QSA-5

Marin Amateur Radio Society Monthly Newsletter

Established 1933 May 2021

From Our President:

How did it get to be May? Last month's column started out as a paean to spring and I guess I still have spring on the brain. In my own defense last year at this time, we were hunkering down to avoid the Covid with no end in sight and now we are talking about going out to eat at restaurants again. Even heaven forfend have a cocktail in a bar.

I also highlighted some of the things springing up around the club. We had a very successful VE exam, held socially distantly indoors at the club house and orchestrated by Ken Brownfield AB6JR. Would you call that Social DX? OK maybe not. He and his team left the club house neater and cleaner than I have seen it. Our Public Service team has actual events on the calendar and people have been signing up in droves to participate. We will get the dates posted on the website soon. We are working on nailing down a date for the Public Service luncheon, which will be an in-person event and although this year it will be in June, it does represent a turning point since in 2020 it was really the last face to face group meeting, we had.

As I write this, we have 124 current up to date members which puts an 89% of last year's membership. Thank you all who have renewed. That means I am preaching to the choir since folks who have not renewed have been purged from the mailing list and would only be able to read this missive when I post it to the archive on the website. That said, I know you talk to each other and you might remind people who are wondering about why they are not getting QSA-5 or invites to the meetings their failure to renew is probably the reason. There are some of us out

there who are current members but have unsubscribed from our mailing list and so also no longer receive our mailings. As someone who gets far too many emails a day I completely understand. However, I did contact a couple of people and they unsubscribed inadvertently and have since rejoined the list. We use a commercial product called MailChimp to maintain this list and they do not want us to resubscribe people who have dropped off the list. If you are not receiving our mailings, please let me know wa6uds@w6sg.net and we can figure out why.

I am very excited about seeing the club get back to the kind of human interactions we had pre COVID, but we must proceed with some caution. Both about the virus and about fire danger since we are now in a drought again. I look forward to seeing you all on Friday.

73 de wa6uds

From the Editor:

Welcome to the May issue of the QSA-5 newsletter. This is my second edition as editor, and I have added some additional content to our club's publication. My long-term goal is to build up the content with subject matter of interest to Marin Amateur Radio Society members. I have received some story ideas from members and have included their suggestions in this issue. Having written professionally for over a decade, I know that the key to a successful publication is creating useful content that appeals to its readers. Therefore, I will ask again for your help. On my own, I can find general topics of interest to include within the pages of our newsletter. However, I know that some of you have specific interests within the world of amateur radio and I believe those interests would benefit QSA-5 readers. There is a vast body of knowledge within our membership and that knowledge should be shared for the betterment of our club. Before I became involved in amateur radio, I thought of this passion (the word hobby does not justify our fascination and commitment to ham radio) as a limited interest at best. I envisioned amateur radio to be nothing more than a person sitting with a radio for hours at a time, talking to other people with radios, nothing more, nothing less. When I studied for and got my technician license, I realized just how broad

and multifaceted the world of amateur radio was. I was inspired to go further and get my General and Extra Class license in a quest to understand the many sides of amateur radio. There are so many subcategories and interests within our world that I still do not feel anywhere near knowing all there is to know regarding ham radio. This is where you can help me. The more of you that offer suggestions for QSA-5 content, the more interesting our publication will be.

I want to mention that readability is extremely important. Specifically, I am talking about layout, font size, etc. I don't know about you folks, but my eyesight isn't what it used to be. I want everyone to be able to clearly see the text, so I am using a font size of 14. If you are having any issues with readability, please contact me and I'll make any necessary changes. QSA-5 is your publication. Therefore, what you want to see within its pages is up to you. With that said, send your thoughts and suggestions to: QSA-5Editor@w6sg.net. Thank you to those who added to the May edition!

General Membership Meeting: 2 April 2021

Call to Order 19:30 Hours (7:31 PM)

Adopt Agenda M/S/A

Approve minutes of – 5 March QSA-5 M/S/A

Board Actions

Procedural around new executive committee responsibilities

Public Service

Upgrading Club Shack

New Members: David Goodman KN6NUM – Greenbrae

Fun with Radio Meeting Presentation: Alan WA6DNR is installing a substantial Enphase 14kw solar/battery system at his home. Is finding that modern "microinverters" throw off a very low level of RFI. All of this rolls up into a great power backup for his station!

Steve W6SDY demonstrated a magnetic mobile antenna fix (check capacitor under the base decal that covers the bottom). He also showed how to make an effective ground plane with a roll of thin metal strap material that he is leaving at the clubhouse for anyone who wants to make one as he demonstrated live.

Brian K6EZX updated the club on two new rugged phones that are interesting for our field work and use of Zello: The CAT S62 and the Kyocera DuraForce Ultra 5G.

Secretary – Communications: Brian K6EZX reported that Corporate Documentation is now secured on Google with access available to all board members.

Treasurer's Report N/A: Bruce N6VLB thanked Rich KI6UIM for recent assistance on financial record clean-up work.

Committee and other Reports:

1. Membership: 102 | 73% (and up several more than that since this morning!)

Curtis WA6UDS said that by the end of April non-members will be purged from QSA-5 list and will not receive the new web site password. To check if you are current, use the Renew link on the site and as you click through it will tell you if you are current...or allow you to proceed and renew.

2. Facilities: Rob NZ6J has pursued the 27A-27B Shell Road address change with the USPS and found they advised that he get the County to involved in any plan to bifurcate the clubhouse address into "A" and "B" versions so we and our tenant have separate addresses and we can move all our club mail to Shell Rd. and get

rid of our PO Box. Curtis WA6UDS advised we will take this up at the next board meeting.

3. Education N/A

4. Repeaters: Doug KF6AKU reported that the remote link gear for the 402 Tam W. link is mostly built up, with minor machining work remaining. Machining should be done by mid next week and then installation onto the tower can proceed.

Tom KG6TCM says he will get with Milt KM6ASI separately to share an email regarding our efforts to codify our presence on Tam W. with the water company.

5. Volunteer Examiner's Report: Ken AB6JR reported that a couple of VE sessions could be offered as soon as April 10th.

Old Business N/A

New Business N/A

Good of the Order N/A

Adjourn M/S/A 08:20

Meeting Presentation: Rob Rowlands NZ6J on the nanoVNA (small, portable vector network analyzer) followed.

Next Meeting: 7 May 2021

Marin Amateur Radio Society

Board of Directors Meeting

8 April 2021

Call to Order 19:30 Hours (19:30 actual)

Attendance:

President: Curtis Ardourel **WA6UDS**

Director: Skip Fedanzo **KJ6ARL**

Secretary: Brian Cooley **K6EZX**

Treasurer: Bruce Bartel **N6VLB**

Vice President: Milt Hyams **KM6ASI**

Director: Mark Klein **KM6AOW**

Trustee W6SG: Mitch Martin **WU1Q**

Director/Trustee K6GWE: Doug Slusher **KF6AKU**

Adopt agenda M/S/A

Approve minutes of 11 March meeting M/S/A

Secretary's Report/Communications: No luck with FB to retrieve our current page. Contacted FB and the page owner. Best strategy is to create a new FB page and outrank the current one. Content posting would convince the FB algorithm to promote us to the top of visibility. Matt Shalleck is the former owner; Ex-club and board member. We cannot reach him.

Treasurer's Report: Bruce has had great assistance from Rich Slusher in getting the financials together. Quick-books had about 60 duplicate transactions when Bruce took over - debits and credits - which has been the majority of the cleanup. New financial statements should start coming regularly to Curtis, Newsletter ed. and club Secty. for official filing.

Committee and other Reports:

Membership – 117 | 84%: By the end of April Curtis will have purged the mailing list and changed the password to lockout non-renewals. Membership cards will be generated at that time.

Education: N/A

Facilities: Skip reported feedback from our tenant who appreciates her new stove; Building is AOK otherwise.

Milt reports the clubhouse is looking very orderly as it was being set up today for a VE session.

Public Service: Michael reports: First event appears to be Dirt Fondo mid-August before a highly compressed season. County public health officer predicts Marin will reach 80% herd by "end of the summer", which coincides with the likely peak time for our PS schedule. Our tentative schedule will soon be opened for operator recruitment.

Commented [HP1]:

We may combine the annual picnic with our public service annual awards luncheon and orientation, held in late June or early July (rather than usual Sept picnic time frame) and done outdoors as part of the picnic format. Piper Park location? We would order more tables than usual to make sure people do not cluster as much as usual.

Doug will call Twin Cities Parks and Rec to see where they stand on arrangements along the lines of the above. Importantly, the above event might also be done as an in-person and virtual hybrid. Curtis has contacted our usual caterer (Esther). She can do box lunches or administer food prep and serving on site. Pricing and more details are still TBD per a more detailed request to her.

We usually do an in-person raffle, which would be tricky in a hybrid or distanced event. Instead, we could do a two-bowl raffle with prize tickets and winner tickets, which are drawn simultaneously and work whether a winner is present or not. Last year we spent about $1,300 on swag other giveaways & prizes. That amount was authorized again M/S/A by hand vote.

Curtis asked if we are now willing to approve moving forward on an outdoor/online hybrid event. Skip moved that we narrow down options to the box lunch idea only. Proceeding as described above was M/S/A with a final food budget TBD.

We received a request to endorse a letter seeking state funding for an improvement to the Easy Grade Trail project (see map below and letter here). Michael says the trail is familiar to us, gives us a chance to demonstrate support to two of our best public service clients and has no apparent downside in his opinion. But Bruce asked if this puts us in the crosshairs of the ongoing hiker vs. cyclist politics in Marin. Several other members were also concerned about this.

After discussion, the board's support for putting our name on this letter was tepid so it was decided to demur. Michael will communicate to our partners that we will abstain and expects no negative consequences from that as we do not have a history of endorsing such requests.

Michael met local ham Erick Steinberg K6ER and learned that he is an avid Collins radio restorer. We have some old Collins radios in the clubhouse, Doug says they are little or no interest to most members. Michael proposed we offer to sell them to K6ER at a favorable price as a nice gesture to pave the way to use his private Wolfback Ridge repeater site for MARS events. It was M/S/A that we do so while also encouraging Erick to simultaneously join the club as part of the deal.

Milt urged that we have a radio garage sale soon, gear is piling up too much. Doug concurred. No clear plan exists as of this meeting to hold such a sale, though Pacificon flea market is an option.

Repeaters: N/A

Old Business:

1. **Tower**
    a. Milt: Permit progress has been frustrating but is progressing. We mostly need to get a work crew together to remove the current comm van shelter and get it ready to go into a dumpster with some other debris. Milt hopes to have that crew recruited and the work done, as well as a date set for Van Midde Concrete to pour the new tower pad, by the time of the next board meeting.

2. **Ward Peak**
    a. Milt: N/A since last meeting.

3. **MARS and VOAD – Proposal to renew our membership at $25 (Agreement here.)**
    a. Our first year as a member of VOAD was last year and resulted in an emerging partnership. Milt made a motion that we make a standing

authorization for annual VOAD renewal. Milt also moved to reimburse Curtis for the first year's VOAD dues ($25) which came out of Curtis' pocket. Both motions were M/S/A.

4. **Encouraging membership**
    a. N/A
5. **Life membership**
    a. N/A
6. **Website update**
    a. Curtis is still dealing with some site optimization issues to improve performance.

New Business:

1. **Frequency coordination**
    a. Doug: 147.330 (Tam) (and most of our revised system assets) need updated filing with NARCC which he is pursuing.
    b. Note was made of an interfering carrier and Morse identifier on or adjacent to our 443.525 frequency. That turns out to be N6DOZ, a Fuson/AMS repeater in Daly City with NARCC registration pending. That is complicated by the fact that we do not have a registration on that frequency even pending.
    c. Doug says another machine may also be interfering with just above our .525 frequency. Not clear what impact this has.
    d. Milt: 447.175 and 447.200 are old Dufficy frequencies we want to maintain claim to as they are now in the sights of NARCC as possibly up for grabs (silent key status getting noticed). We want to maintain coordinated repeater status on them. A recent letter was sent by NARCC to a Dufficy estate executor that allows 60 days (to mid-May) to establish what they want to do with these frequencies. Milt has

asked Dufficy heirs to point NARCC to MARS for further inquiry. Milt advises that our first task is to ask NARCC for an extension to the 60 day timeline to take action on the freqs.

e. It was moved that we pre-authorize renewal fees to rejoin NARCC at no more than $200 M/S/A by vote and get NARCC documentation of our system up to date while also pursuing formal registration takeover of the Dufficy frequencies.

Good of the Order

Bruce received a plumbing bill for recent work. Asked which account to pay out of: Answer from board is General Fund. Asked why we have two accounts (Building and General). Milt: Building committee needs autonomy to pay their bills. We decided to remain with two separate checking accounts (General and Building).

Bruce: Great American Insurance does not show a copy of our D&O policy on its site. Bruce needs the policy # to set up access to it online. That number, however, is not on the master declarations document, so Bruce will call the insurance company and have them manually add the D&O policy for online management.

Executive Session N/A

Adjourn 21:23 M/S/A

Next Board Meeting 13 May 2021


Benstein
2070
2080
0.1
0.3
P
4000 seat amphi-theater
Tr
2000
Mountain Theater
stage
1800
Old Stage
1.4
Matt Davis
Trail
Creek
1960
0.4
Spring
0.2
Rock
Rock Spring
0.3
2040
1960
12
Bootjack Tr
Easy Grade
0.5
1570
0.2
Old Mine Tr
0.4
0.9
1640
1800
Bootjack CG
61
1400
Bootjack
0.1
Alpine Tr
1000
1290
0.2
2000
Pantoll Rd
0.3
Alpine Tr
9 10
Pantoll Campgro
& Ranger Sta
61
Hogue Point
1840
Trail
1500
1480
Stapleveldt
0.3
1.5
1600
Matt Davis
Trail
1.4

Club News

Ham Radio Licensing:

On April 10th, the Marin Amateur Radio Society was able to successfully host an in-person, socially distant ham radio license examination session. This was an amazing feat considering the times we are living in. Unlike in-person exams given prior to the Covid-19 Pandemic, the Marin Amateur Radio Society's VE team had to create a testing environment that followed the State Covid-19 guidelines. Ken Brownfield AB6JR, served as the VE Team Leader. Volunteer Examiners participating in this exam session were Mel AB6QM, Gerald WA6BXV, Michael K6MLF, Mark KM6AOW, James KM6WWY, Bob AI6EE and Ken AB6JR.

There were 12 applicants that participated in this examination session. All 12 applicants passed their exams. There were 10 candidates that passed the Technician License and 2 who upgraded to a General License. One of the 10 new Tech's also passed the General exam and went on to pass the Amateur Extra exam. He came unlicensed and left as an Extra class. On Monday April 12, all examinees received their license grants and their issued call signs. The Marin Amateur Radio Society was able to hold the exam indoors at the clubhouse. The two previous exams had to be held outdoors due to COVID-19 restrictions. Here is a photograph (next page) of the examinations taking place at our club house. Thanks to Ken Brownfield AB6JR for providing the test statistics and reporting details, and thanks to both Ken and the team for putting on the event. **Our next exam testing session will be held on July 10th, 2021 at 1:00pm, at the Marin Amateur Radio Society clubhouse.**

Looking for Bay Area Hams to Build Out a Regional EMCOMM MESHCOM

Greg Albrecht W2GMD brought this to the QSA-5: In Marin County, Rob Rowlands NZ6J and I (K6MLF) are working with Greg Albrecht W2GMD, founder of Orion Labs and president of the San Francisco Radio Club, to extend an emergency meshnet using the ham frequencies in the microwave band. Here's further information from Greg:

San Francisco and the near East Bay have several dozen AREDN (Amateur Radio Emergency Data Network) meshnet nodes, and we are looking to extend the meshnet to the North and South Bay. The progress we've made in connecting the bay can be seen at http://meshmap.sfwem.net/

It's taken us several years to get to the point where we have this small-but-growing level of connectivity.

We're building out SFWEM in the interest of providing an IP-based network for use by emergency, disaster and community response organizations around the Bay Area. While having a steady-state, always-on network would be great, I have no doubt that any level of effort we take can be easily undone by any disaster. Instead, let's focus on how we're training an entire community of hams on how to setup an IP network across long distances, with mostly off-the-shelf equipment and our own spare time.

For anyone in the South Bay or North Bay interested in continuing this effort, *we've recently received a $100k Grant* from ARDC to continue building SFWEM (soon to be renamed Bay Area Mesh) into the East, South and North Bay: https://www.sfwem.net/news/san-francisco-wireless-emergency-mesh-sfwem-enables-disaster-communications-with-grant-from-amateur-radio-digital-communications-ardcnbsp

Those funds will be used to purchase the equipment needed to be located (at your QTH?) for extending the meshnet.

We're looking for willing participants in the South Bay and North Bay to steer these efforts, including recommending spending & equipment with the portion of the grant we've allotted to those regions (roughly $30k each). Anyone interested?

Ham Radio News

Home but never alone: Celebrating World Amateur Radio Day: A short but interesting piece on the ITU website regarding a newfound interest in ham radio due to the Covid-19 Pandemic. According to the article, there has been a rise in the number of new ham radio operators and on-air communication between operators.

https://www.itu.int/en/myitu/News/2021/04/16/11/16/Home-never-alone-World-Amateur-Radio-Day-2021

Radio Amateur Helps Rescuers to Locate Lost Hiker: From the ARRL, this brief article describes how ham radio plays an important role in search and rescue operations. The way in which ham radio operators aided the Search and Rescue team in Los Angeles is quite noteworthy.

http://www.arrl.org/news/radio-amateur-helps-rescuers-to-locate-lost-hiker

Collapse of the Arecibo Radio Telescope: Many ham radio operators share a common interest regarding the search for extraterrestrial life using radio telescopes. Programs like SETI, allowed the public to participate in this quest by using home computers to process data collected from radio telescopes around the world. Open source software, combined with SDR Receivers have allowed nonscientists to directly participate in the search for radio signals from deep within our universe. Perhaps the most famous radio telescope, made almost a household name by the late Carl Sagan, was the Arecibo Radio Telescope in Puerto Rico. Sadly, this iconic radio telescope fell into disrepair. It was finally deemed to unstable to safely repair, and on December 1st of 2020, the 900-ton platform collapsed. Rob Rowlands (NZ6J) provided a video link to this historic event. Rob also noted that Joe Taylor, W1JT, earned his 1993 Nobel prize in physics based on pulsar discoveries made at the Arecibo Observatory. Hams have benefited with the WSJT family of small signal programs in use today. Thanks Rob!

https://www.youtube.com/watch?v=b3AASKr_iHc

DIY Radio References

Homemade Antennas: Many new ham radio enthusiasts put a great deal of time and effort into researching their first radio. However, they often neglect the most important component to a successful radio experience, the antenna. Even if you have some ham radio experience, antennas can be a daunting subject. Commercially manufactured antennas can be expensive and beyond your budget during these hard financial times. Even if you have the funds available to purchase an antenna, reading through the antenna's specs can be akin to reading some long lost ancient language. A good solution for increasing your knowledge of antennas and radio wave propagation, not to mention cutting the costs down, is to build them yourself. Here are some links to DIY (do it yourself) sites to give you a start:

Antenna building basics:
https://www.wikihow.com/Build-Several-Easy-Antennas-for-Amateur-Radio

Good Reference for a number of antenna types:
https://www.hamradiosecrets.com/homemade-ham-radio-antennas.html

A step by step guide for building a simple antenna:
https://geardiary.com/2012/07/21/building-a-simple-ham-radio-antenna-without-soldering/

Instructions for a VHF/UHF dual band antenna:
https://www.instructables.com/Quarter-Wave-Dual-Band-VHFUHF-Ham-Radio-Antenna/

Build an HF dipole antenna:
https://www.electronics-notes.com/articles/antennas-propagation/dipole-antenna/hf-ham-band-dipole-construction-80-40-20-15-10-meters.php

Introduction to antennas:
https://www.onallbands.com/ham-radio-antenna-options-for-home-and-portable-operations/

Ham Radio QRP Transceiver Kits: With the advent of SDR (Software Defined Radio), building fully functioning ham radios has become a lot easier and

extremely inexpensive. While, having fewer bells and whistles, as well as being low power units, many have fully functional touchscreens and cover many of the HF bands:

An easy to build QRP transceiver. No soldering needed to build:
https://www.hfsignals.com/

An easy to build, single band CW kit:
https://qrp-labs.com/

Offering several kits and finished transceivers:
https://youkits.com/

Propagation Websites: Propagation is a key factor in successful radio communications. Here are some links to websites that will help you with all your basic propagation needs:

Real time band conditions:
https://qrznow.com/real-time-band-conditions/

VOACAP band conditions:
https://www.voacap.com/hf/

ARRL Propagation Page:
http://www.arrl.org/propagation

Real Time HF Propagation Prediction:

https://hamwaves.com/propagation/en/index.html

Ham Radio Websites of general interest:

Ham Radio News: Here are some sites and articles you may find of interest regarding ham radio.

ARRL News Page, which is a good place to find national news regarding ham radio:

http://www.arrl.org/news

QRZ Now. Another good site for ham radio news from around the globe:

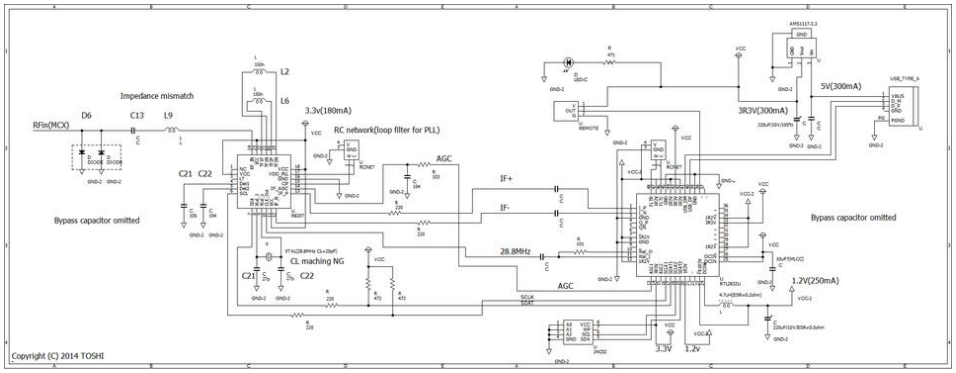
https://qrznow.com/

The Amateur Radio Newsline. An AP styled news feel page for amateur radio:

https://www.arnewsline.org/

Fun with Radio

This is a new column that I hope to include in the QSA-5 newsletter each month. Fun with radio spotlights something one of our club members is doing within the ham radio universe. If you wish to spotlight something you are doing, email me a few paragraphs about a project you're working on so I can share it with our club members. In this month's column, I will share some fun I've been having with SDR Receivers. I first became interested in this area of radio after watching an online video about the RTL-SDR Dongle. What caught my attention was that a simple dongle, the size of a thumb drive, could be used to listen to a variety of radio signals between 100Kh and 1.7 GHz. When I discovered that I could purchase one of these dongles for approximately $25.00, I decided to try it out. Below is the schematic of the RTL-SDR dongle:



What makes SDR Receivers so small and inexpensive (although they can get pricey, depending on the features you want) is that they rely on a computer to do much of the heavy lifting. The dongle itself is simple from an electronics viewpoint. The dongle only uses an ADC and DAC to do Analog to Digital and Digital to Analog signal conversion along with antennas, eliminating the need for many hardware components. The more complex work: mixing, filtering, amplification, modulation, demodulation, etc, is done with a computer, tablet, or smartphone. There are four components needed for setting up an SDR dongle Receiver: the dongle, a computer, a software program, and an antenna. The first dongle I purchased was the RTL-SDR dongle. The computer I used was one of my laptops. The software I used, SDR# (SDR Sharp) is open source, so it is free to download and use. For the antenna, I started with a dipole with a 9:1 Balun. I eventually switched to a magnetic loop antenna which I built (the parts cost $50.00 total). The magnetic loop antenna has worked better than anything else thus far.

I was shocked at how signals I picked up using this inexpensive dongle. The software learning curve can be slightly steep, depending on your computer skills, but the results far outweighed the occasional headaches I got trying to get things working. After two weeks of working with the RTL-SDR dongle, I decided to upgrade to a Nooelec Smart T with an external upconverter and a homebrew external AM Filter. Wow, it was the difference between night and day. I started

receiving signals from around the world. Did I mention I had my loop antenna hanging over the window by my desk, not outside?

Now, I am building an SDR Receiver using an Arduino Microprocessor Board. The receiver I am building has its own screen and controls and can be powered with a 3.6 Volt battery. The Arduino platform I am using was designed for people who wanted to easily build prototypes and is also open source, so I was able to find a library of code for this specific project. I enjoy SDR because there are times when I really do not feel like sitting at my desk chatting on my radio and would rather listening from the comfort of the couch or bed. That is my fun with radio contribution. Now it's your turn to share something!

Coming Soon

Over the next few issues, I will add some additional sections. Some of these will spotlight our club member's projects and the members themselves. One area I would like to build up is a section on homemade/homebrew, low-cost antennas, and accessories. Again, send me suggestions regarding what you want to see in our club newsletter, and I'll be happy to include them.