



# Arc Over

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

September, 2009

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## President's Traffic

By Mike Urso, K9FE

I can't believe it! Summer is over, school is back in session, and I have a summer of projects left to do. Time is passing really fast what with family, work, and hobbies. There is one project I have really wanted to do for 3 years...run a 220VAC line to my operating desk for my linear amplifier. My amp is just a Yaesu FL-2100b which runs OK on 110VAC, but in almost all cases you should run on 220VAC because of efficiency. At 220VAC my little amp runs great and the temperature of the high voltage transformer is lower. (Be sure to follow the steps on setting up your power supply for the higher voltage lest you let out the magic smoke.) Electrical work is not so simple a task since most towns require everything in conduit. Running conduit inside an existing wall is rather difficult, but that is not my issue. I should have (that is the FA-MOUS should have) done it right after field day when my station was still not re-installed. You know how it is, after field day you just want to relax a bit. Anyway, the job will be simple since the main breaker box is just 6 feet away on the same wall. I checked the box and I have ample room to put the new breaker in place. OK, step one, planning.

Planning is important and it should be carried out to the completion of the project BEFORE you start. There are many times I regret not doing a full plan, especially with projects around the home. Since this is an electrical project I want everything ready: the correct plug end and receptacle with the proper faceplate and electrical box, conduit, fittings, 220VAC breaker that fits your style of electrical panel, and a conduit bender sometimes called a HICKEY. Having done a bit of electrical work, one of the items you can never have enough of is the correct size wire. Since my amp is only 600w, 8 amps capacity should be plenty, but what if I step up to a full gallon ALPHA? If I just change the breaker to handle the ALPHA's current my wire may be undersized. It is much easier to plan for the higher current and install the wires once than to pull new wires later. So I have planned this job for 2 years now. Someday it will happen. I guess that becomes step 2.

I know the above seems out of place, but the point was to put planning in your mind. We have some very great planners in the FRRL. All the work the Greg N9CHA did for the club took a lot of planning around his work schedule. Dean KC9EOQ did a fantastic job planning and organizing this year's hamfest. Eric AB9OS went over the top with planning Field Day this year. Dick AH6EZ has been outstanding at planning our last 2 winter banquets (along with "Brewmaster Mike"). Ken N9WCX plans our outing to the Kane County Cougars. Almost weekly we see planning for radio in the park and we have found some errors dealing with park rangers asking for a permit. All these "planners" have learned from a previous experience or situation. Some of these planners would like to pass their knowledge on to you. Do YOU want to get more involved? Dean KC9EOQ would like to train a valued member to help in the hamfest planning. I bet Eric AB9OS would not mind an understudy for Field Day planning. Even stepping up to be a Net Control Operator is a valued job that does take planning. (Contact Adam KC9ITG if you want to try being Net Control for a Tuesday FRRL NET.)

The program this month is "The Search for Amelia Earhart" with Rod Blockstone K0DAS, a Collins Radio engineer. It is a program you do not want to miss! See you at the meeting!

**Minutes of the Regular Meeting of the General Membership of the  
Fox River Radio League (FRRL) an Illinois not-for-profit Corporation  
Held at Rasmussen College, Aurora, IL**

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Meeting Minutes August 11, 2009.

Meeting called to order at 7:30 PM by Mike Urso K9FE – President with 55 members present.

**Question:** Do you qsl and what method do you like?

**Secretary Report:** Bill W9WRS – meeting minutes available on Web and Arc Over.

**Treasurers Report:** Dean KC9EOQ - Total Assets: \$24,885.11 (Cash/Savings = \$8111. Certificates of Deposit = \$16,773.55)

**Committee Reports**

**Hamfest:** Dean KC9EOQ – \$2834.00 profit. There were 280 tickets sold at the gate in 2008 compared to 310 this year. Dean is looking for a replacement as Hamfest Chairman, says an intern for a couple of years would be ok.

**Membership:** Justin KC9NYY – Currently 188 members. Paper rosters are being mailed.

**Newsletter:** Tobi K9TCD – Arc Over is available on front tables and the internet. She needs submissions.

**Cougars Night:** Ken N9WCX – Everybody seemed to have a good time. Tickets can be exchanged for another game due to the rain.

**Yahoo Group:** Bill NF9D – Everything is going smoothly. All members are welcome to join if they have not done so already.

**Software Defined Radio SIG:** Harry K9DXA – 5 people attended the group on Tuesday, June 23. There is a new poll on the Yahoo group regarding which Saturday to have the next SDR SIG meeting.

**Repeater Committee:** Kermit W9XA – The UHF repeater is not accepting narrow band spacing and that is causing the dropouts. The MotoTurbo is only receiving in 3 kHz mode and will be replaced. The DSTAR repeaters are still working and REF001 is still the busiest of all of the reflectors. We are still in the plan for the VBIG tower.

**Net Control:** Adam KC9ITG – There were 15 check-ins for the mobile net. Last week there were 27 check-ins for the regular net.

NA9A – There have been 1707 consecutive City of Lights nets.

**Public Relations:** Jere KAIKPO – The Event of the Month is the Radio in the Park East – Chair Tobi K9TCD. It will be held at Hidden Lakes Forest Preserve; hopefully they will run 3 bands.

**Field Day:** Eric AB9OS – We scored 8466 points. With the bonus points, the total is 10136.

**eQSL:** Jack K9JE – Working on the task of cleaning the eQSL logs up.

**Raffle:** Chris KC9IEQ – there will be a raffle.

**Program:** Amateur Logic Video compilation.

**Member Announcements**

Kermit W9XA – Announced he is running for Vice-Director position for the Central Division.

MFJ has bought Cush Craft Antenna company.

On October 3, 2009 there will be a simulated 8.0 earthquake emergency exercise.

Paul W9DWP – Thanks to Kermit for his work on the VHF Conference.

Mark WB9QZB - The 2009 ARRL/TAPR Digital Communications Conference will be held in the Chicago Area again this year, September 25 – 27, 2009.

**New Business**

The club needs a new education Chairperson. Anyone that is interested can contact any board member.

The September 1, 2009 Board meeting will be at Rasmussen College in Aurora, IL.

The September 8, 2009 General meeting will be at Rasmussen College in Aurora, IL.

The October 6, 2009 Board meeting will be at Rasmussen College in Aurora, IL.

The October 13, 2009 General meeting will be at Rasmussen College in Aurora, IL.

Motion to adjourn by Jere KAIKPO , 2nd by Ken N9WCX.

General meeting adjourned at 8:30 PM.

Respectfully Submitted:

Bill Stamps, W9WRS, FRRL Secretary

## September Program Notes

By Dick Illman, AH6EZ

There were a few FRRL members who were able to see the past W9DXCC presentation made by K0DAS, Rod Blockstone, a Collins Radio engineer, about the 2002 search for Amelia Earhart that was supported by HF radio knowledge. At the last Central VHF Society meeting Rod described their 2006 trip. He is preparing a special version of his presentation that will describe the technical and personnel challenges in trying to find the possible crash site and Amelia's airplane. This will be a program you will not want to miss!

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### New Members

Welcome to the Following New Members:

CALL	NAME
KD5JRR	Ronald Kollman
none	Orven Erickson

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### Skywarn Response – Elburn Tornado

By Cyd Runde, N9CV

The Tornado Watch was issued about 1:00PM on August 19. A system was developing along the Mississippi River, and was tracking NE. As the system moved, it was growing in intensity.

We started a Skywarn net, in stand-by status, as all the severe weather was hours away. Numerous spotters checked in for updates periodically during the day. We estimated the time to our county to be around 530 p.m. As the time approached, it appeared all the severe stuff would be south of us, impacting Will, LaSalle and southern Cook counties. A few tiny "popcorn" cells were headed toward Kane, but according to radar readings, should not be severe.

Bored, I called the local Chinese restaurant for a delivery order. In the field, two of my spotters met up for dinner, reading the radar the same way I had. They figured they would wait out the duration of the watch in the restaurant, getting something to eat.

Around 5:55 p.m., I glanced at the radar as it did its periodic update. Suddenly, the tiny popcorn cell popped! It started blossoming in the center of the county. As I watched, it grew before my eyes. Suddenly, musical tones added to the scenario - the weather alert radio. Tornado warning!

As net control, I went on the air, announcing the warning, and the locations affected. Elburn, a small town located mid-county on Route 47 was the location estimated by radar. Within seconds, spotters were checking in, and en route to the area. 19 spotters in all responded/ were involved in this short fuse situation. Mike and Ben, sitting at the restaurant, threw a \$20 on the table, and bolted out the door. They were just a few miles away from the reported location.

Having established a good relationship with the NWS office in Romeoville (LOT), they immediately tuned to our frequency for reports. They checked into the net, and took reports directly from the spotters. Rotating wall clouds, rain wrapped tornado, debris fields, downed trees were all reported by my guys in the field. The tornado was hopping North on Rt. 47, with spotters right behind. Sirens were blaring in neighboring towns. Perhaps by power of suggestion, other funnel reports were called in by well-meaning citizens, but proved to be scud.

After the storm moved out of the county, the spotters returned to the Elburn area, and began helping village officials locate and document damage. Rt. 47 was closed between Rt. 38 and Rt. 64 due to debris. A tree had fallen on an out building, wires down and some field damage were located and relayed.

*(Continued on page 5)*

## Bill Erickson HF Challenge Update – Mid-May 2009

By Cyd Runde, N9CV

Joe NA9A reports: "I haven't worked any asterisked countries but I'm very happy to have just heard that the ARRL now will accept my 7O1YGF card from a CW contact with Yemen on 4/21/00. I only need four more to have worked them all!"

Herb W9DTR says he worked Kuwait on PSK for the first time.

Time for me to switch hats, as I enter this, we are under a Tornado Watch, so must man the Skywarn desk! Get those entries in, there were just a few this month...

Limited Class	States	Provinces	DX Countries	Total
K9ARZ-PSK31	50	9	118	177
K9MMS-CW	50	10	110	170
KC9FQV-Digital	32	4	13	49

Operator Class	States	Provinces	DX Countries	Total
K9BQL	48	12	156	216
W9DTR	50	11	103	164
K9TCD	41	7	61	109
KC9DAO	43	6	53	102
WB9CHY	40	4	33	77
K9IH	25	3	38	66

QRO Class	States	Provinces	DX Countries	Total
AH6EZ	50	12	172	234
NA9A	43	9	168	218
N4LZ	47	9	100	156

Ragchewer Class	States/Prov.	DX Countries	Total
W9DTR			51
KC9FQV	17/2	4	23
AH6EZ			21
NA9A	9	5	14
K9IH			9
WB9CHY	1	0	1

The watch expired without further incident. A final roll call determined all my spotters were safe, and had heard the stand-down order. One flat tire was the only damage experienced by the spotters. (I warned them about driving over debris!!)

I sat down to re-heated Chinese food, and gave thanks....

Responders: Cyd N9CV, Ben WX9TOR, Mike KC9TVS, Ron KD5JRR, Bob KD8ANJ, Marty N9NTM, Jim KC9FBH, Matt KC9HRH, Eric KC9FQV, Ted N9GOI, Tim KC9JIB, Jeff KC9PMZ, Jeff N9JZN, Duane KA9UMM, Dawn KC9LQS, Paul W9DUP, Dave N9HKH, John KC0VYH, Gary KC4VNU

Note: On August 20th, the National Weather Service field assessment team confirmed an EF- 1 touchdown in Elburn. According to their report it had a maximum width of 40 yards and a path length of 1 mile with peak wind estimated at 105 miles per hour.

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## **Radio Propagation and the Ionosphere (compiled from various sources)**

By Mike Urso K9FE

### **Ionospheric disturbances**

Disturbances in the ionosphere can have a profound effect on radio communications – and most of them (but not all) are bad. In this section we will briefly examine some of the more common forms.

### **Sporadic E-layer**

A reflective cloud of ionization sometimes appears in the E-layer of the ionosphere; this layer is sometimes called the Es layer. It is believed that the Es layer forms from the effects of wind shear between masses of air moving in opposite directions. This action appears to redistribute ions into a thin layer that is radio-reflective.

Sporadic-E propagation is normally thought of as a VHF phenomenon, with most activity between 30 and 100 MHz, and decreasing activity up to about 100 MHz. However, about 25–50% of the time, sporadic-E propagation is possible on frequencies down to 10–15 MHz. Reception over paths of 2300–4200 km is possible in the 50 MHz region when sporadic-E propagation is present. In the northern hemisphere, the months of June and July are the most prevalent sporadic-E months. On most days when the sporadic-E phenomenon is present it lasts only a few hours.

### **Sudden Ionospheric Disturbances (SIDs)**

The SID, or ‘Dellinger fade,’ mechanism occurs suddenly, and rarely gives any warning. Solar flares (Figure 1.5) are implicated in SIDs. The SID may last from a few minutes to many hours. It is believed that SIDs occur in correlation with solar flares or ‘bright solar eruptions’ that produce immense amounts of ultraviolet radiation that impinge the upper atmosphere. The SID causes a tremendous increase in D-layer ionization, which accounts for the radio propagation effects. The ionization is so intense that all receiver operators on the sunny side of the Earth experience profound loss of signal strength above about 3 MHz. It is not uncommon for receiver owners to think that their receivers are malfunctioning when this occurs. The sudden loss of signal by sunny-side receivers is called Dellinger fade. The SID is often accompanied by variations in terrestrial electrical currents and magnetism levels.

An interesting anomaly is seen when SIDs occur. Although short-wave reception is disrupted, and may stay that way for awhile, distant very low-frequency (VLF) signals, especially in the 15–40 kHz region, experience a sudden increase in intensity. This is due to the fact that the SID event results in deep ionization way into the D-layer. This ionization increases absorption of HF signals. But the wavelength of VLF signals is close to the distance from the Earth’s surface to the bottom of the D-layer, so that space acts like a gigantic ‘waveguide’ (as used in the transmission of microwaves) when the SID is present – thus propagating the VLF signal very efficiently.

### **Ionospheric storms**

The ionospheric storm appears to be produced by an abnormally large rain of atomic particles in the upper at

mosphere, and is often preceded by a SID 18–24 hours earlier. These storms tend to last from several hours to a week or more, and are often preceded by 2 days or so by an abnormally large collection of sunspots crossing the solar disk. They occur most frequently, and with greatest severity, in the higher latitudes, decreasing toward the Equator. When the ionospheric storm commences, short-wave radio signals may begin to flutter rapidly and then drop out altogether. The upper ionosphere becomes chaotic, turbulence increases, and the normal stratification into ‘layers’ or zones diminishes.

Radio propagation may come and go over the course of the storm, but it is mostly absent. The ionospheric storm, unlike the SID which affects the sunny side of the Earth, is worldwide. It is noted that the maximum usable frequency (MUF) and critical frequency tend to reduce rapidly as the storm commences.

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## **Net Control Stations**

By Dawn Williams KC9LQS

Soon after joining FRRL and Kane County ARES, I realized that serving as the net control station (NCS) for weekly nets was a great way to make a contribution while I was developing my new radio skills. That first night, a platoon of butterflies landed in my stomach about 10 minutes before the net began, and I was shocked to learn how much sweat the human body could produce! I took a deep breath, put on a smile, and entered the airwaves.

Being NCS turned out to be easy – and fun. You can do it, too – and right now, we NEED you! We have many slots available for new NCS operators through the end of the year. As I learned, serving as net control is a great opportunity to make friends, develop your skills, and become more comfortable and confident as a radio operator.

You won’t want to miss the opportunity to serve your radio club in this capacity. Here’s what you can expect:

The full net script is provided to you in advance. Adam KC9ITG, who coordinates the nets, will send you the script and the week’s announcements on Tuesday morning. Adam will patiently answer your questions, both technical and related to procedures, and make sure you have everything you need before the net begins.

You’re not alone! A back-up NCS is assigned to each net. This person reads the announcements, giving primary net control a moment to catch their breath! Your back-up also remains available in the event that you experience technical difficulties or otherwise become unable to continue operating during the net.

Perfection is not required. Even the most experienced NCS operators make mistakes, or can’t hear the signals of a few far-off stations checking in. I had the latter problem the first time I ran the FRRL net. Several stations jumped in immediately to serve as relay stations. Another time, I unknowingly used an outdated script for the Kane County ARES net, which contained information that was no longer accurate. Guess what? They invited me back anyway. As NCS, you’re not expected to be perfect, and you’re never without help.

You already possess the knowledge you need. If you operate on two meters for pleasure, you have everything required to run the net. As long as your rig consistently hits the repeater from your QTH, rest assured there is nothing else needed.

The time commitment is minimal. How many volunteer opportunities can make that claim? The net begins at 7:30. I usually test my equipment earlier in the day, then power up for the net around 7:15. During the summer, the nets conclude by 8 p.m.

You’ll make friends, gain experience, and grow in confidence. That, after all, is what the world of radio is meant to be.

Your radio club needs you! We have many open nets through the end of the year. Contact Adam at [KC9ITG@aol.com](mailto:KC9ITG@aol.com) for more information.

## 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(c)(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 Rasmussen College in Aurora, Illinois. Information tables are open at 7:00 PM, and 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, March, May, September and November at Rasmussen College, 2363 Sequoia Drive, 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, some form of photo identification and the fee of \$15.00. (The FRRL receives no portion of this fee.)

**The next exam session is scheduled for September 15, 2009 Rasmussen College.**

## FRRL Dues

Annual dues are payable no later than the January Club Meeting each year. New members 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. Members can help support the FRRL Repeaters by making an annual \$10.00 donation.

## 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

Check with the Treasurer for details and additional dues rates.

## Fox River Radio League

Founded 1924

### Mailing Address:

Box 673  
Batavia, Illinois  
60510-0673

### Email:

info@frrl.org

### Web Site:

<http://www.frrl.org>

### President

Mike Urso, K9FE

### Vice President

Harry Jones, K9DXA

### Secretary

Bill Stamps, W9WRS

### Treasurer

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Chris Farley, KC9IEQ

Dick Illman, AH6EZ

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FRRL CLUB MEETINGS ARE HELD AT RASMUSSEN COLLEGE, 2363 SEQUOIA DRIVE IN AURORA.  
PLEASE CHECK THE FRRL WEB SITE FOR A MAP TO THE MEETING LOCATION.  
<http://www.frrl.org>

Send Address Corrections to:  
Fox River Radio League, Inc.  
3023 Scenicwood Lane.  
Woodridge, IL 60517

### FRRL Event Calendar

#### September, 2009

FRRL Board Meeting ..... 1  
FRRL Meeting ..... 8  
SDR SIG ..... 12  
VE Session ..... 15

#### October, 2009

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

### 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 the 20th day of each month for the next month's newsletter. Articles can be sent by email to [arc-over@frri.org](mailto:arc-over@frri.org) or via U.S. Mail. Contact the Editor for details and submission guidelines.

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### Local Area Repeaters/Nets

**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

**W9CEQ\_\_B D-Star—442.10625 Mhz (+ 5.0 Mhz offset)**  
**W9CEQ\_\_C D-Star—145.270 Mhz (-0.600 Mhz offset)**  
FRRL Digital Voice/Data Repeaters  
Contact W9XA for information

**KC9OEM—145.470 Mhz. -600 KHz, 103.5 access tone**  
**KC9OEM—444.525 Mhz + 5 Mhz, 114.8 access tone**  
**(2 meter is primary Kane Co. SKYWARN /ARES freq)**  
Owned by Kane County OEM

**W9DWP—Kane Co. Amateur Public Svc. Rptrs.**  
145.270 -600 KHz, 107.2 access tone  
443.025 +5 Mhz 114.8 access tone

**W9ZGP—NIARC**  
147.060 +600 KHz, 103.5 access tone

- Weekly ARES/Skywarn Net—Wed. Eve. at 6:30 pm local time on the KC9OEM 2 meter repeater
- Weekly FRRL Net—Tues. Eve. at 7:30 pm local time on the FRRL 2 Meter repeater.
- Illinois DStar Net - Wed. Eve. at 8:00 pm local time on the DStar 440 repeater.