QSA-5

The Marin Amateur Radio Society Monthly Newsletter

Founded 1933 May 2016

Presidents Corner

Amateur Radio as a Spectator Sport

Many of you know that I work about 12 hours a day and usually six to seven days a week. Even while working this much I try to maintain a reasonably stable family life with a wonderful wife, four kids, two cats, a dog and four chickens. As you can imagine with all that going on, there is very little time for my hobbies, and yes, I said hobbies. While this may be hard to imagine for some I know that there are probably many of you out there who can relate and some with even less free time than myself. With so little time available, it's rare that I have any time left over for Ham radio but it is important that we make time for the things that bring us joy.

Well here's my "dirty" little secret; Most of my time in Amateur Radio is spent as a spectator. When I am "on" my radios, either HF or VHF/UHF, at home or in my car, 99% of it is spent listening, usually while I am doing something else. It doesn't mean I don't enjoy the hobby, quite the contrary, I enjoy it very much and I get excited every time I spin the dial and land on someone's conversation whether they are in another state, another country, or in our own county. Anyone who spends any time at all listening on our repeater has heard all about digital from the "Steve and Steve Show" and though I'm not into digital communications yet, I like hearing them talk about it. Someday I'm going to call in that favor and have Steve (KB6HOH) help me figure it out and you all can listen on the repeater as I get my digital going (hint, hint Steve).

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From the Editor

Ed Essick, K6ELE

ARRL Field Day

Field day rolls around again on the last weekend of June. It will be different this year as we are going have a new location. Mark your calendar and plan to come out on June 25th and 26th. Setup as usual will be on Friday the 24th at 10AM, with operation starting on Saturday June 25th at 11AM. Our club will be supplying food for the event, dinner on Saturday, and breakfast on Sunday. You can operate one of the stations in either SSB or CW if you have a General or above license. Sign up for operating times can be at the event or before by emailing Ron, N6IE at ronc@sonic.net.

Our new location is the Monkey Ranch near the Sonoma/Marin border and located at 5223 Red Hill Road, Petaluma, California 94952. Ron has a PowerPoint presentation on the new site at www.redxa.com/directions-fd2016.php. It is a 50 acre farm owned by Cooper Founders, Alan and Sue Cooper, and home for some of Cooper U's trainings and workshops. There are several buildings on the property including the Party Barn.

I have found ways to enjoy radio while I work, always trying to incorporate what I love into my daily life. I drive to West Marin every day and along the way, I either listen to CW training on CD (not a good way to learn CW by the way) or I listen to one of the many Podcasts that I have downloaded to my cell phone. Some of my favorites are *Ham Nation*, *HamRadio 360*, *Amateur Radio Newsline*, *Amateur Radio QSO Show*, *ARRL Audio News*, *100 Watts and a Wire* and the newest one, *ARRL The Doctor is In*. I learn a tremendous amount through these Podcasts and they have become part of my extended Amateur Radio family of "Elmers". I especially enjoy the Podcasts interviews and coverage of Hamvention in Dayton, Ohio. I get to live vicariously through these Podcasts, meeting all the industry leaders and experiencing all the latest gadgets and technology our hobby has to offer. Someday I hope to actually get to meet some these people, like when I recently visited the ARRL and met Bob Allison, WB1GCM, the Product Review Engineer and Tom Gallagher, NY2RF, CEO. It was an exciting day and since I knew a little about them already from interviews, it made it easier to talk and enjoy our conversation.

Sometimes I practice sending CW while watching TV, I listen to my HT while driving in my truck (I don't operate while driving), and I enjoy surfing the internet for Ham Radio articles/videos (which I think most of us do). These are all mostly passive activities that I enjoy while doing other things. It's easy to lose track of the important things in the grind of daily stresses. But these simple practices allow me to enjoy the world of Amateur Radio in those bits of stolen time during the day. I'm happier for it and until I retire in three and a half years, it will have to suffice. I just keep repeating: three and a half years…three and a half years…

73,
Tom Soskin, W6MTS

Guest Speakers 2016

6/3/2016 - Edison Fong - Tri-band J-pole
8/5/2016 - David Messerschmitt - Interstellar Communication

Club Member News

Club member Jerry Kay, KG6IAC interviewed Rob Rowlands, NZ6J about his coordinating an event with the county's Search and Rescue Team (SARS).

Ham Radio Operators Work with the Marin County Search and Rescue Team (SARS) to Test the Automatic Packet Reporting System (APRS)

The Marin Search and Rescue (SAR) volunteers are well known throughout the state. They perform, as they say…"anytime, anywhere any weather". Recently they were having a training event on Mt. Tamalpais. The event was a kind of SAR bootcamp where search and rescue volunteers were deployed around various lakes on Mt. Tam such as Phoenix and Bon Tempe. Since they were coming from multiple directions command staff needed to

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What's Happening in Radio

FCC Action Anticipated on ARRL's "Symbol Rate" *Petition for Rule Making*

The FCC has put "on circulation" its decision on the ARRL's *Petition for Rule Making* (RM-11708), seeking to change the Amateur Service Part 97 rules to delete the symbol rate limit in §97.307(f) and replace it with a maximum bandwidth for data emissions of 2.8 kHz on amateur frequencies below 29.7 MHz. Proceedings on circulation are pending action by the full Commission.

In its petition, the League asserted that the changes proposed would "relieve the Amateur Service of outdated, 1980s-era restrictions that presently hamper or preclude Amateur Radio experimentation with modern high frequency (HF) and other data transmission protocols" and would "permit greater flexibility in the choice of data emissions."

Symbol rate represents the number of times per second that a change of state occurs, and should not be confused with data (or bit) rate. Current FCC rules limit digital data emissions below 28 MHz to 300 baud, and between 28.0 and 28.3 MHz to 1200 baud.
Reprinted with permission from ARRL Letter 5/516

Rob, NZ6J preparing APS trackers

know where they were at all times. This provided a unique opportunity to test APRS tracking while working with the SAR team. Our ham colleague Rob Rowlands NZ6J coordinated the APRS tracking equipment for the event and I (KG6IAC) had a chance to talk with him about the experience.
KG6IAC
Rob, what was the purpose of the exercise?

NZ6J
Our test was really a proof of concept to see if APRS trackers could be helpful to (SARS) and their search and rescue mission.

KG6IAC
How does APRS work?
NZ6J
APRS uses ham radio frequencies to provide digital tracking information. In the case of our public service events, we track the movement of SAG vehicles and our operators. Their exact location is identified by GPS positioning and beaconed, either on RF (144.39MHZ) or through the internet, and reported back to a central server. This enables net control to know where their people are by their location. APRS has built in messaging also, though we have not used it during our events yet. KG6IAC
In addition to knowing where people are deployed, are there other objectives?

NZ6J
As many of us know, much of the radio channel traffic is often asking people to report their location. By using APRS this can take the pressure off of the radio channel for this type of information. But more importantly, APRS tracking also provides an audit trail of where individuals were at a specific time and location including speed and direction. This information is recorded, enabling staff to go back and deconstruct the event and see if there were gaps in coverage and communication and, most importantly, how the event was coordinated. From a training perspective this exercise can provide invaluable information for the future.

KG6IAC
What information were you able to provide during your test working with (SARS)?

NZ6J
Well, during the exercise, not all of our trackers were reporting so we had some technical issues. But, through those that were working I was able to provide command staff with the positions of the trackers, their speed and the direction they were heading. I could also predict when and where we expected them to be next.

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Setting up APRS trackers

Monitoring APRS tracking

ARRL News

ARRL Supports petition to the FCC to eliminate the restriction on amplifiers dB gain. Currently FCC approved amplifiers may not boost the input signal by more than 15dB. This rule was implemented during the 1970's to curb abuses by CB operators running amplifiers. The petition was submitted by Expert Linears America, which has amps that can exceed these limits. It would allow QRP rigs to drive the SS amps to legal limit with just a few watts of drive.

KG6IAC
What was the reaction from search and rescue staff?

NZ6J
I think they are interested in APRS and were grateful for the demonstration. From the SARS community real issues get down to cost and privacy. If they choose to go forward with this tool they probably will be focusing on these two issues. The trackers we used are decidedly amateur in their construction, really just a plastic bag full of stuff. For real world SAR events rugged purpose built trackers will be required.

KG6IAC
What did you learn?
NZ6J
I learned a number of things. This exercise was interesting because we usually are working on runs or races which cover 50 or 100 miles. In this case, we had a very constrained space on Mt. Tam covering maybe 5 miles. So, this provided a great test for our use of APRS. As we do this more we are picking up more gaps in both our coverage and knowledge about how APRS works. It's possible that SARS may call us in to help them with a rescue event in the future. Last month there was a search and rescue event in Oregon where their search and rescue people brought in hams to help them locate a person.

The SARS team has some concern over cost and privacy so it is possible SARS could decide to set up their own APRS-like system which is secure and not accessible to the public.

KG6IAC
A final thought?

Our public service events clients don't care how we get information that helps them run a safe event. As hams, we need to be agnostic in terms of the tools we use. To says that tracking through the internet isn't RF, and therefore isn't real ham radio, minimizes the usefulness and importance of tools such as APRS. Also, the APRS system isn't tied to any particular computer technology, platform or cellular technology. During the upcoming public service season we are going to be refining our capabilities with an eye to expanding our ability to provide APRS tracking.

KG6IAC
If you are interested in observing APRS in action during our public service events you can log onto aprs.fi And, if you are interested in setting up your own APRS kit you can contact Rob Rowlands.

Public Service

The Ridge-to-Bridge and Miwok 100K events took place this month and here are some of the photos.

RIDGE TO BRIDGE EVENT

MIWOK 100K EVENT

Speaker Program

Ed. Note; last month's speaker, Kenneth Finnegan W6KWF on the Wildflower Triathlon has made available the video of the presentation if you missed it. http://blog.thelifeofkenneth.com/2016/05/talk-on-wildflower-communications.html

Dr Ed Fong and the TBJ-1 antenna

At our June 3rd meeting Dr. Ed Fong of UC Santa Cruz will present his new patent on a Tri Band base antenna (TBJ-1). The antenna will operate on 2mt/ 1.25mt/ 70cm. It uses no radials and is 6ft tall. Ed worked on this concept for several years and first presented this antenna design at Pacifion 2015. Since its introduction, its popularity has exploded. Sales have not only been limited to the ham community but also to military, government and commercial application. It has been so disruptive to the antenna community that QST is trying to figure out how to publish it without hurting their advertisement income from antenna manufacturers like Comet and Diamond.

At the meeting, Ed will explain in a step by step process how he developed this configuration using Maxwell's equations.

Like the DBJ-1 (dual band base) and DBJ-2 (dual band roll-up) the TBJ-1 is destine to be a classic antenna.

He will bring 20 of these antennas that you can purchase and see for yourself how this novel design performs. $50 each

He will also bring the following that his students make at UC Santa Cruz.

DBJ-2 dual band roll up kit (include adapters for BNC, SMA and SMA reverse. Also includes 6 ft RF extension cable). $25

50 ft RG8x cable with molded PL 259 connectors $25.

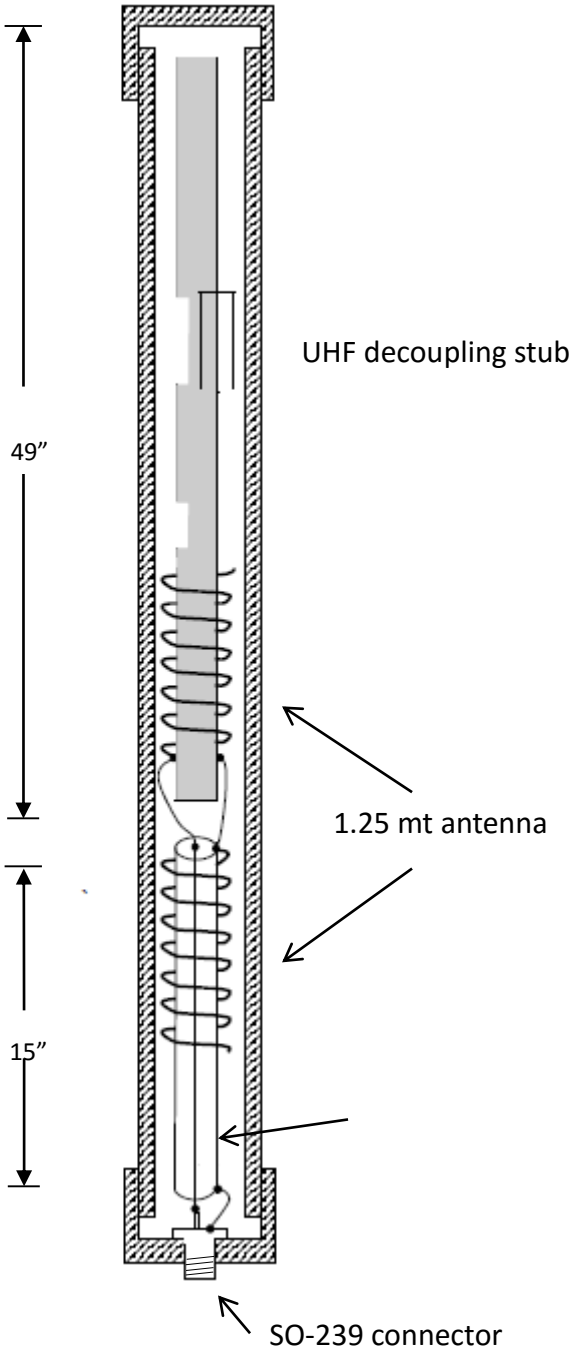
TBJ-1 spec's

Overall Length: 6 feet, 50 ohm feed impedance, no ground radials. Antenna feedpoint is 10 inches above the connector. Thus U clamps, hose clamps, etc. can be used for mounting up to the first 10 inches of the antenna without affecting performance. Antenna offers "true" ½ wavelength radiator at both VHF and UHF.

VHF (144-148 MHz)
Configuration: 1/2 wave radiating element
Maximum power: 75 watts
SWR: less than 1.5 to 1 over a 3 MHz bandwidth and less than 1.7 :1 over 4 MHz bandwidth.
Gain: 2.1 dBi
Impedance: 50 ohms

220 MHz (222-225 MHz)
Configuration: 1/2 wave radiating element
Maximum power: 75 watts
SWR: less than 1.5 to 1 over a 3 MHz bandwidth
Gain: 2.1 dBi
Impedance: 50 ohms

UHF (440-450 MHz)
Configuration: 1/2 wave radiating element
Maximum power: 75 watts
SWR: less than 1.3 to 1 over a 6 MHz bandwidth and less than 1.7 :1 over 10 MHz bandwidth.
Gain: 2.1 dBi (6db gain over a 2 meter J pole used at 450 MHz)
Impedance: 50 ohms


UHF decoupling stub
49”
1.25 mt antenna
15”
SO-239 connector

In addition, Ed had the privilege with working with County Comm of Santa Clara on the innovative GP5, an HF SSB SDR Radio. He will give a brief review on what makes this radio tick with all the DSP filters. This radio normally sells for about $100 (shipping, taxes, etc). Ed will sell these at cost for $60.

Basic spec's

Frequency Coverage –
MW/ AM: 520 – 1710 kHz (10K tuning step)
SW: 1.7-30 MHz AM/SSB/CW (with DSP SSB filters)
LW frequency: 150 – 522 kHz AM/SSB/CW
FM: 76 – 108 MHz – stereo
Displays ambient temperature in Fahrenheit or Celsius
Operating time: 225 hrs at 40% Volume

2MCM Radio Practice at Spreckels Lake

Saturday June 11, 2016 and Saturday July 9, 2016: 2MCM Radio Practice at Spreckels Lake
June 11, 2016 marks six years of 2 Meter Critical Mass radio practices.
July 9, 2016 will be the start of the seventh year of 2 Meter Critical Mass radio practices.
Please join me at both of these historic radio practices. All of you have helped make this happen. Over these six years we have done a lot of talking on our radios, learned from others and helped others learn how to use their radios.The truth is Critical Mass for talking on a radio really only requires two radio operators. But it is sure more fun when there are a lot of you at the practice.
After the July 9 radio practice we will have a pot-luck lunch to celebrate! Bring something to share. I will bring paper plates, plastic forks, spoons, knives and napkins. I have two tables; you might want to bring a chair for yourself. Even if you cannot make it at 1000 hours, come at 1200 hours for lunch and the fellowship.

Peter McElmury AA6SF
2MeterCriticalMass.com

On The Air

Contest Calendar

10-10 Int. Open Season PSK Contest, 0000Z, Jun 4 to 2400Z, Jun 5
ARRL June VHF Contest, 1800Z, Jun 11 to 0259Z, Jun 13
West Virginia QSO Party,1600Z, Jun 18 to 0200Z, Jun 19
ARRL Field Day,1800Z, Jun 25 to 2100Z, Jun 26
See complete list at:
http://www.hornucopia.com/contestcal/index.html

Museum Ships Weekend

Would you like to get your name on a certificate like this for 2016? If you have General privileges or above, just get in contact with Den Regan, CO of the NJ6VT Radio Club at k6zju@yahoo.com; it'll be June 4-5 this year. Go to www.maritime.org/tour for a virtual tour of the boat, including the cramped radio room. It's great fun working pileups as hams try to make contact with a real submarine, and as we try to contact as many other Museum Ships as we can.

Tips for good communication practice
Marin Amateur Radio Society
Public Service Events

Operating tips:

1. Listen, listen, listen and learn from the tempo, protocol, and style of other operators. If possible, monitor another event prior to the event for which you are volunteering.
2. Think of what you are going to say before pressing PTT. Then keep it short; no rambling.
3. If it doesn't need saying, don't.
4. Keep your voice calm--even if you are not.
5. Press PTT, wait a second before saying anything.
6. Say the station you are calling first, then give your tactical call.
7. Use tactical calls, not your FCC callsign, until the closing.
8. No need to repeat the calls each time during a multi-exchange conversation.
9. Wait two counts before pressing PTT on each exchange (avoid tailgating in order to allow breakers.)
10. If you have urgent traffic, take advantage of those spaces to call "break-break;" then wait for net control to say, "Go ahead, breaker."
11. When finished with traffic in a conversation, then use your callsign in place of, or in addition to, "clear" or "out."
12. When you hear that final signoff, and you have been waiting to contact net control--that's your time to make a call. Do not interrupt a conversation in progress unless you have more urgent traffic.
13. Keep a paper log of your contacts with net control; s/he may later ask something like, "What time did the first sweep transit your rest stop?"
14. When reporting an injury, never use the name of an injured party in order to protect their privacy; use bib numbers or other descriptors.
15. In a controlled net, all traffic should go to (or through) net control; you may "go direct" to another rest stop only after receiving permission from net control to do so.
16. Use common English; avoid the use of "Q" codes.
17. Common "pro-words" are fine: "I say again," "I spell," "all after," "figures," "number-letter group," "roger," "correction," "go ahead," etc.
18. If using an HT: face the repeater input, hold the antenna vertical, don't move your head while transmitting. During initial checkin at the beginning of the event, check your copy with net control to find your best "hot spot."
19. Never turn your radio off, or volume down, to deal with a situation w/o telling net control that you will be away from the net and receiving permission to do so; check back in when you return to the net.
20. Make yourself known and available. Always introduce yourself to the rest stop captain (and medical crew if present) at the beginning of your shift; make a note of his/her/their name(s) for your after-action report.
21. Set up your position at the rest stop so that you can stay informed while staying out of the way. In many cases, this will be close to the rest stop captain or the medical crew. If that is not possible, or if the captain is a roamer, take a set of GMRS radios so that you and s/he are able to contact each other quickly.
22. At the same time, your operating position should be in a relatively quiet location, away from cheering crowds, rock bands, announcement speakers.
23. Make sure the captain knows to require the organization's sweepers to check in with you when they enter the rest stop, and to again check in with you when they depart the rest stop. You would report both times to net control.
24. If you are stationed at net control, there is to be total silence while the net control operator is passing traffic. Any chatting that might happen during a lull is to immediately cease.
25. Arrive at your duty assignment prepared to be self-supporting: food, water, sunscreen, a chair, warm clothing, extra batteries, etc.
26. An after-action report, together with photos, is part of your assignment; make notes to yourself during the event in preparation for your report.

USS Pampanito

Hi All

Our regularly scheduled Dedicated Day of Operation got underway on Saturday, May 14th around 1030 hours. Our station, NJ6VT, was up and running on HF and on VHF as well.
I was the only operator for this duty shift this time around.

Band conditions were fair to poor so few QSO's were made on HF. No short skip on the 40 meter band along with a high noise level.

At 1100 hours, the Pampanito received two historical radio messages copied on the Big Rock Repeater, K6GWE, 146.700 MHz, from Ray, W6RAR, in San Jose. These messages originated from WB4ZKA in Phoenix, AZ and are from the log of the USS Pampanito, SS-383. The messages are as follows:

First Message:

16 ROUTINE HANDLING CF 14 STATION WB4ZKA 22
PEARL HARBOR HI MAY 9

CAPT PAUL SUMMERS C/O NJ6VT
USS PAMPANITO 383 SF CA 94133
415-516-5310
OP NOTE DELIVER VIA 146.700 K6GWE REPEATER 1100L HOURS SAT

HISTORICAL RADIO EXERCISE 1944 LOG

BZ ON SUCESSFUL FIRST PATROL X REFIT IN PEARL COMMENCE
SEA TRAINING BY 27 MAY

VADM LOCKWOOD COMSUBPAC

Second Message:

17 ROUTINE HANDLING CF 14 WB4ZKA 23
PEARL HARBOR HI MAY 9

CAPT PAUL SUMMERS C/O NJ6VT
USS PAMPANITO 383 SF CA 94133
415-516-5310
OP NOTE DELIVER VIA 146.700 K6GWE REPEATER 1100L HRS SAT

HISTORICAL RADIO EXERCISE 1944 LOG

ON DEPARTURE EXECUTE COMTASK WORD 4 WORD 17
OPERATION ORDER 191 - 44 EFFECTIVE JUNE 1944 X
REFUEL IN MIDWAY ENROUTE

VADM LOCKWOOD COMSUBPAC

End of messages.

Thanks to Mike, WB4ZKA, and Ray, W6RAR, for their time and effort in researching and sending these messages to the USS Pampanito!

Visitor traffic aboard the boat was light to moderate with traffic picking up in the afternoon. We had a visitor from the USS Midway, NI6IW, in San Diego one Rich Ortloff, KE6DUG. Rich had stopped by some time ago to see the radio shack but it was closed at the time. Glad Rich was able to see NJ6VT in action. Rich is one of the RO's on the Midway and also on the USS Dolphin, AGSS 555, submarine (the boat I was on for a short time) and also on the Russian Juliet class submarine.

Our next scheduled event is the "Museum Ships on the Air Special Event" where museum ships worldwide will be on the air. We need volunteers for this event. Participants will receive a nice certificate for their efforts. NJ6VT will be operational on Saturday, June 4 and Sunday June 5. Let me know if you are interested in participating in the museum ships event and putting the Pampanito on the air!

73,

Den Regan K6ZJU
CO Pampanito A.R.C. NJ6VT
USS Pampanito, SS-383
Pier 45, Shed "A"
San Francisco

General Membership Meeting

No minutes were reported for May meeting.

Board of Director's Meeting Minutes

Thursday, May 12th, 2016

Board Members present: Kris Backenstose, Rita Brenden, August Koehler, Marc Bruvry, Doug Slusher, Dave Hodgson, and Randy Jenkins. Members Curtis Ardourel and John Boyd were also in attendance.

The meeting was called to order by Vice-President Kris Backenstose at 19:30 hours.
The agenda was approved as amended.
The minutes of the April 14 Board of Director's Meeting were approved as published.
There were no remarks under the President's Minute.
Communications: Randy found a communications request from the Tour de MALT.
Treasurer: Dave was present, and presented his report. There was some discussion about the phone bill for the clubhouse. A proposal will be presented at a future meeting.
Club Station & Facilities: Doug reported that Marc is working on setting up the vintage equipment operating position.
Membership: Curtis reported that we have 77 members, an 84% renewal rate. He will prune the email list at the end of June.
Education: Kris reported that there would an Education Meeting on May 22, and that had edited the Education page. He recruiting Discussion Leaders and Elmers.

Technical / Repeaters- Doug is looking for a date to install the new Yeasu Fusion repeater.

Field Day: Doug reported that we have a new site; Monkey Ranch near Petaluma. Site rent will be $450.00 and we have to provide porta-potties, and haul our own trash.

Old Business:

Awards: Tabled until next month.

EBARC Tower: Shipped to Washington State.

Field Day Generator: Phil could not get it start. A motion was made to approve NTE $500.00 to get it repaired. AKU/AYC/Passed

New Business:

Security Cameras: Dave broached the idea of installing security cameras outside. The tenant's car was broken in to. Doug will get a proposal for cameras. The idea of adding more light outside was brought up. Randy will get a proposal for additional lighting.

New Password: A new password for the members-only pages of the website was chosen. Curtis will implement it, after July 1. A motion was offered to choose the password. It will be announced to members when it changes. AYC/AKU/Passed

The manner that web pages on our site are accessed was discussed. Curtis will investigate the settings.

Kris wants a new mailing list for Education. Curtis will create that list, and the features that Kris wants.

There was a discussion of adopting a Change Management policy for the club.

Good of the Order: Thank you to Doug.

Next Meeting: Thursday, June 09, 2016

Agenda Items: Awards, Security Cameras, Outside Lighting, Field Day

There being no further business, the meeting was adjourned at 21:09 hours.

Respectfully submitted,
Randy Jenkins, KA6BQF
Secretary, Marin Amateur Radio Society

Marin Amateur Radio Society W6SG.NET, membership@w6sg.netGeneral Membership Meeting is held on the first Friday of each month at Alto District Clubhouse at 27 Shell Road in Mill Valley, starting at 7:30 PM. Come a little early for pizza or whatever. From highway 101, head west toward Mill Valley on E.
Blithedale. Turn right at the first stop light. Stay right at next stop sign, then turn left at next corner, Shell Road. We are in a two story building, second from the corner on the left directly under the power lines.

Business/Board Meeting meets at the Alto District Clubhouse in Mill Valley on the second Thursday at 7:30 PM. Members are encouraged to attend.

Sunday morning informal meeting (aka bible class) meets every Sunday morning at the Alto District Clubhouse in Mill Valley starting around 8am and runs to about 11am. Sometimes we even talk about radio.

The Sunday Emergency nets. The K6GWE emergency VHF net check-in is at 10:15 am on 147.700 (-pl 203.5). This is a directed net and the net control station may operate at the club house or at a member location. Members on the net check-in list that do not check in for three consecutive weeks are removed from the list until they reestablish check-in. Any member can sign up to act as the net control station. See the club website for signup instructions. The W6SG emergency HF net check-in is at 9 am on 3.915 Mh.

Marin Amateur Radio Society Officers and Board Members:

President
Tom Soskin, W6MTS
tomsoskin@gmail.com
Vice President
Kris Bakenstose, KK6AYC
Secretary
Randy Jenkins KA6BQF 510-526-4089
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Howard Leistner, W2BBF
Ed Essick K6ELE 456-1715

Other Positions:

Education Chair
Randy Jenkins
Kris Backenstose Instruction Team Leader.
VE Liaison
Randy Jenkins
Building Co-Managers
Doug Slusher
Dave Hodgson
Trustee for W6SG
Augie Koehler K0CQL
Trustee for K6GWE
Doug Slusher KF6AKU
Sunday Emergency Nets
Mark Bruvry and other volunteers
DX Representative of ARRL
Jerry Foster WA6BXV 892-3829

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Rob Rowlands, NZ6J, Michael Fischer, K6MLF

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