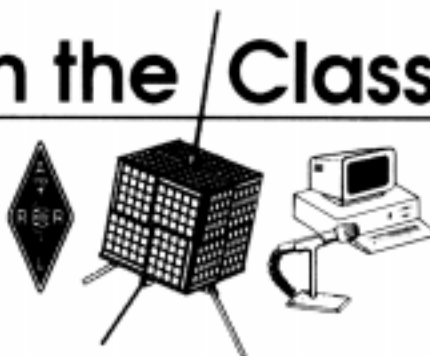




in the Classroom



January 2000

February = School Club Roundup Time

School Club Roundup (SCR) is approaching, and kids are getting excited. Teacher **Bob Tapper, K1YJK**, who got the Graland (CO) Country Day School ham club started in January '99, wrote, "Our 4th and 5th grade boys and girls had a fabulous time." At St. Patrick's Catholic Middle School, former radio students — now licensed and active on-the-air — mentored current students. Teacher **James Covington, AA0XJ** (of Cedar Rapids, IA) said, "I could see the magic of radio light up their eyes."

The SCR is sponsored by the Council for the Advancement of Amateur Radio in the New York City Schools (CAAR/NYCS), the ARRL and the Hudson Division Education Task Force. Separate certificates are awarded for elementary, middle school, high school and college/university levels for US and DX entries. Operating times are any time of day during the week (see below). Don't have a station in school? Ask your local club to set up a station for a day. Your group could get a special event call sign to use for SCR. See <http://www.arrl.org/arrlvec/1x1.html>. Ops are encouraged to take time to chat beyond the contest exchange.

Here are some of the basics, but for complete rules, watch January *QST*, or check <http://www.arrl.org/contests/announcements/99/scr.html>.

1. Contest Period: 1300 UTC Monday, Feb. 14, to 0100 UTC Saturday, Feb. 18. Operate 24 of the 108 hours, with a maximum of 6 hours in any 24 hour period.

2. Classes: Single transmitter only:

(1) *Individual or Single Opera-*

CW

1800 to 1810
3530 to 3580
7030 to 7080
14,030 to 14,060
21,050 to 21,080
28,050 to 28,080

Novice CW

3685 to 3705
7110 to 7130
21,110 to 21,130
28,110 to 28,130

Phone

1855 to 1865
3850 to 3880
7225 to 7255
14,250 to 14,280
21,300 to 21,330
28,550 to 28,580

Novice Phone

28,350 to 28,400

tor, (C) Club or Multioperator Group (non-school) — must use *only one* call sign, and (*S*) *School Club or Group* — any station operated at school, and those formed for the sole purpose of operating the SCR.

3. Exchange: Call sign, RS(T), class (I, C or S), state or country. Example: **N2RQ DE W2CXN 57(9) S NY.**

4. Logs: PLEASE use the SCR summary form, especially for your first SCR. For IBM and compatible software, email requests to caarnycs@aol.com. Or send a large SASE or a label and postage for log

and entry forms to SCR, c/o **Lew Malchick, N2RQ**, Brooklyn Technical HS, 29 Ft Greene Pl, Brooklyn, NY 11217. Or download SCR-LOG from <http://www.acs.oakland.edu/barc.html>. Select "The BARC Archives," "PC stuff," "logging/," "SCR-LOG.ZIP."

Suggested HF Frequencies (kHz): all amateur bands except 30, 17 and 12 meters. Do not use VHF or UHF repeaters nor the national calling frequency (146.52 Mhz). Only use recognized simplex frequencies ie, 144.90-145.00; 146.49, .55, 58; and 147.42, .45, .48, .51, .54 and .57 MHz.

Still Awaiting Restructuring

At this writing (December), we're still awaiting word from the FCC on restructuring of Amateur Radio licenses. Watch the ARRL Web pages and *The ARRL Letter* for details. You may want to delay the start of your licensing classes until February when your students have settled into the new year.

Award for Young People

If you know an outstanding young ham, check out the ARRL Hiram Percy Maxim Award at <http://www.arrl.org/field/awards/hpm.html>. Nominations for this award are made by ARRL Section Managers (SM) after suggestions and support information, including the endorsement of ARRL affiliated clubs and elected or appointed League officials, have been sent to the SM. The winner receives a cash award of \$1000, an engraved plaque, and travel and accommodations expenses to attend an ARRL convention at which a formal presentation will be made. Nominations from Section Managers must be received at Headquarters by March 31.

FCC and ULS

Do you have the latest on what the FCC requires in regard to using the Universal Licensing System and Form 605? Effective July 23, 1999, it became necessary for applicants to write their Taxpayer Identification Number (Social Security number) on the upper right corner of the Form 605. If you haven't heard the latest on this, read *The ARRL Letter* or the ARRL Web site for news.

Model

Most youths want to be older. If you'd like for your students to check out a university role model, have them visit the Web site of the Harvard Wireless Club at <http://www.hcs.harvard.edu/~w1af/>. They'll see photos of students at the radios and various station set-ups, plus they'll learn about club activities at the university level.

For college and university radio clubs, an e-mail reflector you'll be interested in is: ham-univ@w6yx.stanford.edu

You Deserve an Award

You may likely deserve one of ARRL's educator awards!

If you think you do a good job as a schoolteacher who uses Amateur Radio in your classroom, then others think that, too. Schoolteachers should ask a friend to nominate them for the ARRL Professional Educator of the Year award. There's also the ARRL Professional Instructor of the Year award. This is for those of you who are paid to teach license classes at community colleges or vocational educational schools and similar places, although you are not state-licensed professional teachers. ARRL very much enjoys honoring as many of our educators as possible by telling the world that colleagues nominated their deserving peers for awards.

If you were one of the good teachers nominated this past year for the ARRL Professional Educator Award, we *really* want you to update your 1999 information in order to compete again. Nominations are judged by Amateur Radio educators who are your peers, the ARRL Educational Advisors. Nominations are due by January 31, 2000. Send them to your ARRL Section Manager (page 12, any QST). For nomination forms, see <http://www.arrl.org/ead/award/application.html>, and for the awards' Terms of Reference, click on the pertinent award title at <http://www.arrl.org/ead/award/>.



Your Best Teaching Tips

You're familiar with the Amateur Radio educator's annual publication, *Proceedings of the ARRL National Educational Workshop*. In 1999, that title became the subtitle of the publication, and its main name changed to *Ham Radio... Planning for the Future*. This book's new name reflects its goal: finding ways to effect good teaching. The 175-page publication contains your best teaching tips.

The book also underwent a makeover of the internal format. There is now an index that is easy to use, because it lists categories such as "Instructors and Teachers" and "Projects." You'll find these excellent articles: "Youth Teachers and Tutors," by L. B. Cebik, W4RNL, and "Lessons Learned from the Lab," by Pete Hurd, N1SS. If you want ideas for educational radio games, read "Build the MactHam Board Game...and Learn as You Play!" by Rob Dey, KA2BEO. Other useful articles include, "Conversations about Helping to License Young Kids," by Mike Raisbeck, K1TWF, and Rosalie White, WA1STO, and "Successfully Teaching Code to the Very Young," by Mike Kopacki, KF2EW.

Next autumn you can get a complimentary copy of this publication if by March 31, you submit an article (a one-page presentation is sufficient) about your teaching techniques. For this year, the cost is only \$15 plus \$4.00 shipping/handling; you can order your copy by sending a check made out to ARRL, to Jean Wolfgang, WB3IOS, or calling her at 860-594-0219 with a credit card number. —WB3IOS

Operating Aids for Grads

You can get operating aids for your graduates. The set includes the card describing RS/T and UTC, plus a card with the frequency allocation chart and the WAS map, and graduation certificates and the important First Contact Awards to start off your students on the right foot. Send a postcard or e-mail note to Margie, KB1DCO, c/o ARRL, 225 Main Street, Newington, CT 06111 or kb1dco@arrl.org, giving your name and address, and the number of grads you have.

Youth Skeds Database

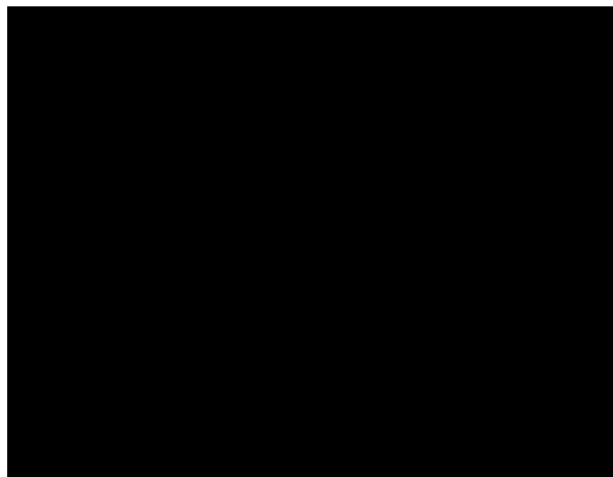
When your students want to get on the air, check the ARRL Youth Skeds Database at <http://www.arrl.org/ead/youthskeds/>. Type in the city, state, grade level or type of youth group you're interested in, and you'll get information for making an on-the-air sked.

FCC Test Fees for 2000

The FCC announced that the maximum test fee that can be collected by VEs during 2000 is \$6.66. The ARRL/VEC has set its fee at \$6.65 except for persons who take only Elements 1A or 2, which are free per ARRL/VEC policy. — Bart Jahnke, W9JJ

The Amazon Queen

An expedition begins in mid-January that your students might like learning about. The 14-ton, 47-foot wooden *Amazon Queen*, named in admiration of her sister ship the African Queen, has an Amateur Radio station on board. Phillip Gonzalez, HK3SA, the captain, will set up QSOs



with schools. The expedition will, among other things, be used as a support boat to assist with an attempt to swim the entire Colombian Amazon River. Students can learn about tropical weather, piranhas, river undertow, whirlpools, the Amazon environment and tribal culture. For details, go to Web site <http://www.amazonqueen2000.com>.

ARIC Electronically

Don't forget that you can get delivery of this newsletter more quickly if you send a note saying you'd like to have it delivered electronically. Just give us the e-mail address that you'd like for us to use.



Successful Teacher Bob Strange, K7VVU

Students in Electronic Communications Class at Bob Strange's (K7VVU) high school get to do activities with their area Amateur Radio Emergency Service including the National Traffic System and local club, and enjoy antenna-building. The kids' very favorite radio activity is hands-on operating of the station. (This seems to be the universal answer we keep hearing!) The daily curriculum of his class, a credit course, is set up somewhat around ARRL's King video licensing course.

Kids can obtain HTs on-loan once they get licensed, and excitedly get on-the-air. As many as 90% of the class study for and earn a Novice, Technician or Technician-Plus license. About 10% drop out because of Morse code, too much memorization, and the lack of practical application to their daily lives. Bob feels that student computer literacy helps students to be interested in Amateur Radio, and when asked if it aided students in preparing for licenses, he responds, "Absolutely! With computers in students' homes, I can also show them how to generate their own practice exams."

At school Bob has both a VHF and HF station set up in a room off of the classroom. Area hams assist in administering ham exams, and ham friends influenced Bob to decide to run the class. His biggest headache? HF getting into the school's public address system.

Bob has licensed 250 kids in 12 years. When asked what it was the kids heard about Amateur Radio that caused them to want to study for their own license, Bob's reply was, "Being able to get on the air." He also tells students that when they compete for jobs with non-hams, an Amateur Radio license often gives them an edge.

Successful Teacher Barbara Pedersen, KE4JZM

Middle school students—20 of them!—always look forward to Barbara Pedersen's (KE4JZM) Amateur Radio elective class. Talking on the air "is cool" to them, says Barbara, and is why students are willing to study. Students are even on a "standby list" to join if someone drops out of the class. The youths love to talk on-the-air, get involved in public service activities (such as a recent "Walk for Education"), compete in classroom radio games, and some like Morse code. All are studying for their ham licenses, and a number of them already have passed one portion of the test.

Although Barbara's radio class doesn't offer credit toward graduation, she says, "I can fit most of what the kids must learn to pass the ham exam into my daily curriculum. Three or so students out of 20 drop out because of fear of failure and Morse code. Students' computer literacy has helped my students prepare for getting licensed."



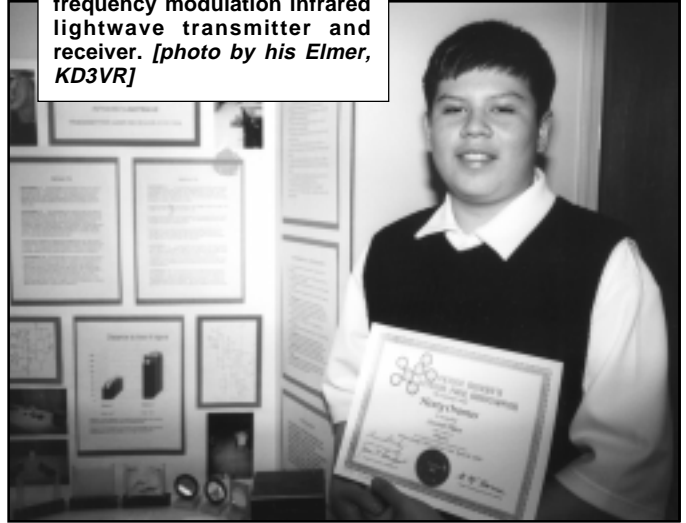
Phillips Middle School in Chapel Hill, NC—Barbara's school—sports a 35-foot tower with beams to feed her radio set-up in the science classroom. Before students get a chance to make their first ham QSO, they practice with each other using 11 meters. She reports that the program is very successful with boys, but nearly as attractive to girls.

Area hams assist with Barbara's radio class. They help provide equipment and donate money and labor, give talks on ham modes, demonstrate keyers and Morse code, invite the kids to Field Day and hold

VE sessions. When queried about how she gets the hams to come in, she replies, "I just ask!"

What influenced Barbara most to start the radio group? In 1993, she learned about the Space Amateur Radio EXperiment, and wanted to be part of it. What is Barbara's biggest headache? Students' fear of lack of technical knowledge. It's a good thing schoolteachers know how to handle that problem! Barbara states that it has helped a lot that she has a "good" principal and local radio club to help.

Henry Orantes, N3ZUX, (age 13) of Lanham, MD, won a science fair award for building and experimenting with his pulse frequency modulation infrared lightwave transmitter and receiver. [photo by his Elmer, KD3VR]



Club Call Sign

You may want to get a permanent call sign for your school club. Club call signs and mascots help build team spirit for your club. Albert Ortiz, KB5GZZ, sponsor of Desert View Elementary School Amateur Radio Club in El Paso, TX, applied for a school club call sign, and received KD5GAA. He says he now has the Alpha and the Omega — GAA and GZZ!

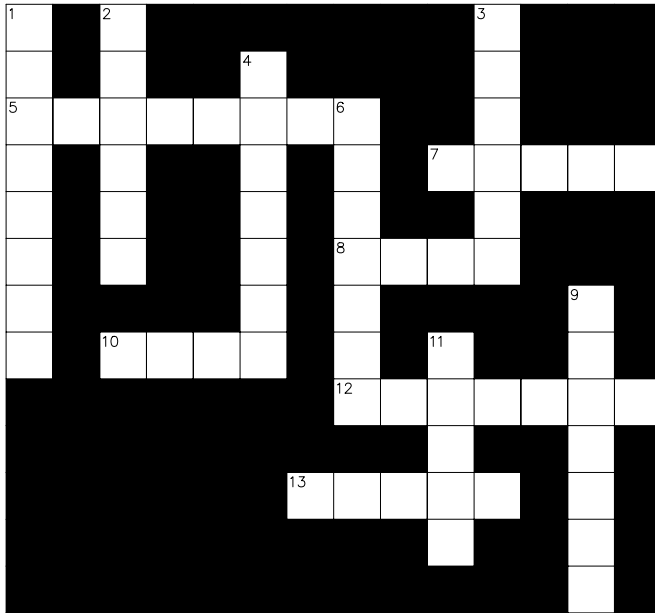
ARRL Training Materials

As always, here's the list you request of the current editions of ARRL training material. The edition number and printing number are listed in the first pages of each book—look for the copyright box. If the book is a new printing, it has minor updates. If the book is a new edition, it has gone through major revisions. Whenever the FCC announces details about Restructuring, updated information on pertinent dates for use of study guides will be publicized. Abbreviations are as follows: *Now You're Talking!* (NYT), *ARRL's Tech Q & A* (ATQA), *General Class License Manual* (GCLM), *Advanced Class License Manual* (ACLM), *Extra Class License Manual* (ECLM), *FCC Rule Book* (FRB), *ARRL Novice/Technician Instructor's Guide* (NTIG) and *ARRL General Class Instructor's Guide* (GIG).

- ◆ NYT 3rd edition: All printings
- ◆ ATQA 2nd edition
- ◆ GCLM 3rd edition
- ◆ ACLM 4th edition: All printings
- ◆ ECLM 6th edition: All printings (good through June 30, 2000)
- ◆ FRB 11th edition: All printings
- ◆ NTIG 3rd edition: Use with 3rd edition of NYT
- ◆ GIG 4th edition: Use with 3rd edition of GCLM

Note: The VEC Question Pool Committee has suspended its revision to the Advanced Class Question Pool until the FCC releases restructuring plans.

Units



DOWN

- 1 Gain
- 2 Energy
- 3 Capacitance
- 4 Current
- 6 Time
- 9 Inductance
- 11 Frequency

ACROSS

- 5 Charge
- 7 Power
- 8 Resistance
- 10 Current
- 12 Conductance
- 13 EMF

How to Get Volunteers to Help Teach

Here are hints to successfully convince area hams to volunteer to help teach your class.

- ◆ Test the waters with your potential volunteers by casually talking about certain aspects of the class before asking them to help. Get a reaction to determine their interest.
- ◆ Know what your volunteers' hot buttons are. If you need a class taught on antennas, talk to a volunteer who loves experimenting with antennas.
- ◆ Prepare a simple outline of the class. The outline should have an accompanying timetable to show volunteers they can break things down into achievable parts. Be honest about the time their piece of the project will require. Point out any pitfalls to them, along with the benefits.
- ◆ Request assistance face-to-face, as you'll be able to better convey your enthusiasm, and it'll be obvious you need the volunteer's assistance. You also get an immediate response.
- ◆ Find the folks who can't say no, and ask them to talk to the volunteer with you. These folks give off a positive aura by just being there.
- ◆ Offer several suggestions for what volunteers can do to fulfill their task, ie, brush up on information by reading *Now You're Talking* or reviewing the ARRL Tech videos.
- ◆ Maintain a "can do" attitude with the volunteers, and praise those who have a positive outlook.
- ◆ Don't forget the power of humor.



Students of Wendell Salmons, AE4PD, of Lexington, KY, enjoy QSOs.

A Fun Project

Do you want a PR idea to get more members in your school radio club? Do you need an idea for a writing or communications project? You can combine the learning of many skills into a project that results in a brochure all about your radio club. Designing and composing the contents of a brochure requires honing students' skills in language arts and design. Students need to draw maps to the meeting place or radio station, choose font sizes/types, make pen-and-ink drawings, describe the objectives and activities of the club, design a club logo or mascot, and learn effective advertising and attractive visual art. Students can share and evaluate each other's brochures with friends, teachers and parents. Brochures can be 8" X 11", back-to-back, two-fold. Students learn to separate fact from fiction in junk mail brochures they receive at home. Learning to communicate with, and make a presentation to convince, others is an important skill. Brochures gather and arrange facts and ideas to communicate a point of view. Brochures can intrigue, challenge, cause others to evaluate, and be persuaded. Students want a reader to come to a conclusion, and they have to use data and persuasive writing and visual aids, while organizing information visually and in writing.

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Amateur Radio in the Classroom is an idea exchange and information newsletter for Amateur Radio instructors. Please contribute photos, stories and instructional ideas by sending them to Field & Educational Services in care of the address above.