The Indianapolis Radio Club Newsletter

Founded 1914

"The oldest continuously operating Amateur Radio Club in the United States"

September, 2006 Newsletter

Upcoming Meetings:

October 13, 7:00 P.M. EDT, at the Indianapolis Training Center, 2802 N. Meridian Street, Indianapolis. Scheduled presentation: ***"Indiana Dept. of Homeland Security, EOC Ops"* – Bob Demuth**

November 10, 7:00 P.M. EST, at the Indianapolis Training Center, 2802 N. Meridian Street, Indianapolis. Scheduled presentation: ***"Racing Data Radios"* - Mike Henney, KE9YA**

December 8, 7:00 P.M. EST, at *MCL Cafeteria, 86th & Township Line Rd.* Scheduled presentation: ***"Eagle Creek State Park wildlife".***

Highlights of the September 8, 2006 meeting:

Club Vice President Dave Miller went over the present plans for upcoming meetings. In addition to those listed above are the return of the IRC Chili Cook-off, plus possibly the district ARRL rep talking about the future of Ham Radio, at the January meeting. A discussion of "old time radio" at the February meeting, and possibly a discussion of Home Brew and Kit projects at the March meeting. Check the IRC web site at http://www.indyradioclub.org/ for more information as it becomes available.

Nominations are coming up at the October meeting, so be thinking of who would be good officers of the club for the next year.

At this point, Dave had everyone introduce themselves and tell everyone how they got started in ham radio. We all listened to several interesting stories for about 30 minutes. Lots of folks in attendance had had a long standing interest in radio and electronics.

After the intros, Chuck, W9IH, announced that there had been 11 participants in the "Express" ham class, and that 8 of them passed "something". Chuck also announced that there would be an "Express" CW class, starting October 27. This will be for **only CW**. Go to http://www.indyradioclub.org/ehcitcoct06.txt or contact Chuck for more information.

Chuck also asked anyone who had any information for the newsletter to contact Ken Bandy, KC9GLQ, with it. We're always looking for good content for the newsletter.

Ken, KC9GLQ, gave a short report on the W9ISF Special event. It had been run this year to mark the 150th running of the Indiana State Fair. This year, it was only an "off-site" operation, running for 4 days and 3 evenings from the Comm Center. There were over 1000 contacts made to all 50 states, and over 20 countries outside of the US. Ken stated that hopefully in 2007, we can have a presence on the fairgrounds, also.

Now, it was time for the "main event", the presentation on Software Defined Radio. Jim Keeth, AF9A, started the presentation with the "nuts and bolts" of the hardware, including his homebrew SDR that he crafted based on the series of articles by Gerald Youngblood from the 2002-2003 *QEX Magazine* editions. Jim stressed that the SDR is not just *software controlled*, as many modern rigs are. *Software Defined* radios eliminate approximately 90% of the hardware of the radio, the PC attached to the radio does the main work of tuning, etc. via Digital Signal Processing (DSP). Jim then went over a detailed description of the signal processing involved.

Next, Hank Wolfla, K9LZJ, started his presentation on the actual Graphical User Interface (GUI), and the operation of the radio. He passed

around hand outs on the *Flex Radio Systems* SDR-1000 radio (http://flex-radio.com/). This is the ready made transceiver "black box". In Hank's set up, he uses the *M Audio* Delta 44 soundcard, to interface the audio between the SDR-1000 and the high end PC he uses. Hank noted that the quality of the sound card directly affects the quality of the audio on the air. Hank said that since 100% of the modulation, demodulation, and control of the radio is handled by software, that every time a software update comes out (which can be very often), you basically get a "new radio"! The philosophy of the SDR is to "maximize software and minimize hardware". He noted that the performance of the SDR is simply not available in an analog radio. The rig can be maximized for what ever mode you are running. The software is all open source, meaning that anyone can modify the software for their particular applications, and then distribute it to other users.

Changes since Hank's last presentation on the SDR-1000, in November, 2005 included a doubling in the sampling rate, at 96 kHz, up from 48 kHz. Also, a second sound card is no longer required. Latency in CW and SSB has been reduced, also.

He showed some 'scope shots of the filters available. Hank stated that a person can download the software and "play around" with it without having a radio, via some stored audio files.

The burning question was "what does it cost?" Hank stated that the radio, with the 100 W power output, runs around $1300.00.

At this point, he played several audio files to demonstrate how the rig handles different types of signals in different types of situations.

Next came the door prizes. Bob, W9PSE, did his normal outstanding job of securing the door prizes.

The first prizes that were presented were a pair of combination AM/FM radio/writing pens to the presenters from the evening.

Judy, AA9GW, received a camera tripod
Brett, K9NBR, received a repeater directory
Patrick, KC9GAB, received a camera bag
Dave, N9QVO, received a package of CDRs
George, KF9WV, received a camera bag
And Marsh, KC9GUN, also received a camera bag.

Upcoming Area Radio Events:

- **October 27, 30, and November 1 and 3, "Express" CW class:**
  The Indy Radio Club will sponsor an express CW only class. These will be held at the ITC facility, 2820 N. Meridian St. For more information, go to http://www.indyradioclub.org/indyclasses.htm.
- **September 24: Hancock County Hamfest:**
  The annual Hancock County Amateur Radio Club's Hamfest will be September 24, 2006 from 8 A.M. to 1 P.M. at the Hancock County 4-H Fairgrounds. For more information, go to http://www.w9atg.org/hamfest.php
- **October 8: Hoosier Hills Hamfest, Bedford, IN:**
  Go to http://www.w9qyq.org/hamfest/ for more information.

Current IRC Club Officers:

- Vice Pres.: Dave Miller - ..EMAIL dmiller@ivytech.edu
- Sectretary: Mike Henney - ..EMAIL mhenney1@comcast.net
- Treasurer: Judy Gardner - ..EMAIL aa9gw@juno.com
- Chief Operator: Ed Conder - ..EMAIL n9izn@sbcglobal.net
- Director: Dave Jarvis - ....EMAIL n9kzj@earthlink.net
- Dir. at Large: Tom Chance - ..EMAIL k9xv@arrl.net

If anyone has any items for the newsletter, please send them to Ken Bandy at kc9glq@arrl.net