

# The Nugget



## Mother Lode DX/Contest Club

### The Newsletter of the Mother Lode DX/Contest Club

#### **MEETING DATE, LOCATION & PROGRAM**

Our next meeting is 23 January 2016 at the Country Kitchen Café at 18700 North Highway 88 in Lockeford, California. See the MLDXCC web page for directions and menu.

#### **MLDXCC DUES**

MLDXCC dues are voluntary; however you must pay dues, \$15/yr, to be eligible for any club awards.

A quick look at our financial status shows us just about breaking even for the year. We started the year with \$1346.48 and ended with \$1655.26. That looks good at first glance, but \$400 of that came from sale of an antenna and proceeds from Visalia Contest Dinner so we

ended year with a small loss. We cannot always count on those resources. Our expenses each year are; \$200 for club liability insurance, \$250 to Northern California DX Foundation, \$244 for plaques, prizes & awards. These figures, while close, are subject to final analysis by Treasurer. Dues are \$15 per calendar year. Dues can be brought to meeting or mailed to Carolyn at P.O. Box 273, Somerset, CA 95684-0273.

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#### **2015-Officers**

Shirl Rose - AA6K President  
 Dennis Moore- NJ6G Vice-President  
 Dick Wilson - K6LRN Secty  
 Carolyn Wilson - K6TKD Treasurer  
 Steve Allred - K6SCA BoD  
 Rick Casey - W6RKC BoD

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Bob Hess - W1RH BoD  
Ken Anderson - K6TA BoD

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### **Up-Coming Club Events**

Jan 23 meeting, Location (TBD)

Note; this is tentative. There are many other operating events. These are 'major' events that may influence choice of meeting dates. Some of these can be focus for us, some will be ones we 'co-operate' or co-ordinate with NCCC, such as NAQP & possibly SS.

#### Meeting locations

Mountain Mikes, Martel  
Spaghetti Factory, Stockton  
Max's, Auburn  
Denny's, Cameron Park  
Habenero Hot's, Lodi  
Thai House Restaurant, Valley Springs

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"Da Prez"AA6K, discussing Sweep-Stakes operating strategy at our November meeting



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### **THE PREZ SEZ.**

Greetings to all,

Well I hope you had a great Christmas and as we look forward to a new year I hope that our

club can be as successful in 2016 as we were in 2015.

As we start the new year I wish to thank Bob/KR6N for all the hard work he performed as the club V/P this past year. He arranged some great programs we all enjoyed the fruits of his labor. Our new V/P for the upcoming year is Dennis/NJ6G and I am confident that he will also do a great job.

Our year in contesting went quite well in 2015. While the results are currently unofficial the information available indicates that we successfully defended our CQP Plaque and we also appear to have won the Gavel for the ARRL November Sweepstakes Medium Club. We need to continue our coordination of contesting ventures with the NCCC as a significant portion of our Sweepstakes score came from multi-club members. I thank all of our members give a well earned salute to the effort put forth.

On the DX front it was also a great year for our club. There were a number of rare DX activations and have I noted that our Club Log page reflects our activity. Keep up the good work!

We had a great year in 2015. Let's make 2016 another great year! Check the Contest Calendar on the club web site for events in which we have an interest.

**Shirl/AA6K , President, MLDXCC**

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### **THE VP SEZ**

Happy New Year.

Christmas Eve found us at my dad's QTH with all of the hams in the family (five!), Christmas Day found me installing my son's first radio in his truck.

Every contest is an opportunity to improve your skills or identify weak areas in your station that you can work on for the next go-round. This last November was my first attempt at the ARRL Sweepstakes, and my showing in that is driving me to improve both my antenna situation and logging proficiency. After a couple of the recent storms knocked down by attempts to get a really good-sized doublet up I've settled on a compromise inverted vee that should withstand the best that mother nature can throw at me while hopefully improving things for me on 20-10 meters. That will have to last until I can get the tower up. I also moved from basic log keeping to a contest logger (N1MM.) Looking at the calendar it seems there are events happening almost every weekend for the next couple of months so hopefully I'll soon have the bugs worked out of the antenna and have the software working well with my radio.

What are your goals for 2016? Here are a few of mine.

- Improve my score on Club Log.
- Improved scores on all contests.
- Increased number of stations worked by running instead of S&P.

There are more, but improvement in all of these areas means an improvement in scores for the club. What are your goals for 2016?

## **Dennis, NJ6G VP-MLDXCC**

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### **Treasurer's Report**

Balance October 1, 2015: \$1656.70

Income: Badges - NR6Q, KA6MEL, NJ6G  
60.00

Dues 2015 – N6KD, WX6V, NR6Q, KA6MEL,  
KD6MOO 75.00

Dues 2016 – ND6S, WC6H 30.00  
165.00

Expenses: Badges – NR6Q, KA6MEL,  
NJ6G 52.70

(spec deal on mailing costs)

**Balance November 30, 2015; \$1769.00**

## **Carolyn Wilson, K6TKD, Treasurer**

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### **Editor's Notes de Rick, W6SR**

Hi all.....

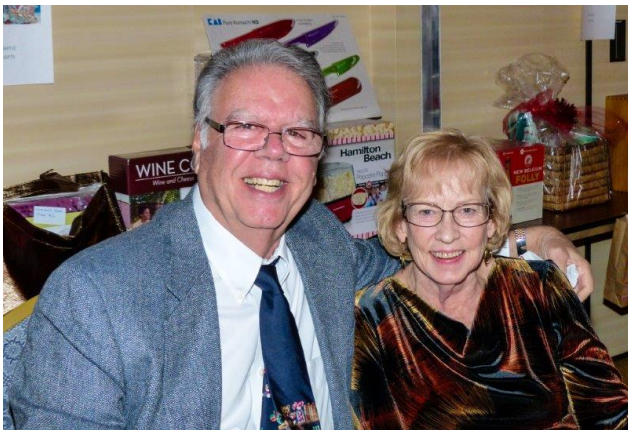
First of all, Karen and I hope all MLDXCC'ers enjoyed a very Merry Xmas, spent with friends and family. And hopefully, the the jolly man in red underwear left you at least one piece of radio gear under the tree.

December was a busy month (as it always is) here. Adding to the usual holiday rush was our Granddaughter's graduation on December 18<sup>th</sup> from the University Of San Francisco with a degree (with honors) in Biology, and a minor in Microbiology.

We had to attend and celebrate her success!



She has already secured a good paying job with Gilead Corp. in Foster City. She will be setting-up/evaluating clinical trials for their new drugs to fight AIDS and EBOLA. And next year, her brother, is scheduled to graduate from Cal Poly San Luis Obispo with a degree in "Materials Engineering". We suspect he is just a "chip on the ol' block", since both his granddads, and his father are engineers.



W6SR and WB6OKK at the Cameron Park Corvettes Holiday Party

Lots of changes to the radio stuff here in the last couple of months. The Icom 756 Pro III and PW-1 power amplifier have been sold and replaced with a Elecraft K3, P3 combination and a older (but excellent) Alpha power amplifier. After using the K3 for a while, I'm convinced it is one of the best (if not the best)

receiver made, especially for receiving CW and RTTY.

Antennas are still the same, a 6element 6M yagi, 3 element SteppIR, rotating dipoles for 30 and 40M @ 50 feet, and full size dipoles for 80 and 160M (90 degrees to each-other) supported by the tower.

The W6SR shack now looks like this



I operated a bit in the CQWW CW, ARRL 160M and 10M contests, not a lot of time spent, but nearly 1000QSO's total. No new DXCC band-countries either, so pretty much status quo around the old radio ranch.

Enough for now, see you all at the 23 January meeting, **de Rick, W6SR**

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**MLDXCC Meeting Minutes , 14 November 2015**

The meeting was called to order at 12 noon by President Shirl.

Introductions followed. There were 20 people signing the attendance sheet.

There was no old business.

President Shirl presented slate of officers for 2016.

The Officers and Board members are;

Shirley Rose	AA6K	President
Dennis Moore	NJ6G	Vice President
Dick Wilson	K6LRN	Secretary
Carolyn Wilson	K6TKD	Treasurer
Bob Hess	W1RH	Past President
Steve Allred	K6SCA	Board Member
Rick Casey	W6RKC	Board Member
Ken Anderson	K6TA	Board Member
Bob Leclerc	KR6N	Board Member

Meetings were tentatively scheduled for January 23 and March 12. Venues are to be determined. It was noted there had been no meetings in Auburn area for some time so that should be considered.

Treasurer reported a balance of \$1738.80.

Motion made seconded & carried to put links for DXpeditions soliciting contributions on the

**Meeting Attendees**

NJ6G	Dennis	Jenny Lind
N6JV	Norm	Sacramento
WD6EIW	John	Sacramento
W6RKC	Rick	Pine Grove
K6TA	Ken	Pine Grove
K6KO	Kay	Pine Grove
AA6K	Shirl	Stockton
K6KNS	Dave	Folsom
WC6H	Rich	Valley Springs
K6TKD Carolyn		Omo Ranch
K6LRN	Dick	Omo Ranch
KD6MOO	Eric	Victor
KA6MEL	Doug	Lodi
KI6YYTE	milia	Rio Vista
WB6BET	Jim	Rio Vista

K6SCA	Steve	Fiddletown
AE6Y	Andy	Monte Sereno
KR6N	Bob	El Dorado Hills
W1RH	Bob	Lotus
W6SR	Rick	Placerville

**Tube of the Month de Norm, N6JV  
The 3X2500A Family**

In the late 1940s, Eimac was working on large, external anode tubes. One of their first was the 3X2500A3. It was a glass insulated tube with a dissipation of 2500 watts. This was a general purpose triode with a mu of 20. Many applications for this tube didn't require high

frequency operation, so the 3X2500F3 was produced. Same tube but with heavy filament leads soldered to the contacts. No need for an expensive socket.



In the 1950s, Eimac started converting tubes over to ceramic insulation and the new tube was the 3CX2500A3 followed by the 3CX3000A3 with an improved plate

construction. With the popularity of grounded grid construction, additional grid turns were added and the 3CX3000A7 was added to the family. Hams noticed this new tube. The older A1 and A3 tubes had a mu of between 5 and 20, but the new A7 had a mu of 160. Eimac eventually added a water jacket to these tubes and designated them 3CW5000A\*. Recently hams have requested new tubes with a flange welded to the grid ring, so the tube can be mounted directly to the chassis.

Most of the "A" type tubes could go up to 110 MHz so were a common amplifier in FM broadcast as well as RF heating, AM broadcast and RADAR pulse.

These A7 tubes were practical for 6 meter amplifier service especially for high duty cycle applications like JT56A. The tube had been very popular with hams on 160 meters for several years. The filament requires 7.5 volts at 51 amps. The connections need to be very good at this current so having a socket for testing is very useful.

I was given some bronze fingers and an Eimac center filament bushing, so the associated socket was the result. It could be attached directly to the chassis for grounded grid or mounted below the chassis with small insulators for a conventional grid driven



amplifier. A filament transformer was wound that could be used with the socket. It makes a good display mount until I need it.



de Norm N6JV

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## Member News, Items For Sale & Feedback

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de Rick-WA6NHC

I have been asked to provide a description of my station and what I've managed to accomplish with it. I have also been asked to provide a picture of the station but that would involve cleaning it, so that won't happen anytime soon, it's in a constant state of clutter (organized chaos) and I'm not done with it, a work in progress.

I live in an HOA infested area made worse by being 250 yards from the end of an airport runway. No, it wasn't the wisest choice in buying a place to live. While there are oaks here, a tower is simply out of the question and having one to 40' would only be rooftop height, not worth the trouble and expense. When I bought here, I wasn't a DXer and wasn't

planning on staying here as long as I have, the market crash changed that. When I retired, I got the DX itch, but how to make it happen?

I knew I couldn't have a large antenna array, so I bought the best radio I could find, the best ears possible. I settled on the Elecraft K3 with the internal tuner which worked well, along with most of the other internal options and range of filters for both receivers. I also got the KPA500 amp, but had to wait for the KAT500 tuner (another year to arrive on the scene). The P3 scope lives here too and I've added the external SVGA display package so I don't have to squint. This means I can hear pretty well but the antenna is still lacking. Having everything integrated has made ALL the difference, everything follows the K3, everything simply works.

Instead of being able to put up big antenna arrays, my R7 vertical accepting too much noise, I put up a simple dipole (in it's own way). I have access to a 'common area' of the HOA behind my property that no one uses. I also take full advantage that most humans rarely look up. Which means that I have a 370' (112M) center fed (window line) dipole in plain sight. the wires running nearly N/S, that no one 'sees' on a very busy street. If the traffic on the street behind notices it, their brains tell them 'power lines' and it's tuned out as visual noise. It's a stealth antenna in a sense. Yes, it loads up on every band with help, but the pattern skews from band to band; on some it appears as a pair of opposing long wire antennas. It doesn't direct RF, it sprays it. But I'm on the air!

It is not very high, ranging from 25-40' above dirt, it's the best that the oak trees can provide. I used an Antenna Launcher ([www.antennalauncher.com](http://www.antennalauncher.com)) to get the #14 wire over the tree tops, specifically on a

Wednesday while the neighbors were at school or work (no reason to advertise). The closest to a house is mine at 60' away. I get some RFI (mostly controlled) as the antenna is at eye level out the window.

Originally cut to 340', the proper length for an Extended Double Zepp for 80 meters (opposing  $5/8$  wave), it didn't tune as if the right length, so after careful study, I added 15' to each end. It now tunes very well on the low end of 80, but it has cost me on 160 (27:1 untuned now, I have to use a monster Heathkit tuner on 160, a rare event for me). The feed is about 75' (to be non-resonant) of 450 ohm window line (ladder line to most) going into a 4:1 common mode choke (balun) at the window of the shack. The remaining distance to the tuner is coax (kept short because the high SWR losses would be high and the voltages could arc internally too).

How does it work? I have no way to compare other than what I've been able to accomplish in DX. I have 259 countries worked, 224 of them have confirmed using all bands. I am not a paper chaser but if I was, the DXCC is easily obtainable in mixed, CW or on 15, 17, 20 and 40 in single bands. I even have countries confirmed on 160, which I find amazing (Costa Rica being the furthest so far confirmed, South Korea has been worked on 160 but not confirmed). I was barely, just barely able to eke out one singular contact with Eritrea last year during the last hours of the last day (mostly thanks to the op being patient with numerous retirees, but I have the card!). Six band slots with Chesterfield, TX3X; 16 of 21 slots with Willis, VK9WA. Apparently, the antenna works.

Because I'm not a big gun, don't have an array, to get this many entities involves a fair amount of chair time. It also means running the DX cluster-ware. I use Ham Radio Deluxe (actually, I'm a beta tester too, [www.hrdsoftwarellc.com](http://www.hrdsoftwarellc.com)). HRD manages the

core station for me (radio, logs, cluster). I also use the Elecraft apps to control the tuner and amp, so everything is connected into the shack computer.

This last year, the computer I was using was starting to show age. So I did something I hadn't done in a decade, I assembled my own computer. It was planned to simply work for the next decade without giving me grief. I built an I-7 (quad core, running at 4.3 GHz) with 32 GB of memory and an M.2 solid state drive (directly on the motherboard, multiple data paths) running Windows 7 Pro. The computer easily controls the station and it also tracks the input from the weather station and produces a web page of that data ([stn7962.ip.irlp.net](http://stn7962.ip.irlp.net)) and idles down to 800 MHz because it's bored (to save energy). It also has a 2 TB spinning hard drive for file storage (mostly movies). It's FAST!

I had been running digital modes (RTTY, PSK, JTx using HRD) with the Signalink USB (SLUSB), when it occurred to me that having remote operations wouldn't be difficult, the audio is there. HRD allows that with a remote server feature, but that doesn't have an option for the tuner and amp control.

What I decided was to use TeamViewer ([www.teamviewer.com](http://www.teamviewer.com)) which is free for personal use. It allows me to connect all (I have more) of my computers to my laptop, iPad, iPhone, Nook (did I say I like toys?) and run them remotely, exchange files etc. By using Skype and directing the audio to the SLUSB, I get audio passed to/from the K3. It also lets me monitor the SWR, en/disable the amp, run my log (because I'm still running the home station, even when remote). I can also listen remotely to my home radio scanner because TV passes audio from the computer to the remote too.

If I have enough bandwidth (LTE, 4G or wifi) on the remote end, I can enable the video (webcam, Skype) at the station so I can 'see' the radio and P3 displays as well as the tuner for a visual confirmation that the apps are telling me the truth. This is convenient because precipitation changes the SWR (ladder line) so it's nice to have two ways to make sure it's all good.

Remote ops works and it works well. Most of what I do remotely is check into the daily morning nets. I've done this from many locations in the Western US, Hawaii, Canada and from Alaska as well. The only way anyone can tell I'm remotely operating is to ask me, the audio is that clean. I've enjoyed the green glow of envy as I describe my morning views from those various places to those at home. :-)

I've also remotely checked into the EDCARC 6M repeater (inter-tied to a 900 MHz channel and occasionally more) on the K3, just to keep in touch with happenings at home. So I can enjoy travel AND ham radio at the same time, pure nerdvana.

Latency hasn't been an issue but there is no reason at all I couldn't operate in any mode I chose. But some remote wifi is satellite based, so one should check latency before operating.

The rest of the station is an array of mobile rigs allowing me to cover all bands from 6M through 900 MHz. (yes overlap on 6M). I also have a couple scanners running 24/7 so I can hear the local fire/medical happenings, a habit from my FD days (and usually one with me when I'm on the road).

When the new law is passed allowing me to break the HOA rules without worry, the shack will be much cleaner, a few of the VHF



antennas are living inside the shack, awaiting space on the roof.

**It's a great time to be a geek. de Rick-WA6NHC**

**For Sale: A fabulous QTH for the Ham who wants to re-locate to the foothills of the Sierra's. 2900 sq. ft. house on 5 acres. 4 bed 3 bath storybook home, with a 500 sq. ft. "granny flat" above garage, perfect for the ham station. Includes covered RV storage, barn, storage shed, and 50 ft. Rohn 25 tower. No restrictive HOA's or CC&R's.**

**360 degree RFview, on top of hill at 1500 ft elevation. Look up MLS# 15077535 for further info.**

**Tnx, and 73. K6LR Jim Marshall,  
[jmarshall1945@yahoo.com](mailto:jmarshall1945@yahoo.com)**

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**I have a HY-Gain TH-11, 20-17-15-12-10 meter beam antenna for sale. Last price I put on it was deemed 'too high', so make me an offer. I did get some new trap boots from MFJ. It seems to be complete & in reasonably good condition, i.e., not corroded, pitted or badly bent. And it is currently stored indoors. **de Dick, K6LRN [k6lrn@arri.net](mailto:k6lrn@arri.net)****

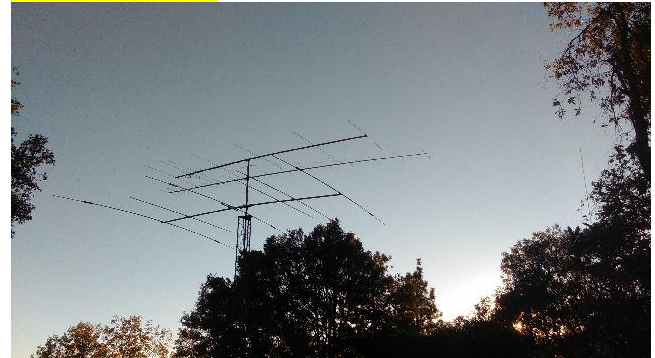
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**Hi All,  
I still have a Cushcraft MA5B Compact HF Multi-Band Beam. Like new (only used a few months). \$175.00 Contact info: Dave,  
K6KNS [oldfsp@yahoo.com](mailto:oldfsp@yahoo.com)  
(916) 351-9206**

**K6SCA's 2014 10M Contest Award Certificate**



**K6SCA's new antennas on top of his 70' tower. A great edition!**



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**Hi Guys**

**I'm still looking for a late model Alpha power amp., will consider an Alpha 86, 89, or 99, may consider an Alpha 87A. Also I have a nice 3 tube Alpha 76 series for sale, e-mail me for details.**

**Anyone got anything for sale? de Rick, W6SR  
[ricksamoian@outlook.com](mailto:ricksamoian@outlook.com)**

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**From K6KM's estate, we have the following items for sale:**  
(5ea) Rohn GB-45 guy bracket, (2ea) Rohn 45 rotor plate, (1ea) Rohn GB-55D guy bracket, missing some hardware, (2ea) BLP, (6ea) Misc. guy wire assemblies. Don't know length but can verify if necessary. (5ea) PLP Big Grip BG-2144 1/4 inch, (2ea) Phillystran Big Grip HPTG-670001 / BG-MS-2755 3/8 inch, (1ea) 20 foot mast - quarter inch wall (approximate), (1ea) 15 foot mast - quarter inch wall (approximate) Also have a large lot of ICE grounding/surge protection items. Most if not all of this stuff can be available at the Saturday MLDXCC meeting, with advance notice.

**I will deliver at the meeting. Rick, W6SR, will determine pricing and take your money. de Bob, W1RH [w1rh@yahoo.com](mailto:w1rh@yahoo.com)**

The NOAA Solar Update  
Click the link below to display the  
latest NOAA solar predictions.

<http://www.swpc.noaa.gov/products/weekly-highlights-and-27-day-forecast>

Propagation Forecast Bulletin 52  
ARLP052

From Tad Cook, K7RA  
Seattle, WA December 28, 2015  
To all radio amateurs

SB PROP ARL ARLP052  
ARLP052 Propagation de K7RA

This bulletin was released on  
Christmas Day. The last time  
Christmas  
fell on a Friday (our normal day for  
publishing this bulletin) was  
back in 2009, and we released it the  
day before:

[http://www.arrrl.org/wlaw-bulletins-  
archive/ARLP053/2009](http://www.arrrl.org/wlaw-bulletins-archive/ARLP053/2009)

Note that the solar indices for that  
week were no better than for  
this past week, six years later.

This is the last propagation bulletin  
for 2015, and the next  
bulletin will be released next Friday  
on January 1, 2016.

Over the past week, average daily  
sunspot numbers rose just 1.6  
points to 49.6 compared to the  
previous seven days, December 10-16.  
Average daily solar flux rose from  
102.2 to 122.3 for the December  
17-23 reporting period.

A big geomagnetic storm on Sunday,  
December 20 drove our geomagnetic  
averages way up this week. On that  
day the mid-latitude A index  
(recorded in Virginia) reached 33,  
the planetary A index (recorded  
at a number of northern hemisphere  
sites) was 66, and the college A  
index (recorded near Fairbanks,  
Alaska) was 89.

The day before, at 2323 UTC on  
December 19, the Australian Space  
Forecast Centre issued a geomagnetic  
warning:

"Geomagnetic disturbance in progress  
following a CME impact after  
1500 UTC December 19. Expect Active  
geomagnetic conditions December  
20.

Increased geomagnetic activity  
expected due to coronal mass ejection  
from 20-21 December 2015."

Then on December 23, Spaceweather.com  
sent out this bulletin:

"A new sunspot (AR2473) is growing  
rapidly in the Sun's southern  
hemisphere, more than quadrupling in  
size in the past 24 hours.  
Crackling with M-class solar flares,  
the sunspot has already caused  
several minor shortwave radio  
blackouts, mainly south of our  
planet's equator. More flares and  
radio blackouts are in the offing  
as the growing sunspot turns toward  
Earth. Visit  
<http://spaceweather.com> for more  
information."

Over this reporting week (December  
17-23) average planetary A index  
rose from 9.9 to 21.7 and average  
mid-latitude A index rose from 6.6  
to 12.6.

Predicted solar flux for the near  
term is 130 on December 25, 125 on  
December 26-31, then 115, 110 and 105  
on January 1-3, 110 on January  
4-6, 115 on January 7-9, 120 on  
January 10-13, 118 on January 14-15,  
115 on January 16, 120 on January 17-  
18, then 115, 105 and 100 on  
January 19-21, 98 on January 22-23,  
95 on January 24-25, 98 on  
January 26-27, and 100 on January 28-  
29.

Predicted planetary A index is 12,

10, 8 and 6 on December 25-28, 5 on December 29-31, then 15, 20, 18 and 10 on January 1-4, then 8, 20, 18 and 12 on January 5-8, then 10, 20, 18, 10 and 8 on January 9-13, and 5 on January 14-16.

OK1MGW from the Czech Propagation Interest Group sends us his geomagnetic prediction this week, and it says to expect the geomagnetic field to be quiet to active December 25-28, quiet to unsettled December 29, mostly quiet December 30-31, active to disturbed January 1-2, quiet to active January 3, quiet to unsettled January 4, quiet to active January 5, active to disturbed January 6, quiet to active January 7, quiet to unsettled January 8-9, active to disturbed January 10, quiet to active January 11, quiet to unsettled January 12-14, mostly quiet January 15-17, quiet on January 18-19, and quiet to unsettled January 20.

OK1MGW expects increased solar wind on December 25-28, January 1-3, 5-6, and 10-11.

The Winter Solstice was three days ago, on Tuesday, December 22, 2015. Now the days will get longer for the next six months, until the Summer Solstice in the Northern Hemisphere, June 20, 2016. Spring begins at the Vernal Equinox, March 19-20, 2015.

As the days get longer, HF conditions will generally improve in the Northern Hemisphere. We can test some paths with a simple free program, W6ELprop.

Testing from Dallas, Texas to Germany, a path of 8,222 km (5,109 miles) on the shortest day of 2015 we can see that 15 meters has the best possibility of propagation from 1500-1630 UTC with an A rating (75-100% chance of communication) at 23 dB above .5 microvolt at the

receiving end) and a B rating (50-74% probability) 1430-1700 UTC.

At the end of January 2016, the opening runs from 1430-1730 UTC for the B rating, (A rating 1500-1700 UTC), with signals about 2 dB lower.

At the Vernal Equinox, on March 20, 2016 the 15 meter opening stretches from 1400-2100 UTC. All of these tests were done with a solar flux of 127, to look at seasonal variation only.

Over the same path on 17 meters on December 22, 2015 it is open from 1400-1730 UTC, on January 31 1400-1830 UTC and on March 20, 2016, 1300-2200 UTC.

But for lower frequencies, such as 75 meters, conditions are better during long periods of darkness, such as late December. On December 22, over the same path 75 meters looks best 2330-0830 UTC, but on January 31 the best conditions are from 0030-0730 UTC and on March 20 conditions look best at 0200-0530 UTC.

If you would like to make a comment or have a tip for our readers, email the author at, [k7ra@arrl.net](mailto:k7ra@arrl.net).

For more information concerning radio propagation, see the ARRL Technical Information Service web page at, <http://arrl.org/propagation-of-rf-signals>. For an explanation of the numbers used in this bulletin, see <http://arrl.org/the-sun-the-earth-the-ionosphere>. An archive of past propagation bulletins is at <http://arrl.org/wlaw-bulletins-archive-propagation>. More good information and tutorials on propagation are at <http://k9la.us/>.

My own archives of the NOAA/USAF daily 45 day forecast for solar

flux and planetary A index are in downloadable spreadsheet format at <http://bit.ly/1VOqf9B> and <http://bit.ly/1DcpaC5> .

Click on "Download this file" to download the archive, and ignore the security warning about file format. Pop-up blockers may suppress the download.

Monthly propagation charts between four USA regions and twelve overseas locations are at <http://arrl.org/propagation>.

Instructions for starting or ending email distribution of ARRL bulletins are at <http://arrl.org/bulletins>.

Sunspot numbers for December 17 through 23 were 52, 49, 44, 33, 38, 68, and 63, with a mean of 49.6. 10.7 cm flux was 117.8, 117.1, 119, 116.6, 121.7, 130.1, and 133.9, with a mean of 122.3. Estimated planetary A indices were 7, 5, 12, 66, 38, 13, and 11, with a mean of 21.7. Estimated mid-latitude A indices were 6, 4, 8, 33, 22, 8, and 7, with a mean of 12.6.

UP-COMING DX and Dxpeditions  
Click the link below to display up-coming Announced DXpeditions:

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

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**QST de W1AW  
DX Bulletin 51 ARLD051  
From ARRL Headquarters  
Newington CT December 24, 2015  
To all radio amateurs**

SB DX ARL ARLD051  
ARLD051 DX news

This week's bulletin was made possible with information provided by QRZ DX, the OPDX Bulletin, 425 DX News, The Daily DX, DXNL, Contest Corral from QST and the ARRL Contest Calendar and WA7BNM web sites. Thanks to all.

MAURITIUS, 3B8. Paul, G8AFC is QRV as 3B8/G8AFC from the seal on the north coast of the island in Pereybere until April 6, 2016. He is active on 20, 10 and 6 meters using SSB between 0900 and 1200z. QSL direct to home call.

SENEGAL, 6W. Earl, WA3DX plans to be QRV as 6W1/WA3DX, 6W7/WA3DX and 6W6/WA3DX from Dakar, Mbao, Kaolack and Saloum Islands, respectively, from December 26 to January 12. Activity will be on 40 to 10 meters using SSB. QSL direct to home call.

JAMAICA, 6Y. Lester, W8YCM is QRV as 6Y5/W8YCM from Negril, IOTA NA-097, until January 16. Activity is mainly on 17 meters using SSB. QSL to home call.

WEST MALAYSIA, 9M2. A large group of operators will be QRV as 9M2SI from Indah Island, IOTA AS-074, from December 25 to 27. Activity will be on 40 to 10 meters using CW and SSB. QSL direct to 9M2000.

EAST MALAYSIA, 9M6. Tak, JR1EFG is QRV as 9M6/JR1EFG until December 26. Activity is on 40 to 10 meters using CW and SSB. QSL direct to home call.

SOUTH COOK ISLANDS, E5. Henrik, OZ6TL is QRV as E51TLA from Rarotonga Island, IOTA OC-013, until January 9. Activity is holiday style on the HF bands using mainly CW and RTTY on 30 and 20 meters. QSL to home call.

KERGUELEN ISLAND, FT/X. Nicolas is QRV as FT4XU until mid January. He is occasionally QRV on 20 meters SSB around 1400 to 1800z. QSL via F1ULQ.

HUNGARY, HA. Special event station HG5XMAS is QRV until January 2. Activity is on the HF bands using CW, SSB, RTTY and PSK. This includes entries in the DARC Christmas and Happy New Year contests. QSL via operators' instructions.

REPUBLIC OF KOREA, HL. Han, DS2GOO plans to be QRV as DS2GOO/2 from Taeijak Island, IOTA AS-090, from December 28 to 28. Activity will be on 80 to 10 meters using CW, SSB and various digital modes. QSL to home call.

OGASAWARA, JD1. Harry, JG7PSJ will be QRV as JD1BMH from Chichijima Island, IOTA AS-031, from December 30 to January 9. Activity will be on 160 to 10 meters using CW, SSB and RTTY. QSL direct to home call.

CURACAO, PJ2. Stephen, KH0UN plans to be QRV as PJ2/KH0UN on December 28 and 29. Activity is holiday style. QSL via operator's instructions.

SURINAME, PZ. Peter, PA1LP is QRV as PZ5LP until March 5, 2016. Activity is on 80 to 10 meters using SSB and various digital modes. QSL via operator's instructions.

POLAND, SP. Dionizy, SP6IEQ will be QRV as 3Z16HNY from December 28 to January 15 to mark the New Year. QSL to home call.

PALAU, T8. Ryosei, JH0IXE is QRV as T8CW from Koror Island, IOTA OC-009, until January 7. Activity is on 160 to 6 meters using CW, RTTY and various digital modes. QSL direct to home call.

ANTIGUA AND BARBUDA, V2. Laci, OM3AG is QRV as V25LK from Antigua, IOTA NA-100, until January 10. Activity is holiday style on 20 to 10 meters using CW and SSB. QSL to home call.

NAMIBIA, V5. Dietmar is QRV as V5/DL3DXX and can usually be found active on 160 and 80 meters using CW between 2300 and 0500z. QSL via operator's instructions.

INDONESIA, YB. Dennis, K7BV is QRV as YB9/K7BV from Bali Island, IOTA OC-022, until December 29. QSL direct to home call.

VANUATU, YJ. Rob, DL7VOA will be QRV as YJ4AO from December 27 to January 13. Activity will be during his evening and night hours using mainly CW with some SSB. QSL to home call.

THIS WEEKEND ON THE RADIO. The DARC Christmas Contest, Stew Perry Topband CW Challenge, NCCC RTTY Sprint, NCCC Sprint and the RAEM CW Contest are all on tap for this weekend.

The Phone Fray and CWops Mini-CWT CW Test are scheduled for December 30. Please see December QST, page 69 and the ARRL and WA7BNM contest web sites for details.  
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**Click on the Hyperlink below to check-out the MLDXCC scores in the latest contests.**

<http://mldxcc.org/scores.html>

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**UP-COMING CONTESTS (complete)**  
**For the latest contest info. click on the following link:**

<http://hornucopia.com/contestcal/contestcal.html>

**Selected Up-coming Contests**

**January 2016**

+ SARTG New Year RTTY Contest 0800Z-1100Z, Jan 1

+ ARRL RTTY Roundup 1800Z, Jan 2 to 2400Z, Jan 3

+ North American QSO Party, CW 1800Z, Jan 9 to

0600Z, Jan 10

+ North American QSO Party, SSB 1800Z, Jan 16 to 0600Z, Jan 17

+ BARTG RTTY Sprint 1200Z, Jan 23 to 1200Z, Jan 24

+ CQ 160-Meter Contest, CW 2200Z, Jan 29 to 2159Z, Jan 31

### February 2016

+ Vermont QSO Party 0000Z, Feb 6 to 2400Z, Feb 7

+ Minnesota QSO Party 1400Z-2400Z, Feb 6

+ North American Sprint, CW 0000Z-0400Z, Feb 7

+ CQ WW RTTY WPX Contest 0000Z, Feb 13 to 2400Z, Feb 14

+ New Hampshire QSO Party 1600Z, Feb 13 to 2200Z, Feb 14

+ ARRL Inter. DX Contest, CW 0000Z, Feb 20 to 2400Z, Feb 21

+ Run for the Bacon QRP Contest 0200Z-0400Z, Feb 22

+ North American QSO Party, RTTY 1800Z, Feb 27 to 0600Z, Feb 28

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### ARRL Awards Checkers

Ken Anderson, K6TA

(including 160M cards)

Rick Samoian, W6SR

(including 160M cards)

Note: ARRL Card Checkers can check DXCC, WAS and VUCC Awards.

### The MLDXCC NEWSLETTER

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