



# Arc Over

Fox River Radio League  
PO Box 673  
Batavia, IL  
60150-0673

April, 2004

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## President's Traffic *by Bill Schaben, W9AX*

Now that the weather is starting to break, we need to start thinking about our summer projects. There are only three: the Canoe Race, June 6; the Payton Run, June 13 and a new one, an archery tournament on Aug. 21 and 22. This does not mean that we can forget about our grandest outing of the year, Field Day.

The canoe race, officially known as the Mid-American Canoe Race is a fifteen mile paddle from St. Charles to the North side of Aurora on the Fox River. Most of you have been involved and know that we are the communications links between the various portages at the start and finish lines. It's a fun time with lots of activity both on the water and on the air. In the past we clear people on the portages as the last canoes go through. Generally, the whole thing is over by 2 or 3:00. This year I'll be the chairman for the event. At the next meeting I'll have sign up sheets.

The next event is the Payton run. It starts and ends at Walter Payton's Round House restaurant in Aurora. Lou K9LU is the Chairman. Here, we're there early about 7:00 AM and are done by 10. Breakfast is furnished. Lou will have more info later.

The last public service event is a new one, an archery tournament. I've not talked with anyone from FVPD about it. So I don't know at this time what is expected or how many people we need.

Then, of course, we have our biggie, Field Day. Mike, K9FE, is Chairman and will have all the info.

The reason I mention these is to get you out and help on these. For one thing, now that we are meeting in the Prisco Center the first three events are our rent we pay for the meeting room. The Fox Valley Park District has enlisted our help and we have come through. That made negotiations for a meeting room easy. We must continue this relationship.

The next reason you need to come out is to enjoy practicing the hobby by working as a group to sharpen the skills as communicators and to get to know your fellow hams a little better outside of the meeting room.

The last reason is to support the club. A club is more than a place to go once a month. It is a place to learn through doing. It's a place to give something back to the community. Outside activities help our group to know each other, I guess they call that bonding. I don't know a lot of the members names because I don't have time to meet them at the meetings. However, I remember the names of the people I've worked with on the activities.

Don't be shy. Sign up, come out, learn and have fun.

### Elmhurst Bicycle Club

The EBC has approached us to provide communications for a ride they are sponsoring on July 25. The ride will run from Hampshire to Elburn. They've requested communicators at three rest stops and with the SAG vehicles and at the Hampshire start line.

At the last meeting, there was a show of hands of those interested. I was disappointed in the few that were raised. And in that we have our own activities to think of, I thought it best that we decline the request to be the major organization. However, I indicate that we would pass the information on about the ride and ask that anyone interested in helping, to contact them. I have already signed up. So for those interested, contact Ed Curtin – WT9N by phone: 847-981-1677 (home), 847-502-6054 (cell) or email [curtine1@comcast.net](mailto:curtine1@comcast.net). Here's another chance to have some fun and to meet some other hams. As I get more information, it will be passed along.

## About the FRRL

The Fox River Radio League, Inc., is a general interest amateur radio club serving the central Fox River Valley area. Records indicate the club has been in existence since at least 1924, and has functioned continuously ever since. We are an ARRL Special Service Club, an Illinois not-for-profit corporation, and a 501©(3) tax exempt organization as specified in IRS Statutes.

We sponsor training classes for new hams,

license examination sessions, an annual hamfest, and participate in various public service events. If you have a specialized amateur radio interest, chances are you can share it with one or more of our club members.

The Fox River Radio League meets on the 2nd Tuesday of every month at the Prisco Community Center in Aurora, Illinois. The meeting begins at 7:30 PM. After conducting business, coffee and

snacks are served while we socialize. Following the break, a program of interest will be presented. All persons interested in amateur radio are invited to attend. Families are welcome. *We hope to see you there!*



## License Exams

The Fox River Radio League, Inc., in conjunction with the ARRL VEC, conducts amateur examinations on the 3rd Tuesday of January, Marcy, May, September and November in the basement of the Prisco Community Center, 150 W. Illinois Street, (South East corner of Lake and Illinois) in Aurora, IL. at 7:30 PM. No advance registration is required, but please be sure to

bring your license (if you have one) and a photocopy of it, original CSCEs and a photocopy (if needed), some form of photo identification, and the fee of \$12.00. (The FRRL receives no portion of this fee.)

The next exam is scheduled for Tuesday, May 18, 2004, at the Prisco Community Center in Aurora.

## FRRL Dues

Annual dues are payable no later than the January Club Meeting each year. Persons joining during the year will have their first year's dues prorated to the nearest yearly quarter.

Regular dues are \$20.00 a year, Senior Citizen dues are \$12.00. Family dues are \$30.00. You can also help support the FRRL Repeaters by joining as a combined Club/ Repeater member for \$30.00. Repeater dues are \$20.00.

Check with the Treasurer for details and additional dues rates.

## Nets

Net Name	Freq.	Day	Time
FRRL	147.210	Tuesday	7:30 PM Local
10-10 CW	28.150	Monday	8:00 PM Local
10-10 SSB	28.720	Monday	8:30 PM Local

## Fox River Radio League

Founded 1924

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FRRL CLUB MEETINGS ARE HELD AT THE PRISCO COMMUNITY CENTER AT 150 WEST ILLINOIS STREET IN AURORA. PLEASE CHECK THE FRRL WEB SITE FOR A MAP TO THE MEETING LOCATION .

This month has been interesting. I myself have not really had time for my radio. However, a good number have. W9XA has added a few new countries to his DX Challenge worked list. Kermit notes that the 3B9C Rodrigues Island DXpedition Web Site, which can be found at <http://www.fsdxa.com/3b9c/online-logs.html>, has listed contacts with both NA9A and W9XA on 30 meter CW, but W9XA notes that he has gone on to also work the Rodrigues Island DXpedition on 20, 17 and 15 meter phone. (Rodrigues Island is located in the Indian Ocean about 600 miles East of the Seychelle Islands.)

Also added to the W9XA log the past two months are XF4 and TJ3. Notably; all of his HF aluminum beams have been down since the fall for cleaning and rebuilding so his HF activity has been with a 45' ft tall Gap Voyager Vertical and dipole antennas. Kermit also reports that luckily antennas for 6, 2, 220, 432 and 1296 survived the 65 Mph gusts that March had to offer. His "EME" antenna projects awaits the return of his Orion rotor which is being rebuilt before the 8-Yagi 2-Meter EME array is placed back to the operating elevation after having been cleaned and having had new phasing lines installed.

His newest antenna is an eight-bay Sterba Curtain for 20 Meters fed with 450-Ohm twinlead and aimed towards the Mediterranean. This antenna should provide about 7 Dbd of gain if all works as planned; presently it has been working at lower elevations for tuning and will be raised twenty more feet as soon as the spring (weekend) rains subside. W9XA notes that the first contact at the low elevation was 6Y5 off the side (null) of the Sterba Curtain running 50 watts - which he considers to be VERY low QRP <grin>!

DX this month includes 3B9C, 5V7C, 9M2 GM4YXI, R1FJ, TL5YY, XF4IH, YI9ZF, TU8, ZK3 OH0, D4B, C31, TA2, SU9, OX, VP8, JW5, 7X4, 5R8, XF4, 5W0, CE0Z, FK8, TF3 VQ9, TK5, 5Z4, ZD7, VP2M.

Remember, just because you started in one class doesn't mean you are tied to that class all year. You can go from **Limited Operator** to **QRO** easily. Going backwards poses a problem since you cannot use your **QRO** contacts for **Operator IF** they were gotten with higher power than the class you want to be eligible to be in. Remember the 250-watt output power limit on the **Operator** category.

Remember to get your updated **totals** to me by the 15th of each month to have them included in the **Arc Over**. If you are a day late of so, don't worry, I'll still get them in. Send them to [challenge@frrl.org](mailto:challenge@frrl.org). Also include a list of rare and not so rare entities you have worked so we can all be a part of the HF hunting. The bands may seem dead, but make sure you try...you never know how the propagation can change.

Good Hunting!  
73 de K9FE Mike Urso

The Standings are listed on Page 6.

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## FCC INVITES COMMENTS ON AMATEUR RADIO RESTRUCTURING PLANS

[From the ARRL Letter, 03/25/04]

*Editor's Note by KB9YSI: As many of you know, the ARRL and several other organizations have presented plans to revise the Amateur Radio license structure. These plans are in response to the elimination of the requirement to require Morse Code as a condition of an Amateur license that was agreed to at the WRC conference in July, 2003. The FCC is asking for comments on four plans, including the ARRL petition.*

*This is an important issue for Amateur Radio, and I urge you to become familiar with the various plans and submit your comments to the FCC.*

*Here is the text of the ARRL Letter article:*

The FCC is seeking comment on three plans, one from the ARRL, that would reshape the Amateur Service licensing structure. Each Petition for Rule Making responds to World Radiocommunication Conference 2003 actions last summer that made changes to Article 25 of the international Radio Regulations. While differing substantially in some other aspects, the three petitions call for modifications at Amateur Radio's entry level and for a three-tiered license system. One petition goes beyond licensing structure to recommend additional changes to amateur testing and HF digital privileges. A fourth petition focuses solely on the Morse requirement. Comments are due by April 24 on all four petitions.

(Continued on page 7)

## Share the Excitement!

by Dick Illman, AH6EZ

Here is what I have heard of recently. If you had fun with ham radio, share it. If you have not been having fun with ham radio, why not?

Jack, K9JE Returned from a 2 week stay in St. Lucia where he operated his portable station (a ICOM IC 706 MKIIg) as J68AR. He also participated in the ARRL CW DX Contest with the J6DX contest group. He also visited with some of the local hams on the island, Givan J69AC, Ernest J69AZ , and Junior J69EN. He had many contacts and lots of relaxation.

Dick, AH6EZ/W9 worked across the big pond on 60m to GI4VIV using a quarter wave vertical wire up in a tree (the wire has since blown down). Dick has been busy with the little Elecraft KX1 rig with 36 states, 5 provinces, and 27 countries worked.

A19U, Lance learned that it is better to go snowmobiling than leave his new truck parked in the driveway. Wind storms after rain can cause a neighbor's tree to make a great impression on it.

Dick, AH6EZ/W9 had some fun with the Elecraft QSO party March 13. He worked all eleven stations he heard in the hour he allocated to the contest.

Let me know of fun you are having with ham radio by email ([AH6EZ@aol.com](mailto:AH6EZ@aol.com)), on the Fox Repeaters, or telephone 630-584-4388. I will share it in the next Arcover. If I do not receive any input for this column, I may discontinue it.

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## April Program Notes

by Dick Illman, AH6EZ

Mike and Denny will be doing the April program about the FRRL Field Day while I am in England trying to work across the pond back to the USA. Hopefully I will be able to link up with IRLP or email to tell people when I am on the air so you can listen for me.

Field Day should be great this year since we already have the whole Jericho Lake Park reserved. With the reduced band conditions this year, I plan on setting up a 20m Moxon antenna. If you don't know what that is, come to Field Day.

## Fox Repeater and IRLP Update

by Dick Illman, AH6EZ

From April 9 to April 20, keep an ear on the IRLP for M/AH6EZ or MM/AH6EZ who may be trying to set up an HF schedule on 40, 30, or 20m CW. The prime openings may be 7.040 from 0400-0600Z and 14.040 from 2000-2100Z.

Please remember that our repeaters are shared facilities and keep your transmissions short, especially during commute times. Try to create large enough round table conversations so that everyone can participate and have courteous conversations that are beneficial to the cause and traditions of amateur radio. Let's all try to learn more about amateur radio and expand our horizons and not just have a wireless chat room.

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## Solar Flux

by Bill Muhr, KB9YSI

As always, things keep changing. At least that's the way it seems, and it does keep things interesting.

I'd like to thank Sheldon L. Epstein, K9APE, for permission to reprint the book review that originally appeared in the NSRC newsletter.

If you haven't been on HF lately, you might be surprised to learn that the bands are not as bad as you might think. There are several DX stations on the air right now that you can probably work without too much trouble. I managed to snag 3B9C (Rodrigues Island) with my 100 watts and a dipole, and I've heard that station regularly on several bands. Go fire up the HF rig and see what you can hear. I think you will be surprised.

Just a reminder — if you are interested in Field Day, please come to the April meeting. Mike and Denny will have a really good program about the Club's plans and how **YOU** can participate.

See you at the meeting ...

Bill  
KB9YSI

## Why We Still Need CW, Or, Working QRP With A Wet Noodle

By Dick Illman – AH6EZ

I was on an overnight business trip the other day to Houston. I figured I might have some free time in the evening so I packed my Elecraft KX1. When I got to the hotel, they gave me a third floor room. When I got to the room and opened the curtains, I discovered that there were metal clips on each window such that they could not be opened. However spotting a six foot tree near the hotel, I decided that it was mandatory to open the window. Since Sept 11, it is not possible to travel with any tools, so I began a search of implements in the hotel room. My keys were not touching the allen head set screw. I spied the wooden coat hangers and thought I might make a vise to twist the set screw. No luck. I then noticed that the lock-tite on the set screw was only on the point of the screw and not on the threads. I then succeeded in prying the bracket sufficiently so that it broke lose and an open window was mine!

I tied a lead weight onto the end of my 23 foot wire and dropped it out the window. I then walked outside and draped the wire over the short palm tree. The wire ended up one foot above the ground. I wondered about my success on the air but figured that was the best I could do. I laid a 32 foot counterpoise wire around the room.

I set up the KX1 and checked that I could tune the antenna tuner on all three bands. I tuned around on 40m and I heard what sounded like a washing machine everywhere. It turns out there was a coin operated laundry two doors down the hall. I was hearing the electric noise from the washing machine! I switched bands up to 20m and quickly heard a K9 from Illinois running 100 watts calling CQ with a reasonable 569 signal. We had a nice 20 minute QSO and he gave me a 569 RST. I went to dinner a happy ham.

After dinner, I tuned across 20m and heard only a couple of signals. One was an RW9 calling CQ with no one answering him. I thought, what chance do I have of working him with a wet noodle. He came back to me and gave me a 539. I now feel that I will be able to work the US from England and Scotland between April 9-20.

After talking to Winnipeg and Brazil, I heard a Mexican station calling CQ. It turns out I was his very first ham radio QSO. He was sending fairly well and I matched his sending speed of about 6 wpm. He had not yet learned about abbreviations

on CW and repeated his QTH long hand as "my station location is Nogales Sonora Mexico my station location is Nogales Sonora Mexico". That used up my ten minutes for an HF Challenge Ragchew contact right there. I was surprised that he asked me to be his QSL manager. I think that I was almost as glad to be having a QSO with him as he was to be having his first QSO with me. He sent his name three times but spelled it differently each time so I don't know his name.

I know what my name was... skilled, lucky, and happy...

Remember to submit your comments to the latest FCC petitions by the ARRL and others, RM-10867, RM-10868, RM-10869, and RM-10970.



### Caution! — Plasma TV!

by Bill Muhr, KB9YSI

I received a phone call this week from Dick, W9GIG, asking me to remind everyone that Plasma TV sets may be the latest fad, but that they may not be good for Amateur Radio. Several hams have advised that they had to return their newly purchased plasma sets because of the interference they created on the ham bands.

Apparently the gas discharge from the plasma screens creates broadband RF hash that can wipe out reception on both HF and VHF/UHF bands.

If you are think about a new plasma TV, please think twice and do some research before plunking down your cash for something you might have to return to the store (and pay a "restocking fee").

Erickson HF Challenge Standings as of 3/15/04

RagChew Class	States/Provinces	DX Countries	Total
AH6EZ	44	6	50
K9COE	29	18	47
K9FE	23		23
K9IH	12		12
W8DTR	6		6
NA9A	1		1

Operator Class	States/ Provinces	DX Countries	Total
AB9CC	38/9	69	116
NT3J	40/6	65	111
KB9YSI	38/8	63	109
K9COE	45/6	40	91
W9XA	38/4	37	79
W9DTR	40/8	28	76
K9IH	33/3	15	51
W9CEO	35/1	13	49
KA9OBH	0/1	36	37**
W9DNJ	11/1	3	15

\*\*Also 12 Diapers were processed!!!

Limited Class	States/ Provinces	DX Countries	Total
K9MMS	49/7	93	149
KB9YYX	7/0	0	7

QRO Class	States/Provinces	DX Countries	Total
AH6EZ	50/11	153	214
NA9A	3/1	149	153
WB90	38/4	59	101
WOHED	36/2	2	40
K9FE	18/3	15	36



## AMATEUR RADIO RESTRUCTURING PLANS

*(Continued from page 3)*

Designated RM-10867, ARRL's petition asks the FCC to create a new entry-level license class--being called "Novice" for now. It would offer limited HF CW/data and phone/image privileges on 80, 40, 15 and 10 meters plus certain VHF and UHF privileges. The League plan also would consolidate Technician, Tech Plus (Technician with Element 1 credit) and General licensees into a new General license that no longer would require a Morse examination. Current Technician and Tech Plus licensees automatically would gain General privileges, and Advanced license holders automatically would be upgraded to Extra without further testing. Applicants for Amateur Extra would still have to pass a 5 WPM Morse code examination, but the General and Extra written exams would stay the same.

A news report "ARRL to Propose New Entry-Level License, Code-Free HF Access," <<http://www.arrl.org/news/stories/2004/01/19/1/>>, has further details. Frequently asked questions (FAQs) are addressed on the ARRL Web site, <<http://www.arrl.org/news/restructuring2/faq.html>>.

In a wide-ranging petition designated as RM-10868, an "unincorporated grassroots organization" calling itself the Radio Amateur Foundation (RAF) has asked the FCC to modify the Technician ticket to allow limited HF phone, image, data and CW privileges. HF phone/image privileges would be restricted to portions of the 160, 15 and 10-meter bands.

The group also proposes retaining the 5 WPM Morse requirement for General and Amateur Extra applicants, upgrading Advanced class holders to Extra and Novices to Technician. The Radio Amateur Foundation said it sees no need to change licensing requirements for General or Amateur Extra applicants.

The RAF also wants to scrap existing Amateur Radio question pools and start over from scratch, keeping the question pools out of the public domain and requiring a 10-day waiting period before retesting. In addition, it would permit only Generals and Amateur Extras--or Technicians licensed more than two years--to request vanity call signs.

The RAF has further asked the FCC to permit digital experimentation from 29.0 to 29.3 MHz at bandwidths of up to 15 kHz.

In his two-page petition designated RM-10869,

Ronald D. Lowrance, K4SX, calls on the FCC to retain the 5 WPM Morse code requirement for General class applicants and to raise the Morse requirement to 13 WPM for Amateur Extra class applicants. He called Morse code "the most reliable mode of communication" in an emergency. Lowrance would make no change in Technician licensing requirements.

The National Conference of Volunteer Examiner Coordinators (NCVEC) wants the FCC to establish a new "Communicator" entry-level license. Its petition, designated RM-10870, reiterates the NCVEC's call--first made last fall in RM-10787--to altogether eliminate the Morse code testing requirement.

The NCVEC petition would upgrade all current Novices to Communicator class, all current Technician and Tech Plus (Technician with Element 1 credit) licensees to General and all Advanced class licensees to Amateur Extra without further testing. Once the Morse requirement goes away, the NCVEC said in its filing, "there will be no effective difference between the Technician and General class licenses."

The new Communicator ticket would permit a power limit of 100 W on bands below 24 MHz and 50 W on all frequencies above 24 MHz. Communicator licensees would have to use commercially manufactured equipment (or gear built from a commercial kit). Communicator licensees could operate both voice and digital modes on 80, 40, 15 and 10 meters plus VHF and UHF up to 70 cm.

All three license restructuring plans call for changes to the present HF subbands.

Interested parties may view and comment on these petitions via the FCC Electronic Comment Filing System (ECFS) <<http://www.fcc.gov/cgb/ecfs/>>. When entering the RM number in the ECFS "Proceeding" field, RM must be in capital letters and the hyphen must be included.

**WHO INVENTED THE COMPUTER?:  
THE LEGAL BATTLE THAT CHANGED COM-  
PUTER HISTORY**, by Alice Burks ©2003  
ISBN 1-591020340-4

'Necessity' is said to be the mother of invention. But, who is the father? Lacking DNA samples, Alice Burks, wife of an early computer engineer Arthur Burks, claims to have established paternity by analyzing documents and reviewing oral testimony for her 2003 book entitled 'Who Invented The Computer?: The Legal Battle That Changed Computer History'. She concluded that the father of the electronic computer is John Vincent Atanasoff – not J. Prespert Eckert and John W. Mauchly, who are named as inventors of Patent No. 3,120,606 for 'Electronic Numerical Integrator and Computer' (ENIAC) that issued in 1964 based on a 1947 filing date. By the way, I do not suggest downloading the patent from [www.uspto.gov](http://www.uspto.gov) as it contains 91 sheets of drawings and 207 pages. You can get a flavor of it by reading the following claim:

1. Means for producing electric pulses in sequence, electronic means for alternately transmitting certain ones of said pulse as recurrent differential groups, electronic means for selecting particular pulses from one another of said differential groups to represent certain qualitative values, reading means responsive to pulses representing both the qualitative and quantitative values for reading data to be processed upon command of at least one of said qualitative pulses, sorting the data thus read, and making the data available in the form of data pulses in response to at least one other of said qualitative pulses, and electronic means for receiving said data pulses and responsive thereto for performing electrical switching operations of a nature determined by selected ones of said qualitative values and of a degree determined by select ones of said quantitative values.

This –and other claims– were the subject of a patent suit brought by patent owner Sperry Rand Corp. against Honeywell, Inc. and Control Data Corp. in 1971 that was to determine whether the '606 patent would dominate commercial computer development in the USA until the patent expired in 1981. The answer, in short, was that Sperry Rand lost its suit and the '606 patent was found invalid and unenforceable because Eckert

and Mauchly claimed inventions of Atanasoff. Twenty-four other Sperry Rand patents and applications were also held invalid or unenforceable because of false claims of priority to inventions of Atanasoff, John von Neumann and others. Yes, it helps to be an Electrical Engineering patent attorney –which I am– when reading this book; but, there is more in it than engineering and law.

The book comprises four different stories; namely, a) the invention of the first electronic computer in 1941 by Atanasoff at Iowa State University, b) the patent infringement lawsuit; c) the continuing public debate over priority claims made by Eckert and Mauchly and d) the influence of corporate sponsorship by Sperry Rand and other computer companies on the Smithsonian Institution and the Public Broadcasting System (PBS) on their telling of the history of invention of the electronic computer.

So having outlined Burks' book, I would like to take you back to the beginning of the story of John V. Atanasoff and his invention of the electronic computer during the years 1939 - 1942. This review is necessarily space-limited; however, you can delve into detail by typing 'Who is John Vincent Atanasoff?' into the [www.google.com](http://www.google.com) search engine or going directly to [www.lib.iastate.edu/arch/jva.html](http://www.lib.iastate.edu/arch/jva.html) .

Atanasoff was Associate Professor of Physics at Iowa State University in 1939. He was preoccupied with problems that required solutions to as many as 30 simultaneous equations. In those days 'computers' were not machines; but, were humans who performed calculations needed for such solutions on mechanical calculators. Atanasoff and others contemplated mechanical systems for ganging together calculators; but, none of these configurations proved practical. Atanasoff conceived the need for an electronic computing machine incorporating vacuum tubes, which in those days were used for analog – not digital applications.

Atanasoff, with the help of graduate student Clifford E. Berry, then embarked on a program to build an electronic computer that could solve 30 simultaneous equations. Burks enumerates Atanasoff's inventions as the first to:

- Build a complex electronic switching system
- Use electronic digital computation
- Use binary code in electronic computation
- Convert decimal numbers to binary representation and back again

*(Continued on page 9)*



## K9APE'S BOOKSHELF

*(Continued from page 8)*

- Separate memory and arithmetic in an electronic computer
- Build a rotating memory drum
- Use capacitor memory elements to represent a linear equation in memory
- Use regeneration to refresh memory
- Use serial binary adders interacting with a rotating memory
- Combine thirty such adders in parallel to obtain vector processing
- Compute based on logical rather than counting principals
- Develop a novel variation of Gauss' algorithm that did not require division for solving simultaneous equations.
- Use sign detection and shifting mechanisms for a non-restoring arithmetic procedure
- Obtain automatic sequencing and coordination of operations through a central clock
- Use replaceable modular computing units.

The Atanasoff-Berry Computer (ABC) actually worked in 1942 (see photos of ABC at [www.scl.ameslab.gov/ABC/Progress.html](http://www.scl.ameslab.gov/ABC/Progress.html)); however, there was a reliability problem with the mechanism that read programs and data into the computer. Perhaps because of that problem and more likely because of the intervention of World War II and the lack of support for ABC by Iowa State University, Atanasoff broke off work on it and joined the Naval Ordnance Laboratory (NOL) in Maryland. Some time after Atanasoff went to NOL, the university scrapped ABC.

Atanasoff tried to patent his inventions; but, without success. Part of his problem was his relationship with his university. It offered him 10% of any future royalties with nothing for Berry. Atanasoff demanded 50% (he promised 20% of his share to Berry), which he finally negotiated; but, that caused bad feelings with the administration which apparently lost interest in obtaining a patent. A second obstacle was that his Chicago patent attorney did not understand the inventions and lost some of the patent drawings. As a result, no patent application was filed even though Atanasoff and Berry had reduced their inventions to practice by 1942.

While Atanasoff strove to keep his invention secret for patenting reasons, he did make what he claimed was a reasonably complete and enabling disclosure to Mauchly in 1941. Mauchly was a professor at Ursinus College near Philadelphia where he was conducting research on periodicity in weather patterns. Like Atanasoff, he needed a

machine that could solve simultaneous equations and wondered whether such a machine could be built with electronics. The two men met at a 1940 physics convention held in Philadelphia where Atanasoff told Mauchly that he had built an electronic computer for solving simultaneous equations. Atanasoff invited Mauchly to Iowa where Mauchly was allowed to read –but not copy– Atanasoff's written description of the ABC. By this time, Mauchly had moved from Ursinus College to the Moore School of Engineering at the University of Pennsylvania where he met Eckert and they proceed to build their ENIAC with university support, Army funding and inventions contributed by von Neumann and others.

Mauchly and Eckert left Moore School of Engineering at the end of World War II to commercialize the ENIAC and patent what they claimed were their inventions. The company that they founded for this purpose soon became part of Sperry Rand.

In the trial that was to follow, Atanasoff testified that he had a working computer in 1941 and that he made a detailed disclosure to Mauchly that would enable Mauchly to understand fully the nature of Atanasoff's inventions. Mauchly would testify that he learned little or nothing of value during his visit with Atanasoff in Iowa that Eckert or he could use to build ENIAC or later machines.

The trial was held before U.S. District Court Judge Earl R. Larson in Minneapolis. Larson did not have a background in engineering or computers; but, he retained experts to help him understand and evaluate evidence. Burks takes the reader through important points of Larson's opinion, which I will not do here. Basically, Larson concluded that Atanasoff was a more credible witness than Mauchly and that Mauchly and Eckert had filed claims in the '606 patent application that covered inventions of Atanasoff, von Neumann and others. He also found that Mauchly and Eckert had failed to include others at the university who also contributed their inventions now claimed by Eckert and Mauchly in their other patents and applications. As a result, Larson held that all of those patents and applications were unenforceable. Sperry Rand chose not to appeal and, instead, paid \$3 million to Honeywell and Control Data Corp. to settle the case.

Having lost their infringement suit in large measure because of the priority of Atanasoff's inventions, one would expect that Eckert and Mauchly would concede the question of priority since they no longer had enforceable patents. Wrong! The patentees and Sperry Rand then embarked on

*(Continued on page 10)*

## K9APE'S BOOKSHELF

*(Continued from page 9)*

what we would now call a public relations campaign to discredit Judge Larson and his opinion and to erase the public's memory of Atanasoff and his contributions. They were aided in this goal by the coincidence of Judge Larson's opinion being published the day before President Richard Nixon's resignation following disclosure of the Watergate scandal.

The question of priority, however, did not disappear – it lay dormant in occasional papers published in computer and science journals by Arthur and Alice Burks and others who had personal knowledge of the ENIAC program. Some wrote in support of Eckert and Mauchly and some (including the Burkses) in support of Atanasoff. Then, in the 1980s, the Smithsonian Institution started work on an exhibit to commemorate the invention of the computer. Because it lacked funds to proceed on its own, the Smithsonian solicited and received computer industry funding. One of the more prominent contributors was Sperry Rand.

The Smithsonian Institution took the position that contributions from Sperry Rand and other supporters of Mauchly and Eckert would not influence the content of its exhibit. Nevertheless, the ex-

hibit as originally conceived did not contain any reference to Atanasoff's inventions or to Judge Larson's opinion. Instead the Smithsonian Institution credited Eckert and Mauchly with invention of the electronic computer. Atanasoff's supporters strenuously objected and had some limited success in getting a very small portion of the exhibit allocated to Atanasoff's inventions. That same problem was to reappear a few years later when PBS produced a program – financed by many of the same contributors – on the invention of computers. And, the argument for priority continues to this day.

The book is an enlightening but heavy read, even for this patent attorney. Part of its problem is Mrs. Burks' redundant writing style, which repeatedly references back to facts that she had previously described. Another problem is Mrs. Burks' obsession with telling her own story of her difficulties in setting the Atanasoff record straight. Nevertheless, I heartily recommend that you read the book. To assist you in understanding it, I strongly suggest that you start at 'Chapter Twelve – As It Happened', which is an abstract of the story that should have been Chapter One.

## Replica of the Atanasoff – Berry Computer



## KB9RYA now KC9OEM

by Bill Schaben, W9AX

If you happen to use the Kane County Office of Emergency Management repeater, you might have noticed a call sign change. It's now KC9OEM, which fits rather well. This repeater is an open repeater for every day use by anyone. It's main function is to be there in case of a man-made or natural disaster. It is also used by local hams as a communication link with the EOC during severe weather. Although trained weather spotters are preferred, anyone with unusual weather to report is welcome to check in. The severe weather net is activated whenever the National Weather Service issues an severe thunderstorm or tornado watch or warning.



## VHF/UHF Tropo Forecast on the Web

by Bill Muhr, KB9YSI

Long-time TV and FM DXer William R. Hepburn has placed a series of Tropospheric Ducting Forecast maps on the web. They can be found at: <http://www.iprimus.ca/~hepburnw/tropo.html>. It's a bit too early in the season for tropo, but you might want to keep an eye on the maps and see how accurate they turn out to be.

Mr. Hepburn makes no claims for the accuracy of these maps, and calls them "experimental".

Thanks to Dick, AH6EZ for the link!

## K6KPH ON THE AIR FOR INTERNATIONAL MARCONI DAY 2004

The Maritime Radio Historical Society is pleased to announce that K6KPH, the amateur counterpart of ex-RCA marine coast station KPH, will be on the air for International Marconi Day 2004.

K6KPH transmits from the transmitter site established in Bolinas, California by the American Marconi Co. in 1913. The transmitters are controlled remotely from the receiving station at Pt. Reyes, California. Only KPH transmitters, receivers and antennas are used by K6KPH. No amateur gear is employed.

For IMD 2004 1950s vintage RCA transmitters will be on the air. Power output is 1.5kW for all transmitters. Transmitting antennas are double extended Zepps and H over 2s. Receiving antennas are rhombics and omnis.

Frequencies: K6KPH will be using 3545kc, 7050kc, 14050kc and 21050kc as conditions warrant.

Hours of operation: Operations will begin at 0000Z 24 April 2004 and continue for about 4 hours.

QSL Information:

QSLs and reception reports may be sent to:

Ms. Denice Stoops  
PO Box 381 Bolinas, CA 94924

For further information about the Maritime Radio Historical society please visit the Web site at:

<http://www.radiomarine.org>

For more information about International Marconi Day please visit:

<http://www.gb4imd.co.uk/>

Send Address Corrections to:  
 Fox River Radio League, Inc.  
 736 Fellows Street  
 St. Charles, Illinois  
 60174-3835

## FRRL Event Calendar

### April, 2004

FRRL Board Meeting ..... 6  
**FRRL Meeting** ..... 13

### May, 2004

FRRL Board Meeting ..... 4  
**FRRL Meeting** ..... 11  
 FRRL VE Testing..... 18

## Handy Web Links

FRRL Web Site	<a href="http://www.frrl.org/">http://www.frrl.org/</a>
ARRL Main Site	<a href="http://www.arrl.org/">http://www.arrl.org/</a>
ARRL Central Div. Site	<a href="http://www.central.arrl.org/">http://www.central.arrl.org/</a>
ARRL IL Section Site	<a href="http://www.central.arrl.org/illinois.html">http://www.central.arrl.org/illinois.html</a>
ARRL IL Section News	<a href="http://www.arrl.org/sections/?sect=IL">http://www.arrl.org/sections/?sect=IL</a>
ARRL Contest Page	<a href="http://www.arrl.orgcontests/">http://www.arrl.orgcontests/</a>
Contest Calendar	<a href="http://www.hornucopia.com/contestcal/">http://www.hornucopia.com/contestcal/</a>
Callsign Lookup (QRZ)	<a href="http://www.qrz.com/">http://www.qrz.com/</a>
Vanity Callsign Info	<a href="http://www.vanityhq.com/">http://www.vanityhq.com/</a>
IRLP Main Page	<a href="http://www.irlp.net/">http://www.irlp.net/</a>
AMSAT	<a href="http://www.amsat.org/">http://www.amsat.org/</a>
FCC Services	<a href="http://wireless.fcc.gov/services/amateur">http://wireless.fcc.gov/services/amateur</a>

## ArcOver FRRL Newsletter

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The ArcOver is published monthly by the Fox River Radio League, Inc. Articles and letters are always welcome. The normal deadline for material is six days prior to the end of the previous month. Articles can be sent by email to kb9ysi@arrl.net or via U.S. Mail. Contact the Editor for details and submission guidelines.

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## Local Area Repeaters

**W9CEQ—147.210 Mhz. \***  
 +600 KHz, 103.5 access tone  
 Owned by FRRL

**W9CEQ—444.300 Mhz. IRLP Node # 4850**  
 +5 Mhz, 114.8 access tone  
 Owned by FRRL

**W9ZGP—146.580 Mhz.**  
 +1.08 Mhz (147.660)  
 Owned by NIARC

**KB9RYA—145.470 Mhz.**  
 -600 KHz, 103.5 access tone  
 Owned by Kane County OEM

**W9XA — 224.40 Mhz, +5 Mhz, IRLP Node #4846**  
 — 443.65 Mhz, +5 Mhz  
 — 1292.00 Mhz, -20 Mhz (1272.00)

\* Weekly FRRL Net—Tues. Eve. at 7:30 pm local time.