

Charles
County
Amateur Radio
Club

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Smoke Signals



Volume 23
issue 8

August 2020

Meeting 7th @ 1900
Port Tobacco River Park 7740 Chapel Point Road, Port Tobacco

CALENDAR

August

05 Net 2030

07 Club meeting

12 Net 2030

19 Net 2030

26 Net 2030 &

News articles due

September

02 Net 2030

04 meeting

09 Net 2030

16 Net 2030

23 Net 2030 & News
articles due

30 Net 2030

THE PRESIDENT'S WORKBENCH

We have not yet moved into Phase 3 of Governor Larry Hogan's "Roadmap to Recovery". With the uptick in the number of people getting sick and increased hospitalizations I don't expect it will happen before our meeting date. So we will once again have our meeting at the Port Tobacco River Park in the pavilion. The park is located at 7740 Chapel Point Road, Port Tobacco, MD. Jeff has lined up a couple interesting short talks and Show 'n Tell displays for the meeting. Look for Jeff's column for highlights.

For those that missed the 2-meter Yagi building project last month, I will have the kits you ordered with me at this month's meeting. It comes with a set of easy to follow instructions but if you prefer I can sit down after the meeting and guide you through the assembly. The materials cost of the kits is \$15.

For those that made the antenna at last month's meeting, bring it along with a handheld radio. We plan to hide a fox transmitter in the park before the meeting so we can have a practice fox hunt.

The day following our meeting is the annual MD/DC QSO Party. This is an opportunity for you to talk to other Marylanders on the radio as well as others from around the world that might need a contact with Maryland. For you Tech licensees, you can also participate on VHF simplex or exercise your privileges on the 10 meter HF band. This might be a great way to wet your feet if you've never been on 10 meters.

(Continued on page 2)

(Continued from page 1)

If you catch the 10 meter bug, there's more to come for you. On September 6 will be the NRAU 10 Meter Activity Contest, which is a short sprint. It runs from 2:00 PM to 6:00 PM local. The first hour (2:00 – 3:00) is CW only, the second hour (3:00 – 4:00) is Phone only, the third hour (4:00 – 5:00) is FM only and the last hour (5:00 – 6:00) is Digital only. The FM portion is the only mode not accessible to Tech licensees.

Looking ahead to another great radio event that Techs can participate in is the ARRL September VHF/UHF Contest. This year it starts at 2:00 PM local on September 12 and ends at 11:00 PM September 13. While most of the activity is in the CW and SSB portions of 6 meters, 2 meters and 70 centimeters, there are still plenty of contacts to be made on 2 meter and 6 meter FM simplex. This is a fun, relaxed and easy contest.

I'm hoping to see many of you at the meeting in the park. Face masks are encouraged.

For now, stay safe and have fun on the air.



by Bob, NW3M

MDC QSO PARTY

This year, the Anne Arundel Radio Club, sponsor of the MDC QSO party, is offering a new prize for MDC radio clubs. The success of the MDC QSO party depends largely on the degree of participation in the contest by Maryland-DC operators =no MDC operators no MDC contest.

A new incentive for participation is a club "trophy", which will be awarded to the MDC radio club with the highest number of "membership participation points" for the MDC QSO party. We are still working on the exact form the "trophy" will take, but it will certainly be something your club will want to prominently display in your meeting spaces.

A formula for determining participation points, which we think will give both large and small clubs an equitable opportunity to win the trophy. Encourage your members to identify your club on their summary sheets when reporting their QSOs for their individual certificates and plaques. If they belong to more than one club, we request that they indicate how they desire their points to be apportioned among their clubs for the purposes of calculating the participation score. For example, someone belonging to AARC and PVRC might decide to apportion their club score 75% to AARC and 25% to PVRC. We will calculate the total participation points for each club, and award the trophy to the club with the most points

Total membership # of CCARC as of Field Day 2020 was emailed (only clubs which reported this number are eligible to win the trophy).

After the QSO party is finished, we will add all the points of all your participating club members as the raw participation score. Then we will determine the 2-digit percentage of the members of your club which participated in the contest and take the first digit of that percentage and add "1" to it for the multiplier. Examples: for 09 percent, the multiplier is 1. For 27%, the multiplier is 3. This will give smaller clubs a chance to equitably compete against the larger ones, since smaller clubs should find it easier to encourage a high percentage of their members to participate.

The MDC QSO party is YOUR party, and we hope you will participate and fill the airwaves with MDC QSOs during the party. You can find the all-new copy of the MDC QSO Party rules at

[https://www.w3vpr.org/sites/default/files/mdcqsoparty/Documents/Maryland-DC QSO Party Rules 2020-03-04.pdf](https://www.w3vpr.org/sites/default/files/mdcqsoparty/Documents/Maryland-DC%20QSO%20Party%20Rules%202020-03-04.pdf)

Advanced Technical Information Online

By Bob, NW3M

This month I'm going to do something a little different. I'm going to tell a story of discovery.

I recently tackled a project to repair an old CB radio. By old, I mean before the introduction of PLL frequency synthesizers. The radio had a bunch of crystals. There were six crystals in the 23 MHz range, four crystals in the 15 MHz range, and two crystals in the 11 MHz range. From these 12 crystals they synthesize all 23 channels of the original 23 channel CB frequencies.

The way this works is fairly simple. If you remember learning about RF mixers when you were studying for your ham license exams this should be a breeze. Remember that when you mix two frequencies together you get the two original frequencies, a sum of the two frequencies, and a difference of the two frequencies. From there you filter for just the frequency you want. For the sake of discussion, we'll call the 23 MHz crystals group "A", the 15 MHz crystals group "B", and the 11 MHz crystals group "C". For any given channel the mixing formula is $(A + B) - C$. So if we plug in frequencies; $23 + 15 = 38$, the sum of $A + B$. Then the 38 MHz signal is mixed with the 11 MHz signal and they take the difference of the two, $38 - 11 = 27$.

The problem I faced was that every 4th channel wasn't working. The radio was missing channels 3, 7, 11, 15, 19, and 23. Looking at the synthesis chart on the schematic it was obvious that one of the 15 MHz crystals was not oscillating. Before removing a single screw from the cover on the radio I wanted to see if a replacement crystal was even available. The bad news is that it was not.

Some of you who routinely work with older equipment probably already know that the last major crystal manufacturer in the US closed up shop in 2018. Reality hit me hard. If the crystal is bad, the radio is likely not going to get fixed unless Lady Luck and eBay are both on my team.

The long story short version is that the crystal was fine, there was merely a crack in the circuit board. But it got me thinking. What are the options for those restoring old ham radios or building some of those nifty QRP and one-tube transmitters in old project books?

There are a few sources for crystals from China and other foreign lands. Bomar Crystal Company in Middlesex, NJ, will still make a **custom** crystal for you in the holder of your choice. But plug-in and solder-in radio crystals are now all custom made only. No prices were listed.

I found an enterprising gentleman who created a crystal substitute using a small programmable PLL synthesizer in an 8-pin DIP package. He designed a 4-channel pc board kit that holds four through-hole PLL chips giving you a choice of four frequencies. That's the good news. The bad news is, the company that makes the PLL he uses for his kits no longer makes the through-hole package. Several companies offer similar programmable PLL chips but they are all small surface mount devices.

For the enterprising among us these inexpensive programmable PLL chips are probably the answer to your needs.

CCARC weekly net

Charles County Amateur Radio Club will start a
147.195 MHz, + 600 offset, PL 156.7 Hz. each
Wednesday 2030 local time

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

If you have a question or topic you'd like to
discuss please let Michelle or Bob know

HAMFESTS

QSO Today Virtual Ham Expo

<https://www.qsotodayhamexpo.com/>

Coming to your laptop, tablet, and smartphone on:

August 8 and 9, 2020

Next listed in person Hamfest is Santafest in December
(October's CARAfest has been cancelled)



Wireless on the Web



Hello CCARC and welcome to August. This is my 41st summer here in southern Maryland, having relocated to La Plata in March of 1979. Four decades later and I've still never acclimated myself to the summer heat and humidity. I don't know about you but I am looking forward to an end of this heat wave!

Magazines

In my column for May I lamented the loss of the many electronics magazines that used to grace bookstore shelves. I also mentioned "Nuts and Volts" <https://www.nutsvolts.com/> that is about the only remaining publication dedicated to electronics on the market. (Incidentally, since that column, written at the end of April, I've purchased two additional issues of "Nuts and Volts" at Books-A-Million. Just this past month I picked up issue #6 for 2019 so either their publication schedule has fallen well behind or distribution has slowed due to the current pandemic crisis.)

After that column appeared, President Bob, NW3M, emailed me with links to two overseas publications that may be of interest. The first is a European magazine, written in English, called the "Elektor". <https://www.elektormagazine.com/magazine> In his email Bob said "This magazine is sometimes available on the rack at the book store in Arundel Mills or at Micro Center. One of the things I found was that the level of electronics experimentation and homebrewing in Europe is way more advanced than in the US. The articles are written for much more advanced enthusiasts than what you find in Nuts & Volts."

A second publication Bob mentioned is "Silicon Chip" from Australia. More about it here: <https://siliconchip.com.au/>

Thanks to Bob for the assist and for making us aware of what's available in other parts of the world.

Electronics Parts

In that same May column I inquired about I inquired about electronics parts suppliers and which ones some of you might use or recommend. Both Bob and Bill (WB3CII) Koustenis responded to that query. I'm not going to expand on these links as I think they're all quite self-explanatory however here you have a listing of parts suppliers, all in one place.

Allied Electronics: <https://www.alliedelec.com/>

Debco Electronics: <https://www.debcoelectronics.com/>

DigiKey: <https://www.digikey.com/>

Jameco Electronics: <https://www.jameco.com/>

Mouser Electronics: <https://www.mouser.com/>

Newark Electronics: <https://www.newark.com/>

The RF Connection: <https://rfconnection.com/>

A BIG thanks to Bill and Bob for the input and assist!

Miscellany

Midland Radio returns to the amateur market: After a hiatus of 40 years, Midland Radio has reentered the amateur radio market with a dual band designated DBR2500 and retailing for approximately \$150.00. The radio has a selectable output of 5, 15 or 25 watts.

From the photos I've seen it appears to be compact much like Midland's GMRS radios with the keypad in the microphone. You can check it out here: <https://midlandusa.com/product-category/amateur-radios/>

Software Defined Radio: Fellow club member, and coworker Tom (N2HLJ) Marongelli shared the following link with me, a directory of a number of SDR (Software Defined Radios) available on the web for linking and tuning. I've not had the opportunity to peruse this one much. Perhaps some of you more digitally inclined folks will find this of interest: <http://websdr.org/>

AM Radio "Alive and Kicking": From London, Ontario Sports.com is this article on AM radio and its continued popularity among folks of a certain demographic (Mine) While part of this article reads like an advertisement for C Crane Radio, I think you will find it interesting. The radio shown in the article is an updated version of the radio that my late wife purchased for my birthday last year that I brought in to a club meeting for "Show and Tell":

https://londonontariosports.com/specialty/radio-communications/am-radio-alive-and-kicking/?trk_msg=RMP7Q31KH3D455KGN5A3U8JC5S&trk_contact=LI13R9FB8GVO50JHOELT1MF5U4&trk_sid=B03I2T492AGILN8J9F4OM715U4&utm_source=Listrak&utm_medium=Email&utm_term=Recently%2c+C.+Crane+was+featured+in+London+Ontario+Sports+where+Jeffery+Reed%2c+Editor+of+LondonOntarioSports.com+and+Jessica+Crotty%2c+General+Manager+of+C.+Crane+talk+about+how+radio+is+%26quot%3balive%26quot%3b+now+more+than+ever.+%26quot%3bBoth+in+Canada%2c+and+in+the+U&utm_campaign=AM+Radio+Alive+And+Kicking

Radio Station tallies:

Wonder of wonders, I received my issue of "The Spectrum Monitor" earlier today, BEFORE I wrote my column. (Although it may seem like it, I don't just sit down and compose my monthly input at the last minute. I'm usually thinking about topics for the next month's column by the time I hit the "Send" button to get my copy to newsletter editor Michelle-N3YRZ).

Regardless, "The Spectrum Monitor" publishes a monthly tally of the number of AM, FM and television broadcasters operating in the US. Like newspapers and magazines, many small town radio stations are either closing altogether due to competition from the Internet or have gone to automation so that there are no longer any live announcers. (A scan across the AM bands will reveal many stations carrying the same syndicated programming.) Here's a copy and paste of the numbers of AM, FM and television broadcasters as of June 30th, courtesy "The Spectrum Monitor" and coming from the FCC:

AM Stations: 4570	UHF Commercial TV: 993	Class A UHF Stations: 355	UHF Low Power TV: 1445
FM Stations: 6706	VHF Commercial TV: 375	Class A VHF Stations: 31	VHF Low Power: 492
FM Educational: 4197	UHF Educational TV: 270		
FM Translators & Boosters: 8303	VHF Educational TV: 120		
Low Power FM: 2146			
Total: 25,922 AM/FM stations	Total: 1,758	Total: 386	Total: 1,937

Total US Broadcast Stations: 33,553

Well, if you're still awake, that's it for this month. As always, I welcome input at aa3rt2@verizon.net 73, de AA3RT / WQZD805

Practice questions

What safety equipment should always be included in home-built equipment that is powered from 120V AC power circuits?

- A. A fuse or circuit breaker in series with the AC hot conductor
- B. An AC voltmeter across the incoming power source
- C. An inductor in parallel with the AC power source
- D. A capacitor in series with the AC power source

What are the two components of a radio wave?

- A. AC and DC
- B. Voltage and current
- C. Electric and magnetic fields
- D. Ionizing and non-ionizing radiation

Which term describes the ability of a receiver to detect the presence of a signal?

- A. Linearity
- B. Sensitivity
- C. Selectivity
- D. Total Harmonic Distortion

Which of the following injuries can result from using high-power UHF or microwave transmitters?

- A. Hearing loss caused by high voltage corona discharge
- B. Blood clotting from the intense magnetic field
- C. Localized heating of the body from RF exposure in excess of the MPE limits
- D. Ingestion of ozone gas from the cooling system

Odd & ends

Propagation as a Matter of Life Or Death

On May 25, 1928, the airship *Dirigible Italia* crashed on pack ice northeast of the Svalbard Islands, on its way back from a survey of the North Pole with 16 passengers and crew on board. At impact, one person was killed, and the cabin carrying nine people was separated from the hydrogen-filled airframe. Six crewmembers on the dirigible structure were never seen again as the airship became airborne again. The survivors on the ice-pack turned to their 5 watt wireless set to attempt to tell civilization they needed rescue, but it was only after nine days of trying that they were able to get the attention of a radio amateur 1900 km away.

The recently published article "[The Shipwreck of the Airship "Dirigible Italia" in the 1928 Polar Venture: A Retrospective Analysis of the Ionospheric and Geomagnetic Conditions](https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2020SW002459)" <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2020SW002459> provides the gripping historical context, and tries to answer the questions of why it was so difficult to establish communications for a rescue. Drawing from sources of geophysical data collected at the time, and using modern theories of propagation -- including some [directly derived from amateur radio observations](https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2018SW002008) -- <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2018SW002008> the authors present data including sunspot count, magnetic flux, and F2 layer height, and take the reader through an analysis of the skywave and groundwave paths.

Ultimately, the authors suggest that groundwave path losses likely exceeded 100dB, leaving only the skywave as a potential link. In the initial few days after the crash, the ionospheric path was impossible at the frequency being used, due to disturbed conditions. It was only after conditions had settled that communication became possible, and only became reliable when a lower frequency was chosen.

We may complain about poor propagation, but the stakes are nothing like what the *Dirigible Italia* faced.

Even after communications were established, 15 rescuers were lost in the search and recovery operations, including Roald Amundsen, Norway's famed polar explorer. Finally, on July 12, 1928, 48 days after the initial crash, a Russian icebreaker was able to reach and rescue the survivors.

Thanks Brian N9ADG and Bob NW3M for this article

Covid Lockdown effect on seismographs

Some areas dropped by 50%. Go here for some graphs, maps, and a video of the seismograph readings.

https://earthsky.org/earth/covid19-lockdown-2020-caused-50-percent-global-reduction-human-linked-earth-vibrations?utm_source=EarthSky+News&utm_campaign=4e3992a6f4-EMAIL_CAMPAIGN_2018_02_02_COPY_01&utm_medium=email&utm_term=0_c643945d79-4e3992a6f4-395348717

Connector Workshop / Antenna Build

8/16/2020 1300 - 1700

<https://www.smas.us/ConnectorWorkshop/>

Nanjemoy Creek Environmental Education Center 5300 Turkey Tayac Place, Nanjemoy, MD 20662 Map www.smas.us/html/directions_to_smas.html

Attending the workshop without building an antenna is **free** and still open for people to register. If you want to attend the workshop only, Jeff humbert1js@gmail.com **include the number of people you're bringing with you.** *The Antenna Build portion of the workshop is now full.

Learn about and construct power cable assemblies using Anderson PowerPole connectors and other crimp-on connectors, PL-259 connector installation, fellow Ham interaction, etc. **No experience or bringing of equipment is necessary**, come and learn from others! **Note:** 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.

Available at the workshop:

Worktable space

Various tools such as a set of PowerPole crimpers (with 15, 30 and 45 amp dies) and insulated connector crimpers for others to use.

15 amp, 30 amp, and 45 amp PowerPole connector sets.

14 gauge, 12 gauge, and 10 gauge cable.

Soldering station equipment. If you want to bring your own, please do.

Those who have experience with the various connectors helping those who do not, for a fun time for everyone.

Here are some ideas on what materials to bring to and gadgets you may want to construct at the Connector Workshop.

If you have crimpers, please bring them to share.

12 Gauge wire (works well with 30-amp PowerPoles)

Heat shrink tubing

Cable ties

Electrical tape

PowerPole Connectors

Insulated ring connectors

Gadgets to make: PowerPole extension cord, 12V socket/plug
12V power supply “wall wart”

Radio pigtails (cut the power cord for a radio about 8 inches from the radio-specific plug and put PowerPoles on the other end)

Ring end pigtails (to connect to power supplies)

Bare wire pigtails (to connect to power supplies/batteries)

Alligator clips

“Y” extension adapters

Fuse holders

Battery box connections

Solar panel system interfaces

Anything that uses DC in my shack or deployable gear gets PowerPole connectors installed. The sky’s the limit!

We will serve snacks and lunch throughout the day.

If you are interested in attending, Email Jeff KB3SPH

(humbert1js@gmail.com) or call 301-848-8043

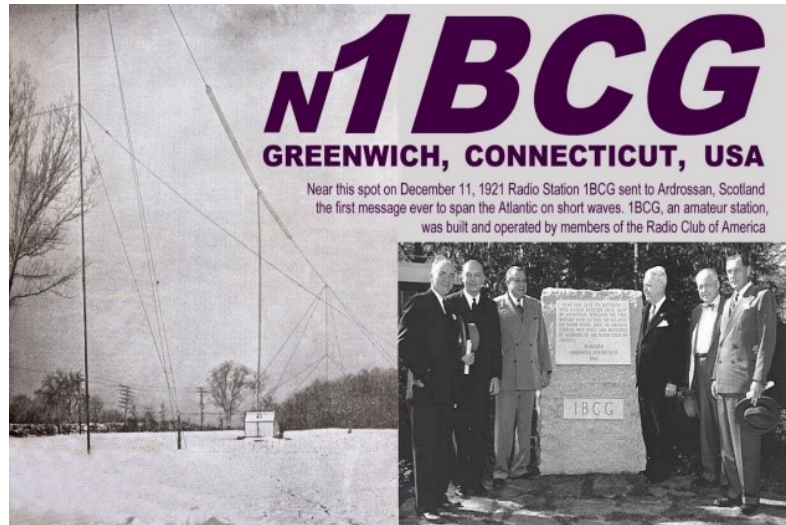
(leave message, if no answer)



The next exam session is
August 7

Special event leads to vanity call sign

Because he lives in the same town and likes to experiment, Clark Burgard KB1NFS, decided to choose a "meaningful call sign" and commemorate a special event in radio history. He changed his call to N1BCG. On December 11, 1921, radio station 1BCG sent the first transmission across the Atlantic Ocean.



He has a great history with designs of the station and links to information on each of the operators at <http://www.internetwork.com/radio/n1bcg/> .

Here is a short synopsis- John Grinan NJ2PZ, representing 6 members of the Radio Club of America sent a message from Greenwich CT to Paul Godley in Ardrossan, Scotland 12/11/1921. The message was hearty congratulations from George Burhard 2SS/W2GEC (president), Walker Inman 2BCG, Grinan, Edwin Armstrong W2XMN, Ernest Amy 2VK, & Minton Cronkhite 1BCG (station owner). Following a few failed tests, Godley took American made equipment to Scotland. There was a contest and this transmission was shortly followed by others both by CW and spark gap, including one "illegal station not yet located".



The CCARC July meeting was an antenna build at Port Tobacco Park. It was great to see folks and much fun building the Yagi. Thanks for all the work on the kits, Bob. And for the a “how a Yagi works” for us.

Photos by Jeff Humbert



CCARC Activities

By Jeff – KB3SPH

7 August 2020 - Monthly CCARC Meeting at 7:00 PM.

Location:

**Port Tobacco River Park
7740 Chapel Point Road,
Port Tobacco, MD 20677**

Agenda:

1. 2M Foxhunt (You could use your Yagi from last month's build)
2. Bill - W8BL – Earth-Moon-Earth (EME) Project Presentation
3. Antenna mounts/masts equipment demonstration
4. MD QSO Party brief (how to participate)

8 August 2020 – Maryland QSO Party – Details at <https://www.w3vpr.org/mdcqsop>

16 August 2020 – 5th Annual Connector Workshop with linked dipole antenna build. 1:00 PM to 5:00 PM, at the **Nanjemoy Creek Environmental Education Center**. More information in the document, 2020-08-16-Connector Workshop.docx, available for download at <https://www.smas.us/ConnectorWorkshop>

4 September 2020 – Monthly CCARC Meeting at 7:00 PM.

2 October 2020 - Test Session at 5:30 PM followed by Monthly CCARC Meeting at 7:00 PM.

Contests in August

European HF Championship	1st	SARL HF Digital Contest	16th
WAB 144 MHz Low Power Phone	1st	NJQRP Skeeter Hunt	16th
RTTYOPS Weekend Sprint	1st	ARRL Rookie Roundup, RTTY	16th
Batavia FT8 Contest	1 to 2	Run for the Bacon QRP Contest	16 to 17
10-10 Int. Summer Contest, SSB	1 to 2	Worldwide Sideband Activity Contest	18th
ARRL 222 MHz and Up Distance Contest	1 to 2	RTTYOPS Weeksprint	18th
North American QSO Party, CW	1 to 2	Phone Fray	19th
SARL HF Phone Contest	2nd	CWops Mini-CWT Test	19th
Worldwide Sideband Activity Contest	4th	CWops Mini-CWT Test	19th
ARS Spartan Sprint	4th	CWops Mini-CWT Test	20th
RTTYOPS Weeksprint	4th	RTTYOPS Weeksprint	20th
Phone Fray	5th	QRP Fox Hunt	21st
CWops Mini-CWT Test	5th	NCCC RTTY Sprint	21st
VHF-UHF FT8 Activity Contest	5th	NCCC Sprint	21st
CWops Mini-CWT Test	5th	RTTYOPS Weekend Sprint	22nd
CWops Mini-CWT Test	6th	Ohio QSO Party	22 to 23
RTTYOPS Weeksprint	6th	CVA DX Contest, SSB	22 to 23
NRAU 10m Activity Contest	6th	50 MHz Fall Sprint	22 to 23
SKCC Sprint Europe	6th	Hawaii QSO Party	22 to 24
QRP Fox Hunt	7th	Worldwide Sideband Activity Contest	25th
NCCC RTTY Sprint	7th	RTTYOPS Weeksprint	25th
NCCC Sprint	7th	SKCC Sprint	26th
QRP ARCI European Sprint	8th	Phone Fray	26th
RTTYOPS Weekend Sprint	8th	CWops Mini-CWT Test	26th
WAE DX Contest, CW	8 to 9	CWops Mini-CWT Test	26th
SKCC Weekend Sprintathon	8 to 9	CWops Mini-CWT Test	27th
Maryland-DC QSO Party	8 to 9	RTTYOPS Weeksprint	27th
4 States QRP Group Second Sunday Sprint	10th	QRP Fox Hunt	28th
SARL Youth Sprint	10th	NCCC RTTY Sprint	28th
Worldwide Sideband Activity Contest	11th	NCCC Sprint	28th
RTTYOPS Weeksprint	11th	Feld Hell Sprint	29th
MMMonVHF/DUBUS 144 Meteorscatter Sprint	11 to 13	Kentucky State Parks on the Air	29th
NAQCC CW Sprint	12th	RTTYOPS Weekend Sprint	29th
Phone Fray	12th	ALARA Contest	29 to 30
CWops Mini-CWT Test	12th	World Wide Digi DX Contest	29 to 30
VHF-UHF FT8 Activity Contest	12th	YO DX HF Contest	29 to 30
CWops Mini-CWT Test	12th	W/VE Islands QSO Party	29 to 30
CWops Mini-CWT Test	13th	Kansas QSO Party	29 to 30
RTTYOPS Weeksprint	13th	SARL HF CW Contest	30th
QRP Fox Hunt	14th	QCX Challenge	31st
NCCC RTTY Sprint	14th		
NCCC Sprint	14th		
Feld Hell Sprint	15th		
SARTG WW RTTY Contest	15 to 16		
ARRL 10 GHz and Up Contest	15 to 16		
Russian District Award Contest	15 to 16		
Keyman's Club of Japan Contest	15 to 16		
North American QSO Party, SSB	15 to 16		
CVA DX Contest, CW	15 to 16		

Youth news and events

Greetings CCARC,

As I noted on a past weekly net, here is some information and seeking help with the annual JOTA (Jamboree on the air).

JOTA occurs on the 4th weekend of Oct each year with this year being Oct 23-25. As I am sure many of you are aware, here in the U.S. basically any unlicensed person can talk on the radio as long as there is a control operator with them. This capability is something that only U.S., along with maybe two or three other countries, allows. For the rest of the world their version of the FCC prohibits any unlicensed person from talking on the radios, however, they make one exception and that is the annual JOTA.

The JOTA allows the opportunity for Scouts from around the world or across the U.S. to talk to each other. It is also an excellent opportunity for local hams to promote the hobby and maybe entice some youth to become actively involved in ham radio.

I've been working over the past 17ish years or so to have a JOTA presence at any of the local Scout Camporees, if they fall on the same weekend as JOTA and for the most part have been successful in getting a station and displays of various size set up throughout the years.

Some of those displays have been:

- Trying to make an ISS Contact: Rob (N2OMC) helped with this one up at Cheltenham. There was a small crowd gathered around and asked what we were doing. Rob told them we're going to try talking to the ISS. The looks on their faces indicated they didn't really believe us, but Rob got a Scout to hold the antenna and track the ISS and everyone was quite surprised when, as clear as a bell, we heard the ISS talking to other groups. Sad to say, but with the pile up, we were not able to do a QSO.
- ATV: At once Camporee, Bob (NW3M) set up his ATV Camera at another part of the Camporee and I had the TV. We then used HT's to get people on camera and give a report of some of the things they did for the day.
- Echolink: When HF just wasn't supportive of comms, Rob (N2OMC) and I did some smoke and mirrors. We set up a portable Echolink node which then fed a 2m HT. A second HT was handed to the youth, who were asked "Hey, we have England and some Scouts who want to talk to someone"...

There was one Scout who started chatting with a group in California. It was interesting that he complained about the cold and wet Maryland weather and the Scouts in CA were complaining about the hot and dry weather there.

-Morse Code: Always a big draw there and I'm working on a NW3M design for two CW stations connected via wire for some hopeful playing.

There are many more stories that can be shared, but none of this is really possible without assistance :-)

Rob and I have learned that having just two people there for potentially hundreds of Scouts just doesn't work out well, so we're always looking for more folks to join us for just the Saturday (Oct 24th) to help either run an existing station or maybe bring something along to demo to the Scouts.

The theme of this year's Camporee is STEM and currently the location is supposed to be at Cedarville State Forest. So, a ham radio appropriate theme and a location that is an easy drive for those of us in the county.

As the plans come together, I'll send an updated information as it becomes available but I'm hoping you'll be able to join us for a day of radio playing, sharing your knowledge and maybe even showing the Scouting community something new.

73 Bob KB3KOW

Special Event Calls August

Anniversary Appalachian Trail 83rd	N4C	10 TO 20
Colorado Grand Lodge Anniversary	K0M	1 TO 3
Hurricanes Katrina & Rita 15 Anniversary	K5R	28 TO 30
Illinois State Fair 2020	W9I	12 TO 24
International Lighthouse / Lightship Weekend	N8L, K2R, W7L, N7D, W6L, W2M, K2R	20 TO 24
Kansas QSO Party	W0D, W0C, K0U, N0D, W0I, K0S, N0I, N0U, W0P, K0T, K0L, K0Y, W0N, N0S, N0A, N0E, N0K, N0T, W0O, N0P, N0Y, K0O, K0D, K0A, K0W, N0O, K0B, W0Q, W0E, K0N, N0L, W0Y, K0K, N0B, K0Q, K0R, K0E, K0F, N0N, W0A, N0R, W0S, W0B, N0Q, W0F, K0C, W0T, W0U, W0R, N0C, N0W, W0W, W0K	27 TO 30
Lancaster Pa Area Welfare Net	N3P	14 TO 15
Navajo Code Talkers	N7C	11 TO 15
North American QSO Party SSB	W1N	15 TO 17
Ohio QSO Party	K8T	21 TO 23
Oklahoma Green Corn Rebellion 103 Anniversary	W5G	1 TO 14
River City Days	W0R	1 TO 4
Watoga Mountain Trail Challenge Race	W8W	1 TO 15
Worlds largest Teapot	W8T	2 TO 10



Charles County Amateur Radio Club Meeting Minutes

July 3, 2020

Officers Present:

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

Members Present:

Michelle Sack N3YRZ
Bill Luyster W8BL
Jay Howard KC3MUV
Joe Boswell KB3HNP
Terry Venincasa KC3EIY
Ray Simpson WI3A

Visitors:

Michael Sack Jr

Meeting opened 1914 Hours.

President Bob Curran NW3M opened the Meeting in the Pavilion at the Port Tobacco River Park welcoming the visitor and members. Bob started the Club Meeting with Yagi-Uda 2 Meter Antenna Building session. The session was well received and six antennas were constructed from kits made by Bob. All antennas built were functional and met design specifications.

New Business

Treasurer:

Bob Davidson KB3KOW gave the Treasurer's Report. Bob Curran NW3M called for a motion for the June Treasurer Report to be approved, many replied, motion was seconded and approved.

Activities Manager:

Jeff KB3SPH reported on the following upcoming activities (up dated June 23):

7 August 2020 - Monthly CCARC Meeting at 7:00 PM. Location has not been determined.

Note: Because of the extensive requirements for VE Sessions, the Club consensus was to defer testing sessions until October.

16 August 2020 – 5th Annual Connector Workshop with linked dipole antenna build. 1:00 PM to 5:00 PM, at the Nanjemoy Environmental Center. Reference: 2020-08-16- Connector Workshop.docx, available for download at www.smas.us/ConnectorWorkshop.

4 September 2020 – Monthly CCARC Meeting at 7:00 PM.

Note: The Oxon Hill Bicycle and Trail Club cancelled the Indian Head 100 Bike Ride that was scheduled for 7 September 2020.

2 October 2020 - Test Session 5:30 PM followed by Monthly CCARC Meeting at 7:00 PM.

We're always looking for presentations, demonstrations, guest speakers, etc., on various topics to be presented in conjunction with our club meetings. If you have a request for a specific topic, a point of contact for a presentation, and/or you would like to make a presentation yourself, please let Jeff – KB3SPH know at humbert1js@gmail.com.

Secretary:

Minutes for the Meeting are published in the Monthly New Letter. Bob moved the June Minutes be approved. Motion was seconded and approved.

Old Business

None.

Member's Comments:

Michelle Sack N3YRZ, advised the Members that the Newsletter will have a "Special Events Calendar" column.

Jeff Humbert KB3SPH, noted the Fort Washington Amateur Radio Club will put Fort Washington Light House on the air on August 22, for the "International Lighthouse Lightship Weekend."

Closing:

A motion was made and seconded to close the meeting. The motion passed at 2017 Hours.

Charles Hallock AA3WS Secretary

the MINUTES





Member Column

Let the
spotlight
shine on



Rey Robles
N3QPG



was born in Manila, Philippines. He works in IT.

Rey earned his 1st amateur radio license in 1993 N3QPG, inspired by the ability to communicate with people at great distances. He plans to keep the call as he says, “I actually like it.”

His first, farthest, and most memorable contact was Slovenia on 20m with a temporary inverted V antenna in the backyard. The antenna was a hack using a speaker tripod and 10’ pvc pipe. He was amazed!

“I’ve had several great ham advisors/friends. As a kid my dentist, Dr Levy was a major advisor and influencer. I remember seeing QSL cards framed in this office from around the world. Also, recently, Tom Abernethy has been very generous in sharing his ham expertise with me. I think all advice is good. Some worked better for me than others. Advice from hams is usually sincerely shared.”

His first radio? “As a poor college student, I bought a small 1.25 meter HT.” Currently he has several HTs for 2m and 70cm for D-Star and DMR. My first HF radio is also my current is Kenwood TS-140S. “It is an awesome radio.” His wife allocated a small corner in the basement for radio toys. “LOL 😄 It’s a perfect spot with easy access to the backyard”. He hasn’t received any QSL cards yet.

He finds the development of digital communications (both data and voice) interesting. He like to do QRPH e operates on SSB, & FM on 20m, 40m, 2m and 70cm. He’s also on D-Star and DMR. He has not done contests by is looking to try one soon. A long bucket list of things he’d like to do with amateur radio includes contacting ISS, learn-

ing new antenna design and more Dxing. He'd like to have a mobile Ham shack (if there was money to fund it). He hopes amateur radio doesn't become too commercial. You can contact him usually on 20m band afternoons (mornings as busy) and 2m band.

Wife, Carol is the love of his life. They are very proud of their son, Ryan who is a recent graduate of Marymount University. Rey teaches and practices Aikido and Iai-do (Japanese martial arts). A devout Catholic and an officer of the Knights of Columbus. He is a 4th degree (Sir) Knight.

Most of my non ham friends want to learn more about my hobby. This is always exciting to share with perspective new hams. He does not ever see questions as annoying but as an opportunity to share. Travel and see the world is his advice. He's returned many times to the Philippines to visit extended family.



Ham Humor, Part 1

Across

- 1. Four after A
- 5. High frequency prefix
- 10. Two is one
- 14. Dubai designator
- 15. Best condition for contesting, or tower climbing, say
- 16. ZS neighbor's prefix
- 17. AI language
- 18. Diminish
- 19. FET type
- 20. With 41 and 52 across, society highlighted in 36 across and founded by 31 down
- 23. VE2 way
- 24. They make some displays play
- 28. Skedaddles
- 31. Buzzer (non-RF)
- 33. 5N dough
- 34. Mint alt., on eBay, e.g.
- 35. "Excuse me", low in the band
- 36. QST department
- 37. React. plus res.
- 38. Hams love them
- 40. Bird word
- 41. See 20 across
- 43. Owns
- 44. Coffee maker
- 45. "Sesame Street" regular
- 46. Cut 100
- 47. Salad green
- 49. Kane's word
- 51. "QRZ?"
- 52. See 20 across
- 58. N.Y.C. part
- 61. 4W, was CR8 during the time of 31 down writing 36 across
- 62. Tuvalu
- 63. Houston university
- 64. 31 down's prefix
- 65. She sheep

1	2	3	4		5	6	7	8	9		10	11	12	13
14					15						16			
17					18						19			
20				21						22				
			23				24					25	26	27
28	29	30				31	32			33				
34					35				36					
37				38				39				40		
41			42				43					44		
45						46				47	48			
49					50				51					
			52				53	54				55	56	57
58	59	60				61					62			
63						64					65			
66						67					68			

- 66. Rotating rings for towers
- 67. "Yes, Sen. Kennedy", familiarly
- 68. Zero

Down

- 1. Unadorned
- 2. Nassau prefix
- 3. EME antenna
- 4. IC-7800, say, in JA
- 5. Grammar topic
- 6. Radiation pattern feature
- 7. Ski lift
- 8. Respond again, on RTTY, say
- 9. "He's ___ nowhere man"
- 10. Tool for reducing spectrum width?
- 11. 20's dispenser
- 12. JA transceiver maker middle
- 13. Don'ts partner

- 21. Famous DXpedioner, when 31 down wrote 36 across, familiarly
- 22. Trillions of zeptos
- 25. Goof
- 26. Passions
- 27. 5th century G-land settlers
- 28. Last second on-line bidder
- 29. D6 place
- 30. Poplars, in W0, say
- 31. Callsign suffix of one time 36 across writer and creator of 20 across.
- 32. Zero zulu in two-land June
- 35. Articulate
- 36. Very popular examples of 38 across
- 38. Early radio maker
- 39. Fast no more
- 42. Decorates 60's-style
- 46. "...like taking _____

- from a fire hose." (information overload)
- 47. Half a Latin dance
- 48. T.O.M.'s series of articles
- 50. Where the DX might be listening
- 51. Kit alternative
- 53. Radiate
- 54. UHF antenna type, with dis-
- 55. Prefix in Lombardia
- 56. First astronaut ham, familiarly
- 57. Well known DXer KH6IJ when 31 down ran 36 across
- 58. Disp. device before LCD, LED
- 59. Early first century year
- 60. Inter-area NTS org

Lighthouses/ Lightships on the air

The **NLLW** is going forward as planned on August 8th and 9th. Follow the local Coronavirus guidance concerning travel and operating a particular light <https://arlhs.com/>

The Amateur Radio Lighthouse Society (ARLHS) is devoted to maritime communications, amateur radio, lighthouses, and lightships. Its members travel to lighthouses around the world. They operate amateur radio equipment at or near the light to promote public awareness of the role ham radio and light beacons have played in assisting and maintaining safety at sea, preserve the heritage and history of lighthouses and lightships, aid in preserving those lights in danger of destruction or decay, recognize the keepers of the lights as maritime heroes, foster camaraderie, and provide fellowship amongst nations and members of the Amateur Radio Lighthouse Society.

International Lighthouse Lightship Weekend - ILLW

Normally held on the 3rd full weekend in August

This year: 00.01 UTC 22nd August to 2400 UTC 23rd August 2020 (48 hours)

(Note change of weekend to respect those commemorating the 75th anniversary of Victory in the Pacific (VP) day on 15th August 2020)

List of lighthouses can be found here:

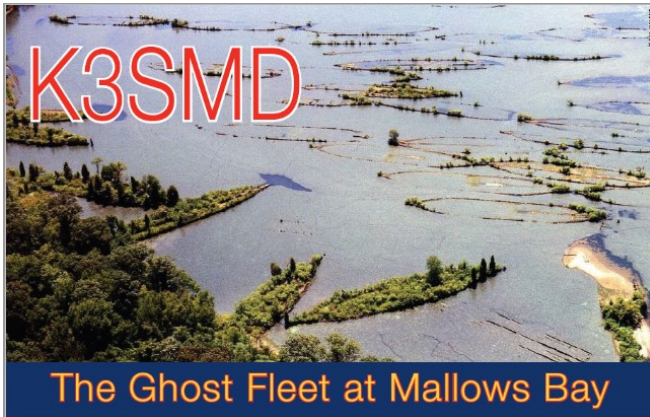
<http://wlo1.arlhs.com/>

Fort Washington ARC will be putting the Fort Washington lighthouse on the air.



SPECIAL EVENT PLANNING

Many hams like to chase special events stations as they represent interesting or significant public events, memorialize historical events, and are usually only a brief time. They can also introduce the public to radio.

Charles County Amateur Radio Club has hosted a few special events. Some we remember are: Mallows Bay and Lincoln 150th anniversary at the Mudd house.



Charles County Amateur Radio Club
PO Box 169
La Plata, MD 20646 USA

ABOUT MALLOWS BAY
Nominated a National Marine Sanctuary, kayakers can explore the largest ship graveyard in the Northern Hemisphere. Mallows Bay includes historic vessels dating back to the Revolutionary War and the remains of more than 100 World War I wooden steamships known as the "Ghost Fleet".

Confirming QSO with

Date	
Day	Month Year

UTC	MHz	RST	Mode 2-Way

 PSE QSL TNX QSL

KB3IFH QSL Cards

150
Lincoln



On the
Trail
of the
Assassin

Commemoration Weekend
April 17-19, 2015

K3SMD

Operating from the historic home of Dr. Samuel Mudd

Station _____

UTC _____

Date _____

Frequency _____



Report _____

On April 14, 1865, John Wilkes Booth shot President Abraham Lincoln as he watched a play at Ford's Theater as part of a conspiracy he masterminded that was intended to throw the US government into disarray. Booth, a famous Maryland born actor and Confederate sympathizer, was immediately recognized by many people in the audience.

With Union soldiers in pursuit and hampered by a broken leg, Booth fled Washington DC with fellow conspirator David Herold. Stopping first at Surratt's Tavern to gather weapons previously stowed, they next stopped at the home of Dr. Samuel Mudd who set his leg.

The two then fled through Zekiah Swamp to the home of Sam Cox. Cox contacted Confederate spy Thomas Jones while they camped in a pine grove nearby for six days. Jones secured a boat and compass for them to cross the Potomac River into Virginia at night on April 21. Their first crossing attempt failed but they finally succeeded on the night of April 23.

On April 26 the two were surrounded by Union soldiers at Garrett's Farm in Virginia. Booth refused surrender and was fatally shot. Herold surrendered, was tried and later hanged with fellow conspirators Mary Surratt, Lewis Powell and George Atzerodt.

FOR INFORMATION: REWARD \$100,000!

THE MURDERER

\$50,000 REWARD

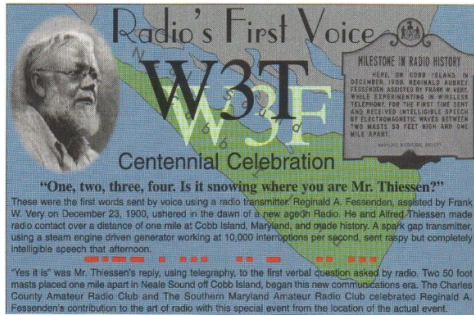
\$25,000 REWARD

\$25,000 REWARD

KB3IFH QSL Cards

(Continued on page 25)

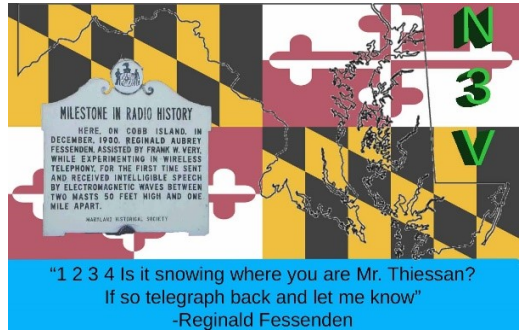
We also commemorated first voice transmission from Cobb Island-once in 2000 with SMARC, again in December 2019.



Special Event Station W3T:
 Confirmed QSO With: _____
 On December 16, 2000
 UTC: _____
 Frequency: _____
 RST: _____
 Mode: _____
 73, _____ Operator

Amateur Radio operators around the world would like to thank the Citizens of Cobb Island for hosting this special event station and Mrs. Chapman for keeping this bit of history alive.

Special Event Station W3T was sponsored by The Charles County Amateur Radio Club, P.O. Box 668 White Plains MD 20673



Bob, Nw3m, also did one on the Leyden (Lleiden) jar:



Bob Curran - NW3M
 120 Sherman Road
 Waldorf, MD 20602



A Leyden jar, or Leiden jar, is a device that "stores" static electricity between two electrodes on the inside and outside of a glass jar. A Leyden jar typically consists of a glass jar with metal foil cemented to the inside and the outside surfaces, and a metal terminal projecting vertically through the jar lid to make contact with the inner foil. It was the original form of a capacitor (originally known as a "condenser").

It was invented independently by German cleric Ewald Georg von Kleist on 11 October 1745 and by Dutch scientist Pieter van Musschenbroek of Leiden (Leyden) in 1745–1746. The invention was named for the city.

Confirming QSO with	Date		
	Day	Month	Year
UTC	MHz	RST	Mode 2-Way



So, how do you “host” a special event? Any licensed amateur can apply for a Special Events call, but you find most look for them on frequencies allotted to general class or above. Take on an event that gets some attention, something of significance to radio, the community, the world.

Then decide what call sign to use. Though it is allowed to use a club call for the special event; a “one by one” call sign draws more attention. Your choice is limited to N, K, W prefix number and all but x suffix. Making it significant to the event highlights further. For the anniversary in 2000 CCARC/SMARC used W3F/W3T for Fessenden & Thiessan, while I chose N3V for New Voice with 3 to call attention to that it happened in Maryland.

It is free to use a 1x1, apply at www.1x1callsigns.org. You can search to assure your call is not already chosen or in use for another event. You can apply up to a year in advance and are limited to having the call for 15 or less days. Select ‘Request 1x1 Call’ and you will find a form in front of you. Fill in all the required information including a description of the event.

If you are going to use a location, visit & bear in mind that the owner/occupier may have no idea what amateur radio is or what it involves. They will be interested in how much space are you going to need, how big and ugly will the antennas be, will it be a hazard to visitors, and are you going to make a mess? Typical questions to consider are: Is there room to set up the station(s)? Where are power points? Where will you route the antenna cables? Is it safe to put up antennas? Are there power/telephone lines nearby? Once you have decided that the venue is OK and you have permission, follow this up with a letter or email to confirm what you want to do and when so that both parties know what is going on. There should be no surprises on either side!

Make a list of what you need- consider radios, power supplies, computers, coax, plus spares. Will you need multi meters, soldering irons, cw keys, headphones, connecting leads, extension cord, wire, tape, etc.? How about drinks & food? Set up the computer macros, and logging program to reflect the SES callsign, grid and location BEFORE the event. Produce some documents for like small standup signs to promote the event and a handout for visitors to explain what you are doing and why including "What is amateur radio leaflets?" Consider using trip hazard signs and rope off potential risk areas Health and safety must be a priority. Consider allocating someone as the "meet and greet" person. Take plenty of photographs. Make sure you leave the venue as you found it and send a thank-you note to your host.

Here’s one to learn from: A Peach Festival is a good excuse for a station, but not super interesting (Bob noticed it because one granddaughter and her mom live in Gaffney, SC and it is sponsored by the Cherokee County Coroner’s Office). However, all the published frequencies are repeater frequencies, no mention of the repeater call signs or if they have Echolink nodes, etc.— if you want to make a contact, you need to be in Gaffney. That’s an interesting concept for local events, but not sure how successful it will be.

QSL: Make a card that commemorates the event and use the image on a QRZ and any web site publicizing the event. You can get them printed after the event is over and have amount needed. Some ways to publicize your event are:

Web page with the Special Event information on it.

Ask QST to include on list of Special Events. <http://www.arrl.org/special-events-application>

Other countries’ Publications RSGB <https://rsgb.org/main/operating/licensing-novs-visitors/special-event-stations/>,

WIA <http://www.wia.org.au/newsevents/marconi100/callsign/>

RAC <https://www.rac.ca/about-rac/>

Send via amateur radio mailing lists. Newspapers (both before and after)

QRZ (<http://www.qrz.com>) in forum, ‘Contests, DXpeditions and Special Events’ You can also list the call sign so when people look it up they know how to QSL.

When publicizing your event, be sure to include the information about how to request your Special Events QSL card and what frequencies and dates/times you will be operating. Typically, you should request they send you their QSL card for the contact and an SASE (Self Addressed Stamped Envelope). The SASE will save you the cost of postage for this event (remember that sending one hundred cards would otherwise cost \$55 in postage or \$37 if you mail as post cards). Do not forget to give them your mailing address so they know where to send it. Be sure to put 'U.S.A.' at the end of your address for the DX stations that might contact you. If you have any special requirements, you should tell them now. You can set a deadline for QSL request- be sure to give at least four to six weeks after the event. DX stations you can request an IRC (International Reply Coupon), use an online request service like at Clublog, or enough cash to mail the card to them. Some will accept via bureau, while others find their bureaus not reliable.

Proper identification of 1x1 Special Events Station requires that you give the 1x1 call every ten minutes & at the end of your transmissions. In addition, you must give the trustee's call sign (your call or your club's call if that is what you used to register the 1x1) once per hour.

If you are doing the special event with a group, be sure all get a turn who want to participate. Be sure your operators have some knowledge of the event and can answer questions when asked by the stations calling them. When you are in a pileup, keep the contacts brief and be polite as you move to the next station. When you are in a slump and want to attract some attention to other stations, take some time to tell the calling stations about the event. When possible, have someone else keep the log for the operator. Keep a good log of all contacts- logging programs are a good way. This offers the ability to sort the log, print, upload, and record. Upload to logbook of the world, eqsl, QRZ, and Clublog.

As your QSL requests come in do not open them (hard to keep each SASE with its corresponding QSL). When the requests stop coming or when you reach the QSL deadline, count the number of requests. Add an extra 10-15% additional cards to your printing order. QSL requests are often mailed to you in an outer envelope. When you open the envelope, you should find the other station's QSL card sent to you plus an SASE. An SASE is an envelope with the other station's mailing address and a postage stamp on it. To send your QSL card to them, you just fill out your own QSL card with the information from your station log and then seal the card in the SASE. Then just drop it in the mail.

Use a QSL printer or a local printing company to have 3.5" by 5.5" cards (standard QSL size) done. Be sure to have a QSL report form on the back sides of the cards. Some companies are:

<https://www.cheapqsls.com/> (we have used them before)

<https://www.kb3ifhqslcards.com/qsl-examples-1>

<http://qslpostcards.com/>

<https://www.customqsl.com/>

Once the cards have been printed, schedule a 'QSL Party' help you. Pour the QSL requests (the outer envelopes) into a pile on the table. Place Special Events cards on the table, the log where everyone can reach it, a bin for outgoing, and a trash can to place the outer envelopes in as you open them. Show them how to look up the call in the logbook, to take the information from the log - not from the other station's QSL card- and sign it with their first name, comma, and their call sign. Put the other station's call in the address field of the card.

Each takes an envelope from the stack and a blank Special Events card, opens and discard the outer envelope, looks up the info in the log, mark the log, fill out the card, place in the SASE, and seal it. If you have a rubber stamp or label, use it to apply return address, and put in bin.

Put the other station's card in a separate stack on the table. You can use the cards they sent you to make an album to archive the event in your club history. Repeat until all are ready for mailing.

One designated takes the bin to mail, if possible, using a Post Office that will postmark from the city where the event was located.

Save remaining copies of your Special Events QSL cards to answer any stragglers requesting QSLs. If possible, make it different for each year specific to that year's event to get a reputation for providing a nice QSL card - keep them coming back each year.

<https://forums.qrz.com/index.php?threads/planning-and-operating-a-special-events-station.249795/>

At the last board meeting, we discussed several events in Charles County that we could choose. We thought about the 100 anniversary of Indian Head and setting up a special event at the bike ride. Then Covid cancelled so many possibilities including the bike ride. Since Charles county has the first voice contact we can do that every year. I had already applied for N3V again this year for December 20, 2020 to Jan 2, 2021 for radio's first voice. I still have cards and will use the same and add that it is the 120th on the back (maybe get stickers printed to make it special).. I am inviting CCARC to join; we are looking at finding a location on Cobb Island to set up a station, so watch for details as they become available.

If you know or learn of a reason to do a special event please feel free to provide that information to us. We can help plan and participate!

Next month, I'll start a column on a special event highlight . If you contact a special event station that you think others in the club would be interested in, let me know...I might just pick yours to highlight.

Michelle N3YRZ



ANSWERS

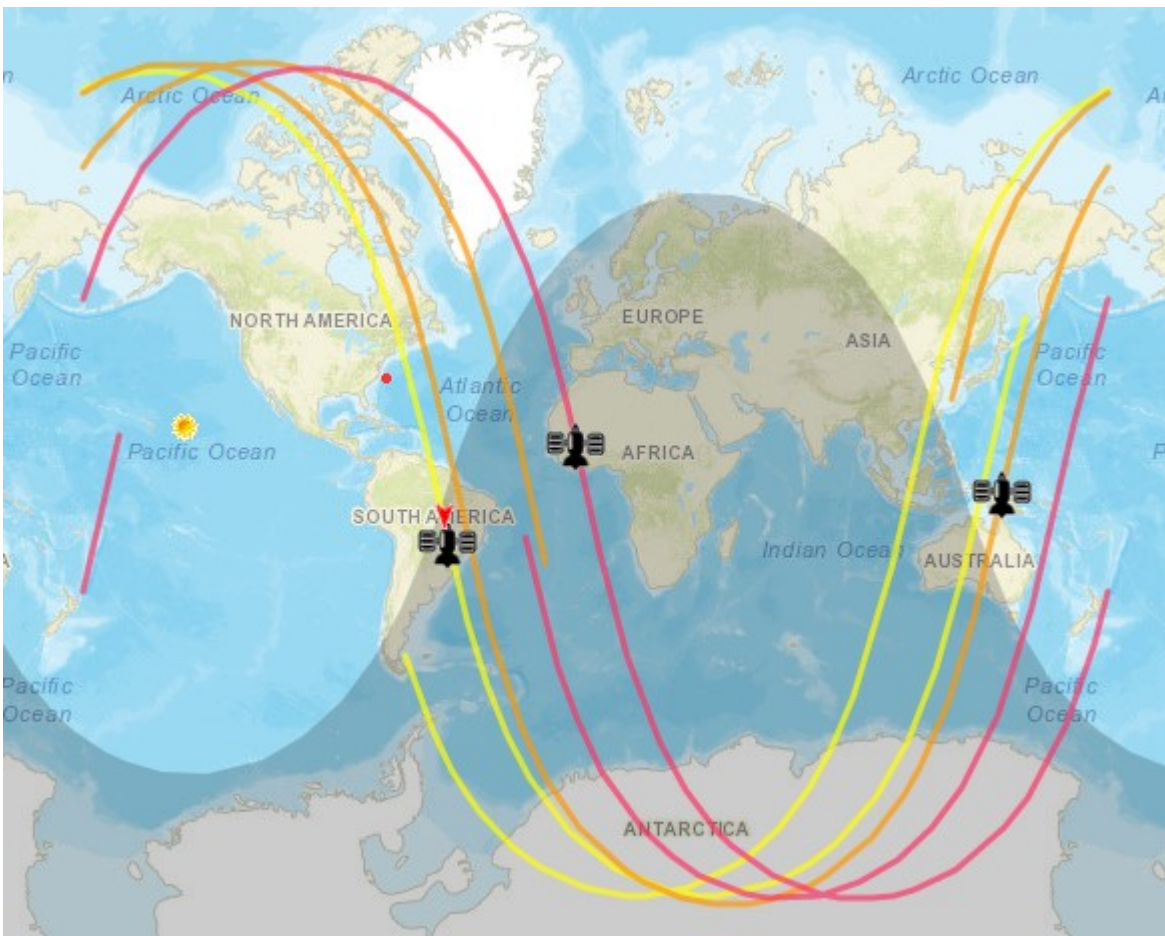
Answers to
practice questions

1 A 2 C 3 B 4 C

Copying NOAA APT Weather Satellite

A few newsletters ago I wrote how you could use a USB Software Defined Radio (SDR) dongle as part of a pan-adapter to scan the HF bands. Well, another use of these SDR dongles is the ability to receive the pictures being transmitted by the NOAA Weather Satellites.

NOAA currently has 3 active satellites, NOAA-15, NOAA-18 and NOAA-19, in orbit that send low-resolution pictures in the 137Mhz range. Tracking these satellites is easy as there are several programs that will do it, but I make use of www.n2yo.com. You do need to create a free account to be able to track several satellites at the same time and you can use your zip code or IP to determine your general location on the map, but once set up, you can view the track of the satellites:



By clicking on each satellite, you are then presented with more information including the ability to get a 10 day pass prediction and their downlink frequency. So far I've had the best success when the passes have been at least 78 degrees elevation.

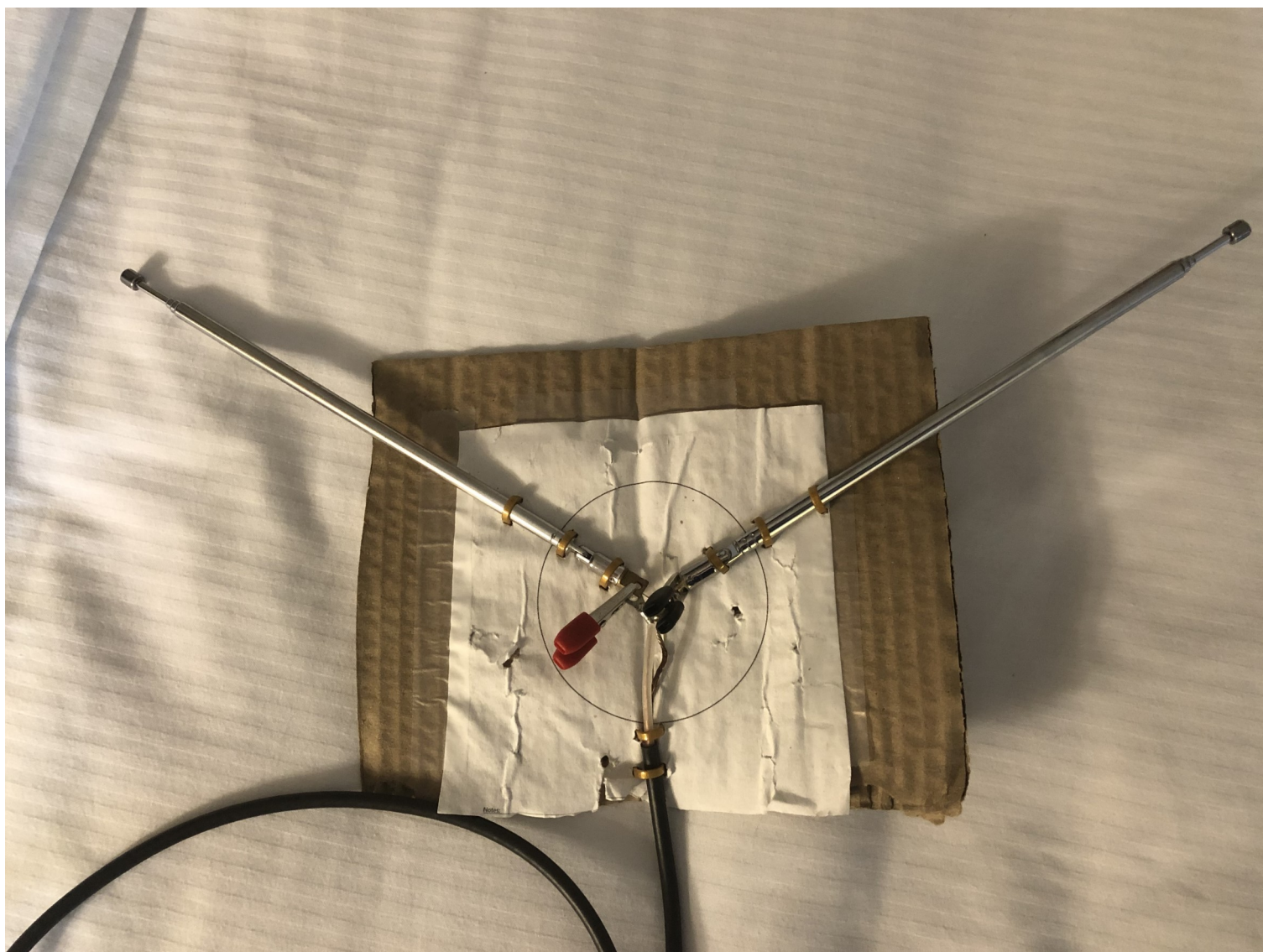
(Continued on page 31)

(Continued from page 30)

While all SDR software will allow you to tune up and receive the 137Mhz band, the antenna is a bigger issue. Since the satellites are circularly polarized, you need an antenna capable of receiving the signal. Normally the recommended antenna is a circularly polarized turnstile or QFH designs. There are a number of plans on the internet on how to build these, however, I found a site that promoted the building of a simple V shaped dipole:

<https://www.rtl-sdr.com/simple-noaameteor-weather-satellite-antenna-137-mhz-v-dipole/>

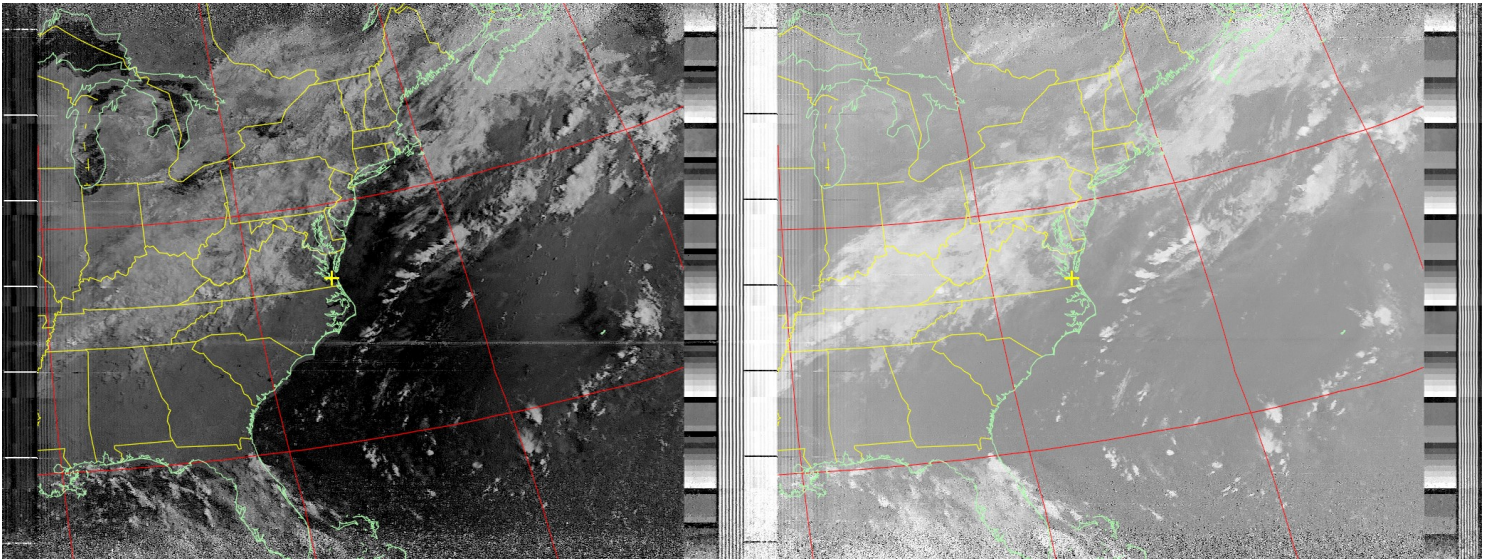
I followed his directions and I came up with this:



(Continued on page 32)

There are a number of programs that allow you to decode the 'APT' signals that are being received via the SDR software, but the one I've been playing with is called 'WXTOIMG.' This program is capable of downloading the Kepler's and also providing predictions on satellite passes based on your location.

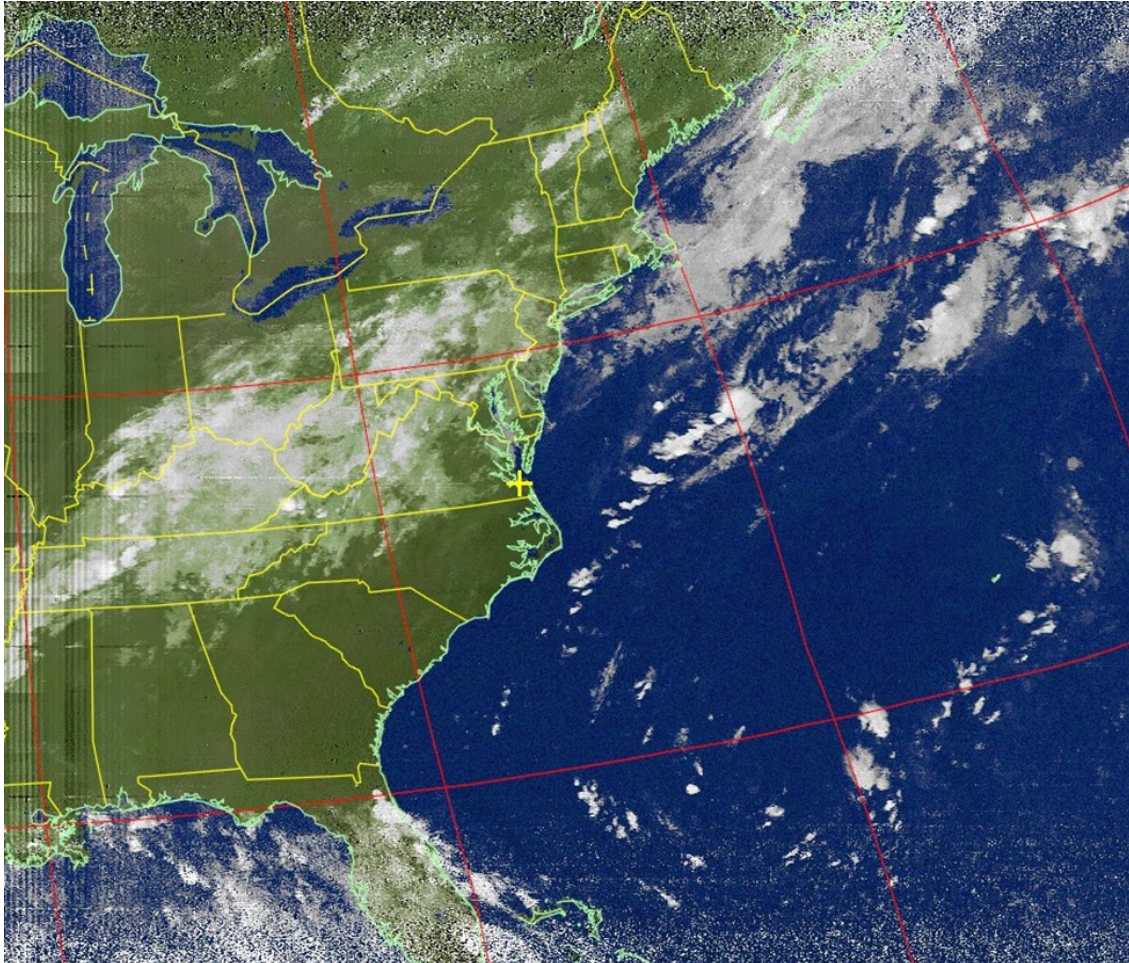
Watching the pictures download is the same as watching a Fax being received, it is a bit slow and draws the picture line by line. As it completes, you'll see two pictures being presented:



The program will automatically add in the outline of the United States. While it might be a bit hard to see in the screen shots shown above. There are also two pictures that are being received at the same time, each one having slightly different data contained in the image.

These images are being taken while I'm in Norfolk, and as you can hopefully note, provides a pretty good picture from the Great Lakes area down to Florida. I will note that we are also missing about 40% of the picture with that being the first 20% and the last 20% due to the antenna in use.

While these gray scale pictures are neat, the software will combine them, add in some 'false' color and the end result is:



Not too bad of a view of an antenna sitting in the grass outside of the hotel. The WXTOIMG allows you to also view some other data, such as ocean temps and rain

I've been testing with my West Coast counterpart, Jeff – AF6BY, who is out here with me. Our next test is to add in a Low Noise Amp (LNA) to see how it may impact the quality of the picture and see if we can get a better signal on the start and end of the transmissions.

73
Bob
KB3KOW

Hams in Action

Peru's Radio Club Peruano Amateurs Help Air Ambulance

Guillermo Guerra, OA4DTU/XQ3SA, and Giancarlo Passalacqua, OA4DSN assisted an air ambulance that lost satellite communication en route to Easter Island on July 9. The pilot tuned to the Peruvian Relief Net on 7100 kHz, detailed its tenuous connection and requested support to communicate via telephone with Ocean Air Control. 10 phone calls were made and remained in contact with the aircraft until the pilot reported making VHF contact with the Easter Island control tower for landing instructions. -- *Thanks to Radio Club Peruano*
<http://www.arrl.org/news/radio-amateurs-help-air-ambulance>

Maryland-DC Section. An alert member Anne Arundel Radio Club ([AARC](#)) responded to a call for help on July 22 from a Baltimore radio amateur who was overcome by the heat while out for a walk. Cell phone dead, he reached for his HT. A call on the W3VPR 147.075 MHz repeater was answered. The AARC member, who was operating mobile, relayed to a 911 operator. Within minutes, the Baltimore man received treatment and reported that everything was okay. W3VPR repeater transmissions are linked to a "Broadcastify" feed, so that hams out of local range or away from their radios can still monitor the repeater online. -- *Thanks to Maryland-DC Section Manager Marty Pittinger, KB3MXM and the ARRL newsletter*

I just want to thank Bill W8BL for making me a center support for a double bazooka antenna on his 3D printer. Works perfectly !!!!!!!

Thank you Bill !!!

Bill Koustenis WB3CII



WANT ADS, FOR SALE, &

PUBLIC SERVICE ANNOUNCEMENTS:

Looking for the person who got the Kenwood TR-7600 from the Palmer estate sale. I have the operating and service manuals. Contact Michelle N3YRZ at msack@verizon.net or 301 9328133 to make arrangements for pickup or delivery.

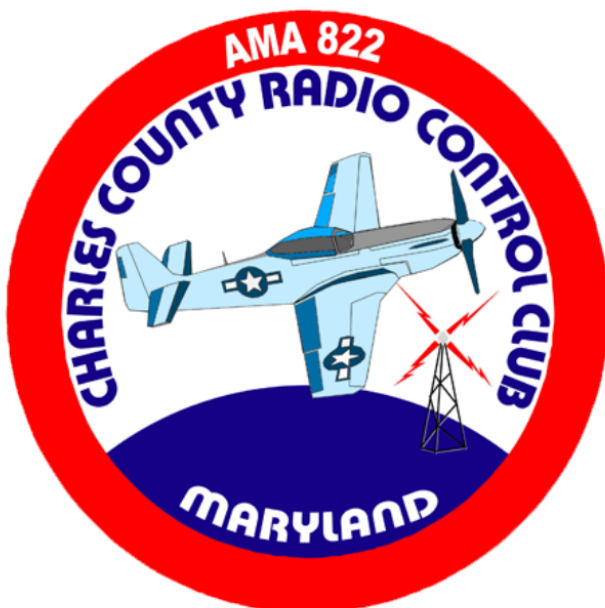


**Southern Maryland
Astronomical Society**

Explore the night sky with us at our observatory, or use your own telescope.

New to astronomy? We'll help you learn.

For information, visit us at <http://smas.us>



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: charlescountync.com



**AUGUST 10 // 7:00 PM
FACEBOOK LIVE & YOUTUBE**

Join us for our August virtual planetarium sky show from the comfort of your home. This month, we're offering the opportunity to add a related hands-on activity.

COST

FREE to view planetarium show online

\$2 per Sky Show Kit

SKY SHOW KIT INCLUDES

- 1 Make Your Own Telescope Kit
- 1 Star Map for August/September
- 1 Gift Shop Surprise!
(Supplies limited)

James E. Richmond Science Center

CHARLES COUNTY PUBLIC SCHOOLS

<https://www.cboe.com/sciencecenter/registration-ost-kits/>

K3SMD



Meetings, nets, & contacts

- First Friday- Monthly meeting @ 7 PM/1900 Charles County Rescue Squad 2 Calvert Street, LaPlata, MD
- Net-Wednesdays 8:30 PM local: 147.195 MHz, + 600 offset, PL 156.7 Hz.
- PO BOX 169, La Plata, MD 20646
- President: Bob Curran NW3M flyingham@verizon.net
- Vice-president: Bob Davidson rdavidson@acweb.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

WHERE SHALL WE MEET FOR LUNCH?

A group of hams, all age 40, discussed where they should meet for lunch. Finally, it was agreed that they would meet at Marnies, because the waitresses were beautiful and wore short shorts.

Ten years later, at age 50, the hams once again discussed where they should meet for lunch. Finally, it was agreed that they would meet at Marnies, because the waitresses were attractive, the food and service were good, and the beer selection was excellent.

Ten years later, at age 60, the hams again discussed where they should meet for lunch. Finally, it was agreed that they would meet at Marnies, because there was plenty of parking, they could dine in peace and quiet with no loud music, and it was good value for the money.

Ten years later, at age 70, the hams discussed where they should meet for lunch. Finally, it was agreed that they would meet at Marnies, because the restaurant was wheelchair accessible and had a toilet for the disabled.

Ten years later, at age 80, the hams discussed where they should meet for lunch. Finally, it was agreed that they would meet at Marnies, because they had never been there before.