



# CAPERS

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**Issue: November 2004**

***Meeting this Month: Friday, November 12 at 8 p.m.***

## **MESSAGE FROM THE PRESIDENT**

The holiday season is just about upon us once again. Happy Thanksgiving to all!

The winter months in declining sunspot years are an excellent time to explore DX on the low bands. CW and the digital modes are excellent modes to low band DXing. I hope many are taking advantage of the conditions and improving their CW skills. Who will be the next to earn DXCC on 80 or 160m?

This month's program is about QRP. Jim, KD1YV will speak about QRP operation. CW is an excellent mode for QRP operation. Those who have tried the challenge of QRP are often amazed at the quality of the contacts made using QRP. I have worked OD, KH6, etc using 5w SSB (CW too!). Successful operation requires knowledge both of the propagation characteristics of the bands and the performance characteristics of

antennas and other equipment. Because power supplies can be small, QRP is excellent for portable and mobile operation. Bicycle and walking mobiles are not that uncommon. QRP also offers the opportunity of radio building at reasonable prices. Jim will review the kinds of equipment that are available and other relevant topics.

I encourage members with QRP equipment to bring their rigs and antennas to the meeting for "show and tell". Your QRP DX stories are also welcome.

I look forward to seeing you at the meeting.

***73 de Frank, N8WXQ***

## Fall Meeting Program Review

In November, Jim, KD1YV, will demonstrate how to “speak loudly while carrying only a few watts” when he covers the challenging field of QRP QSOs.

[Throughout this month's issue we've scattered photos of some of the unique and interesting QRP rigs popular today!](#)

The December meeting is our traditional holiday get-together. January is the annual QSL card sort event and pizza party. Mark your calendars now and join us for these programs!

## Meetings

CARA's regular meetings are held on the second Friday of each month beginning at 8 p.m., at St. Paul's Church Hall, Brookfield Center, CT. Informal “rag chewing” begins at 7:30 p.m.

## Correction: September Program on Operating With Battery Power...

The October CAPERS reported on the club's September program, which featured a discussion on operating under emergency power. Your editor should have credited Ken KD1DD for the excellent presentation on operating from battery power and for the sample charging circuits that were reproduced in the October CAPERS. My apologies for the error, Ken, and thanks again to George N1GS, Bob N1OCM and Ken KD1DD for their fine presentations.



## Update on PRB-1 in Connecticut

Mike, K1MK, our ARRL State Government Liaison, reports on progress towards a state version of PRB-1 in Connecticut.

A bill to incorporate the Federal limitations on local regulation of amateur antenna structures into the general statutes will be introduced when the General Assembly convenes in January. This bill does need to gather additional co-sponsors if it's going to get over the first hurdle it will face in the legislature: making the transition from a proposed bill into a committee bill.

Some colleagues have already been meeting with their legislators, seeking their support as co-sponsors for the bill. This process enters a new phase on November 3rd, the day after Election Day, when it becomes clear who should be contacted in each district.

The message from Mike is that we need to begin preparations to be ready to approach our legislators immediately after the election.

In-person meetings of constituents with their legislators are a tremendously effective way of delivering our message.

Until the General Assembly starts up in January, our representatives and senators will still have some limited amount of time available to meet with constituents, especially with small groups of constituents. This is where we will be trying to keep our efforts focused for the immediate future and this is where we have the greatest need for volunteers to assist.

E-mails, phone calls and letters are all useful and if that is how some amateurs



would prefer to help, Mike, says, no offer of assistance in this effort will be refused. Individuals who are interested in helping should contact Mike at [k1mk@arrl.net](mailto:k1mk@arrl.net) for coordination.

### **MeshNetworks Provides Position Tracking and Personnel Location**

MeshNetworks Inc., an industry leader in the development and commercialization of location-aware mobile broadband networking solutions today announced that Orange County Fire and Rescue (OCFRD) has begun a field trial of the company's Mesh Enabled Architecture (MEA(TM)) technology. OCFRD is actively working with MeshNetworks to accelerate the development of a rapid-deployment, in-building personnel tracking system for use by first responders. IBM Corporation is acting as the systems integrator for the OCFRD project. Since its launch in December 2002, MeshNetworks' MEA solution has gained wide acceptance in Public Safety, Intelligent Transportation and other markets.

OCFRD, the department responsible for all fire, emergency medical and rescue services in Orange County, Florida, will conduct an extensive evaluation under real-world first responder conditions. Feedback from the evaluation will be incorporated into future commercial versions of the

product. The MEA system being evaluated is also capable of supporting voice, video and megabit data communications in addition to its location and tracking capabilities.

"Protecting the community and our firefighters is priority one. Sometimes things go wrong. When they do, knowing the exact location of firefighters in a building is the difference between going home to family - or not," said Bill Godfrey, Deputy Chief of Orange County Fire and Rescue.

"MeshNetworks has put on the table the technology for real-time location of first responders in a building, and Orange County Fire Rescue is committed to validating that technology. This may save firefighters' lives, and we couldn't be more excited."

When deployed as part of a wide area MEA mobile broadband network, incident commanders can monitor and direct their units via voice, video, and data-enhanced communications either at the scene or remotely. Automatic vehicle location (AVL) and asset tracking are also available throughout the MEA network.

"First responders have a clear need for the position location and incident communications solutions offered by MeshNetworks," said Chris Couper, IBM Distinguished Engineer and a retired firefighter. "The technology is also suited for a wide variety of Homeland Security and Public Safety initiatives because of its ability to support voice, video, data and position-location from a single integrated, and interoperable mobile broadband network."

The self-forming, self-healing networking technology developed by MeshNetworks enables emergency personnel to instantly communicate with each other,

to public safety networks, the Internet and other state and federal systems. This coupled with its end-to-end support for industry standard Internet Protocol (IP), ensures transparency between a wide variety of devices, databases and interagency networks. The result is a robust, tactical communications system for first responders, even in the most remote or adverse emergency situations.

*(Tnx to KZIZ for forwarding this story)*

### **ARISS International Delegates Ponder "SuitSat" Possibilities**

If plans come together in time, an outdated Russian spacesuit could become the most unusual Amateur Radio satellite ever put into orbit. Being called "SuitSat" for now, the idea--from ARISS-Russia's Sergei Samburov, RV3DR--sparked wide-ranging discussion among delegates to the Amateur Radio on the International Space Station (ARISS) International Team meeting October 11-13 in Alexandria, Virginia. With diminishing stowage space aboard the ISS, several Orlan spacesuits used for space walks have been declared surplus. Samburov's notion is to have an ISS crew equip one of them as an Amateur Radio satellite--possibly including a camera in the helmet area--and launch it during a space walk. ARISS International Chairman Frank Bauer, KA3HDO, says the project is on a fast track because it must be ready to roll in less than a year.

"It is on a very short schedule," Bauer said. "They're talking about launching in November of 2005, and to launch then, it really has to be ready in June of next year. It's going to be a big challenge," Bauer said. A second Orlan suit is expected to be available in 2007.

Bauer says the fact that SuitSat will have to be integrated in orbit by cosmonauts adds even more to the complexity. And after all that, SuitSat might float in space just a



month or two before deorbiting. As a result, delegates tried to keep the "KISS" principle in mind during their brainstorming on how to equip SuitSat. "We've got to keep it simple, and we've got to keep the costs down," Bauer commented.

In addition to an onboard camera and a downlink transmitter, other ideas floated included the installation of temperature and radiation sensors, a beacon, a text-to-speech voice synthesizer so SuitSat could "speak" to students from data uplinked via packet, a full-duplex repeater and a GPS receiver to track SuitSat as it orbits Earth. The Orlan suits are pressurized and thermally protected, and have ample room inside.

"I think we're doing a good job of engineering this thing on the fly," Bauer remarked during the discussions. "This has excited a lot of people." ARISS delegates agreed that the project might pique the interest of students, teachers and the news media. The ARISS Project Selection and Use Committee is studying the proposal, and ARISS is soliciting ideas from the Amateur Radio community on what to include.

### **AT&T, Pacific Gas & Electric Dissolve BPL Partnership**

A BPL field trial in Menlo Park, California, where FCC Chairman Michael K. Powell had extolled the technology's virtues earlier this year, has been aborted before getting very far off the ground. The demonstration of BPL technology was co-sponsored by Pacific Gas and Electric Company (PG&E) and AT&T.



ARRL learned this week that AT&T has decided to direct its business energies elsewhere, however, and pole-mounted BPL equipment has been dismantled. PG&E Director of Business Development Toby Tyler confirmed that his company and AT&T no longer were involved in the Menlo Park BPL pilot.

"AT&T pulled out as a result of their strategic shift away from consumer markets," Tyler told ARRL. "Without a telecom partner, it didn't make business sense for PG&E to continue with a trial."

AT&T spokesperson Michael Dickman said his company had "redirected its focus on serving enterprise customers," and, under the circumstances, has "limited involvement with BPL."

*(Ed. Note: Several articles in this issue are courtesy of the ARRL Letter)*



### **W1WJB ARRL Community Education Program Manager**

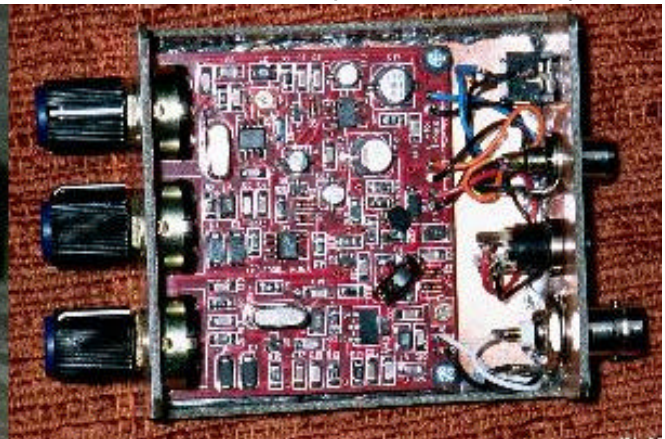
Bill Barrett, W1WJB, of Ridgefield, Connecticut, is the newest member of the ARRL Headquarters family. He joined the ARRL Field and Educational Services (F&ES) staff October 18 as ARRL Community Education Program Coordinator. In that position, he'll execute a pilot program to enlighten a dozen US localities about the value of Amateur Radio to community safety and security. And he'll be exploring the best

ways Amateur Radio can work with Citizen Corps councils to show them what ham radio can do. Barrett plans to make the most of his experience as an ARES District Emergency Coordinator, more than 40 years of Amateur Radio experience, and his work producing video and film projects for corporate clients.

"I enjoy bringing a message to groups that expands their capabilities," Barrett said. As an emergency coordinator, he developed a PowerPoint presentation that local officials could view right at their desks. "A new presentation will grow out of that, with a lot of new material better suited to the new audience," he added.

The one-year position Barrett is filling is new at ARRL HQ. Both the position and the program are funded by a grant from the Corporation for National and Community Service (CNCS).

ARRL Chief Development Officer Mary



Hobart, K1MMH, says now that more amateur licensees have been trained in how to handle emergency communications, they have some educating to do. "Hams can contribute so much to Citizen Corps council members," she said, "not just to served agencies like the Red Cross and The Salvation Army, but also when communication problems confront grassroots community institutions such as hospitals, utilities, blood banks, shelters and even schools."

Barrett said his plan is to share the message

about ham radio and emergency communications with community leaders, and have local ARES and ARRL-affiliated club members demonstrate their expertise to Citizen Corps councils.



### **Work Meetings are Open to All!**

Just a reminder that all members are invited to attend CARA Tuesday night work meetings during the year. The Work meetings are held the second Tuesday following a Friday club meeting and are not just for club officers.

Work meetings, which are held at St. Paul's Church, usually start at 8 p.m. They are an opportunity to discuss and follow-up on club activities and issues that require more time than is available at regular club meetings. The input and opinions of all club members are welcome.

### **FCC BPL Report Stresses Interference Avoidance, Resolution...**

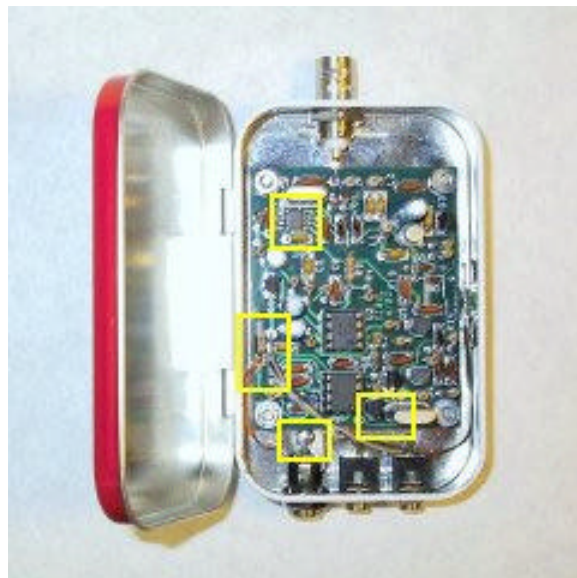
The FCC this week released the full BPL Report and Order (R&O) in ET Docket 04-37 that it adopted just two weeks ago. While extolling the purported benefits of broadband over power line technology, the 81-page document also declares the FCC's intention to protect licensed services from harmful interference.

"We recognize that some radio operations in

the bands being used for Access BPL, such as those of Amateur Radio licensees, may occur at distances sufficiently close to power lines as to make harmful interference a possibility," the FCC conceded in its R&O. "We believe that those situations can be addressed through interference avoidance techniques by the Access BPL provider such as frequency band selection, notching, or judicious device placement."

Notches would have to be at least 20 dB below applicable Part 15 limits on HF, 10 dB below on VHF. The FCC called the ability to alter a system's operation to notch out transmissions on specific frequencies where interference is occurring "a necessary feature for resolving interference without disrupting service to BPL subscribers."

In line with remarks made at the October 14 open meeting where the FCC adopted the R&O--then still in draft form--the FCC declined to reduce the Part 15 radiated emission limit for BPL systems. It maintained that emissions from BPL systems are very localized and at low enough levels to generally preclude harmful interference.



The FCC said it had no evidence before it that BPL operation would significantly contribute to generally raising background

noise levels. At the same time, it seemed to put some of the onus on Amateur Radio licensees to take steps to avoid power-line interference--and, by inference, BPL interference--in advance.

"In addition, because power lines inherently can radiate significant noise emissions as noted by NTIA and ARRL, good engineering practice is to locate sensitive receiver antennas as far as practicable from power lines," the FCC said.

BPL operators would be required to avoid certain bands, such as those used for life and safety communications by aeronautical mobile or US Coast Guard stations. The FCC R&O makes clear, however, that similar rules will not apply to the Amateur Service.

"We similarly do not find that Amateur Radio frequencies warrant the special protection afforded frequencies reserved for international aeronautical and maritime safety operations," the Commission said. "While we recognize that amateurs may on occasion assist in providing emergency communications," the FCC added. It described typical amateur operations as "routine communications and hobby activities."

The Commission reiterated in the R&O its belief that BPL's public benefits "are sufficiently important and significant so as to outweigh the limited potential for increased harmful interference that may arise."

Among other specific provisions, the FCC's new rules mandate certification of BPL equipment instead of the less-stringent verification, a public BPL database--something the BPL industry did not want--and mechanisms to deal swiftly with interference complaints. BPL systems will have to incorporate the ability to modify operation and performance "to mitigate or avoid potential harmful interference" and to deactivate problematic units, the R&O says.

The FCC said it expects "good faith" on both

sides in the event of interference complaints. Shutting down a BPL system in response to a valid interference complaint "would be a last resort when all other efforts to satisfactorily reduce interference have failed," the FCC said.

League officials are studying the R&O and considering possible responses. The ARRL Executive Committee (EC) already has authorized filing a Petition for consideration. The EC also authorized ARRL General Counsel Chris Imlay, W3KD, to "prepare to pursue other available remedies as to procedural and substantive defects" in the BPL proceeding.

For more information on BPL, visit the "Broadband Over Power Line (BPL) and Amateur Radio" page <<http://www.arrl.org>> on the ARRL Web site.

### **Digital Broadcast Troubles Some, Opportunity to Others**

A digital broadcast signal on 3995 kHz has prompted some members of the amateur community to contact ARRL to say it's QRMing the top 10 kHz of 75 meters and asking what can be done about it. Not much, as it turns out. The signal, from Deutsche Welle in Germany, is legal since radio amateurs share that part of the band with broadcasters in Region 1 (which includes Europe). The international Radio Regulations do leave the door open to request that the station reduce power or change its antenna pattern, however.

"Digital shortwave will revolutionize cross-border broadcasts and will initiate a worldwide renaissance of radio," Deutsche Welle Director General Erik Bettermann said this month during a panel discussion at Munich Media Days. Deutsche Welle plans to gradually shut down its analog shortwave transmissions, he said, as DRM receivers became more available globally--something not anticipated until late 2005.



## CARA Standing Committees

Just a reminder to all members that these are the standing committees that help make CARA run. Our members and their ideas are our strength. Sign up for one of these committees if you have not already done so.

### *Repeater and Digital Equipment*

- Repeater coordination
- Repeater maintenance
- Packet cluster maintenance
- Other digital equipment

### *Operating Activities*

- Field Day- June 2005
- New England QSO Party – May 2005
- WACC
- Special event station or fall contest

### *Hamfest*

- Plan and organize – September 2005
- Publicity

### *Membership*

- Annual dues notification and follow up
- Annual new member drive

### *Education and Elmering*

- Organize or sponsor class for entry-level license
- Organize Elmer support network for new hams
- Organize two 3-person ARES deployment teams

### *Program Committee*

- Organize and arrange monthly program
- Staff and Net Control for Sunday 7:30 p.m. CARA net
- CARA CAPERS newsletter

## Nets

*CARA Weekly Net:* Sunday nights at 7:30 p.m. 147.30+ ( PL 100)

*WestConn Net:* Nightly at 8:30 p.m. 147.18+ (PL 114.8)

*Tips Net:* Tuesday evenings at 7:30 p.m. on 146.73- (PL77) (linked statewide).

*R-Com Weekly Net:* 145.47- ( PL100) Thursday Evenings, 8 p.m.

*ConnARES Area One (North) VHF Net:* Second Monday of each month, 8 p.m on CARA repeater: 147.30+ (PL 100)

*Conn ARES Issues Net:* 3.965 Mhz +/- on Thursdays @ approx. 6:15 p.m. (following CT Phone Net).

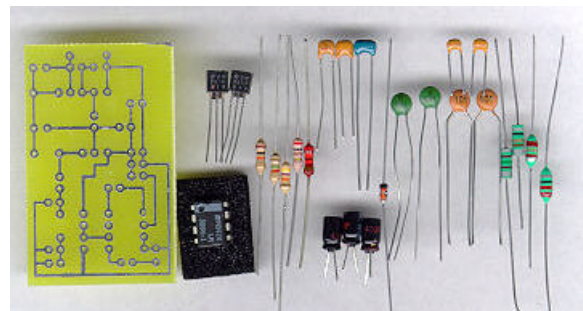
## CARA 2004 VE Schedule

Make a note of the CARA-sponsored Volunteer Exam (VE) schedule for the remainder of the year:

-- Saturday, December 4

VE sessions are held at St. Paul's Church in Brookfield Center, the site of our regular monthly meetings. Registration for these exam sessions begins at 11:30 a.m. There is no pre-registration, but an e-mail in advance of the session, or telephone call, would be appreciated so the examiners know how many potential candidates to expect. The current fee for new license exams or upgrade exams is \$12. Be sure to bring with you two forms of ID – at least one with your photo. Also bring the original AND copy of CSCE's and/or amateur license. The registration form will be supplied at the session.

Questions or comments? Check with Frank, N1PE, [frsileo@att.net](mailto:frsileo@att.net), 203-438-0218 (Ridgefield CT).





For more information, contact Emergency Communications Course Manager Dan Miller, K3UFG, [cce@arrl.org](mailto:cce@arrl.org); 860-594-0340.

### **Draft Bandwidth Petition, BPL Focus of ARRL EC Meeting**

Meeting October 16 in Dallas, Texas, the ARRL Executive Committee (EC) devoted much of its fall session to a discussion of comments received on ARRL's draft FCC petition seeking regulation of subbands by bandwidth rather than by emission mode. The EC also authorized the filing of a Petition for Reconsideration in response to the BPL Report and Order (R&O) in ET Docket 04-37, which the FCC adopted October 14. Drafting and filing the petition must await release of the actual R&O, which should happen in a few weeks

"The Executive Committee found considerable support for the concept of the petition," said ARRL CEO David Sumner, K1ZZ, "along with constructive suggestions to reduce both the impact of the changes on current amateur operations, as well as possible unintended consequences." Sumner's "It Seems to Us . . ." editorial, "Regulation by Bandwidth," in September QST addressed the bandwidth petition.

The draft bandwidth proposals take into account the ARRL's prior "Novice refarming" petition to expand some HF phone bands, included in the "omnibus" FCC



Notice of Proposed Rule Making in WT Docket 04-140.

### **Editor's Note:**

Just a reminder that we're always looking for interesting features and news articles for the CARA CAPERS. Contact the editor, Barry, KA1JDD, [barry@connollyco.com](mailto:barry@connollyco.com), or call: 203-748-1033.

### **QRP Resources identified by Google**

#### **The International QRP Club -**

<http://www.qrparci.org/>  
Resource offers QRP and club information, online journal, message boards, and links.

#### **GQRP Club -** <http://www.gqrp.com>

Official site offers technical information, internet conferences, events calendar and more for the QRP enthusiast.

#### **New Jersey QRP Club -**

<http://www.njqrp.org/>  
Members list, amateur radio articles, call signs, and information on kits and equipment.

**Colorado QRP Club -** <http://www.cqc.org/>  
Information about QRP, club activities, and fox hunting.

#### **Flying Pigs QRP Club International -**

<http://www.mpna.com/fpqrp/>  
W8PIG club news, amateur radio resources, callbook logs, and calendar of upcoming events.

**QRPP International -** <http://www.QRPP-I.com>

A club for amateur radio operators around the world to share their experience and knowledge with operating at less than 1 watt.

**QRP-L -** <http://qrp.lehigh.edu/lists/qrp-l/>  
An Internet based club with a very active QRP email reflector. Sponsors the very popular QRP-L Foxhunt.

#### **Eastern Pennsylvania QRP Club -**

<http://www.n3epa.org/>  
News on upcoming special events, low power amateur radio equipment, call logs, and member contacts.

#### **Adventure Radio Society -**

<http://www.arsqrp.com/>  
Combining amateur radio with a love of the outdoors.

**Hi-QRP Club -**

<http://www.chem.hawaii.edu/uham/hiqrp.html>  
The Hawaii Low Power Ham Radio  
Operation Club

**Iowa QRP Club -**

<http://www.qsl.net/kq0rp/iowaqrp.html>  
Low power amateur radio resources,  
equipment articles, meeting reports, and  
calendar of events for members.

**OK QRP Club -** <http://www.qsl.net/okqrp/>  
QRP in the Czech Republic.

**North Georgia (NOGA) QRP Club -**

<http://www.qsl.net/nogaqrp/>  
A group of QRP enthusiasts, most of whom  
are within 90 miles of Atlanta. Site includes a  
number of useful club projects for QRP  
builders.

**Columbus QRP Club -**

<http://www.qsl.net/cqrp/>  
Membership information, meeting news, mail  
list, and resources for low power amateur  
radio enthusiasts.

**New England QRP Club -**

<http://www.qsl.net/wq1rp/>  
Low power ham radio resources,  
membership reports, and calendar of events.

**KnightLights QRP Club -**

<http://www.knightlites.org/>  
Fun organization for lovers of QRP. Includes  
club and QSL information and links.

Austin QRP Club - <http://www.qsl.net/kq5rp/>  
Texas-based organization presents club and  
local information and links.

**CW Operators'QRP Club -**

<http://www.users.on.net/zietz/qrp/club.htm>  
Australian based group which sponsors QRP  
kits and contests.

**Minnesota QRP Society -**

<http://www.qsl.net/mnqrp/>  
A statewide Amateur Radio Club for low  
transmit power and radio construction  
enthusiasts. Meet your fellow QRPer's and  
Homebuilder's here!

**Virginia QRP Society -**

<http://www.qsl.net/vqs/>  
Upstart QRP Club based out of Northern of  
Virginia. Sponsors several QRP PiggyBack

contests per year. Website updated  
frequently and features a monthly article by  
outdoor QRP enthusiast John Humphries  
W4IM.

**Michigan QRP Club -**

<http://www.qsl.net/k8dd/miqrp/miqrp.htm>  
Sponsors of the January CW Contest and  
other contests and sprints throughout the  
year.

**NORTEX QRP Club -**

<http://www.kk5na.com/nortex.htm>  
A group with members in the Dallas/Fort-  
Worth metroplex.

**Colorado QRP Club -**

<http://www.mtechnologies.com/cqc/>  
Membership reports, calendar of events,  
swap list, and resources for amateur radio  
enthusiasts.

**Barrow Lodge QRP Group -**

<http://www.qsl.net/k3iw/>  
In November 1998 the group was organized  
to promote the challenge, fun and rewards of  
low-power operating and the Amateur Radio  
hobby.

**DL-QRP-AG -**

<http://www.qrpeter.de/UK/indexuk.html>  
**German QRP Club.** Publishers of the  
German QRP report. Includes equipment and  
homebrew reviews.[German-English]

**Brooklyn QRP Club -**

<http://www.qsl.net/bklynqrp/>  
Membership news, amateur radio resources,  
Ham programs, DX QSL articles, and  
equipment reports.

**Houston QRP Club -**

<http://www.hqrp.stevens.com/>  
Meeting schedule, reports, and information  
on the amateur radio hobby.

**Gloucester Area QRP and  
Homebrewers Club -**

[http://www.angelfire.com/pe2/hott/G\\_QRP.htm](http://www.angelfire.com/pe2/hott/G_QRP.htm)

An informal group in Southeast Virginia.

**West Florida QRP Club -**

<http://www.qsl.net/westfla/>  
Provides details on meetings, pictures,  
articles on kit-building, and contacts.