## Spacing -The Final Frontier

Richard, AI4SH, SKCC 2268

**U**hura, can you decipher that subspace signal? queried Captain Kirk.

I am trying, Captain. It bears a close resemblance to Morse code, but even the Universal Translator can't comprehend it due to erratic spacing between what might be character symbols.

Spock raised an eyebrow and interjected, Fascinating. It is in fact Morse code from an Earth orbiting amateur radio satellite, whose signal is being refracted by the Mutara Nebula. The spacing is illogical, but I created an algorithm to break the string of characters into words.

Well done Spock, spoke Kirk as he shifted his eyes towards the view screen full of stars. Once again he pondered the vastness of spacing the final frontier.

Space can be just as important as the more tangible items imbedded in it. One classic definition of our solar system mentions only the sun and the planets. Some people might add moons, asteroids, and comets to the mix. An amateur radio operator with a taste for historical physics might mention that pumping the straight key attached to their rig tickles the all pervasive luminiferous aether. Neglecting aether, the largest component of the solar system, on a per cubic foot basis, is the space between the massive objects. Without space, the solar system could not exist. Absence of proper spacing could result in a jumbled up (and very toasty) mess.

When listening to code on the various amateur radio bands, I find some to be readily understandable. Then I listen to other transmissions at a similar speed, but it is very difficult to comprehend. Sometimes when this happens, I find that there is a lack of proper spacing between characters. More common is not enough space between words, and the letters just all run together. I am not advocating the routine use of Farnsworth or otherwise exaggerated spacing, just use of the basic character space and word space definitions that constitute good sending.

I am the first to admit that my Morse code skills have a long way to go to reach my goals. My sending has some of the same spacing issues (as well as a few other problems). As I try to improve, I am ever more conscience of the space between the characters and words that I send. Ok, so maybe spacing isn't the final frontier, but a little more exploration wouldn't hurt.

## My "New" Old J-38

Ted, A8AQM—SKCC 1629C

**I**'ve had a J-38 for years. Like most of us the key has been mounted on a nice piece of wood with a no-slide pad underneath. It has been a great key and I've had many great QSOs through the years with this key. I've "cleaned" it several times, that is I used a q-tip and wiped the dust out of the cracks and crevasses. A friend of mine is restoring a 1968 Honda motorcycle and one day told me about this local fellow who polishes metal. After showing me some of the aluminum he had polished that looked like chrome now, I got the idea that my old J-38 might shine up nicely.

I carefully disassembled the American Radio Hardware J-38 and placed the parts to be buffed into a small Zip-lock bag and kept the washers separate and well placed in the shack here. My friend asked me to come along and meet "Corky", the buffer and to bring my key parts while he took another load of Honda parts to be shined. I was a bit wary to leave my J-38 small parts in Corky's extremely old and cluttered shop but my friend convinced me all would be well. Two weeks later Corky called and had both our parts cleaned, polished and ready for pick up.

Wow! Was this my old J-38 that was gleaming in the parts bag? Every brass screw, every lever, arm and nut was just gleaming! And the price for this outstanding work; a mere $10.00! I couldn't wait to get back to the shack and reassemble the key and mount it on it's new cedar base I had made during the two week wait. Thinking that the key might again tarnish in that air and humidity, I decided to coat everything (except the contacts) with Turtle Wax Clear ICE. In about thirty minutes I had the key waxed, put back together and mounted. The results can be seen in the pictures below.



The wood is hand rubbed cedar with tung oil and "no-slide" glued on the bottom. I didn't know there were three types of metal in this key, copper, brass and white metal. The key looks like a million bucks now and I'm looking forward to using it in the next SKS!



Oh yeah, I disassembled my Lionel J-38 and it's going to Corky tomorrow! Now if I can just find the small eyelet and top binders for the front posts I'll have a "new" old J-38!

# Improving Copy Speed

Ron Merrell, W0OIZ

**W**hat I learned in 49 years on CW.

1. As they said in the service, send the same speed as the slowest op on the net. How many times have you heard a guy calling CQ at about 18 wpm and the response is near 30?

2. Don't copy each letter. Think about what the context of the message is. Anticipate, so that when you hear a W7 and he's giving his QTH, and he is sending Las V.......how wrong could you be to guess Vegas? There must be hundreds of guessing shortcuts that lead to copying CW faster than you ever

 imagined. Don't copy every letter unless the message must be accurate the first time.

3. Be tolerant of other CW ops. We're all trying, and heaven only knows how bad I was when back in the 1940s I thought I was king of the hill!

4. Code can be musical. It can, under the fist of a truly great CW op (not me of course) almost sound like music. And that's what I miss. Electronics can make the code approach perfection, but just try sounding out the dits and dahs of the last three letters of W0LLN's call. .-.. .-.. -. you can put it to a rhythm that will not show up on an electronic keyer.

5. Finally. I have always believed in switching back and forth between keys. Is the king of the hill today hot on the electronic keyer, but he can't use a bug? Is the Vibroplex guy snubbing electronics because it's too "automated?" And would that same guys condescend to slip a straight key into the line? We're all CW ops, and thank God there are those who become proficient at their key of choice, for I truly have copied some wonderfully fast and interesting fists right in the middle of the "all sounds alike to me" part of the band.

CW forever.

# Contesting Primer

Joe, K8JP/V31JP—SKCC 3171C

**I** believe Bill, NT9K, hit a good combination in the July Weekend Sprint, as there was good activity and a good discussion afterwards on the club reflector. It was some of the discussion that prompted me to ask Mark if he thought an article for The SKCC Centurion, "A Contest Primer" might be in order.

A contest is a contest by several names, contest, sprint, field day, i.e. as long as data is collected and participants are ranked, it is considered a contest. Contests are big, small, localized, regionalized, nationalized and worldwide. They can be open for everybody or limited to certain participants. They can be all bands HF (160-10M), single band, or VHF. The WARC bands are excluded by general agreement or consensus. The rules are published in newsletters, bulletins, magazines and web sites.

Why would you want to get into a contest? You may have a competitive streak in you. You want to see how your equipment is performing compared to others. You may want to improve and/or test one or more of your operating skills. You have a friend in a contest and just want to help him by giving him a QSO or two. You may want to work stations for an award like WAS, DXCC, WAC or fill needed grid squares.

Now that I have shown you some of the what's and whys of contesting, how about some how's of the game. There is the required equipment, the rules and the skills needed. The equipment can be simple to very, very elaborate. The minimum is a radio to receive and transmit with an antenna, paper and pencil, and a place to use it. The elaborate gets into multiple radios, amplifiers, antennas, computers, a host of accessories and a lot of acreage.

Contests are scheduled with an operating time period of which operators can operate. They range, typically, from two hours to 48 hours. Some allow operation for the whole period, while other limit your time within that period, say 24 hours out of the 36 total. You don't have to operate the whole allowed time to participate. Just operate what you can or want to operate. If it is a DX contest, you may only want to operate during the times your needed DXCC countries would be available to be worked by you.

If you are going to be serious about a contest effort though, plan on operating the maximum allowed. Be prepared well ahead of time. Read the CURRENT rules. Rules change and it can spell disaster if you are not aware of the change before the contest.

Test you equipment and that means everything, from the rig, antennas, computer, pencil sharpener, and anything else you will be using during the contest. Little warm up contests like state QSO parties prior to the big one are good testing grounds.

You are now prepared, but how do you operate in a contest you ask. There are, basically, two modes in a contest, the hunter and the hunted.

Being the hunted is called running. This is where you call CQ and other stations call you. Basically, you call CQ and answer those that call you. The exchanges go like this.

You: CQ SKS (or TEST, CQM, SS, FD, etc.) K8JP K (you don't need to send DE)

Caller: W0ZYX

You: W0ZYX JOE IN SKCC 3171C BK

Caller: BOB MO SKCC 9876T BK

You: TU K8JP SKS or TU CQ K8JP SKS

Send the exchange is the prearranged order. The person receiving is logging, more than not today, in a computer and it is difficult to jump from field to field other than the proper order. If something is missed, a fill will be asked for. No need to repeat unless conditions are really rough to start with. It really is a KISS method that works the best. (K.I.S.S. = Keep It Simple Stupid)

Being the hunter, you are doing S & P, or search and pounce. You tune about, hear a station on a band you need and call them. It goes the reverse of above.

The CQer: CQ SKS (or TEST, CQM, SS, FD, etc.) K8JP K (you don't need to send DE)

You: W0ZYX

The CQer: W0ZYX JOE IN SKCC 3171C BK

You: BOB MO SKCC 9876T BK

The CQer: TU K8JP SKS or TU CQ K8JP SKS

Unless the band is really crowded, you seldom need to send the CQer's call, just drop yours, but be on his frequency. I, often, switch to my narrowest filter for S&P to help my zero beating. Sometimes the CQers listen off by mistake, so if someone does not answer you, it might take a little tuning off, but 99% of the time, they answer zero beat callers. Again, you should not do repeats. Fills can be asked for and given easily if needed.

You need to do both CQ and S&P operating. Even if you are QRP or antenna handicapped, i.e., not a big signal, CQing will get you QSOs. Those Big Guns that were CQing at the start will S&P looking for more QSOs, especially towards the end of a contest. I have often chased a need contact for a needed multiplier around the band, CQing up and down from their last QSO trying to catch them. They never CQed, or at least, I never heard them! They missed at least 1 QSO and I missed a QSO and a multiplier! You can call that station quickly with a "W1ABC up1" or where ever is clear close to 1 up. The CQer more or less owns the frequency until he stops CQing there.

There are several contest logging programs available and many are free. Contest logging programs are different from general logging programs. A good one requires fewer keystrokes and NO mouse. Your finger should be busy typing and keying, not grabbing a damned mouse, also! Some read what mode/frequency you are on. Most will key the rig on CW and some will send the voice exchange for you, but in our club, we manually send the code.

If your interest is perked, there are books, magazine articles, columns, web sites and magazines about contesting available. CQ has a videotape about contesting. It is one of the big faucets of our hobby. Jump in and get your feet wet. Don't worry about winning, but just try and improve over previous efforts. Have fun! It is a great way to improve your CW skills.

***Editor's Note:*** *Joe has written columns for the National Contest Journal and we are glad to have is contribution here.*

# Zero Beat

Mark, KJ7BS—SKCC 2240C

**W**hat does that mean?  The term *zero beat* has been around a long time.  While today's application is not the same as that of yester years, the principle remains the same.  Zero beating is

when we put two transmitted signals on exactly the same carrier frequency. In days gone by, transmitters and receivers were in separate cabinets each with its own tuning knob. Generally, the receiver frequency was selected and a low RF signal was emitted while the transmitter was tuned to find the correct spot (where the term *spot comes from*). We could hear the audio frequency oscillation when the frequency was close. A little fine tuning and the oscillation got slower until it stopped. When both the transmitter and receiver were on the same frequency, we had reached zero beat.

Why is this important to the radio amateur?

We are stewards of the amateur radio spectrum of which we are granted permission to use. Part of that stewardship is the efficient use of the frequencies we have the privilege to use. When stations are zero beat, they are taking up the absolute minimum amount of spectrum to carry on their QSO. When we are off frequency, even a little, we are wasting spectrum that could be used by other amateurs.

I have operated lots of contests and can tell you it is not easy to tell if the guy answering off frequency is answering me or the fellow a Hz below me. The bands are so crowded in some CW contests that I cascade both my 500Hz filters and get something on the order of 450Hz. If the other contester answering me is not almost on my signal, I will not hear him. Many of the new rigs have a RIT (receiver incremental tuning) knob, but some older rigs do not, and there are a lot of older rigs still humming along.

We devise lots of tools to help us battle QRM, filters, software, DSP, etc. caused, in part, by our fellow amateur operators who do not know how to properly zero beat.

How do we zero beat another station?

Most modern transceivers are capable of generating a side tone without transmitting, usually by turning off VOX or QSK. Simply tune in a signal to where you can hear it clearly and close you keying device. You will hear a tone or a series of dits or dahs. Tune the receiver until the received signal tone matches the side tone.

Some transceivers have CW and CW-R modes (CW-R is CW Reverse) If your receiver is set for a 600Hz side tone, CW-R simply puts the receiver on the opposite side of the carrier frequency. Tune in a signal and switch between CW and CW-R while tuning until the tones are the same. Switch back to CW mode and your transceiver is ready to QSO.

I came across a couple of electronic circuits that give a visual indicator, usually an LED, when the receiver is zero beat. These are ideal for our amateur friends who are tone deaf or hearing impaired. These devices sample the audio tone and use a Tone Decoder or a PLL set to the receiver's side. I put one in my Elecraft K2 and simply tune until the LED flashed in time with the received code. A Google search on Visual CW Indicator will yield lots of schematics and articles.

Zero beating is easily accomplished and will help us make better use of our allocated spectrum, reduce QRM, and make

QSOs that we might otherwise miss. I will be zero beating you soon.

# Shack Of The Month



**T**he tidy shack of Bill NT9K—On the left, my ADI AT201 VHF HT hitting a homebrew 25w amp into an old Bird wattmeter feeding a 1/4 wave ground plane up 50 ft. In the Altoids tin is a Rock-Mite on 14.058. For HF, I use a Kenwood TS-870 with PS-52 power supply, SP-31 speaker, SW-2100 SWR/Watt meter and a Heil GM-5. My keys from left are the GHD GT501a, Navy Flameproof CMI-26003a, Vibroplex 100th Anniversary bug, LTA-SKCC #37 and a J-37. These plug into the patch panel that the paddles sit on. Above the monitor is my nixie tube clock. Antennas are a Cushcraft MA5B on a 40 ft. aluminum crankup/tiltover tower using a Channel Master 9521A rotor with remote control. The remote is in front of my soldering iron and the receiver is on the top right shelf. Also use a Gap Challenger for 80 and an inverted Vee for 40 meters.

# Key Of The Month

**T**his key was sent in by Velimir Jez, 9A2VJ from Croaitia. This is a Yugoslavian Army key, excellent for high speed CW.

# New Members

3248, AB9ME, Dan, Madison, WI
3249, KA5NNG, Mike, Marshall, AR
3250, W4PTS, Dan, Sarasota, FL
3251, KI4FJA, Ray, Kill Devil Hills, NC
3252, KC6D, Don, Huntington Beach, CA
3253, W5VAF, Dennis, Jonesboro, AR
3254, AB8CR, Steve, Glenville, WV
3255, AK5U, Fred, Mathis, TX
3256, AI0I, Pete, St. Louis, MO
3257, AE6DH, Richard, McArthur, CA
3258, NG6X, David, Novato, CA
3259, KR4EZ, Chris, Rock Hill, SC
3260, K9OIC, Samuel, Alsey, IL
3261, W5PPD, Eli, Tulsa, OK
3262, W4APH, Larry, Lebanon, TN
3263, K3PBY, Chuck, Saint Cloud, FL
3264, WA2ICB, Moe, Liverpool, NY
3265, N6TLU, Terry, Battelcreek, MI
3266, K5ND, Jim, Grapevine, TX
3267, W4BOC, Alford Memorial Radio Club, Stone Mountain, GA
3268, N5MGK, Jimmie, Broken Arrow, OK
3269, N1RDO, Martha, Bangor, ME
3270, WA4SM, Shane, Chattanooga, TN
3271, KA8JBY, Rob, Longmont, CO
3272, KB3OXG, Lou, Waynesburg, PA
3273, N3MVX, James, Bethel Park, PA
3274, AB9GW, Matthew, San Antonio, TX
3275, N1YE, Gene, Windham, ME
3276, N1YF, Shawn, Windham, ME
3277, IW0DGJ, Antonio, Roma, Italy
3278, W6TRI, Fred, Vista, CA
3279, WA5FB, Frank, Biloxi, MS
3280, K4BAI, John, Columbus, GA
3281, AC4UR, Michael, Seffner, FL
3282, KG8EF, Chuck, Hudson, MI
3283, N6DIT, Dennis, Mountain Ranch, CA
3284, N7GEB, Gary, Whidbey Island, WA
3285, K5WQH, Marty, White Settlement, TX
3286, XE1UFO, Stephen, San Juan Del Rio Queretano, Mexico
3287, N5VU, Marcel, Shreveport, LA
3288, K0EVZ, Doc, Edgewood, NM
3289, AE1N, Layne, Nashua, NH
3290, KI4NCX, Al, Orlando, FL
3291, N8FDI, Ken, Palmer, MI
3292, K4CUO, Bill, Titusville, FL
3293, NS8A, TC DX Club, Traverse City, MI
3294, N3ISH, George, Naples, FL
3295, WA6BOB, Bob, Chatsworth, CA
3296, K4BK, Jim, Jacksonville, FL
3297, N5IVZ, Frederick, McAllen, TX
3298, WO7T, Mark, Chandler, AZ
3299, N9IK, Thor, Lake Zurich, IL
3300, WB8RVK, John, Ontonagon, MI

3301, KB5QKW, Rodney, Gonzales, LA
3302, N5AFV, Allen, Houston, TX
3303, VK7SM, Jim, Sandford Tasmania, Australia
3304, N0JG, Joe, Fairfield, IA
3305, W5ACM, Andrew, Houston, TX
3306, W7VVW, Dean, Quincy, WA
3307, AC4R, Fred, Phenix City, AL
3308, AB1HL, Robert, Cambridge, MA
3309, KE4YGS, Scotty, Palm Bay, FL
3310, ND8F, Homer, Hiram, GA
3311, W1USO, Richard, Daly City, CA
3312, K2VX, David, Reston, VA
3313, NW9T, Samuel, South Beloit, IL
3314, K9JWV, James, Saint George, UT
3315, KB2KBY, David, Palmyra, NY
3316, WA4ONV, Joseph, Miami, FL
3317, W0SK, Jim, Germantown, TN

# SKCC Awards

### Centurion

96, K5ENA, John, 3045C, Tulsa, OK, 2 July 2007
97, K6VI, Harlan, 2178C, Lancaster, CA, 10 July 2007
98, WI0S, Kieth, 2048C, Mound, MN 10 July 2007
99, K3MQ, Bob, 3151C, Laurel, DE, 12 July 2007
100, KB1LZH, Peter, 1173C, Littleton, MA, 12 July 2007
101, KL7GLL, Gene( Buck), 1098C, Reston, VA, 17 July 2007
102, K8JP, Joe, 3171C, Arcadia, IN, 23 July 2007
103, W9CC, Larry, 469C, Greenfield, IN, 23 July 2007
104, K5PAX,, Harvey 1208, Albuquerque, NM, 24 July 2007
105 N0UMP, Bill, 659C, Garden City, MO, 25 July 2007
106, VA7RME, Ross, 1616C, Victoria, BC, Canada, 27 July 2007

### Tribune

15, KC9HGW, Bob Carson, 281T, 23 July 2007
16, WU7R, Ci Jones, 22T, 28 July 2007

### 30 Meter Endorsement

K8JD, John, 1395T, 24 July 2007

### SKCC WAS

AB8KS, Lloyd, 672C, 2 July 2007

# SKCC LTA Key Database Updated

Frank Haas, KB4T, SKCC 981C, reports that the SKCC LTA Key Owners Database on the SKCC Yahoogroup is up-to-date.

However, there are many more keys out there than names, calls, SKCC numbers shown in the database. Frank recently learned about W9CC owning Key #95, but still only have about 50% of the keys accounted for.

If you own an SKCC LTA Straight Key please check the database in the SKCC Yahoogroup Database section to see if you are listed. If you are NOT, please drop Frank a note (kb4t@arrl.net) and let him know who you are and what key number you have.

# SKCC Second Anniversary Event

**I**t is time to begin planning the SKCC second anniversary event. Our first year anniversary event was put together in about 45 days and the overwhelming success will be hard to top. Anyone wishing to participate in the second anniversary planning or has an idea for an event is encouraged to visit the SKCC Second Anniversary forum by clicking here or by visiting the SKCC web site at http://www.skccgroup.com and following the SKCC Forum line on the left side of the page.

# Member Roundtable

**T**he September issue of The SKCC Centurion will feature a new regular monthly column, **Member Roundtable**. This is a place where members can write one or two paragraphs about almost anything radio related, operating events, DX catches, radio related questions, wants, items for sale, trades, special thanks, announcements, etc. We will edit only for spelling and grammar, but we will be the final judge as to what is appropriate to print. Here are the rules,

1.  Keep it clean and decent.
2.  No personal attacks.
3.  Include name, callsign, and member number with your Scratch Pad piece.

Send your Scratch Pad to kj7bs@cox.net and use Scratch Pad in the Subject. We reserve the right to change these rules or cancel the column if necessary. Start sending in your Scratch Pads.

# Member Clubs

**W**e are still in need of articles about member clubs. We would like to know who makes up the membership, what your club's specialty is, any special operations the club has done or is doing. We would like to feature a club each month, but we need your help to do so. A picture is also appreciated for the article and the article does not have to be long. Tell us who you are, what you do, and what makes your club special. Send you club information and picture to kj7b@cox.net and use SKCC Member Club in the subject line.

# Technical Articles

**W**e are looking for members who can write articles of a technical nature about such tings as building and erecting antennas, simple building projects, special event operations, cleaning keys, hamfest shopping tips, promoting the club, etc. It would be nice to have a few steady writers so we can alternate columns each month and give everyone a break. If you are interested or have something to offer, please contact us at kj7bs@cox.net.

# Field Day 2007

**D**id anyone operate in a field day event? If so please put something on paper for The SKCC Centurion and share it with your fellow SKCC members. You do not have to be a writer, we will help you write the article. Give us enough information and we will put it together. It would be great if we could get several pieces about lessens learned, what went well and not so well. Send your Field Day stories or information to kj7bs@cox.net with the subject line Field Day 2007.

# Feedback

**T**his is your newsletter. Let us know how we are doing, what you would like to see in The SKCC Centurion, and suggestions for columns. Your feedback is important as we can only guess what you want from a club newsletter. We will do our best to provide the members with what they want, but we have to hear from you. We have already received a request to provide The SKCC Centurion in a web format, and RSS feeds. We are looking into the feasibility of doing these, but for now email delivery of a PDF document is the distribution method. Please send your feedback to kj7bs@cox.net with a subject line SKCC Feedback.

## The SKCC Centurion

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**With SKCC every day is Straight Key Night!**

**T**he Straight Key Century Club is the fastest growing CW club focusing on manual generation of Morse code. Founded in January 2006, SKCC has grown to over 2500 members in calendar 2006. Members enjoy a very active email list server, SKCC forums, monthly sprints, and a monthly 24 hour operating event. Information about the Straight Key Century Club can be found at http://www.skccgroup.com .

# Operating Frequencies

**T**hese are the underlined suggested frequencies (+or - Khz) for SKCC members to congregate and look for other SKCC members. These are suggestions only, nobody owns any frequency. Be courteous and find a clear spot.

| | | |
|---|---|---|
| 1.820 MHz | 3.550 MHz | 3.530 MHz |
| 7.120 MHz | 7.055 MHz | 10.120 MHz |
| 14.050 MHz | 18.080 MHz | 21.050 MHz |
| 24.910 MHz | 28.050 MHz | 50.090 MHz |
| | 144.070 MHz | |

# Operating Events

**SKCC Sprint:** SKCC Sprints take place each month on the second Wednesday of the month from 0100z to 0300z (Tuesday evenings 2000 Eastern Time). Rules for participation can be found at http://www.skccgroup.com/sprint/sprint-rules.htm. For more information , contact SKCC Sprint Manager Kevin Kinderen at kkinderen@gmail.com or check the SKCC Yahoo group Calendar.

**SKCC HighER Speed Gathering:** Every Wednesday at 0300z , SKCC members interested in building their sending (and receiving speed) gather around 3550 on the 80 meter band or 7055 kHz on the 40 meter band for some higher speed CW. Speeds from 23 WPM on up are typical but any speed that pushes your personal envelope is welcome. Straight keys, bugs, cooties or other sideswipers or any other mechanical key is welcome. The Gathering is NOT a Net. Pick a spot on or about 3720 or 7055 and call CQ SKCC HS at your desired higher speed.

**SKCC Weekend Sprint:** Every 4th Sunday of each month beginning at 0000z UTC and ending 2359z UTC. This operating event is open to all licensed amateurs. Operate as much as you can and submit your best contiguous 4-hour window for score. Periodically themes will be announced for upcoming weekend sprints. See http://www.skccgroup.com/activities.htm for more information and rules.

# SKCC Member Resources

**SKCC website**—Everything you need to know about the Straight Key Century Club. Check back frequently as this site changes, http://www.skccgroup.com.

**SKCC Yahoo Groups Email List**—http://groups.yahoo.com/groups/skcc/. A moderated email list for the exchange of ideas about SKCC.

**SKCC QSL Bureau**—Dan Rhodes, KA3CTQ manages this free service for SKCC members. Send and receive QSL cards for QSOs between SKCC members via this service. To receive your QSL cards, you need to have SASE (self addresses stamped envelopes) on file with the SKCC QSL Bureau. Dan also says non-members can send you QSL cards through the SKCC Bureau. For more information see http://www.skccgroup.com/qsl.htm. There are currently 200 members participating.

**Award Tracker**—Don Kemp, NN8B (SKCC 0036) maintains an SKCC Award Tracker spreadsheet to assist members in keeping track of their current standings with SKCC awards. Don posts updates to this valuable tool in the files section of the SKCC Yahoo Groups http://groups.yahoo.com/group/skcc/files/.

**The SKCC Centurion**—The official newsletter of the Straight Key Century Club published monthly. The SKCC Centurion is posted on the SKCC site, in the files section of the SKCC Yahoo Groups site, and distributed via email to your email inbox. To join The SKCC Centurion email list, send an email to The_SKCC_Centurion-subscribe@yahoogroups.com with Subscribe in the subject. There are currently 238 subscriptions.

**Spotting Cluster**—Phil, AI4OF (SKCC # 600) has launched a spotting cluster specifically for SKCC members. Use this spotting cluster to announce your operations or to find other SKCC members to work. Point your Telnet client to skcc.matrixlist.com:7300. Login using your callsign.

**SKCC Sked Page**—Andy, K3UK (SKCC # 1325) maintains an interactive web page where SKCC members can arrange a meeting with other members to work towards SKCC awards or just to rag chew. Check it out at http://www.obriensweb.com/skccsked/skccsked.php.