

# HAM RAG



Visit our website for more club and area ham information  
In the Rockford area at <http://www.w9axd.org>

## RARA Mission Statement

A member association with common interest of public service to the community through the use of amateur radio.

## The War Years ( Ham Radio History)

From Jeffrey Herman, KH6O

This will give you some background on amateur radio's CD communication effort during WWII:

What follows is a summary of the War Emergency Radio Service (WERS). Information was gathered primarily from "Fifty Years of ARRL," an historical record of the League and amateur radio.

First a bit of background: In 1939 there were 51,000 US hams. In September of that year war came to Europe. Of the 250 DXCC countries, 121 of them immediately went off the air (including Canada and the UK). The US maintained the strictest sense of neutrality. This was re-enforced by the ARRL, which came up with a neutrality code for amateurs. Hams were asked by the ARRL to voluntarily abide by the code, which they did en masse; this earned additional support for the amateur radio service in governmental circles.

In an effort to streamline its operation in preparation for possible US involvement in the war, the FCC at this time introduced multiple-choice tests.

By June 1940, the US invoked the Telecommunications Convention prohibiting US amateurs from contacting hams elsewhere; at the same time all portable and mobile operation below 56 MHz was banned (except the ARRL Field Day). At the request of the ARRL, the ban was modified to allow the League's Emergency Corps to continue work on the lower frequencies for training and drills. All licensees were required to send a set of fingerprints, a photo, and proof of citizenship to the FCC.

The FCC needed 500 radio operators to man listening and direction-finding stations -- they asked the League's assistance -- the League put out the word in QST and within days of that issue, the FCC had the 500 operators it needed. (It's important to note for the duration of the war, the military and government always turned to the ARRL when radio operators and equipment were needed; the League would put out the call in QST and over W1AW, and the quotas were always filled in short order. Of the 51,000 hams mentioned above, 25,000 enlisted, and 25,000 remained at home to teach radio and electronics, serve in the communications industry, and serve in WERS.)

By June of 1941, tubes and other components were in short supply; each time the military asked hams to donate parts, they were flooded with whatever was needed. Many US hams were recruited for a Civilian Technical Corps to operate and repair British radar equipment. Also at this time, the Office of Civil Defense, at the offering of the ARRL, created a CD communication system with ham radio as its backbone (this relationship between CD and ARS exists even today). Because the Army needed the 80 meter amateur band, the FCC gave hams 40 meter phone privileges for the first time, to make up for the loss of 80 (prior to that, 40m was a CW- only band.)

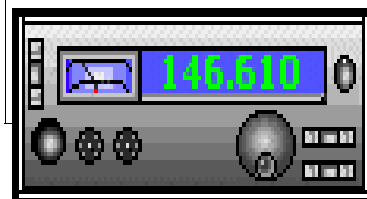
December 7, 1941, the US entered the war; hams were immediately ordered to go QRT. By special FCC order, the ARRL's W1AW was to continue its transmissions.

At the request of the ARRL, the War Emergency Radio Service (WERS) was created in June 1942. The Government Printing Office was inundated so the rules for WERS appeared only in QST. At the League's insistence, the FCC continued to offer amateur licensing throughout the war; this to provide standards for WERS applicants, and more importantly, to enable amateurs to prove their ability before enlisting in the armed services.

## October 2013

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### NEXT MEETING

**FRIDAY**  
**September 13 ,2013**

**Location:**  
**Foundation Room**

**Saint Anthony OSF**  
**5666 East State Street**  
**Rockford, Illinois**

**Program:**  
**Digital Slow Scan TV**  
**Using Easy Pal**

Latest news and events on our web page: <http://www.w9axd.org>

## The War Years ( Ham Radio History)

The purpose of WERS was to provide communications in connection with air raid protection, and to allow operators to continue their role in providing communications during times of natural disaster as they'd been doing as hams (WERS was not part of the amateur service, but was manned by hams; non-amateurs were permitted to serve in WERS in low level positions). WERS was administered by local CD offices; WERS licenses were issued to communities, not individuals.

WERS operated on the former amateur 2 1/2 meter band (112-116 MHz) and on higher frequencies. Again, WERS was not part of the amateur service but hams were asked by OCD to join -- and they flocked to it. Until the end of the war, if a ham wanted to operate he could only do so as a WERS operator. QST fully supported WERS by publishing technical articles on building WERS gear and modifying existing 2 1/2 meter ham equipment so as to meet the rigid WERS standards. Nearly every issues of QST contained WERS articles - two examples:

Oct. 1942: WERS operating procedures; how to train auxiliary (non-amateur) operators; and Feb. 1943: OCD's plan for selecting frequencies.

A sample of WERS operations: May and July 1942 -- communications support for flooding of the Mississippi and Lake Erie; 1944 communications support after an Atlantic Coast hurricane; 1945 -- Western NY snowstorm early in the year, spring flooding, and a September Florida hurricane.

After VJ Day in 1945, hams were given authorization to begin operating again on the 2 1/2 meter band, on a shared basis with WERS. WERS was terminated in mid-November. By the 15th of that month, the FCC released bands at 10, 5, and 2 meters for amateur use. The post-war era of amateur radio had commenced.

Thanks Jeffrey Herman, KH6O

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1940 - Doc Stuart, W6GRL, worked AC4YN, for 40th zone. QSL not received till after WW II. Doc Stuart had eight rhombics on beach property in Ventura. Three prewar confirmed WAZs are ON4AU (QSO AC4AA in 1927), G2ZQ & J5CC.

1940 - With the advent of the War in Europe, by June 1940, the US invoked the Telecommunications Convention prohibiting US amateurs from contacting hams outside the USA. Also all portable and mobile operation below 56 MHz was banned. All licensees were required to send a set of fingerprints, a photo, and proof of citizenship to the FCC.

As the USA enters WWII in 1941, Amateur Radio Operation is suspended. Amateurs form a valuable pool of trained technicians and operators and are in high demand by the Military. By 1942, there was about 15,000 Amateurs in the US Military. But there is a [WERS](#)<sup>10</sup> (War Emergency Radio Service) on 2 1/2 meters (around 2,000 Amateur Stations participated).

1942 During WW-II, Rommel's Afrika Corps used 27-29 MHz for short range tank communications. Confused SWL'ers (I believe in Virginia and Georgia) finally figured found out what they were listening to. The US Gov't set up listening stations to relay the info back to Patton. Short range in a pig's eye!

1941 - 1945. Skilled code operators on either side could distinguish the enemy operators by the CW swing or style of 'fist", thus in many cases identifying the ship or station location. Post war records indicate the Japanese were monitoring US Navy VHF from long distances -- VHF was thought to be limited to line of sight. Code breakers in England in a massive project "[Ultra](#)" could recognize German operators from their CW swing, cliques and habits. Indeed it is reported that the British developed the first programmable computer, containing 1500 vacuum tubes, to break the German codes. This preceded the American EINIAC Electronic Computer of 1945.

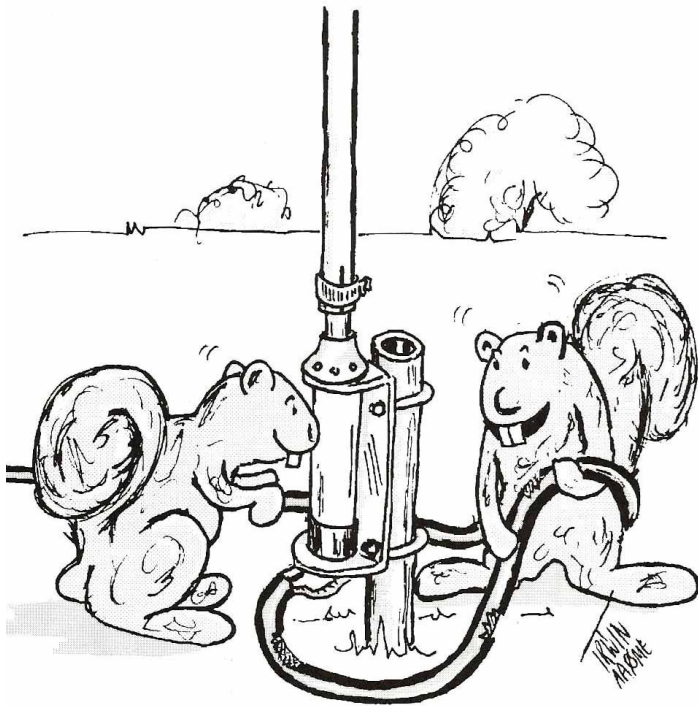
1939 - 1945 World War II movies are full of radio equipment of the time, look for the National, Hallicrafters, RME's etc.

1942 [Navajo Code Talkers](#) took part in every assault the U.S. Marines conducted in the Pacific from 1942 to 1945. Their unique code language totally confounded the Japanese Radio Operators.

1942 British mathematician and science fiction writer Arthur C. Clark suggests using satellites to relay radio signals about 20 years before the first satellite, Sputnik I was placed in orbit!

On November 15, 1945, amateurs are allowed back on the air -- but only on 10 and 2 meters. By 1946, Amateurs get most of the bands back except for 160 Meters, this was used by LORAN and other services and was not available to Amateurs. Over the next several decades 160M would be reopened, a little at a time.

## Ham Humor



'Although RG-213/U is pretty good,  
for a *real* taste treat, I prefer mil specs 9913'



Having a wife with a sense of humor is usually helpful...  
...but not *always*.

### AREA Repeaters

146.610 -	ENC/DEC pl 114.8	W9AXD
147.000 +	ENC/DEC pl 114.8	W9AXD
ATV input 1250 Mhz/	434 Mhz	W9ATN
	output 421.25 Mhz	
146.805 -	ENC/DEC pl 114.8	K9AMJ
224.440 -	ENC/DEC pl 118.8	K9AMJ
147.255 +	ENC/DEC pl 114.8	WX9MCS
444.725 +	ENC/DEC pl 107.2	WX9MCS
	Linked to FISHFAR	

### 2013 RARA Officers and Board

#### Officers:

President - Doug Abrahamson, KC9SDO, 815-979-0329  
 Vice President - Robert Larson, KC9ICH, 815-540-0309  
 Secretary - Jim Holich, AB9SX, 779-552-8796  
 Treasurer - Shannon Larson, KC9QBC, 815-540-0309

#### Directors:

Kurt Eversole, KE9N 815-389-2784  
 Richard H. Range WB9SFG— 630-697-1344

Web Master - Robert Larson, KC9ICH, 815-540-0309  
 Ham Rag Editor - Jim Holich, AB9SX, 779-552-8796  
 Repeater Chairman - Richard Range, WB9SFG 630-697-1344

## From the Secretary

Secretary's Notes for the RARA September 13, 2013 meeting

The meeting was called to order by President Doug Abrahamson, KC9SDO, at 7:10 PM. The meeting opened with introductions, followed by a reading of the secretary's report for July 12, 2013. A motion to accept the report as read was made by Fred Miner W9WOQ. The motion was carried. The treasurer's report was read by Treasurer Shannon Larson, KC9QBC. A motion to accept the report as read was made Steve Miles; Chuck Derwent K9SAN. The motion was carried.

A call for old business was made. An update for the Midway village project was given. Dave Larsen volunteered to do the needed woodwork on the sounder box.

The SteppIR was repaired and sold. The proceeds were given to the Treasurer.

The Illinois QSO Party was discussed, and plans were made to repeat last year's operation if permission could be obtained. Special call K9K will be used. Proceeds from the Belvidere Hamfest were \$250. Proceeds were given to the Treasurer.

After a short pause for socializing, a presentation on Digital Modes was made by Robert Larson KC9ICH was made. It seemed to have wide acceptance.

At 9:20 PM a motion was made by John Olson W9JGO to close the meeting. It was seconded by Jim Holich AB9SX and the motion was carried.

Respectfully submitted by Jim Holich, AB9SX

## AMATEUR RADIO EXAM NOTICE

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September 21<sup>st</sup> there were no applicants

Thanks to Jim Holich AB9SX, Shari Harlan N9SH and Rich Range WB9SFG for volunteering their time.

Amateur Radio exams are held the 3<sup>rd</sup> Saturday of every month in Rockford IL. The next session is 9AM August 17, 2013. Walk-ins welcome. Check-in is from 9AM-10:30AM. We require two signature ID's and one photo. If you are a licensed Amateur Radio operator bring your current license and a copy. If you are using a CSCE for an element credit, bring the original and a copy (We need to see the originals & keep a photocopy of each). No copier on site. The test fee is \$14.00. Bring a non-programmable calculator.

Location:

OSF St Anthony Medical Center  
5666 E State St (Bus US20)  
Rockford IL

Exams are held in the St Francis Room (Main Entrance then turn right).

Rusty Cordell WB9QYV  
[wb9qyv@aol.com](mailto:wb9qyv@aol.com)

## The K7RA Solar Report

10/04/2013

Solar activity weakened again, with the average daily sunspot number dropping from 75.6 to 52, and average daily solar flux down three points to 106.6, when compared to the previous week, September 19-25.

Geomagnetic activity was up, with planetary A index at 39 on October 2, mid-latitude A index at 29, and the high latitude college A index at 64.

The cause of the upset was a coronal mass ejection barreling toward Earth at 2,000,000 MPH on September 30, triggering a G2 class geomagnetic storm on October 2 and aurora displays well south of the Canadian border.

Predicted solar flux values are 110 on October 4-5, 105 and 100 on October 6-7, 95 on October 8-13, 100 on October 14-15, 105 on October 16-18, and 110 on October 19-24.

Predicted planetary A index is 20 on October 3, 8 on October 4, 5 on October 5-9, 8 on October 10-11, 5 on October 12-13, then 8, 10 and 8 on October 14-16, 5 on October 17-20, 10 on October 21, and 5 on October 22-26.

OK1CC predicts a quiet to unsettled geomagnetic field on October 4, mostly quiet October 5, quiet on October 6, quiet to active October 7-10, quiet to unsettled October 11, quiet on October 12-13, quiet to active October 14, active to disturbed on October 15-16, quiet to active October 17-18, quiet October 19-20, active to disturbed October 21, mostly quiet October 22, quiet October 23-27, quiet to active October 28, and active to disturbed October 29-30.

I've been keeping an archive of the 45-day solar flux and planetary A index predictions from NOAA/NASA, and it is interesting to see how they change over time. Conditions 30-45 days out must be pretty hard to predict, but I've noticed that the outlook seems to be increasingly pessimistic recently, suggesting weakening sunspot activity.

For instance, the 45 day prediction for September 16 began on August 2, with a solar flux of 125. Then over time it drifted around, within a few days down to 105 (August 5-11), then back up to 125 on August 19-25, then the prediction begins to wither to 115 August 26 to September 8, declining again to 100 (September 9-12), then in the few days before the target date September 13-15 at 95, which was right on the nose with the end result being 94.5. This of course rounds up to 95, the whole number used in the prediction.

Today we have an addition to our three-month moving average data set, and I am now convinced that we may have already passed the now classic double-peak for cycle 24 that some have predicted based on activity in previous cycles. As others have suggested, those peaks seem to be clearly centered around October to November 2011, and April to May 2013. For the 3-month period ending September 30 the average was 77.4

Starting from a three month average centered on January 2011 (data from December 1, 2010 through February 28, 2011), averages for that year were 35.3, 55.7, 72.3, 74.4, 65.9, 61.5, 63, 79.6, 98.6, 118.8, 118.6 and 110.

For 2012 it was 83.3, 73.7, 71.2, 87.3, 91.5, 96.5, 91.9, 89.9, 81.2, 82.3, 74.4, and 82.8.

So far in 2013 the averages are 73.6, 80.7, 85.2, 106.4, 106.4, 97.5, 85.6 and 77.4.

Some solar scientists suggest a possible subsequent peak in 2014. I certainly hope so, but have no way of knowing. Our nearest star remains baffling and full of surprises. The body of knowledge and available tools expanded tremendously over the past couple of decades, yet accurate predictions elude us. Remember a few years ago when one of the more optimistic scientific papers suggested a record-breaking cycle 24, perhaps approaching the levels of cycle 19 in the late 1950s? The future looked bright.

There is this interesting theory that the first cycle following the beginning of any century is weak. Could there also be a 100 year recurrence of cycle 19? Tell your children or grandchildren. That would be over a century after my birth, and planning for it now would be a fool's errand.

Emil Pocock, W3EP, reported on September 29, "It is a bit early in the fall DX season and solar activity is still low, but 10 meters has come alive. The band opened to Western Europe at the unusually late time of 1920-2000 (I assume he means UTC, rather than local time) September 13. There were teaser openings to Europe on the mornings of September 17, 18, and 21. I was surprised to work 3B8/G0TSM on the September 18 among the European callers.

The first significant opening from here in Connecticut was on September 22 and then every morning to September 29. Eastern European stations dominated, especially UR and UA. Interesting stations worked included FR5FC, HZ1SK, FH4VOS, and OD5ZZ on the September 24, all on SSB. The following day, snagged on CW 5A1AL and SU9AF. On September 25, logged 4Z5SG, 4Z5ML, ZA1G, 4K9W and UP5OA. Stations worked on the September 27 included some real surprises, including EW8O and EW3AN (EW not worked on previous days), but also VU3KPL and XV4Y. XV4Y was worked on direct path over the pole. What a thrill to hear Vietnam through the European callers! Eastern Europeans continued to dominate QSOs on September 28 and 29, including UA9XO.



## The K7RA Solar Report

“Hope this bodes well for the rest of the Fall season, even if solar activity remains sluggish.”

Hope so too, Emil, and thanks for sending an uplifting counterpoint to my gloomy assessment earlier in this bulletin.

Jim Smith, K3RTU, of Aston, Pennsylvania wrote on October 2 about another hike in one of his favorite parks, taking along a portable HF radio and antenna, of course. “Despite the less than desirable predicted solar flux for Monday September 30, I went on a hike in Ridley Creek State Park here in Southeast Pennsylvania (FM29). In one of my favorite spots I tried a different antenna instead of my trusty Buddistick vertical. I was using an end fed wire of 30' with a 9:1 UNUN matching transformer. I got the end of the wire up into a tall tree at about a 50 degree angle and attached the other end with the matching transformer to a plastic tent peg. Then I ran the coax back to my KX3. I was running the KX3 with AA lithium batteries so I kept the power cut back to just under 3 watts. Even with this less simple setup I was able to work CO0CW in Havana and received a RST of 579 at about 1540 UTC on 17 meters. I wasn't hearing many station, however, so I tried 15 meters. I was delighted to then work SM5NZG near Stockholm at about 1620 UTC. I only received an RST of 539 from Heide, but was still able to chat for about 10 minutes. Heide's 6 element Yagi was obviously doing the heavy lifting, but it was still good to see that less than 3 watts from a simple end fed wire could make the trip across the Atlantic even without much help from the Sun.”

And finally, Jeff Hartley, N8II, of West Virginia wrote to us last evening, “Conditions on September 27-30 were good on the high bands with October 2 being the poorest day. Throughout the period the SFI ranged from low 100's to around 115.

“On September 27, 12 meters was open well to Europe by 1300 UTC (sunrise is just after 1100 UTC, sunset around 2345 UTC) working many Ukrainians. By 1330 UTC, 10 meters was open to southern Europe and especially the UA6 area and Ukraine. At 1500 UTC, JW9JKA on Bear Island, EU-027 was easily worked S5 on 10 phone followed by OZ1BTE, OH5UZ, several Germans, Polish, Austrians and a few Southern Europeans, mostly with S7-S9 signals going QRT at 1533 UTC. Andy, UA0BA was found on my return at 1828 UTC a solid 599 on 10 CW from far northern zone 18, which is well after midnight there, with some auroral Es probably involved. Then I found him on 12 meter CW at 1846 UTC about 559. Both UA0ZC and R0FA were loud on 12 CW at 2103/2124 UTC, but the band every day seems to close to Asia by sunset. About an hour after sunset RA/KE5FA, HL2XUM, and DU2US were around S5 on 17 CW.

“On September 28, my first morning QSO was UA9FAR on 12 meter CW, and he was 589. By 1318 UTC, 10 meters opened to RA1QD and YL2TQ. DXing took a back seat to the Texas QSO Party for most of the rest of the weekend. 20 meters was in pretty good shape to Texas most of the time except Sunday after about 1730 UTC when absorption was high. 15 meters opened to Texas well by about 1540 UTC both days and stayed open until past 2230 UTC Saturday, but activity could have been better.

“Ten meters opened on Sunday well to Europe at 1308 UTC when I turned on the radio, with many UA3 area stations logged. Conditions actually seemed to favor Russia with about 25 stations logged before QRTing for the Texas QSO Party at 1352 UTC; western EU was weak at best. This was the best day into Russia and surprisingly good conditions considering the fairly low SFI.

“On the September 30 ten meters did not open well to Europe, but again there was some propagation to RU3EG (1506 UTC) and UA3YDH (1335 UTC). And surprisingly, Kumar, VU2BGS, was worked S5 on 10 CW using a 6 element yagi on his end and 5 el on my end. Twelve meters was open well to UR and Russia as far as RQ4F. Outside of India, Central Asia conditions have not been good above 20 meters. 8Q7AM was 57 on 15 meter phone at 1653 UTC, but he is far south. Since October 2, 10 has sounded poor except to the south and even 12 meters has been quite poor or closed to Europe.

“Today, Oct 3, conditions seemed to improve later in the day with a good 12 meter opening to JA around 2220 UTC and a good signal from TO2TT on Mayotte in the Indian Ocean on 17 phone at 1942 UTC. There was some sporadic E into New England as well as to county activator W0GXQ in eastern Oklahoma, logged on 12 and 10 meters with S5 signals or better (1540-1722 UTC) and still loud on 15 most of the time on F2 thru 2046 UTC.”

Sunspot numbers for September 26 through October 2 were 63, 54, 58, 39, 42, 49, and 59, with a mean of 52. 10.7 cm flux was 109.9, 107.9, 105.7, 103.1, 104.9, 106.8, and 108.1, with a mean of 106.6. Estimated planetary A indices were 2, 2, 2, 3, 3, 5, and 39, with a mean of 8. Estimated mid-latitude A indices were 2, 2, 2, 3, 3, 6, and 29, with a mean of 6.7.

### **FRIDAY MORNING BREAKFAST**

Meets every Friday morning from 8 am until about 9:30 am. An informal gathering of ham folks, no affiliations necessary, good food and good company.

*Everyone is welcome to attend.*

**“Morning Glory Restaurant”**  
**9155 Alpine Street**  
**Rockford, IL 61108**



## For Sale or Trade

### Code Practice Oscillator MiniKits

For sale. \$10 each, includes schematic. All boards are assembled and tested. Circuit will easily drive headphones or a small speaker. Each board measures approximately 1.25" square and is great for mounting in a small project box or on a wooden board. See Dennis K9VMY at the next club meeting. or contact via e-mail [k9vmy@arrl.net](mailto:k9vmy@arrl.net). Note: shipping is not included.

## HamFest Information

### SEWARS Swapfest

Sunday October 13, 2013

Richfield Chalet

1271 Highway 175

Hubertus, Wisconsin 53033

Talk-In: 146.820 plus (PL 127.30)

Contact: Darrell Welch

4006 Monches Road Colgate Wisconsin  
530172

Phone—414-899-6010

Email: [dw@charter.net](mailto:dw@charter.net)

### Fox Cities Amateur Radio Club

#### 2013 Swapfest

Saturday November 03, 2013

Monarch Gardens

3211 West Spencer Street

Appleton, Wisconsin

Talk-In: 146.760 (PL 100.00)

Contact: Anthony Mach, AB9IO

773 Yorkshire , Neenah Wisconsin 54956

Phone—920-722-0482

Email: [ab9io@yahoo.com](mailto:ab9io@yahoo.com)

### Milwaukee Repeater Club

#### 2013 Swapfest

Saturday November 11, 2013

Elks Lodge

5555 West Good Hope Road

Milwaukee, Wisconsin 53033

Talk-In: 146.910 (PL 127.30)

Contact: Matthew Moog, KC9COY

10600 W Upham Ave Hales Corners Wisconsin 530130

Phone—414-254-2849

Email: [m.moog@themoog.com](mailto:m.moog@themoog.com)

### West Allis Radio Amateur Club

#### 2013 Swapfest

Saturday January 4, 2014

Waukesha County Expo Center Forum

1000 Northview Road

Waukesha, Wisconsin 53186

Contact: Phillip Gural, W9NAW

S67W12944 Larkspur Road

Muskego Wisconsin 54956

Phone—414-425-3649

Email: [janphil68@att.net](mailto:janphil68@att.net)

# Treasurers Report

## ROCKFORD AMATEUR RADIO ASSOCIATION Inc.

August 26, 2013

### Primary Checking:

Beginning Balance 7/30/13 \_\_\_\_\_ 1,513.63  
Deposits \_\_\_\_\_ 71.00   
Withdrawals \_\_\_\_\_ 0  
**Ending Balance 8/26/13 \_\_\_\_\_ 1,584.63**

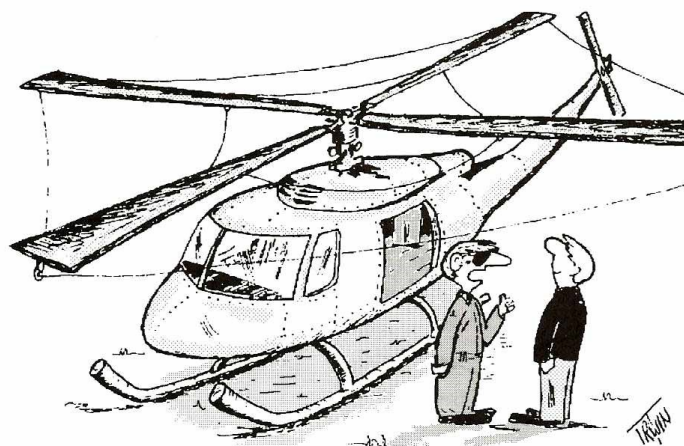
### Organization Savings:

Beginning Balance 7/30/13 \_\_\_\_\_ 3,223.78  
Interest Earned \_\_\_\_\_ 0  
**Ending Balance 8/26/13 \_\_\_\_\_ 3,223.78**

### Repeater Committee Checking:

Beginning Balance 7/30/13 \_\_\_\_\_ 300.00  
**Ending Balance 8/26/13 \_\_\_\_\_ 300.00**

Deposit: 50/50 Raffle Donation July ..... 28.00



'Since I have been waiting so long for your card, perhaps it is time you should meet my QSL managers.'

'Field Day or not. I'll 'Quad' you if those wires aren't off that bird in five minutes!'





P.O. Box 8465, Rockford, IL 61126

Website: [www.w9axd.org](http://www.w9axd.org)

E-mail: [jholich@comcast.net](mailto:jholich@comcast.net)

<u>Nets</u>		
Monday 8 PM	RARA Info.	146.610 - 114.8 PL
	RARA	147.000 - 114.8 PL
Monday 9 PM	10M SSB Net	28.375 +/- USB
Daily 6 PM	Illinois Traffic Net	3.905 LSB

place address label here

# October, 2013

## ROCKFORD AMATEUR RADIO ASSOCIATION MEMBERSHIP APPLICATION

Single Adult: \$25.00 Adult w/Family: \$30.00  
Single Senior: \$15.00 Senior w/Family: \$20  
Student: \$15.00

Above rate includes the RARA monthly newsletter, Ham Rag, via email.

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Home Phone \_\_\_\_\_

Work Phone \_\_\_\_\_

Email \_\_\_\_\_

Renewal \_\_\_\_\_ New \_\_\_\_\_ Retired \_\_\_\_\_

Radio Interests \_\_\_\_\_

Other Interests \_\_\_\_\_

Suggestions: \_\_\_\_\_

RETURN COMPLETED FORM TO:

ROCKFORD AMATEUR RADIO ASSOCIATION  
P.O. BOX 8465  
ROCKFORD, ILLINOIS 61126