

CQ CHATTER

APRIL 2015

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WOOD COUNTY AMATEUR RADIO CLUB

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Number of Licensees at All-Time High

from ARRL Letter

The US Amateur Radio population continues to soar. At the end of 2014, the total number of US Amateurs in the FCC's Universal Licensing System ([ULS](#)) database reached an all-time high of 726,275 -- and the trend has continued in the first 2 months of 2015, which saw the total rise to slightly more than 727,000. The figures exclude expired licenses that are within the 2-year grace period, and club station licenses. Outside of a little dithering last fall, growth in the Amateur Radio Service in 2014 was steady, according to [figures](#) compiled by Joe Speroni, AH0A, on his FCC Amateur Radio Statistics web pages. Over the past decade, the number of Amateur Radio licenses in the ULS database

grew by some 8.1 percent. But 2014 was also a banner year for the ARRL Volunteer Examiner Coordinator (VEC).

"For the first time in the ARRL VEC program's history, we have conducted more than 7000 Amateur Radio exam sessions in a year, an important milestone," said ARRL VEC Manager Maria Somma, AB1FM. "A total of 7216 ARRL-sponsored exam sessions were administered in 2014, compared to 6823 in 2013."

Somma said the number of new licensees spiked to more than 33,000 in 2014, up by about 15 percent from the previous year. Successful license upgrades rose last year by an unprecedented 13 percent over a year earlier.

At the end of 2014, there were 136,405 Amateur Extra, 169,524 General, and 357,236 Technician class licensees -- all record numbers, Somma pointed out. While the number of Amateur Extra licensees grew in each month of 2014, the

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NET CHECK INS

Mar 3 Traffic: 0

WB8NQW (NCS)
K8VCE
KD8WZK
N1RB
W8GGS
WD8JWJ
KD8NJW
KD8VWU
KB9JDP
K8OVO (10)

Mar 10 Traffic: 0

KD8NJW (NCS)
KD8WZK
K8BBK
WB8NQW
WD8JWJ
KD8VWU
N1RB
K8OVO
N8PYA
KD8FRL
KD8WCD (11)

Mar 17 Traffic: 0

KD8VWU (NCS)
KD8WZK/P
KD8NJW
WD8LEI
WD8JWJ
WB8NQW
N1RB
K8OVO
K8BBK
N8YAE (10)

BRAIN TEASERS

errata: the answer to Q. 2 last month was incorrectly stated as "a". The correct answer was "none of the above".

1. Why isn't FM phone used below 29.5 MHz ?
 - a.) transmitter efficiency for this mode is low
 - b.) harmonics cannot be attenuated to practical levels
 - c.) bandwidth would exceed FCC limits
 - d.) frequency stability is not adequate
2. How should the microphone gain be adjusted on an SSB phone transmitter?
 - a.) full deflection of ALC on modulation peaks
 - b.) slight movement of ALC on modulation peaks
 - c.) 100% frequency deviation on modulation peaks
 - d.) for a dip in plate current
3. Which property is NOT important in estimating rf energy's effect on body tissue?
 - a.) duty cycle
 - b.) critical angle
 - c.) power density
 - d.) frequency

April Contests

The contest lineup for the month of April is given below. Please note that the WARC bands (60, 30, 17 and 12 m) are never open to contesting.

Apr 4-5	<i>1400 to 0200 Z</i>	80 m to 10 m
Mississippi QSO Party		all modes
Apr 4-5	<i>1400 to 0400; 1400 to 2000 Z</i>	160 m to 10 m
Missouri QSO Party		all modes
Apr 4-5	<i>1500 to 1500 Z</i>	160 m to 10 m
SP (Poland) DX `test		SSB-CW
Apr 4-5	<i>1800 to 1800 Z</i>	160 m to 10 m
Montana QSO Party		all modes
Apr 11-12	<i>0700 to 1300 Z</i>	160 m to 10 m
Japan Int'l DX `test		CW
Apr 11-12	<i>1400 to 0200 Z</i>	160 m to 10 m
New Mexico QSO Party		all modes
Apr 11-12	<i>1800 to 0359; 1400 to 2359 Z</i>	160 m to 10 m
Georgia QSO Party		all modes
Apr 18-19	<i>1200 to 2300 Z</i>	160 m to 10 m
Nebraska QSO Party		all modes
Apr 18-19	<i>1600 to 0400 Z</i>	80 m to 10 m
Michigan QSO Party		all modes
Apr 18-19	<i>1800 to 1800 Z</i>	160 m to 10 m
North Dakota QSO Party		all modes
Apr 18-19	<i>1800 to 0500; 1200 to 1800 Z</i>	160 m to 10 m
Ontario QSO Party		all modes
Apr 18-19	<i>2100 to 0459; 0900 to 1659 Z</i>	160 m to 10 m
YU (Serbia) DX `test	<i>continued---on p.7</i>	CW

licensees---from p. 1

number of Technicians and Generals -- and of licensees overall -- faltered a bit last July and September. Last year's overall upward trend quickly recovered, however, during the final quarter of 2014. The General population also dipped briefly in May 2014, before rebounding.

Somma believes the July and September dips may have been a result of applicants adjusting to the new Technician question pool that went into effect last July 1. "We always expect an adjustment period when a new question pool is introduced to the public, as VEs, teachers, and candidates must prepare new study and exam materials," she said. Somma called the dips "a normal part of the question pool cycle." Technician licensees comprise slightly less than one-half of the US Amateur Radio population. As of December 31, some 51,000 Advanced and 12,000 Novice licensees remained in the FCC database. The FCC no longer issues Advanced and Novice licenses, and their numbers continue to decline.

Once again, California far and away was home to the largest number of licensees among the 50 states, with 102,806 at the end of February. Texas was a distant second, with 51,022, Florida came in third, with 40,743, Washington was fourth, with 30,511, and Ohio was fifth at 28,256. With the exception of Ohio, the licensing trend in these

states has been through the roof. In Ohio, ham radio numbers began to flag a bit in 2014, after holding steady for about the past 4 years.

The state with the fewest Amateur Radio licensees in 2014 was North Dakota, with 1477, but in an overall upward trajectory since around 2009. Others with small ham populations include Delaware (1715 and growing), Rhode Island (1926 and dropping), Wyoming (1868 and headed up), and Vermont (2101 and slipping, after a bump in 2013 and 2014). These numbers may go a long way toward explaining why these are rare multipliers in the ARRL November Sweepstakes and other events.

Club station licenses in the US numbered 11,501, according to Speroni's statistics. ■

***Wireless Power Transmitted
Using Microwaves***

from ARNewsline

Wireless energy generation from space (cf. Tesla) is now one small step closer to becoming a feasible delivery source of power. This following a new experiment that successfully transmitted electric power using microwaves.

The Japan Aerospace Exploration Agency, also known as JAXA, conducted the research which sent 1.8 kilowatts of electricity 170 feet through the air in the form of microwave radiation. The beam was

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WCARC Weekly Net

Tuesdays at

2100 EDST/EST

147.18 MHz 67 Hz PL

Net Control Roster

Apr 7	WB8NQW
Apr 14	KD8NJW
Apr 21	KD8VWU
Apr 28	N1RB
May 5	K80VO
May 12	WB8NQW

NEXT MEETING

Business Meeting

Monday, Apr. 13

TIME: 7:30 pm/7:00 EB

PLACE: Sheriff's Training
Room

E. Gypsy Lane Rd.
and S. Dunbridge Rd.
Bowling Green, OH

April Hamfests

Apr 11 Cuyahoga Falls ARC Annual hamfest and computer fair.
Emidio and Sons Party Center, Cuyahoga Falls, OH.

web: <http://cfarc.org/hamfest.php>

DON'T FORGET!

10 meter informal net meets
Sunday @ 2030 EST/EDST
on 28.335 MHz

NET CHECK INS

continued

Mar 24 Traffic: 0

N1RB (NCS)
K8BBK
KG8FH
KD8NJW
WB8NQW
N8VNT
KC8EKT
KD8VWU
KD8RNO
W8GGS
K8OVO
WD8LEI
KD8WZK (13)

Mar 31 Traffic: 0

WB8NQW (NCS)
K8BBK
W8PSK
KD8NJW
KG8FH
KD8RNO
N1RB
KD8VWU
WD8JWJ
WD8LEI/M
KD8WZK
WD8ICP (12)

Swanton Ham Wins Case

from Ohio Section News

On March 11 the Ohio Supreme Court issued an entry denying the request of the Village of Swanton to hear an appeal from the order of the Sixth Appellate District dismissing the Village's appeal in the Gary Wodtke antenna case. As is normally the case, there was no opinion with the order. But, the Court's website contained a notation that only one Justice, Chief Justice Maureen O'Connor would have supported the appeal.

The Supreme Court's order should end the long-running litigation between Mr. Wodtke, WW8N, and the Village of Swanton concerning Mr. Wodtke's request for a zoning variance to permit him to erect a tower and antennas in his yard. The Village zoning authority denied his variance request and he sued. After the signing of H.B. 158 into law, the Common Pleas Court issued judgment in Mr. Wodtke's favor. The Village appealed but the Court of Appeals determined that its appeal was outside the permitted time limits and dismissed it. The Village then sought to have the Ohio Supreme Court review that dismissal.

The March 11 order ends the Village's available appeals in that case and should result in the Common Pleas Court's order in Mr. Wodtke's favor as being the final, deciding order in the case. Ironically, the Village had sought to raise the issue of Home Rule superiority in its appeal to the Court of Appeal. Looks like that issue will have to await another case, another time. ■

GOBA Is Coming!

The Great Ohio Bicycle Adventure (GOBA) will be touring in Wood County on Wed/Thu/Fri, June 22/23/24. The group will enter the County from Lucas County at Grand Rapids over the SR

Brain Teaser answers: (G) 1-c, 2-b, 3-b

continued---on p.8

April Contests---continued

Apr 19	<i>1800 to 2359 Z</i>	80 m to 10 m
ARRL Rookie Roundup		SSB
Apr 25-26	<i>1200 to 1200 Z</i>	80 m to 10 m
SP (Poland) DX RTTY `test		RTTY
Apr 25-26	<i>1300 to 1259 Z</i>	160 m to 10 m
Helvetia DX `test		all modes
Apr 25-26	<i>1600 to 0159; 1200 to 2159 Z</i>	40 m to 10 m
Florida QSO Party		all modes

wireless---from p. 4

transmitted with a great degree of accuracy showing the technique may be used on a larger scale.

Engineers at JAXA have spent years researching new technologies to enable the delivery of energy from space-based solar collectors down to our home planet. Solar cells commonly power satellites, space probes, and the International Space Station. However, delivering that power to Earth in an economical manner is still a challenge facing developers.

Now, researchers say that the Sun's energy might, one day, be collected by massive solar panels in space, and the energy generated from the systems could be sent to Earth in the form of highly directional microwaves. Such networks for generating electricity in space would have some advantages over ground-based systems. Solar collectors in space would not be sub-

ject to the cycles of day or night, or cloudy conditions.

Current plans to develop an orbiting energy generation system involve sending satellites with large solar panels into geostationary orbits more than 22,000 miles above the Earth. Challenges facing engineers include launching these massive solar arrays and maintaining them once they are on-orbit. Because of these issues, JAXA engineers believe that a full network to generate electricity in space will not be available until sometime in the 2040's.

According to JAXA, additional uses for the space-based power system could include sending electricity to remote regions in the wake of natural and man-made disasters. Future development of the current system could produce a device capable of transmitting and receiving energy from ocean platforms, far from the nearest coast. ■

GOBA---from p. 6

295 bridge on Wednesday afternoon. The tour then proceeds to Bowling Green via a Long Judson-Van Tassel-Poe-Liberty Hi-Gorrel/Conneaut-Fairview route to Bowling Green High School. On Thursday there are 100 mi and 50 mi side trips, both of which pass through Pemberville and then return to the High School. Finally on Friday morning, the tour departs Bowling Green using the Slippery Elm Trail and Rudolph Road to North Baltimore. After a break it then proceeds west out of the County to Deshler.

Ham volunteers will be needed to furnish communications at rest stops, pinch points, and perhaps in emergency vehicles. If you are interested, please contact the Wood County EC, Bob Schumann, W8NYY, at w8nyy@bex.net and have him put you on the volunteer list. The GOBA ride involves over 3,000 riders plus other support personnel, so it is a big event, and is a very good way to hone your emergency communications skills. ■

SDR Topic of April Program

John Gruber, N8MSU, was inspired by Jeff Kopcak's articles in CQ Chatter to ask Santa for an SDR (Software Defined Radio) Dongle, and Santa delivered. John will be presenting a summary of what he has been learning about Software

Defined Radios after the April business meeting, and, with luck, will build a (cheap) working software radio and demonstrate it.

No smelly solder fumes. Nothing up his sleeve. ■

Solar Update

from ARRL Letter

Sunspot numbers and solar flux both rose over the past two weeks. Average daily solar flux rose from 117.5 to 122.4. The average planetary A index dropped from 29.4 to 19.4, although conditions continued to be active.

March 22-23 had planetary A index numbers at 24 and 21, but there was nothing like the index of 117, recorded on March 17. One new sunspot region was seen on March 19, two on March 21, three on March 22 and again on March 23, and yet another new one on March 24.

Predicted solar flux is 145 on March 31 through April 2, 130 on April 3-5, 125 on April 6-8, 120 on April 9-10, 115 on April 11-19, 120 on April 20, 115 on April 21, 120 on April 22-23, and 125 on April 24-27.

Predicted planetary A index is 5 on April 1, then 10, 15, and 12 on April 2-4, 5 on April 5-6, 8 on April 7-8, 5 on April 9-11, 15, and 30 on April 12-13, 20 on April 14-16, 15 on April 17, 20 on April 18-19, then 12, 5 and 15 on April 20-22, and 25 on April 23-24. ■

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