



**NEXT NCCC
MEETING**
**“ONE OPERATOR/ TWO
RIGS : WHAT, WHY,
WHEN, & HOW”**
DATE: MAY 10, 1999
 at
**BY-TH-BUCKET
SANTA CLARA**
INFO & DIRECTIONS INSIDE
 and you can *always* check:
<http://www.nccc.cc/meetings.html>
 for a map and directions!

NCCC OFFICERS

President
 Ed Schuller, K6CTA..... ejsdxr@aol.com
 Vice President/CC
 Bob Wolbert, K6XX k6xx@jps.net
 Secretary/Treasurer
 Tony Becker, AE0M..... becker@sprintmail.com
 Directors
 Steve Merchant, K6AW ... merchant@garlic.com
 Al Maenchen, AD6E..... ad6e@aol.com
 Ed Muns, W0YK..... W0YK@email.msn.com
 Tom Taormina..... tomk5rc@aol.com
 ARRL CAC member: Bob Wilson, N6TV

n6tv@kkn.net
 JUG Editor: George Daughters, K6GT

gdaught6@leland.stanford.edu

May Contests

<u>Date</u>	
MARAC County Hunters, CW and SSB	1 to 2
10-10 Int. Spring Contest, CW	1 to 2
Massachusetts QSO Party	1 to 2
ARI International DX Contest	1 to 2
902/1296/2304 MHz Spring Sprint (local)	8
VOLTA WW RTTY Contest	8 to 9
Oregon State QSO Party	8 to 9
FISTS CW Club Spring Sprint	8
Indiana QSO Party	8 to 9
CQ-M International DX Contest	8 to 9
EU Spring Sprint, CW	15
50 MHz Spring Sprint	15/16
Major Six Club Contest (6m)	21/24
Texas QSO Party	22/23
Baltic Contest	22/23
CQWW WPX Contest, CW	29/30

June Contest Summary

Date

TOEC WW Grid Contest	12 to
13	
Asia-Pacific Sprint	
12	
ARRL June VHF QSO Party	12 to
14	
All Asian DX Contest	19 to
20	
Marconi Memorial HF Contest	26 to 27
ARRL Field Day	26 to
27	

Full details are on WA7BNM's up-to-date web site:

<http://www.hornucopia.com/contestcal/contestcal.html>

de ED

Another May, and another new set of officers for the NCCC! I'm honored to have been selected as President, and hope to continue to make the NCCC the best contest club around. I would also like to extend my sincere thanks and appreciation to Steve, K6AW, and his crew for their leadership over the past year. I'm sure that you will agree with me that they did an outstanding job. They are going to be a tough act to follow!

At the April meeting, Trey, N5KO, gave an excellent talk on the new HC8 contest station. What impressed me, however, was when he (and later, Dave, W6NL) started talking about operating from the new site. You could sense the excitement and thrill that they got from operating; and the fact that they couldn't wait to get back to the station for the next event. And this is from op's who have "been there and done that." The thrill was still there. To me, that is what contesting is all about!

Webster's defines contest as : " 1: a struggle for superiority or victory; 2 : a competition in which each contestant performs without direct contact or interference from his competitors." How do we win the struggle? How do we keep our edge, and stay motivated? As I listened to Dave and Trey, it was apparent that there were (at least) 3 key elements: goals, pride and satisfaction. Each of us needs to set goals, be it winning a section award, making 1000 Q's, or making the Top Ten. They need to be meaningful goals.....something that takes some effort. That leads to pride of accomplishment, and a level of satisfaction; however, the true competitors are never completely satisfied - they always feel that there is room for

improvement. And, it keeps them coming back for more, year after year.

The NCCC has a proud tradition of competition and victory; I (and the other Officers and Directors) make our pledge to continue that this year. AND, speaking of victory, don't forget CQ WPX CW on May 28-30. We have a great chance at not only setting a new Club Competition Record, but setting a new World Record also. There were some amazing scores in the SSB weekend; if we can do the same for CW, we should be able to smash the old record (and beat out the Contest Club of Finland).

So, get on and make some Q's. Set some goals!! Remember, you now get 1 point for Q's with other USA stations. This is also a great way to accumulate points toward the NCCC 5 Meg award. I hope to hear you on!

The May 10 meeting will be at a new spot: By-Th-Bucket, 4565 Stevens Creek Blvd., in Santa Clara (just down the street from HP). The program will be on SO2R (Single Op / 2 Radio). There has been quite a bit of discussion over the past few months on this mode of operating; plan to attend!

Ed, K6CTA

MILLENIUM OFFICERS ELECTED



The NCCC officers and board for 1999-2000: Bob Wilson, N6TV, ARRL CAC member; Steve Merchant, K6AW, Director; Al Maenchen, AD6E, Director; Ed Muns, W0YK, Director; Ed Schuller, K6CTA, President; Tony Becker, AE0M, Secretary-Treasurer; Bob Wolbert, K6XX, Vice President/Contest Chair. (Not in photo: Tom Taormina, K5RC, Director.)

DOUBLE CROSS

Here we go...a new NCCC year begins! For those of you that do not know me, I am Bob Wolbert, K6XX (formerly N6IP). I have been the VP/CC a couple of times previously, and know from that experience that the job is really vp/CC—there really are no tasks defined for the vice president, but the contest chairman's position can certainly fill one's days. Regardless, I promise to do my utmost toward the success of NCCC this year.

To start things off, I have contracted with Conan the JUGhead for column space in each issue. On the first page, you will see a monthly summary of upcoming contests, and your scores will be listed in the JUG. Please keep me updated with your contesting achievements by e-mailing your scores to me as well as to Ed, W0YK, (through whose superhuman efforts the web site stays almost continuously updated). I also accept postal mail, telephone calls, etc. — whatever is most convenient for you. My addresses appear below. The important thing is that you let the rest of us know what you've been up to, so we can stay on our toes and try to keep up with you!

WPX Club Competition

WPX is much more dynamic this year than ever before, due to the elimination of the dreaded zero point domestic QSO. Now, each contact adds points to your score—a much more satisfying situation! We are progressing nicely toward victory in the club competition with our outstanding performance in the phone weekend! Reported scores total 83 Megapoints already, well on our way to breaking the old record of 97M that we set in 1994. Unfortunately, some upstart Eu club racked up 125Meg last year and temporarily grabbed our record. We need about 45 or 50 megapoints from the CW weekend to win the club competition and set a new record. K6AW commits to 30Meg from HC8N: we still need another 15 to 20M.

How many of you are planning an expedition for the CW weekend? Will you use a special callsign? By simply asking a (noncontester) co-worker, I get to sign AG7W, which is a heck of a lot more attractive than my regular K6 prefix—you W/K/Ns can do the same thing, if you but ask.

Propagation is generally worse in late May for CW than it is in late March for fone, but the solar flux should be higher this month than in March. Let's get on May 29/30 & win this one back!

Major Operating Event for 1999

While we are discussing winning club competitions, please spend a few moments thinking

about which contest you'd like NCCC to enter this autumn. They generally boil down to two: CQWW & SS. Our traditional philosophy has been that we must chose one of the two, since a focus on both would commit all of us to four full-bore efforts in five consecutive weekends, which could seriously strain home life. We have time before we must finalize our decision; let's discuss it at the meeting and on our e-mail reflector, nccc@contesting.com. Winning either contest is possible (since we've done it), but will require a whole lot more effort this year than we have mustered the past few seasons.

Other Contests of Importance

After we choose our major operating event, we can contemplate other contests. Obviously, we will KB in our own CQP. WPX 2000 is another likely candidate. I propose we also mount an effort to win the CW Sprint team competition—NCCC team #1 got ever so close in February, but again we were the bridesmaid, not the bride. We end up in second place an awful lot in the sprint. What are your preferences?

NCCC 75m Net

Pig farmers watch out! Thursday at 9:00 PM Pacific time, NCCC claims 3830kHz for our own little on-the-air get together. Net control N6RO welcomes all interested contesters and promises some competitive activities to complement our contesting-oriented ragchew. Swap hints, boasts, lies, and have a great time. Join us, won't you?

Send In Those Scores!

NCCC has a very active, fun-loving membership. The sunspot count is (or at least, should be) rising. Contesting has never been better. This will be a great year. KB in WPX!

73 de Bob, K6XX

k6xx@jps.net

(408) 258-1015

10028 Bon Vista Ct., San Jose, 95127



NCCC members N6TV, N6TJ, and K3EST ponder the state of contesting, as members of...

THE FRESNO GROUP

(Script and notes from "The Contest Forum" at the Fresno DX convention, ably led by Bob Wilson, N6TV, at 4:45-5:30 p.m., Saturday, April 10, 1999.)

Announcer (K6GT): The 1999 International DX Convention presents: "The Fresno Group," an unrehearsed program presenting inside opinions and forecasts on major contest issues of the day. Here's your moderator, Bob Wilson, N6TV.

N6TV: ISSUE ONE: If Had But One Point To Give For My Country... The WPX rules have changed. Contacts between stations in the same country now count as one point, whereas previously such contacts were valid for multiplier credit only; they counted as zero points. While seemingly popular in this country, the new rules have invalidated previous scoring records, and generated consternation overseas. Some Europeans complain that the WPX contest would now be little more than a Stateside QSO Party. One even went so far as to say that entering the WPX contest would be, "a waste of electricity."

Question: What is your opinion of the new one-point rule in the WPX contest? I ask you ...

Bob Cox, K3EST, editor in chief of CQ Contest Magazine: "I think it's a fantastic idea!"

Jim Pratt, N6IG, from the River City Contesters and the Northern California Contest Club: "It looks like a LOT of electricity was wasted!"

Jim Neiger, N6TJ, operator of ZD8Z, TI1C, and many others: "It's a good idea. ZD8Z worked more Europe than ever before; maybe because the W's were busy working each other for a change."

Dick Norton, N6AA, from the SCCC: "It doesn't matter; it's a dumb contest."

N6TV: Exit question. On a scale of zero to ten, zero being zero probability, ten being "absolute metaphysical certitude," what is the probability that the WPX point system will revert to the OLD rules within the next three years? (Respond with a number.) K3EST: 0, N6IG: 0, N6TJ: 0, N6AA: 0. N6TV: The answer is: 2.

N6TV: ISSUE TWO: Log Checking, to the Nth Degree... For the 1998 ARRL Sweepstakes contest, Larry "Tree" Tyree, N6TR, developed a sophisticated log checking program to check most of the logs submitted in the 1998 ARRL Sweepstakes contest. Such comprehensive crosschecking has never been done before. The new software uncovered many errors. With a three contact penalty imposed for copying a callsign wrong, there were significant score reductions in hundreds of logs.

While everyone seems to agree that careful scrutiny is proper for top entries, is it a good idea to submit smaller logs to such scrutiny as well? Might this not discourage new contesters from participating, out of fear of embarrassment? Might the practice encourage countermeasures such as tape recording, post-contest log editing, historical exchange databases, or even intentionally missending your exchange to your nearest competitor?

Question: Has computerized log-checking gone too far? Is it good for contesting? Finally, is it fair to subtract three contacts for every callsign copied wrong? I ask you ...

N6IG: It's more fair than in the past. My results are the same, but I'm very anxious to see how my competition did!

N6TJ: I think it's appropriate for the "competitor level" of entry, but I don't think the "participant level" should be discouraged in any way.

N6AA: The little guy won't care, and 3 penalty points is about right.

K3EST: I'm in favor of complete scrutiny of logs, and this scrutiny has NOT led to reduced participation.

N6TV: Exit question: Assuming resources are available, what's the best way for contest sponsors to do computerized log checking? Is it:

- Check as many logs as possible, but eliminate the 3-QSO penalty for a busted call
- Check as many logs as possible, and keep the 3-QSO penalty
- Check the top logs, including those eligible for awards, but ignore the rest

K3EST: b, N6IG: b, N6TJ: c, N6AA: b, [N6TJ interjects "The answer is c!"] N6TV: b.

N6TV: ISSUE THREE: S-O-2-R: Single-Op, Two-Radio, Or, "I'm happy I live in a split-level head..."

More and more, contesters are finding they must learn how to operate two radios simultaneously if they are going to compete to win. While the single-op rules prohibit transmitting more than one signal at a time,

there's nothing that prohibits a single-op from using two radios simultaneously, say, CQing on one band while chasing multipliers on another, so long as there is only one transmitted signal. This now quite common.

What's wrong with this picture? Is this fair? Is this within the spirit of the single-op category? Does this unnecessarily raise the ante, making the playing field even less level than before? If one can effectively occupy more than one frequency, will this practice not lead to so-called "spectrum abuse?" I ask you:

N6TJ: If you can operate multiple radios, you should be allowed to do so.

N6AA: Robots are the second ops. It isn't a SINGLE operator!

K3EST: Two radios WITHOUT robots has been around for a long time. It should continue to be allowed.

N6IG: If God had wanted us to use two radios, we'd have two ears, two arms, two hands.

N6TV: Exit question. Should there be a new entry category, separate from the single-op category, called single-op, two radio? Yes or no?

K3EST: No, N6IG: No, N6TJ: No, N6AA: No.

N6TV: No.

N6TV: ISSUE FOUR: Pushing the Limits... Contesters are always pushing the limits of the rules and of technology. What, in your opinion, is currently not prohibited by the rules, that ought to be explicitly prohibited, even if it were difficult to detect or enforce?

N6AA: Using packet, because a contest is supposed to measure a human operator's capabilities.

K3EST: I agree with packet, but there's no way to undo it. I think we should prohibit the use of vertical antennas in DX contests!

N6IG: Certain geographical locations, like off the west coast of Africa. Seriously, I think everything's pretty much OK.

N6TJ: Remote receive sites. That's what packet is!

N6TV: Exit Question: Of all the items discussed, what do you think is the most important thing that ought to be prohibited? K3EST: Verticals, N6IG: new prohibitions, N6TJ: packet and internet and phone lines, N6AA: ditto, N6TV: going to EA8.

N6TV: ISSUE FIVE: The Peanut Gallery Speaks... It's time to take a few questions from the audience. Please step up to the microphone, and state your

question briefly. We'll hear several questions first, then we'll select one or two for the panel to discuss.

W6OAT asks "Should logs be made public?" The consensus is YES.

Someone asks "Should there be contests on the WARC bands?" The pro- side felt that the WARC bands would see more popularity, while the con- side said more antennas would be required, and that the WARC bands provide the "contest-free zones" that many think are a good idea.

W7SW asks "What can we do about excessive power?" It was agreed that this is a widespread abuse, but there is no way to deal with it officially. It was suggested that peer-pressure would be a good control. *(If this is true, then why isn't it working? ...ed. The answer given was that peer-pressure hasn't really been brought to bear yet.)*

N6TV: PREDICTIONS... Panelists make a provocative or surprising prediction about some future event related to contesting or testers.

K3EST: Multi-multi scores will exceed 70M, and single operator scores will exceed 20M. Club scores will reach 1/2 billion.

N6TJ: N6AA will marry Monica Lewinsky. 6Y2A will be disqualified. Their performance was drug aided: they were given Gatorade® spiked with Viagra® and Propecia®. *(The photo on page 3. shows that its effectiveness was questionable...ed.)*

N6AA: Robots will win a major contest soon.

N6TV: WRTC 2000, next summer in Slovenia, will be a smashing success.

N6TV: In two years, the Fresno Group Returns! The opinions expressed are solely those of the participants, and do not represent the opinions of this station, the ARRL Contest Advisory Committee, the CQ Contest Committee, or the Radisson Hotel. For a transcript, send \$500.00 to N6TV, San Jose, California.

AK6L SCORES

(For those who thought Ken was a phone-only type of guy...ed)

I Placed 3rd Overall in California State Service Rifle Championship in the Sharpshooter Class held in Coalinga on April 10, 1999.

Match #	Score	Place	Max score	Event
1	175	3rd	200	slow fire standing 200 yds
2	188	2nd	200	rapid fire sitting 200 yds
3	181	4th	200	rapid fire prone 300 yds

4 172 4th 200 slow fire prone 600 yrds
 5 716 3rd overall

Thanks for taking time to read this.

73, Ken Lewis, AK6L, "KB"

MAY MEETING

Place: BY-TH-BUCKET, 4565 Stevens Creek Boulevard, between Lawrence Expressway and Saratoga Avenue. (408) 248-6224

Program: 6PM, schmooze; 6:30PM dinner; 7PM Meeting and Program "Single Operator/Two Rigs: What, Why, When, and How," presented by N6TV.

Parking: In the lot behind the restaurant.

June meeting: It will probably be on Field Day, at K6ZM.

July meeting: Saturday, July 24, will be a joint meeting with the Mother Lode DX/CC in Jackson, CA. It will be a BBQ/potluck format with a demonstration of the 6Y2A vertical antennas by N6BT.

CQ WPX Phone Scores

Call	Class	QSOs	Prefs	Score
WT6V (@ N6RO + K3EST, K4NR, K6AW, N6IG, K6RC, AE0M)	MM	7198	1222	21.15M
N6IJ (K6EP, N6DE)	MM	1337	560	
1.88M				
KD6WW	SOA	1285	659	
2.12M				
HC8A (N6KT opr)	SOABHP	?????	?	
25M?				
N5KO (@ W6NL/K6BL)	SOABHP	3490	963	
8.88M				
NK6U (K6BZ opr)	SOABHP	1530	700	
2.25M				
K6III	SOABHP	1004	524	
1.27M				
NN6NN (N6EE opr)	SOABHP	1101	501	
1.19M				
AB6WM	SOABHP	981	519	
1.12M				
K6GT	SOABHP	884	474	
1.01M				
WM6A (K6DB opr)	SOABHP	791	393	869,456
AF7Y	SOABHP	589	375	533,250
N6TNX	SOABHP	254	242	139,150
W6ISQ	SOABHP	160	128	24,572
AJ6V	SOABHP	84	66	10,098
N6TNW	SOABHP	63	61	8,967
W6PLJ	SOABLP	466	277	349,851
K6UM	SOABLP	230	193	117,151
N6BZA	SOABLP	174	128	50,688
K6CTA	SOABLP	110	99	31,284
WP2Z (W6XK opr)	SO10HP	3661	866	
7.70M				

K6KAY	SO10LP	630	326	448,576
NU6S	SO10LP	619	328	414,264
N6IFW	SO10LP	78	62	9,300
F/NH7A (NH7A opr)	SO15HP	1746	698	
2.91M				
K7BV	SO15HP	1507	622	
2.49M				
W6BSY	SO15LP	559	402	505,520
AE6Y	SO20LP	505	353	351,941
Total				
82.85M				

WH6H ARRL DX SSB



AD6E and WH6H showing off 1st place Pacific M/S plaque earned last year. The view of the operating position (dining room table) is shown above. The rig is a TS-950SDX and TL-922 amp. The new 330 MHz computer with 64M of RAM crashed twice. CT gave us an "out of memory" error in the middle of a nice run with about 1500 Qs in the log. We couldn't solve the problem, so we simply re-started CT with a new log name. That put an end to any H&P operation. CT crashed again when the second log got up to about 1800 Q's, so we started a third log. It took me a couple of weeks and some custom software to combine the logs and figure out our score.

We tried to keep the power below 500W, but still managed to blow a trap early in the contest. The SWR on 15 was over 4:1. It was fortunate that the 10 meter traps worked fine or we would have been out of luck. We used a trapped dipole for 40/80 held up with three 15 ft poles lashed to some bushes up the hill behind the house.

Final results:

Call: WH6H
 Mode: SSB

Country: Hawaii

Category: Multi Single

BAND	QSO	QSO PTS	STATES/PROV
80	168	504	39
40	574	1722	53

20	819	2457	56
15	185	555	42
10	2174	6522	58
Totals	3920	11760	248
			= 2,916,480
			73, Al, AD6E

COMMUNIQUE FROM THE WRTC 2000 ORGANIZATION COMMITTEE

Ljubljana, Slovenia, March 2nd, 1999

Have you ever heard the joke about drilling the tunnels?

Well, there were an American, a Russian and a Slovenian talking about drilling tunnels. The American said: "We are so good, that when we start drilling from opposite sides, we come together as close as one meter!" The Russian immediately replied: "Well, that's not good enough!" We are so good, that when we start drilling from opposite sides, we come together as close as half a meter!" Finally, the Slovenian said: "We are so good, that when we start drilling from opposite sides, we may either come together exactly, or we do not meet at all. In that case, then you have two tunnels for the same money!"

So guys, maybe we'll have TWO (2) IARU contests in year 2000! :-)

Seriously, however, below is the revised time schedule for the WRTC-2000.

Day 1 - Wednesday, 5th July 2000

0800 Official beginning; the contest/liaison office is opened
1600 Picnic (barbecue)

2100 Meeting (Judges, Referees and Organization Committee)

Day 2 - Thursday, 6th July 2000

0900 Meeting attended by competitors and members of the Contest Committee. For other participants, an excursion will be organized.

1600 Competition - Pile-up tapes

2000 Opening ceremony

2100 Hospitality suites (sponsored by different nations)

Day 3 - Friday, 7th July 2000

0900 Location draw attended by competitors, judges, referees and other officials. For other participants an excursion will be organized;

1400 Competitors and judges start moving to different locations around Slovenia. They will return to Bled after the contest.

Day 4 - Saturday, 8th July 2000

1200 GMT, WRTC2000 competition starts. For other participants an excursion will be organized.

Day 5 - Sunday, 9th July 2000

1200 GMT, WRTC2000 competition ends. For other participants an excursion will be organized;

2000 Hospitality suites

Day 6 - Monday, 10th July 2000

0900 Excursion for competitors and other participants

1900 Winners announcement and closing ceremony

2000 Gala dinner

Day 7 - Tuesday, 11th July 2000

Departure.

The organization Committee hopes to see many of you in Slovenia Next Summer!

73, Tine Brajnik, S50A

President, Organization Committee

WRTC2000

Courteous Contesting?

Can there be such a thing? Of course there can! John Dorr, K1AR, wrote on page 70 in the May issue of CQ Magazine on this subject. He presented a list of questions which we might ask ourselves before keying up. His list is paraphrased below:

- Am I using a reasonable balance between listening and transmitting when calling in a pile-up?
- Can I hear the station I'm calling? Do I even know who it is that's attracting the pileup?
- If the calling station asks for a "W7" should I dump my callsign in because I've got a "W" or a "7"? What if I have neither?
- What's a reasonable frequency spacing to squeeze myself in between surrounding stations?

- Do I operate differently when I'm "hiding" behind someone else's callsign (like as a guest operator, or part of a multi-operator team)?
- Is the required standard of courtesy different when operating in a contest from that used in "the middle of the week"?
- Am I patient enough when waiting for a station to sign before I scream "What's your call?!"
- Conversely, do I sign frequently enough to avoid a pileup of people screaming "What's your call?!"
- Do I display any consideration to the interests of non-contesters on the bands?
- When operating split, do I check and/or care about what is taking place on my transmit frequency?

It's clear that these questions apply to keying up in situations other than contests. Once again, it shows that contesting is good preparation for "real life situations" on the amateur bands. (Maybe contests are the ONLY real life situations on the amateur bands!)

73, K6GT

Conan's Notebook:

Send a polite note to the people you hear misusing or confusing these two terms:

silicon (pronounced sil-i-kon; last syllable rhymes with "Icon") a tetravalent nonmetallic element. The material upon which we in Silicon Valley make most of our transistors and computer chips.

silicone (sil-i- kone; rhymes with "ice cream cone") a polymeric compound where silicon takes the place of carbon, hence silicone rubber, silicone grease, silicone oil, and Carol Doda.

73, Conan the grammarian

12 Store Buying Power!



HAM RADIO OUTLET

WORLDWIDE DISTRIBUTION

ICOM HF ...THE LEGACY CONTINUES!



NEW!
IC-706MKIIG*
(pictured)

IC-706MKII & IC-706MKIIG*

Proven Performance Mobile or Base

- All mode HF/6M/2M
- 0.03-200 MHz all mode
- All mode HF/6M/2M/70cm
- 50W on 2M, 20W on 440 MHz
- Tone squelch (CTCSS decode)

\$100 Mfg. Coupon, (MKII only), valid 1/1/99 - 3/31/99

(COMING MARCH 1999)

DSP standard in 706MKII ver. 15, and 706MKIIG



IC-746 All Mode 160M-2M

Great HF Performance

- 100W output for all bands
- IF-DSP+ twin pass band tuning (PBT)
- Large, multi-function LCD with band scope
- Versatile filter combinations (3 filter slots)
- Memory keyer and more

BUILT-IN TUNER



IC-756 All Mode Transceiver

- HF + 6 meters
- 4.9 inch multi-function LCD
- IF-DSP for Tx & Rx (front panel user adjustable)
- Twin PBT & adjustable noise blanker
- Vox & QSK
- Memory keyer

DUAL WATCH

ANAHEIM, CA

(Near Disneyland)
933 N. Euclid St., 92801
(714) 533-7373
(800) 854-6046
Janet, KL7MF, Mgr.

BURBANK, CA

2492 W. Victory Bl., 91506
(818) 842-1786
(800) 854-6046
Marv, K6VIV, Mgr.
Victory Blvd. at Buena Vista
1 mi. west I-5

OAKLAND, CA

2210 Livingston St., 94606
(510) 534-5757
(800) 854-6046
Mark, W17YN, Mgr.
I-880 at 23rd Ave. ramp

SAN DIEGO, CA

5375 Kearny Villa Rd., 92123
(619) 560-4900
(800) 854-6046
Tom, KM6K, Mgr.
Hwy. 163 & Claremont Mesa

SUNNYVALE, CA

510 Lawrence Exp. #102
94086
(408) 736-9496
(800) 854-6046
Ken, K1ZKM, Mgr.
So. from Hwy. 101

NEW CASTLE, DE

(Near Philadelphia)
1509 N. Dupont Hwy., 19720
(302) 322-7092
(800) 854-4478

NCCC
44 Toyon Terrace
Danville, CA 94526

check us at:
<http://www.cqp.org>
<http://www.nccc.cc>
repeaters:
W6RGG/R 147.24 +
and 444.2 (PL107.2)

FIRST CLASS

FIRST CLASS