

CQ Chatter

Volume B2•Issue #6

Wood County Amateur Radio Club

NOVEMBER 1999

P. O. Box 534, Bowling Green, OH 43402

<http://bravais.bgsu.edu/~boughton/wcarc.html>

President-WA8CWD, Larry Reitz

Vice President-WB8NQW, Bob Willman

Secretary-AA8XS, John Lager

Treasurer-N1RB, Bob Boughton

A Note from the Editor

It's membership renewal time again. Enclosed with this newsletter is an application form. Please fill it out completely and return it with your dues. This is especially important if any of your information has changed since last year. We like to keep things like your e-mail address (and your regular address for that matter) up to date.

As you may have noticed from the last few weeks, the cold weather is rapidly approaching. The severe weather season is over. This does not mean however that amateurs should stop worrying about keeping their communications skills up to date. One way to keep in practice is to participate in a contest. The ARRL Sweepstakes is a traditional November event (see the November Contests listing) where operators try not only to work as many stations as possible during a thirty hour period, but also as many different ARRL sections as possible. In other words, this contest requires good equipment and good operating procedures to score big.

Now for some meeting issues. First, observe that the November meeting will be the first where we will try the Thursday evening meeting time to see if we get more attendance. The pagers are ready for pick up, and will be on sale at the November meeting. The Club is charging a one-time fee of \$35.00 for each unit, a cost that is somewhat below actual cost. Soon, it is hoped, we will have the emergency paging system up and running on the 440 MHz machine. This system will allow the RACES or the ARES directors to issue an emergency page to all those who are tuned in - certainly a faster method of alerting us to an emergency than a telephone chain. It will be first come-first serve, so if you want one, be sure to be there on November 11th - see you there!

73 de Bob

**WCARC Weekly Net:
Tuesdays at 2130
147.18 & 444.475 MHz**

**Club Meeting:
Thursday, November 11th
Location: Fairgrounds
Time: 7:30 pm
Social Hour: 7:00 pm**

AMATEUR RADIO SHOWS SLOW GROWTH

According to Amateur Radio census statistics cited in the October 15, 1999, W5YI Report, US licensee growth has nearly stalled overall during the past year. The W5YI numbers, which exclude hams whose licenses have expired but remain within the two-year grace period--show 675,739 US licensees as of September 30, 1999. While that's up by more than 3000 hams over the same month in 1998, the number represents less than one-half percent growth.

The number of US amateurs peaked over the past year at 676,318 at the end of July. Looking at the numbers by license class, only Technician showed substantial growth--up by more than 10,500 from a year earlier. Tech Plus and Amateur Extra classes rose slightly too, but the numbers were down slightly for Advanced and General, and the number of Novice licensees declined by more than 5100 over the past year. ■

*Have You Renewed
Your Membership
Yet???*

November Contests

The full contest line-up for the month of November includes the following:

Oct 30-31	0000 to 2359 UTC CQ WW DX - SSB	160 to 10m
Nov 6-8	2100 to 0300 UTC ARRL Sweepstakes - CW	160 to 10m
Nov 12-14	2300 to 2300 UTC Japan Int'l DX - SSB	80 to 10m
Nov 13-14	1200 to 1200UTC OK/OM DX 'Test - all modes	160 to 10m
Nov 13-14	1200 to 1200UTC Ukrainian DX 'Test - all modes	80 to 10m
Nov 19-22	2300 to 0300 UTC 6m Winter DX 'Test-all modes	6m
Nov 20-22	2100 to 0300 UTC ARRL Sweepstakes-SSB	160 to 10m
Nov 20-21	1200 to 2100 UTC LZ (Bulgaria) DX 'Test-CW only	80 to 10m
Nov 27-28	0000 to 2400 UTC CQ WWDX Contest	160 to 10m CW

Pagers Available

A quantity of voice pagers is available to members of RACES/ARES at a small fraction of the original cost. The estimated total cost of the pager with crystals is \$35.00. This is a one-time charge and there is no monthly service fee. The pagers have been purchased and were re-crystalled, so they should be available soon. If you would like to be alerted to local emergency situations quickly, a pager fills the need ideally, and is a really good deal cost-wise. One of the objectives stated by the WCARC President, Larry Reitz, is to have all Wood County RACES/ARES participants equipped with pagers so that quick call ups can be made in time of emergency. For further information, please contact Larry, WA8CWD, at (419) 837-2202. ■

WCARC

Net Control Roster

Net meets every Tuesday at 2130

Oct 26	KB8QEW
Nov 2	N1RB
Nov 9	N8QMV
Nov 16	WD8ICP
Nov 23	KB8QEW
Nov 30	N1RB
Dec 7	N8QMV

Brain Teasers

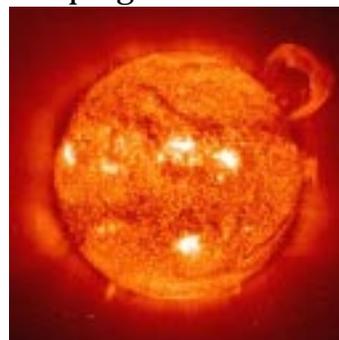
Answers to last month's quiz: 1-D 2-C 3-B 4-C

Solar Report

Beginning in late September, a continuing series of minor to moderate geomagnetic storms have triggered aurorae along the northern tier of U.S. states and may have affected some public power systems operating at high northern latitudes. These events were caused by high-speed material streaming out from areas on the sun known as coronal holes.

This week we can expect more of the same as another coronal hole rotates into position to send high-speed solar wind particles toward our planet. Space weather forecasters expect moderate levels of aurorae, shortwave radio disruptions, and power grid fluctuations at high latitudes for at least the next three days.

Below: On Sept. 14 1999, the space-based SOHO observatory photographed a huge eruptive prominence escaping the Sun.



Hamfest Calendar

Oct 31 Massillon ARC 8am - ?
Stark County, OH, Fairgrounds - I-77 at Canton.
Contact: Terry, N8ATZ, (330) 837-3091.

Oct 31 Marion ARC 8am - 3pm
Marion County, OH, Fairgrounds - Veterans' Memorial Coliseum. Contact: Karen, N8KE, (740) 499-3565.

Nov 13-14 Allen Co. (IN) ARTS 9am-4pm
Indiana State Convention-Ft. Wayne
27th Fort Wayne Hamfest and Computer Expo.
Allen County War Memorial Coliseum, corner of Coliseum Blvd. and Parnell Ave. Contact: Doug, N9NNT, (219) 484-3317 or (219) 484-1314.

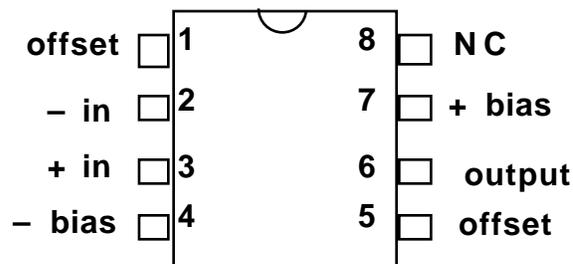
Nov 14 Hancock Co. (IN) ARC 8am-2pm
Greenfield, IN at Greenfield Central High School Pavilion, 810 N. Broadway St. Contact: Tom, N9LFU, (317) 326-3168.

HF Rig For Sale

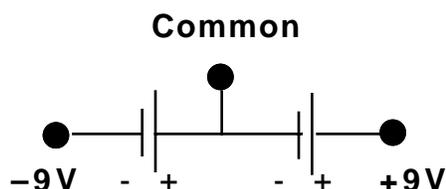
Yaesu FT-101B w/ digital read-out accessory installed
10 through 160 meters
Astatic Silver Eagle D-104 mic
Asking \$200 or best offer
Contact Chuck WD8ICP
352-0856

Op-Amps - What are they and how do they work?

This week, as promised, we will look at how an op-amp is actually hooked up in a real circuit. We're using the 741 because although it has long been improved upon by more recent types, it remains the cheapest available and probably the type you would encounter in the junk box. The pin diagram for the type 741 in the half dual in-line package (DIP) is shown on the next page:



The connections to pins #2, #3, and #6 are self-explanatory, since these are the inverting input, the non-inverting input and the output, respectively, and they always appear in circuit diagrams. The two dc bias connections do not usually show up in circuit diagrams however. The dc power supply to the chip must be connected to these pins. The 741 requires a bipolar (both polarities) supply ranging from about 9V up to 15V. A typical hook-up using 9V batteries is illustrated below:



Note that the mid-point connection between the two batteries is the common rail (ground). Note also that the bias supply forms the limiting voltage beyond which the op-amp output cannot go. For instance, if you build a circuit with a closed loop gain of 100, and apply a 100 mV peak-to-peak signal to the input, the theoretical output should be $0.1 \text{ V} \times 100 = 10\text{V}$ peak-to-peak. However, with the +/- 9V bias supply shown above, the output will be "chopped off" when it reaches +/- 9V, which is understood as the reference with respect to which all voltages are measured.

The other pins on the diagram that do not appear on circuit diagrams are #1 and #5, the offset terminals. As the first IC op-amp, the 741 was far from ideal. In fact, one of its foibles was that if you shorted the inputs together, there would be some measurable output voltage; the "offset". This shortcoming is compensated for by connecting the winding of a 10 K Ω potentiometer between the offset pins, and the wiper to the negative bias supply point. The offset is then "compensated by shorting the input and adjusting the pot to 0 V output. Try building some circuits yourself! Have fun! ■

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WOOD COUNTY AMATEUR RADIO CLUB

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Regular-\$10===Family-\$15===Senior/Student-\$5 MEMBERSHIP APPLICATION / RENEWAL FORM

DATE _____ ARRL MEMBER? Y _____ N _____ DATE OF EXP. _____

NAME _____

ADDRESS _____ PHONE _____

CITY _____ STATE _____ ZIP _____

CALL _____ CLASS _____ E-MAIL: _____

Please Circle All That Apply:

Active Bands: 160 80 75 40 30 20 17 15 12 10 6 2 220 440 higher

Modes: CW SSB PACKET RTTY FM DX MOBILE QRP SSTV ATV EME SAT

Interests: Traffic DX Contests Foxhunts Satellites Nets Antennas

Computers Emergency ARES/RACES Skywarn Classic Radios

Do You Own a Computer? Y _____ N _____ If yes, what operating system (check)?

DOS/Windows _____ MAC/OS _____ IBM/OS2 _____ Other _____

Do you plan to upgrade your license? Y _____ N _____ If yes, what class? _____

What kinds of meeting programs would you like to see? _____

What type of equipment would you like to see the Club purchase? _____

Other activities you would like to see the Club offer _____

General Comments _____

Signature _____ Date _____