QSA-5

The Marin Amateur Radio Society Monthly Newsletter

Founded 1933 December 2017

Presidents Corner

Tom Soskin, W6MTS

Marin Amateur Radio Society's Monthly Net for January 2018 to follow in 5,4,3,2,1 …
QST QST QST This K6GWE owned and operated by the Marin Amateur Radio Society testing its emergency communications facilities. This is a directed net so please go through net control to contact another station. Your Net Control operator is Tom, Whiskey Six Mike Tango Sierra operating from the clubhouse in Mill Valley. You DO NOT have to be a member of the Marin Amateur Radio Society to check in. All amateurs are encouraged to check in and be available to receive traffic and general information. At this time does anyone have emergency traffic or priority traffic for the net?

Bringing in the New Year we must, as with any good QST, first deal with any emergency type traffic and again this year I would like to remind everyone to take some time and accomplish a few minor but important items. First, check and/or change the batteries in ALL your fire/smoke detectors. This small seemingly insignificant task could save yours or someone else's life. Do you have a gas shutoff valve wrench? Do you know where it is? (You might have to look around a bit for this one). Have a generator? Time to swap out the gas and test it. Check your car's maintenance, oil/fluids, windshield wipers, tire pressures (INCLUDING THE SPARE!). It is also time to check the items in your emergency / go bags. Recharge or change the batteries and make sure your equipment is operational. If you have other items that outdate like food, medications, water etc… check the dates and swap out if necessary. Replace any broken or non-serviceable items and replace any items that you may have forgotten or used during the year, now is the time to resupply. Don't have a go bag? Make one, and do it now! (And don't forget the radio).

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From the Editor

Ed Essick, K6ELE

Our annual Christmas dinner and meeting had the highest turnout that I can remember. Fifty members attended a great dinner organized by Cal Anber, N6TIA, assisted by Randy Jenkins, KA6BQF, Rita Brendan, KG6WPN, and myself. We had a new caterer this year and the food was really great. If you missed the party this year, mark your calendar for next year and join us.

Several awards were presented at the Christmas party. There are many members who contribute to the success of our club and this year we honored the following members.

Ham of the Year: Rita Brendan for her tireless and dedicated work with MARS public service events. She received a $100 gift certificate to the Ham Radio Outlet.

Hi Roberts's Award: Michael Fischer for his contributions to public service and amateur radio spirit.

John Butler Elmer of the Year: Jan Leja for his leadership and support of the Sunday Radio Repair Group.

VHF Net Control Operator and Elmer in all Things Digital: The Board of Directors grants an award to Steven Toquinto and a 2018 honorary club membership.

Lifetime Membership, Doug Slusher for his longtime service to the club as Trustee for K6GWE, as Club House manager, and our repeater guru who keeps our repeaters on the air.

If you need help, check out the internet or ask me for assistance. Chris, if you are paying attention, this might be a good class to have during one of our meeting nights. Of course if you are part of RACES, CERT or the Public Service Group, I KNOW you have one, right? GO Bags are type specific so you may have several, check them all. And when was the last time you checked into the Sunday morning Net? Or the RACES net? If you don't check into the nets routinely I highly encourage you to start even if just occasionally, it is the only way to make sure that everything is working properly. And check ALL your rigs, HT's, mobiles, HF, and don't forget your antenna, a functional radio is useless if your antenna isn't working properly. There are probable several more items I have forgotten, but make a list so you remember next year and share it with me and others so we can compare notes.

With no further traffic, this is Net Control K6GWE signing off. Thanks to everyone for participating in our net this month and enjoy the rest of your day.
Your Net control operator has been Tom, W6MTS, operating from the clubhouse in Mill Valley, CA, 73 and we are clear.

As your club president for that last two years, I thank you. I thank you for your support, your hard work, dedication and persistence. I also thank you for you acceptance, guidance and friendship. Together we have accomplished a lot and I am honored to have been a part of it.

Best Regards,

Tom Soskin, W6MTS
Marin Amateur Radio Society President

What's Happening in Radio

Contest Calendar for January

ARRL RTTY Roundup, 1800Z, Jan 6 to 2400Z, Jan 7

North American QSO Party, CW 1800Z, Jan 13 to 0559Z, Jan 14
North American QSO Party, SSB, 1800Z, Jan 20 to 0559Z, Jan 21
Montana QSO Party, 0000Z-2400Z, Jan 27
Winter Field Day, 1900Z, Jan 27 to 1900Z, Jan 28

Christmas Party and Meeting

Raffle led by our junior guest and club president

Raffle Prizes

Our Members Enjoying a Great Christmas Dinner

ARRL NEWS

FCC Penalizes Marketer of Ham-Band Drone Audio-Visual Transmitters

The FCC has imposed a $180,000 civil penalty on a Sarasota, Florida, company that had been marketing noncompliant audio-visual transmitters intended for use on drones in violation of the Commission's Amateur Service and marketing rules. In an *Order* released on December 19, the FCC explained that Lumenier Holdco LLC (formerly known as FPV Manuals LLC) was advertising and marketing uncertified AV transmitters capable of operating on both amateur and non-amateur frequencies, including bands reserved for federal government use. Some of the transmitters also exceeded the 1 W power limit for Amateur Radio transmitters used on model craft, the FCC said.

"Moreover, entities that rely on amateur frequencies in operating compliant AV transmitters must have an amateur license and otherwise comply with all applicable laws for such operation," the FCC said in the *Order*. The FCC said that while it generally has not required amateur equipment to be certified if it operates solely on Amateur Radio frequencies, certification is required if a device can operate outside of the ham bands.

Last January, in what it called an "extremely urgent complaint" to the FCC, ARRL targeted the interference potential of a series of audio/video transmitters used on unmanned aircraft and marketed as Amateur Radio equipment. ARRL General Counsel Chris Imlay, W3KD, said those transmitters used frequencies intended for navigational aids, air traffic control radar, air route surveillance radars, and global positioning systems

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New Members

Welcome to these new members.
Mark Hindman, KM6PDW, Novato
William Ritchen, KM6PAS, Fairfax
William Rus, KM6IQY,Novato
Rodrigo Santamarina, KM6NHM, Petaluma
Gregg Dupree, KU1C, San Rafael

Guest Speaker January General Meeting

Our guest speaker for January is Richard Dillman the Station Operator at KWMR and the historical KPH site in Point Reyes National Seashore. Please come for FREE PIZZA and learn about Richard's collection of historic RADIO SPY GEAR on Friday January 5th, 2018 at the club house in Mill Valley.

Happy New Year to Our Club Members

Board of Directors Election

Congratulations to the following club members reelected to the board.

Tom Soskin
Kris Backenstose
David Chaney

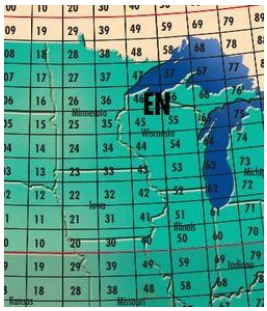
The ARRL International Grid Chase Kicks Off with the New Year!

(Ed. Today on 1/1/18 the grid chase has started out strong. There are many stations on 20M, so give it a try.)

The ARRL International Grid Chase 2018 gets under way on January 1 UTC (New Year's Eve in US time zones). The objective of the year-long event is to work stations on *any* band (*except* 60 meters) in as many different Maidenhead grid squares as possible, and then upload your log data to ARRL's Logbook of The World (LoTW). Many hams are familiar with grid squares from the VHF/UHF and satellite realms, and everyone lives in one. An (http://www.levinecentral.com/ham/grid_square.php) by David Levine, K2DSL, can determine your grid square. Enter a postal address, ZIP code, or a call sign, and the calculator will return the grid square for that location. Each new grid square contact confirmed through LoTW will count toward your monthly total. (http://www.arrl.org/international-grid-chase-2018)

Any contact you make in 2018 can count for your Chase score; as long as the other operators participate in LoTW, you'll get credit automatically when they upload their logs. This means that contest contacts will also count, as will contacts with special event stations, or other on-air activity that uses LoTW to confirm contacts.

There are no restrictions on modes or bands, as long as they are legal. Satellite contacts are valid for the Chase. The event is open to *all* radio amateurs.



A map segment showing part of the EN field of grid squares. Note that some grid squares are very nearly surrounded by water. [Photo courtesy of Icom America]

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Radio Amateur's Invention to Treat Alzheimer's Patients Going to Clinical Trials

Inveterate inventor and radio amateur Eric Knight, KB1EHE, may be on the cusp of medical history as a device he developed in collaboration with a prominent Alzheimer's disease researcher enters clinical trials this month. Both are hoping that the device, which essentially saturates the brain with low levels of RF, may prove to be a viable treatment for the dreaded disease affecting millions.

"Sometimes breakthroughs happen in ways that are unexpected," Knight told ARRL. Knight learned of experiments that world-renowned Alzheimer's researcher Dr. Gary Arendash was carrying out on mice specially bred to have the disease, exposing them to low levels of RF. Knight said the effects were dramatic, sometimes even reversing the disease's effects in the mice. Borrowing some concepts from his early experiments with small rockets and avionics, he set about developing, and later patented, a device that could provide the requisite RF exposure to the human head.

"In the early 2000s, we were trying to figure out then how to make antennas that would wrap around the airframes of the rockets we were designing," he said, noting that the diameter of his group's space vehicle was about the same as that of a human head. Knight learned that Arendash was attempting to extend his investigations in a similar vein, and eventually they collaborated.

"He came at it from mice and science, I came at it from an aerospace and hobby perspective," said Knight, who patented a device based on a bicycle-type helmet. At the same time, Arendash was developing a similar wearable -- a fabric cap resembling an old-time aviator's headgear. Both devices are embedded with small antennas to bathe the brain in electromagnetic radiation in the 900 MHz spectrum set aside for Industrial, Scientific, and Medical (ISM) applications -- some 100 MHz higher than a cell phone's frequency.

"Ironic for sure," Knight said. "Who would imagine that cell phone radio waves could be a potential treatment for Alzheimer's disease?" Knight, who has no medical background, said the device to be used in the clinical trials consists of the cap plus a palm-sized transmitter and wiring harness worn on the arm. The resulting combination has been dubbed the NeuroEM 1000. Participants will get doses of RF twice a day.

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From the Food and Drug Administration's (FDA) standpoint, the clinical trials aim primarily to show that the technology is safe, but Knight said he and Arendash are also looking for data that might demonstrate that the device could be beneficial in treating Alzheimer's. The protocol they've developed goes further than what the FDA requires and includes before-and-after baseline data, with cognitive testing, assays of spinal fluid and blood, and PET scans.

"The hope is that there is a tiny bit of efficacy. Then we can work to refine it," Knight said, adding, "No one is expecting a magic cure."

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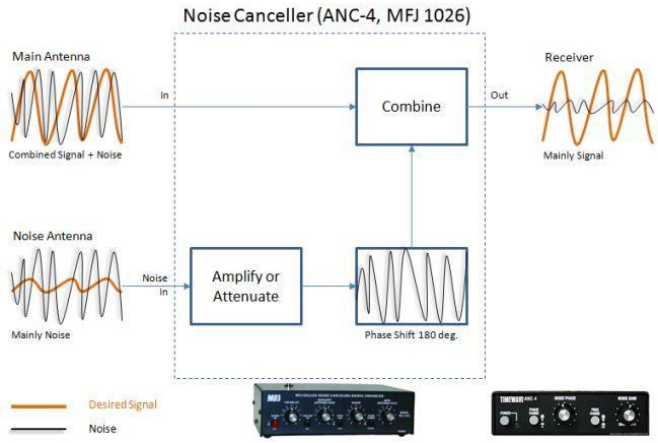
Noise Cancellers – Essential Resource for Radio Listeners, John Fallows, VE6EY



Noise cancellers are an essential resource for HF radio listening. No longer a last resort as the noise floor becomes worse and worse.

Unless you live in a quiet rural location – and sometimes even then – radio frequency interference makes HF listening a challenge. These devices should actually be called "interference cancellers". You use them to remove or reduce a whole range of signals from unintended emitters – power lines, power supplies, home appliances, motorized tools and consumer electronics.

Noise cancellers work on a deceptively simple principle. If you shift the phase of a signal by 180° then you can use the resulting wave to cancel the original signal. These devices receive the interference on a separate antenna, reverse its phase and then mix it together with the original combination of desired signal and noise. If you get the phasing and amplitudes right, the result is almost magic.

There is so much RFI these days that I can't imagine *not* using one of these devices. There is only one trick to success: setting up a proper (separate) noise antenna. More on that in the next article in the series.

Noise Cancellers – Two Popular Models

Two popular noise cancellers are the Timewave ANC-4 and the MFJ-1026. Both cost around $200 and offer similar performance. Both also contain automatic transmit/receiver switching. With either, you simply make adjustments to the phase and strength of the noise signal to achieve interference reduction.

The MFJ unit also includes an antenna preamplifier. This is not really necessary for most modern receivers. It also adds a third adjustment (main antenna gain) and results in slightly more complicated tuning procedures. The Timewave unit has been around longer and has sturdier construction.

Other than the preamplifier, the other difference lies in the type of combiner used. The MFJ uses an active FET mixer for combining reversed noise and signal, while the Timewave relies on a passive hybrid combiner. At the extreme, the Timewave should be less prone to overload or IMD.

Finally, both devices come with a built-in whip antenna for local (in-shack or in-house) noise. This whip is useless for neighborhood interference, unless from adjacent apartments. You really want to use an external noise antenna, and use other methods to eliminate RFI inside your house, where you have some control

MARS Christmas Holiday Party and General Membership/Board Meeting Minutes

December 6, 2017

6:31 PM President Tom Soskin calls the meeting to order. Party guests are enjoying fellowship and an excellent catered meal.
6:32 PM People make individual and family introductions around the tables.
6:32 The Marin Century Bicycle Race representative presents a $3000.000 check to the Marin Amateur Radio Society for public service during the August 5, 2017 race. There is a brief recap of the public service and applause.
6:37 PM The President's Minute. Tom Soskin asks the MARS Board Members at the party to convene a meeting in the radio room for a special issue. President Soskin entertains the guests while Board Members meet. There is a quorum of Board Members. This meeting lasts for 10 minutes.
Board Member Curtis Ardouel introduces the issue of the MARS club providing Technician Amateur Class license training to U.S. Army military policemen on February 3 and 4, 2018 with a VE test to conclude the session. Approximately 20 soldiers would train with MARS "Elmers" in order to get their licenses. This would allow the soldiers to use hand held "HTs" on VHF amateur radio frequencies for emergency communications and coordination with the amateur radio public service in times of disaster. Vice-President Kris Backenstose offered the MARS club services committing to the above-mentioned date prematurely without MARS Board consideration. The Board Members, however, supported the plan with a motion, second, and unanimous vote. The Board members voted similarly to make the MARS Alto clubhouse available for the class on those dates; there were 2 votes therefore. Board Member Curtis Ardourel and Trustee Doug Slusher will talk with Vice-President Backenstose about the arrangements, curriculum, and teachers. There is discussion and unanimous agreement that despite the enthusiasm for the project, all future commitments of MARS resources and personnel should go through the protocol of Board discussion and approval FIRST.
6:47 PM the special board meeting concludes by a motion, second, and vote.
6:48 PM Curtis speaks to club membership. MARS has 129 members now and membership renewals will go out to members within days. The new dues are $30.00.
6:50 PM The Technician training in February 2018 is recapped for the general membership. There will be a need for volunteers and Volunteer Examiners.
6:51 PM Member Michael Fischer thanks all volunteers for MARS public service to the audience. There were more than 70 volunteers in 2017 for various races, walks, and hikes. Michael thanks Randy Jenkins and Rob Rowland. There will be a meeting in February 2018 (date yet to be determined) to thank all past volunteers and to introduce the public service calendar for 2018. Michael declares that public service is the most important contribution to the public from MARS. President Tom Soskin presents a 1947 trophy cup from the Dipsea race to Michael Fischer demonstrating 60 years or more of MARS public service.
6:53 PM Volunteer Examiners will be needed for the February 2018 Technician cram session for the U.S. Army students.
6:54 PM The Hi Roberts award for amateur radio spirit is awarded to Michael Fischer.
6:56 PM Michael Fischer presents the John Butler Elmer of the year to Jan Leja (not present) for his radio engineering supervision to other radio repairers in the MARS club. Michael recounts Jan's life as a radioman on steamer ships.
6:58 PM The ham of the year award is awarded to Rita Brendan for he dedicated work with MARS public service events. She receives a $100.00 gift certificate to the Ham Radio Outlet.
7:00 The Board of Directors grants an award to Steven Toquinto for his tireless club service as a net control operator and Elmer in all things digital.
7:01 The MARS club membership and President Tom Soskin awards Trustee Doug Slusher lifetime membership in the MARS club.
7:02 The good of the order by President Tom Soskin. Tom Soskin, Kris Backenstose, and David Chaney are elected to the MARS Board. There were many fine candidates-previously it had been hard for the club to solicit members to serve on the Board.
7:03 The MARS Board meeting concludes and the Christmas Holiday Party continues. Again, there are rave reviews about the excellent catered food and good fellowship. There is a motion, second, and vote to adjourn.

Marin Amateur Radio Society Officers and Board Members:

President
Tom Soskin, W6MTS
tomsoskin@gmail.com
Vice President
Kris Backenstose, KK6AYC
Secretary
David Chaney, AA6AE
Treasurer:
Dave Hodgson, KG6TCJ 707 978-2560
Board Members
Cal Anber, N6TIA 209-275-5252
Kris Backenstose, KK6AYC
Marc Bruvry, KF6VNT 492-9292
David Chaney, AA6AE 818-332-6029
Ed Essick, K6ELE 456-1715
Mitch Martin, WU1Q
Tom Soskin, W6MTS

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
Mitch Martin, WU1Q
Trustee for K6GWE
Doug Slusher KF6AKU
Sunday Emergency Nets
Mark Bruvry
DX Representative of ARRL
Jerry Foster WA6BXV 892-3829

Public Service Event Coordinators
Randy Jenkins KA6BQF 510-526-4089
Rob Rowlands, NZ6J, Michael Fischer, K6MLF
Membership
Curtis Ardourel, WA6UDS
Editor of QSA-5
Ed Essick, K6ELE
e.essick@comcast.net
ARRL San Francisco Section Manager
Bill Hillendahl KH6GJV@ARRL.ORG
WEBMASTER
Glenn Meader N1ZKW 987-3948
N1ZKW@ARRL.NET
HF Sunday Net Control
Mike Ransom, AI6II
VHF Sunday Net Control
Steve Toquinto, KB6HOH