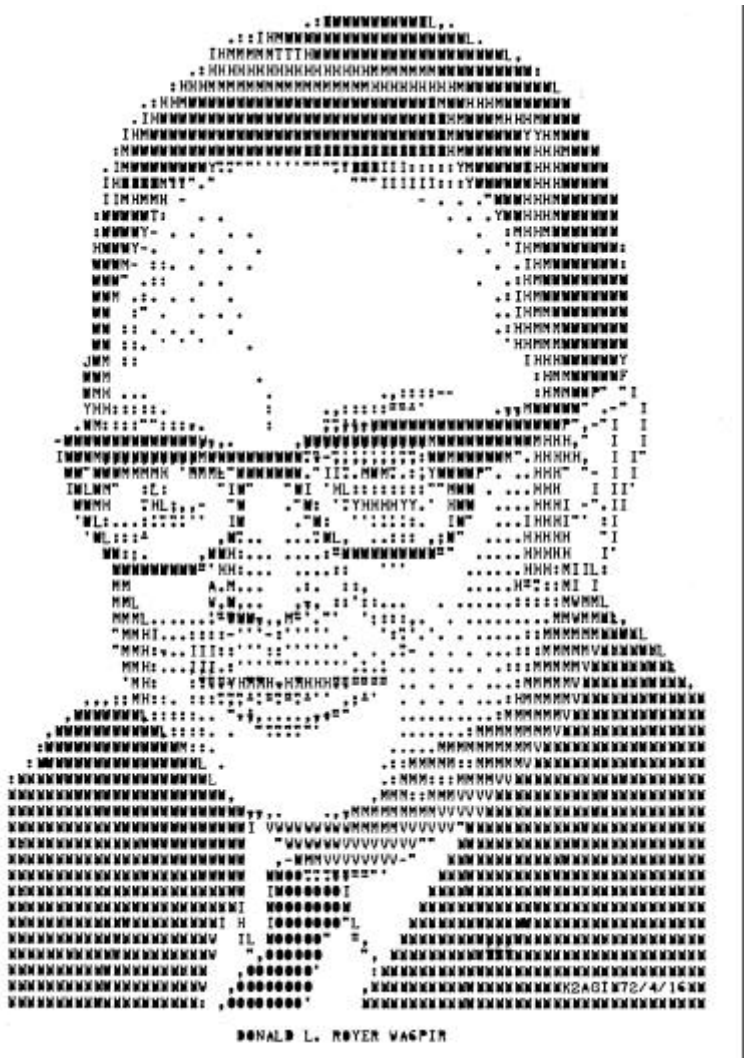
The New
RTTY *Journal* ©

P.O. Box 236, Champaign, IL 61824-0236 Volume 47, Number 3, August 1999 $5.00

Silent Key Don Royer, WA6PIR

RTTY Friend and Teletype Artist



Self-Portrait by Don Royer, WA6PIR

RTTY CONTEST SCHEDULE - FALL 1999

Date & Time	Name & Sponsors	Date & Time	Name & Sponsors
09/25 0000 to 09/26 2400	CQ/RJ World-Wide RTTY DX Contest	10/13 0000 to 10/14 2400	W.A.E.D.C.
10/2 0000 to 2400	TARA PSK31	10/17 0000 to 10/18 2400	JARTS
10/6 ????	Internet Sprint	11/6 1200 to 11/7 1200	Ukranian DX Contest
10/9 1200 to 10/10 1200	BARTG Sprint		

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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Hits & Misses

Bill Henry, K9GWT
ghenry@advancenet.net

This month, I'm feeling old. 1999 has been a difficult year. Last issue, we paid Silent Key tribute to Ray Petit, W7GHM. Since then, it is my sad duty to report loss of two more super friends within our small group, RTTY Picture Man Don Royer, WA6PIR, and Al Dorhoffer, K2EEK, editor of CQ Magazine. Don was a long time friend of former RTTY Journal Editor Dale Sinner and I've asked Dale to tell us all about Don later in this issue. That's Don's "picture" on our front cover this month - a self portrait in "X's and O's". Note his QSL card on page 5.

Al Dorhoffer and I go back to 1965-66, when he was a fresh young editor at CQ and I was trying to get my first Model 15 to print. Al sold me my first copy of Byron Kretzman's The New RTTY Handbook at the Dayton Hamvention in 1966. In 1967, HAL Devices and I joined Al and CQ on the hamfest merry-go-around. No doubt, most of you "grew up" and took responsible jobs. Some of us joined the "ham circus" and went off to see the world (we say "work the world" in ham circles). For 30 plus years, many of us did 20 to 30 shows per year. Most of the time, it was a lot of fun. Al and I kept the "restaurant guide" - where to eat and who to tip in each town. After standing in the booth on concrete floors for 8 to 12 hours and scarfing "tube steaks" while we talked, it was always a treat to sit down and unwind. We'd swap tales, feed our faces (with "real food"), and get back to the hotel - so that we could get up and do it all again the next day. As we said - "somebody has to do it".

In addition to full time employment at CQ, Al's after-hours ham interests were first in building equipment for 6-meter weak signal work and more recently in chasing 10-meter DX. However, he also had a full complement of the "latest and greatest" RTTY stuff in his shack. Al loved "toys" - and he had a bunch! Al was a strong behind the scenes supporter of RTTY and always interested in what we were "up to". He was always asking for more RTTY articles and devoted the November issue of CQ to RTTY for many years. This came at the same time that many of us RTTY authors had articles turned away by another publication because "we've printed our RTTY article for this year".

Al succumbed to cancer this July. His departure is a big loss for all of us in ham radio. I highly recommend that you read Dick Ross's stirring Zero Bias editorial in September, 1999 CQ. 73 good friend Al Dorhoffer.

This issue, we have quite a variety of articles and features. First, there's the article about Don Royer and some of his RTTY Art. Next, Tom Kleinschmidt offers insight behind the design differences between Kleinschmidt and Teletype machines. Tom has a lot more great photos than we had room to print - but - call up our web site (www.rttyjournal.com) and study all the details. The annual **CQ/RTTY Journal WW DX Contest** is coming up in September. The rules are to be found on page 11. Finally, there's the long promised "deedle-deedle" article by Crawford MacKeand and another switch box idea from yours truly. AND - don't forget the ARRL SW Division this October - on the **Queen Mary**. Look for Dale, Faye, Linda, and me there.

73
de Bill K9GWT

Al Dorhoffer, K2EEK **Bill Henry, K9GWT** **Linda Henry**
1999 Dayton Hamvention

Silent Key

Don Royer,WA6PIR

Don was born in Minneapolis in January, 1923. He grew up on an Iowa farm, attending a one-room school with his sister Mary Louise. Don's family moved to Pasadena in 1936 and Don later served in the California National Guard and then in the U.S. Army during WWII.

Don studied Mechanical Engineering at Pasadena Junior College, worked as patent draftsman for Lockheed, and then obtained a degree in secondary education while working nights in a hospital emergency room. Don was admitted to practice as a Patent Agent in 1949 and also taught public school for 3 years. About this time, Don earned a degree in business administration by way of a correspondence course. In 1971, Don enrolled in night school at Midvalley College of Law, graduating with his law degree Magna Cum Laude in 1975. He was admitted to the bar in 1975 and practiced law until his retirement in 1989. Don also taught a course in Patent, Trademark, and Copyright Law at Midvalley in 1976 and 1977. Don was employed by several aerospace firms, the last being 26 years at McDonnell Douglas as Chief Trademark Counsel.

Don has been an active Mason since 1964, serving in many capacities over the last 45 years. His hobbies included magic, photography, sports cars (rallies and racing), as well as amateur radio and computer science. Don also served as a volunteer Hearing Officer for the Youth Rehabilitation Services in Fountain Valley.

Don is survived by his wife Maxine, daughter Judith , son David, and four grandchildren.

Don Royer, WA6PIR

Pioneer of RTTY Art

Dale Sinner, W6IWO
dsinner@tfb.com

I first met Don Royer, WA6PIR, in the late seventies. I had been inactive for a few years but when I joined "SCATS" (Southern California Amateur Teletype Society), I met RTTY hams from Oxnard all the way south to San Diego. SCATS was very active and boasted a 2 meter repeater and many other activities including RTTY Art. Pictures were a big part of the RTTY hobby in those days. Almost every Saturday and Sunday pictures were sent via HF RTTY. Don was a regular, sending art back and forth between Los Angeles and the rest of the world.

Don published his first RTTY Art article in the November, 1970 issue of the RTTY Journal - "RTTY Art Made Easy" (reprinted in Sept., 1974 issue). In 1974, the RTTY Journal under Dee Crumpton, N6ELP, sponsored a "Keyboard Art Contest", of course with Don as the contest manager. There are many examples of Don's Art to be found in the 1970 through 1977 issues of the RTTY Journal (Vol 2 and 3 of the CD-ROM set).

As many of you know, sending RTTY pictures reliably was not easy. You needed a perfect tape, flawless RTTY equipment, and reliable radio gear. Don had both the RTTY equipment and super heavy-duty ham gear. His amplifier was a 4-1000A home-brew job that would run key-down all day at 1 kW input without straining. There were quite a few active RTTY artists in the 1970's and copying pictures was fun and good experience for all of us RTTY types. These fellows were particularly active during the holidays. You'd find guys sending pictures of rabbits and chickens at Easter, turkeys at Thanksgiving, snow men, Santa, and even a "bunny" at Christmas. Don was probably most popular for his art of "bunnies" (two-legged, minimum clothing type). He did quite a few of those babes. However, his most famous RTTY art was a reproduction of Rembrandt's "Danae" which also adorned his QSL card as shown on page 5. This picture was made and sent in five panels. No one had ever done this before nor has anyone since.

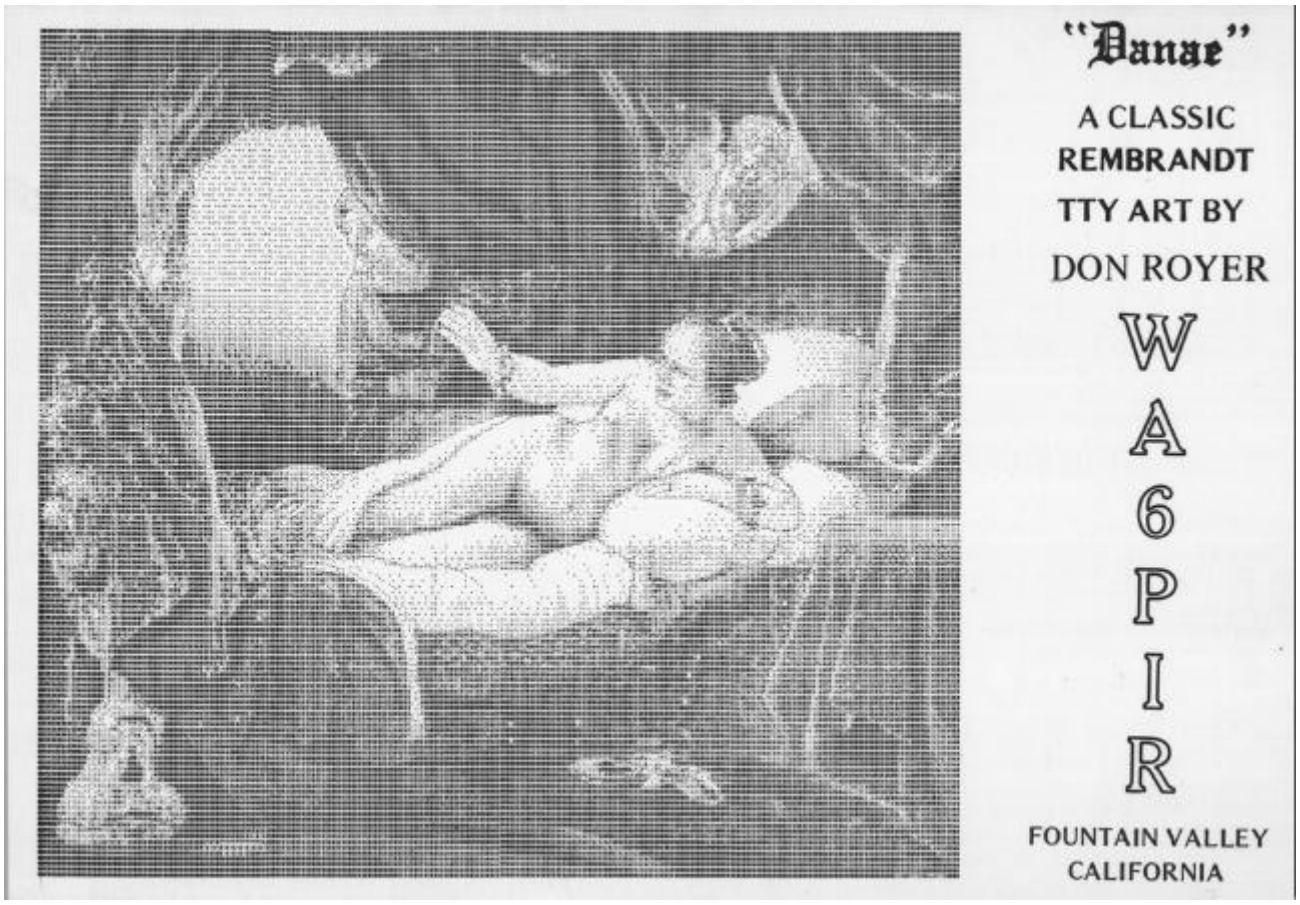
I met Don in the late seventies and we became friends. Don was an attorney and I often consulted with him about legal issues. Don and his beautiful wife Maxine lived only about a mile from us in Fountain Valley. Faye and I often joined Don and Maxine for dinner. When RTTY started using computers, Don was in on the ground floor, building his own of course. Don became engrossed with computers and soon spent so much time working with them that amateur radio took a back seat. He never really came back to amateur radio and near the end of his life he sold all his gear. Don became my "PC-guru" when I bought the RTTY Journal back in 1986. Many times he bailed me out of trouble when the #$^&*$# computer blew up.

Don was very dedicated to whatever cause or hobby he became involved in. He had a very busy and active life, one filled with many interests and vocations. One can only imagine how any one could change fields so many times. But, with all of his activities, he still had time for fun with his many friends.

73 & SK Dale Sinner W6IWO

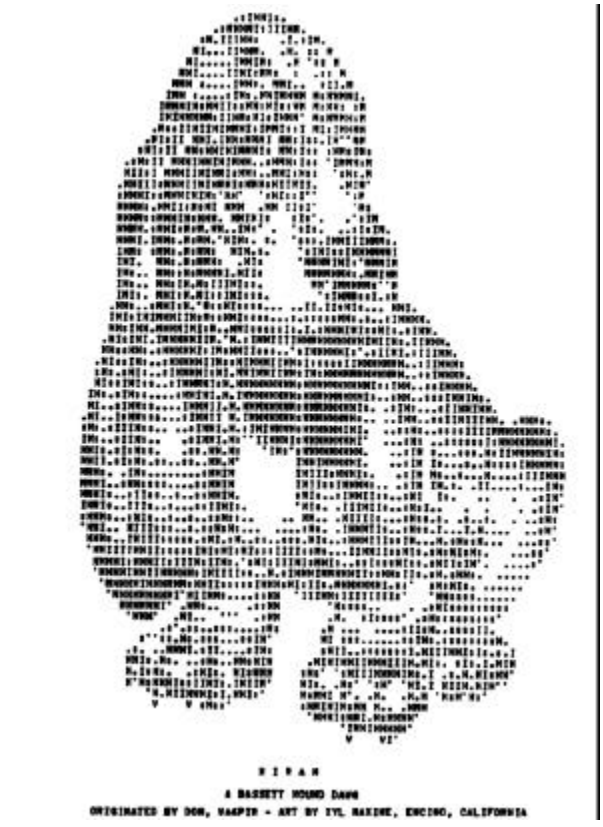
RTTY Art found in the RTTY Journal Vol. 18 no 10 issue page 17.

Don Royer, WA6PIR, in his shack Cover issue of the RTTY Journal May, 1969



5 PANEL REMBRANDT that adorned Ron Royer's (WA6PIR) QSL card

Portrait of Dusty Dunn, W8CQ
First Appeared on the Cover of the RTTY Journal in Jan., 1970



RTTY Art made from a drawing by Maxine, XYL of WA6PIR. (RTTY Journal,Vol. 18 no 10, p 17)

Contest Awards

Ron Stailey (K5DJ), Eddie Schneider (W6/G0AZT)
Joe Wittmer (KB9SIZ), Bill Henry (K9GWT)

Several issues have come up that we think need to be discussed in detail. Here is what we know is on your "hot list" right now. Please write if you have other questions.

A. Lost Plaques and Certificates:

We have recently had problems with loss or delay of several contest award plaques and certificates. The primary problem is that surface mail can be VERY slow. And, some of the addresses we have may not be complete or correct. Here is our intended solution:

1. Selection of plaque and certificate winners is made after all contest logs have been received, checked, corrected, and ranked.

2. All of the plaques are manufactured and certificates printed after logs have been checked and judged and the contest manager provides the call sign, name, and category data.

3. Each plaque has a sponsor who pays $50.00 per plaque to cover the cost of manufacturing and mailing. All certificates are sponsored and paid for by CQ and RTTY Journal.

4. CQ/RJ WW RTTY DX and CQ/RJ RTTY WPX Plaques are ready by the time of the Dayton Hamvention. As many plaques as possible are awarded in person at the Dayton Hamvention. Certificates are mailed as they become available.

5. After the Hamvention, plaques for those who cannot attend Dayton are turned over to a mailing service.

6. These plaques are sent via surface mail, with no insurance. This is done to minimize cost. Once mailed, the plaques are completely out of our control. There is no tracer number or any other way to find out shipping status.

7. Some plaques show up at DX destinations very quickly. Other plaques may take a year or longer to reach their destination. This may even be true for plaques going to the same country or city - some arrive very quickly and some arrive after a long delay.

8. Often, the delay in receiving your plaque or certificate is caused by poor or incorrect address information. We have only the name and address you provided on your log submission. If it is wrong, incomplete, or confusing, the plaque will probably never get there. Plaques are usually not returned to us. We are not informed if a plaque is "undeliverable".

9. However, we have paid money in good faith to manufacture each plaque and mail it to the best address we have been given. There is no money left over from the $50.00 sponsor's fee.

10. To remanufacture and re-mail a plaque requires another $50.00 payment by someone. And this will only buy another "surface mailing" - which again is not traceable and may not get there.

11. For these reasons, we suggest:
    a. Have patience. It may take a year or longer for the mail to deliver your plaque.
    b. If you want faster delivery, we ask that you pay to have a second plaque manufactured and delivered. The cost is $50.00 per plaque, plus the cost of special handling you may want - airmail, insurance, etc. If you want very fast delivery and require insurance, this could cost another $50.00 or more!

12. In the future, we will not automatically mail plaques that remain after the Dayton gathering. Rather, we will mail a confirmation post card to plaque winners who reside outside of the USA. We ask that you confirm or correct the address, answer a couple of questions about mailing and insurance, and then mail the card back to us. Receipt of your card will be our confirmation that we have your correct address. This will also give you a chance to purchase faster shipping and insurance if you so desire. Your plaque will be mailed only after we receive your card.

13. The cost to manufacture and mail the first plaque is paid for by your sponsors. If it is necessary to remanufacture and mail a second plaque, we ask that you pay this expense.

14. Many delivery problems can be avoided by providing very complete mailing information with your log entry. Problem areas include:
    a. Special and club call signs are usually not "OK in the call book"
    b. In multi-op entries, some call signs may be new, special, or "not in callbook". Give us a call sign, name, and valid mailing address for each operator.
    c. If you give a club address, is there really someone there to accept mail? Does your postman know that club mail to the station call sign can be received at this address or will he accept only a person's name?
    d. When in doubt, give us a reliable personal or business address at which there is someone present to receive mail during business hours.
    e. If extra fees are requested by your postage service, you must pay them. There is no provision to return plaques to us. If you "refuse" delivery, your plaque will probably go to a "dead letter box". It will not come back to us.

B. Contest Categories:

We have also had a recent controversy about entry categories and awards. We intentionally set-up a lot of entry categories to assure that a large number of RTTY operators can receive plaques and certificates. It has been our assumption that your entry category is dictated by your actual operation. But, it appears that there is a "loophole".

In the WPX, the assumption is if you work stations on more than one band, your entry is for one of the multi-band categories - single operator multi-band or multi-operator multi-band. Similarly, if you work stations only on one band, your entry will be in one of the single-band categories. This seems pretty obvious to us. But, this year we received a log in which all logged QSO's were for only one band - BUT - the operator labeled his log as "Single Operator, Multi-Band. We assumed that this was a "typographical error" and placed the log in the "Single Operator, Single-Band category. When all of the scores were tallied, this entry did not place near the top of the single band

category. BUT, this station's score was higher than that of the winner of the multi-band category. You guessed it - we have a protest!

The intention is for the names of the categories to imply groupings. If you submit logged QSO's for more than one band, you're in one of the "multi-band" categories. If your logged Q's are all on 20 meters, you should be entered in a single band category. This seems quite fair to us since "multi-band" operation implies greater effort - equipment and antennas to operate more than one band and willingness to risk the time required to change bands and risk wasting time tuning and calling on a dead band.

While obvious to us, this distinction between categories was not be as clear to everyone. Therefore, effective for the Y2K WPX contest, we are revising the rules. If you log QSO's only on one band, you're going to be placed in a single band category.

However, we admit that we didn't think of this in advance and the rules didn't say you couldn't do it. So for this year only, RTTY Journal is paying to have a second single operator multi-band plaque made and mailed.

C. Plaque Sponsors:

Ron Stailey, K5DJ, has come up with some absolutely beautiful award plaques for the CQ/RJ WW RTTY DX Contest in September and the CQ/RJ RTTY WPX Contest in February. Ron has these custom manufactured in Texas and then sees that each plaque is mailed to the winners. Each plaque has a sponsor who may be a firm, an individual, or a group of individuals. Each sponsor has "plunked down" $50.00 to fund the cost to produce and mail each plaque. This is the real cost to make and ship a plaque, and a zero-dollar effort for Ron. He "comes close" to breaking even. Nobody is making money - except maybe the company making the plaques. It's a "work of love" and must be done as time permits.

While $50.00 doesn't go as far as it used to, it's still a lot of money. Ron is always looking for new sponsors. The problem so far has been that there are usually not quite enough sponsors rather than too many. If Ron did get too many sponsors, he might even go to the contest advisory committee and ask them to dream up more categories!

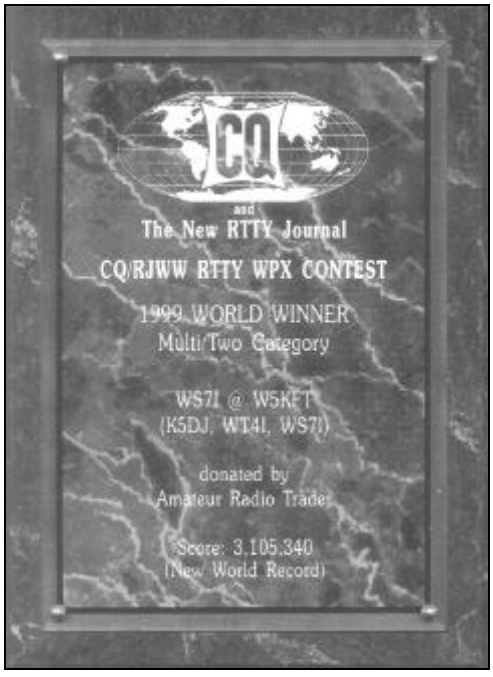
So, cut Ron some slack. It takes time to get all these things made. And, we discussed above, none of us have any control at all over the postal services! Oh yes, a lot of the plaque sponsors are individuals. If you win a plaque, drop a line to your sponsor and thank him (or her).

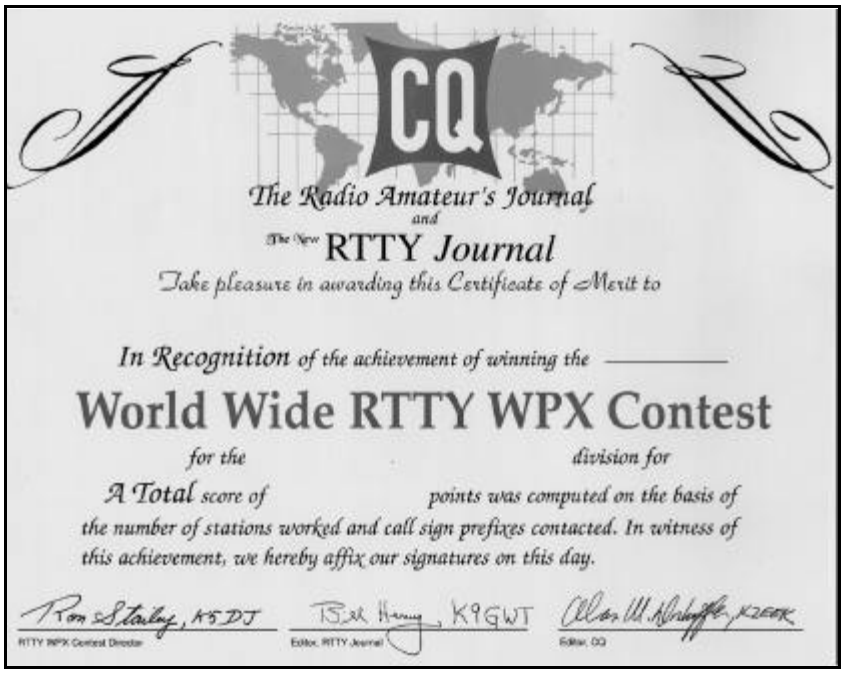
D. WPX Certificates:

The certificate program fell way behind during 1996 to 1998 due to the change in ownership of the RTTY Journal and confusion - about "who does what to whom". We think that this is finally all straightened out. Contest award certificates are now provided by CQ and the RTTY Journal. The magazines pay for all costs including printing and mailing. Joe Wittmer at the RTTY Journal is in charge of the WPX certificate program but he cannot provide certificates until he has data from the contest manager(s) and he certainly cannot change the awards. The certificates are generally mailed using 1st Class postage as part of the RTTY Journal's mailing program. In many areas of the world, this translates to "air mail" and these certificates are delivered quickly and reliably. However, in other areas, surface delivery is all that is available. Certificates can still be lost. As discussed regarding plaques, we must have good addresses!

LOOK OUT!

Leonard is getting ready for the next CQ/RJ Contest!





Switch Gizzie

Using a Modem AND a Soundcard

Bill Henry, K9GWT
ghenry@advancenet.net

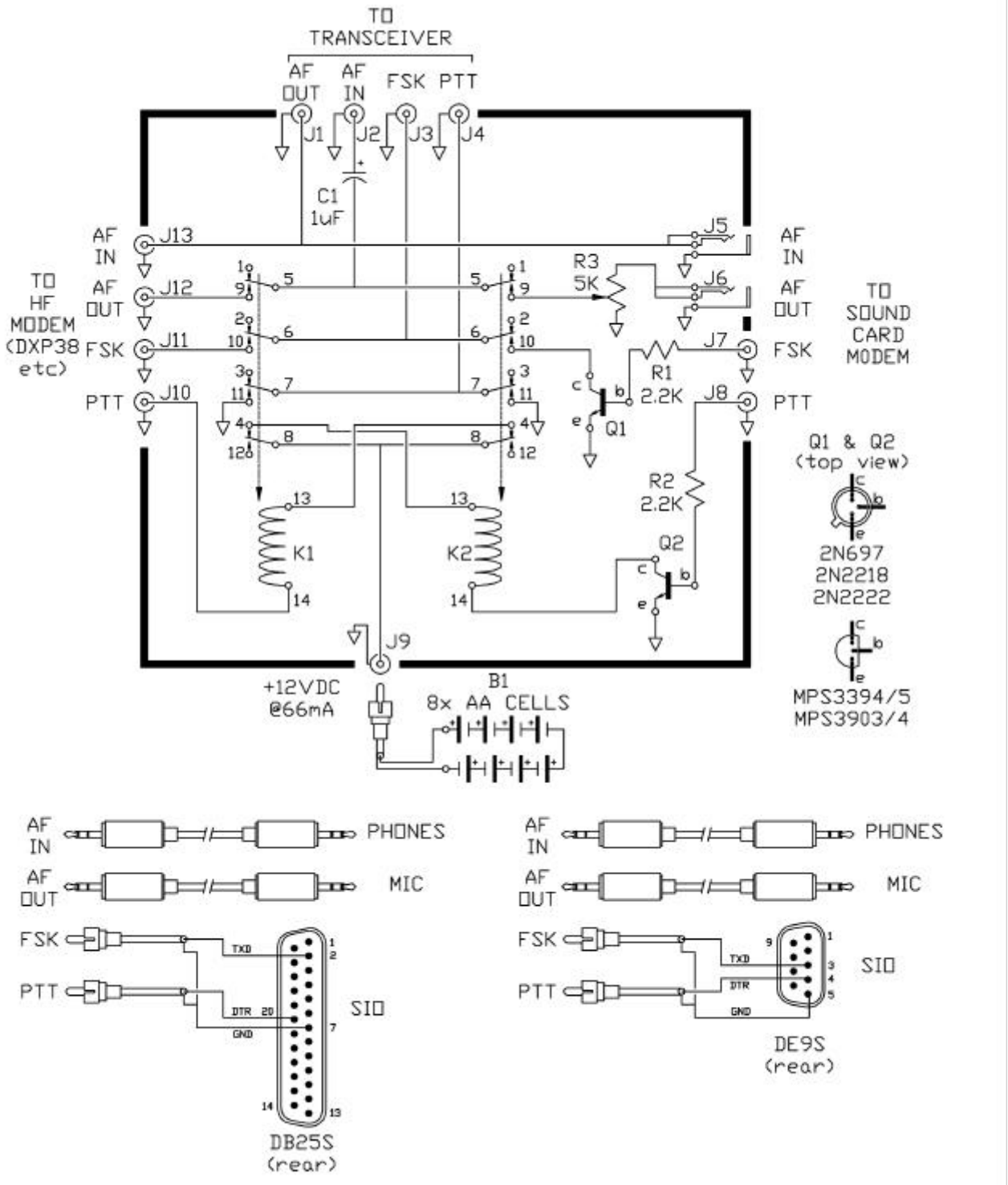
Joe Wittmer, KB9SIZ, and Ron, K5DJ, inspired this little piece. Here's something to do this winter - when the bands are dead. Several popular programs for RTTY now support a sound card as well as a modem. WriteLog does this and it's handy. Use the DXP38 for RTTY, AMTOR, Pactor, and CLOVER - and then use the sound card for PSK31, CW, and whatever else you may want to test. When you "click" on the modem or sound card, the software changes ports and gets the right commands to the chosen device. BUT, you still have to change cables or throw a switch to hook the desired modem to your radio. I discussed switch boxes and patch panels last year (August and November, 1998 RJ) but Joe said "can't we do this automatically?" Sure can, and here is one way to do it.

This circuit is for a modem and a sound card but the idea can be used for 2, 3 or more modems and sound cards. There are two assumptions in this design: (1) both modems are connected in parallel to receive, and (2) PTT activity selects which modem is hooked to the radio to transmit. Since the modem and sound card are always connected to the receiver, you can use tuning indicators of either and even demodulate from both at once (if your software supports it). But, we have to avoid a situation where the modem and sound card might interfere with each other - or even try to transmit at the same time.

The circuit is very simple. I've used plain old "vanilla" relays to do the switching - keep it simple and reliable. A minimum of 3 sets of relay contacts (poles) are required for each modem - TX Audio, TX FSK, and PTT. Since my Radio Shack relays have four poles, I've used the 4th set of contacts to interlock relay control so that only one or the other can be on at a time. Like my previous switch boxes, this gadget uses phono connectors for practically everything - except - sound card audio in and out. Sound cards typically use those little 1/8" stereo phone jacks and you might as well use the same jack on the switch box. There seems to be pretty uniform agreement that sound card modem programs use RTS (Request To Send) from a serial port to control PTT and TXD (Transmit Data) to drive the transceiver's FSK input. Diagrams of cables to match DB25 and DE9 connections are also shown. The parts can be found in your junk box, at a swap-meet or your local parts store. Radio Shack part numbers are shown for each part but substitute freely.

I've include potentiometer R3 on the sound card audio output. This lets you have an adjustment beyond the software. As I mentioned in a previous article (June 1999 RJ, p. 10) , set the software audio output level of the sound card to a pretty high level and then crank-down R3 to get the correct drive to your transmitter. This will minimize "birdies" from the sound card as well as giving maximum signal-to-noise at the transmitter input. Capacitor C1 may not be needed but some transceivers have DC on the mic. audio input. As we say - "better safe than sorry". Ron, K5DJ, recommends audio isolation transformers for audio in and audio out connections to your transceiver. It's a good idea but these connections often work OK without transformers. If you have 12 VDC already available in the shack, you won't need the batteries. This only draws current when transmitting - and only 66mA at that. I'd expect that a set of AA cells would make it through a couple of contests.

HAVE FUN!
de K9GWT



Switch Gizzie

PARTS LIST

B1	12 VDC Battery; 8xAA Holder (270-387 w. 270-325 cable)
C1	1uF, 25V Tantalum Capacitor (272-1434)
J1-J4	Chassis Mount Phono Sockets (274-346; pk of 4)
J5, J6	Chassis Mount 1/8" (274-246)
J7-J13	Chassis Mount Phono Sockets (274-346; 2x pk of 4)
K1, K2	4PDT Relay, 12 VDC coil (27-214)
Q1, Q2	NPN Transistor, 2N697, 2N228,2N3394/5, 2N3904/5, etc. (276-2016)
R1, R2	2.2K, 5%, 1/4W Carbon or Fim Resistor (271-1325)
R3	5K Potentiometer (271-1714)
Cabinet	Project box 6x4x2 (270-1806)

Striving For 100 WPM

Tom Kleinschmidt

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Around World War II, the US Army Signal Corps wanted a teleprinter that would run at 100 Words Per Minute (WPM) rather than 60 WPM. Teletype Corp's solution was a radical departure from conventional machines - the Model 28. It is certainly a well loved piece of gear by those that provided it "care and feeding", and very entertaining to watch. I will leave the discussion of that machine to another time with the help of my much more learned friends.

Kleinschmidt Labs (KL) offered a new design in the late 1930's to Teletype Corp and was flatly refused. In 1950, Kleinschmidt began production of that design as the portable (60 pounds!) Model 100 (Military TT-4), and later its desktop companions, the Model 150 family (Military TT-98, TT-100, etc.).

The KL Model 100 has a motor driven main shaft, wet felt clutches, a moving type basket, platen crank on the left, document holder on the front and Baudot coding. So far this is a description of the Teletype Model 15! However, the KL would run at 100 WPM. If the Model 15 (Military TT-5, TT-6…) is geared for 100 WPM it tends to self-destruct rather quickly. What is the KL secret? KL shafts have double lobe cams, one on each "side", 180 degrees apart. The Model 15 has only one cam lobe on its shafts. As a result, the rotating speed of the shaft is half that of the Model 15 for the same data rate. It runs smoother, quieter and longer.

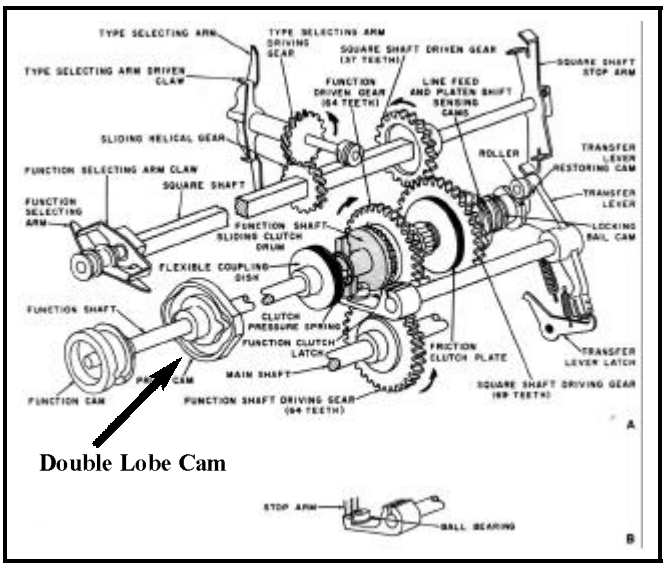
The analogy of an automobile engine applies. If you keep the RPMs down, you reduce the wear. Very high RPMs on an auto engine can cause valve "float". That is, the valve has inertia based on it's mass that keeps it in motion in the direction it was initially moved. When moved fast, it will delay returning to or following the camshaft. You may recall a gentleman named Newton who pointed out to us in high school physics, "A body in motion tends to stay in motion…" He didn't say it was easy to change the body's direction! The Model 15 design likely encounters the same problem as automotive valves, with it's cam followers "floating" at 100 WPM. This is not meant to criticize the Model 15; Kleinschmidt and Krum designed it! This is just an early step in the data speed evolution. Remember when having a computer with a 40 mHz processor was hot stuff?

Other differences between the KL machines and the Model 15 were due to patents (most notably the selector design), and the military's desire for weight reduction. The KL castings and sheet metal are magnesium rather then the cast iron and steel used in the 105 pound Model 15.

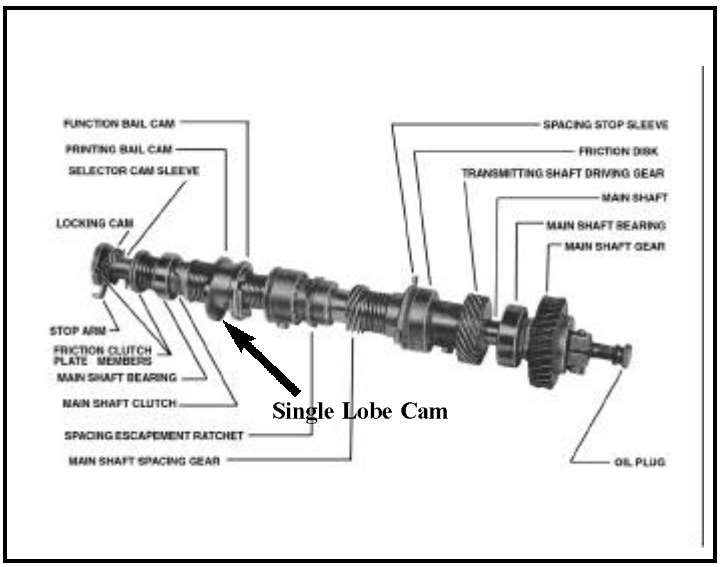
Below are photos of the line shafts of the Model 15 and KL Model 100 for comparison; Model 100 on the left and the Model 15 on the right. See http://www.rttyjournal.com for more comparison photos.

Is it a coincidence that the desktop version of the KL is a Model 150 and the Teletype Corp Machine is a Model 15? Not likely! The 100's and 150's replaced the 15's as the standard military teleprinter during the Korean War.

Tom Kleinschmidt is a great grand son of Edward E. Kleinschmidt.



Kleinschmidt Labs Model 100 - Double Lobe Cam



Teletype Model 15 - Single Lobe Cam

1999 CQ/RJ World-Wide RTTY DX Contest

September 25-26, 1999
0000 UTC Saturday to 2400 UTC Sunday

Sponsored by CQ Magazine and The New RTTY Journal

I. Announcing: The Eleventh Annual CQ/RJ RTTY WW DX Contest.

II. Objective: Amateurs around the world contact other amateurs in as many CQ Zones and Countries as possible using digital modes.

III. Contest Period: 0000 UTC September 25 to 2400 UTC September 26 1999.

Note: The total contest period is 48 hours, ALL STATIONS and Operator Classes may operate the entire 48 hour period, there are NO REQUIRED OFF TIME PERIODS for any entries.

NOTE OPERATOR CLASSES

IV. Operator Classes: There is a High Power category (greater than 150 watts) and a Low Power category (less than 150 watts). Only Single Operator All Band and Multi-Op Single Transmitter entries are eligible to enter the High or Low Power category. Enter one or the other, and so note in your log. Single Band entries, Single Operator Assisted, and Multi-Multi entries are not eligible to enter the High or Low Power category.

1. **Single Op, All Band and Single Band.** One person performs all operating and logging functions. Use of spotting nets, DX Alert systems, telephone, the internet, etc., is *not* permitted.

2. **Single Op, Assisted, All Band Only.** One person performs all operating and logging functions. Use of DX spotting nets or any other form of DX alerting assistance is allowed. The operator can change bands at any time. Single operator stations are allowed only *one* transmitted signal at any given time.

3. **Multi-Operator, Single Transmitter.** All band entry only. More than one person operates, logs, checks for duplicates, use of a spotting net, etc.

   a. NOTE: Only one (1) transmitter and one (1) band permitted during the same period (defined as ten [10] minutes). Once the station has begun operation on a given band, it must stay on that band for 10 minutes; listening time counts as operating time.

   b. EXCEPTION: One-and only one-other band may be used during the same time period if-and only if-the station worked is a new multiplier. Logs found in violation of the 10-minute rule automatically will be reclassified as multi-multi to reflect their actual status.

4. **Multi-Operator, Multi- Transmitter.** All band entry only. No limit to the number of transmitters, but only one (1) signal per band permitted. All transmitters must be located within a 500 diameter or with in the property limits of the stations licensee's address, whichever is greater. The antennas must physically be connected by wires to the transmitter.

V. Entry Categories:

1. Single Operator All Band High Power or Low Power
2. Single Band
3. Single Operator Assisted, All Band
4. Multi-Op Single transmitter, All Band, High Power or Low Power
5. Multi-Op Multi Transmitter, All Band

VI. Modes: Contacts may be made using BAUDOT, ASCII, AMTOR, PACTOR, G-TOR, CLOVER, and Packet (no unattended operation or contacts through gateways or digitpeaters).

VII. Bands: 80, 40, 20, 15, and 10 meters

VIII. Valid Contacts: A given station may be contacted only once per band regardless of the digital mode employed. Additional contacts are allowed with the same station on each of the other bands.

IX. Exchange: Stations within the 48 continental United States and the 13 Canadian areas must transmit RST, State or VE area, and CQ Zone number. All other stations must transmit RST and CQ Zone number.

X. Countries: The ARRL and WAE country list will be used.

NOTE: The USA and Canada count as country multipliers. *Example:* The first US State and Canadian area you work not only counts as a multiplier for the state or area, but also as a country multiplier for each band.

XI. QSO Points: One(1) QSO point for contacts within your own country. Two (2) QSO points for contacts outside your own country but within your own continent. Three (3) QSO points for contacts outside your continent.

XII. Multiplier Points: One (1) multiplier point for each US state (48) and each Canadian area (13) on each band. One (1) multiplier point for each DX country in the ARRL and/or WAE lists on each band. One (1) multiplier point for each CQ zone worked on each band. Maximum of 40 Zones per band.

1. NOTE: KL7 and KH6 are country multipliers only and not state multipliers.
2. NOTE: Canadian areas are: VO1, VO2, VE1 NB, VE1 NS, VE1 PEI, VE2, VE3, VE4, VE5, VE6, VE7, VE8 NWT, and VY Yukon.

XIII. Final Score: Total QSO points times the total multipliers equals the total claimed score.

XIV. Contest Entries and Logging Instructions: CQ/RJ WW RTTY DX logs and forms should be used to facilitate scoring and checking. All logs must show:

1. Times in UTC.
2. All sent and recieved exchanges are to be logged (callsign, RST, Zone, country, State/VE, points claimed).
3. Indicate State/VE area Zone, and Country Multiplier only the first time they are worked on EACH BAND.
4. Use a seperate log sheet for EACH BAND.
5. A check list of duplicate contacts for EACH BAND (DUPE SHEET). Logs MUST be checked for duplicate contacts, correct QSO points, and multipliers. Submitted logs must show duplicate contacts clearly marked.
6. A MULTIPLIER check sheet for EACH BAND.
7. An overall SUMMARY SHEET showing total QSO's, Points, Zones, Countries, and States/VE areas worked.
8. Each entry must be accompanied by a signed declaration that all contest rules and regulations for amateur radio in the country of operation have been observed. Contest forms are available from CQ and the Contest Directors. Please include a large SASE with two units of US first-class postage or IRCs.
9. DISKS: Logs may be sent on disk. Clearly label the outside of the disk with the call, file names, and type of program. All disks MUST be accompanied by a printed summary sheet., not the entire log.
10. Logs may be also sent via e-mail, addresses for both Low and High Power Categories are listed below.

XV. Disqualifications: Operating in an unsportsman like manner, manipulating scores or times to achieve a score advantage, or failure to omit duplicate contacts which would reduce the overall score more than 2% are grounds for disqualification. The use of non-amateur means such as telephones, telegrams, the internet, etc., to elicit contacts or multipliers during the contest is unsportsmanlike, and the entry is subject to disqualification. Actions and decisions of the Contest Committee are official and final.

XVI. Awards: Plaques will be awarded to the first-place finishers in each of the operator classes. Certificates will be awarded to second and third places. Certificates will be awarded to the first-place finishers in each DXCC country. In countries or sections where returns justify, certificates may be awarded to second and third place. All scores will be published. To be eligible for an award, a Single Operator station must operate a minimum of 12 HOURS and a Multi-Operator Station, a minimum of 18 HOURS. A Single Band entry is eligible for a single band award only. If a log contains more than one band, it will be judged an all band entry, unless specified otherwise. All certificates and plaques will be issued to the licensee of the station used.

XVII. Deadline: All entries must be postmarked no later than December 1, 1999. An extension may be given if requested.

Low Power logs should be mailed to:
Roy Gould, K1RY
CQ WW RTTY DX Contest Director
P.O. Box DX
Stow, MA 01775 USA.
Low Power Log E-Mail address is:
k1ry@contesting.com

High Power Logs should be mailed to:
Ron Stailey, K5DJ
CQ WW RTTY DX Co-Contest Director
504 Dove Haven Drive
Round Rock, TX 78664-5926
High Power Logs E-Mail address is:
k5dj@contesting.com

XVIII. Plaques(Donors): Sponsors V.I.P. List

There are many plaques looking for sponsors: High Power, Low Power, Single Band, a specific country, Multi-Op by continent, etc. If you are interested, contact:

Ron Stailey, K5DJ
CQ WW RTTY DX Co-Contest Director
504 Dove Haven Drive
Round Rock, TX 78664-5926
E-Mail: k5dj@contesting.com

Single Operator, All Band, High Power

World	Dunestar Systems
N. America	TG9VT Memorial by K1RY & W2JGR
USA	Open
S.America	Elmers plaque, by Ed Hancock, K3KW
Europe	The New RTTY Journal, by K9GWT
Oceania	Ham Stuff, by Ron Hill, W7NN
Asia	N5JJ Memorial, by K5AAD
Africa	Open

Single Operator, All Band Low Power

World	Amateur Radio Trader
N. America	Dick Stevens, N1RCT
USA	The New RTTY Journal, by K9GWT
Europe	Don Hill, AA5AU
Asia	Bruce Lee, KD6WW
Oceania	Dave Barr, K2YG
Africa	Bill Gallier, W4WX
S. America	Open

Single Operator Assisted

World	CQ Magazine
N.America	Jeff Bouvier, K1AM
USA	RTTY by WF1B
Europe	The New RTTY Journal, by K9GWT
Asia	ICDXA Icom DX Association of Japan
S. America	Great Lakes DX and Contest Club (K9PXV)
Oceania	Open
Africa	Open

Single Operator, Single Band

3.5 MHz	Neal Campbell, K3NC
7.0 MHz	Tri-County DX Association
14 MHz	Kunihiko Fujii, JH1QDB
21 MHz	Denis W4DC & Mike KA4RRU
28 MHz	N1JJ, Johnson Joules Contest Club

Multi-Op, Single Transmitter, High Power

World	Amateur Radio Trader
N.America	Ron Stailey, K5DJ & Wayne Matlock, K7WM
USA	WriteLog for Windows Contesting S/W by K5DJ
Europe	Rodrigo Isola Tarikian, PY2KC/PW2C
Oceana	Tom Morton, K6CT
S. Ameriaca	The Florida Boys
Asia	Tom Moore Sr, WB8RPK
Africa	Open

Multi-Operator, Multi-Transmitter

World	HAL Communications Corp.
N. Ameriaca	Jody Millspaugh, VP5JP
USA	Platinum Coast Amateur Radio Society
Europe	Euraf Communications, Benin by TY1PS

All Other Continents - Open

Multi-Operator, Multi-Transmitter

World	CQ magazine
N.America	The New RTTY Journal, by K9GWT
Europe	The W3LPL RTTY Contest Group

All Other Contenents - Open

Beedle Beedle

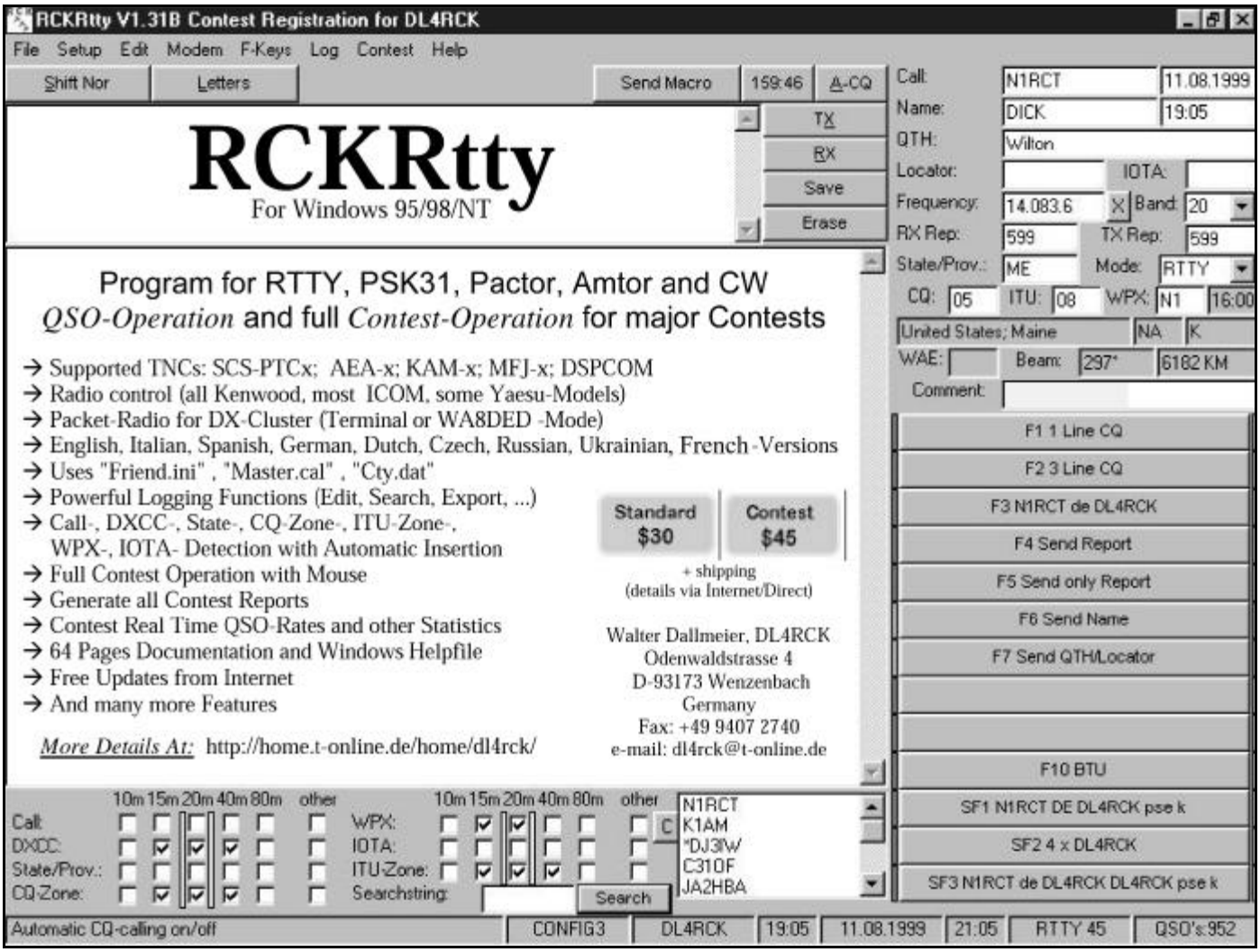
A Digital Snippet by
Crawford MacKeand, WA3ZKZ

One of the things that you find out as you gain experience (which can roughly be translated as an antiquing process) is the more certain knowledge of those things you are not good at. I now know, for example, that I am not good at things graphic. I run my computer in DOS, for the simple reason that I cannot for the life of me remember what all those funny little pictures mean in Windows. (I do wish someone would come out with "Windows for the Graphically-Impaired!") I had a further clue of my incapacity a couple of years ago. I had always had a fairly good ear for language, and when I retired I decided to try to learn Japanese. The first hurdle was the Hiragana syllabary. You can't say alphabet - it's not alphabetic - each symbol by and large stands for two of our letters. There are fifty-five of them, and that's bad enough. But then, any foreign word, and many things we would capitalize, like headlines and telegrams, by convention use Katakana. The same sounds, but a whole new fifty-five signs. And when you master all of this plus the spoken language, you still can't read. All the senses of the words, the nubs as it were, are written with Kanji, originally from China. A high school kid knows some 10,000 of these and a university graduate has 30,000 or more at his or her fingertips. Noooo way, Jose. Not me. (I did hold out for a whole year!)

Nailing Jelly to a Tree: What has all this to do with digital radio? Only this. A good few years back, when I started to learn computer programming (in K-Autocode... anyone heard of it?) the going was not too difficult. Then FORTRAN, and finally BASIC. In learning BASIC, I used a little book from the late lamented Dilithium Press. The author described the process of nailing down software in ones mind as kin to the strange, difficult, but do-able, job of "Nailing Jelly to a Tree". I thereafter found the point at which my abilities in software and in graphics clash. To visualize, and this seems to be the important point, the interaction of events in real time, one apparently needs the ability to think graphically. I have struggled with the real-time aspects of AMTOR, I used to try to understand timing cam diagrams of Teleprinters, and I failed both tests miserably. Come to think of it, I never did find phasor diagrams any help either.

So I guess that the realtime tree just won't take my nails, or I am still, after all these years, holding the hammer at the wrong end. But, I wonder how many out there find they have the same blind spot. Therefore, I hereby take my hat off to people who really do relate to timing diagrams and the like, and make digital radio such fun for the rest of us. And for the JA's in this bracket, a bow of deep respect indeed!

Editor's Note: This little piece first appeared in the January, 1996 issue of the Digital Journal. Crawdford has a very unique sense of humor and his topic - understanding software - is even more appropriate 3 ½ years later. Crawford has agreed to provide us with new "Beedle Beedle" columns from time to time.



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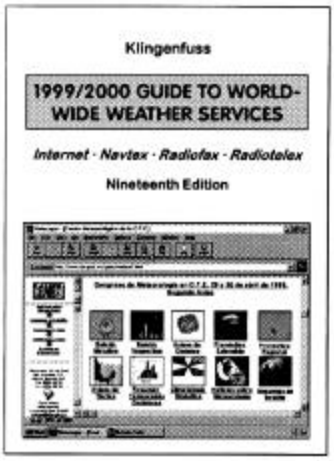

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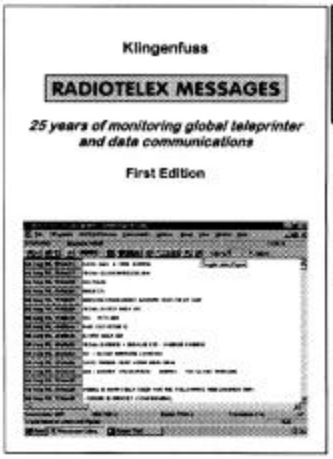

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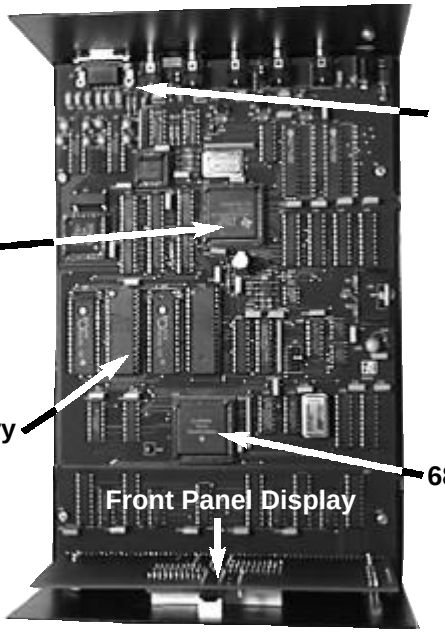

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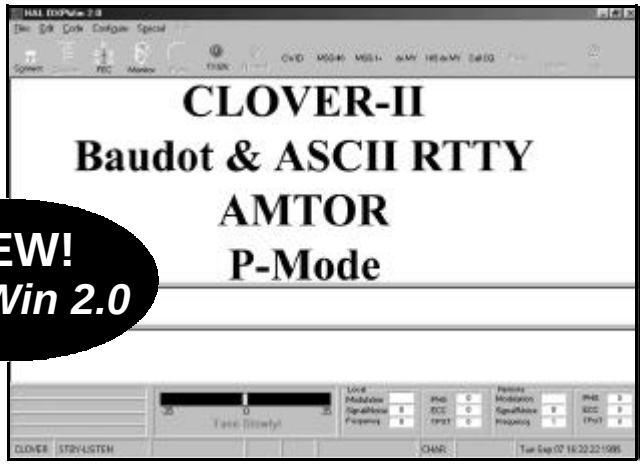

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