



**Publication of the
Northern California
Contest Club**



**Issue 475
December 2011**

Inside this issue:

November Meeting	5
2012 ARRL RTTY Roundup	6
K6TU Tech Tips	8
Election 2012 update	8
DVR Integration	9

Guests are always welcome at the NCCC! Please
join us.

Monday, December 12, 2011

Program

1. Annual Holiday Dinner

Date:

Monday, 12th November

Time:

6:00pm schmooze, 6:30pm dinner, 7:15pm program

Michael's @ Shoreline
2960 Shoreline Blvd,
Mountain View, CA 94042
Phone: (650) 962-1014

Please RSVP to Tom N3ZZ BY 5:00 PM, Friday,
December 9, 2011



From the President

Greetings KB'ers

Well here we are deep into the contest season and the Holidays are upon us. I write this a couple of days after working over 1000 QSOs on 10 meters during the CQ WW DX CW contest. Conditions were simply amazing. With the ARRL sweepstakes behind us, its time to look toward one of our big contests of interest for the season, the ARRL RTTY Roundup.

Our VP/CC, Stu K6TU in conjunction with you, the NCCC members, will be spearheading an effort to try and exceed some of our past accomplishments in this contest. It's no secret that the RTTY mode has transitioned to a very computer-centric operating mode, with sending and decoding tasks being completed by your PC in harmony with your transceiver.

So it's no surprise that the NCCC has established a pattern of trendsetting and innovation when it comes to RTTY contesting. With our operating region including Silicon Valley, we have a membership rich in technical expertise as well as outstanding radio operating experience. RTTY contests like ARRL RTTY Roundup are a wonderful opportunity to demonstrate our ability to fuse computer technology and amateur radio contesting to set the bar for this mode.



Northern California Contest Club

Excellence In Amateur Radio Contesting

Officers:

President	Chris Tate	N6WM	ctate@ewnetinc.com
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Thursday Night Contesting:

NCCC—Sprint	Ken Keeler	N6RO	kenkeeler@jazznut.com
NS Ladder	Bill Haddon	N6ZFO	haddon.bill@gmail.com
Slow NS (SNS)	Chris Tate	N6WM	ctate@ewnetinc.com

NCCC Net

Thursday 8 PM
3610+/-

NCCC

Monthly meetings
take place on the
second Monday of
each month !

Details [here](#)

NCCC Membership Information

If you wish to join NCCC, you must fill out an [application for membership](#), which will be read and voted upon at the next monthly meeting. ([PDF application form](#))

To join, you must reside within [club territory](#) which is defined as the maximum of:

- Northern California, anything north of the Tehachapi's up to the Oregon border, and
- A part of north-western Nevada (anything within our ARRL 175-mile radius circle centered at 10 miles North of Auburn on Highway 49).

Along with just being fun, the RTTY mode, and the ARRL RU in particular are great training platforms for some of the more advanced contesting techniques such as SO2R, call stacking, etc. It's my hope that many of you will take advantage of this and join me in getting on board for this team effort. I was pleasantly surprised to sit in the chair at N6RO in 2010, and with little or no SO2R experience, exceed the then Pacific Division record. So the big question is which KB'er will take it down this year? Perhaps it will be you and in the process you will be assisting with the team effort as well!

I look forward to seeing you all at this years holiday party, and then a few weeks later, work along side you to take back the RTTY RU gavel!

I wish all of you, my friends and colleagues in Amateur Contesting a wonderful holiday season, and a happy new year!

73 ES KB
Chris
N6WM
President



JUG Articles wanted !



Co-editors Ian W6TCP and Stu K6TU have extended the JUG content with a lot of new material contributed by NCCC members.

We continue to need articles, Technical, DXpeditions, Field / Equipment reviews and any other articles of interest to members so we can continue to improve the quality of JUG.

JUG deadline is the 28th of each month and you would assist us if you can sent us content that would be of interest to the NCCC membership.

Thank you,
Co-editors Ian W6TCP and Stu K6TU

VP/CC Corner

Tempus Fugit! Here we are two months into the full contest season and the end of the year approaching. It's time to start planning for the January contests and the ARRL RTTY Roundup!

Hopefully you saw the message to the NCCC Announce mailing list regarding club participation in the 2012 ARRL RTTY Roundup and the new awards that we have put in place for this event. The purpose of the new awards is to reinforce NCCC's goals with a renewed focus on self improvement and competitive spirit.

You can find a complete version of the ARRL RTTY Roundup message in the article later in this issue of the JUG. As you can see, we have raised the bar to see whether we can set a new record in the Unlimited Club category for this contest. To give ourselves a fighting chance of hitting that objective, we need to get at least 100 KB'ers on the air and submitting logs for the contest. We had 86 submitted logs in 2009 when we established the current record so we have a good shot on goal for 2012!

We'll also have improved propagation in our favor to help further improve QSO counts and rates. Remember that in RTTY RU you can work a station once per band, multipliers are 48 US States, Canadian Provinces and DXCC entities (Hawaii and Alaska count as DXCC entities). With DXCC entities counting as multipliers, the improved propagation especially on the higher bands will help add to our average score per log.

RTTY is a fun mode to operate and personally at least, a much lower fatigue factor per BIC hour than the other modes—especially if you operate with low frequency tones and keep the volume turned down low!

It will be great to have YOUR support in this contest! The new awards establish goals for individuals, host stations as well as for the overall team objectives. **All logs contribute—no matter how large or small!** Please visit the signup sheet on the NCCC web site and let us know about your participation.

<http://nccc.cc/2012-rttyru.html>

If you haven't operated RTTY and need help sorting out the software configurations or radio interfacing issues, help is available! There's space at the end of the signup form for comments or identifying what kind of help could get you on the air!

The new year also brings around the CQ WPX events—always a great series of events for NCCC so watch for more opportunities for club competition and friendly rivalry in 2012 around these events.

Thanks for all your support in 2011—both in contesting and helping me personally get up to speed in my role as VP/CC.

Best wishes for the Holiday Season and may 2012 bring us health, happiness, good fortune... and even more sun spots!

73 & KB!

Stu K6TU
VP/CC

November NCCC Meeting Report

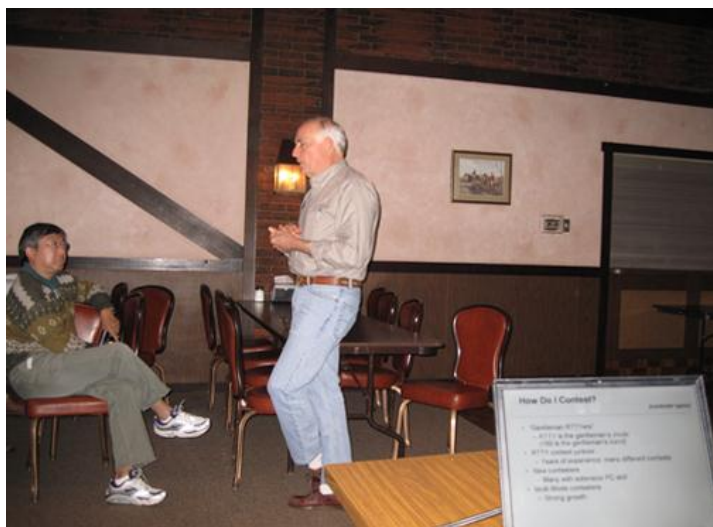
The November meeting was held at Harry's Hofbrau in San Jose and was attended by over 60 NCCC members.

The meeting started with the nomination and approval of over 10 new members, many of which had applied for NCCC membership at this year's Pacificon held in Santa Clara. Welcome to all those new members and we look forward to seeing them both in contests and at club meetings.

Stu K6TU as VP/CC kicked off the meeting with an update on NCCC entries in the CW portion of this year's ARRL Sweepstakes and then described the NCCC planned participation in the 2012 ARRY RTTY Roundup. You can find more information on this topic in the article on ARRL RTTY RU later in this edition of the newsletter.

Stu then introduced Ed Muns W0YK for the main program of the night.

Many of you know that Ed is the Contest Director for the CQ WW RTTY Contest as well as being a world class RTTY contest competitor. As a Contest Director Ed is involved not only in the adjudication of contest results but also in helping maintain compliance with contest rules—rule compliance especially in a distributed event like a radio contest and its lack of formal referees, relies heavily on the ethics and operating practices of each competitor.



Just because a particular practice isn't explicitly covered (either included OR excluded) in contest rules, doesn't mean that practice is ethical and within the spirit of the contest rules. A recent article in the Sep/Oct 2011 NCJ ("*Contest Ethics—Another View by Hal Kennedy N4GG*") summed up the practice of ethics by quoting the "New York Times front page test":

"If you would be embarrassed to have what you have done (or are thinking of doing) show up on the front page of the New York Times (or QST or NCJ for that matter), then it's probably unethical."

To illustrate where ethics and rules can run into gray areas, Ed started his presentation for the evening with a number of questions from the CQ Magazine "Contest Fairplay" presentation. These questions highlighted areas where there is clear distinction between rules and ethics as well as other areas that were much less clear. The presentation created some spirited discussion and provided much "food for thought".

Ed then moved to his main presentation of the evening on RTTY Hints & Kinks with a focus on participating in the upcoming 2012 running of the ARRL RTTY Roundup. We hope to have Ed's presentation up on the NCCC website as a resource for those KB'ers who want to join in the club RTTY RU participation for 2012!

The next club meeting is the annual Holiday Dinner on December 12th—RSVP's to Treasurer/Secretary Tom N3ZZ at nccc.n3zztreasurer@gmail.com—details can be found on the NCCC web site at:

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

2012 ARRL RTTY Roundup & NCCC

Stu Phillips—K6TU
VP/CC

ARRL RTTY RU in 2012 is an NCCC feature event and one where we would like to make a serious club effort. We will target the Unlimited Club category which we first entered in 2009. We currently hold the Unlimited category record of 3,307,797 points that was set with 86 submitted logs from NCCC in 2009.

Next year the contest is scheduled for the weekend of January 8th and 9th 2012.

Start: 1800 UTC Saturday 1/7/2012

End: 2400 UTC Sunday 1/8/2012

NCCC has three goals as a contest club:

- To promote the fun, satisfaction and competitive thrill of radio contesting
- To help our members develop their operating and technical skills to become better contesters
- To win the club competition of major amateur radio contests

In support of these goals we want to encourage participation and intra-club competition so the running of this contest in 2012 will see NCCC introduce three new award programs..

Individual participation—Operators & Station hosts

NCCC is introducing the RU awards—parallel to the KB awards for ARRL Sweepstakes participation, the RU awards will have the same qualification levels for both individual participation and for station hosts. The RU qualification levels will be the same as the KB awards with the exception that QSO counts are based on a single contest (ARRL RTTY RU) and not the combination of both CW and SSB SS events.

Team participation

We want to set a goal to significantly raise the bar for NCCC's participation in RTTY and set a new record with a substantial margin over our current record. If we set a new record of 3,750,000 points or more, each participant who submits a log to the contest will receive an award for team participation.

Intra-club competition

NCCC wants to promote the spirit of competition not only with other contest clubs but also among its members. We believe that friendly rivalry and achievement will help provide a framework to encourage operating and technical skill improvement.

For the 2012 RTTY RU, NCCC will sponsor the following awards for participating NCCC members.

- Top high power Single Operator scorer within NCCC Territory
- Top low power Single Operator scorer within NCCC Territory
- Top high power Multi-Operator scorer within NCCC Territory
- Top low power Multi-Operator scorer within NCCC Territory
- Highest scorer in NCCC Territory for the HOST station owner

Also in 2012, we want to encourage prior participants to rejoin the fray and help NCCC KB! For this purpose there will be two additional awards in 2012 for members within NCCC territory who participated in 2009's record setting entry BUT who did not participate in either 2010 or 2011 ARRL RTTY RU.

- Highest score returning operator
- Highest score returning station host

How can we help?

NCCC has a tremendous mind-trust of experience and knowledge that is available to help. If you would like to participate in the club effort for ARRL RTTY RU but need help in any area, please let us know! Help and assistance is available –for example...

- Setting up a station for RTTY the first time
- RTTY operating procedures
- Solving station problems (RFI, BCI, equipment problems...)
- Solving antenna problems or getting better (more!) antennas in the air
- Computer logging software challenges
- ...

Practice Opportunities

We will also organize practice sessions for NCCC members before the contest in January.

How to participate?

To help coordinate club effort and provide assistance where we can help, there is a sign up form on the NCCC web site at:

<http://www.nccc.cc/2012-rttyru.html>

Please take a moment and review the scores from ARRL RTTY RU from 2009-2011 and then submit your sign up entry using the form. There is an area on the form for indicating areas where assistance could be helpful to you. The sign up forms will be consolidated by Stu K6TU and John K6MM.

NCCC participation in this contest will be coordinated by Stu K6TU and Dean N6DE – we hope you will support NCCC in this club effort and look forward to helping in anyway we can!

Tech Tips—Stu K6TU

Only one tip this month – please send your technical tips and ideas to Stu for publication in the JUG.

Resources for antenna hardware—Stu K6TU

If you are involved with antenna construction or repair, you are likely already familiar with resource such as DX Engineering for aluminum tubing, stainless steel V clamps etc. Here are a couple of additional resources you might less familiar with...

If you are in the middle of an antenna project and are confronted by missing stainless steel hardware such as fasteners or element clamps (“Jubilee clips” for those of British origin amongst us), West Marine (www.westmarine.com) with 10 stores scattered around the NCCC territory carries a wide range of stainless steel hardware in multiple different grades. They carry a much more extensive set of SKUs than any of the regular hardware stores and have extended opening hours at weekends. Very useful when you find yourself missing half a dozen parts midday Sunday as I did last weekend! Their prices are comparable with online sources such as DXE.

Another source of tubing, sheet metal or heavy duty structural steel is Online Metals at (www.onlinemetals.com). I recently needed a length of thick walled steel pipe with a much higher rating than typically carried by local steel distributors. I was able to find exactly the grade of steel I needed at Online Metals and even with the UPS ground shipping costs, found their prices to be competitive (especially when the local options appeared to be NIL!). OLM carries a wide range of metal products including stainless steel, aluminum all the way to slightly more exotic stuff like titanium and magnesium.

NCCC Officers & Directors

Call for Nominations/Volunteers for Contest Year—2012-2013

The April 2012 meeting of NCCC will include the election of a new slate of Officers and Directors for the 2012-2013 contest year. The NCCC board of directors would like to open the election process for the upcoming year with a call for nominations or volunteers for this next year.

Being involved in the behind-the-scenes activities of NCCC is a rewarding experience and an opportunity to “give back” to the club. No formal qualifications are required beyond being a current member of the club.

We hope that members will consider volunteering or nominating other members for either general roles on the board or specific positions. If you thinking of nominating someone other than yourself, please check with that person to establish their willingness to serve before putting their name forward.

Please send your nominations/volunteer to Chris N6WM, NCCC President.

If any candidate/nominee would like to share their opinions, goals or objectives for their potential term of office, first send your nomination to Chris and then write a short article for publication in future issues of the JUG that will be published before the April election (January through March editions). Please send your article to JUG co-editors Ian W6TCP or Stu K6TU.

Key Your Transceiver DVR Messages from the Keyboard

Ron Lodewyck N6EE and Iain MacDonnell N6ML

Many modern transceivers include (perhaps optional) a Digital Voice Recorder (DVR), which can record and play back voice messages. An example¹ is the KDVR3 for the Elecraft K3. With a DVR, if you record contest exchange messages, you can play back the message by pressing the corresponding key on the front panel of the transceiver. The quality of playback is typically excellent and the messages can be easily changed, as needed, during the contest.

But you can also key these memories from your keyboard when using any of several logging programs, such as Writelog², N1MM, or DXLabs. Why would you want to do this? Mainly because the audio quality is superb and you don't have to lift your hands off the keyboard³. Yes, Writelog, N1MM and DXLabs can send voice messages using WAV files, but it is very difficult to get the audio from these files to exactly match your live microphone and they can be a hassle to set up. Messages sent via the transceiver DVR, on the other hand, sound exactly like your live microphone. This is accomplished in the logging program by creating macros which contain the CAT (transceiver control) commands⁴ to be sent to the radio. We will illustrate the concept by way of example for the Elecraft K3 in Writelog, N1MM and DXLabs and then briefly discuss how it might be done in some additional transceivers.

How to do it in Writelog

Writelog will require setup of two sections:

Writelog.ini Define the macro and its associated transceiver CAT command(s)

Message Insert the %GKn Writelog command to invoke macro n

In Writelog.ini, insert the following section immediately before any other section:

```
[Elecraft_K3_commands]
Macro_10=SWT21;
Macro_11=SWT31;
Macro_12=SWT35;
Macro_13=SWT39;
```

¹Other examples include the VGS-1 for the Kenwood TS-590 and TS-480 transceivers, the DRU-3A for the TS-2000, and the DVS-6 for the Yaesu FT-950. Several Yaesu transceivers have built-in voice memories including the FT-2000/D, FT-5000 and FT-450D

²Requires Writelog Version 10.80 or later and K3 Firmware 3.62 or later.

³While the approach described here can also be used to send CW and RTTY messages stored in the transceiver, there is no advantage in doing so since the logging program can be easily programmed to send the same messages.

⁴See your transceiver CAT or Programmer's Reference Manual for a complete list of CAT commands. This manual is available as a free download from most manufacturers' web sites.

You can string together a sequence of CAT commands. For example, if you want to clear the RIT after a message is sent, simply append the K3 command RC; for example:

```
Macro_10=SWT21;RC;
```

Will send message M1 and then clear the RIT.

In case you are wondering, Writelog reserves macro numbers less than ten for other functions; therefore the first command from this ini file section is number 10.

Now, in Writelog, under Setup ⇒ CW/RTTY/SSB Messages... Select SSB then enter the command %GKx in the desired function key to send Macro_x. For example:

```
F2:%GK10      {sends my CQ message}
F3:%GK11      {sends my exchange message}
F4:%GK12%L    {sends my Thank You message and logs the QSO}
F5:%GK13      {sends my callsign}
```

Writelog allows both K3 KDVR3 messages and sound card generated (WAV file) messages in the same log. You also have the option of keying the K3 KDVR3 messages using a keyboard shortcut instead of tying up a function key. In that case, instead of using %GKn in a function key script, you create the keyboard shortcut (Tools⇒Keyboard Shortcut) and select the "Command to run:" as "RigKbdCommand(n)," then enter the "Rig Command" number of the corresponding macro (e.g. 10 to send Macro_10). If you use more than one radio, there are other keyboard shortcut macros⁵ (other than RigKbdCommand) available which can invoke the KDVR3 on the radio with the focus.

Coordinating microphone and memory audio timing is fairly straightforward with a K3 KDVR3. For example, to use the lengthy SS Phone exchange message:

1. Step on the footswitch PTT (or trip the Vox)
2. Via the headset microphone, speak the callsign followed by the serial number.
3. Press the F3 key on the keyboard to send the rest of the exchange

"Uniform N6EchoEcho 55 SugarJapanVictor"

And let up on the footswitch anytime while the exchange message is sending (or let the Vox time out).

⁵From the Writelog Help file:

The 6 commands that start with "Rig" program a keyboard key to send a command to the rig. There are 6 different commands because there are 6 different ways to select which rig gets the command. Rig1Command(n), Rig2Command(n), Rig3Command(n), Rig4Command(n), RigKbdCommand(n), RigTxCommand(n). The first 4 send the rig command to the corresponding rig using its slot number (ordered top to bottom in the Setup/Ports dialog box). The RigKbdCommand(n) sends the command to the rig with the keyboard focus (indicated by the highlight on its Entry Window), and the RigTxCommand sends the command to the rig with the transmit focus (indicated by the green circle in its Entry Window).

If you need to immediately terminate a KDVR3 message (“Oops, wrong message!”), simply tap the footswitch, PTT, or trip the VOX.

How to do it in N1MM

The approach is very similar in N1MM Logger – function keys are programmed to send “CAT” commands to the K3, instead of playing WAV files. Function keys can be programmed manually, or by importing a file containing the required definitions. An example file:

```
F1 CQ, {CATA1ASC SWT21;} {CATA2ASC SWT21;}
F2 Exch, {CATA1ASC SWT31;} {CATA2ASC SWT31;}
F3 Thanks!, {CATA1ASC SWT35;} {CATA2ASC SWT35;}
F4 {MYCALL}, {CATA1ASC SWT39;} {CATA2ASC SWT39;}
F5 -, -
F6 RptCQ, {CATA1ASC SWH21;} {CATA2ASC SWH21;}
F7 REC, {CATA1ASC SWT37;} {CATA2ASC SWT37;}
F8 -, -
F9 -, -
F10 -, -
F11 -, -
F12 STOP, {CATA1ASC RX;} {CATA2ASC RX;}
```

To use this, save it as a text file named “ssb-k3dvr.mc”, and import it to N1MM Logger via File → Import → Import Function Keys from File → SSB Function Keys...

This programs the F1 thru F4 keys in N1MM Logger to map to the M1 thru M4 buttons on the K3. F6 emulates holding M1, which causes the CQ message to be repeated (by the K3). F7 emulates the REC button (use with caution!). F12 sends a “RX” command to the K3, which will cause playback to stop immediately.

With N1MM Logger version 11.11.2 (or newer), playback (or repeat) can also be stopped immediately by striking the Escape key.

Messages can be recorded using the buttons on the K3, or using the F7 key. e.g. to record your CQ message, hit F7 then F1, speak your message, then hit F1 or F7 to end recording.

The above definitions should, theoretically, work for SO2R, as it sends the command to whichever radio is “active” (i.e. has TX focus), but this has not been extensively tested. If your second radio is not a K3, but some other rig that supports this mechanism, you could try changing the “CATA2ASC” symbols to use the appropriate “CAT” commands for that rig.

This mechanism can even be used with N1MM Logger’s ESM (Enter sends message) mode. When running, hit Enter to CQ. When someone responds, use your footswitch and speak their callsign and the variable part of the exchange (e.g. serial number), then hit Enter to send the recorded fixed part of the exchange (class, your call, check, section). After receiving their exchange, hit Enter again to send your “thank you” message.

More detail, and a downloadable function key definition file can be found at

<http://www.dseven.org/ar/n1mm-kdvr3>

How to do it in DXLabs

While DXLabs is not a robust *contest* logger, it is a very popular, and FREE, logging suite of programs used by many DXers, and it does have limited contest logging capability. Its inclusion in this discussion is primarily to provide an additional example of using CAT commands to trigger the DVR from a keyboard.

DXLabs WinWarbler includes a very rich set of macro commands, including transceiver control. To send a transceiver CAT command, simply use `<xcvrcommand: 'xx'>`, where xx is the desired CAT command in ASCII format. For example, to send the M1 message on the K3, create a macro button (hold the Control key while tapping the desired macro button):

```
<xcvrcommand: 'SWT21;>
```

Note the mandatory space after the colon and before the apostrophe.

K3 KDVR3 Bank 2 Messages

The K3 KDVR3 has a total of eight message memories which are organized as two banks of four. The K3 is normally in Bank 1; if you press M1, you get Bank 1, message 1. If you Hold the Rec button (not Tap), the K3 switches to the Bank 2 messages; so if you then press M1 you will get Bank 2, Message 1. To return to Bank 1 you Hold Rec again.

This would suggest that you can send any of the eight KDVR3 messages from the keyboard. But we haven't been able to do so in Writelog or N1MM. You might think you can program a Macro in Writelog.ini as follows:

```
Macro_14=SWH37;SWT21;
```

This works – sort of. The K3 command SWH37; will switch the message Bank and then send the M1 message. The problem is twofold – first, if you then want to send a Bank 1 message (like the Exchange message in Bank 1 M1), the K3 will send the Bank 2 message and not the Bank 1 message. Second, if you want to repeat the Bank 2 M1, you would switch back to Bank 1 and send M1. OK, so what about switching back to Bank 1 every time you send a Bank 2 message – like this:

```
Macro_14=SWH37;SWT21;SWH37;
```

This doesn't work either because the second SWH37; Switch Bank command gets executed a fraction of a second after the message starts and immediately terminates the message! What is needed is a time delay after invoking the send message command sufficient to allow completion of the message before switching banks. We tried various schemes for inserting a time delay between sending the message and switching the Bank in both Writelog and N1MM, but none were successful. The net result is that you can only use one bank of four KDVR3 messages in either Writelog or N1MM.

However, DXLabs does provide a time delay command which makes it possible to send any of the eight K3 KDVR3 messages. Here's the command to send M1 in Bank 2 and return back to Bank 1:

```
<xcvrcommand: 'SWH37;><xcvrcommand: 'SWT21;><delayedxcvrcommand: 'SWH37;, 2000>
```

Other Radios

The table below lists the CAT commands we believe will trigger the DVR in a variety of radios. These commands were gleaned from the CAT Command Reference manuals published by the radio manufacturer. We have NOT tried most of these commands, so try them at your own risk.

Radio	CAT Commands
Kenwood TS-480 with VGS-1	PB1; thru PB3;
Kenwood TS-590 with VGS-1	PB1; thru PB4;
Kenwood TS-2000 with DRU-3A	PB1; thru PB3;
Yaesu FT-2000/D	PB01; thru PB05;
Yaesu FTDX-5000	PB01; thru PB05;
Yaesu FT-450	PB1; PB2;

Other Uses

As a final note, you can use either the Writelog or N1MM macro definition approach discussed here to control pretty much anything on the Elecraft K3 or other software-defined radios. With Writelog, for example, you could set up a function key to narrow the bandwidth down to 1.8 KHz:

```
Macro_15=FW1800;
```

Or change to Antenna 2:

```
Macro_16=AN2;
```

Or to tap the CW Auto Spot button:

```
Macro_16=SWT42;
```

As pointed out earlier, a Writelog macro can be assigned to either a function key or any unused key on the keyboard via the Keyboard Shortcuts tool.



Contest Calendar—December page 1

QRP ARCI Topband Sprint	0000Z-0600Z, Dec 2
QRP Fox Hunt	0200Z-0330Z, Dec 2
NCCC Sprint	0230Z-0300Z, Dec 2
ARRL 160-Meter Contest	2200Z, Dec 2 to 1600Z, Dec 4
ARA RTTY Melee	0000Z-2400Z, Dec 3
Wake-Up!QRP Sprint	0600Z-0629Z, Dec 3 and 0630Z-0659Z, Dec 3 and 0700Z-0729Z, Dec 3 and 0730Z-0800Z, Dec 3
TOPS Activity Contest	1600Z, Dec 3 to 1559Z, Dec 4
AWA Bruce Kelley Memorial CW Contest	2300Z, Dec 3 to 2300Z, Dec 4 and 2300Z, Dec 10 to 2300Z, Dec 11
10-Meter RTTY Contest	0000Z-2400Z, Dec 4
ARS Spartan Sprint	0200Z-0400Z, Dec 6
QRP Fox Hunt	0200Z-0330Z, Dec 7
QRP Fox Hunt	0200Z-0330Z, Dec 9
NCCC Sprint Ladder	0230Z-0300Z, Dec 9
ARRL 10-Meter Contest	0000Z, Dec 10 to 2400Z, Dec 11
CWops Mini-CWT Test	1300Z-1400Z, Dec 10 and 1900Z-2000Z, Dec 10 and 0300Z-0400Z, Dec 11
International Naval Contest	1600Z, Dec 10 to 1559Z, Dec 11
NA High Speed Meteor Scatter Winter Rally	0000Z, Dec 11 to 0700Z, Dec 18
SKCC Weekend Sprint	0000Z-2400Z, Dec 11
CQC Great Colorado Snowshoe Run	2100Z-2259Z, Dec 11
NAQCC Straight Key/Bug Sprint	0130Z-0330Z, Dec 14
QRP Fox Hunt	0200Z-0330Z, Dec 14



Contest Calendar—December page 2

CWops Mini-CWT Test	1300Z-1400Z, Dec 14 and 1900Z-2000Z, Dec 14 and 0300Z-0400Z, Dec 15
NAQCC-EU Monthly Sprint	1800Z-2000Z, Dec 14
QRP Fox Hunt	0200Z-0330Z, Dec 16
NCCC Sprint Ladder	0230Z-0300Z, Dec 16
Russian 160-Meter Contest	2100Z-2300Z, Dec 16
AGB-Party Contest	2100Z-2400Z, Dec 16
OK DX RTTY Contest	0000Z-2400Z, Dec 17
RAC Winter Contest	0000Z-2359Z, Dec 17
Feld Hell Sprint	0000Z-2400Z, Dec 17
Lighthouse Christmas Lights QSO Party	0001Z, Dec 17 to 2359Z, Jan 1
Croatian CW Contest	1400Z, Dec 17 to 1400Z, Dec 18
Stew Perry Topband Challenge	1500Z, Dec 17 to 1500Z, Dec 18
ARRL Rookie Roundup, CW	1800Z-2359Z, Dec 18
QRP ARCI Holiday Spirits Homebrew Sprint	2000Z-2400Z, Dec 18
Run for the Bacon QRP Contest	0200Z-0400Z, Dec 19
QRP Fox Hunt	0200Z-0330Z, Dec 21
QRP Fox Hunt	0200Z-0330Z, Dec 23
RAEM Contest	0000Z-1159Z, Dec 25
DARC Christmas Contest	0830Z-1059Z, Dec 26
SKCC Sprint	0000Z-0200Z, Dec 28
QRP Fox Hunt	0200Z-0330Z, Dec 28
CWops Mini-CWT Test	1300Z-1400Z, Dec 28 and 1900Z-2000Z, Dec 28 and 0300Z-0400Z, Dec 29
NAQCC Straight Key/Bug Sprint	0130Z-0330Z, Dec 29
QRP Fox Hunt	0200Z-0330Z, Dec 30

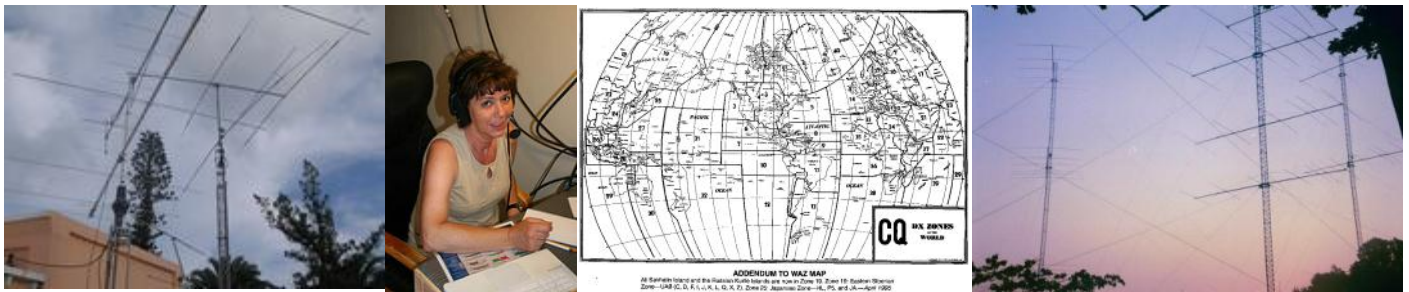


Please consider writing an article for JUG !

January 2012 Newsletter Deadline—December 28th

This is your newsletter so lets make it something we are proud of. I hope you will consider writing an article for the JUG! Whether its about your station, recent contest experience or a technical article we would appreciate hearing from you.

Send your articles to Ian W6TCP w6tcp@comcast.net and Stu K6TU stu@ridgelif.com



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