



NCCC Net
Thursday 9PM
3830+/-

**Saturday, July 19, 2003 – 12 Noon - 4th Annual
Joint NCCC/MLDXCC Meeting in Jackson**

This meeting will be a barbecue and potluck. Grilled chicken breasts and beef tri-tip, condiments, buns and plates/ utensils will be provided by the MLDXCC. NCCC will provide soft drinks and other non-alcoholic beverages. Bring the following based on the first letter of the suffix of your call sign:

- A-G- Salad (potato, macaroni, fruit, green, etc.)
- H-N- Relishes (pickles, olives, carrot sticks, veggies w/dip)
- O-U- Desserts (simple desserts, cookies, fresh fruit)
- V-Z- Chips/dips/salsas

Doug Faunt, N6TQS, will present a program about the recent S05X, XR0X, VP6DIA and other expeditions. For directions, please visit our NCCC web site at:

<http://www.nccc.cc/meetings.html>. Talk in on Amador County ARC repeater, K6ARC, 146.835 –600 kHz. (100 Hz. PL, if in use). Alternates; W6SF, 146.165 +600 or 146.52.

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**Whence the Next Generation
By Steve Dyer, W1SRD**

Have you ever seen one of the “If You Were Born After” lists? You know the drill; if you were born after nineteen something you never knew a world without TV or VCR or DVD, etc. Interestingly, the lists always seem to relate to technology and the social changes those technologies affect.

What I find significant is the perspective of those born before is completely different than those born after. Now you ask what the heck does that have to do with amateur radio and more specifically contesting? A lot. A whole lot.

We’ve all discussed the graying of ham radio and more specifically contesting. In fact Bill, N6ZFO, presented interesting numbers that examined year first licensed as compared to log submissions at a recent NCCC meeting. Unfortunately, his study did not contain any age correlations that are the meat of the issue in my mind. My sense is licensing of those under 20 is very small these days. Anyone have any data? I do know that when I got my ticket, the Novice class at the local ham club was packed with teens.

Many of us entered the hobby in the 60’s and 70’s as an outlet for our nascent technical interests. When I got interested in things electronic, there was

no other “technical” hobby within reach of a teenager. What would we do today? I sure know what would capture my interest and imagination! Computing and the Internet. What engagement! What magic! A global network of computers and people I can access (reliably) anytime and anywhere from my room. Using my computer, I can connect instantly to other people around the globe. Sounds familiar, doesn't it. Same appeal, different (better) implementation.

Can amateur radio compete for the attention of a new generation amidst the many compelling choices they now have? I believe it can.

In an era of instant global communication, one of the romantic and very appealing aspects of our hobby seems to have lost its shine when we try to explain our passion to others. Using a cell phone, I can call from anywhere to anywhere inexpensively. I remember my sister-in-law staring blankly as we tried to explain our excitement about DX'ing and contesting. Her response, “Why don't you just call them on the phone?” She didn't get it. She didn't see it as anything special, and I certainly don't blame her. From her perspective, it was no big deal.

Can anyone “born after” get it? I think they can, but it requires us to rethink our approach to promoting amateur radio and more specifically, contesting, to the next generation of contesters.

Hey, any kid that can sit for hours in front of the monitor playing shoot 'em up games is prime meat to be a contesteer in my book!

NCCC can be a real leader to evolve the message and the methods to attract the next generation of contesters. Let's put our collective heads together and create programs that speak the language the next generation understands. It is our responsibility to seed the ground and foster the future of contesting. Sunday is just getting too slow!

73 es KB,
Steve W1SRD

Contest Rumbblings from the VP/CC

By Al Maenchen, AD6E

Field Day is just over as I write this. I hope you had fun and were able to meet new hams or even old hams for that matter. For the past dozen or so years, I've been doing FD with the San Jose State University group, W6YL in full blown 2A, serious competitions. We did place in the top 10 a while back and were usually #1 west of the Rockies. However, the group fell apart after gaining top 10 status, and this year W6YL was not heard on the bands.

As I had no plans of my own, W6RGG invited me to join the Alameda County Sheriff's Emergency Operations Center (EOC) team, W6VOM. This turned out to be a much different sort of Field Day compared to what I was used to. They had indoor plumbing (!), air conditioned spaces, PG&E power ... gosh!

They also had a good-sized group of not-too experienced operators to fill out the operating positions. Bob was super busy getting things organized and helping these guys n gals get radio-active. For my part, Bob wanted me to get on CW and fill out these funny paper log things. Paper logs! Remember those? Dupe

sheets? Wow! You can really appreciate what computer logging does for you only when it isn't available.

I haven't heard about any other Field Day adventures yet so I can't report them. Please write up a paragraph and put it on the reflector if you haven't already.

In July, we have the IARU and the RTTY version of the NA QSO Party. IARU is a great summer contest with a lot of activity. In early August, we have the CW version of the NA QSO Party. For these events, we'll organize NCCC teams based on last year's efforts. Team leaders will be announced on the reflector soon. KB!



Dean Wood, N6DE, doing some 160m operating down in the Louisiana Bayou, but who is the true "gator"?

Madame BEE's Tease

*There once was a brave soul named Rusty
Who stepped up to Chair SS (that's gutsy!)
Behind him let's stand
And use voice and hand
We can win, just do it, and trust me!*

Getting Started on RTTY By Bryan Preas, AC6JT

There are many reasons to enjoy RTTY contesting. Digital communications have always fascinated me. I was an Army Signal Corp officer in the late 60s when we had rooms full of mechanical Teletype machines. My first real job was programming the early, long haul, data transmission controllers for Bell Labs in the early 70s.

I got my Amateur license so I could become better grounded in DSP hardware and algorithms when I started working on 155 Megabit/second Asynchronous Transfer Mode switches in the early 90s. RTTY contesting began as a way to test my progress in the DSP area, but I continued because it was really fun.

Whatever the reasons, RTTY is a fascinating and rapidly growing contesting mode. There has been a 60% increase in RTTY contest participation on the last five years (based on logs submitted for the 1998 vs. the 2003 RTTY Roundups, <http://www.arrl.org/contests/results/>). Don, AA5AU, a perennial RTTY contest winner, estimates that he sees 8% - 10% new call signs each contest, http://www.aa5au.com/rtty_start.html .

This article is written for CW and SSB contesters who want to get started in RTTY contesting. I assume that readers have some familiarity with radios and computers. If you are already an RTTY contesting, you won't learn much from this article, but please read it anyway and send me your comments. I don't claim to be an authority and am always willing to learn something new.

There are a lot of RTTY tutorials and contesting information on the web. I'm not going to repeat that here. In fact, this article has no original content. I will provide a brief introduction to things you really need to know to start RTTY contesting and a guide to material on the web. As you read this, you'll see that I'm not shy about giving opinions. Likewise, you shouldn't be shy about questioning my opinions, publicly or privately.

Fast Forward

For those of you who are comfortable with a mainstream approach and want to cut to the chase, I suggest that you start with MMTTY. It performs well and it's free. This is a quick way to your first RTTY QSO. Don, AA5AU has provided instructions to get started with MMTTY. Go to <http://www.aa5au.com/rtty> and follow the links in the *Getting Started on RTTY* section.

Once you have made a few MMTTY QSOs, I suggest that you download and install WriteLog. You'll need to register it before you can use it. Follow Don's instructions at <http://www.rttycontesting.com/rttystarter00.html> to get started. More setup help can be found at <http://www.k9jy.com/>. Follow the *Getting Started*, *Universal Setup* and the *Sound Cards* links. You can be contesting next weekend.

For those of you, who want more information before investing your time and money in an RTTY approach, read on.

Background

As you progress in your RTTY contesting career, you'll need to know a lot about RTTY modulation, conventions and operations. However, most of this can wait until later. For now, all you really need to know is that you will want to use both FSK and AFSK modulation types, so build or buy a modem/radio interface that enables both.

RTTY background information can be found at these sites:

- RTTY Tutorial - by K4WW, http://www.rttyinfo.net/rtty_tutorial.htm
- Digital Modes - AMTOR, Packet, RTTY, TCP/IP, <http://www.arrl.org/tis/info/digital.html>
- RTTY - <http://home.teleport.com/~nb6z/rtty.htm>

What You Need

For RTTY contesting, you will need the following items:

- A reasonably modern radio,
- A reasonably modern computer,
- An RTTY enabled contesting program,
- A modem to modulate/demodulate the RTTY signals, and
- An interface between the modem and the radio.

Most testers have a suitable radio and computer so I'll not discuss those items. The latter three items are specialized for RTTY contesting, so I'll discuss each of these items in more detail.

The most important decision that you must make is selecting a RTTY contesting program. You'll spend many hours interacting with this program via countless keystrokes and mouse clicks. My advice: don't base the decision on cost. Base it on which program puts the most points in the log.

SK3BG has a summary of contesting software at <http://www.sk3bg.se/contest/software.htm>. Follow the links under *Software Info*. Here are the programs with which I am familiar.

- WriteLog, www.writelog.com is a well-supported Windows program with a large following. It has great functionality and a lot of third-party support. This is the standard of comparison. Many contest modules are available. K9JY has a great WriteLog help site, <http://www.k9jy.com/>. Be sure to look at the *Getting Started* and *Universal Setup* links on the K9JY site. See <http://www.rttycontesting.com/rttystarter00.html>. Initial registration is \$75 and updates are \$30.
- RCKRtty, <http://www.rckrtty.de/> is a Windows program with has a large following in Europe. Registration is \$45 and updates are \$15.
- RTTY by WF1B, <http://www.rttyinfo.net/downlods.htm> is a DOS program that is now showing its age. Modern contesting programs provide a lot more functionality. I used it for a long time in the DOS box under Win95 (until its DOS roots and PC hardware incompatibilities

made my station too hard to maintain). See <http://www.guernsey.net/~pcoop er/emulate.html> for info on getting MMTTY and RTTY to function together. Refer to <http://www.rttyinfo.net/wf1bmas.html> by N1RCT. This was written for version 3, but most of the information is still correct. This program is in the public domain (even the source code).

- OH2GI-Ham System, <http://www.kolumbus.fi/jukka.kallio/> runs under DOS (or the DOS box under Windows 95/98). I have no experience with program, but see a review at <http://www.rttyinfo.net/oh2gi2.html>. The shareware price is \$50.

I use WriteLog and recommend that you do also. Most competitive RTTY testers use it. The learning curve can be steep, but I think, worth it.

A modem can be implemented in either hardware or software. Most people use a software modem to start. Some RTTY contesting programs have a built-in RTTY modem. For example WriteLog includes WinRTTY. If you choose WriteLog as your contesting program, you should certainly start with this modem. It's easy to add or change modems later.

Many testers use MMTTY, <http://www.qsl.net/mmhamsoft/mmtty/>. It is a software modem that can be used alone or as a plug-in with other programs. It performs really well and it is free. The manual is at <http://members.cox.net/w0eb/mmtty.pdf>. If you want to try out the RTTY mode without the complexity of setting up a contesting program, then download and

install this program. Follow the instructions at http://www.aa5au.com/rtty_start.html . Connect the headphone signal on your radio to the Line In on your sound card, and adjust the Rx signal level on your sound card mixer. You can be printing RTTY signals tonight.

For a hardware modem, I suggest the DXP38 by Hal Communications, <http://www.halcomm.com/> . For serious contesting, stay away the combination VHF/HF multimode communication processors. I have a PK-232 DSP, <http://www.timewave.com/>, and a Kam 98, <http://www.kantronics.com/kam98.htm> . Both are deaf compared to my DXP38 or to the modern software modems.

A Modem/Radio Interface

You will need to connect your modem to your radio. If you have a hardware modem, the interface is just a few wires and connectors. Find the interface diagrams for your modem and your radio, buy the appropriate connectors and solder them together.

For software modems, you will need to make the following connections:

- Your radio's Rx audio to the Line In of your sound card,
- Your sound card's Line Out to the Tx audio of your radio (Not needed if you only run FSK),
- A PTT connection. Most software modems use RTS or DTR on a serial port or a pin on a parallel port to drive the PTT line on the radio.
- An FSK connection. (Not needed if you only run AFSK.) Most programs use the Tx line of a serial port for the FSK signal.

Some people use the microphone connector on the radio, but I suggest that you use the accessory port on the back of your radio. If you use the accessory connector you won't have to change the station wiring to switch to SSB. Also, the microphone connector doesn't have an FSK signal pin.

There are some *gotchas* that trap the unwary. The typical radio doesn't have a VOX circuit on the accessory port. You have to drive the PTT line in order to transmit. Another issue is that most serial ports on the USB port expanders don't faithfully implement the required RTTY timing (5 data bits and 45.45 baud for the *technojunkies*) so you can't use one of these serial ports to drive the FSK signal. Use a serial port on your computer's motherboard or on an internal, serial port expansion card to drive the FSK line.

The conventional wisdom says you should have isolation transformers on the audio lines and optoisolators on the digital lines. Lots of people don't use isolation and have no problems. I always do. It's your money and your time.

I've always made my own interfaces. There are many designs on the web:

- Sound Card Interfacing, <http://www.w5bbr.com/soundbd.html>
- TS-850S Soundcard Interface with FSK by K0BX, <http://www.qsl.net/k0bx/>
- PTT/FSK Circuits, <http://www.rttyinfo.net/rit2/pttfsk.html>
- Sound Card Interfacing, <http://www.qsl.net/wm2u/interfa.html> . This page also has

links to accessory port pin outs for the popular radios.

- And many others.

If you want to buy rather than build, look at the offerings below. There is an interface summary at

<http://www.waypoint.com/users/~discobay/download/FeetwetSEAPAC.pdf> .

- Bux CommCo, <http://www.packetradio.com/psk31.htm>. There have been some complaints about service on eham.net, but the price is right.
- Bux CommCo, <http://www.packetradio.com/rascalmkv.htm>. This is the deluxe model. You must buy a cable for your particular radio also.
- Signal Link SL-1, <http://www.tigertronics.com/slmain.htm>. This interface attaches through the microphone connector. There is no serial port connection so there is no FSK connection and the PTT timing (produced by a built-in VOX circuit) is uncertain.
- KK7UQ has an interface kit, http://www.waypoint.com/users/~discobay/amateur_radio.htm . I haven't used it, but it looks nice. Check out Clint's *Presentation* links also.
- West Mountain Radio, <http://www.westmountainradio.com/> , Note: only the more expensive models have both PTT and FSK.

For what it's worth, I'd choose the Bux CommCo deluxe model.

Setting Up Your Station

I hope that I haven't lost too many of you. If you are still with me, you know enough about RTTY contesting

software, modems, and interfaces to choose the components for your RTTY contesting station. Now it's time to download (and register, if necessary) the software, and build or buy the interfaces.

After you connect everything, you still need to set the audio levels at the modem / radio interface. If you have a hardware modem, follow the instructions in the manual. If you're using a software modem, you need to set the Tx and Rx sound card levels. Here are some sound card setup links.

- The MMTTY manual is at <http://members.cox.net/w0eb/mmtty.pdf> .
- There is a good sound card setup discussion at <http://www.k9jy.com/> . Follow the *Sound Cards* link in the left frame.
- The WriteLog Manual is at <http://www.writelog.com/Downloads/WriteLog1032.pdf> . Search for WinRTTY in the index to find the sound card documentation.

You should practice using your setup a few times before your first contest. Your soon-to-be RTTY buddies will appreciate it. Make sure you know how to transmit and log the exchanges. Don, AA5AU, posts the message buffers that he will use for the next contest. Check them out at www.rttycontesting.com . I think his messages are too short. However, he wins a lot of contests, so who am I to criticize?

Resources

There are many web resources devoted to RTTY. Here are the links that I find most interesting.

RTTY Contesting Reflector

- Contesting .com,
<http://lists.contesting.com/mailman/listinfo/rtty>. You should be on this list if you're serious about RTTY contesting.

General RTTY Sites

- Welcome to RTTY,
<http://www.rttyinfo.net/>
- RTTYContesting.com,
<http://www.rttycontesting.com/>
(Don, AA5AU, is a world-class RTTY contester and is active in helping RTTYers.)
- AA5AU RTTY Page,
<http://www.aa5au.com/rtty.html>

RTTY Contesting Sites

- RTTY Contests,
<http://home.online.no/~janalme/RTTY.html>
- World RTTY Contesting Scene,
<http://www.rtty-contest-scene.com/index1.html>
- RTTY Contesting Information,
<http://www.rttyinfo.net/contest.htm>
- RTTY Contest Rules, Results and Records,
<http://www.rttycontesting.com/records.html>

Digital Mode Introduction Sites

- Digital Modes,
<http://www.nzart.org.nz/nzart/digital/digital.html>
- WM2U's Digital World,
<http://www.qsl.net/wm2u/>
- About Digital Ham Radio,
<http://home.teleport.com/~nb6z/frame.htm>

Summary

I find RTTY contesting fun and fascinating, and I hope that you will too. I've provided some RTTY background, a guide to material on the web and tips on setting up your RTTY station. I hope you find this useful. Let me know if I can help. We can arrange a *sked* if you want to check out your setup.

If you don't have web access or a printer, let me know. I'll send you some of the material by mail or email. I can also send you this article in electronic form so you won't have to type in all the URLs. You can email me at: preas@parc.com



Raising of a triband beam at the recent W6VOM Field Day event in Alameda County.

NCCC Dues Renewal Form

If you verify that your information in the Roster is correct, then you only need to include corrected information on the form below. The latest Roster is at:

<http://www.nccc.cc/members/pdf/roster.pdf>

Call sign: _____
First name: _____
Last name: _____
Nick name: _____
Address: _____
City: _____
State: _____
ZIP: _____
Home phone: _____
Work phone: _____
email for Roster listing: _____
email for reflector subscription: _____
Web JUG only (no paper JUG): yes _____ no _____
(This saves the club expense for printing and mailing)

Dues are \$24/year for Full and \$12/year for Family, Student or Associate. You can pay multiple years in advance. NCCC fiscal years run from 1 July to 30 June. You can also donate more than your dues by specifying amounts for the General Fund and the Repeater Fund. Send this form with your check to Jig Desai.

Dues: \$ _____
General Fund: \$ _____
Repeater Fund: \$ _____
Total: \$ _____

Jig Desai, AD6TF
401 Baker Street
San Francisco, CA 94117

Contest Calendar - July / August

IARU HF World Championship	arrl.org/contests/rules/2002/	July 12-13
FISTS Summer Sprint	fists.org/	July 12
QRP ARCI Summer Homebrew Sprint		July 13
Pacific 160 Contest	wia.org.au/contests/	July 19
North America QSO Party, RTTY	ncjweb.com/	July 19-20
CQ WW VHF contest	eng.mu.edu/usislands/	July 19-20
Great Colorado Gold Rush	cqcc.org/	July 20
Russian RTTY WW		July 26-27
IOTA Contest	rsgbhfcc.org/	July 26-27
Kentucky QSO Party	qsl.net/ky4ky/	July 26-27
10-10 Summer Contest, SSB	ten-ten.org/	Aug 2-3
European HF Championship	lea.hamradio.si/~scc/	Aug 2
North American QSO Party, CW	ncjweb.com/	Aug 2-3
ARRL UHF Contest	arrl.org/contests/rules/2002/	Aug 2-3
SARL HF CW contest		Aug 3
WAE DX, CW	darc.de/referate/dx/fgd.htm	Aug 9-10
Maryland-DC QSO Party	w3cwc.org/	Aug 9-10
Perseides Meteor Shower contest		Aug 12-14
SARTG WW RTTY	sartg.com/	Aug 16-17

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