,391.55	7,063,283.32	10,102,747.77
W8RKO	3,598,577.90	7,064,159.50	10,103,732.40

W8BL	MD	W3	80m	40m	30m	Method: HP 3586B Selective Level Meter, HP 3326A Synthesizer, GPS disciplined oscillator.
K5CM	3,597,391.57	7,063,283.45	10,102,746.90			Soapbox: On 30m, K5CM's signaled disappeared 2 seconds into key down. W8RKO not heard. Signal strength on 40m and 80m all strong with minimal atmospheric noise or QRM.
	0.02	0.13	-0.87			
W8RKO	3,598,577.85	7,064,159.45				
	-0.05	-0.05				



Ready and waiting. I use the waterfall display on my ICOM 7300 to quickly find the approximate frequency of the transmitting station during the "call up" and then transfer that frequency to the HP 3568B Selective Level Meter for the actual measurement.



Charles County Amateur Radio Club Meeting Minutes

April 2, 2021

Officers Present:

President – Bob Curran NW3M
Vice President – Bob Davison KB3KOW (Zoom)
Treasurer – Pamela Humbert KB3SWS
Activities – Jeff Humbert KB3SPH
Secretary – Charles Hallock AA3WS

Visitors:

Steven Keller KC3DSO (Zoom)

Members Present:

Joe Boswell – KB3HNP
Patrick Hinman KB3UYZ (Zoom)
Jim Dunn W3JTD
Terry Venincasa KC3EIY
Michelle Sack N3YRZ (Zoom)
Calvin Lockhart II KC3RAN
Bill Luyster W8BL

Meeting opened 1900 Hours.

President Bob Curran NW3M opened the Meeting at the Marbury Baptist Church Social Hall. The meeting was also displayed on Zoom. Bob welcomed the guest and members.

Bill Luyster W8BL demonstrated the Digilent Analog Discovery 2 teaching aid. The Discovery 2 is a teaching aid used for teaching physics students electronics. Additionally, Bill gave an overview on the NanoVNA Vector Network Analyzer. The NanoVNA is an inexpensive device which Hams can use to test antennas, transmission lines, filters and LC circuits.

President Bob Curran NW3M advised the members and guest that the next meeting would be at the Marbury Baptist Church Social Hall on May 7, at 1900 Hours. A VE test session will precede the meeting.

Treasurer: Pamela Humbert KB3SWS, gave the April Treasurer's Report. The April's Treasurer Report was approved.

Activities Manager: Jeff Humbert KB3SPH reported on the following upcoming activities:

24 April 2021 – Steam Festival 10 AM to 4 PM at the Pax River Museum.

24 April 2021 – ARES NVIS testing. All Day

7 May 2021 – Monthly CCARC Meeting at 7:00 PM at Marbury Baptist Church Social Hall preceded by a VE test session.

June 2021 – Summer Field Day

Secretary: Minutes for the March's Meeting are published in the Monthly New Letter. The March Minutes were approved.

Old Business

None.

New Business

President, Bob Curran NW3M announced VE Testing will take place at 5 PM prior to the Monthly Meeting. Bob solicited inputs from the Membership concerning future activities such as fox Hunts, Kit Building, and Demonstrations. Bob noted a survey is being prepared to request suggestions for the Club future activities.

Antenna Show and Tell

Bob Curran NW3M showed and described a VHF Vertical Antenna with a Ground Plane. Bob also showed and described his Back Packer 20 Meter Vertical Antenna.

Jeff Humbert KB3SPH showed and described the Linked Dipole Antenna made at last year's Connector Workshop.

Members Comments

Bob Davison KB3KOW reported the ARES Washington Area Frequency List should be distributed shortly.

Pamela Humbert KB3SWS advised that Field Day will take place June 24 through 26 at the Nanjemoy Creek Environmental Center.

Closing:

A motion was made and seconded to close the meeting. The motion passed at 2040 Hours.

Charles Hallock AA3WS
Secretary



The Wide Area Ragchew Session

The Saint Mary's County Amateur Radio Association is hosting a monthly, informal ragchew session via Zoom for hams in the surrounding counties. The idea is to just get together to chat about what's going on, activities, etc. 2nd Thursday of every month 7:30 PM Eastern Time

AGENDA:

- Everyone is invited and welcomed from anywhere in the MDC area (southern Maryland, Northern Neck, eastern shore of Maryland, etc.)
- - Open chat – who is doing what, club news from all areas, how can we work together better to keep ham radio a growing, viable hobby, sharing of news about upcoming ham events, meet new people!
- Please keep all discussions related to ham radio activities!

JOINING THE GROUP (there are 3 different ways to join in on the meeting):

1 – Click on this QUICK LINK:

<https://us02web.zoom.us/j/8673965998?pwd=Q2IUL05PTVB3RnEvUkZPNmlKUFJ3QT09>

2 – Open up the ZOOM app on your computer or device and: Select 'Join Meeting' button and type in the meeting ID and password:
Meeting ID: 867 396 5998 Meeting Password: 1460464

3 – Use your regular telephone (no computer needed, voice only, no video):

Dial 1-301-715-8592 (US) – Follow the voice prompts... enter the Meeting ID followed by the # (pound) symbol; then enter your participant ID (if applicable) followed by #; then enter the meeting password followed by #

Contact information: Rob Hoyt, N2OMC – SMCARA President/ host rob-hoyt32@yahoo.com

Odds & Ends

License Testing

Our VEC sessions will resume May 7. Precautions will be in place including social distancing, outdoor testing as possible, sanitizing, and mask use while in buildings.



The History of Heathkit video file from 4/9/2021 is a 619 MB .mp4 that is 1:13:33 in length. I uploaded the video to a new location:

thewebniche.net

Feel free to download/save and/or play it from the above link. To save it to a local disk or thumb drive, stop the video once it starts playing from the link, right click in the video, and select "save video as."

73

Jeff – KB3SPH

humbert1js@gmail.com



Marconi arrives on Mars aboard the Rover Perseverance - NASA inserts Marconi's name in the computer memory of "Perseverance", together with that of the Science Park of Santa Marinella, a museum on the outskirts of Rome, which collects historical material about Marconi and radio.

Wonder if Marconi ever dreamt of travelling to the planet Mars?

INTERNATIONAL MARCONI DAY (IMD) 25th April - listen for special event stations.

Marconi Born: April 25, 1874, Bologna, Italy Died: July 20, 1937, Rome, Italy
In 1909 Guglielmo Marconi, along with Karl Braun, was awarded the Nobel Prize for Physics.

The **National Hurricane Conference** will take place June 14 - 17 in New Orleans, Louisiana. The primary goal of the National Hurricane Conference is to improve hurricane preparedness, response, recovery, and mitigation in the US, the Caribbean Basin, and the Pacific. The conference serves as a national forum for federal, state, and local officials to exchange ideas and recommend new policies to improve emergency management.

FEMA/Emergency Management Institute (EMI) training courses are offered, as well as workshops and training sessions on a wide range of topics for hurricane responders. General session speakers will include many of the nation's top experts in hurricane-related issues. Radio amateurs involved in hurricane response are invited. Register at <https://hurricanemeeting.com/register-by-mailfax/>



Hams in Action

Amateur Radio Credited with Rescue of Back-Country Hiker in Tennessee

A hiker was rescued from Great Smoky Mountains National Park with assistance from amateur radio. Tim Luttrell, KA9EBJ, put out a call on the evening of April 11 via the W4KEV linked VHF repeater in Gatlinburg, Tennessee, requesting assistance in extricating the injured member. No cell phone service was available at the location, and Luttrell's signal was spotty at times, owing to the mountainous terrain.

Responding was David Manuel, W5DJR, who obtained more information and called 911, which routed the call to Great Smoky Mountains National Park Emergency Medical Service (GSMNP EMS). The national park EMS relayed through Manuel a request for the group to continue down the trail as far as possible to shorten the rescue time. A medic with the Park Service search-and-rescue team subsequently reached Manuel by telephone, who served to relay questions to Luttrell. Manuel contacted members of the hiker's family after Luttrell provided contact numbers. Manuel was asked to relay information for the family to arrange to meet in Cherokee, North Carolina, and be prepared to transport the distressed hiker's vehicle to her home.

Manuel got a call from Luttrell indicating "all clear" shortly after 2 AM. The injured hiker was hospitalized and required surgery and rehabilitation.

FCC News

New rules governing RF exposure standards go into effect on May 3, 2021. RF exposure (RFE) limits are not changed, but do not automatically exempt amateur radio and change to a process that requires a formula-based criterion. Existing stations must comply by 2023, and new or changed (antenna, power, location, etc.) must comply before use. ARRL is working with FCC to update aids and develop tools that all hams can use to perform exposure assessments.

RF Exposure & You <http://www.arrl.org/files/file/Technology/RFsafetyCommittee/RF+Exposure+and+You.pdf>

RF Safety page <http://www.arrl.org/rf-exposure>

FCC <https://www.fcc.gov/general/fcc-policy-human-exposure>

Bulletin 65 Supplement B for Radio Amateurs <https://www.fcc.gov/general/oet-bulletins-line#65>

Video presentation **FCC Radio Frequency Exposure Rules**

Speaker/Presenter: [Greg Lapin, N9GL](#)

View Video: <https://vimeo.com/540342124>

Download Video: <https://vimeo.com/user107547861/download/540342124/36ae948e83>

Documents: https://www.dropbox.com/sh/mq3djoyqppeucwg/AACjeZjnNjFcDINtEI_B6xPpa?dl=0

Please feel free to share this and our other presentations with your friends, clubs and organizations

Updated Technician Question Pool

The National Conference of Volunteer Examiner Coordinators (NCVEC -Question Pool Committee <http://www.ncvec.org/page.php?id=333> wants new or modified questions for the 2022 -2026 FCC Element 2 Technician Pool.

Offered guidelines- new questions, changes to current examination topic areas, or changes to existing questions should focus on topics that enhance public interest, understanding, use of amateur radio, or on STEM hands-on learning and education, as well as questions on new technology, digital modes, station setup and operation, antennas, and emergency and non-emergency operation. Questions have no more than two 70-character lines, including spaces. Distractors should be less than 70-character lines long if possible. Each multiple-choice question must be accompanied by four possible distractors and only one correct answer. The answer choices may be in any order, but the correct answer must be indicated by the letters A, B, C, or D at the beginning of the question.

Those submitting suggestions should provide the resource information that supports the correct answer or the FCC Part 97 rule. To submit suggested questions for QPC review, the committee, email QPCinput@ncvec.org through June 30, 2021. This email address is a bulk forwarding mailbox, so no acknowledgement will be sent by return email. The NCVEC QPC will take all comments into consideration as it updates the Technician Question Pool for 2022 - 2026.

ANSWERS

Answers to
practice questions
1 D 2 A 3 A 4 C

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use your own telescope.

New to astronomy? We'll
help you learn.

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<http://smas.us>

**AMA 822
CHARLES COUNTY RADIO CONTROL CLUB
MARYLAND**



Interested in joining
the fascinating hobby
of RC airplanes?

The Charles County
Radio Control Club
is ready to help you
get started.

Visit us on the web:
charlescountyrcc.com

K3SMD



Meetings, nets, & contacts

First Friday- Monthly meeting @ 7 PM/1900

Net-Wednesdays 8:30 PM local 147.195 MHz, + 600 , PL 156.7 EchoLink N2OMC-L

PO BOX 169, La Plata, MD 20646

- President: Bob Curran NW3M flyingham@verizon.net
- Vice-president: Bob Davidson rdavidson@aceweb.com
- Secretary: Charles Hallock AA3WS selbynet@hotmail.com
- Treasurer: Pam Humbert KB3SWS humbertpj@gmail.com
- Activities: Jeff Humbert KB3SPH humbert1js@gmail.com
- Newsletter Michelle Sack N3YRZ msack@verizon.net
- VE Coordinator Bob Curran NW3M

Charles County Amateur
Radio Club

Service Club

We're on
the web

[http://
k3smd.net](http://k3smd.net)

Leave laughing

"Electricity originates inside clouds. There, it forms into lightning, which is attracted to the Earth by golfers. After entering the ground, the electricity hardens into coal, which, when dug up by power companies and burned in big ovens called 'generators,' turns back into electricity...where it is transformed by TV sets into commercials for beer, which passes through the consumers and back into the ground, thus completing what is known as a "circuit"Dave Barry

