



#646 May 2026



Publication of the  
Northern California  
Contest Club



55 Years of Contesting  
Excellence

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**NCCC MEETING**  
<https://nccc.cc/meetings.html>

**18 May 5:30 PM**  
**Tony & Alba's Pizza**  
**San Jose**

[see Secretary's report for details]

ZOOM details will be published via email list

## President's Report

### Roberto SadKowski, K6KM



I'm excited to step into the role of President of NCCC. It's a role with real responsibility, but also a great opportunity to keep building on what makes this club special—top-notch contesting, technical know-how, and a strong sense of camaraderie.

A big thank you to our Board of Directors and Officers for their continued support. Their experience and steady guidance keep the club moving in the right direction.

Looking ahead, one of our main priorities is growing and engaging our membership. To keep NCCC strong, we need to bring in new operators, help them get on the air, and create more opportunities for everyone to participate—whether that's through contests, mentoring, technical discussions, or just getting on and having fun.

We're also putting more emphasis on getting together in person. Our next in-person meeting will be on **May 19th**, where we'll talk about our NCCC club plans—I hope to see many of you there.

One more thing—we're still looking for a volunteer to step into the **VP/Contest Chair** role. If you're interested in helping shape the direction of the club, this is a great way to get involved.

By working together, we can keep improving our skills, supporting each other, and making sure NCCC stays at the forefront of amateur radio contesting.

Looking forward to a great year ahead.



## 2026-2027 Club Officers



**President:** Roberto Sadkowski, K6KM

no photo **Vice-President/Contest Chair:** OPEN



**Secretary:** Gary Johnson, NA6O



**Treasurer:** David West, KO6M [acting]

**Director:** Jim Brown, K9YC

**Director:** Chris Tate, N6WM

**Director:** Ed Radlo, AJ6V

**Past President:** David West, KO6M



## Upcoming State/Province QSO Parties

Thanks to WA7BNM

<https://contestcalendar.com/stateparties.php>

| State/Province  | Dates/Times                         |
|-----------------|-------------------------------------|
| Arkansas        | 16 May 1400Z to 17 Mar 0200Z        |
| Kentucky        | 6 Jun 1300Z to 7 Jun 0100Z          |
| Atlantic Canada | 7 Jun 1400Z to 8 Jun 0100Z          |
| West Virginia   | 20 Jun 1600Z to 21 Jun 0400Z        |
| Alabama         | 25 Jun 1500Z to 26 Jun 0300Z        |
| Maryland/DC     | 8 Aug 1400Z to 9 Aug 0400Z          |
| <b>Hawaii</b>   | <b>22 Aug 1600Z to 24 Aug 0200Z</b> |

## The Big One

|           |                              |
|-----------|------------------------------|
| CQ WPX CW | 30 May 0000Z to 31 May 2400Z |
|-----------|------------------------------|

*May/June is pretty much a vacant desert in the major contest sense.*

## Weekly CW (1 hr) Events

| ID  | DAY | UTC         | EXCH                        | WPM   | SPONSOR |
|-----|-----|-------------|-----------------------------|-------|---------|
| SST | Fri | 2000 - 2100 | Name+SPC                    | <20   | K1USN   |
|     | Mon | 0000 - 0100 |                             |       |         |
| MST | Mon | 1300 - 1400 | Name+QSO#                   | 20-25 | ICWC    |
|     | Mon | 1900 - 2000 |                             |       |         |
|     | Tue | 0300 - 0400 |                             |       |         |
| CWT | Wed | 1300 - 1400 | Name+CWO#<br>or<br>Name+SPC | 20->∞ | CWops   |
|     | Wed | 1900 - 2000 |                             |       |         |
|     | Thu | 0300 - 0400 |                             |       |         |
|     | Thu | 0700 - 0800 |                             |       |         |



## Thursday FT4 NCCC Sprint

The Northern California Club is again pleased to sponsor our weekly FT4 Sprint, aka FT4NS (NCCC Sprint). This contest is held every Friday UTC between 0100Z and 0130Z (Thursday evening in North America). Non-North American stations are welcome to participate. No logs are necessary; please submit your score to [3830scores.com](https://3830scores.com) using the "NCCC FT4 Sprint" template. FT4 NS Sprint Rules are posted at: <https://www.ncccsprint.com/ns.html> See you on the screen! Frequencies: 1839, 3575, 7047.5 (also 7080), 14080, 21140, 28180, 50318.

### Secretary's Message

**Gary Johnson, NA6O**

The new NCCC Board is looking forward to improving our club in several ways, based on feedback from a survey of our members last year. A brief presentation, "NCCC Moving Forward," will be followed by an open discussion. The times they are changing... Please join us and help to improve YOUR club.

You should receive an RSVP message from MemberPlanet. Please sign up soon so that we know how many are attending. If you don't get that message, here is a link that anyone can use (**ignore the "may\_12" in the link**):

[https://www.memberplanet.com/events/nccckb/nccc\\_meeting\\_may\\_12\\_2026](https://www.memberplanet.com/events/nccckb/nccc_meeting_may_12_2026)

We will also be on Zoom. No need to RSVP if you are just going to be online, but we'd really like to see you in person! This will be a very informal, social meeting at Tony & Alba's Pizza in San Jose. We will order pizzas and then pass the hat, so please bring cash with you to help pay the bill.

**5:30 pm: Gathering**

**6:00 pm: Pizza is served**

**6:30 pm: Presentation (also on Zoom; link will follow later)**

**8:00 pm: Closing time**

Future meetings will be held IN-PERSON as much as possible, with a rotation between North, East, and South Bay area:

**June 13: "Propagation" with Bob Cox, K3EST. Joint meeting with MLDXCC in Isleton, CA at noon.**

**July: WRTC wrap-up**

**August: CQP Preview with Dean Wood, N6DE**

**September: NCCC family picnic**

Gary Johnson, NA6O

[gwj@me.com](mailto:gwj@me.com)



## 2025-2026 Club Awards

**Rookie of the Year:**  
Don Reynolds, W2DON

**Contester of the Year:**  
Roberto Sadkowski, K6KM

**Making the Most of Low Power**  
Don Taylor, K6GHA

**Contest Expeditioner**  
Denny Sahovic, KX7M

**Most Valuable Player**  
Dean Wood, N6DE

**Moving On Up:**  
Larry Mitchell, KF6NCX

**Doing Great Things:**  
Ron Castro, N6IE

**Keeping Us Together:**  
Rick Tavan, N6XI

**Team Builder:**  
Mike Heideman, N7MH

**Back in the Saddle**  
Tom McShane, NW6O

**Most Improved Contester**  
Rich Muller, WN6A

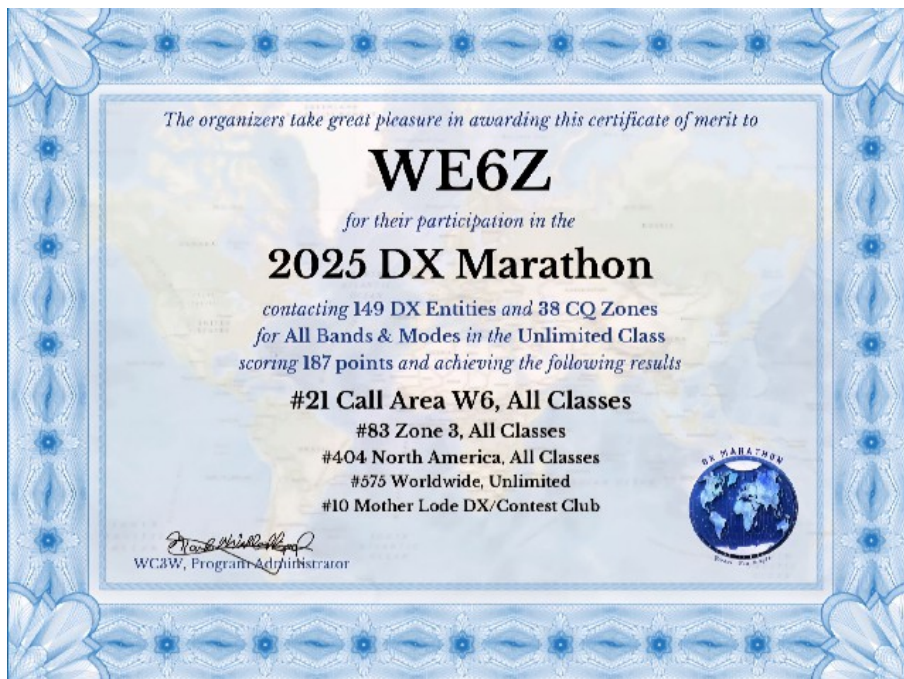
## KB Awards

| PLATINUM  | GOLD   | SILVER  | BRONZE   |
|---|--|---|--|
| <p><b>First Place:</b><br/>Ed, AJ6V</p> <p><b>Second Place:</b><br/>David, WD6T</p> <p><b>Third Place:</b><br/>Andy, AE6Y</p> | <p><b>First Place:</b><br/>Roberto, K6KM<br/><i>[Largest score increase]</i></p> <p><b>Second Place:</b><br/>Al, K6RIM</p> <p><b>Third Place:</b><br/>...Tom, NW6P</p> | <p><b>First Place</b><br/>Ian, W6TCP</p> <p><b>Second Place:</b><br/>Mike, KM6R</p> <p><b>Third Place:</b><br/>Rich, WN6A</p> | <p><b>First Place:</b><br/>Don, W2DON</p> <p><b>Second Place:</b><br/>Kevin, K6EY</p> <p><b>Third Place:</b><br/>John, W6WZZ</p> |



# The Lumber Yard

***Awards and Kudos for NCCC Members***





## Raise Your Hand If You Remember This Historical Musings For A Slow News Month



In a recent e-mail conversation with Alan, AD6E/KH6TU, building milliwatt TX/regen RX using the brand new Raytheon CK722 transistor came up.

One of Alan's comments was: *"I remember the CK722 quite well. In 8th grade I tried making a simple audio amplifier with one but I had no clue how it worked. And, it didn't. Much later (years) I figured out why. I used an audio coupling capacitor supposed to be 2uF from the schematic I was copying from the GE Transistor Manual, but for some reason I had a 2pf capacitor. OK, I do remember why. I went to our local electronics surplus store in town for parts. I stammered and said I wanted a "two micro .. uh .. microfarad capacitor". The cigar chomping owner (Dutch) said "OK, two mickeymikes". I didn't know what that meant and I walked away with this tiny thing that cost a nickel. Funny, I can't remember what I ate for breakfast but I remember that."*

Seemed like every town then had a Radio-Electronics store, some had more than one, almost always with one or more gruff older guy(s) behind the counter. They didn't carry receivers or transmitters, they carried the parts that you used to make receivers and transmitters. If Mom and Dad had chosen your home well, there was also a store that carried the radio/electronic flotsam and jetsam from WW2 at prices your paper route and lawn mowing business could handle. I was lucky ... I had Mac's Radio Supply a short bike ride from home, and Sam's Surplus up in Los Angeles that Dad would occasionally drive me to.

And, around 1954, the CK722 became the first transistor available to the ham community at a reasonable price at those Radio-electronics stores, and from the Allied Radio and Radio Shack catalogs. It was a PNP, germanium-alloy, point-contact transistor about as tall as the length of your thumbnail with three moderately long wires sticking out the bottom. This was ideal since I soldered at the ends and could then clip out the transistor and use it in another project.

Transistors were a learning experience since we were familiar with vacuum tubes [constant voltage devices] and transistors are constant current devices, but the "Popular <mumbles>", QST, and CQ were packed with construction articles for everything from Alan's audio amp for that crystal receiver you built to the milliwatt transmitters and regenerative receivers that would follow. There are a few builders of radios left, but for the most part home built transmitters and receivers have followed the Radio-Electronics stores into history.



## Antenna Raising at NC6D

Gary Johnson, NA6O

NCCC member David Chan, NC6D, lives in San Francisco and unfortunately has been QRT for quite a while after his antenna mast failed in the wind. Being a blind ham, he definitely needed assistance. After some design and fabrication work (and thanks to Scott, AF6RT, for doing the site recon), I put together a sturdy mast and an equally-sturdy team to get the job done.

David's house has a microscopic back "yard", if you can call it that, but like any ham he has managed to get something up in the air. Antennas now consist of a 25-foot mast supporting a 2m/70cm vertical and a random-wire all-band inverted-L fed by an SGC-230 automatic tuner at the base. Previously, the tuner had been installed way up the mast and also lacked radials. The new installation is easier to maintain, looks more like an inverted-L, and there are now some radials run around the periphery of the yard. Robust common-mode chokes were installed on all the cables; he had previously had problems with RF in the shack and hopefully most of that has been alleviated.

Our crew consisted of Greg, KK6PXT, and his helper Kevin Reasoner. They've both done a lot of work with me up at N6RO and know how to get the job done. Kevin did the heavy work, earning a PhD (Post hole Digger) and served as our cement mixer. A 3-ft piece of 2-in pipe was placed in the ground and the tapered aluminum mast slipped into that. Radials were shallow-buried around the yard as best we could after helping David's XYL Judy clear some brush.

Things were going well it seemed. But once we pulled the wire up, it was touching the edge of the parapet—not good! So how do we get on the roof, three stories up? David said someone had previously done so by placing a 20-ft extension ladder on the neighbor's porch. Ex-fireman Greg looked it over and agreed that would be safe. He was just about to head to the hardware store to buy a ladder when the neighbor drove in. Greg asked if it might be alright if we used his porch in this manner. Not only did the guy say yes, he pulled the required ladder out of his garage! Clearly the stars were aligned for our project. Greg went up, re-rigged the wire attachments and the problem was solved.

David fired up his TS-590S to give it a test. By the way, the TS-590 with its optional VGS-1 voice guide is the most accessible radio on the market and is used by the majority of blind hams. A couple of presses of the Tune button and the SGC-230 successfully did its magic. It even tuned on 10m, which had been unreliable in the past. He grabbed his mike and after a couple of calls worked a special event station. I also noticed that his RFI level is not bad at all. So now the rare SFRA section has another active station.

We're talking about some mighty big smiles here, folks. It was a long day, but tremendously rewarding for us all. Hams have always done things like this, and membership in a club like NCCC is a great place to connect and help one another.



## Visit to Muns' Vineyard

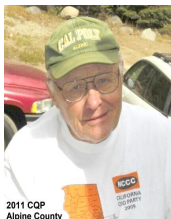
Tom McShane, NW6P



On May 3, I drove to Muns Vineyard in Los Gatos at 2800 ft elevation, where I was greeted by Ed Muns (W0YK), Dave (W6NL) and Barb (K6BL) Leeson and Trey Garlough (N5KO). I wore my YK0A shirt from trip to Damascus in the mid 1990s where I first met Ed. The view was magnificent, we could see Santa Cruz and Monterey Bay.



## Editor Notes



Well, Cap and Gown Season arrives ... a time when your middle-schooler ambles down the aisle with his/her schoolmates and launches his or her High School adventure.<sup>1</sup> The solemn ceremony will likely include a traditional well-known march, usually more resembling a solemn plod, played by the middle school band. We all know it:

### **Con lentezzo**

-----DIT-----  
 DAAAH-----DIT-----  
 -----DAAAH--DIT-----  
 -----DAAAHH-----  
 -----DAAAHH-----

A little known clause in the First Amendment states, “The right of each middle school band member to play in his or her own chosen key shall not be abridged.” Thus, with a multitude of close harmonies, the graduates plod slowly into the hall ... the boys poking each other and at least one tripping over nothing, while the girls are all chatting ... bringing us to

## The Grad Plod [GP] Quiz

Preliminary note: WD6T may participate in this quiz but shall not share in any resulting fame and/or fortune for correct answers and he knows why. David should not distress over this blatant discrimination however since the quiz offers neither of those nor any other awards for correct answers.

- #1: Who composed the work we know as the GP?
- #2: What is the name of the work containing the GP?
- #3: The work actually contains several sub-parts, only one of which is the GP we know and love. (Thankfully, most middle school bands skip all the res). What name did the composer give to the GP sub-part?
- #4 - Bonus: The composer often created works honoring friends. Name the friend honored by the work which includes the GP?
- #5 - Bonus+ What is the composer's honorific title?

*[use of search engines, encyclopedia(s), CoPilot, Siri, Bixby, Alexa, and any other AI sources will result in immediate DQ]*

Email your entries to [k6dgvnv@gmail.com](mailto:k6dgvnv@gmail.com) prior to the Jun JUG deadline. The Jun JUG will contain the answers and quiz results ... if there actually are any.

---

<sup>1</sup> A fun time for you too that includes teaching to drive, leaping insurance rates, and opposite sex trials and travails.



## **About NCCC**

### **Officers and Directors**

President: [Roberto Sadkowski, K6KM](#)  
Vice-President/Contest Chairman: **VACANT**  
Secretary: Gary Johnson, [NA6O](#)  
Treasurer: [David West, KO6M](#) [acting]  
Director: Jim Brown, [K9YC](#)  
Director: Chris Tate, [N6WM](#)  
Director: Ed Radlo, [AJ6V](#)  
Past President: David West, [KO6M](#)

### **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](#)]: [Dean Wood, N6DE](#)  
NAQP Teams: **VACANT**  
NA CW Sprint Teams: Bob Vallio, [W6RGG](#)  
NCCC Email Reflector Admin: Phil Verinsky, [W6PK](#)  
Worked All CA Counties Award: Fred Jensen, [K6DGW](#)  
Photographer: Bob Wilson, N6TV

**NCCC Thur Night Contesting:** [ncccsprint.com](#)

[radiosport.world/ladder](#)

NCCC Sprint: Bill Haddon N6ZFO/4 [n6zfo@arrl.net](#)

Vic Diccico [vicd@uwaterloo.ca](#)

NS CW Ladder: Bill Haddon, [N6ZFO/4 n6zfo@arrl.net](#)

Tim Shoppa [tshoppa@gmail.com](#)

FT4/8 Sprint: Dennis W1UE [egan.dennis88@gmail.com](#)

### **Communications**

Webmaster: John Miller, [K6MM](#)

Webinars: Bill Fehring, [W9KKN](#)

Membership: Gary Johnson, [NA6O](#)/Ian Parker, [W6TCP](#)

### **JUG Editor**

Fred Jensen, [K6DGW](#): [k6dgwnv@gmail.com](#)

Home: 775.501.5488

Cell: 530.210.0778

## **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](#). 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](#)

## **JUG Articles Wanted!**

Please consider submitting an article! The preferred format is plain, unformatted ASCII text MS Word (.doc/.docx) are acceptable, Pictures should be as high a resolution as available. Please do not spend time formatting your submittal, the templates will re-format everything. Send your material to [k6dgwnv@gmail.com](#)

## **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"

X (aka Twitter): "NCCCCKB"



## [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.

Start Secure Check out. Account creation and credit card required.



# Northern California Contest Club

Excellence In Amateur Radio Contesting



### 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

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### 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/QRPp • 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



### 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 Inct P25, NXDN™, D-STAR • SD Card Slot for Receiver Recorder



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

- Analog FM/D-Star DV Mode • 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, UU, VU and DV/DV • Enriched D-STAR® Features Including the Terminal Mode/Access Point Mode • UHF (225-374.995MHz) Air Band Reception



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- PHONE – Toll-free phone hours 9:30AM - 5:30PM
- ONLINE – WWW.HAMRADIO.COM
- FAX – All store locations
- MAIL – All store locations



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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



### 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-991A | HF/HF/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



### 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



### 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



### 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



### 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-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



### 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-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

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

- 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-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-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 With-in a compact Body • 3.5-Hour Rapid Charger Included • Large White LED Flashlight, Alarm and Quick Home Channel Access



### 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

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Contact HRO for promotional 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.