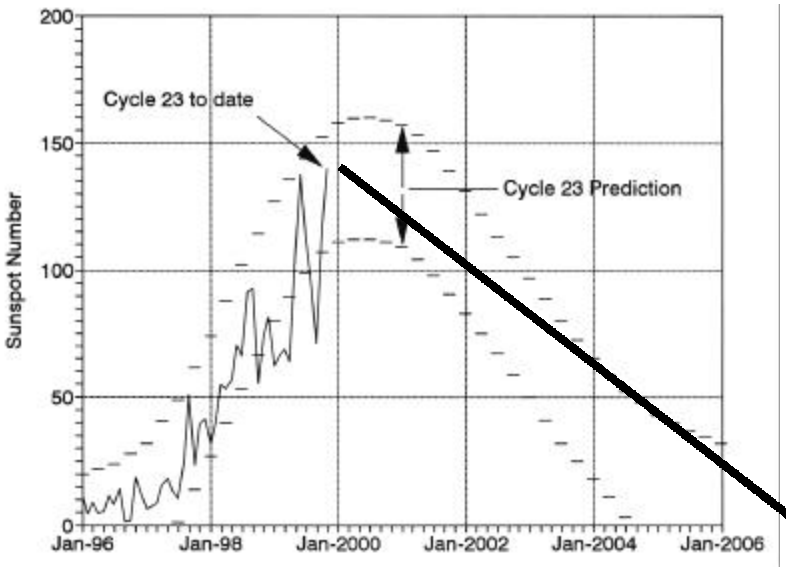
The New
RTTY *Journal* ©

P.O. Box 236, Champaign, IL 61824-0236 Volume 47, Number 4, November 1999 $5.00

Season's Greetings!



Current Status of Sunspot Cycle 23

Saint Nick projects a fantastic Winter contesting Season!

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RTTY CONTEST SCHEDULE - WINTER 1999

Date & Time	Name & Sponsors
12/18 0000 to 2400	OK DX RTTY Contest
1/1 0800 to 1100	SARTG New Year's Day Contest
1/8 1800 to 1/9 2400	ARRL RTTY Roundup
2/12 0000 to 2/13 2400	CQ/RJ World Wide WPX
2/20 0000 to 2400	Green Key Night

Dates and Times subject to change

Updated information available at:

LA9HW RTTY Page: http://home.sn.no/~janalme/RTTY.html

Jim's Gazette: http://www.n2hos.com/digital

N1RCT Web Site: http:// www.megalink.net/~n1rct

SM3CER Contest Service: http://www.sk3bg.se/contest

ARRL: http://www.arrl.org

BARTG: http://www.bartg.demon.co.uk

OR - The New RTTY Journal will airmail a printed copy to you. *For each contest,* send $3.00 for U.S., Canada, or Mexico destinations or $4.00 to other countries. Please allow 3 weeks for processing and delivery.

The New
RTTY *Journal*©

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The New RTTY Journal is a continuation of the magazine formerly known as RTTY, RTTY Journal, RTTY Digital Journal, Digital RTTY Journal, and Digital Journal.

Hits & Misses

Bill Henry, K9GWT
ghenry@advancenet.net

Here it is November, again. Time to be thinking about winter projects and activities.

Tinkering Time: Traditionally, we "Teletypers" do a lot of makin' and fixin' when cold weather hits. Oil-up the Model 15, re-wire that rat's nest of loop and audio cables, and everybody's favorite RTTY project, build another TU. Many of us built a new TU every year, and sometimes the new one actually worked better than the one it replaced! We don't hear much about RTTYers building stuff any more. Is the experimenting and tinkering aspect of the RTTY hobby dead? Not at all. The emphasis has just changed. While we don't drill many chassis's or wire tube sockets these days, we spend a lot of time working on our PC's. Some of these computer systems have become pretty fancy - multiple computers, multiple modems, monitor multiple bands at the same time - all with ONE operator. Wow! Think about what kind of a system that would have been with Model 28's and TTL/II Terminal Units! No, we don't make our own demod's or Teletype Service Manuals anymore. We really don't have to. But, think of the time that we all spend working out PC software problems and interfacing radios, modems, and PC's. RTTY experimenting and tinkering hasn't disappeared at all, it's just evolved to new levels.

Contest and DX Time: The winter months are also the time for RTTY contests and finding those rare DX stations on RTTY. Working contests and chasing DX are by far the most popular and rapidly growing segments of RTTY and even ham radio in general. HF propagation is good again and we have more hams on RTTY now than ever before. Many stations routinely work 100 countries for DXCC over a contest weekend, all using 60 wpm Baudot RTTY! Terminal software is very fancy these days. The PC scans the incoming signals, finds call signs, checks the log of stations worked, and then points out those call signs you haven't worked before - on 2 or 3 bands at the same time. The old paper log and dupe sheets are now in computer memory. When the contest is over, punch a button and out pops your log in digital ("Cabrillo") form, easily read, checked, and scored by the sponsoring group. One program (WriteLog) even makes a digital audio recording of the entire contest! You can play it back at your leisure. The cost? Very modest in dollars but you'd better be willing to spend quite a few evenings figuring out all of the software bells and whistles and how to make the radio, modem, and PC talk to each other.

My Summer Vacation: I'm sure that at one time or the other, all of us had to write a school paper about what we did last summer - visit grandma's, go to the zoo - you know the whole boring list! It was a dreaded chore and best done quickly. But, once in a while someone at school had a really interesting summer vacation and funny write up. Ron Stailey wrote one of those for us this month. Getting to Prince Edward Island (PEI) for the CQ/RJ WW DX contest last fall turned into a saga of missed planes and bad weather, told as only our Texas friend can tell a story. Turn to page 10 and tilt the recliner back.

Nostalgia Time: Over the last 50 years, our RTTY hobby has evolved from one based on mechanical skills and aptitude to a hobby dominated by mental gymnastics - PC software, in particular. The PC allows us to do things on RTTY that none of us could have expected. The world of modern RTTY is definitely a fun place. BUT, many of us - particularly those over 40 - once in a while get a "twinge" for "the good old days". We recall the sound of the Model 28 hammering letter by letter on rolled paper, the smell of ozone and hot oil, the glow, heat, and hot dust smell that came from all of the tubes in the shack. After all these years, we probably don't recall the mess on the floor when oil drips meet tape punch chad (I tracked little white dots around the house for weeks). You probably don't remember that dandy shock when you grabbed a live loop plug one night, or scorched finger tips from changing tubes before they cooled down. Well, February 20 is your day to recall and experience all this and more. Read all about the "Green Key Night" QSO party on page 4.

Y2K? Yep, "Year 2000" is about to happen. I have sure filled out a lot of Y2K forms for government agencies. It's kinda silly to be doing that for products that never had calendar functions. I guess it's easier to mail forms than read manuals - "our tax dollars at work". I got the oil changed in my generator and tucked an extra jug of my favorite anti-freeze in the kitchen cabinet. We're ready!

That's about it for another year of The New RTTY Journal. We'd like to hear from you, our reader. What you like, what you don't like, what you'd like for us to add (or remove). I'd like to again ask for articles - long, short, technical or non-technical. Don't be bashful. Whatever you're doing in the RTTY hobby, we'd like to know about it.

73 until February de Bill, K9GWT

Green Key Night

February 20, 2000

You are cordially invited to participate in a celebration of the 47th anniversary of the start of U.S. amateur HF RTTY. Jim Haynes (W6JVE), The New RTTY Journal, and hams of the Greenkeys reflector (greenkeys@qth.net) are holding a Green Key Night QSO Party on February 20, 2000.

History:
The first issue of RTTY magazine was published in January, 1953. The front page announced a new FCC ruling that would allow FSK Teletype to be used on the HF bands. After years of lobbying, we could finally move our Model 12's and 15's from 2 Meters to HF. Opening day – February 20, 1953 - saw the first transcontinental RTTY FSK QSO's. Early days HF RTTY pioneers included Merrill Swan (W6AEE), Bob Weitbrecht (W6NRM), Herbert Hoover, Jr. (W6ZH), Forrest "Bart" Bartlett (W6OWP), Boyd "Beep" Phelps (W0BP), John Williams (W2BFD), Phil Catona (W2JAV), Marvin Bernstein (W2PAT), Byron Kretzman (W2JTP), and Wayne Green (W2NSD), just to name a few.

Hams had been playing with Teletype on 2 Meters using AFSK since the end of WWII. A few tried make/break (on/off) keying on HF (like CW) but that didn't work too well and it was at best a "gray area interpretation" of the FCC Rules and Reg's. FCC Dockets 10073 and 10173 changed all that. Now we could use 5-unit start-stop 60 wpm teleprinter code with 850 shift FSK modulation on 80, 40, 20, 11, and 10 Meters (note – no 15 Meter band in those days but 11M was still a ham band).

Contesting soon became part of the HF RTTY scene. The first RTTY sweepstakes was held Oct. 31 / Nov 1, 1953. Top scorer was Frank White (W3PYW) with a total score of 440 points. Ten logs were submitted! The first "Anniversary Sweepstakes Contest" was held on February 20, 1954. A total of 28 logs were submitted and Phil, W2JAV, took top honors with 840 points! The Anniversary Contest continued through 1956.

About 5 years ago, Jim Haynes (W6JVE) revived the idea under the name "Green Key Night". Jim and a few dedicated friends have since continued the tradition, but with new twists that emphasize the state of the art of those early days. Specifically, Jim's Green Key Night encourages all of us who still have mechanical machines to scrape off the dust, get out the oil can, and fire those babies up. Jim has asked if The New RTTY Journal would like to be involved and we are honored. With Jim's permission, I've added a couple of twists that could be fun.

Green Key Night – Year 2000

Purpose:	Celebrate the beginnings of HF amateur RTTY in the U.S.
Theme:	Use "vintage" (a.k.a. "old") RTTY equipment whenever possible
Format:	QSO Party and Fun-time Scoring
Date & Time:	February 20, 2000, local 0000 through local 2359
Bands:	80, 40, 20, and 10 (no 15 and no 11 Meters, please)
Mode/code:	Start/Stop 5-unit ITA #2, 60 WPM (a.k.a. Baudot)

Score = (No. of QSOs) x (Average QSO Length) x (Vintage Multiplier)

where:

No of QSO's = total number of Baudot RTTY QSO's

Average QSO Length	=	minutes (guess – honor system)
Vintage Multiplier	=	(Terminal) x (Shift) x (Tubes) x (CWID)
Terminal Multiplier	=	10 if Model 12
	=	8 if Model 14
	=	5 if Model 15 or 19
	=	3 if Model 28 or Kleinschmidt
	=	1 if Electronic (PC or Glass TTY)
Shift Multiplier	=	4 if 850 Hz or greater (1000 Hz max)
	=	2 if 425 Hz
	=	1 if 200 or less Hz
Tube Multiplier	=	No. of Vacuum Tubes in TU + RX + TX
	=	1 for PC or Glass TTY (CRT counts)
CWID Multiplier	=	2 if CWID is sent
	=	1 if no CWID is sent.

"Suitable awards and recognition" will be given during the annual RTTY Journal Banquet at the Dayton Hamvention (May 20, 2000). Donations gladly accepted. All winners must haul their prizes away from the hotel!
Send Logs by March 20th to: RTTY Journal, PO Box 236, Champaign, IL 61824

Contesting News

Cabrillo Log Submission Format

We have been hearing the buzz of a very significant improvement of the electronic log submission process. It is called Cabrillo, developed by Trey Garlough, HC8N/N5KO.

The goal of Cabrillo is to automate the collecting, scoring, and reporting of contest results. Cabrillo is a major improvement for contest sponsors who have to generate and mail certificates.

Luckily for many die-hard contestors, the only change needed is an upgrade to the newest version of your logging software. And, of course, the lessening of the period of time you anxiously await the final results of your efforts! Yet, there have been questions presented on the Cabrillo log submission format that deserve some attention.

1. Data such as QSOs, QSO points, multipliers, on-times and off-times are computed during the log-checking process.
2. The Cabrillo format is designed to be both human and machine readable. You can still read and edit your log with an ASCII text editor prior to sending it.
3. The Cabrillo format will be optional for many contests during the 2000 contesting season. However, it is proposed to be a requirement for many of these same contests during the 2001 season.

For those of you who prefer to write your own logging program, or keep paper logs, there is more information on Trey Garlough's web site:
www.kkn.net/~trey/cabrillo

VYØ Nunavut Territory

The Nunavut territory was created in April 1999 from territories formerly part of the Northwest Territories and granted a specific prefix of VYØ. Within Canada, it remains a territory, not a new province.

In contests which use ARRL/RAC sections for scoring, Nunavut remains part of the Northwest Territories / Yukon multiplier, not an addition or new multiplier. This includes the November Sweepstakes and the 160 Meter Contest.

In contests that use political delineations, the Nunavut Territory (given the abbreviation designator of NU) will count as a new multiplier, effective January 1, 2000. This will include the International DX Contest, the RTTY Round-Up and the 10 Meter Contest.

Field Day, IARU HF World Championship, the November Sweepstakes and 160 Meter contests will not be affected. For more information please contact:
Dan Henderson, N1ND
n1nd@arrl.org (860) 594-0232.

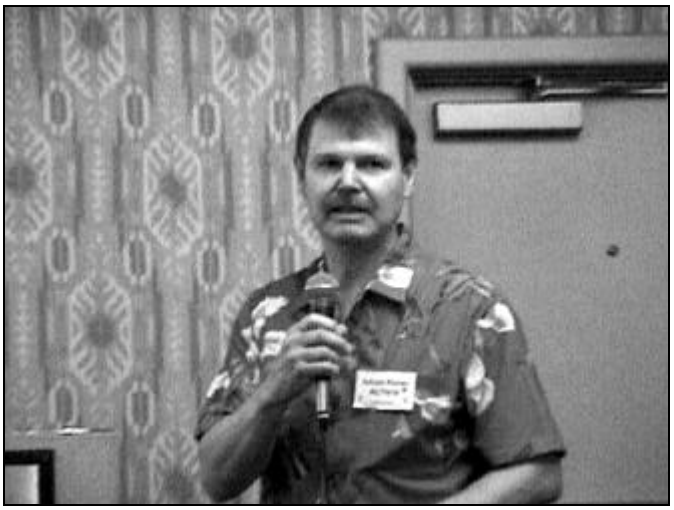
ARRL/TAPR Digital Communications Conference

Phoenix, AZ September 25, 1999

Greg Jones, WD5IVD
President of TAPR

Fried Heyn, WA6WZO
ARRL SW Division Director

Rich Moseson, W2VU
Editor, CQ Communications



John Forrer, KC7WW

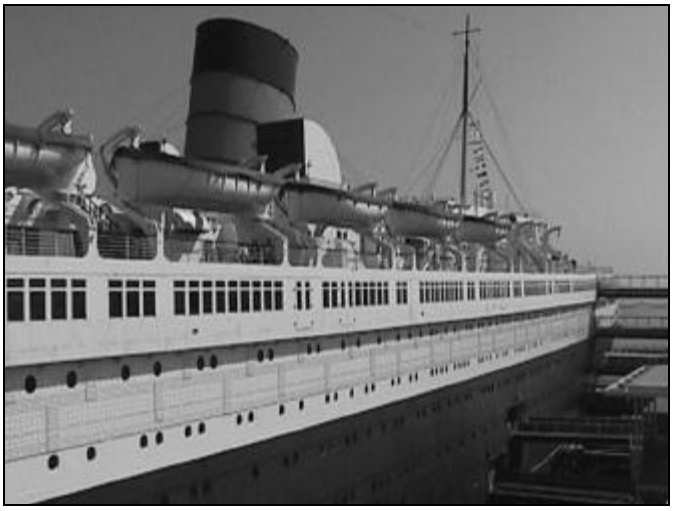
Bob McGwier, N4HY

Charles Brain, G4GUO

ARRL Southwest Division Convention - Queen Mary

Long Beach, CA October 1-3, 1999

Queen Mary

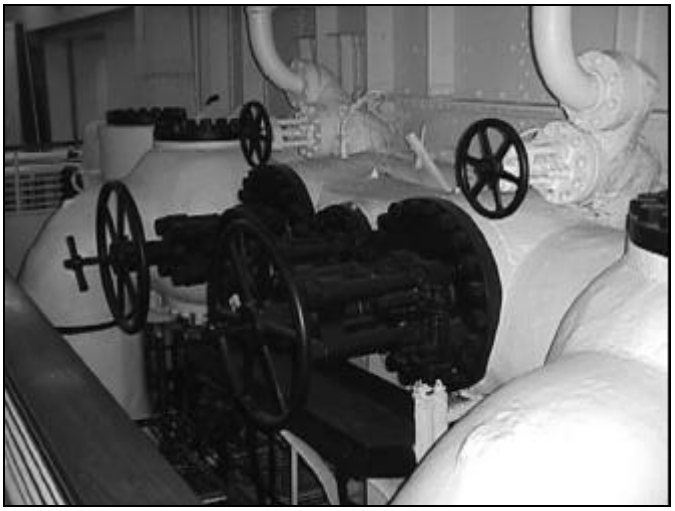


Outside View of the Queen Mary

Queen Mary Below Decks

On Deck of Queen Mary

Exhibit Hall Entrance



Steam Polar Relay

ARRL Southwest Division Convention - Queen Mary

Long Beach, CA October 1-3, 1999

Dusty Morris, W7ITM and Linda Henry

Nick Smith W4GKM Dale Sinner W6IWO Bill Henry K9GWT

Ron Stailey K5DJ Wayne Matlock K7MM Wilma Matlock

The Grokett Family
Ben, K6RE Ben, Jr. Jill, KE6YTT Lauren, KE6YTW

Vern Eubanks K0LVS Linda Henry Bill Henry K9GWT

The Hamvention Crowd

170 Shift, 2125 Mark, and ALL That Stuff

Bill Henry, K9GWT
ghenry@advancenet.net

Recently, there have been a flurry of comments on the Internet about AFSK vs FSK and shifts and tone frequencies. I've asked Kok Chen, AA6TY, to discuss the AFSK vs FSK thing in a future issue of The New RTTY Journal. I thought I'd throw in my two cent's worth about the shifts and tones we use. The historical references that follow are my recollection of conversations with many folks at hamfests, folks who unfortunately have now gone off to the great RTTY contest in the sky. So, if you have clarification or corrections, please don't be bashful. The following is what I have been told:

The first tests and experiments in the U.S. with *radio* Teletype were in the late 1930's and early 1940's, for U.S. military use of Teletype. The first practical RTTY demodulator (terminal unit) used tone filters – one tone for Mark and one for Space. The filters were existing signaling filters that had been designed for use on the New York to London transatlantic cable, one filter centered at 2125 Hz and the other at 2975 Hz (850 Hz shift).

Frequency counters were not available in the 1930's. Rather, metal tuning forks were used to confirm frequency accuracy, the same technique many musicians still use to tune their musical instruments. Phone company filter frequencies were chosen to match the tuning forks that were available, a 425 Hz tuning fork in this case. 425 is a "magic number" for RTTY. The original tone filters were centered at 2125 Hz (5 x 425) and 2975 Hz (7 x 425). The shift is, of course, 850 Hz (2 x 425). We hams inherited these tone frequencies after WWII.

Initial operation was only on VHF (AM-AFSK) and we built our RTTY "Terminal Units" with filters set to 2125 Hz Mark and 2975 Hz Space. In 1953, we gained FCC approval for HF RTTY and we immediately hit the air-waves, using our VHF gear but with direct FSK modulation. Our first simple FSK modulator was a switch (polar relay) that added a capacitor to the VFO tank, lowering the RF output frequency for Space. This produced the opposite polarity from what we used on VHF and there was a lot of discussion about this in the 50's. The RTTY Mark condition is the "rest state" – what you have if no characters are typed. On HF, you need a continuous tone if you are zero-beating another guy's frequency or measuring the frequency (with a BC-221 – counters were yet to come). Therefore, we set Mark to be the time when the RTTY FSK shift switch was open – no extra capacitance. The reversed polarity between VHF and HF was easily fixed with a Normal/Reverse switch in the demodulator.

Then, along came SSB gear in the 1960's and we could use tones with either side band. For several years, we again had a lot of confusion about polarity – "which way is up?" You could easily find either polarity on HF RTTY. Finally, we decided to stay with the original format – with Space as the lower transmitted frequency. RTTY Journal editor Dusty Dunn (1967 – 1977) frequently printed a reminder - **LSMFT** – "**L**ow **S**pace **M**eans **F**ine **T**eletype". I understand that this same acronym was also used to advertise tobacco – but that must have been a coincidence!

By modern standards, the output frequency of HF transmitters and receivers in the 1950's and early 1960's was not very stable or accurate. It was very difficult to adjust diode keyer circuits to get an exact frequency shift. For these reasons, "approximately 850 Hz shift" was about the best we could do – and it often varied between 300 and 1200 Hz! Also, when we changed bands, we usually had to re-adjust the RTTY shift-pot. RTTY used to require a lot of tinkering! When SSB came along, HF radio stability improved by a factor of 10 or more. Some operators used diodes and shift-pots with SSB transmitters, but many of us discovered that we could use audio tones and have very precise control over our RTTY shift and frequency calibration. This only worked with filter-type SSB rigs as phasing SSB transmitters didn't have very good suppression of the carrier and unwanted sideband.

But, use of tones and the relative simplicity of getting on RTTY raised other problems. First, our "standard" space tone – 2975 Hz – wouldn't go through an SSB filter. Further, HF RTTY grew in popularity and all of a sudden we had QRM - RTTY to RTTY! The solution was to reduce the bandwidth of our RTTY signal by reducing the shift. We followed the lead of the military and chose 170 Hz shift as the new "narrow shift standard". Dusty had another reminder for this - "**Broad Minds Use Narrow Shift**".

170 Hz shift gave rise to a modified "magic number" – "85" (425/5). The narrow-shift frequencies are 2125 Hz Mark (25 x 85) and 2295 Hz Space (37 x 85). Many RTTY tone and shift standards are based on 85 Hz multiples – or even 42.5 Hz increments. For example, the standard CCIR Marine tones are 1615 Hz (19 x 85) and 1785 Hz (21 x 85) – 170 Hz shift. Commercial RTTY users followed suit and many of the press services also narrowed their signals, but used 425 Hz shift, with 2125 Hz for Mark and 2550 Hz (30 x 85) for Space. 1970's vintage RTTY demodulators had a Mark filter at 2125 Hz and selectable Space filters at 2295 Hz, 2550 Hz, and 2975 Hz.

The "low-tone standard" is an interesting twist of fate. Even when we changed the Space frequency to 2295 Hz, this still presented problems with some SSB filters. In fact, the RF signal out of a Collins S-Line transmitter was approximately 3 dB weaker on Space (2295 Hz) as on Mark (2125 Hz). Frankly, a 3 dB amplitude difference did NOT cause a reception problem for our limiter-type RTTY demodulators. But, it sure was unsettling to see the Wattmeter bounce up and down. If you paid for a killowatt amplifier, you'd like to see a kW on *both* Mark and Space! The solution was to shift the tone frequencies down. Starting with 850 Hz shift, we set the higher tone at 2125 Hz but shifted down to 1275 Hz for 850 Hz shift. We set Mark at 1275 Hz and 850 shift Space at 2125 Hz. When we used narrow shift, we left Mark at 1275 Hz (15 x 85) and defined a new 170 Hz Space at 1445 Hz (17 x 85). 425 shift of course sets Space at 1700 Hz (20 x 85). This "low-tone" set found its way into CCIR documents and is the international standard for FSK RTTY modes, commonly used everywhere *except* the U.S.

Computer modems, however, did not follow the existing RTTY modem standards. Many different frequencies were tried for FSK computer modems. The very popular "Bell 103" 300-baud modem used 200 Hz shift and two different tone pairs on the full duplex phone line – 1270 Mark / 1070 Space for the "originating station" and 2225 Mark / 2025 Space for the "answering station". 200 Hz shift for 300-baud FSK is the theoretical "optimum" for AWGN phone line service (baud/1.5). Unfortunately, 200 Hz shift for 300 baud HF packet was included in AX.25 Terminal Node Controllers (TNC's). As they say, "the rest is history". We now have a large quantity of TNC's on HF that are set for 200 Hz shift rather than 170 Hz, just so the TNC would be compatible with a mode that really doesn't work (300 bd HF packet). But, many of us are stuck with this hardware when we try to use the "TNC" on RTTY.

The Mark and Space filters in these TNC's are also "broad as a barn" so that they can pass the keying side bands of a 300-baud signal. The end result is that most TNC users don't send the correct transmit shift and their

receiving filters are very broad. Tuning RTTY seems to be easy - not critical but very inaccurate. We wind-up with the situation that operators using TNC's do not call the other station on his frequency. Two TNC users in QSO often "walk up and down the band" as each tries to "improve" his tuning during the QSO. In addition, those of us with good narrow filters set to 170 Hz may not even hear these guys because they are off frequency. The "catch 22" is that it's often judged the fault of the station with the best equipment because the guy with wide filters "copies everyone" – at least all of the strong signals.

Bottom line: There is only *one standard* shift for HF FSK RTTY and it is **170 Hz shift**. If at all possible, tweak your transmit tones to 2125 and 2295 Hz. This will help the rest of us to hear *you* better. If you also want to hear *us* better, retune the receive filters to 2125/2295 – AND – narrow the bandwidth of the receive filters. You will be amazed and delighted by the improvement in reception of weak signals and under heavy QRM conditions. However, this may not be easy to do. Maybe it's time to "jack up the cables and drop-in a new modem", one designed for RTTY in the first place?

73 de Bill, K9GWT

D2K (Dayton 2000)

Dale Sinner, W6IWO
dsinner@tfb.com

It is getting close to the time of year for us all to start thinking about the Dayton Hamvention® - "Dayton 2000". Have you made plans yet? - Better start now.

RTTY Hotel Accommodations:
If you want to attend next May and are wondering about your hotel room, worry no more. This is to remind everyone that again this year we will be returning to the Holiday Inn at Dayton Mall. A block of rooms has been secured for your convenience. At this time (November 1999) we are not taking reservations. We ask that you stand by until early January when an announcement will be made on The New RTTY Journal web page (www.rttyjournal.com). The room rate next year will be $109.00 per day. While this is up from the $99.00 we paid last year, the price is in agreement with what other area hotels are charging for the hamvention® weekend. We hope all will join us at the Holiday Inn again this year and we welcome all those who would like to join us. As in past years, I will again handle room reservations. If something didn't work quite right last year, this is your time to let me know at **<dsinner@tfb.com>**. No guarantees that I can fix your problem, but I can certainly ask.

Banquets:
Plans for the two banquets are forming up and you can again expect great food and fine programs on both nights. More details will be available later and be assured that Ron Stailey (K5DJ) and Joe Wittmer (KB9SIZ) will supply us with the best of everything. There will be some surprises and we are sure that all will have a good time.

Hospitality Suite:
Yes, look for us again on Friday and Saturday nights - from the end of each banquet until Dale, Joe, or Bill has to close the door. Bring your QSL card, latest shack photo, or whatever. Don't forget to brush-up on your "tall tales" for the "Wee Hours RTTY Social Study Group". It's going to take some creative thinking to beat those told by Ron (K5DJ) and Raj (VE6RAJ) last year. We will no doubt hold another "Free Drink Eddie Look Alike Contest" sometime each evening (maybe with a guest appearance of Free Drink Eddie himself!).

RTTY Forum:
After being shut-out last year, we will again have a RTTY Forum at Hara Arena this year. The main topic this year will be RTTY DX and Contesting. Frank Fallon (N2FF), Hudson Division ARRL Director, has agreed to moderate a lively Q&A session with a panel of experts. We'll have more to report in the February 2000 issue.

Watch for new announcements about the Dayton gathering on the RTTY Journal web page and in the February issue of The New RTTY Journal.

73 de Dale, W6IWO

DAYTON 2K

Look for your February issue and www.rttyjournal.com for updated RTTY Group information.

General Dayton 2K Information

Official Name(s):	2000 Dayton Hamvention® (and ARRL 2000 National Convention)
Location:	Hara Arena, Shiloh Springs Road, Dayton, Ohio
Dates:	May 18 through May 21, 2000
More Information:	www.hamvention.org

CQ/RJ WW RTTY DX Contest Prince Edward Island, Canada VY2SS Multi/Single Category

Ron Stailey, K5DJ

k5dj@contesting.com

One day last spring, Nick Smith (W4GKM) and I were on the phone talking about this and that. Of course the CQ/RJ WW RTTY test was discussed. Nick said he would like to be on a team that was going to try and win the world in a multi effort. A serious contest effort always sounds good to me. I told him all we needed was a jam-up good location, good ops, good equipment, and antennas high up in the sky. That's all there is to it.

The QTH:
Nick asked where could we find a good place at this late date (June)? I said there are several places we could go and that I would like to take on Tray (HC8N) in the Multi/Multi category. Tray agreed that it would be a lot of fun to have two serious stations going at each other from good DX locations.

Nick and I started looking. A three-point QTH was a must if we were going to take on HC8 with any hope of success. We thought about several places, and I called around to see if we could get into a couple of locations I thought would do the trick. However, none of them were available for contesting at that time. Back to square one - find a kick-butt QTH.

We talked about giving P4 (Aruba) a try, but the guys I talked to that had operated there said it wasn't really setup for Multi/Multi operations. We will keep it in mind just the same – for a future venture.

Several years ago, Robby (VY2SS) and I talked about doing a multi operation from his QTH on PEI (Prince Edward Island). Nick thought that while we probably wouldn't give much competition to HC8, PEI would be a lot of fun. We should at least be able to give W3LPL a run for his money!

When I talked to Robby, I learned that there was a M/M operation already planned for the CQWW99 SSB contest a month after the RTTY contest. So, contest preparations at PEI were already under way and we decided that this was going to be our QTH. Now we needed operators, radios, amplifiers, and some antennas. Robby thought we could get all this done in time.

The Crew:
Nick and I started looking for operators. Although long-time standbys Jay (WS7I) and Don (AA5AU) couldn't make the trip, we soon found a lot of operators. Robby recruited a few Canadians, and Nick and I found some Americans. The final crew was: K5DJ, W4GKM, WT4I, N1RCT, VY2SS, VE9DX, VE9MY, VE9ML, VE5FN, VY2DR. This was the first time I ever participated in a RTTY Multi operation with this many ops. I thought – "maybe we could do a little sight seeing while we were there?" We would see!

The Gear:
ICOM kindly loaned us some new IC-756's, HAL Communications loaned the DXP38 modem, and WriteLog furnished the software. Before we left, Robby sent an email saying it wasn't going to be possible to get the 40m beam up in time for the contest. We decided to go Multi/Single instead of Multi/Multi category. We had our own amplifiers and we had recruited plenty of operators. We were all set and ready to go – or so we thought.

"Time to Spare? Go By Air":
It was Wednesday Sept 22nd and time to leave for PEI. I flew direct from Austin to Boston with a connection on to Bangor, Maine – Delta all the way (or so I thought). Dick (N1RCT) would pick me up at Bangor and we would drive to PEI. When I arrived at Boston, I was directed to a bus that then drove to another terminal so that I could fly on to Bangor – on one of these little bitty commuter jobs. BUT – what happened to "Delta - all the way to Bangor?" Something wrong? Nope, just one of those "affiliated" shuttles for the last leg (every seat was both on the aisle and next to a window). I checked in and was informed that the first shuttle flight had been cancelled 30 minutes ago. The same announcement was made 30 minutes later and again 30 minutes after that. By this time I was getting a little frustrated and checked to see what the problem was. They told me heavy fog. After the 4th cancellation I requested to be transferred to a real airplane going anywhere in Canada, preferably a plane whose wings don't flap up and down. I could just see Dick leaving two hours before I arrived. Ugh!

Finally we boarded this "vessel" and it headed out for Bangor, Maine – and we made it this time!Dick and I loaded all my stuff into his Jeep and headed for PEI. I'm sure that the countryside was beautiful to look at when it wasn't raining but every road was under serious construction. We were not making good time at all. About dark thirty, we arrived at the Canadian border. We stopped and got the ICOM and HAL gear registered so we could get back into the USA real easy. I must say Dick knew the ropes and what to do. This took all of 15 minutes – in drizzling rain, they didn't want to look at anything..

We hit the road again. I noticed that the speed limit signs were for 60, 70, 90 and finally 110. Wow! Now we're cookin'. What a let down when Dick told me Canada used kilometers instead of miles. Good thing I wasn't driving! By the time we got to St Johns it was starting to rain much harder and we really didn't want to drive most of the night in the rain. We shut it down in St Johns for the evening.

The next morning we were off and running. No rain, traffic was moving real well, and we made good time to the Confederation Bridge. This is some bridge – 13 km long, in fact. I could hardly wait to see it. By the time we got there, the rain had started again and the wind was picking up. We stopped for gas and the

Bruce	Bill	Andy	Bill	Dick	Nick	Len	Jamie	Robby	Ron	Daryl
Lifter	Gordon	McLellan	Glydon	Stevens	Smith	Morgan	Irvine	Robertson	Stailey	Robertson
WT4I	VE5FN	VE9DX	VY2LI	N1RCT	W4GKM	VE9MY	VE9WH	VY2SS	K5DJ	VY2DR

station operator said that the bridge might be closed if the wind picked up much more. The race was on - get over that bridge before they closed it. We arrived at the bridge just in time: winds were about 45 mph gusting to 60 mph and the leaning motor-homes must have been fun to drive. But we made it across without any problems. I called Robby on 2m while we were on the bridge. He said that we were "about 40 minutes" from his QTH.

During the next 40 minutes we got into one of the heaviest rainstorms I have seen in a long time - washed out a dam and a bridge, in fact. Dick and I were just ahead of the worst of it. We got a few boxes of equipment wet. Dick's amp and antenna tuner got the worst of it but all of the radios and modems made it just fine.

"Are you sure this is your flight?"
Nick (W4GKM) and Bruce (WT4I) also found that getting to PEI proved to be as difficult as getting to just about any other remote DX location. While Dick and I were battling "The Bangor Connection", Nick and Bruce came to PEI via Halifax, Nova Scotia. Nick from Tennessee and Bruce from Florida met in Atlanta, flew to Boston, and from there to Halifax. Of course, they were delayed getting to Boston and almost missed the same flight to Halifax twice.

When they arrived in Boston, every flight leaving the airport was delayed by several hours. The airport was crowded, especially around their departure gate. The flight to Halifax was on another one of those "puddle jumpers" and there was much confusion as none of the flight numbers were clearly marked at the gates. Even though Nick and Bruce arrived late, their connecting flight was not scheduled to leave for another 45 minutes. They decided to run down the hall for a quick bite to eat.

Being gone for only about 15 minutes, they returned and sat down to wait for the announcement of the boarding of their plane. After another 15 minute wait, Nick felt uneasy and asked when the plane was going to board. The girl at the counter was tired, frustrated, and confused. She told Nick she didn't know, so Nick returned to sit and be patient. After another 15 minutes the girl called over the loud speaker for the passengers waiting for the Halifax flight. Nick and Bruce rushed over to the counter and were told to hurry downstairs, as the plane was about to take off. Nick and Bruce jumped onto a shuttle bus that then drove around the ramp looking for the plane. It was raining and the bus driver finally gave up and returned to the terminal. At this point the airline personnel were pretty embarrassed and agreed to put them up in a hotel since that was the last flight to Halifax this day.

It took about 45 minutes to fill out all the vouchers for the hotel, cab and food. About the time these were completed, the supervisor from the gate area came running, looking for the two passengers for Halifax. As it turns out, the flight had to return to Boston because of equipment problems. They were going to switch out the plane and Nick and Bruce would get to go after all. The "fearless duo" once again sat down to patiently wait for their plane. After another 45 minutes, Nick got that uneasy feeling again and once again asked the girl where their flight was. A mad scramble commenced and once again Nick and Bruce were rushed to the shuttle bus. This time the bus found the plane and they made the flight, arriving in Halifax around 2 AM.
The next morning they rounded up a rental car and proceeded to drive to PEI. Remember the rain storm? Nick and Bruce were just a couple of hours behind us as we fought the same storm. What should have been a 4 hour trip from Halifax turned into a 6 ½ hour "adventure" with washed out roads, detours, and crossing the 13 kilometer bridge with 45 MPH gusts of wind. Right after Nick and Bruce crossed the Confederation Bridge it actually was closed to campers and trailer trucks because of high winds.

Robby greeted us at the door as we finally arrived. I have talked to Robbie on the phone and wrote about his success from PEI several years ago. It was nice to finally meet him, his wife Joyce, and son Daryl. Daryl is 17, a senior in high school and a great hockey player. Nick and Bruce arrived a couple of hours later.

When we looked over the antenna system, I thought it was very strange that the antennas were not installed very high. Robby informed me that they didn't need to be as I was now much closer to Europe than at my Texas QTH. I really didn't believe him at first and was going to lay some of my "Texas Wisdom" on him. But, I remembered what my dear old Pappy used to say about such things: "It is best to remain silent and thought a fool than to open your mouth and remove all doubt". But I did check it out with Geoclock and Robby was correct. I was in fact a lot closer to Europe than at my Texas QTH. It still doesn't seem possible.

Evening fell and bottles of selected drinking liquids started showing up on the table. My old buddy Dick brought some high dollar wine - now I'm talking about $8.00 a bottle stuff with a cork. He wasn't sharing it with anyone! As they say "a good time was had by all". We were ready for the activities the next day. Amazing how a few good stiff drinks will do that.

Contest morning:
Robby and some of the crew built a new 40M wire antenna so we would have two in different directions. By the time the contest started we had all played around with the IC-756 enough to feel comfortable with it. When the contest started we had the run station on 20M and multiplier station on 40M. The listening station was spotting on both bands. After the first three or four hours, spotting became very important, making sure we got all of the available multipliers on each band.

IC-756 Radios: Nick worked with ICOM and they kindly loaned us three IC-756 radios. It sure was nice to have all radios alike at each station. The IC-756 is the ultimate radio for

Daryl Robertson, VY2DR

Joyce Robertson and Dick Stevens, N1RCT

RTTY search and pounce (S&P). The digital spectrum scope allows you to quickly see all the activity on a band. The scope is so good, you can almost tune in stations just looking at the screen. I've got to get one of these rigs. A big thanks from all of us to ICOM America.

HAL DXP38 Modems: What can I say about the DXP38 that the world doesn't already know? In this year's CQ/RJ RTTY the DXP38 did an outstanding job - didn't miss a lick all weekend. Just exactly what I expect a HAL modem to do. I have one and highly recommend it. I also like the ST-8000 with its tuning scope but it's a little large to take with you when you travel and it's EXTREMLY DIFFICULT to get HAL to loan-out ST-8000's. The DXP38 with its built in crossed LED indicator did an excellent job. A special thanks from us to HAL Communications for providing this modem.

80 Meter Conditions: We used a 4 square array for 80M. Each of the 4 antennas were actually small towers. The radials on each of the verticals were elevated. Robbie had a pretty slick design for this. The radials were attached at ground level and then came up at about a 45 degree angle to about 6-8 feet high. They then went straight out from the tower. With this 4 square array, we were able to steer the antenna beam in four directions. With exception of interference around 3.6 MHz, 80M was remarkably quiet on PEI. We were able to easily pick out many European stations. Often, we could hear them working each other even though they couldn't hear us.

40 Meter Conditions: Propagation conditions on 40M into Europe were considerably better than what we typically find in the southern U.S. We were able to keep a pretty good run going into Europe with just a dipole. Robbie ought to have a killer station once he gets his 40M beams up.

20–15–10 Meter Conditions: The high bands were great all weekend - from start to finish of the contest. We had the most QSOs on 20M and then 15M and 10M. At times we had huge pileups on all three bands. It was like giving candy to a baby. Sure put a smile on our faces. We knew we were going good, but is "good" really good enough?

I personally found the hardest thing to do from a location like Robbie's is making myself work the US & VE stations for multipliers. When European stations are thick all the time like it is from PEI, it's really hard to swing the beams back into the States and run US and VE Q's. But it's got to be done or you will be "SOL" for sure when the scores are posted!

Kudos:
Again, very SPECIAL thank you's to ICOM America and HAL Communications for letting us use their equipment during CQ/RJWW RTTY DX Contest. Everything - radios, modems, and software - worked like a Swiss watch all weekend long. We did have to replace a couple of amplifiers during the test but it didn't slow us down any.

Also a very special thanks to Robby's XYL Joyce for putting up with 10 extra hairy-legged men around the house for several days. We slept on the floor, couches, in extra bed rooms, etc. – generally underfoot. Joyce cooked special meals for us the whole time we were there. She is a real angel!

All of us had a real blast and are looking forward to doing it again some time.

73, de Ron K5DJ

Other Information About PEI

VY2SS's QTH is Bloomfield in the north west quarter of PEI.

The Confederation Bridge is 13 KM long.

PEI business is farming (predominately potato and cattle), fishing, and tourism.

There are 3 ways to get to PEI:
(1)Fly into Charlottetown
(2)Drive over the Confederation bridge
(3)Take the Northumberland Ferry

Anne of Green Gables was written by PEI author Lucy Maud Montgomery. The story takes place on PEI.

Left to Right: 15m Beam, 10m Beam, unfinished -40m Beam

Four Square 80m Antenna

Equipment Used at VY2SS, Sept. '99:

Station Feature	Run Station	Multiplier Station	Spot Station
Radio	IC-756	IC-756	IC-756
Rcvr IF Filter BW	350 Hz	350 Hz	350 Hz
Modem	HAL DXP38	HAL DXP38	HALPCI 3000
Software	WriteLog	WriteLog	WriteLog
Amplifier	ETO 1500W	8877	(none)
Network	Ethernet	Ethernet	Ethernet

CQ/RJ World-Wide RTTY WPX Contest

Sponsored by CQ Magazine and The NEW RTTY Journal

February 12-13th, 2000
Starts at 0000 UTC Saturday and ends at 2400 UTC Sunday

I. OBJECTIVE:
To contact as many other amateurs round the world using RTTY Baudot only.

II. OPERATING TIMES:
For SINGLE OPERATOR and MULTI-SINGLE, only 30 hours of the 48 hour contest period are permitted. Each OFF time must be MORE than 60 minutes in length, see para XIV. MULTI-MULTI and MULTI-TWO stations may operate the full 48 hours.

III. BANDS:
Only 3.5, 7, 14, 21 and 28 MHz bands may be used.

IV. CATEGORIES:
A. SINGLE OPERATOR, ALL BANDS, HIGH POWER.
B. SINGLE OPERATOR, ALL BANDS, LOW POWER, less than 150w.
C. SINGLE OPERATOR, SINGLE BAND, NO POWER CLASSES.
D. MULTI OPERATOR, SINGLE TRANSMITTER, ALL BANDS, NO POWER CLASSES.
E. MULTI OPERATOR, TWO TRANSMITTERS, ALL BANDS, NO POWER CLASSES.
F. MULTI OPERATOR, MULTI TRANSMITTER, ALL BANDS, NO POWER CLASSES.
G. S.W.L.

NOTES:
1. SINGLE OPERATOR means, ONE person performs all the operating and logging.
2. All SINGLE OPERATOR categories are permitted only ONE signal on the air at a time.
3. CATEGORY D: Only ONE transmitter and only ONE band permitted during any 10 minute period. Listening time counts as operating time.
4. CATEGORY E: A maximum of TWO transmitted signals are allowed, as long as each transmitter is on a different band. Once each transmitter has started operating on it's selected band, it must remain on that band for at least 10 minutes. Listening time counts as operating time. Both transmitters may contact all stations heard, the second transmitter is not restricted to only working new multipliers. Violation of the 10 minute rule or improper logging by one or both transmitters, will result in reclassification to the multi-multi class.
5. CATEGORY F: No limit to the number of transmitters but only ONE signal permitted per band.
6. SWLs are required to log the call signs of both the heard and correspondent station. Scores are calculated based only upon the heard station, using the same rules as transmitting stations. A call sign may not appear more than three (3) times, as a correspondent.
7. All transmitters must be located within a 500 meter diameter or within property limits, of the station licensee's address, whichever is greater. All antennas must be physically connected by wires to the transmitters and receivers.

V. Any form of DX alerting assistance is permitted in ALL categories.

VI. EXCHANGE:
RST and a progressive three digit serial number starting with 001. Continue to four digits if necessary.

VII. POINTS:
A. Contacts between stations on different continents are worth three (3) points on 28, 21, and 14 MHz, and six (6) points on 7, 3.5 MHz.
B. Contacts between stations on the same continent but different countries and contacts with Maritime Mobile stations are worth two (2) points on 28, 21, and 14 MHz and four (4) points on 7, 3.5 MHz.
C. Contacts between stations in the same country are worth one (1) point on 28, 21, and 14 MHz, and two (2) points on 7, 3.5 MHz.

VIII. MULTIPLIERS:
Each VALID PREFIX is counted as a multiplier. Multipliers are counted only ONCE. NO band multipliers. However, the same station may be contacted on other bands for additional points credit.

IX. PREFIXES:
The letter/number combination which forms the first part of the call sign will be considered the PREFIX. Examples: N8, W8, AB8, DL5, DJ2, HG1, WD200, WF96, 3DA0, GB75, ZS66, U3 etc. Any difference in the numbering, lettering or order of same, shall constitute a separate prefix. A station operating from a DXCC country different from that indicated by its call sign, MUST sign portable. !!!! The portable prefix must be an authorized prefix for the country or call area of operation. At the discretion of the contest committee, written proof of compliance may be requested. In the case of portable operation, the portable designator will become the PREFIX.
Example: AB5KD operating from Wake Is. must sign AB5KD/KH9 or KH9/AB5KD etc. AMERICAN DX, i.e. KL7, KH6, KP2, KH3 etc, operating within the 48 states, MUST sign with a FULL designator of their choice. Example: KL7xx/W7 or any other prefix authorized for use in the U.S. 7th call district, i.e. KL7xx/WY7.
UNITED STATES portables are NOT permitted to select a portable designator. E.g. WS7I/2 is correct, but WS7I/WY5 or WY6/WS7I is NOT permitted.
PORTABLE DESIGNATORS without numbers will be assigned a zero (0) after the second letter of the designator to form the prefix. WS7I/PA would become WS7I/PA0. All calls without numbers will be assumed a zero (0) after the first two letters to form the prefix. Examples: XEFTJW would count as XE0, RAEM would count as RA0, etc. /A, /E, /G, /T, /P, /M, /MM, /QRP and U.S. license class identifiers, /AE, /AA, /AG are NOT valid WPX prefixes.
Special event, commemorative and other prefix stations are encouraged to participate.

X. SCORING:
1. SINGLE OPERATOR (a) All Band score: total QSO points from all bands multiplied by the number of different Prefixes worked.
(b) Single Band score: QSO points on the chosen band multiplied by the number of different prefixes worked on that band.
2. MULTI-OPERATOR stations. Scoring in these categories is the same as the all band scoring for single operator.

XI. LOW POWER CATEGORY: (Single operator only) Output must not exceed 150 watts and you must indicate low power in the summary sheet.

XII. AWARDS:
Plaques will only be awarded to serious contest efforts.
!!!! To qualify for an all band award, the entrant must submit a reasonable amount of Qsos from three (3) or more bands. The definition of reasonable, will be left to the discretion of the contest judges who will take QTH and propagation factors into consideration. Certificates will be awarded to the highest scoring station in each category listed under section IV. of the rules.
(a) In each participating country.
(b) In each call area of the U.S., Canada, Australia and Japan. Contestants are permit-

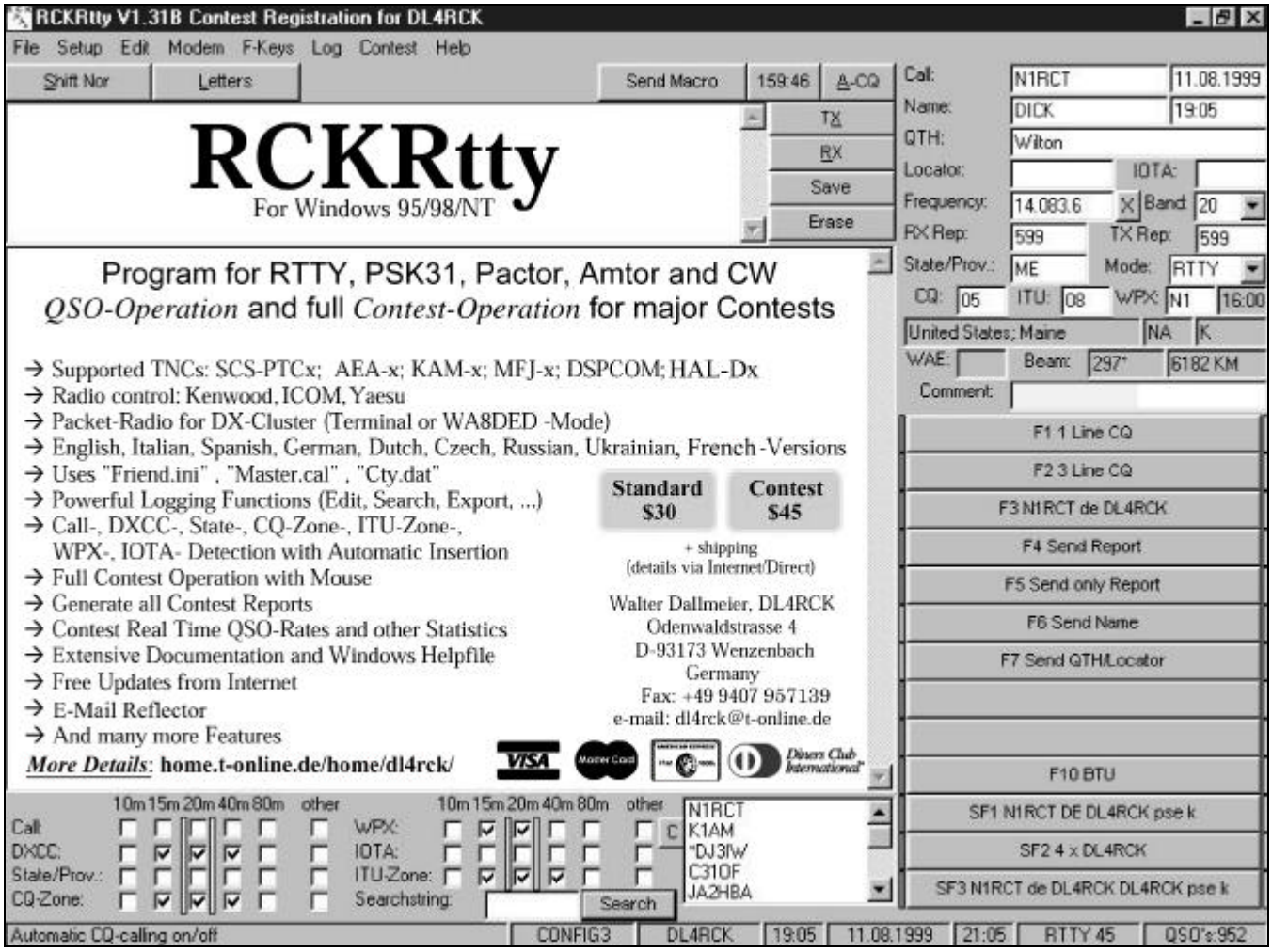
ted to submit only ONE CATEGORY log for plaque or certificate consideration. SINGLE BAND entrants, are allowed to operate on other bands,to encourage activity. Any log other than their chosen band log, will be used as a check log.

XIII. PLAQUES.
Plaques will be awarded to highest score in:

Category A: World, USA, NA, SA, OC, AF, EU, AS, VE and JA.
Category B: World, USA, NA, SA, OC, AF, EU, AS and VE.
Category C: Highest worldwide score on each band, 10-80m.
Category D: World, USA, NA, SA, OC, EU, AS and VE.
Category E: World, USA, NA, SA, OC and EU.
Category F: World, EU and SA.
Rookie Best all round performance by a newcomer to contesting.

XIV. FILE INSTRUCTIONS and DEFINITIONS: (Please read very carefully!)
LOG = the file containing the date, time, band, callsign of the station being worked, both required exchanges, points, multipliers claimed and OFF times.
OFF time = a period of MORE than one hour in which you do not log a contact. Your off time begins ONE minute of clock time AFTER your last log entry and ends as soon as you log another contact.
Chronological = the UTC time that you log a contact.
1. OFF times MUST be CLEARLY marked in the chronological LOG. See paragraph XV for penalties.
2. Single operator and multi single logs must be submitted in chronological order.
!!!! 3. Single band entrants who operate on any band other than their chosen band, must send completely SEPARATE files for the chosen band plus check log files for any other bands used. Multi multi logs to be submitted chronologically by band. Multi two must MERGE both stations' logs to produce ONE complete log in chronological order and clearly indicate which transmitter made which QSOs, to facilitate ease of checking any possible 10 minute rule errors.
4. Prefix multipliers should be entered only the first time they are contacted and must be clearly marked.
5. Logs should be checked for duplicate contacts, correct points, and prefix multipliers. Duplicate contacts must be shown and indicate zero(0) points.
!!!! 6. A dupe sheet in alpha numeric order showing all call signs worked and a PREFIX list, must be submitted by all entrants.
7. Each entry must be accompanied by a summary sheet listing all scoring information, the category of competition, the contestant's name(s), FULL postal address and if possible, an E-mail address. A declaration that all contest rules and regulations for amateur radio in the country the contestant(s) operate from have been observed, should also be included.
8. Official logs and sample summary sheets are available. A large self-addressed envelope with sufficient postage or IRCs must accompany your request. Contest software, e.g. RTTY by WF1B, Rttyrite Contest S/W for Windows or OH2GI-HAM SYSTEM are available and are considered adequate logging software for this contest.
9. Contest files may be submitted via E-mail, or on a MS-DOS compatible 3 1/2 inch disk in preference to paper ones.
Logs must contain the required information. Date, Time,Band, Call, RST & NR Sent, RST & NR Rec'd, multiplier and QSO points.
10. Electronic files (e-mail) are prefered and must be in PLAIN ASCII TEXT FORMAT. No oher formats will be accepted. Files to be submitted and named as follows:

Summary sheet = yourcall.sum
Chronological log = yourcall.log or .all
Dupesheet = yourcall.dup
Prefix list = yourcall.wpx or .mul



Compressed (.zip) files are acceptable and must be named yourcall.zip
In the subject line of your electronic submission, put your callsign and the category entered i.e. SOABL, SOSBx, MM, M2, MS, SOABH or SWL. All electronic logs received, will be confirmed via e-mail.

XV. DISQUALIFICATION / PENALTIES.
Violations of amateur radio regulations in the country of the contestant or the rules of the contest, unsportsmanlike conduct, taking credit for excessive duplicate contacts, non-verifiable QSO's or multipliers will be deemed sufficient cause for disqualification. Incorrectly logged calls will be counted as non-verifiable contacts.
!!!! A penalty of 10% of the corrected score will be deducted from competitive entrants who do not indicate their OFF times in the chronological LOG. An entrant whose log is deemed by the contest committee to contain a large number of errors may be disqualified. We reserve the right to reclassify any submission and all decisions made by the contest judges, will be final.

XVI. DEADLINE:
Entries must be date stamped or postmarked no later than Tuesday 14th March, 2000.
Send contest entries and files or disks via AIRMAIL to:

Eddie Schneider.
1826 Van Ness.
SAN PABLO,
CA 94806.
USA.

E-mail files to: edlyn@california.com

For RTTY WPX required paperwork examples contact:

Wayne Matlock,K7WM
RT2, Box 102
CIBOLA.
AZ 85328.
USA.

E-mail: k7wm@i10net.com

Please enclose an SASE or SAE + return postage.

RTTY Journal Correction

The August issue (Vol 47 no3) cover was created by John Sheetz, K2AGI, and is not a self-portrait of Don Royer himself.

HAL Christmas Bargains

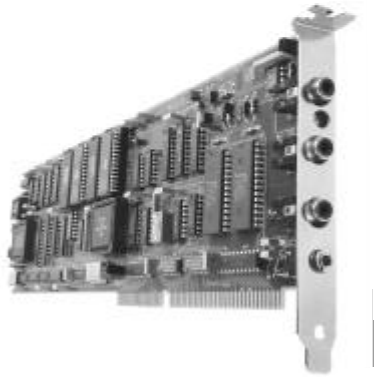
HAL multi-mode DSP HF data modems give you top performance operation using RTTY, AMTOR, P-Mode and CLOVER-II waveforms.

D X P 3 8

Call for Special Price

The ***D X P 3 8*** is a stand-alone DSP HF Modem featuring a built-in tuning indicator with selectable "Crossed X" and "Center Tuning" displays. Multi-screen menu-driven HAL DOS and Windows (95,98,NT4.0) software is included with each ***D X P 3 8*** modem. Installing the ***D X P 3 8*** is easy. Connect a standard DB9 serial cable to your PC and three phono cables to your radio, hook up 12 VDC and install the software. Now you are ready for some serious HF digital communications with sharp DSP filtering and Motorola microprocessor control. **YOU WIN** with the ***D X P 3 8*** **!**

P 3 8



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The ***P 3 8*** is a full sized plug-in card for PC-AT and faster personal computers. Multi-screen menu-driven HAL DOS software is included with each ***P 3 8*** modem. The ***P 3 8*** is complete and ready to run. Plug in the board, connect three phono cables to your radio, and install the software. That's all there is to it! Whether you want to rag-chew, chase DX, or access BBS mail, the ***P 3 8*** is the internal modem of choice

RTTY-1

Call for Special Price

The HAL **RTTY-1** is an easy to use and very accurate tuning indicator. It may be used with virtually *any* FSK modem, TNC, multi-mode controller, demodulator, and receiver or transceiver. The crossed LED bars show correct tuning for all popular FSK modes including Baudot Teletype (RTTY), ASCII Teletype, AMTOR, SITOR, P-Mode*, and even HF Packet Radio. Just hook it to 12 VDC and your receiver's audio output and you're in business, even with modems that do not include "scope" output connectors.

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