



# SPARKS



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Puget Amateur Radio Society

June 2002

## *June program - SteppIRR antennas*

Although it's not confirmed as of this writing, we've tentatively scheduled the fine folks from Fluidmotion in Issaquah to show off their SteppIRR line of adjustable-length dipoles and Yagis for us this month. Mike, K7IR, and crew have come up with a real "Why didn't I think of that?" idea: Make an antenna whose resonant frequency, gain, and front-to-back ratio can be adjusted by means of varying the length of each element. SteppIRR elements consist of beryllium copper tape supported in lightweight fiberglass tubes. Stepper motors, under microprocessor control, vary the length of the tape to optimize the elements for the band in use. SteppIRR antennas operate from 20 to 6 meters, without lossy traps, log cells, or interlaced elements. They're available as dipoles or 2- or 3-element beams. More details are available at [www.steppirr.com](http://www.steppirr.com).

## *New officers elected for '02-'03*

The PARS members at May's general meeting elected a new slate of officers for the next club year:

**President:** Don Hickman KC7MDA

**Vice-President:** Charles Beckmeier KC7GMF

**Secretary:** Doug Bell KD7KKR

**Treasurer:** Van Kichline KD7QIT

The new board will take office on July 1, although they won't have much to do until September. It's up to them to decide whether to hold a Board meeting that month, so contact Don if you'd like to attend.

None of the current board members opted to stay on for another year. My thanks to President Mark

Whitaker and Vice-President Lisa Marker for taking the reins this past year.

## *Field Day time again!*

Well, after telling everyone for months that we'd be holding Field Day at the Senior Center, the members voted at the May meeting to cross the pond and join forces with the Shoreline Auxiliary Communications Service (ACS) this year. The ACS is an emergency-communications group that supports the Shoreline Fire Department. Not surprisingly, they treat Field Day more as an emergency drill and training exercise than as a contest. Your *Sparks* Editor has participated in FD with the ACS group for the past three years. We plan on operating 4 HF rigs and 1 VHF/UHF station this year.

Field Day will be on the weekend of June 22-23. The Field Day site will be at the appropriately-named Hamlin Park in Shoreline, 160006 15th Ave. NE. To get there, take the NE 145th St. exit from I-5 and proceed east to 15th Ave NE. Turn left (north) onto 15th and proceed to NE 160th St. The park entrance will be to your right. Stay on the main road into the park and watch for the ACS communications van to your left. Talk-in will be on the 440.300 repeater (103.5 Hz PL).

Antenna setup will begin at 0800. We'll try to be on the air by 1100 Saturday, take a dinner break at 1800, then continue nonstop until 1100 Sunday. There'll be a BBQ grill available for those of you who'd like to char something for dinner, or make a burnt offering to the propagation gods. It won't be a potluck, more like a BYODD (bring your own din-din), so you needn't feel guilty about not sharing.

*Next general meeting* - Thursday, June 20 at 7:00 PM at the Bellevue Senior Center, 4063 148th Ave. NE in Bellevue. We've tentatively scheduled the Fluidmotion folks to show off their SteppIRR antennas that night (see above). And be sure to join us at 5:30 PM for dinner at Coco's, 14804 NE 24th St. in Redmond. Visitors are always welcome at the meetings and at Coco's.

*Next board meeting* - Thursday, Sept. 5 at 7:00 PM, location TBD. Contact Don Hickman if you'd like to attend. All PARS members are welcome.

I'll be looking for PARS folks to help with setup and teardown, as well as someone to help transport antennas (the junior Mosley and the Cushcraft R-5), telescoping mast, and the club's generator to and from Shoreline. Let me know at Thursday's meeting or at 425-882-3778 if you're willing to take on some equipment-hauling chores. - *de N7UK*

### **WA Salmon Run - Sep. 21-22**

Even though it's a few months away, it's not too soon to start planning for the Washington Salmon Run. This is our state QSO party, sponsored by the Western WA DX Club. It'll be the fifth year that PARS has come out to play in this event, and interest among Washington hams has increased considerably since we started. This may well be the first year that all 39 counties are activated for the Run. Rules and other details about the contest are available at [www.wwdxc.org/salmonrun](http://www.wwdxc.org/salmonrun).

Last year, Your PARS President and Your *Sparks* Editor bested some fierce competition in Pend Oreille county (okay, so it was one mobile op who was there for three hours) to take home one of the coveted smoked-salmon awards. In keeping with PARS' policy, we never operate from the same county twice (okay, okay, it's MY policy, but in my humble but correct opinion, it's still a fun idea). This year, the PARS DXpedition team is off to San Juan county. San Juan is consistently one of the most-wanted Washington counties among the county-hunters; it has only 94 hams with a General or higher-class license, and having to get on a boat or plane to get there tends to discourage the mobile operators.

I'm planning on renting a suitable venue,

probably on Orcas, and ferrying there on the 20th to set up antennas. The contest period is 0900 to midnight local time on Saturday, and 0900 to 1700 on Sunday, so everybody will get a sleep break.

If any members would be interested in operating the Salmon Run from the trailer, rather than making the trip to the San Juans, there's no reason why we couldn't have two PARS teams for this event. Either way, if you'd like to participate, let me know at this month's meeting or call me at 425-882-3778. - *de N7UK*

### **Antenna, power plans for Senior Center**

President Mark and I met on June 12 with Randy Ransom, the facilities manager for the Senior Center, to talk about the possibility of making two changes to benefit PARS and EARS. The first item discussed was an 80-meter dipole, to be mounted on the Center roof. This would be suspended from two or more 8-foot masts, to minimize the potential for damage from any workers who might be doing maintenance there. The masts would be weighted to avoid having to fasten them to the roof. Randy was amenable to this idea, and promised to get us a plan of the building so we could see how much room we have available. We may have to lay out the antenna in a V configuration, or bend one or both of the ends, to get it to fit in the available space.

We also asked about getting a second 120V outlet installed on the outside of the building, in order to power our SB-200 linear. This would involve some effort and expense on the city's part. Randy didn't have an immediate answer for our request. We'll be continuing our discussions with Randy over the summer. - *de N7UK*

#### **PARS 2001 - 02 Club Officers:**

President - Mark Whitaker, KD7KUN

Vice Pres. - Lisa Marker, K7LAM

206-542-6742

Secretary-Treasurer - Kirk Bellar, N7UK

206-542-6742

**The Puget Amateur Radio Society (PARS)** is an ARRL-affiliated club serving radio amateurs in the greater Seattle area. Meetings are normally held on the third Thursday of the month (except July, August, and December) at 7:00 PM at the North Bellevue Senior Center, 4063 148th Ave. NE. Visitors are always welcome.

**Annual dues** are \$15.00 for individual membership, \$22.50 for family (2 or more persons at the same address). PARS will prorate the dues of new members joining after Jan. 31. Call Kirk, N7UK, for a membership application.

**Visit our Web page** at <http://www.qsl.net/k7par>. This is always a work in progress, so check back often.

**Send articles**, comments, want ads, large unmarked bills, etc. for inclusion in this newsletter to Kirk Bellar, N7UK, 19353 Greenwood Ave. N, Shoreline WA 98133, fax to 425-867-2160, or e-mail to [n7uk@aol.com](mailto:n7uk@aol.com).

**Send all other club-related correspondence** to PARS, PO Box 32, Kirkland WA 98083-0032.

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## Hams to launch own rocket into space

If all goes as planned, a group of Amateur Radio operators and amateur rocket enthusiasts will make aerospace history this month by putting the first amateur rocket into space. If the attempt succeeds, the suborbital vehicle will carry its Amateur Radio payloads to an altitude of more than 60 nautical miles.

"Amateur Radio is central to the whole flight," said Eric Knight, KB1EHE, of Unionville, Connecticut - one of the hams involved. He explained that the rocket's Automatic Position Reporting System (APRS), amateur TV and packet telemetry gear will enable the team to document its success.

"Space" is defined as 50 nautical miles. The team is aiming to attain an altitude of 62 nautical miles with its rocket. The launch will take place later this month from a site in Nevada.

Other amateurs involved include Rod Lane, N1FNE - whose Southington, Connecticut garage and basement workshop have been largely given over to rocket construction and integration - and Don Skinner, N1HWR, of Tariffville, Connecticut. Assisting in the project has been high school senior Julia Cohn, KB1IGU, of West Hartford, Connecticut, and her electronics instructor and mentor Chet Bacon, KA1ILH, of Plantsville, Connecticut. Cohn has been involved in constructing and programming some of the sequencing electronics that will go aboard the vehicle.

"We're proud to have her as part of the team," Knight said. Other students in Bacon's electronics classes also have contributed to the project.

In all, Knight says, 16 "key people" - including spouses - have immersed themselves in the rocket project. Among them is a *real* rocket scientist, Jerry Larson, an "almost ham" and an engineer with Lockheed Martin in Colorado. The team has built the vehicle itself, right down to the solid rocket propellant grain. Also working on the vehicle is Ky Michaelson of Minnesota.

To say that the project has become nearly all-consuming would be an understatement. "We're passionate about it," Knight said, estimating that the team members - whom he describes as "people with a love of rocketry" - easily have spent hundreds of hours apiece over the course of the five-year mission. At this point, they've been working almost around-the-clock, he said.

Funding for the project has come from team members' pockets. Knight estimates the costs to date are approaching \$100,000. Machining for the nose cone alone cost on the order of \$5000. "A lot of our vacation money goes into this," Knight said. "We've convinced our wives that the desert is a good place to spend a couple of weeks."

Knight says the rocket was to have flown last September 26, "but then September 11 happened." The team lost its Federal Aviation Administration authorization to launch; it was only reinstated this spring. The team also has made the necessary FCC notifications.

The rocket team already has logged some successes. In September 2000, the team's first rocket almost made it into space - missing by less than a second of flight time because of a faulty fin that came loose at nearly five times the speed of sound. That vehicle set a world speed record for the fastest land, sea or air vehicle built by amateurs - 3205 MPH.

The new rocket is about 18 feet tall, and its engine can generate some 7000 lbs of thrust. Two days before it was shipped to Nevada, the team conducted a "spin test," which essentially simulates the launch and flight of the rocket. "This is the most critical thing we're going to do," said Knight.

In addition to proving out the durability of the rocket's construction - including the components inside - the spin test was to ensure that the onboard GPS system remained operational while the vehicle spins. "Others who have tried this failed, because the GPS unit shut down," Knight explained.

The test was conducted on the grounds of Hall High School in West Hartford, where Knight was joined by Bacon and three other students who have contributed to the rocket project. The team placed the nose cone on a modified potter's wheel and waited for the GPS system to lock. Once the packet messages started coming in, the simulated "launch" began. The rocket was spun from zero to 7.6 cycles for 15 seconds and maintained at that rate for four minutes.

"This is a big day," said Knight as he watched the test progress. "A lot has come down to this."

Knight later reported that the test was a complete success and another record to boot. "As far as our team has been able to determine, this is the fastest that a sounding rocket has been spun - including commercial and government sounding rockets - while still maintaining GPS signal lock," Knight reported.

In Nevada, the rocket will undergo a full day of testing followed by a full day of launch simulation exercises. If everything is a go, the big launch would take place the following day. The team is not releasing the exact launch date or location because of limitations on the number of visitors allowed at the site, which is owned by the US government.

Once the vehicle attains maximum altitude, it will be split into two pieces, and parachutes will deploy to carry them back to Earth. "It will come back, one way or the other," Knight said. The rocket is expected to travel a parabolic route that will carry it some 26 miles away from the launch site.

Like the "rocket boys" in rocketeer Homer Hickam's autobiography *October Sky* (also a movie), the team is in it for the honor and excitement.

"There's no prize or reward whatsoever," Knight said, "only the historic recognition of being the first amateurs to build and launch a rocket into space."

(From the ARRL Letter, June 13)

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## *Minutes of the PARS general meeting, 16 May 2002*

The members met at the Bellevue Senior Center. 9 members were present, a quorum. The President was absent. The Vice President brought the meeting to order at 7:08PM.

The members approved the April meeting minutes as published in the May issue of Sparks.

**Treasurer's report:** The Treasurer reported a positive balance for the thirty days ending May 16 [*Financial statements are available from the Treasurer - Ed.*]. He announced that he'd be reimbursing himself for several expenses, including the parts ordered from Harbach Electronics for retrofitting the club's Heathkit linear amplifier.

**Trailer report:** Trailer chair Mark was absent. The Treasurer said that the Senior Center staff had asked that the trailer be moved closer to the building. Charles Beckmeier said that he might be able to do it with his Jeep. The Treasurer mentioned that former member John Brewer might be available to do the job.

The Treasurer noted that there'd been no reported interference to the Senior Center PA system since he'd installed the new ground rod and wiring for the trailer, at least not when using the end-fed wire antenna. There was still some interference when using the R-5 vertical.

**Contest Committee:** The Treasurer announced that the next event would be the Washington Salmon Run in mid-September. He was planning to operate from San Juan county this year, and suggested that members not wanting to make the trip could have a separate operation from the trailer.

**Field Day:** Chair Doug Bell wanted to recruit someone to oversee equipment tear-down on Sunday during Field Day weekend, since he didn't expect to be there that afternoon. John Heflin suggested combining Field Day efforts with another group. The Treasurer listed Microhams, WWDXC, Mike & Key, Redmond Top Key Contest Club, and Shoreline ACS as

potential groups to team up with. John asked about joining the Shoreline group. The Treasurer said he'd check with Shoreline, but didn't anticipate any objections. The members voted and approved joining with Shoreline ACS for Field Day, pending approval by that group. The members discussed what equipment would be set up at the Shoreline operation.

**Old Business:** The Treasurer reported that the new repeater controller was still not hooked up, and that users would have to ID the 443.2 machine manually, using the K7PAR call. He had been regularly checking with PSE liaison Steve Szombathy to see whether Steve had made any progress with the controller installation.

**New Business:** The Vice President listed the officer nominees for the '02-'03 club year: For Vice President, Don Hickman; Secretary, Doug Bell; and Treasurer, Van Kichline (not present). Larry Larse declined nomination for President, and John Heflin declined nomination for Vice President. Don Hickman agreed to be nominated for President, and Charles Beckmeier for Vice President. The Treasurer noted that the By-Laws only require one face-to-face Board meeting per year. The Board could conduct most business by phone or e-mail. There were no further nominations. The Treasurer stated that Van Kichline had informed him of his willingness to be voted in as Treasurer in absentia. The members voted and approved the slate of nominees. The Treasurer remarked that the new board would take office on July 1.

With no further business, the members recessed for refreshments, then watched a video on hobbyist radio astronomy.

*Respectfully Submitted,  
Kirk Bellar N7UK  
PARS Secretary*

## *NO meetings or Sparks in July, August*

A reminder that PARS will have no general meetings or board meetings in July and August. The next general meeting will be on Sept. 19, just prior to the Salmon Run. There will be no *Sparks* published in July or August.