



# JUG

Publication of the  
Northern California  
Contest Club

**NCCC**



#611 – June 2023

## NCCC – 53 years of contesting excellence

### Inside This Issue

President's Report  
About the NCCC  
VP/CC Report  
Chip Margelli, K7JA SK  
Tube of the Month  
ARRL Digital Contest  
**FLASH! FT4 NS goes live!**  
Contesting with a Peashooter  
"The Queen" and Radio  
Editor Notes  
As Seen At ---  
NCCC Lands End Store  
Elecraft Display Ad  
HRO Display Ad

#### **NCCC MEETING**

<https://nccc.cc/meetings.html>

Next Zoom Meeting 13 Jun

**Kyle Krieg, AA0Z**

***"Node Red: Taking it to the next level with the Contest Dashboard"***

### President's Report

**David West, KO6M**



It's June. Already. It means half of the main contests are behind us now. If anything, it's just for a moment. I've come to realize that this is more of our halftime than anything else. It gives us time to fix antennas, buy new gear, and try new things. We will soon be back into the mix with the NAQP's and CQP and the Worldwides. In the meantime, hone those skills during the VHF contest, Field Day, and RAC Canada Day to name a few of the contests coming up. Which, I might

add, can be very fun contests to participate in.

For instance, Field Day is a great time to test out new ideas of how to say "Please Copy". I've been told that there are about 7,100 languages. ARRL says there were 4,929 FD entries in 2022. That means each entrant/site could pick 2 or 3 ways to say "Please copy" and we would all learn new methods of saying "Please" which is something I think the world needs to do more often. Kidding aside, Field Day is a great time to meet new operators and hopefully guide them to the wide world of contesting. I love describing it as "making as many contacts as possible without all the chit chat".



## About NCCC

### Officers and Directors, 2023-2024 Contest Season

President: David West, [KO6M](#)  
Vice-President/Contest Chairman: [Chris Tate, N6WM](#)  
Secretary: Greg Alameda, [KK6PXT](#)  
Treasurer: [Nian Li, WU6P](#)  
Past President: [David Jaffe, WD6T](#)  
Director: [Bob Cox, K3EST](#)  
Director: [John Miller, K6MM](#)  
Director: [Ed Radlo, AJ6V](#)

### Volunteers

Charter Member: [Rusty Epps, W6OAT](#)  
Awards Chair: [Gary Johnson, NA6O](#)  
California QSO Party Chair: [Dean Wood, N6DE](#)  
QSL Mgr [[K6ZM](#)]: vacant  
QSL Mgr [[K6CQP/N6CQP/W6CQP](#)]: [Ed Muns W0YX](#)  
NAQP Teams: [Fred Jensen, K6DGW](#)  
NA CW Sprint Teams: [Bob Vallio, W6RGG](#)  
NCCC Email Reflector Admin: [Phil Verinsky, W6PK](#)  
Worked All CA Counties Award: [Fred Jensen, K6DGW](#)

### NCCC Thursday Night Contesting

NCCC Sprint: [Tom Hutton, N3ZZ](#)  
NS CW Ladder: [Bill Haddon, N6ZFO](#)  
NS RTTY Sprint/Ladder: [Ed Radlo, AJ6V](#)

### Communications

Webmaster: [John Miller, K6MM](#)  
Webinars: [Bill Fehring, W9KKN](#)  
Membership: [Gary Johnson, NA6O](#)/[Ian Parker, W6TCP](#)

### JUG Editor

[Fred Jensen, K6DGW](#): [k6dgwnv@gmail.com](mailto:k6dgwnv@gmail.com)  
Home: 775.501.5488  
Cell: 530.210.0778

I've found that the ARRL VHF Contest can have the same effect on getting new participants. VHF contests are great for Technician level operators since the airwaves they have access to are finally alive with activity that isn't normally there. They then can see how fast paced contesting can be and how relatively welcoming it is. I mean yes, it is like jumping into a double-Dutch jump rope session, but they can do it with the handheld or mobile investment they already have. Hopefully the reaction is "you guys do this all the time?"

The Canada Day contest is a fun "work everyone" contest. For me the summer is my busy time at work so I don't always get to put a full effort into it but if you can, have at it. Last year, it was the first contest that I had my Extra license, and I can still remember how freeing that moment was. To anyone on the cusp of getting the upgrade: DO IT!

Don't forget, during this "halftime", we do have IARU/WRTC in July. I haven't experienced this combo yet but keeping with my halftime thought, this is like our halftime show. I hope to have a presentation from those that went for our September meeting. I know it seems like a delayed report but it gives the attendees a bit of time to collect their thoughts and get a presentation together.

Speaking of presentations: Here's the current plan, subject to change. June: [Kyle, AA0Z](#), on his Contest Dashboard, which I'm calling our Node-Red - Part 2 presentation. July: [Rich, N6KT](#), will be presenting about contesting as [PJ4K](#). August: [Dean, N6DE](#), will give us a refresher for the California QSO Party including ideas and planning notes for

those that may be looking to change their game up. September: WRTC Breakdown (note: if you are going to be at WRTC and would like to be part of the recap, please let me know). October: BBQ, probably.

Lastly, I wrote about forming a training program: If you have ideas or would like to be involved either as an Elmer or as an "Elmee," please let me know. (Is that a thing? What do we call the receiving end of the Elmer relationship?) As [Rick N6KT](#) said in the April/March 2013 NCJ, "Even though testers are very competitive, they are willing to share their secrets and ideas. Contesting is a wonderful fraternity". NCCC is a great way for us all to share our secrets and keep our club strong and a training program could very well do the trick.

Lastly, the dues emails will be going out very soon. Please check your emails later in the month for the reminders.

73 and KB!  
David



## VPCC Report

### Chris Tate, N6WM



As I write this, I am still ruminating about my wonderful 15 m experience during CQ WPX CW. QRV with such an open band from the NR6O effort was a lot of fun, it seemed at some points the entire world was open. It's clear that the improved solar conditions (along with the occasional burp) are among us, and that means that stations of all sizes will be able to compete more effectively and enjoy radiosport.

In addition to the solar cycle, there are a few other ways stations with modest setups can get involved in contesting. There are a number of newer digital contests for the WSJT modes, particularly FT8 and FT4. One, the ARRL Digital contest, will be in our rear view mirror when you read this. I want to pass a KB! and big high five to John NN6U. You may recall from my last JUG write-up, there is a strong need for the club membership to get involved. John originally asked of someone was handling contest coordination, and after suggesting he do it, he took the challenge and formed teams NAQP style and got folks involved. Thanks John and well done!

More movement on the digital front, as the Thursday night contesting group sponsored by the NCCC has introduced a new 30 minute short format FT4 contest that occurs weekly at 0100-0130. Check out the new NS FT4 web page at <https://www.ncccsprint.com/ft4ns.html>.

### **UPCOMING Contests relevant to NCCC**

Although the summer has some noisy band conditions that are not necessarily the best, there are still some fun events, including contests we can do well in from the NCCC territory.

One is the All Asia contest series. The CW version of this event is just a couple weeks away (0000Z, Jun 17 to 2400Z, Jun 18, 2023). With our proximity to Asia, the west coast has great opportunities to do well, with SOSB, SOAB, and MS/MM categories, this is your chance as a membership to make a dent.

And of course ARRL Field Day rapidly approaches, with all the new QRP rigs out there, SOTA and POTA experts, we should get some FB QRP scores out of this one. And maybe some good barbecue.

On July 8<sup>th</sup> the IARU HF World Championship contest is occurring in tandem with WRTC 2022(3). Lots of selected teams are practicing for the event already, make sure you plan to be on the air, we want to support all our friends who are competing in Italy, and since we do not know the assigned calls until the very last minute, the only way to do your best to try and work em all!. Conditions for this contest last year were pretty darn good. So I hope you give it a go!

So lots to do on this “off season” with many of us, myself included, working on tower maintenance and shack improvements. It can't be said enough, if you are not an experienced and safety oriented climber, leave tower work to the experts. We've had a couple of tragedies in our avocation in the last year related to tower safety. Good news: there are experts out there who can do this work safely and professionally for a fee. Stay safe this summer so we can work you this winter! That's all for this time, Enjoy your summer and all the above contests.

73, Chris N6WM





## Charles “Chip” Margelli K7JA (SK)

It is with deep regret that we report the passing of K7JA, Charles “Chip” Margelli after a brief illness. Tom, NW6P, forwarded this note from his wife Janet, KL7MF ...

*“The light and love of my life is gone. I’m saddened to report Chip, K7JA, has joined the ranks of SK, and I truly hope they are having a great time swapping tales together. He enjoyed 60 wonderful years as a ham and 45 happy years with me. Between DXing, contesting, ragchewing, moonbounce, satellite, writing, designing, building antennas, and Field Day, there was never a dull moment. His love of ham radio shined everywhere he went with everyone he met. I hope you will share any stories or snippets you might have and raise a toast of your favorite beverage in his memory. He will be missed, and hopefully remembered fondly. Until we meet again, I know we’ll feel your spirit at Field Day.”*



Photo/R. Wilson N6TV

Well known across the amateur radio community, Chip had a long career in our industry including 40+ years with Yaesu Musen Co., Heil Sound Communications Inc., CQ Communications Inc., InnovAntennas, and Ham Radio Outlet.

There is likely no aspect of Ham Radio that Chip did not embrace. Multi-lingual (Japanese, Spanish, Russian, among others), he was instrumental in opening several countries to Amateur Radio, participated in several Dxpeditons, and, with Mike, W9RE, scored a silver medal in the first WRTC held in Seattle WA

in 1990. Chip was a member of FOC, QCWA, AMSAT, and recipient of the Krenkel Medal in 2021. He was inducted into the CQ Magazine Amateur Radio Hall of Fame in 2006

And, through it all, “Chip loved being the entertainer,” says his wife Janet. Perhaps the best example was his well-known appearance on Jay Leno's “Tonight Show” with Ken, K6CTW, in 2005 testing whether Morse code or SMS texting was fastest. Their adversaries were two teens, “fastest texters on Earth.” Chip and Ken appeared in full telegrapher's regalia including white shirts with sleeve garters, vests, caps, and green eye shades. They had several rehearsals prior to the show. On the air, the secret message provided by Jay was, “I just saved a bundle on my car insurance,” and they beat the “kids” hands down. After their loss, one of the texters was overheard lamenting, “They weren't nearly that fast in rehearsal!” getting perhaps a quick lesson in the wisdom that comes with age.



Rest in peace Chip ... you did well.

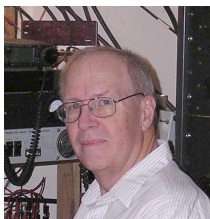


## Tube of the Month

**Norm Wilson, N6JV**

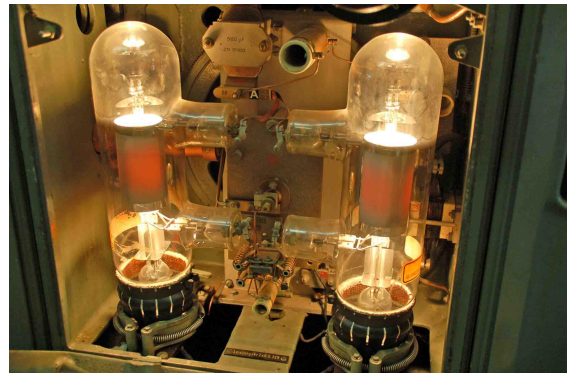
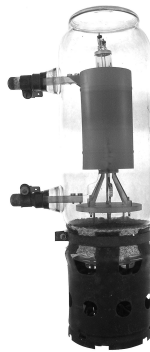
Visit the Tube Museum at [n6jv.com](http://n6jv.com)

### RS329



While searching through an archive of WWII equipment, I found some photos that showed some Telefunken [RS329](#) triodes. For many years I have had an RS329 in my museum collection, but never knew what it was used in. The RS329 is a 500-watt dissipation tube with a maximum anode voltage of

3000 volts at 450 ma. The tube was rated for full power at 30 meters but could be operated at reduced levels to 5 meters. The tungsten filament runs on 23 volts at 13.5 amps. The base has three banana plug sized jacks for the filament and cathode. At about 13 inches tall, this is one of the largest German tubes I have.



The transmitter I found is a Telefunken 1.5 KW multi-mode short wave unit with the ability of being remotely operated from 2 to 12 MHz. The RS329 tubes were in the final amplifier. This transmitter was first built before WWII but only a few were used by the Germany military. Eventually some of these units were procured by the Swiss Military where they were used for many years. The transmitter was designated type G1,2K by the Swiss.

The unit sitting on top of the transmitter is a VOX or voice activated exchange circuit similar to what we use with modern gear. One of the pull-out units under the amplifier



contains a pair of [RS282](#) tubes and a rotating switch that sets bias according to the transmission type desired. Full break-in is difficult enough today with very fast relays, but in the late 1930s, a tube made a very fast switch. When the VOX detected audio on the phone line, it activated the transmitter and switched the bias on the amplifier tubes with the RS282 tubes. An audio oscillator could be remotely keyed to send CW at near full break-in.

*Photos of the transmitter are with permission of [cdvandt.org](http://cdvandt.org).*





## ARRL Digital Contest Results

### John Owens, NN6U

**Great showing for our two NCCC teams!** K6OK leads the club on both points and Qs, and looks likely to repeat last year’s Pacific Division win! N6ZFO leads on points/Q with a great focus on DX contacts. On Team 2, our last-minute addition of AF6SA is the team leader on points and Qs, and KE8FT on points/Q. Those “part-time” efforts yielded some great results!

Based on 3830 so far, K6XX likely pulled out a Pacific Division win in the SO1R-8 category even if his score stays near the 3812 reported by the log robot. The “two-break rule” might be applied to 8-hour operations as well. So hypothetically, if he had operated [1 on - 2 off - 1 on - 3 off - 1 on - 4 off - 5 on], the 2-hour break wouldn’t count and he would get scored as [4 on – 3 off – 1 on – 4 off – 3 on – 2 overtime].

Call	QSO's	Pts	Pts/Q
<b>NCCC Team 1 – Paint Watchers</b>			
K6OK-FT	608	9521	15.7
NN6U-FT	269	2902	10.8
N6ZFO-PT	168	2857	17
K6XX-PT	288	3812	13.2
KW6S-PT	542	5766	10.6
	<b>1875</b>	<b>24858</b>	<b>13.3</b>
<b>NCCC Team 2 – Prestidigitators</b>			
W6SX-PT	317	3051	9.6
AJ6V-PT	346	3509	10.1
KO6M-PT	101	801	7.9
KE8FT-PT	317	4568	14.4
<b>AF6SA-PT</b>	536	6508	12.1
	<b>1617</b>	<b>18437</b>	<b>11.4</b>

### Digital News Flash!!

The new FT4 NS contest is now live! See <https://nccsprint.com/ft4ns.html>



## Contesting With a Pea-Shooter Station

**Gary Johnson, NA6O**

*(from the March 2016 JUG)*

*When I joined NCCC I scoured the NCCC site and read so much about how things are done and what makes a good contester. However as a small peashooter station the one article that has always stuck out to me is the one Gary (NA6O) wrote for the March 2016 Jug titled Contesting with a Pea-Shooter Station. It speaks to me on many levels. I reference it in some way or another at least once a month. I asked Gary if we could republish it and of course the answer was yes. Hopefully reprinting this article can help at least one new or seasoned member jump to the next level in their game. DE KO6M*

Contesters and DXers are usually said to operate from one of two classes of station: Big guns (we all know who they are), or little pistols (think tri-bander and wires). Well, I'm here to represent a third category, the *pea-shooters*, and tell you how to make the most of a very limited station. Pea-shooters are usually situated in CC&R communities (like me), apartments, rented rooms, trailer parks, on impossibly small lots with no trees, or they may simply have financial limitations or other reasons that prohibit large antennas and elaborate station installations. And yet we have a desire—sometimes a really serious desire—to work difficult DX and join in radiosport activities. Let's see how to make that a positive experience.

### Operating Practices

Your operating practices are extremely important. Don't bring a knife to a gunfight and expect an easy win. Instead, you must learn to be patient, smart, and carefully choose your modes and times of operation to take best advantage of your limited station resources. I'm covering this subject first because it's universal to all contesters, and even with a limited station, a better operator may prevail.

Don't let frustration and envy rule your operating sessions. I know the feeling, listening to the big gun a few miles away, running DX stations when I barely hear a whisper. If you're just starting out, be a happy *casual contester* while you learn your station's true capabilities. Try as many contests as you can to obtain experience in how the contests and your station actually work. Discover your weaknesses and come up with strategies to address those, or avoid your optimally-bad situations in real contesting. In the meantime, you can score new DXCCs, band fills, states, or whatever awards you may be chasing. Have fun while learning. It took me a good two years to really figure things out and even with the same station, I'm now much, much better at scoring points.

Set reasonable goals. Obviously we're not going to win a major competed category, but some contests have so many micro-categories that an actual award is absolutely within reach. For instance, four years in a row I "won" the ARRL DX CW contest by entering as single operator, low power, unlimited, for the East Bay section. With only a few competitors, I got some wallpaper, and by golly that feels good! Bob, KO6LU, running just a vertical, has wins in RTTY Roundup, ARRL DX, and ARRL 10m. So we *can* be winners.

Plan ahead. Before a contest, study previous year's results, see who did what, then figure out where you might be able to compete. Choose contests where you may be more competitive, or simply have more fun: QSO parties and CQ-WPX treat us well (especially if we have an odd prefix). Another goal I enjoy is trying to score at least 10% of the points achieved by the top California single-op.



Also remember that we all contribute to the NCCC bottom line in each major contest, no matter what our scores may be. Important: When you turn in your Cabrillo log, be sure it says “CLUB: Northern California Contest Club”.

Make a list of preferred antennas for transmit and receive on a per-band basis. See if one consistently outperforms on DX or short-haul contacts. Choose the best time of day — RFI-driven as well as band conditions — that favor your station. For instance, I know my neighbor’s plasma TV will be obliterating 80 m in the evening, so instead I prefer to visit that band in the wee hours of the morning. The high bands (sunspots permitting) are generally friendly to those of us with minimal antennas, so get up there on 10 and 15 as much as possible during the day.

CW and RTTY will generally work better for us than SSB. The extra bandwidth and lower average power of SSB amounts to upwards of a 10 dB penalty compared to CW. Ifind it extremely difficult to be competitive on SSB. In fact, just reaching DXCC is turning out to be a serious challenge. But RTTY is quite rewarding, and works at least as well as CW here. If your CW skills are not up to snuff or non-existent, check out CWops.org where we offer training and practice at all skill levels. Outside of contesting, the weak-signal digital modes like JT65 truly save the day for the pea-shooter station.

Search and pounce remains the favorite of most pea-shooter operators. It’s always my best bet when conditions are poor: Nobody calls me when I try to run. S&P is also preferred in the first half of a 48-hour contest when things are manic because finding and especially holding a run frequency is usually impossible. Being a *Sunday driver* can be most rewarding for the pea-shooter because the big boys will be running out of stations, and you don’t have to compete so often in shoot-outs (mini pile-ups), which I can attest that we almost always lose. When I have limited time to operate in such a contest, I choose the later part. You may also be able to have some good runs at that time.

Try running, if you can find a spot. I usually move up the band where the slowskis are. Then I listen for a good long time because more than likely there is someone already running there that I simply can’t hear. When the coast is clear, call CQ and see how it goes. n a DX contest, I’m absolutely thrilled to get a call every minute. In a QSO party, it’s often better than that since the short-haul signal for a pea-shooter is at least marginally competitive. My cutoff time is typically 5-10 minutes without an answer before I go back to search and pounce.



Fig 1. This is what I sometimes see from the Reverse Beacon Network: Nothing. Definitely time to change bands or search and pounce.

Don’t be surprised if someone stomps on you and tries to take your run frequency. Happens all the time. Call CQ a bunch of times and see if he hears you and goes away. Or slide over a bit, to where you can hear callers. Or go somewhere else and start again. Sometimes it’s just hopeless. Back to search and pounce.

When you start running on CW or RTTY, fire up the Reverse Beacon Network[1], and have it search for your call. Then you can see your measured signal strength all over the world. If only a few skimmers spot you, don’t expect much action (Fig. 1).

Speaking of shoot-outs, always watch your score in





your logging program and determine whether it's worth calling a new multiplier station for a very long time. (But if it's a New One, heck yeah, I'm going to burn on that frequency!). I do use spotting whenever it's permitted since I'm in search and pounce mode so much. It really cuts down on the search time when I first switch to a new band and helps me find multipliers and New Ones. Also it gives you an idea of relative activity level, helping to decide when to switch bands.

If you have the space, money, and desire, there is nothing to stop you from trying advanced operating techniques like single-operator, two radios (SO2R), or using two VFOs (SO2V) and other methods that tend to generate higher scores. Above all, become a better listener. I am thrilled when my S meter moves at all, so my weak-signal copying skills are now top-notch. DXing is great practice for contesting, with all the variations in propagation and signal distortions and of course the weakest of signals.

### Antennas

Limited antennas are the very definition of the pea-shooter station. Sorry, *no* towers, and even a push-up mast or roof tripod is out of the question to support even the smallest Yagi. That leaves us with wires, verticals, and loops. Your main objectives are to cover as many bands as possible (often with an antenna tuner) so as to obtain maximum multipliers, access low radiation angles for DX, achieve good efficiency, and minimize RFI pickup. Doing all of these things in our limited spaces, often with low-observability, is a real challenge.

There are countless designs to consider. Check the various ARRL publications, and also our own K9YC's presentation on limited-space antennas[2]. Here are a few popular solutions that I have experience with.

1. A fan dipole with a K9YC-approved common-mode choke (a.k.a. balun). Efficient, resonant, and lowish noise in urban environments. Hang it as high as you can, even if it's bent, or with some loading. Mine works well enough at only 15 feet elevation and made of 20-gauge wire. Small wire and clear plastic insulators reduce observability. At such a low altitude, it is nearly omnidirectional on 80 through 15 m with most of the energy radiated straight up.

I ran HFTA, looking toward Europe, and compared this dipole on 20 m against a 3-element Yagi at 50 feet. The difference was typically greater than 10 dB at the lower takeoff angles. So yes, I have tower envy, in a big way.

2. Verticals, of the off-center fed dipole variety that do not require radials. Examples: Cushcraft R8, R6000; Hy-Gain AV-640; N6BT Bravo series, etc. Very handy when you have no space for radials. Go for models with fewer traps, which equals better efficiency. Mount it as high as you can. They are all fairly light and easy to handle but some taller models need guy ropes. Paint it NATO non-spectral gray, otherwise known as gray automotive primer, for lowest observability. (If it works for military fighters, it works for me!) I can pretty well guarantee that the noise level will be higher than that of any dipole you



Fig 2 My primary antennas, a vertical and a fan dipole



may erect, but you have at least a chance of producing some low-angle radiation depending upon your local soil properties.



Fig 3. A magnetic loop antenna for receiving

3. A low-noise magnetic receiving loop (Fig. 3). These are effective against very closerange RFI sources, which can be dramatically nulled by rotating the loop. They are basically omnidirectional for skywave communications except on 80 and 160 m. I use a Wellbrook ALA1530 to good effect all the way up to 15 m. Pixel Technologies is another maker.

4. Conventional verticals, end-fed wires, and inverted-L designs. If you have space for radials, or use some kind of a counterpoise resonating trick, many of these unbalanced antennas will work. Again, altitude is your friend. Put that vertical on your roof, and pave it with radials resonant on each band. Tie the end of the wire to the highest available object.

5. Get creative. Mangle that dipole by running it under the eaves, around the corners, over the bushes, and along the fence. Use a mobile antenna on the bumper of your car. Build a trailer with a crank-up tower or mast, and park that on your property during contest weekends. It's great for Field Day, too. Try a transmitting magnetic loop. Get a Buddipole and it's mast kit for temporary use (another ham in my tract

sets his up on the front lawn. Take that, Neighborhood Nazis!)

You can never have too many antennas. Whatever you may have, make your arrangement switchable in a convenient manner so that you may use the one with the best signal-to-noise ratio for receiving, while using the one with the best absolute signal strength for transmitting. That may or may not be the same antenna. For instance, my verticals are often the best radiators, while my low-noise receiving loop or the low dipole are almost always the best receiving antennas.

I suppose the one advantage to all of these antennas is that being omnidirectional, I never have to worry where to point them to maximize my rate!

### Radios, etc.

A top-notch radio can help overcome *some* antenna limitations. DSP noise reduction is a godsend to the peashooter operator. I'm sure that a quarter my QSOs would not be possible without the noise reduction and noise blanking available on my TS-590s; it's a miracle. Better filters and the high dynamic range of the best receivers are crucial to the contester, probably more so for us little guys. Obviously, a modern rig with a CAT interface is also mandatory for automatic logging and other automation conveniences.

You definitely should use one of the top contest logging programs such as N1MM or WriteLog to maximize your efficiency; this will also come in handy if you operate another contester's station. Make sure you have a reliable computer, too.

Running higher power certainly helps to overcome limited antennas. It's bad enough that I can't hear very well, but even worse when I *can* hear the other guy and not make the QSO. Adding a KPA500, which I call my \$2000 S-unit, has been valuable when the going gets tough. It definitely removes a degree of frustration as well, and a happy operator is a productive contester. Use caution though: If, like me, you or your neighbors are sitting close





to your antennas, an RF exposure estimate is mandatory. Running full legal limit would not be advisable at my station. Also, my invisible-wire antennas may well vaporize!

One more thing about high power: Don't be an alligator (all mouth and no ears). If I know that I'm not hearing well, running can go really badly with high power. I either turn off the amp, or switch to S&P.



Fig 4. Compact and simple stations, yet capable of contesting. Bob, KO6LU [left] and Gary NA6O, [right]

### Dealing with RF Interference

Being in close proximity to modern electronic devices is the bane of the ham's existence when it comes to RFI. We are inundated with ghastly switching power supplies, noncompliant LED lamps, poorly-shielded computer stuff, pot farmers with evil grow bulbs, plasma TVs, and so forth. We are also likely to interfere with neighbors' and our own home entertainment equipment, internet, and other things. Our radio gear may be located way too close to our antennas, resulting in RF in the shack and all kinds of equipment problems.

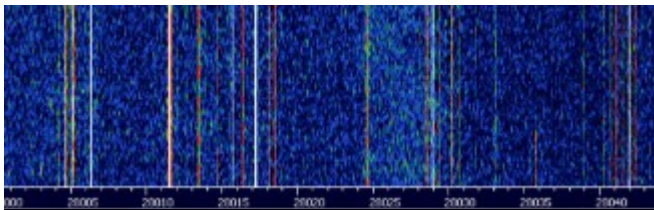


Fig 5. Typical moment of RFI on 10 m at NA6O. Computers, peripherals, networking equipment, switching power supplies. The list goes on and on

All of these issues are magnified by the pea-shooter's close quarters and fundamental limits on physical positioning of antennas and equipment (Fig. 5). For instance, two my primary antennas are 15 and 20 feet from my neighbor's den. *That* is a major problem, in both directions. And my rig is right under my vertical and my dipole is 10 feet over my head. If I had any hair, it would probably stand up when I transmit. There is nothing I can do to change this geometric situation, but clearly it would be of great benefit if I had more

flexible space.

RFI management is a complex subject and I must recommend you start by reading some key references[3] [4].





Get advice from your fellow NCCC members, many of whom are well-versed in this. Contesting.com has an RFI email list where many experts hang out and are happy to help[5]. The following measures are generally advisable, within of course the limits of your particular situations.

Try to locate antennas farther from all houses, as well as your rig. Install common-mode chokes on all coaxial lines and control wires that exit your shack. Bond *all* of your equipment together, and bond that to your home's grounding system (this is super important if you live in an area where lightning is likely). Run high power (>100 W) only when necessary. Be friendly with your neighbors and volunteer to help eliminate interference both to and from their equipment, typically by installing chokes. .Clean up your own home first: .Turn off circuit breakers while checking all bands and see if you can find unexpected RFI emitters. Use a portable AM/FM/SW radio as a sniffer. Replace crappy wall warts with linear power supplies, or known-clean switchers. Use high-quality shielded cables for station interconnects. Add common-mode chokes on cables that seem to be problematic, for instance serial or USB devices that misbehave or crash your computer.

## Conclusion

You, too, can be a contester with just a pea-shooter station. The operating experience you gain will be valuable no matter where you operate. Hone your skills, keep trying different antennas, and fight the RFI battle. Most of all, make contesting fun.



## Acknowledgements

Bob, KO6LU, a fellow pea-shooter, contributed to this article. Thanks to Ian, W6TCP, for prompting to me write "something."

## References

1. Reverse Beacon Network: <http://www.reversebeacon.net/main.php>
  2. Limited-space antennas by K9YC: <http://audiosystemsgroup.com/LimitedSpaceAntennasPPT.pdf>
  3. K9YC has several important RFI-related resources that every ham needs to read located at: <http://audiosystemsgroup.com/publish.htm>
  4. ARRL RFI Book
- RFI list at Contesting.com: <http://lists.contesting.com/mailman/listinfo/RFI>



## Book Review: “The Queen – Her Life”

Andrew Morton [1]

By Bill Haddon, N6ZFO

*Reviewer's note: I've published, in the JUG, reviews of published books that mention ham radio in some way. My XYL Barbara is alerted to look for relevant items, although the review below is from a biography of the Queen Elizabeth II that I recently checked out from our local Lake County Library. Barbara is a voracious reader of, usually, four or five full-length books per week. My own more modest reading log shows forty-six books from March 2022 to March 2023. But then Barbara doesn't have QRM from ham radio competitions to reduce the scale of her reading. Our NCCC Sprint (NS) colleague Jim George, N3BB, an author himself, of “Contact Sport – A Story of Champions, Airwaves and a One-Day Race Around the World,” reports books reviews about twice a month from his Austin book group.*

Ham radio featured in a biography of Queen Elizabeth II? – Amazing and completely unexpected! “The Queen – Her Life” recounts the history of the Queen from childhood to shortly before her 2022 passing after serving as monarch for longer than anyone else in history. The biography is a complete, balanced and easily read. If you're a fan of the British Monarchy check it out from your library -- you won't be disappointed. Particularly notable is the author's account of the apparently fabulous and rather playful relationship between Elizabeth and her father, King George VI.

Ham radio intervenes in two separate episodes involving cell phone usage by Queen Elizabeth's son, now King Charles III and by his former wife Diana, Princess of Wales. [Not princess of whales . . . recalling that President Trump, in a Twitter communique shortly after meeting Prince Philip referred to him as the Prince of Whales.]

In the late '80's and early 90's many cell phone conversations were broadcast openly on an accessible parts of the radio spectrum. In the US this was, from at least one carrier, just below the six-meter band. I recall listening to cellphone conversations on my Omni V transceiver (Ten-Tec), which was equipped with a Six Meter transverter. Cell phone conversations, albeit with slightly distorted audio, were transmitted in the spectral region around 47 MHz, just below the six meter ham band. Hoping to hear some juicy dialog from my Corte Madera - Christmas Tree Hill neighbors I listened in. These conversations were so boring that I soon abandoned the project, not even hearing any scandalous details from my neighbor and friend Al, K6RIM.

The British hams were, however, more successful. One incident involving Princess Diana was a ham-recorded conversation with her “friend” James Gilbey, who referred to Diana by his pet name for her – “Squidgy.” The incident was referred to as “Squidgygate.” In that New Year's Eve 1989 recording, reported on page 260, Diana criticized Prince Charles, the Duchess of York and the Queen Mother. Quoting from the biography: “In the early days of these brick-size devices radio hams were able to listen in . . . and make a recording. This was Diana's worst phone-tapping fear come true.”

Later, on page 266, the author reports on the highly embarrassing conversation between then Prince Charles and Camilla, now Queen Camilla, “illicitly recorded by radio hams who listened in. . .” The details are a bit to juicy for this publication; and if that doesn't induce you to read the biography, probably nothing will!

Surprisingly there was no security technology incorporated in many of these early cell phone devices, despite the

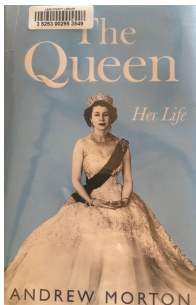


fact that secure audio communications had been known since the invention of spread spectrum technologies by actress Hedy Lamar in 1941. Hedy Lamar and her business partner's patented their spread spectrum invention of secure communication techniques noting the potential to provide security in Britain's communication signals sent to rockets used against Germany during WWII. For further reading about the history of cell phones technology read the discussion at [www.practicallynetworked.com/history-of-the-cell-phone/](http://www.practicallynetworked.com/history-of-the-cell-phone/)

In fact, secure protocols were part of the 2G Cell Phone standard introduced in 1987, as noted in that article in the paragraph "1987 – GSM". Quoting from the history article: "Other nations swiftly followed suit, opting to adopt the GSM standard, which was an enormous leap forward compared to what was available in the United States."

I asked Jim, N3BB, about the unedited audio transmissions. Jim was instrumental in the development of Motorola's first cell phones, but was unaware of the accessibility of cell phone transmissions near the ham bands.

[1] Morton, Andrew: "The Queen – Her Life" ISBN: 978-1-5387-0043-3 1st ed. Grand Central Publishing, NY, 2022







## Editor Notes



The unexpected passing of Chip Margelli, K7JA, has stunned the ham community worldwide. Chip was known everywhere it seemed, in most all of Amateur Radio. Rest in peace, Chip, you're not forgotten.

The JUG is now archived! <https://www.archive.org/details/northern-california-contest-club> Click on "Collections" on the page that opens, they're all there [I checked!]. NCCC now has an archive account and we can add new issues as they are published. Major thanks to Archivist Kay Savetz for this opportunity and for filling our archive with past issues.

One of the oldest quasi-contests will take place on the weekend of 24-25 June. Much like Schrodinger's Cat, it simultaneously is and is not a contest, depending on who you talk to and when you do it. Nonetheless, it is a lot of fun, more often than not a club event, and if our President is correct, an opportunity to learn "please" in multiple languages. Hint: Field Day experiences are welcome in the JUG!

## As Seen In Dayton



"Is this the guy that gets on in the DX portion of 40m SSB to run his ragchew net every weekend morning?"

Bob, K6XX



## NCCC Membership Information

If you wish to join NCCC, please fill out an application for membership, which will be read and voted upon at our monthly meeting. To join, you must reside within club territory which is defined as everything in California north of the Tehachapi's up to the Oregon state line, and part of northwestern Nevada (anything within our ARRL 175-mile radius circle centered at 10 miles north of Auburn on Highway 49).

## Life Memberships

Life memberships are \$250.00 Contact [secretary.nccc@gmail.com](mailto:secretary.nccc@gmail.com). Members who have reached 80 years of age have and been an NCCC member for 20 or more years are eligible for Honorary Life Membership (“80/20 Rule”). Contact [secretary.nccc@gmail.com](mailto:secretary.nccc@gmail.com)

## JUG Articles Wanted!

Your help allows us to produce a quality newsletter. Please consider submitting an article! The editor welcomes any and all relevant articles for inclusion in the JUG. The preferred format is plain, unformatted ASCII text, MS Word (.doc/.docx) are acceptable. Indicate the insertion point and title of diagrams and pictures in the text and attach photos/diagrams separately. Pictures should be as high a resolution as available. Please do not spend time formatting your submittal, the publication templates will re-format everything. Send your material to [k6dgwnv@gmail.com](mailto:k6dgwnv@gmail.com) indicating “JUG Submittal” in the subject.

## Northern California Contest Club Reflector—Guidelines

The NCCC email reflector is devoted to the discussion of contesting. Topics include contests, station building, dxpeditions, technical questions, contesting questions, amateur radio equipment wants/sales, score posting, amateur radio meetings/ conventions, and membership achievements. Postings may not include personal attacks, politics, or off-subject posts. Such postings will be considered a violation of the Guidelines

## Find NCCC on Social Media

Facebook: “Northern California Contest Club”

Twitter: “NCCCCKB”



**LANDS' END**  
BUSINESS

<https://business.landsend.com/store/nccc/>

MEN WOMEN PROMOTIONAL PRODUCTS

Welcome to the NCCC Land's End store. You can choose many different products and add a custom-embroidered NCCC logo.

If you would like to add your name and/or call sign, click the Add Personalization button when designing your garment (\$8 charge, 10 character limit).

If you have questions, contact the NCCC secretary at: [secretary.nccc@gmail.com](mailto:secretary.nccc@gmail.com)



**Northern California Contest Club**

### [NCCC Lands' End Store](#)

We are pleased to announce that the new NCCC Land's End store is online! You can choose from an array of shirts, jackets, and hats and apply your choice of custom-embroidered NCCC logos: A plain one, or one that also says Fifty Years. And, you can personalize your item by adding your name and/or call sign. The store is open 24/7 and items are shipped directly to you. No more waiting for everyone else to make up their minds on a group purchase.

<https://business.landsend.com/store/nccc/> or from the NCCC website: <http://nccc.ccc/members/lestore.html>

Thanks to W6TCP for helping to set this up. Instructions for purchases from Lands' End NCCC Store

1. Go to <https://business.landsend.com/store/nccc/>
2. Click on Men's or Women's link, then choose item(s)
3. Pick color, inter quantity of each size you want to order.
4. Click Apply Logos and Personalizations. This will display the logo choices. Try them out. It will show you what they look like on your chosen fabric color.
5. Select a location for logo (left side, ride side, back, etc)
6. Click Apply Logo.
7. Optionally, click Add Personalization to add your name or call sign (\$8.00, 10 character limit)
8. Click Add to Bag and Continue Shopping or.
9. Start Secure Check out. Account creation and credit card required.





# Northern California Contest Club

Excellence In Amateur Radio Contesting

## K4 HIGH-PERFORMANCE DIRECT SAMPLING SDR



### A direct-sampling SDR you'll love to use

Our new K4 transceiver harnesses advanced signal processing while retaining the best aspects of the K3S and P3. It features a 7" touch display, plus a rich set of dedicated controls. Per-VFO transmit metering makes split mode foolproof. Band-stacking registers and per-receiver settings are versatile and intuitive. Control usage information is just one tap away thanks to a built-in help system.

### Modular, hybrid architecture adapts to your needs

The basic K4 covers 160-6 m, with dual receive on the same or different bands. The K4D adds diversity receive, with a full set of band-pass filters for the second receiver. (Thanks to direct RF sampling, there's no need for crystal filters in either the K4 or K4D.) The K4HD adds a dual superhet module for extreme-signal environments. Any K4 model can be upgraded to the next level, and future enhancements—such as a planned internal VHF/UHF module—can be added as needed.

### Single or dual panadapter, plus a high-resolution tuning aid

The main panadapter can be set up as single or dual. Separate from the main panadapter is our per-receiver *mini-pan* tuning aid, with a resampled bandwidth as narrow as +/- 1 kHz. You can turn it on by tapping either receiver's S-meter or by tapping on a signal of interest, then easily auto-spot or fine tune to the signal.

### Comprehensive I/O, plus full remote control

The K4's rear panel includes all the analog and digital I/O you'll ever need. All K-line accessories are supported, including amps, ATUs, and our K-Pod controller. The Video output can mirror the K4 screen or display a high-res Panadapter only screen. Via Ethernet, the K4 can be 100% remote controlled from a PC, notebook, tablet, or even another K4, with panadapter data included in all remote displays. Work the world from anywhere—in style!

### K4 KEY FEATURES

Optimized for ease of use

Modular, upgradeable design

7" color screen with touch and mouse control

ATU with 10:1+ range, 3 antenna jacks

Up to 5 receive antenna sources

Full remote control via Ethernet



The K4 interfaces seamlessly with the KPA500 and KPA1500 amplifiers

*'The performance of their products is only eclipsed by their service and support. Truly amazing!'* Joe - W1GO



For complete features and specifications visit [elecraft.com](http://elecraft.com) • 831-763-4211

# Northern California Contest Club

Excellence In Amateur Radio Contesting

# HAM RADIO OUTLET®

WWW.HAMRADIO.COM

**\*Free Shipping and Fast Delivery!**



### IC-9700 | All Mode Tri-Band Transceiver

- VHF/UHF/1.2GHz • Direct Sampling Now Enters the VHF/UHF Arena • 4.3" Touch Screen Color TFT LCD • Real-Time, High-Speed Spectrum Scope & Waterfall Display • Smooth Satellite Operation



### IC-718 | HF Transceiver

- 160-10M\*\* • 100W • 12V operation • Simple to use • CW Keyer Built-in • One touch band switching • Direct frequency input • VOX Built-in • Band stacking register • IF shift • 101 memories



### IC-V3500 | 144MHz FM Mobile

- 65W of Power for Long Range Communications • 4.5 Watts Loud & Clear Audio • Modern White Display & Simple Operation • Weather Channel Receive & Alert Function



### IC-7851 | HF/50MHz Transceiver

- 1.2kHz "Optimum" roofing filter • New local oscillator design • Improved phase noise • Improved spectrum scope • Dual scope function • Enhanced mouse operation for spectrum scope



### IC-705 | HF/50/144/430 MHz All Mode Transceiver

- RF Direct Sampling • Real-Time Spectrum Scope and Waterfall Display • Large Color Touch Screen • Supports QRP/ORPp • Bluetooth® and Wireless LAN Built-in



### IC-2300H | VHF FM Transceiver

- 65W RF Output Power • 4.5W Audio Output • MIL-STD 810 G Specifications • 207 alphanumeric Memory Channels • Built-in CTCSS/DTCS Encode/Decode • DMS



### IC-7300 | HF/50MHz Transceiver

- RF Direct Sampling System • New "IP+" Function • Class Leading RMDR and Phase Noise Characteristics • 15 Discrete Band-Pass Filters • Built-In Automatic Antenna Tuner



### IC-7100 | All Mode Transceiver

- HF/50/144/430/440 MHz Multi-band, Multi-mode, IF DSP • D-STAR DV Mode (Digital Voice + Data) • Intuitive Touch Screen Interface • Built-in RTTY Functions

### IC-V86 | VHF 7W HT

- 7W Output Power Plus New Antenna Provides 1.5 Times More Coverage • More Audio, 1500 mW Audio Output • IP54 & MIL-STD 810G-Rugged Design Against Dust & Water • 19 Hours of Long Lasting Battery Life • 200 Memory Channels, 1 Call Channel & 6 Scan Edges



### IC-7610 | HF/50 MHz All Mode Transceiver

- Large 7-inch color display with high resolution real-time spectrum scope and waterfall • Independent direct sampling receivers capable of receiving two bands/two modes simultaneously



### IC-2730A | VHF/UHF Dual Band Transceiver

- VHF/VHF, UHF/UHF simultaneous receive • 50 watts of output on VHF and UHF • Optional VS-3 Bluetooth® headset • Easy-to-See large white backlight LCD • Controller attachment to the main Unit

**NEW**



### IC-T10 | Rugged 144/430 MHz Dual Band

- Disaster Ready - Excellent Fit for Your Emergency Bag • Loud Audio - New Speaker Design • Long Battery Life - Up to 11 Hours • FM Broadcast & Weather Channels



### IC-R8600 | Wideband SDR Receiver

- 10 kHz to 3 GHz Super Wideband Coverage • Real-time Spectrum Scope w/Waterfall Function • Remote Control Function through IP Network or USB Cable • Decodes Digital Incl P25, NXDN™, D-STAR • SD Card Slot for Receiver Recorder



### ID-5100A Deluxe VHF/UHF Dual Band Digital Transceiver

- Analog FM/D-Star DV Modes • SD Card Slot for Voice & Data Storage • 50W Output on VHF/UHF Bands • Integrated GPS Receiver • AM Airband Dualwatch

### ID-52A | VHF/UHF D-STAR Portable

- Bluetooth® Communication • Simultaneous Reception in VV, UV, VU and DV/DV • Enriched D-STAR® Features Including the Terminal Mode/Access Point Mode • UHF (225-374.995MHz) Air Band Reception



- RETAIL LOCATIONS - Store hours 10:00AM - 5:30PM - Closed Sunday
- PHONE - Toll-free phone hours 9:30AM - 5:30PM
- ONLINE - WWW.HAMRADIO.COM
- FAX - All store locations
- MAIL - All store locations



**FOLLOW HRO ON SOCIAL MEDIA**



twitter.com/HamRadioOutlet  
facebook.com/HROHamRadioOutlet  
instagram.com/HamRadioOutlet  
youtube.com/HamRadioOutlet

\*On most orders over \$100 in the continental US. (Rural locations excluded) \*\*Except 60M Band. The Icom logo is a registered trademark of Icom Inc. Toll-free including Hawaii, Alaska and Canada. All HRO 800-lines can assist you if the first line you call is busy, you may call another. Prices, specifications and descriptions subject to change without notice.



# Northern California Contest Club

Excellence In Amateur Radio Contesting

# HAM RADIO OUTLET

WWW.HAMRADIO.COM

See us at HAMCATION Booth 024-028!



### FTDX101MP | 200W HF/50MHz Transceiver

- Hybrid SDR Configuration • Unparalleled 70 dB Max. Attenuation VC-Tune • New Generation Scope Display 3DSS • ABI (Active Band Indicator) & MPVD (Multi-Purpose VFO Outer Dial) • PC Remote Control Software to Expand the Operating Range • Includes External Power With Matching Front Speaker



### FT-710 Aess | HF/50MHz 100W SDR Transceiver

- Unmatched SDR Receiving Performance • Band Pass Filters Dedicated for the Amateur Bands • High Res 4.3-inch TFT Color Touch Display • AESS: Acoustic Enhanced Speaker System with SP-40 For High-Fidelity Audio • Built-In High Speed Auto Antenna Tuner



### FTM-400XD | 2M/440 Mobile

- Color display-green, blue, orange, purple, gray • GPS/APRS • Packet 1200/9600 bd ready • Spectrum scope • Bluetooth • MicroSD slot • 500 memory per band



### FTDX10 | HF/50MHz 100 W SDR Transceiver

- Narrow Band and Direct Sampling SDR • Down Conversion, 9MHz IF Roofing Filters Produce Excellent Shape Factor • 5" Full-Color Touch Panel w/3D Spectrum Stream • High Speed Auto Antenna Tuner • Microphone Amplifier w/3-Stage Parametric Equalizer • Remote Operation w/optional LAN Unit (SCU-LAN10)



### FT-891 | HF+50 MHz All Mode Mobile Transceiver

- Stable 100 Watt Output • 32-Bit IF DSP • Large Dot Matrix LCD Display with Quick Spectrum Scope • USB Port Allows Connection to a PC with a Single Cable • CAT Control, PTT/RTTY Control



### FT-70DR C4FM/FM 144/430MHz Xcvr

- System Fusion Compatible • Large Front Speaker delivers 700 mW of Loud Audio Output • Automatic Mode Select detects C4FM or Fm Analog and Switches Accordingly • Huge 1,105 Channel Memory Capacity • External DC Jack for DC Supply and Battery Charging



### FT-991A | HF/VHF/UHF All Mode Transceiver

- Real-time Spectrum Scope with Automatic Scope Control • Multi-color waterfall display • State of the art 32-bit Digital Signal Processing System • 3kHz Roofing Filter for enhanced performance • 3.5 Inch Full Color TFT USB Capable • Internal Automatic Antenna Tuner • High Accuracy TCXO



### FTM-300DR | C4FM/FM 144/430MHz Dual Band

- 50W Output Power • Real Dual Band Operation • Full Color TFT Display • Band Scope • Built-in Bluetooth • WIRES-X Portable Digital Node/Fixed Node with HRI-200



### FT-5DR C4FM/FM 144/430 MHz Dual Band

- High-Res Full-Color Touch Screen TFT LCD Display • Easy Hands-Free Operation w/Built-in Bluetooth® Unit • Built-in High Precision GPS Antenna • 1200/9600bps APRS Data Communications • Supports Simultaneous C4FM Digital • Micro SD Card Slot



### FT-2980R | Heavy-Duty 80W 2M FM Transceiver

- 80 watts of RF power • Large 6 digit backlit LCD display for excellent visibility • 200 memory channels for serious users



### FT-65R | 144/430 MHz Transceiver

- Compact Commercial Grade Rugged Design • Large Front Speaker Delivers 1W of Powerful Clear Audio • 5 Watts of Reliable RF Power Within a compact Body • 3.5-Hour Rapid Charger Included • Large White LED Flashlight, Alarm and Quick Home Channel Access



### FTDX101D | HF + 6M Transceiver

- Narrow Band SDR & Direct Sampling SDR • Crystal Roofing Filters Phenomenal Multi-Signal Receiving Characteristics • Unparalleled - 70dB Maximum Attenuation VC-Tune • 15 Separate (HAM 10 + GEN 5) Powerful Band Pass Filters • New Generation Scope Displays 3-Dimensional Spectrum Stream



### FTM-200DR | C4FM/FM 144/430MHz Dual Band

- 1200/9600bps APRS® Data Communications • 2" High-Res Full-Color TFT Display • High-Speed Band Scope • Advanced C4FM Digital Mode • Voice Recording Function for TX/RX



### FTM-6000R | 50W VHF/UHF Mobile Transceiver

- All New User Operating Interface-E20-III (Easy to Operate-III) • Robust Speaker Delivers 3W of Clear, Crisp Receive Audio • Detachable Front Panel Can Be Mounted in Multiple Positions • Supports Optional Bluetooth® Wireless Operation Using the SSM-BT10 or a Commercially Available Bluetooth® Headset



- RETAIL LOCATIONS – Store hours 10:00AM - 5:30PM - Closed Sunday
- PHONE – Toll-free phone hours 9:30AM - 5:30PM
- ONLINE – WWW.HAMRADIO.COM
- FAX – All store locations
- MAIL – All store locations



SACRAMENTO, CA (877) 892-1745	PORTLAND, OR (800) 765-4267	PHOENIX, AZ (800) 559-7388	MILWAUKEE, WI (800) 558-0411	WOODBIDGE, VA (800) 444-4799	WINTER SPRINGS, FL (800) 327-1917
SAN DIEGO, CA (877) 520-9623	DENVER, CO (800) 444-9476	ATLANTA, GA (800) 444-7927	NEW CASTLE, DE (800) 644-4476	SALEM, NH (800) 444-0047	WWW.HAMRADIO.COM

Contact HRO for promotion details. Toll-free including Hawaii, Alaska and Canada. All HRO 800-lines can assist you. If the first line you call is busy, you may call another. Prices, specifications and descriptions subject to change without notice.