



From our Club President...

## Happy New Year! Next Up: Fleamarket

By Ivy Nelson-Groves WA7IVY, President

I know it's still February because the calendar tells me so, not necessarily because of the unusually nice weather we've been having. The next month or so is quite a busy time for our Club! At the beginning of March, we will be hosting our annual Flea Market and Electronics Show at the Puyallup Fairgrounds (or whatever they call it now). At our March General Membership meeting, we will be holding our annual Club Elections. And at the end of March [27<sup>th</sup>- see Page 5] will be our Awards Banquet. We will have more information coming out about the Awards Banquet in the near future, and we will be taking nominations for next month's Elections at this coming General meeting, so let's talk about the Flea Market...

For many Hams in the area, this is where they get new or gently used gear, meet up with old friends and new, upgrade their license, or just have fun with other radio enthusiasts. For our Club members, it is months of planning culminating in two days of near non-stop activity. Mike N7WA, Diane KB7DNE and Hal N7NW have spent the past few months putting together one of the largest Ham Radio event in the Northwest. If you've never been to the Flea Market, it is quite a sight to see!

The February program will be devoted to everything you ever wanted to know about the Flea Market but were afraid to ask. If you have any questions at all, this is the time to ask them. What makes this event successful is the participation of our Club members. There are quite a few jobs still available – and there are jobs for a wide variety of abilities and interests. I apologize if I'm making this sound like a lot of work; it really is more fun than work, to which most of us who have spent a few years doing this will attest! The Flea Market funds most of our activities during the course of the year, and is the main reason our yearly Club dues are so low, so it's to everyone's advantage to work a shift of two, either day, or both!

After the Flea Market, we meet to have a nice dinner, partially subsidized by the Club. We only have 50 tickets for this dinner, and I'll have tickets available at the General Membership meeting in February and at the Announcing area during the Flea Market.

Enjoy the nice weather and I look forward to seeing everyone at our February meeting on the 21<sup>st</sup>! -- Ivy

## M&K Club: Doughnuts & Coffee

By Michael Dinkelman N7WA

**Just a reminder that the coffee and doughnuts provided at the meeting are self-funded.** They are **not** paid for through the Club Treasury. **For about six months**, the income hasn't been meeting the costs. The reserve is gone and I've been doing some subsidizing. Doughnuts are about \$35 a month and we go through 2 cans of coffee every three months – I get the cheap stuff so each can is about \$7-\$8. It doesn't take much to cover the costs.

I see some people putting in \$2-\$3 but that is not necessary. If you take a doughnut, throw in 75 cents. If you just get coffee or cocoa, throw in 50 cents. If you get both, a buck will cover it nicely. This also helps cover the other expenses such as sugar, creamer, cups, and napkins. In the past, if the reserve got too big, I usually made the coffee and doughnuts free for that month.

I am not going to sit and watch the can and if you're short, I have no objection to you getting a doughnut and coffee on the house. (I know that a lot of us don't even carry money these days). I'd rather see someone enjoy the meeting with coffee and a doughnut, than worry about who's putting something in the can. However, if you got a buck, don't forget to feed the kitty.

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The *K7LED Relay*, published monthly, is the official newsletter of the Mike & Key Amateur Radio Club. Mike & Key ARC is an ARRL-affiliated club dedicated to the growth and betterment of Amateur Radio.

The club meets at 10 A.M. the third Saturday of every month at Salvation Army Headquarters, 720 S. Tobin Street, in Renton (near the southeast corner of Renton Airport). Anyone interested in Amateur Radio is invited to participate in the Mike & Key ARC and its activities. Annual dues are \$12 for individuals and \$18 for families.



**Postal Address:**

P.O. Box 4234  
Renton, WA 98057-4234

**Web Site:**

[www.mikeandkey.org](http://www.mikeandkey.org)

**Send dues to:**

Mike & Key ARC  
P.O. Box 4234  
Renton, WA 98057-4234

**K7LED Repeaters:**

146.82 output / 146.22 input  
(PL 103.5)  
Tiger Mountain  
224.120 output / 222.520 input  
(PL 103.5)  
Tiger Mountain

**Email:**

info @ mikeandkey.org

**Send newsletter submissions to:**

Gary Bryan, *Relay* Editor  
kg7ku @ arrl.net  
253-279-3949

**Reflector:**

<http://groups.yahoo.com/groups/mkarc>

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	Dawn Humphrey	KC7YYB		
<b>Club Library</b>	'Toku' Okumura	AD7JA	ad7ja @ msn.com	206-772-2450
<b>Webmaster</b>	Jim Etwiler	KD7BAT	kd7bat @ arrl.net	425-788-7887

### Mike & Key Online – The following Club resources are available:

**On the Web** – The Club's site at [www.mikeandkey.org](http://www.mikeandkey.org) includes extensive information about Club activities and events, such as: VE testing, membership, past editions of the Relay and more.

**Reflector** – The Club's public message board offers an easy and free way to converse with Club members. To sign up, visit: <http://groups.yahoo.com/groups/mkarc> .

**E-Relay** – Help the Club save on printing and postage, send Email to the *Relay* Editor: kg7ku @ arrl.net .

## M&K Club - February Activities

By Peter Glaskowsky K4PNG, Activities Manager

### — Mike Dinkelman N7WA: Fleamarket —

The Mike & Key ARC Fleamarket is the major fund-raising activity for the Club. The February Club program will discuss the upcoming event with details on schedules, activities, and worker assignments. Be sure to stay around and be an informed worker. For Club newcomers, this is your chance to get an inside look at the inner workings of the biggest Ham event in Washington State.

Please send your ideas for program topics to me at [k4png@arrl.net](mailto:k4png@arrl.net) or just post them on the MKARC Yahoo group.

## M&K February Door Prizes

By Peter Glaskowsky K4PNG, Activities Manager

As a follow-up to last month's presentation on computer-aided amateur radio, we're giving away a low-cost software-defined radio receiver this month, an RTL-SDR model that plugs into a USB port and uses your PC to pick up transmissions from 24 MHz to 1.7 GHz. This receiver isn't very sensitive, but it is an upgraded version of the one I showed at the meeting, which I've found to be a lot of fun to play with. At \$20 on Amazon ([www.amazon.com/gp/product/B00QFCNNV0](http://www.amazon.com/gp/product/B00QFCNNV0)), it's a great deal. Technically, there are two receivers among today's prizes; the other one is an "atomic" wall clock, the kind that stays synchronized to WWVB. Other prizes include a pair of Husky ratchet wrenches that together cover 8 different fastener sizes, a Master brand combination lock, an audio/video cable, a USB 3.0 adapter for SD and microSD cards, and two antennas: a Motorola mobile antenna tuned for the old 800-MHz cellular band (note that the whip can be retuned or replaced), and a mobile NMO mount with a matching NMO whip antenna for the 2M band plus a second whip for the 162.4 MHz NOAA weather radio band.



M&K Fleamarket Committee met at the Dinkelman's 10-Feb.

## M&K-FM'15: The Fleamarket Cometh

By Michael Dinkelman N7WA

We held the last Fleamarket meeting this week. We have just 17 tables left to sell. We still need a few workers. In particular, we need tickets sellers for the second shift (10AM-noon). We need ticket takers for the second and third shifts. We need help in hospitality (can you say food?).

The worker badges are ready for those who have already signed up and will be available at the Club meeting next week. At that same meeting, the program will be all about the fleamarket. This is a good place to learn about how it all happens if you are new to the Club. Even if you are an old-timer, there is usually something presented that you'll want to know.

If you're new to the Club and signed up, I have ordered you a Hotpress hat. These embroidered hats are a wonderful thing Hotpress does for us. Think of them when you need a hat or T-Shirt done (<http://www.hotpresstshirts.com>). I still have a few Hotpress hats available for old-timers who's hats have seen better days. If we get too many requests, I'll draw names at random.

I hope you are all planning on being part of this event. It's a heck of a lot of fun, it's the primary source of club funds, and our exhibitors really appreciate our work.

## M&K Audit Results: Fiscal Year 2014

By Sam Sullivan N7RHE

The M&K Audit Committee conducted the Annual Audit of the General Ledger for Fiscal Year 2014 on January 17<sup>th</sup>.

The books and record keeping were in order and well presented. No discrepancies were found. The Audit of the Fleamarket Ledger will be conducted on June 20<sup>th</sup>.

Signed by: Sam N7RHE, Chair; George AE7G; Scott AG7T; Jim K7JGM, Trustee; Daniel KL7WM, Trustee.

## VE Team Statistics for 2014

By Scott Robinson AG7T

The **VE Team** had another great year!

I want to thank each of the VEs that helped at various sessions during the year: KE7LLC, W7GIL, KD7BAT, N7RHE, WA7NIW, WU7J, KD7IQL, KF7FK, KG7MX, W7HS, KL7WM, KO7E, WT0F, KF7VG, AD7CT, AC7UR, and N7QLT.

You again showed the best of amateur radio. We had 165 people taking 191 exam elements leading to 90 Technician, 42 General, and 22 Extra class licenses awarded. The average session size was the same as the last 5 years with 13 people per session. We were 1 session less than in 2013 but the numbers were similar.

Keeps the VEs very busy!

February 2015

## M&K Membership Committee Report

By Rita Danielson KD7CNU

Well, we survived January and now February is upon us, the month of Presidents and Valentines. Make sure you remember both days this month. ☺

The Committee is getting busy planning the Awards Banquet. The banquet will, once again, be held at the Old Spaghetti Factory in Tukwilla on Friday March 27<sup>th</sup> at 6:30 PM. We will have information for you at the general meeting. Please plan to attend this annual event. You will not be disappointed.

We are also working on the Flea Market. We will have a table on the second floor next to the General Store once again this year. Be sure you stop by and say 'Hi'. If you have any club history information, you'd like to share, please bring it to the February General meeting, or send it to me via e-mail, [gamatoad24@comcast.net](mailto:gamatoad24@comcast.net).

The 40<sup>th</sup> anniversary T-shirt campaign resulted in a few designs from the general membership. Rachelle Gill, KG7QCN is digitizing each and will present to the general membership for a vote. We will have the ordering information at the March general meeting.

For our February 21<sup>st</sup> committee meeting we will be meeting at the IHOP on Rainer in Renton following the program. The all you can eat pancakes campaign is going on now, so please feel free to join us over lunch and meeting. We value your input. This is **your** club. We are here for **you!**

Our January meeting was attended by: Monica Cook—KF7QLX, Ric Danielson—K7RIC, Rita Danielson—KD7CNU, Rachelle Gill—KG7QCN, Robert Grinnell—KD7WNV, Kathy Martin—KB7QMO, David Smith—KB7PSN.

Sub-committee met at a different restaurant, but stopped by the Hacienda Santa Fe to give a report: Gary Bryan—KG7KU, James Wraalstrad—WQ7H, Joan Wraalstrad—no call.

Please feel free to give us any input or share your concern. You can e-mail the committee at [mikeandkeymembers@gmail.com](mailto:mikeandkeymembers@gmail.com)

Respectfully, Rita Danielson—KD7CNU

[Reference: There is a web page describing the competition-  
[http://mikeandkey.org/Tshirt\\_design.htm](http://mikeandkey.org/Tshirt_design.htm).]

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### M&K Member Got Married!

Contributed by Dave Smith KB7PSN

**Pictured here: Dan Aalberg  
KG7DAB, with wife Miriam.**

**They were married in Seattle  
area on Saturday, Jan 24, 2015.**

**Congratulations to the  
happy couple!**



## K7LED Relay

### M&K Radio Officer's Report

By Hal Goodell N7NW

Not much is happening with the repeater during these winter months. I did make it up to the repeater site a couple of weeks ago when the weather was pretty good. Did some inspection and added radials to the antenna with hope it would improve the SWR, but no change. Will be scheduling a work party later this spring or early summer to look into this more and perhaps remove the antenna for more detailed inspection.

I thought I would start to provide some monthly information on what is happening on the HF and VHF bands. This might provide our members with some information and hopefully some interest in getting on those bands to make some contacts.

For those who have been paying attention, K1N has been operational from Navassa Island. This is a really rare DX and in the top ten of the needed countries. Operation from Navassa has been very limited due to environmental concerns for quite a while. The last time I worked Navassa was in 1988. And I don't think it has been operational since. Well that is the good news, if you managed to snag a contact through the pileups. If not, well you are going to be too late. The operation ended on February 14<sup>th</sup>.

So how does one keep up with what might be happening in the world of DX? Well I have a favorite web site that lists all of the DXpedition operations that are currently ongoing and those that are planned for about a year in advance.

This is the webpage:

<http://www.ng3k.com/Misc/adxo.html>.

On this site you can find out when the expeditions are going to be operational, links to their specific webpages, QSL information and Call Signs. You can also click on the "spots" link and up pops a page showing the DX station, where he is operating and who is currently working them. It is a great aid.

Another great site to see where the band is open from your QTH is:

<http://www.dxmaps.com/spots/map.php?Lan=E&Frec=28&ML=M&Map=NA&DXC=N&HF=S&GL=N>.

Here you can click on any of the HF bands at the top and see lines which show who is working who. These are added to the map when someone initiates a spot of a station that they have worked. This can be done from many different logging programs or clusters. You can expand the map to look at the world or any continent.

Well that's all for now, I'll see what other gems we can come up with next month. You can always check out what contests might be going on by doing a google search for "ham radio contests". Here is one link <http://www.hornucopia.com/contestcal/contestcal.html>.

-Hal Goodell N7NW, Radio Officer

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VE-Class: National Guard 11-Jan-15

By Daniel Stevens KL7WM



Here are some pictures for the Technician Licensing Class at the National Guard Preparedness Center at JBLM on January 11, 2015. This was a two-day class and 30 passed their test and got an Amateur Radio License. One also passed his General test.

One is of the Teaching/VE

Team minus Bill Balzarini, KL7BB, who was taking the pictures.

Major Daniel Wojciechowski presented certificates and the 66th TAC Coin to each team member. William Andrea Leneweaver presented the DEM coin to each member of the VE Team.

This was a big surprise to the team. Licensing new Hams is generally all the reward we need.

It is very nice to be thanked in special ways.



CERT Training Opportunities

By Jim Monson K7JGM

Below are a couple CERT training opportunities:

1- For those interested in CERT, Kent OEM will be rolling out a CERT class in Kent starting in April, and SeaTac / Burien is currently looking to do the same starting in mid-April and running through May. Register for the Kent Class via the Kent RFA website. Requests for information / registration regarding the ST/Burien classes should be sent to CSO Mechee Burnett (STPD) at Mechee.burnett@kingcounty.gov.

2- CERT class #6 here in Tukwila and registration has opened. This class will run Wednesday evenings, 6-9pm, from 4/22-6/3. The final drill will be Saturday, 6/6, from 8am-12pm. Please feel free to share this as appropriate. If you know of anyone interested in attending, please have them forward me a completed training application.

73, Jim Monson K7JGM  
Sea-Tac ARES EC / STAR  
206-245-8485 / K7JGM@ARRL.NET

Mike & Key Annual Awards Banquet

Friday, March 27, 2015

On behalf of the Mike & Key Awards Membership Committee, you are invited to join us as we recognize those who have contributed to the Club in special ways – above and beyond.

When: Friday, March 27, 2015

Where: Old Spaghetti Factory  
17100 Southcenter Pkwy, Suite #160  
Tukwila, WA 98188

Cost: \$10.00/person (which is a reduced price after the Club subsidy. The M&K Club will also provide appetizers).

Menu: Your choice of one of the following: Angel Hair Pomodoro, Meat Lover's Treat or Breast of Chicken Fettuccine. The meal comes with a crisp salad with ranch dressing, hot fresh baked bread, coffee, hot tea, iced tea or milk, and their signature spumoni ice cream dessert. The cost of any other beverage or food will be your responsibility.

Door prizes will be given out at this event.

Schedule for the evening:  
– Banquet will start with appetizers at 6:30pm  
– Dinner will be served at 7:00pm  
– Event ends at 9:00pm

Seating is limited, so reserve your place as soon as possible. Tickets will be sold at the general meetings in February and March. This event is by ticket only.

Looking forward to seeing you there!

February 2015

K7LED Relay

## Low-Cost Windows Tablets

By Peter Glaskowsky K4PNG, Activities Manager

I recently bought two different low-cost Windows tablets that may be worth considering for amateur radio station control and software-defined radio processing. Both are what's known as "Bay Trail" tablets, after the Intel code name for the Atom processor and chip set found inside. This processor has four CPU cores that can run at speeds from 1.33 GHz to 1.83 GHz depending on temperature and workload. Both tablets have 1 GB of RAM, 1,280x800-pixel LCDs, microSD card slots, and come with a 1-year subscription to Microsoft Office 365 Personal.

Unlike older, more expensive Windows tablets, these are built like Android tablets; for example, they charge through micro-USB ports instead of dedicated DC power inputs. (Regular USB devices such as flash drives can be connected through a cable commonly known as a "USB OTG adapter" that you will have to buy separately.)

The nicer one of the two is an **HP Stream 8**:

([www.amazon.com/dp/B00NSHLUFQ](http://www.amazon.com/dp/B00NSHLUFQ)), which has an 8" display and 32GB of flash storage. As of this writing, its usual price of \$179.99 has been discounted to \$149.99 at Amazon. The unique feature of this tablet is that it has a built-in 4G data modem and includes T-Mobile's "Free 4G for Life" plan, which provides 200 MB of data per month at no charge for the life of the device.

(More data can be purchased by the day, week, or month at the industry-standard rate of \$10 per gigabyte.)

Perhaps the more interesting tablet, however, is the **WinBook TW700 from MicroCenter**:

([www.microcenter.com/product/439773/TW70CA17\\_Tablet\\_-\\_Black](http://www.microcenter.com/product/439773/TW70CA17_Tablet_-_Black)), which has a 7" LCD. It's just \$59.99 (under \$66 delivered!) and has a couple of nice features the HP lacks. In addition to the usual micro-USB 2.0 port, it also has a full-size USB 3.0 port, which means the tablet can be charged while being used with external USB devices, and it works with the latest USB peripherals without needing that OTG adapter cable. It also has a micro-HDMI video output, which is unusual on low-cost tablets.

Either of these devices should be fine for station control and basic SDR operations with a SignaLink USB or similar interface. They do fall short of the recommended performance for high-end SDR applications like FlexRadio's PowerSDR, but considering that FlexRadio transceivers are priced from \$699 to \$7,499, a dedicated laptop would probably be a more appropriate choice there. I use an older Windows tablet with my own station and find it convenient to be able to just poke at the screen to accomplish simple tasks... though I still use a keyboard when I need to do a lot of typing. These new, cheaper tablets look like an interesting and much more affordable alternative.

## M&K Board Post: By-Law Revision Proposal

N. Michael Hansen  
Attorney at Law  
4157 W. Mercer Way  
Mercer Island, WA 98040  
WSBA 1509  
January 7, 2015

To the Executive Board of the Mike and Key ARC:

The Board's discussion at the meeting last night included whether By-Law 2.02 A should be amended to give members who are more than 90 days late paying their dues additional means to reinstate their General or Family memberships.

It appeared to be the consensus of the Board that, with the approval of the Board, such lapsed memberships should be capable of reinstatement with continuous seniority without reapplying as a new member. The Board may wish to have discretion to waive past dues in appropriate cases. Overseas service members were mentioned as possible subjects. The proposed amending language below could accomplish these goals, if desired.

If two additional members of the Board endorse the following terms (or if three General members endorse alternative wording), the Board can vote on the proposed amendment at its February meeting. Upon publication in the Relay with the names of the proposers and the recommendation of the Board, the amendment can be voted on at the next General Membership meeting which takes place 20 days or more after publication.

It is proposed that Article 2.02 A be amended by adding the following sentences at the end:

The Executive Board may authorize the Treasurer to accept payment of past and future dues in order to reinstate memberships with seniority which have lapsed due to non-payment of dues. Reinstatement shall be on a case-by-case basis, shall not constitute precedent, and may be on such terms as the Board considers just.

1. N. Michael Hansen, member since 1991

2. *Daniel Stevens K4TWM*

3. *David P. Smith*  
*Chris Smith WA4WV*  
*Michael Hansen K7JGM*

## ESCA/RACES: Tech & Extra Classes

By Robert Grinnell KD7WNV

The RACES group of the Emergency Services Coordinating Agency (ESCA) will offer a **Technician Class** License course this spring on Monday evenings, 7:00 - 9:00 PM, at the Brier City Hall [2901 228th Street SW , Brier , WA 98036]. The course will run eight weeks, beginning March 30, 2015. The FCC license exam will be administered on the eighth week, May 18. The FCC exam fee is \$15. There is no charge for the course itself.

The textbook for the Technician Class License course is the ARRL Ham Radio License Manual, 3rd Edition (for question pool July 1, 2014 to June 30, 2018). It may be obtained through the ESCA office for the discounted price of \$25, if ordered by Monday, March 16. It is recommended, though not required, that students obtain the textbook for their course and read Chapters 1 and 2 prior to the first night of class.

Contact the Course Manager, Vickie Fontaine, at 425-776-3722 or [vickie@esca1.com](mailto:vickie@esca1.com) to register or ask questions about getting started in Amateur Radio.

The RACES group of the Emergency Services Coordinating Agency (ESCA) will offer an **Extra Class** License course this spring on Monday evenings, 7:00 - 9:00 PM, at the Brier City Hall . The course will run eleven weeks, beginning March 9, 2015. The FCC license exam will be administered on the eleventh week, May 18. The FCC exam fee is \$15. There is no charge for the course itself.

The textbook for the Extra Class License course is the ARRL Extra Class License Manual, 10th Edition (for question pool July 1, 2012 to June 30, 2016). It may be obtained through the ESCA office for the discounted price of \$25, if ordered by Monday, February 23. It is recommended, though not required, that students obtain the textbook for the course and read Chapters 1 and 3 prior to the first night of class.

Contact the Course Manager, Vickie Fontaine, at 425-776-3722 or [vickie@esca1.com](mailto:vickie@esca1.com) to register.

**The Brier City Hall address is: 2901 228th Street SW , Brier , WA 98036 .**

**73, Robert Grinnell, KD7WNV,  
ESCA RACES Training Officer**

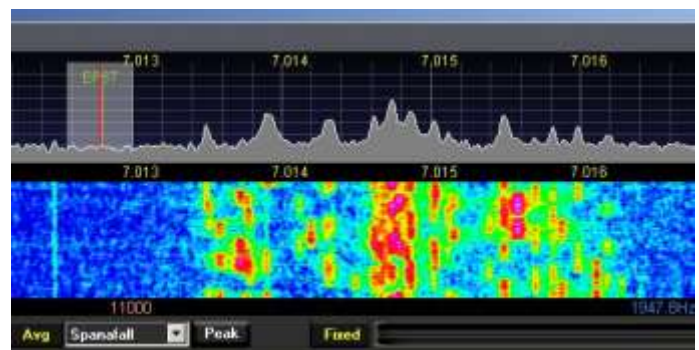
## Visual DXing

By Michael Dinkelman N7WA

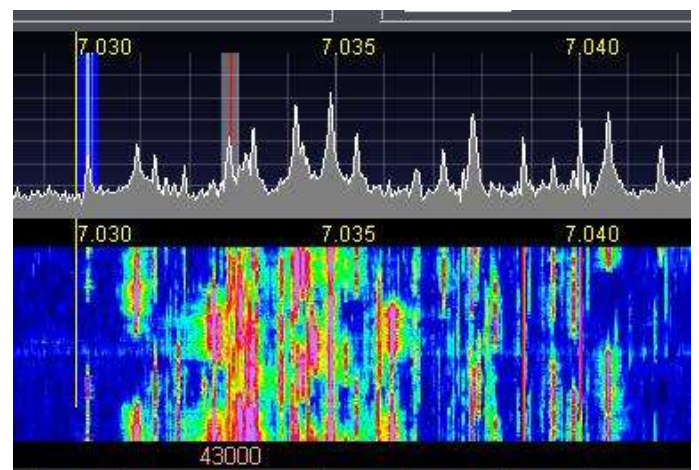
I mentioned last month about the K3 I recently acquired. One of the benefits has been the ability to drive a pan-adaptor. (For the newbies, that's a spectrum display of the band you are working.)

Many of the new radios have one built-in as part of the radio display. Mine is displayed on my computer screen which gives me the ability to screen capture interesting events.

The pan-adaptor has added a visual element to my radio operations. I can see signals before I hear them, watch noise sources, jammers, pileups, and I can monitor large sections of the band I am on. There have been two relatively popular DXpeditions this past month - EP6T over in Iran and K1N in the Caribbean. I attached screen shots from both; each down on 40Meters CW. In both, the target station is over on the left side. The mass of bright colored lines are the hoards looking for a contact. Pity the poor operator on the other side trying to find a readable signal in that mess.



**EP6T screen shot**



**K1N - Screen Shot**

## From January Relay: M&K-FM'15... A Flea-Market Primer [-March 7, 2015-]

By Michael Dinkelman N7WA

What is this Fleamarket thing-a-ma-gig coming up? For those that are new to the Club, this article is an attempt to provide relief from the blank stares I get when I ask if someone wants to sign up and work the event. It describes what the Flea-market is, its importance to the Club, the level of support required, and the job categories involved.

**What is it?** The Mike & Key Flea-market is a one-day Hamfest held on a Saturday during the first part of March of each year. (For those who care about such things, it's the 10<sup>th</sup> full weekend of the year not counting weekends that includes New Year's Day.) This year, that will be March 7<sup>th</sup>. It's held at the Pavilion Exhibition Building on the Western Washington Fairgrounds in Puyallup. This is a two story building with 40,000 sq. feet of exhibition space. The event requires setting up over 300 tables and accommodating 600 sellers and their helpers. We typically draw 1700-2000 people through the door. While this is a one-day event for the public; for the Club, it requires an additional day of set-up on Friday. This Fleamarket will be our 34<sup>th</sup>. After so many years, it's a tradition in the Pacific Northwest and arguably the largest Hamfest in the region... certainly in Washington State. We draw vendors from the entire West Coast and buyers from Canada, Washington, Oregon, and Idaho.

**Why do it?** Well, it's a heck of a lot of fun but primarily, it's a fundraiser for the Club's activities. Because of this event, we can keep the dues at a ridiculously low rate of \$12. It's been calculated that if we lost the Flea-market and had to rely on dues alone that we would need to have dues in the \$60-70 range to maintain current levels. More likely, we would just have to de-fund a number of activities or charge members extra to participate. We also use the funds to help produce our yearly *Special Events and Information Guide* Booklet given away freely at the event and at the yearly Communications Academy event.

**Club Support.** Because all of our members benefit directly, it's really a responsibility of our members to participate in making this event happen. It takes a minimum of 120 people to run this event smoothly. We accept help from non-members too so if you can talk your spouse into it or have some reliable friends, we would be happy to include them in the worker community. All workers receive a badge that entitles them to be on the premises during setup hours just like the sellers. That gives you a head start on finding the best deals (a very nice perk if you've ever fought the crowds). We have a number of different areas that require workers and they support all types of physical limitations. No area is any more important than another though some may require some expertise or on-the-job training. Members may sign up using an on-line sign up tool (Volunteer Spot), sending email to [n7wa@arri.net](mailto:n7wa@arri.net), or catching me at a Club meeting. The on-line tool includes worker descriptions. Members are encouraged to work in several areas throughout the event.

**Security** - probably the simplest of worker assignments, it's important none-the-less. Your job depends on where you are assigned however, it usually involves walking the aisles watching for people lifting covers off of tables and making sure everyone has a badge. From 8-9AM on Saturday, we need a large contingent of security at the entrance doors prior to letting the crowd in. We do hire two professional guards to provide security out at the ticket booths and to handle issues that might require their level of help. Security is active during setup hours (2PM-7:30PM Friday, 5:30-AM-8:30AM Saturday). Physically, you should be able to stand and/or walk for extended periods of time. We also have positions sitting down in front of the loading doors watching for badges.

**Tickets** - working the ticket booths does require some expertise at handling money (making change) and the ability to work under pressure. There will usually be two of you in a booth. We sell tickets from 8AM - 2PM Saturday. This is an important job and because you are handling Club funds, it's limited to Club members and their spouses. There are two other ticket related jobs - taking tickets and hand stamping. Those jobs are outdoors so be prepared for the weather of the day.

**Announcing** - a willingness to interface with the public is good here. You'll be answering questions and providing limited announcements. Announcing is also where the talk-in station is located and the door prizes are drawn. No physical requirements here, you can sit indoors the entire time. Announcing is active from 2PM-7PM Friday and 5:30AM-3PM on Saturday.

**Country Store** - this is our consignment area. People bring in items here when they don't have enough to fill their own table. (Workers can place items in the Country Store too and sell them commission free.) A working knowledge of equipment is helpful in this area and you will be dealing with the public. The Country Store runs from 2PM-7PM Friday and 5:30AM-3PM on Saturday. No physical limitations.

**Loading Dock** - this area requires the most number of people. You need to be able to work in a team environment. There is some physical labor required here. We don't load people's equipment but we do move empty pallets by hand and full pallets using "jacks". You are working mostly under cover outdoors. This job takes a bit of on-the-job training to learn the system but it's not difficult. You will be interfacing with our vendors and a good attitude is important as they can be cranky at times. The loading dock is active from 2PM-7:30PM Friday, 5:30-AM-8:30AM Saturday, and 3PM-6PM Saturday.

**Registration/Traffic Control** - if you are interested in registration, please contact Diane at [dmdink@clearwire.net](mailto:dmdink@clearwire.net) or 253 631 3756. Registration hands out vendor packets and sells tables but job requirements are very specific and it's best you talk to Diane before committing. Her greatest needs are in the area of traffic control. Traffic Control mans the incoming and outgoing gates plus the choke point at the loading dock. This involves being outdoors in the weather and standing for extended periods of time. (These are usually very special people but highly appreciated.) This area is active from 2PM-7:30PM Friday, 5:30-AM-8:30AM Saturday, and 3PM-6PM Saturday (loadout).

**Setup** - On Friday, from 9AM to 2PM, a large number of workers are needed to help setup the Pavilion. This mostly involves setting up 300+ tables and 400+ chairs. It's physical work but important. We work in pairs (mostly) to reduce the burden. Also, at this time, Announcing, Registration, and Country Store will be getting ready to open at 2PM. We do provide lunch at noon on Friday for our setup workers.

**Teardown** - often forgotten, we need just as many people to help teardown the tables starting at 3PM on Saturday as we did setting up on Friday. If you aren't involved in performing loading dock duties or traffic control, we need you to stay on and help teardown and cleanup. Yes, we are all tired but it needs to be done.

**Administration, VE Examiners, Hospitality** - these areas have specific requirements and are not generally open to public signups. If you have an interest in giving VE Exams, contact Scott [ag7t@arri.net](mailto:ag7t@arri.net). For Admin or Hospitality, see an event Chairperson.



M&K Photos From Our January 2015 General Meeting

By Ric Danielson K7RIC



Our very own Peter Glaskowsky K4PNG, M&K Activities Manager, gave a very informative presentation.



Rich Hand K7RFH, 5 years



George Thornton AE7G, 5 years



Carl Reynolds N7CJR, 5 yrs



Jim Monson K7JGM

Let's Celebrate our February Members!

By David Smith, KB7PSN, Treasurer

This month, Dean Holtan becomes a Life Member in the Club. Congratulations!

As of February, 2015, these folks have been Mike & Key members for the number of years stated. Congratulations to all of you, and thanks for your participation and service.

Happy Anniversary this month!  
Each of you makes us who we are.

Hal Goodell	N7NW	41 Years
Wayne Moddison	K6DOW	30 Years
Dean Holtan	N7XS	25 Years
Sandra Dunkel	K7OZY	24 Years
Richard Danielson	K7RIC	21 Years

Adrian Roth	KB7BVL	19 Years
Paul Roth	N7DOH	19 Years
Brendan Burget	KD7IKV	15 Years
Curtis Hanner	N7MWC	15 Years
Dawn Hanner	N7VWH	15 Years
Paul Donnor	KD7SSD	12 Years
Chuck Richardson	N7LMT	10 Years
David Brinkmann	N7UNN	7 Years
Roger Eck	KF7GDD	5 Years
Randy Stagers	K9VD	5 Years
John Swafford	IIW7MEU	5 Years
Jim Monson	K7JGM	2 Years
James Wraalstad	WQ7H	2 Years
Dan Aalberg	KG7DAB	1 Year

\* Life Member, having been with club for 25 years or more.

Several reasons why you do NOT want to miss our next Holiday Party!

Photo's by Ric Danielson K7RIC



[Continued on Page 11]





### M&K General Meeting Minutes

By James Wraalstad WQ7H, Secretary  
Meeting held January 17, 2015

The meeting was called to order at 10:03 by the President, Ivy WA7IVY.

Pledge of Allegiance.

Member and Guest Introductions.

#### Announcements:

The Mike & Key ARC is affiliated with the ARRL, which members are encouraged to join. Everyone, including visitors, should sign the rosters. Visitors are reminded not to vote on membership matters.

#### Officer Reports:

President - Ivy WA7IVY: In the relay.

Secretary - Jim WQ7H: No report.

Treasurer - Dave KB7PSN: The books are in order. The books have been audited.

Activity Manager - Peter K4PNG: No report. The program is by Peter: Computer aided amateur radio.

Chairman of the Board - Monica KF7QLX: No Report

Radio Officer - Hal N7NW: Everything is fine.

Vice-President - Rachelle : A quorum was present.

Scott AG7T made a motion to approve the minutes as published on the web site. Gil W7GIL seconded and the motion carried.

Rob Adams KC7FBN has submitted a membership application. He has been accepted for membership.

The following members were recognized:

**George Thornton AE7G 5 years ; Carl Reynolds N7CJR 5 years ; Linda Jordan 5 years ; Rich Hand K7RFH 5 years Donald Cain 5 years.**

#### Editor Reports:

Relay Editor - Gary KG7KU: Thanks to everyone for their contributions. Please send your articles in to Gary.

Webmaster - Jim KD7BAT: Addition of the current Relay to the web. There is a link to the presentation Peter presented today.

#### Committee Reports:

Membership - Rita KD7CNU: Membership Committee will meet in January after the general meeting. Planning the awards banquet is continuing. T-shirts for the Fort Flagler Memorial Field Day Event have been designed and will be presented at the February general meeting.

Facilities: Daniel KL7WM: The reservation for the picnic has been made.

Education and Training - Jim K7JGM: There will be community training in Seatac. Contact Jim for more information. Classes are listed in the Relay and on the web. There is a digital net on 145.33 (Bears repeater) Thursday evening at 8:00pm. Robert KD7WNV: There will be an Extra class in Briar beginning in March after the flea market. There will be Tech classes on Monday nights later in March.

Public Service - Robert KD7WNV:

Work is progressing on the Public Service Booklet.

Technical and Special Interest - Gary KF7TBC: No report.

VE Exams - Scott AG7T: Last month there were 11 exams given, 6 tech, 3 general, and 2 Extra passed.

**Flea Market** - Hal N7NW : Please sign up. This is your big chance to help the club and it is lots of fun. It is the big fund raiser for the club. There will be a program all about the Flea Market in February. Mike Dinkelman is using "Volunteer Spot" to handle the sign up procedure. Please contact Mike N7WA for an email invitation to get signed up. Mike reports that the flyers have been mailed.

Field Day - Ivy WA7IVY: Monica KF7QLX has placed pictures of the trailer in the relay. The next step is to put the axel on then mount new lights.

Logo Committee - Jim N7MU: No report.

Audit Committee: Sam N7RHE: The books were audited and everything is in good shape and Dave is doing a great job. (Dave received a standing ovation)

**Old Business:** None

**New Business:** Nominations are open for the election of officers. Ivy WA7IVY has nominated Dave as treasurer and he has accepted. Tim K7ANE would like to encourage all clubs members to run for office. Steven Luke KB7FGV has nominated Mike N7WA for president who has accepted.

Alligator Award: Dean N7XS continues to hold the plush pet.

**For the good of the order:** Jim KD7BAT: We raised \$476 for the Salvation Army with the kettle. Gary KG7KU: The pallet crew is a great place to help the Flea Market.

The next Mike & Key Board meeting will be on the first Tuesday of the month, February 3rd, at 7:15pm at the Salvation Army in Renton.

The next Mike & Key General Membership meeting is on the third Saturday of the month, Feb 21st at 10:00am, at the Salvation Army in Renton.

AE7XQ made a motion to close the meeting and was seconded by Arlene Hand KF7NDO. The motion passed. The meeting was adjourned at 10:38 hours.

Guests 3, Members 65, ARRL Members 54.

**Attested: James Wraalstad WQ7H, Secretary**



**M&K Board Meeting Minutes**

By Jim Wraalstad WQ7H, Secretary  
Mtg Held 3-February-2015

**Officers present:**

X President	Ivy Nelson-Groves	WA7IVY
X Vice President	Rachelle Gill	KF7QCN
X Secretary	Jim Wraalstad	WQ7H
X Treasurer	Dave Smith	KB7PSN
X Activities Manager	Peter Glaskowsky	K4PNG
X Radio Officer	Hal Goodell	N7NW

**Trustees present:**

X No. 1	Jim Monson	K7JGM
X No. 2	Monica Cook (CoB)	KF7QLX
__No. 3	Gary Anderson	KF7TBC
__No. 4	Tim Kane	K7ANE
X No. 5	Daniel Stevens	KL7WM

**Other officers (non-voting)**

X Relay Editor	Gary Bryan	KG7KU
__Webmaster	Jim Etwiler	KD7BAT

**Visitors:**

Michael Hansen KG7MX  
Michelle Cross WB7AYU  
Steve Cook KD7IQL

The COB Monica KF7QLX called the meeting to order at 7:23 p.m. IVY WA7IVY made a motion to approve the August board minutes as amended. Peter K4PNG seconded. The motion passed.

**Reports:**

President Ivy WA7IVY: No Report

Vice President Rachelle KF7QCN: No Report

Secretary James WQ7H: No Report

Treasurer Dave KB7PSN: The books are in order. Expenses have been paid.

Activities manager Peter K4PNG: Mike Dinkelman N7WA will be presenting the "Flea Market" program in February. Peter will be doing an article in the Relay about inexpensive Windows 8 tablets suitable for use with Amateur Radio.

Radio Officer Hal N7NW: There was a power loss at the repeater site and the repeaters were down because the batteries were drained due to the length of the power outage.

Relay editor Gary KG7KU: Thanks everyone for their articles. There will be some pictures from the December holiday party in the next Relay.

Webmaster Jim KD7BAT: No Report

**Trustee Assignments:**

Chairman of the Board Monica KF7QLX: Monica is working on a web based Membership Application.

Membership Monica - KF7QLX: No report.

Facilities - Daniel KL7WM: No report.

Education & Training - Jim K7JGM: Classes are listed on the web. ICS level 300 and 400 training for leadership is coming up. They are 2 to 3 day long classes. Level 100, 200, 700, and 800 are prerequisites.

Public Service – Tim K7ANE: no report

Field Day - Ivy W7IVY: The field day operatives are looking for a storage space for the equipment trailer.

Picnic Hal - N7NW: No report.

Technical – Gary KF7TBC: No report.

**Flea Market:** Hal N7NW – Next meeting is February Tuesday the 10th.

There are about 40 tables left upstairs.

**Old Business:** Michael Hanson KG7MX presented a Bylaws Modification for Section 2.02A regarding reinstatement of membership. Daniel KL7WM made a motion that the Board endorses the amendment and Jim Monson seconded. The motion passed. The amendment will be presented at the February general membership meeting and in the Relay.

**New Business:** None.

**Good of the order:** None.

Next Board meeting will be on Tuesday March 3<sup>rd</sup>, 2015 at 7:15 pm at the Salvation Army Building in Renton.

There being no further business, the COB Monica KF7QLX adjourned the meeting at 8:02 pm.

**Attested: James Wraalstad WQ7H, Secretary**

Contributed by Greg Pietrucha W7HRC... "Here is something I ran across..."

(Source: The Motley Fool - <http://boards.fool.com/the-history-of-the-car-radio-30150454.aspx>; Author: [Dwdonhoff](#) ).

## HISTORY OF THE CAR RADIO

Seems like cars have always had radios, but they didn't.

Here's the story:

One evening, in 1929, two young men named William Lear and Elmer Wavering drove their girlfriends to a lookout point high above the Mississippi River town of Quincy, Illinois, to watch the sunset.

It was a romantic night to be sure, but one of the women observed that it would be even nicer if they could listen to music in the car. Lear and Wavering liked the idea. Both men had tinkered with radios (Lear served as a radio operator in the U.S. Navy during World War I) and it wasn't long before they were taking apart a home radio and trying to get it to work in a car.

But it wasn't easy: automobiles have ignition switches, generators, spark plugs, and other electrical equipment that generate noisy static interference, making it nearly impossible to listen to the radio when the engine was running.

One by one, Lear and Wavering identified and eliminated each source of electrical interference. When they finally got their radio to work, they took it to a radio convention in Chicago.

There they met **Paul Galvin**, owner of **Galvin Manufacturing Corporation**. He made a product called a "battery eliminator", a device that allowed battery-powered radios to run on household AC current.

But as more homes were wired for electricity, more radio manufacturers made AC-powered radios.

**Galvin** needed a new product to manufacture. When he met Lear and Wavering at the radio convention, he found it. He believed that mass-produced, affordable car radios had the potential to become a huge business.

Lear and Wavering set up shop in **Galvin's** factory, and when they perfected their first radio, they installed it in his Studebaker.

Then **Galvin** went to a local banker to apply for a loan. Thinking it might sweeten the deal, he had his men install a radio in the banker's Packard. Good idea, but it didn't work - Half an hour after the installation, the banker's Packard caught on fire. (They didn't get the loan.) **Galvin** didn't give up.

He drove his Studebaker nearly 800 miles to Atlantic City to show off the radio at the 1930 Radio Manufacturers Association convention.

Too broke to afford a booth, he parked the car outside the convention hall and cranked up the radio so that passing conventioners could hear it. That idea worked -- He got enough orders to put the radio into production.

### WHAT'S IN A NAME...

That first production model was called the 5T71.

**Galvin** decided he needed to come up with something a little catchier. In those days many companies in the phonograph and radio businesses used the suffix "ola" for their names - *Radiola, Columbiola, and Victrola* were three of the biggest.

**Galvin** decided to do the same thing, and since his radio was intended for use in a motor vehicle, he decided to call it the Motorola.

But even with the name change, the radio still had problems: When Motorola went on sale in 1930, it cost about \$110 uninstalled, at a time when you could buy a brand-new car for \$650, and the country was sliding into the Great Depression.

(By that measure, a radio for a new car would cost about \$3,000 today.)

In 1930, it took two men several days to put in a car radio -- The dashboard had to be taken apart so that the receiver and a single speaker could be installed,

and the ceiling had to be cut open to install the antenna.

These early radios ran on their own batteries, not on the car battery, so holes had to be cut into the floorboard to accommodate them.

The installation manual had eight complete diagrams and 28 pages of instructions. Selling complicated car radios that cost 20 percent of the price of a brand-new car wouldn't have been easy in the best of times, let alone during the Great Depression --

**Galvin** lost money in 1930 and struggled for a couple of years after that. But things picked up in 1933 when Ford began offering Motorola's pre-installed at the factory.

In 1934 they got another boost when **Galvin** struck a deal with B.F. Goodrich tire company to sell and install them in its chain of tire stores.

By then the price of the radio, with installation included, had dropped to \$55. The Motorola car radio was off and running. (The name of the company would be officially changed from **Galvin Manufacturing** to "Motorola" in 1947.)

In the meantime, **Galvin** continued to develop new uses for car radios. In 1936, the same year that it introduced push-button tuning, it also introduced the Motorola Police Cruiser, a standard car radio that was factory preset to a single frequency to pick up police broadcasts.

In 1940 he developed the first handheld two-way radio -- The Handy-Talkie - for the U. S. Army.

A lot of the communications technologies that we take for granted today were born in Motorola labs in the years that followed World War II. In 1947 they came out with the first television for under \$200.

In 1956 the company introduced the world's first pager; in 1969 came the radio and television equipment that was used to televise Neil Armstrong's first steps on the Moon.

In 1973 it invented the world's first handheld cellular phone. Today Motorola is one of the largest cell phone manufacturers in the world. And it all started with the car radio.

### WHATEVER HAPPENED TO...

the two men who installed the first radio in Paul Galvin's car?

Elmer Wavering and William Lear, ended up taking very different paths in life.

Wavering stayed with Motorola.

In the 1950's he helped change the automobile experience again when he developed the first automotive alternator, replacing inefficient and unreliable generators. The invention led to such luxuries as power windows, power seats, and, eventually, air-conditioning.

Lear also continued inventing. He holds more than 150 patents. Remember eight-track tape players? Lear invented that.

But what he's really famous for are his contributions to the field of aviation. He invented radio direction finders for planes, aided in the invention of the autopilot, designed the first fully automatic aircraft landing system, and in 1963 introduced his most famous invention of all, the Lear Jet,

the world's first mass-produced, affordable business jet. (Not bad for a guy who dropped out of school after the eighth grade.)

*Sometimes it is fun to find out how some of the many things that we take for granted actually came into being!*

AND

*It all started with a woman's suggestion!!*

*Thank you ladies,*

So listen to your wife when she suggests something. It might make you rich.

## M&K Library Offers Many Resources

By Tim Kane K7ANE & Toku Okumura AD7JA

Some of our new members may not be aware of a great membership benefit - borrowing an MFJ Antenna Analyzer from the club library. Toku, our librarian, has assembled some 20 pieces of test equipment to add to that loaner library. This equipment is available for members use for your special projects, for training or education purposes (the ARRL has some good electronics courses), or simply to get hands-on experience. The stuff ranges from vintage analog meters to power supplies, watt meters, oscilloscopes, even a microscope.

If what you want to borrow is a small item, simply contact Toku to bring it for you to the next meeting. Or stop in to his shop to look over his inventory.

### Here's the complete current list:

- 1) MFJ-249 and MFJ-259 Antenna Analyzers
- 2) MFJ-874 1.8 to 525 MHz SWR/Wattmeter
- 3) Tektronix #7503 Oscilloscope (71380-7A26YZ)
- 4) Philips #7503 (71380-7A26X2) Oscilloscope
- 5) Astron #SL-11A 12V Power Supply
- 6) Astron #RS-20A 12V Power Supply (2 sets)
- 7) Astron #VS-50M 12V Power Supply
- 8) EICO #1064S 0-20V Power Supply (2 sets)
- 9) Bird Model #43
  - 10W (25-60MHz)
  - 25W (25-60MHz) (100-250MHz)
  - 100W (100-250MHz) (400-1000MHz)
  - 250W (25-60MHz)
  - 500W (2-30MHz)
  - 1000W (2-30MHz)
- 10) Bird #8135 150W Dummy
- 11) EICO #235 Analog Meter (VTVM)
- 12) Simpson #250 Analog Meter (VTVM)
- 13) Fluke #8010A Digital Multimeter
- 14) Micronta #22-175A True RMS Multimeter
- 15) Brunel Instrument #3030 Function Generator
- 16) Tenma #72-5005 2.4 GHz Multifunction Counter (2 sets)
- 17) Fluke / Philips #PM5712 Pulse Generator (1Hz-50MHz)
- 18) EMT Series Stereo Microscopes
- 19) VIZ #WP-29A Monitor AC Voltage and Isolation Transformer
- 20) Training Systems #20500B #40600 #50200 #60100



The library is maintained and serviced by M&K Librarian Toku Okumura, AD7JA, at his television service company, Skyway TV, at 11818 Renton Ave. S, Seattle 98178. Tel: 206-772-2450. For more information, opening times and a map, go to his website:

<http://www.skywaytv.net/>. Please come by and browse!

## Pacific Northwest Hamfairs & Events

Source: PNW Hamfair webpage at <http://www.n7cfo.com/amradio/hf/hf.htm>. (Used with Permission)

Link: [The Pacific Northwest Hamfair and Events Calendar](#)

Also: [Western Washington Amateur Radio Licensing Classes, Training Classes and Examination Sessions](#)

**February 22.** Burnaby ARC Swapmeet, New Westminster, BC. [http://rac.eton.ca/events/detail.php?event\\_ID=1714](http://rac.eton.ca/events/detail.php?event_ID=1714)

**March 7.** Mike & Key Swap Meet. Puyallup fairgrounds exhibition hall, Puyallup, WA. This is an ARRL sanctioned event. <http://www.mikeandkey.org/flea.htm> [Flyer in PDF](#) (62K)

**March 21.** MicroHams Digital Conference. Redmond, WA. This is an ARRL sanctioned event. <http://www.microhams.com>.

**April.** ARRL Idaho State Convention. Boise, ID, Voice of Idaho ARC. **Canceled.**

**April 11.** Yakima Hamfest. Yakima, Washington. Selah Civic Center, 216 South 1st Street, Selah, WA. <http://yakimaamateurradioclub.com/yakima-hamfest/>

**April 11 & 12.** Communications Academy. Seattle, WA. This is an ARRL sanctioned event. <http://www.commacademy.org>

# Ham Nets & Events – 2015 – February / March / April

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
<b>15</b> 1900 – NWWA-LDS Net 147.34 (Weekly) 2000 – King Co. ARES Net 147.08 (Weekly) 2200 – NW Astronomy Net 145.33 (Weekly)	<b>16 Presidents' Day</b> 0545 & 1645 – Weather Net 145.33 (M-F) 1830 – WA Emerg. HF Net-ARES 3.985 (Weekly) 1900 – Seattle ACS Net 146.90 (Weekly) 1930 – PSRG Net 146.96(Wkly)	<b>17</b> 2000– American Red Cross /SeattleTeam Net 441.550 (+103.5) (Weekly) 2000 – Snohomish Co. ACS/RACES Net 146.92 (Weekly)	<b>18</b>	<b>19 Chinese New Year</b> 1900 – M&K Public Service Net 146.82 (Weekly)	<b>20</b>	<b>21 1000–M&amp;K Club Meeting</b> [Salvation Army- Renton] 1100— Program 12:30-M&K Ham Radio Exams, Contact: Scott— <a href="mailto:ag7t@arri.net">ag7t@arri.net</a>  0900 – WA State Emerg. Net (WSEN) ARES HF Net 3.985 (Weekly)
<b>22 Public Service:</b> <b>Chilly Hilly Bike Ride –</b> Bainbridge Is. / Contact: Craig AC7BV <a href="mailto:CraigH@Blarg.net">CraigH@Blarg.net</a>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>
<b>01</b> — MARCH —	<b>02</b>	<b>03</b> <b>M&amp;K Board Mtg</b> Salvation Army Bldg Renton, 7:15 pm	<b>04</b>	<b>05</b>	<b>06</b> <b>M&amp;K Fleamarket Setup &amp; Load-In</b>	<b>07 M&amp;K Fleamarket</b> 9am – 3pm Puyallup Fairgrounds
<b>08</b> <b>Daylight Saving Time starts</b>	<b>09</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b> <b>Relay Articles Due</b>	<b>14 Public Service:</b> Seattle - St Patrick's Day Parade. 11am <a href="mailto:hamsignup@seafairparademarshals.org">hamsignup@seafairparademarshals.org</a>
<b>15</b>	<b>16</b>	<b>17</b> <b>St. Patrick's Day</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21 1000–M&amp;K Club Mtg</b> [Salvation Army- Renton] 1100— Program 12:30- M&K Ham Radio Exams Contact: Scott— <a href="mailto:ag7t@arri.net">ag7t@arri.net</a>
<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27 M&amp;K Annual Awards Banquet</b> 6pm-Old Spaghetti Factory (Tukwila) See Page 5 for details.	<b>28</b>
<b>29</b>	<b>30</b>	<b>31</b>	<b>01</b> — APRIL —	<b>02</b>	<b>03 Good Friday</b>	<b>04 Passover</b>
<b>05 Easter Sunday</b>	<b>06</b>	<b>07</b>	<b>08</b>	<b>09</b>	<b>10</b>	<b>11 Public Service:</b> 82nd Annual Daffodil Parade/s: Tacoma / Puyallup / Sumner / Orting. <a href="mailto:hamsignup@seafairparademarshals.org">hamsignup@seafairparademarshals.org</a>