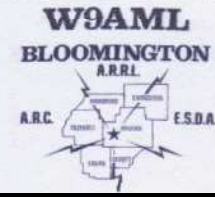


# CENTRAL ILLINOIS RADIO CLUB

## Short CIRCuits



February 2007

### From the President

#### Repeater Problems Again

Well – It doesn't seem like it has been very long since we were discussing repeater problems and here we are doing it again. Power output has been way down for a couple of weeks– I could barely copy 34/94 in North Normal and it is inaudible in Downs, even with my high antenna. Today, Saturday, 2/24, Rich Ranson, Norm Huber, Gary Huber and I swapped out the repeater for a loaner that Rich – N9YAY graciously lent us until we can come up with a repair or permanent solution.

We need to consider our options with the repeater. It appears we are getting to the point where maintenance is an issue. We need to consider if we have the resources to properly maintain it, at least at the component level.

Postscript – the loaner is much stronger than the original repeater, so clearly we weren't getting 50 watts out of our original.

Second postscript – On Sunday afternoon it looks like the repeater isn't hearing very well.

#### FCC Rule Changes – No Code, New Frequencies

As everyone now probably knows the new code free rules are in effect February 23<sup>rd</sup>. A motion was made and carried at our January club meeting to provide a "paper only" upgrade session during the meeting, so any Technician who has a current General CSCE can upgrade this Wednesday, 2/28. We won't have

time for regular testing, just to do the paperwork for CSCEs already earned.

#### Heartland Class

Dan Beer, N9NSN and I have conducted two Technician class sessions at Heartland. We have a total of 6 people signed up and attending – a relatively large group. The dates are February 15 through March 22 from 7 until 9PM in room 2100 at Heartland Community College CCB building. We will test the group on March 22. Anyone else who wishes to test at that time is certainly welcome to do so, although our regularly scheduled test session is March 17.

#### Larry Keeran's Challenge

At the last club meeting Larry issued a challenge to the club to take the classes required for ARES certification. He will give a French pocket watch to the first person who completes all the classes. This is necessary for us to participate formally in county disaster exercises. As of yesterday Rich, N9YAY, noted that no one had yet taken Larry up on his challenge – the watch is still open for the taking!

#### February Meeting – February 28

Cherry Pie night! Don't forget to bring some cherry related pastry.

Mark Thompson, AW9QZB, will be coming down from Chicago to give us a presentation on D-STAR, the new Icom digital technology. This is the cutting edge in digital ham technology and should make for an excellent session.

Take care everyone. See you Wednesday, February 28, 7:00pm at the

Red Cross on Route 9 East, across from the Fire station.

Thanks –

Keith  
AC9S

### Central Illinois Radio Club

P.O. Box 993  
Bloomington, IL 61702-0993

<http://www.qsl.net/w9aml/>

**President:** Keith Hanson AC9S  
(309) 378-4416

**Vice President:** Mike Sallee,  
KC9FWL

**Secretary:** Chuck Kostelc N9RZV  
(815)-842-4058

**Treasurer:** Norm Huber N9ZKS  
(309) 378-4674

**Newsletter Editor:** Norman Huber,  
n9zks@earthlink.net  
(309)-378-4674

The CIRC is a not-for-profit ARRL special service club whose purpose is to advance the service of Amateur Radio. Located in Central Illinois, CIRC and its members welcome all to use the 146.94 repeater and to attend club meetings.

Submissions for the newsletter must be received by the 10th of the month and may be snail or e-mailed to the editor at:

Norm Huber  
19266 US Highway 150  
Bloomington, IL 61704-5855

e-mail n9zks@earthlink.net

Permission is granted to Amateur Radio-related organizations to reproduce contents of Short CIRCuits provided full credit is given.

## Nets in the Area

Mon thru Sat	9:00 A.M. CT	14.2475 (HF)	Displaced Peorians
Monday	9:00 P.M.	146.730	123.0 PL Open Net
Tuesday	9:00 P.M.	146.255	(103.5 PL) Woodford County
Tuesday	7:15 P.M.	146.910	Tazwell County ESDA Net
Tuesday	8:30 P.M.	28.450	CIRC Open 10 meter Net
Tuesday	9:00 P.M.	146.940	(103.5 PL) CIRC Open Net
Wednesday	9:00 P.M.	147.060	Open Net Has Newsline
Wednesday	9:00 P.M.	442.250	103.5 PL ARES Open Net
Wednesday	Varies	147.100	103.5 PL <i>Sometimes</i> Trader's Net follows ARES Net held on 442.250
Thursday	9:00 P.M.	146.760	(162.2 PL) Open Net with Newsline
Thursday	9:00 P.M.	146.850	(103.5 PL) Open Net Peoria
Thursday	9:00 P.M.	146.895	North central IL Traders Net
Sunday	08:15 A.M.	1.815	Open 160 meter AM net
Sunday	7:00 P.M.	146.985	Clinton ARC net ( <b>NEW</b> )
Sunday	8:30 P.M.	147.075	Open Net with Newsline

## Central Illinois Area Repeaters

Freq	Callsign	Location	PL
145.390	N9EZJ	Lincoln	103.5
146.730	K9HGX	Decatur	123.0
146.790	WD9HRU	Bloomington	
146.850	W9UVI	Peoria	
146.940	W9AML	Bloomington	103.5 CTCSS
146.985	KA9YPK	Clinton	
147.015	NX9M	Normal	88.5 (open*)
147.075	W9UVI	Washington	103.5 CTCSS
147.100	WA9RTI	Decatur	103.5
147.150	WD9FTV	Bloomington	
147.345	K9ZM	Lincoln	103.5
147.390	WB9DUC	Pontiac	127.3
442.250	WA9RTI	Decatur	103.5
442.700	WB9UUS	Normal	107.2 (open**)
444.350	W9EX	Normal	107.2

(Please help me keep this list correct. I know it may not be up to date at this time. Norm N9ZKS)

\* Repeater is currently in open mode with pl for those with QRM

\*\* Repeater RX with tight carrier squelch and loose tone squelch (107.2)

## LOCAL DX PACKET CLUSTER INFORMATION

"DX spotting network" - N9PE (Memorial Station) 144.91 MHz - 1200 baud - Connect to N9PE - Contact AB9M or KB9LNS for more info.

### Local QRPer on Scarborough

One of the Local QRPers was by the other day, this one quite upset. "Those guys at the ARRL don't seem to have a lot on the ball these days," the QRPer said, "not a lot at all." We were a bit confused for this same QRPer had been here only a few weeks ago singing accolades of praise for the DXAC. We recalled he had been quite happy when it looked like they weren't going to count BS7H. "What are they up to now?", we asked. "It's their policy on BS7H!", he exclaimed, sweat glistening on his furrowed brow and a glare in his beady little eyes. We were completely confused now because of the sudden change in attitude. "We though you agreed with the rumors", we said carefully, "Didn't you tell us it was ridiculous to count Scarborough because of its size?" The QRPer

just glared at us with his fists clenched. What could we say? It was clear this QRPer was in need of enlightenment, so we hauled him up the hill to the Old Timer.

The Old Timer listened to all the QRPer's arguments why the league should have counted Scarborough. He was silent for a few seconds. Then he asked, "Didn't Red-Eyed Louie have a list of all the locals who worked the BS7H crowd? Wasn't he in there listening and keeping track of all the calls he recognized? And aren't you on the list of stations he posted at the club meeting last Thursday night?" "Yes on all counts!", the QRPer said, "and it was a good clean contact too." The Old Timer turned back to his rig and began tuning 20-metres. It was clear that he wasn't going to say anything else.

We were thoroughly confused now. "We thought you hadn't worked them?", we asked the

QRPer. "That's what I thought too", retorted the QRPer, "until I saw Red-Eyed Louie's list." He began to sweat and sputter a bit more as he explained. "So I went back to my log and cross checked the spots on the Packet Cluster. I was calling BV2A on 14.030 at that time . . . he was tranceive and we did exchange signal reports in spite of all the QRM. I was curious why all those other guys were calling Tim . . . he's not that rare. Then, when I checked the cluster spot, I found out that the BV7H crew were on 14.025 listening up. Why I worked them instead of BV2A! Louie heard them send my call clear as a bell!"

Son of a Gun! It took us all this time to figure out what the Old Timer extracted in less than a minute! We knew better, but we had to ask the questions. "Didn't you argue against it counting when you though you'd missed them? And now

that you find out you're in the log, you want it to count?" We expected an explosion of thunder, but it was not forthcoming. "That's not what caused me to change my mind," the QRPer responded, careful to avoid eye contact with us, "it's the integrity of the DXCC program that I'm concerned about. I'm afraid they'll lose credibility if they don't count it. I don't care about myself. It's the league I'm worried about." And with that he was off down the hill, determined to write his league director and get the DXCC program back on track. What could we say? This was a clear case of not having and not wanting that had quickly turned into a case of having and wanting! As Albert had so often said, "All things are relative, some things more so." The Great Days of DXing are near! Be a Believer! DX IS!

## January Minutes

treasure' report first, 2nd  
les  
eldon

minutes from 10-10,  
norm huber  
les mcalip

### Old Business:

Keith asked Dean AA9BS about mentoring a student studying

Keith reviewed, resubmitted / filed club Incorporation papers

Keith got list of our new frequencies band plan from W5YI.

code-free. gives Tech access to Novice CW after effective Feb 23, 2007. Also phone access on 10M.

Gary AB9M noted Keith should contact Scott Richardson who had an interest for outdoor activities

with the upcoming code-free. He writes for the Pantagraph. Due out in March.

Heartland CC class Feb 15.

### New Business:

Red Cross beam, cross polarized, needs work, weather dependent.

Keith expanded on his personal antenna issues post ice-storm. Bencher skyhawk

Thanks to everybody that helped/showed up to last VE session. Next session is March 17, there may be an earlier session if we do an early bird session to get people who just have paper upgrades.

Chuck N9RZV made a motion to do paper upgrades at the February meeting, les mcalip 2nd, all carried

Floyd W9EX made the motion to be the last one to give a code test. Keith, Dean AA9BS 2nd, motion carried

Dean received a Hamvention offer for \$100 to get 4 space/tables a club. He shared with Keith & discussion.

Mark HLT challenged Norm to Coordinate the hamvention or take the morse code test. Earla 2nded, motion carried.

Larry K9ORP shared a book long lost to a previous club secretary's basement, 25, 35 years. Ala-Jack Benny night, courtesy Everett Dillingham.

Larry mentioned ICS100, 200, 700 & 800 training certification for ARES. Rich N9YAY.

He will share a website to do personal training & a challenge for a French pocket watch to the person who completes it before Feb 15th.

Norm N9ZKS brought up the D-STAR email we got today. The author has offered us a presentation as long as we

can provide a projector & sound speakers. Digital modes, multiplexed voice, file share. Norm & Chuck will contact him & report on this.

Connie KB9IGT mentioned the EYH youth fair @ ISU

Rick WD9HRU motion to close, Don N9RGG 2nd.

## D-Star (Feb Meeting Topic)

From the mid-1980s to mid-1990s I was very active in packet radio & packet radio frequency coordination. In the late 1990s packet radio declined due to the internet & the stagnation of packet technology & speeds. Since the local packet club eventually became defunct in July I started a new Yahoo Group focused on hams in Northern & Central Illinois, Northwest Indiana and Southern Wisconsin interested in operating the digital modes. Within the last five months it has over 500 members.

Over the last few years there have been new digital voice & data technologies developed such as D-STAR, PSK31, HSMM/Wi-Fi & APCO P25. I became personally interested in D-STAR digital voice & data technology a while back & earlier in the year I started to educate myself in D-STAR.

I came to conclusion that not many hams really understood what D-STAR was so I started giving D-STAR overview presentations at local club meetings. Over the summer & fall I have presented to over 20 clubs in the Chicago area, Northern Illinois, Southern Wisconsin & Northwest Indiana. In fact, at the Ft. Wayne hamfest in November the D-STAR forum was standing room only with over 70 in attendance. I have not seen such curiosity in a technology since packet radio 15 - 20 years ago.

73, Mark, WB9QZB

## NVIS Antennas

A lot has been said about the NVIS antenna and it seems to be rapidly becoming a favorite antenna to use at field day. An interesting article just appeared in Jan/Feb 2007 QEX. L.B. Cebik, W4RNL writes basically that due to a well known Mininec error, NVIS antennas are often placed too low, since very low heights indicate very good gain straight up at very low heights like .05 wl. The truth is that at that low height, we are throwing away as much as 5.5 db of gain !

Mininec shows an increasing amount of gain as the height is lowered from about .25 wl down to as low as .05wl. To put this in perspective, at 80 meters, .25wl is about 66 feet and .05wl is about 13 feet (similar to what we use). NEC-4 models dipoles over ground in a realistic manner and shows a gain peak at .175wl (46 feet). Its probably no wonder Floyds long wire does so well on 40 and 80 meters !

Here is a table that I have expanded to show height in feet for 80 and 40 meters. You can see how badly Mininec mis-states gain in this case. There is not a substantial effect on beamwidth with changing height below .2 wl. All gains stated are for straight up.

Height wl	80M(ft)	40M(ft)	NEC-4 gain (dbi)	MININEC gain (dbi)
0.05	13.25	6.63	.98	9.2
0.075	20	10	3.51	8.72
0.1	26.5	13.25	4.3	8.32
0.125	33.13	16.5	5.8	7.96
0.15	39.75	20	6.23	7.61
0.175	46.4	23.2	6.4	7.26
0.2	53	26.5	6.39	6.88
0.225	59.6	29.8	6.25	6.46
0.25	66.25	33.13	5.97	5.99

Mr. Cebik also pointed out that when an inverted V is used, the average height is lower than the peak so the .05wl figure is probably optimistic for our field day antenna on 80 meters. I can remember some time in the 80's we operated 80 meters using a double extended zepp at about 35 feet off the ground (flat top) and kicked some serious tale with it, with strong signals from 0 to about 300 miles. With that antenna is was EASY to hold any frequency we settled on. Since a double extended zepp adds 3 db of gain over a dipole, it was probably showing us about 9dbi gain !

Considering the above table, I would recommend about 33 feet as an optimum NVIS antenna height (higher if inverted V) or if two different heights are practical for both bands, use 46 feet (minimum 35 feet) for 80 meters and use 23 feet for 40 meters. These heights will also provide lower SWR. A single 132 foot long flat top antenna at 33 feet fed with 450 ohm ladder line and using an antenna

tuner would operate both bands and give an additional 2db gain at 40 meters. Two tall supports would suffice in this case as the dipole can support 450 ohm ladder line. The bucket truck could be used to attach one end at the 33 foot level of a near by parking lot light pole and the other end can be supported at the 33 foot level of the bucket truck as it holds the HF array. Obviously this plan would need to be measured out ahead of time. The intent of this article is to show that there is much to be gained by placing our NVIS antennas at the correct height.

Earl Shaffer, WB9UWA.

## Another Point Of View

I'm not sure about the propagation objective of the NVIS antenna program Jim is referencing. At any rate it is NOT consistent with the practical experience and supporting documentation by others as reported in QST and several military publications... antenna gain is NOT the objective of a NVIS antenna. While I agree that a quarter wave high antenna is an excellent FD antenna, I've also experienced the performance of the military style NVIS which at 12 to 15 feet has no skip zone AND provides consistent state-wide (Illinois) propagation day in and day out.... If we are looking for HF contacts with stations in Chicago, Indianapolis, St. Louis, a low antenna works when 80 or 40 otherwise "goes long" for antennas at a quarter wave or higher and I've been able to see / hear that in recent Field Days during night time operations when the NVIS and Floyd's antennas were available.

Gary, AB9M

## Bloomington VEC Exam Dates - 2007

Dates for 2007 Exams

Mar 17

May 12

July 21

Nov 10

Osborne Room

Bloomington Police Department 434-2290

305 S East St

Bloomington, Il

Keith R Hanson

AC9S

(309) 378-4416

[AC9S@mchsi.COM](mailto:AC9S@mchsi.COM)

## Tentative program schedule for CIRC 2007

Jan - Keith AC9S - Logbook of the World  
Hamvention Club Space

Feb - Cherry Pie/ Joint meeting SFARC, GE, Starved  
Rock

Mar - Rich N9YAY - Emergency & Storm Preparedness

Apr - Antenna analyzer, test equipment use

May - Field Day planning

Jun - (June 23/24th - FD) (Meeting 27th FD debriefing) -  
possible Roger Singley

Jul - Dr. Don Jones KB9BTL - vintage microphones, birth  
of radio

Aug - Picnic - outdoor rig setup

Sep - New ham night - how do you buy, who do you ask  
(Elmer's, web, ARRL)  
station setup, troubleshooting.

Oct - Connector night

Nov - open

Dec - Christmas dinner early Dec, meeting optional

## Here are some of the other ideas for subjects suggested for future club meetings.

Basic radio troubleshooting, how to make sure your  
station is safe operating at maximum efficiency

How to setup a basic station, portable, qrp, base, mobile.

Roger's radios again

station setup in public location , mall, etc. with media  
coverage.

club contributions to ARRL freq retaining program

Dr Don Jones form Downs - collection of vintage  
microphones & gives a good history of his involvement

special modes or aspects in ham radio - APRS, SSTV,  
ATV, satellite, Echolink, EME, HF DX, VHF/UHF,  
Tropospheric ducting, etc.

test equipment, antenna analyzer, scope, vom, vtm,  
techniques.

storm spotting

emergency power

station ops

## Calendar of Events

Sun	Mon	Tue	Wed	Thu	Fri	Sat

### Weekly 10 Meter Net

Every Tuesday evening at 28.450 MHz- at 8:30 p.m.

### Weekly 2 Meter Net

Every Tuesday evening on the 146.940-repeater at 9:00 p.m.

### 10/10 Breakfast

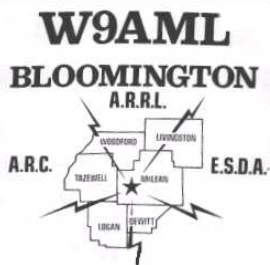
First Saturday of every month at 8 a.m. in the Baker's Square at Vernon Ave. and Veterans (Just south of College Hills Mall).

### CIRC Meeting

Fourth Wednesdays of the month at 7:00 p.m. at the Red Cross building in Bloomington (Just north of the airport).

**Meeting Wednesday February 28  
Cherry Pie Meeting  
D-Star Program**

# Central Illinois Radio Club February 2007 Newsletter



Central Illinois Radio Club  
P. O. Box 993  
Bloomington, IL 61702-0993