

# DIGITAL

Formerly published as the  
RTTY Journal, and the  
RTTY/Digital Journal

The Premier Source of  
Digital News and Knowledge  
Since 1953

# Journal

Published by the International Digital Radio Association • Volume 44, Number 9 • September 1996 • \$3.50

## IN THIS ISSUE

President's Corner .....	3
Dial Notes .....	4
DX News .....	5
Software News/Reviews .....	8
DX Views .....	11
Across the Pond .....	12
Icom IC-761 Mods .....	15
Contesting .....	16
Hints & Tips .....	17
The Contest Chair .....	19
Other Digital Modes .....	21
Digital Satellites .....	23
1st Internet RTTY Contest .....	26
The Last Word .....	27
Classifieds .....	29
Software Store .....	30



Digital Journal (USPS 391-850) is published monthly, for \$25 per year by the International Digital Radio Association, 1908 Howell Branch Road, Winter Park, FL 32792. Second-Class Postage paid Winter Park, FL and additional entry offices. Postmaster: Send address changes to Digital Journal, P.O. Box 2550, Goldenrod, FL 32733-2550.



International Digital Radio Association  
P.O. Box 2550  
Goldenrod, FL 32733-2550

SECOND CLASS  
POSTAGE PAID  
GOLDENROD, FL  
32733-2550

Copyright 1996  
IDRA • All Rights Reserved  
Permission for reproduction or dissemination of  
any of the material provided herein must be  
obtained in writing from the Publisher.



--Expiration: COMP/ \*  
BILL HENRY  
HAL COMMUNICATIONS, INC  
PO Box 365  
Urbana IL 61801-0365 USA

=====

# DIGITAL Journal

Published by the International Digital Radio Association  
PO Box 2550, Goldenrod, FL 32733-2550  
Tel (407) 677-7000 • FAX (407) 671-0194

#### INTERNET:

WWW Site at: <http://www.iea.com/~adrs>  
FTP Site at: <ftp.iea.com/public/adrs>  
Internet/E-mail: [adrs@iea.com](mailto:adrs@iea.com)  
Electronic Journal: <http://www.n2hos.com/digital/>

#### Editor

Jim Mortensen, N2HOS : (813) 596-3105 / FAX (813) 596-7473

#### Associate Editors

Neal Campbell, ON9CNC • Don Hill, AA5AU

#### General Manager

Tom Arvo, WA8DXD : Tel/FAX same as IDRA

#### Directors/Officers

Paul Richter, W4ZB (President)  
Jim Mortensen, N2HOS (Vice President)  
Al Matlick, W2TKU (Secretary)  
Glen Vinson, W6OTC (Treasurer)  
Jules Freundlich, W2JGR • Joel Kandel, KI4T • Ron Stailey, AB5KD  
Peter Schulze, TY1PS • Barry Garratt, VE3CDX

#### Editorial Staff

Bob Boyd, W1VXV • Neal Campbell, ON9CNC • Jules Freundlich, W2JGR  
Steve Holton, N2QCA • Glenn Vinson, W6OTC  
Richard Lawton, N6GG • Crawford Mackeand, WA3ZKZ  
Doug Hall, KF4KL • Ron Stailey, AB5KD • Jim Coleman, KA6A  
Bob Lewis, AA4PB • Dave Wolf, WO5H • Betsy Townsend, WV7Y  
Paul Richter, W4ZB • Peter Lumb, G3IRM • Fred Salzwedel, DK4ZC  
Hal Blegen, WA7EGA • Roy Gould, KT1N • Don Hill, AA5AU  
Dave Medley, KI6QE • Tom Housworth, N3PGG • Dick Stevens, N1RCT

## Membership Rates & General Info

Rates =	1 Year	2 Years	3 Years*
No. America	\$25	\$47	\$68
1st Class US	\$32	\$60	\$85
DX - Surface	\$32	\$60	\$85
DX - Airmail	\$42	\$78	\$114

**\*Deduct \$2 more if a gift subscription  
is added to the total**

Surface mail is not recommended to the former USSR Republics, Asia, Oceania or the Middle East. Payment must be in US funds. Allow 6 weeks on new subscriptions. Visa/MasterCard accepted. Make all remittances payable to the International Digital Radio Association.

The principal goal of the IDRA is to advance digital technology as it applies to amateur radio and promote the wisest use of the digital portion of the spectrum. Being a member makes you a partner in advancing these digital goals. IDRA is a not-for-profit corporation and contributions to the Society are deductible for income tax purposes to the extent allowable under the tax laws of the United States.

### Have you checked your mailing label lately?

If the **Expiration 09/96** appears next to your name, it means your IDRA membership, and subscription to the **Digital Journal**, expires with this issue.

To keep your membership, and all the latest digital news coming your way, just fill out the coupon on page 29 and mail it -- **Today!**

# DSP4100



**DSP4100**

**HF Radio DSP Modem  
STAND-ALONE  
COMPACT  
PORTABLE  
HIGH PERFORMANCE**

**-- all the features you've been asking  
for in a CLOVER DSP Modem --**

At long last, the proven HAL DSP Modem architecture, modes, and software are available for applications that cannot use plug-in PC cards. While the DSP4100 closely follows the concepts of the PCI-4000, now you get CLOVER-II and high-performance TOR, Pactor, and RTTY in a stand-alone DSP modem. Requiring only 0.25A from a 12V battery, the 2.75 lb DSP4100 will go anywhere you can take your LAP-TOP PC and transceiver. Software changes are easily made in the field. Just pick-up new software from HAL and upload it to the DSP4100 via the serial port for storage in non-volatile FLASH RAM. A 2nd RS-232 port is included for customized systems. Call HAL now for complete details.



**HAL Communications Corp.**

P.O. Box 365, Urbana, IL 61801 USA

Phone (217) 367-7373 Fax (217) 367-1701 E-Mail [halcomm@prairienet.org](mailto:halcomm@prairienet.org)



# President's Corner

## A view from the top

by Paul S. Richter, W4ZB • P.O. Box 19190 • Washington, DC  
20036-9190 / E-Mail: 70743.3517@compuserve.com

Just about everyone in this hobby at one point or other becomes interested in working DX — other stations which are located a long distance away.

When I was first licensed as a youngster from a QTH in Connecticut in early 1961, my very first contact in the early hours before daybreak one morning was on 40 meters with a station in Illinois. That was a very exciting event. At that time I had only been to Illinois one time a few years earlier and I remembered that it had taken our family almost two days to drive to Illinois by car from the East Coast. To me at that time, Illinois seemed to be a quite a long distance away and I thought that was pretty good DX.

Within a few weeks, I put up a quarter wave vertical antenna at ground level which could be loaded on 15 meters and, thanks to partially cooperating propagation conditions at that time, quickly discovered how easy it was to work "real" DX when the band was open. Within a few more weeks, I had worked many stations in Europe with OH, DL, G, I, SM, OK and YU prefixes, and in South America with YV, HK, HP and HC prefixes. This, of course, was quite exciting for me. But I remember my parents and siblings who did not understand Morse code were skeptical until QSL cards started to arrive from these distant places.

Before long, I had met and visited several local hams who had been around and very active a few years earlier during the 1957-1958 sunspot peak. They told me they had easily worked stations in hundreds of countries all over the globe, day and night, during the sunspot peak period and showed me their QSL cards to prove it. They told me the then current HF propagation conditions were not very good, and would be getting much worse. I didn't appreciate the reasons for this at the time, but I later learned they were right. However, I also learned it

was possible with skill, knowledge, persistence and luck to work stations at very long distances even at the bottom of the sunspot cycle.

Early one morning in 1962, as the bottom of the sunspot cycle was close approaching, I tuned across the "dead" 20 meter CW band, hearing only one station, a VK0, calling CQ from MacQuarie Island with a fairly strong signal. When I answered, he told me he had been calling CQ for almost an hour without any return calls. We then had a 50 minute QSO with no other stations heard or attempting to break in. After our QSO ended, the band was still "dead" at my QTH to all other locations except for this particular "pipeline" from my QTH to VK0 the other side of the earth. I heard the VK0 call CQ for another 30 minutes and then go QRT after receiving no other calls. (In case anyone thinks this is a "fish story", I still have the QSL card to prove it.)

So much for reminiscing about the some of the mysteries of HF propagation. But now as a veteran of several full sunspot cycles, I can assure everyone that HF propagation conditions will improve greatly before long as the sunspot count increases. The pursuit of "rare" DX today is not as difficult as in the '60s. Back then, there were no DX Packet Clusters to report band openings and stations heard or worked in almost real time, and we didn't have Internet reflectors to e-mail announcements and WWW pages dedicated for particular DXpeditions. We also didn't have the good propagation prediction programs which are readily available today. And there were not nearly as many DXpeditions as today, probably because travel to remote locations was much more difficult and relatively more expensive, and equipment was much bulkier. I don't remember that any of the DXpeditions to "rare" DX locations in the 1960's included RTTY. The RTTY DX of the early and mid 1960's simply involved contacting RTTY stations at long distance and considerably less than 100 countries were regularly on the air on RTTY at that time. Today, RTTY is more and more being included as a mode on DXpeditions.

We hope all who are interested in these subjects will enjoy this issue of the Digital Journal which is devoted to RTTY DX and HF propagation topics.

73 Paul Richter W4ZB

## The most powerful DSP-Modem, and much more...

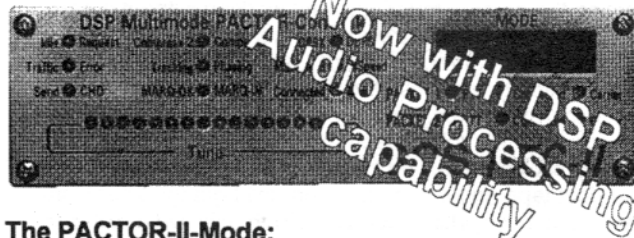
# SCS PTC-II

The Multimode-Multiport-Controller with  
PACTOR-II, the fastest digital mode on HF!

### The PTC-II-Hardware:

- Three simultaneously available communications ports: HF and up to two VHF/UHF Packet ports.
- Separate transceiver control port for remote operation of Icom, Kenwood and Yaesu equipment.
- True 32-bit system with the Motorola RISC processor 68360 as CPU, clocked at 25 MHz.
- 16-bit Motorola DSP 56156 clocked at up to 60 MHz (computing power: 30 MIPS).
- Expandable to 2 MB of static and 32 MB of dynamic RAM, firmware stored in flash memory.
- Modem tones programmable in 1 Hz steps.
- All digital modes can be implemented.
- All advantages of the PTCplus are also included.

For more details on the PTC-II and PACTOR-II see the Internet pages '[HTTP://WWW.SCS-PTC.COM](http://www.scs-ptc.com)'!  
Basic PTC-II with 512k static RAM: 950 US\$, Airmailing: 35 US\$ - VISA and MASTER cards are accepted!



### The PACTOR-II-Mode:

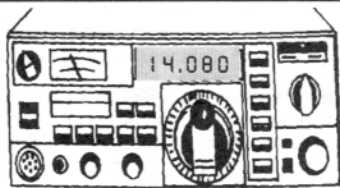
- In good conditions up to 30 times faster than AMTOR, up to 6 times faster than PACTOR-I.
- Most robust digital mode. Maintains links in conditions with a signal to noise ratio down to minus 18 dB!
- Best bandwidth efficiency: Even using the fastest mode, PACTOR-II requires less than 500 Hz (at minus 50 dB).
- Automatic frequency tracking allows the same tolerance when connecting as with PACTOR-I (+/- 80 Hz).
- Newly developed on-line data compression system (PMC) reduces the data by about factor 2.
- Fully backwards compatible with all known PACTOR-I implementations, including automatic switching.
- Utilizing of the latest coding technology.

## SCS - Special Communications Systems

Roentgenstrasse 36, D - 63454 Hanau, Germany, Phone/Facsimile: +49 6181 23368



## NOTES FROM AROUND THE DIAL:



*The finest product of the NAQP was the posting of the few strong scores and the several weak excuses. Among the latter, there was a classic, written by George KQ4QM. It needs no commentary. Hi! The story:* Please forgive me if this story is too strong for the delicate sensibilities of some on the reflector. But alas, it is all true. Knowing that one of the most important parts of a serious contest effort is a good nights sleep, I went to bed immediately upon arriving home from JPS on Friday night. This is a full 7 hours earlier than usual, but I knew I would need to be at my best for the ordeal ahead!

Unfortunately, the good nights sleep did not prepare me for what I was to find waiting for me Saturday morning. There on the floor of my shack I found my dog (Yellar), dead. Yellar was given to me by my Grandfather almost 17 years ago (my grandfather died the next day in a freak hay-bailer accident). Not only was I sentimental about Yellar for this reason, but just last year he saved the lives of my wife and three children by awakening us during a house fire! After spending three hours explaining death to my 5 year old triplets (and trying to dig a very big hole in very rocky soil) Yellar was buried with proper ceremony. Only then did I find out the reason for his demise. In going to bed so early I had forgotten to feed him. In his hunger he had started chewing on the coax in my shack and had apparently choked to death. I now had 4 hours to replace the coax to my tribander!

I decided to replace the whole run of coax rather than install a lossy coupler, so I gathered up my tools and a roll of RG8 and headed for the tower. I know that doing tower work alone is not smart, but I figured a quick run up (it's only 40 feet), hook up the co-ax, and back down. Since I would only be 5 minutes, I decided against taking the time for a safety belt. As I finished connecting the co-ax, I found out why working without a safety belt is a bad idea. As I stretched to get the ground connection just a little bit tighter, I slipped! Luckily I was able to grab the closest thing to me. Unluckily, the driver element of a TH-3 will not hold 185 pounds. Luckily I landed in a bush below the tower. Unluckily, it's a pyracantha! After an hour of having pyracantha stickers removed I headed back to the tower. With a roll of duct tape and some aluminum foil I got the beam into very marginal (but working) condition. With only five minutes to go I headed to shack. Thank goodness I had gotten all the radio and computer equipment ready the night before!

The contest started slowly for me (they always do), but after a few minutes I had nice pace going. About an hour into the contest I heard a commotion from the woods behind my house. A group of kids was digging up the dog! They had somehow gotten the idea that a dog skin rug would be a good idea. I lost an hour convincing them it was a bad idea, and putting some big rocks on the grave. Back to the contest and I found some nice 10M and 15M mults. Things were beginning to brighten! I decided to make a quick check of 40M around 22:00. I thought I could catch some local mults before the band lengthened as it got dark. The band was dead? Not even static! I tried tuning the antenna, nothing. I decided not to try to find the problem then, I could use the inverted vee instead of the four-square. About fifteen minutes later my wife came screaming into the room. The woods behind my house were on fire! After three hours and two fire departments the flames were extinguished. Apparently when I buried the dog, I cut through the buried co-ax to my four square. Trying to tune the open end caused a spark and set the surrounding brush on fire.

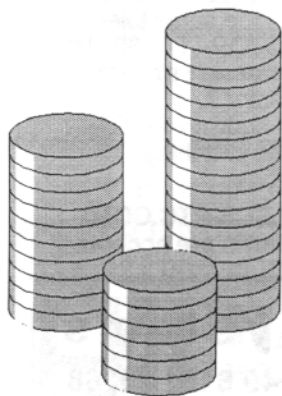
Not wanting to give up I headed back to the shack for more contesting. I could tell the group about the finals in the TS850, the food poisoning, the rabid wolverine, the power blackout, and the FCC field check for illegal power, but I don't want to sound like I'm trying to make excuses!

*George did claim 166 Q's despite his woes!! -Ed.*

An FCC paper entitled "Measurements of Environmental Electromagnetic Fields at Amateur Radio Stations," one of those titles that could easily spell trouble for lots of unknowing operators, caused quite a stir over the past few weeks. The Journal hopes to have an article by Bruce WA7BNM in next month's issue. In the meantime, AA4PB took the time to download the 100 page epistle from the FCC and came to a rather comforting, though tentative conclusion. While there will be much more discussion about the subject, this would appear to view it as more a mole hill than a mountain. Bob's comment:

"After looking over the FCC report I downloaded from ARRL it would 'appear' that the primary impact is going to be a few questions about RF safety on the exams and a signed statement at license renewal time stating that you have read and understand the FCC documents and your station does not present a safety hazard.

It looks like most stations are well within the limits. If you run 1500 Watts RTTY into a ground mounted vertical on a small lot you may have a problem. FCC will most probably come up with a chart showing minimum separation between different antenna types and humans for power level and frequency. It looks like no impact study or testing unless you exceed the limits."



# SAVE YOUR PENNIES

## BIG SALE ON YOUR 3 YEAR RENEWAL COMING NEXT MONTH!!

*(Applies to all 3 year renewals recorded after September 10th, and before November 15, 1996.)*



# DX News

*The latest digi-doings from around the globe*

by Don Hill, AA5AU PO Box 625, Belle Chasse, LA. 70037 • email: <AA5AU@bayouweb.com>



It's finally September. After June thrilled us with decent propagation, July and August quickly reminded us how bad things can be. But all that is behind us now. We spent the summer working on antennas and playing with the stuff we bought at Dayton or other places. We worked on the station setup. We cursed the poor band conditions, prayed for sunspots and we dreamed of DX to be. We prepared ourselves for the upcoming DX season and it is here at last.

September brings us three important events in DXing. The equinox, the CQWW/Digital Journal DX RTTY Contest, and the Digital Journal itself. The equinox is important due to its relationship with HF radio wave propagation. The CQWW/Digital Journal DX Contest is the most popular 48 hours in RTTY DXing. Not just contesting, but DXing. You will find more DX during the last week-end of September than you will at any other time during the year. And now every September issue of the Digital Journal will be dedicated to DX. The combination of the three make for enjoyable times in digital DX! Let's get started.

## Solar Cycle 22 - One Foot in the Grave?

And where do we start but the past. After years and years of declining sunspots, many of us are wondering if and when it will ever end. Yes, it will end. When? Anyone's guess really. Where in the high part of the cycle we worry about "flares" disrupting HF communications, in this part of the cycle, we pray for "flares" to give us spurts of better propagation. Funny isn't it?

I'd like to go back to the October 1989 issue's DX News by Jules, W2JGR. I think this is worth a review. As Jules writes "After hitting a peak in mid 1989, Solar Cycle 22 is now definitely on the downside. That peak was the third highest since sunspots were first recorded back in 1749. George Jacobs, W3ASK, who has been writing the CQ magazine Propagation column for 40 years, predicts that Cycle 22 will bottom out in early 1997. So we should still see plenty of DX around for the next several years. But as time goes on, we will have to work somewhat harder for it."

Yes, we do have to work a little harder for it, but it seems to be worth it. For the veterans it has been a time where their DX totals climbed despite low sun activity. We used the tools that have become available such as the DX PacketCluster and the Internet, better radios, better antennas, and the introduction of DSP filtering to enhance weak signals and filter QRM. And of course, better TNC's and software to drive them. For the newcomers, they have jumped right on the DX bandwagon, having gotten in on the ground floor of this new technology to enjoy digital DXing in these rough times. Some of you do not realize the fun times yet to come.

But there are avenues which were forgotten or put aside for one reason or another in these declining years. What ever happened to the International RTTY DX Association (IRDXA) that supplied RTTY gear to operators of stations in new and rare DX locations and for DXpeditions? Jules, as a member of the group, explained recently that the IRDXA is still alive. The focal point is Don Simon, W6PQS, who receives hardware support from Dean Showalter, WA6PJR. The last effort from the IRDXA involved securing a computer for FT5WE from Henry DJ6JC. That effort sure worked for me as FT5WE put me over the 300 mark on digital! Let's try to help the IRDXA out with donations of funds or equipment. Get in touch with Don or myself and we

will try to revitalize this important resource. Thanks for the update Jules!

And what happened to the RTTY Journal Awards? Almost everyone likes awards. Now that nice certificates can be printed out on laser printers which are available to many digital operators, maybe we could call on one of us to take that up again, to keep the records and print out the certificates. The Digital Journal Awards Program has a nice ring to it. Is there anyone out there interested?

Speaking of certificates, I recently received an award in the mail from a station that I worked in the NAQP contest in July. It was one of the nicest pieces of wallpaper I've seen in a while. It was issued by the President of TCPDPITAAI (The Copper Pipe Dipole In The Attic Association of America International) who happens to be none other than N2HOS! What say out there? We can't do all this alone, we need your help and support. Let us know if you are interested in helping us get Cycle 23 off the ground with new and exciting programs for digital DXing. Let's put Cycle 22 to rest for good and concentrate on making Cycle 23 the best yet. Now onto some current DX news...

## The Question of Palestine

Will Palestine ever become a new DXCC country? There has been a lot of discussion on this subject over the past couple of months. There have been good arguments from both sides of the issue. Last month I reported that there were two separate DXpeditions to Palestine in June, when actually there was only one. This operation took place from the Gaza Strip from the 14th to the 22nd. The operators were JA1UT, JA1UPA, JA8CDG, JA8RUZ/KH2Y, and G3NOM and they signed /ZC6.

This group made over 6000 QSO's and included RTTY operation by Ray, G3NOM. In a message from Ray, he explained that the operation was linked with a United Nations aid project to improve communications between certain hospitals and ambulances in the Gaza area, and to establish communications at the newly constructed Palestine International Airport.

One highlight for the group was that team leader JA1UT was able to meet with President Yassar Arafat and a Director General of the Ministry of Posts and Telecommunications. The President thanked the team for their aid work, and they discussed amateur radio activity. Apparently, President Arafat displayed a surprisingly detailed knowledge of Amateur Radio. It seems that several years ago, Mr. Arafat was onboard an aircraft that crash landed in the desert. Radio amateurs received a "Mayday" call and initiated a successful rescue operation.

The group was also able to visit Dr. Sami, ZC6B, and his amateur radio station. Ray went on to say "Dr. Sami has been instrumental in establishing amateur radio regulations under the Cairo Peace Agreement." Yet the most interesting part of Ray's message is as follows.

"It may be of interest to note, from the DXCC point of view, that amongst other things, the Palestine Authority has a National Assembly, issues its own passports and postage stamps, has its own police force and judicial system, and importantly from the amateur radio view, the Ministry of Posts and Telecommunications is the authority that assigns frequencies and licenses for the telecommunications services in Palestine.

The regulations for the amateur radio service are already established. Three Palestine nationals have been licensed, and during this visit arrangements have been made to set up an amateur radio station in the MPT headquarters - ZC6MPT. Equipment and antennas have been donated by the JA1UT group. Details of the formal regulations for guest licenses are presently being drafted, and several temporary licenses have been issued to visitors."

It would be wise to guess that the JA1UT group will petition the ARRL for new country status for Palestine, but the big question still remains. Will Palestine ever become a new DXCC country?

### CQ Zone Survey Results

Back in the July issue, I conducted an informal survey in hopes of finding out which CQ Zones are the rarest. The purpose was to put the results in this issue in hopes someone might actually go and operate from one of these rare zones during the '96 CQWW/DJ contest and help those working toward RTTY WAZ.

Even though there were only 36 replies, we can get an idea which zones are most needed. Zone 34 was by far the clear winner, followed by zones 23, 2, 18 and 19. Most of the other zones were deemed fairly easy to come by.

Zone 34 consists of Libya (5A), Sudan (ST), South Sudan (ST0) and Egypt (SU). SU1ER was spotted on RTTY up until a few years ago but has since disappeared. SU1EE was active in 1989. Another operator from Zone 34 was G4OJW, Lou, who operated both ST2AA and ST0K in Sudan. Lou operated a *pactor* mailbox. One evening I made the path and brought up the box. Suddenly Lou came on live and we had a nice contact. He told me the water had been shut off and it just came back on (it was 2 a.m. there). He had gotten up to take a shower when he noticed the radio working. Kash, WB2RAJ, Lou's QSL manager reports that Lou left Sudan in February 1995. At present there does not appear to be any active stations from this rarest zone. However, see my notes on Libya in the Digital Doings. Things could change.

Zone 23 is made up of Mongolia and the western half of China. Bat, JT1CS, is still active from Mongolia but hasn't been seen for a while. This probably has more to do with poor band conditions. Some of the operators that submitted to the survey complained of not being able to get a card from Bat. I suppose I was lucky to receive mine using the callbook address of: Bat Erdene, POB 125, Ulan Bator 20, Mongolia.

Zone 2 is the upper part of Quebec and Labrador. Aha! A place that is accessible in September (most of the time anyway). It seems about every couple of years someone makes it up there for the contest. Since RTTY operations from Zone 2 are not commonplace, be sure to hunt around in the contest if you are still in need of this one

Refer to CQ magazine or anyone who is a field checker for CQ about the rules and requirements needed to obtain the RTTY WAZ award. The impromptu survey caused a couple operators to check their totals and a couple of them had a surprise. Paul WF5T, for example, did not realize he had them all confirmed and was quite excited when he discovered he had earned a very nice piece of wallpaper.

Thanks to the following operators for contributing to the survey (their WAZ certificate number in parenthesis): 4X6UO, AA4M (#76), AA5AU (#96), G0ARF (#84), G3BWP, JA1SJV, JR2BNF, K1IU, K2WK, K6EID (#94), KA6A, KB3X, KD9E/6, K8OSF, PJ2MI (#39/20m), PT2BW, N2HOS (#55), N3UN (#30), N4CC (#40/20m), N4PYD, N4VZ, NC9T, NI6T, SM5EIT (#68), SM5FUG (#85), VE7OR, VK3EBP, W1HFN, W2UP, W6/GA0ZT (#54), W6OTC (#57), WA4MCZ (#41/20m), WA6UFY, WB4UBD (#54), WF5T, AND WS7I (#26/20m).

### Stations to look for in the Contest

**Benin, TY (Zone 35).** Look for Eddie G0AZT, Glenn W6OTC, Ray WF1B, and Bill KE5FV to operate from Peter TY1PS's QTH. The callsign will be TY1RY. QSL via W6/G0AZT at PO Box 5194, Richmond, CA 94805 USA. Eddie requests that all cards be sent direct and not via the bureau as he does not belong to any. SASE or SAE plus postage appreciated.

**Dominica, J7 (Zone 8).** Peter PA3BBP, Rob PA3ERC, Ronald PA3EWP, and Dick PA3FQA will be operating M/S. The callsign we have requested is J79C but this is not confirmed. This group will also activate Guadeloupe from September 13-18 before the contest signing FG/homecall and from Martinique from 30th through October 6 with FM/homecalls.

**Guantanamo Bay, KG4 (Zone 8)** Jan WA4VQD, Bill KQ4GC/KG4GC, Ken KG4MM, and Rusty KG4AU will put Guantanamo Bay, Cuba on the air during the contest. The callsign they will be using has yet to be determined.

**Lampedusa Island, IG9 (Zone 33).** Erminio, I2EOW, will head up a M/S effort from this island in the Mediterranean Sea. Lampedusa is interesting because although it is a part of Italy, it is located in CQ Zone 33 and thus is considered to be in Africa. Discussions over the WF1B reflector have brought to contesters' attentions that IG9 is considered a separate country multiplier in the CW and SSB parts of this contest. How this fits into the RTTY portion is not totally clear yet, but the sponsors are leaning toward allowing it to be a separate country multiplier in keeping it along the lines with the other modes.

**Uganda, 5X (Zone 37).** Look for Peter, ON6TT, from 5X1T. Peter always puts out a good signal and should prove to be a nice catch in the contest.

**Venezuela, YV (Zone 9).** Steve, YV5DTA, plans on operating from Los Monjes (IOTA SA-016) and use the call 4M1I. If transportation fails to Los Monjes, Steve will go to La Tortuga (SA-044) and will use the call 4M5I. Even though Steve will be tagging along with his father Luigi, YV5ENI, his contest effort will be 20 meter single band. QSL via I2CBM.

## DIGITAL DOINGS

**Angola, D2.** D2HB was active in late July. The operator was Henry DL2RSI. QSL via DL4KA1.

**Antigua, V2.** Look for Tyler, KF3P, to be active from this Caribbean location October 24-25 & 28-30. He is going down there for CQWW SSB contest. Callsign probably will be V26TS.

**Bahrain, A9.** Bob, A92GD, reports that his QSL manager, K1SE, has had a slight change in address. The correct address is: PO Box 685, Manassas Park, VA 20113-0685 USA. It seems the post office changed the zip code. Look for Bob on 20 meters.

**Comoros, D6.** Maïke, DL4XS, Dieter, DL3KDV and Mirko, DL6ET plan to be on the Comoros until the 9th of September with RTTY gear. After this effort, they hope to be active from Mayotte (FH) using FH/homecalls. QSL is via DL4XS. The Callbook entry is no longer valid at this time. The correct info is: Maïke Stargardt, Friedrichsthal 21, 51688 Wipperfuert, Germany.

**Dominican Republic, HI.** Miguel, HI8MO, has been active on 20 meters along with Italo, HI/YV1AVO. QSL both stations to YV1AVO.

**Faroe Islands, OY.** After reporting last month that OY1CT was the only active RTTY operator on the Faroes, up pops OY4TN. More information is needed on this newcomer. There is no listing in the current Callbook.

**Greece, SV & J4.** SV1QN, Giorgos, celebrated the Olympic Games by signing J410G. QSL is via the home call at: Giorgos Pialis, Aiglis 8, GR-15451 N Psychiko, Greece.

**Iraq, YI.** Add Gassan as operator of YI1GHF to the list of active Iraqi RTTY stations. This country should fall sharply in the next Most Needed Countries list. QSL via PO Box 55072, Baghdad, Iraq. This is the same route for: YI1's KC, ZN, US, FA, AU, EE, WN, RD, FC and AK. YI1DX has also been quite active and was seen giving out the same address. Turnaround has been as fast as 3 months.

**Jan Mayen, JX.** Per, JX7DFA, has extended his tour for an additional six months, this puts him there until March '97. QSLs have been received by many via the direct route at 8099 Jan Mayen Island, Norway.

**Kazakh Republic, UN.** Enough cannot be said about Romeo, UN5PR. He is a top notch RTTY DX'er and contesteer. He is ever present on the 20 meter band seemingly at all hours of the day. If the band is open you will hear him. QSL via POB 73, 472300 Temirtau, Kazakh Republic, CIS.

**Libya, 5A.** Andy, DJ7IK, reports that a planned operation is in the works by Brendan, G0UCT, and that an announcement will be made when all things are ready to go. Also, Andy mentions he is planning a multi-station contest operation from 5A1A next year. He has met the 1st operator of 5A1A, Ali during the "Ham-Radio-Convention" in Friedrichshafen and has invited Ali to his home before going back to Libya. Andy will provide some information about 5A1A and the actual situation there within the next weeks. Although no RTTY is mentioned, let's hope for the best.

**Maldiv Islands, 8Q.** Josep, EA3BT, and his wife Nuria, EA3AOK, will be active October 22-31st, using the call signs 8Q7OK and 8Q7BT, respectively. Their main goal is to take part in the CQ WW DX SSB Contest. They plan to be active on RTTY as well.. QSL via EA3BT, Josep Gibert, P.O. Box 366, 08800 Vilanova i la Geltru, Spain.

**Market Reef, OJ0, OH0.** The group of OH0RJ, OH1VR, OH2BDP, OH2KI, OH3MEP and OH6PJ operated as OH0MB in August. Although OH0 is thought to be Aland Island, this is an exception. They were very active on RTTY but unfortunately poor band conditions on 20 meters limited their range for RTTY contacts. I did watch when they had nice runs into EU and JA, but they were never strong enough to work here in the swamps. QSL via OH1VR: Seppo Sisatto, Lansirinteenkatu 23, Fin-33400, Tampere, Finland.

**Mauritius, 3B.** Jackie, 3B8CF, is a long time DX'er from Mauritius in the Indian Ocean. In a 30m CW QSO I asked him when we would see him again on RTTY. Only a few years ago, Jackie could be found calling CQ endlessly on 20 meter RTTY. He told me he would be back on RTTY when conditions improve. Let's hope we see Jackie soon.

**Mount Athos, SV/A.** Monk Apollo is still active on keyboard. It appears that SV2ASP/A has added a new twist to his digital operation. Jim, WB4UBD, reports that Monk Apollo will go to CW on request. Since many RTTY operators are CW op's as well, this is a way to get Mount Athos in your CW log as well. It never hurts to ask!

**Ogasawara, JD.** Gary, W5VSZ, was scheduled to operate as JD1/7J1AYK from this Japanese island in the Pacific Ocean in mid-August. The emphasis was to be RTTY and the WARC bands. I was flattered to be asked to go on this trip, but my work responsibilities kept me grounded this time around. If you made the contact, QSL via Gary's homecall.

**Pitcairn Island, VR6.** Meralda VR6MW, can be found on a regular basis around 14086 at 0430z. A recently observed QSO with her included Vance, WB5HBR. Vance is a long time RTTY contesteer that used to smash me in the 80's. Nice to see Vance back on the keys.

**Norway, LA.** Jorn (or Joe is OK), LA9GIA, has been active giving out Iota EU-055 from Karmoy Island. QSL via LA4C.

**Sable Island, CY0.** The CY0AA DXpedition in June yielded a total QSO count of 15,931. Only 184 RTTY contacts were made. If you weren't in that number, you still have another chance with the group of American operators going in October. QSLs for the CY0AA trip is via Mike VE9AA at his new address: Michael E. Smith, 271 Smith Rd. (Geary), Waterville, Sunbury Co., N.B. Canada E2V 3V6.

**Sri Lanka, 4S.** 4S7NR was active in the Russian RTTY contest the last weekend in July and was a surprise contact for Charles, KK5OQ. Good one Charles! QSL via N R Ranmuthu, 58 3 Suhada Place, Thalapatpitiya Rd, Nugegoda, Sri Lanka.

**Syria, YK.** This comes to us from the Ohio/Penn DX Report: "The DXNL reports 20 operators (OMs/XYLs) from Germany will sign YK0B during the first week of October. Not only will this group operate on CW/SSB, but the group plans to also work on RTTY and the satellites. QSLs via DL8HCZ."

**Togo Republic, 5V.** The VooDoo Contest Group has optimistic plans to activate 5V5A in the CQ World-Wide CW Contest in November. The team consists of AA7NO, G3SXW, G4FAM, GM3YTS, K5VT, K7GE, KC7V, N7BG, W6RGG and WB7RSW. Of great note is the callsign K5VT. Vince is a longtime RTTY DXpedition operator. I asked the group if there would be any chance of RTTY and the reply was directed toward Vince. He sent me a direct message saying he would try to do some RTTY work during the trip. We must remember that this is a CW contest effort first. But keep your eyes open for Vince, he's been there for us in the past. QSL via GM4AGL.

**Tonga, A3.** Bob, W7TSQ, reports that Craig, A35CT, left the island in early August. Craig was a very active RTTY operator and could be found on 15 meters nearly daily when there were no other signals around. Prior to Craig's departure, Paul KK6H arrived on Tonga after having retired from the fire department and selling his house. Paul will stay on the island for 6 months to a year and plans on being active on RTTY as A35RK. During his Pacific stay, Paul hopes to operate from Fiji as 3D2RK. Other plans for "side-trips" to Rotuma, Vanuatu, South Cooks, Niue, and French Polynesia are in the works. QSL via W7TSQ.

**Tunisia, 3V.** Rumors being spread by W6/G0AZT, Eddie himself, place him in Tunisia sometime after the CQWW/DJ TY1RY effort. At press time, Eddie has not been able to secure a license but is very hopeful. An all digital 3V DXpedition is in the works! Stayed tuned.

**Western Sahara, S0.** S01M continues to pop up periodically on 20 meters. Lately, the operator has been Mulay. QSL is via EA7EL.

**Western Samoa, 5W.** If you worked Brian, 5W0BS, during his stop on this Pacific island, QSL via AA8HZ.

I hope you enjoy the September DX issue. Be sure to go out and enjoy some September DX!

*73 from down on the bayou, Don AA5AU.*



**VISA** **MasterCard**

**DON'T FORGET**

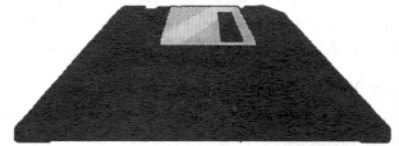
**NOW YOU CAN PLACE YOUR ORDER FOR IDRA BOOKS AND SOFTWARE, & RENEW OR BEGIN YOUR MEMBERSHIP, COMPLETE WITH SUBSCRIPTION TO THE DIGITAL JOURNAL USING YOUR CREDIT CARD!**



# Software News & Reviews

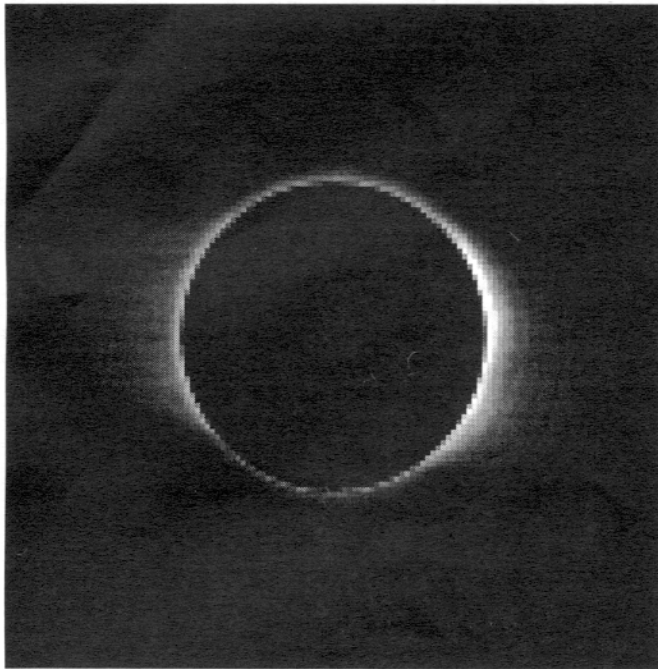
by Jim Coleman, KA6A

250 County Road, 700 N • Ivesdale, IL 61851 / email: <jcoleman@uiuc.edu>



## PROPAGATION—SOFTWARE TOOLS FOR THE RADIO AMATEUR

The science of radio wave propagation has been developing ever since it was discovered that radio waves somehow went around the earth without simply flying off into space. Everyone who reads the Digital Journal already knows of the impact of *hf* propagation on commercial, defense, and amateur radio communications. The study of radio wave propagation can constitute a professional career path or a lifelong avocation. Or, as one more example of the great diversity in amateur radio, it can be a topic of the moment for some period of time. But for a ham interested in any aspect of *hf* operation, digital or otherwise, a basic knowledge of propagation is a most useful tool in the shack.

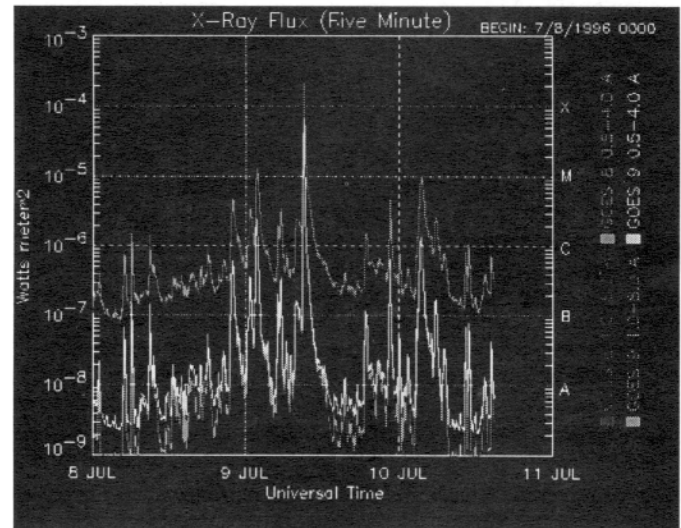


White-light coronameter images from the High Altitude Observatory Mauna Loa Solar Observatory.

(From the Solar Data Analysis Center:  
<http://umbra.gsfc.nasa.gov/images/latest.html>)

A great deal of technology has converged in the last few years to make the tool of propagation analysis much more readily available to the radio amateur. Years ago one could only rely on charts in the monthly ham magazines and the updates on WWV at 18 minutes past the hour to make fairly vague analyses of present or future conditions. The professionals over the years have, however, collected much more and better data, and have created better quantitative and analytical models. The decreased cost and increased power of personal computers have made it possible for individual hams to realistically access these better models. And the Internet has made distribution of detailed, nearly real-time data easily available to much larger numbers of hams.

This is the first of a series of articles on *hf* propagation and, in particular, propagation software. The purpose of this series of articles is not to teach the science of radio wave propagation. That would take a very large number of articles and the topic is already adequately covered in a number of fine popular books, textbooks, and university courses on the subject. Our goal here is rather to address radio wave propagation analysis as a tool for the amateur *hf* operator. We'll take the practical viewpoint whenever possible and try to get to the nuts and bolts of effectively, and correctly, using software for propagation analysis. We will try to take the point of view of a DX chaser or contestator but ask enough of the science to make sure we understand what to put into the software so that what we get out is reliable and useful. Thus, we may not discuss upper atmosphere electron concentrations in any great detail, but we most certainly will discuss signal-to-noise ratios.



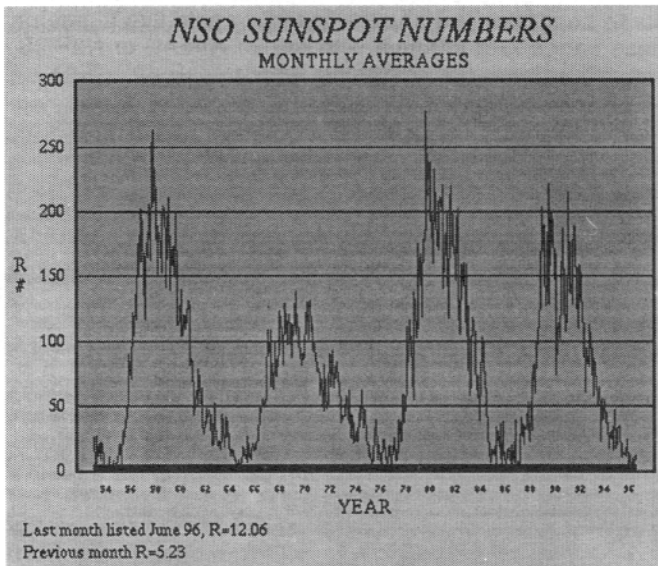
The X-ray Flux plot shows 3 days of 5-minute solar X-ray flux values measured on the GOES 8 and 9 satellites. (From the NOAA Space Environment Center: <http://www.sel.noaa.gov/today.html>)

Perhaps the most sensible way to introduce the use and capabilities of propagation software is to first frame the question of what each user needs from the analysis and then relate those needs to the science of propagation in a practical way. And since practicality is the theme of the exercise, we must also define how to compare one software package with another. This, of course, has many different aspects ranging from scientific (i.e. how geomagnetic activity is treated) to practical (i.e. DOS, Windows, or both) to the esthetic (i.e. good graphics or poor). Next, we'll review most of the propagation software packages available and try to give you a balanced and objective appraisal of them. I can say from the start that I have learned at least something, and often a lot, from every package I have analyzed. But I can also say that, when a new expedition is starting, I know which package I choose first. I will try to avoid betraying biases, and I recognize that many of you may have very good reasons to make a

different first choice. Hopefully by the end of this series of reviews, you will have enough information to choose thoughtfully.

So let's get started. For the amateur who is chasing new DX countries, the primary question is pretty straightforward. On what amateur band and at what time can effective signals be exchanged between the two stations. we'll come back to this most important concept of 'effective soon.' For the contester, the primary question is the same except that it isn't defined in terms of a single DX location - it's all locations world-wide! For practical reasons it can be at least narrowed to a smaller number of regional locations - say Europe and Asia - and it simply becomes the same exercise multiplied. After that it becomes a matter of contesting strategy.

*The sunspot number is the monthly average R number which is calculated by the following equa-*



*tion.*

$$R\# = (\# \text{ of sunspot groups})(10) + (\# \text{ of sunspots})$$

*(From the National Solar Observatory:*

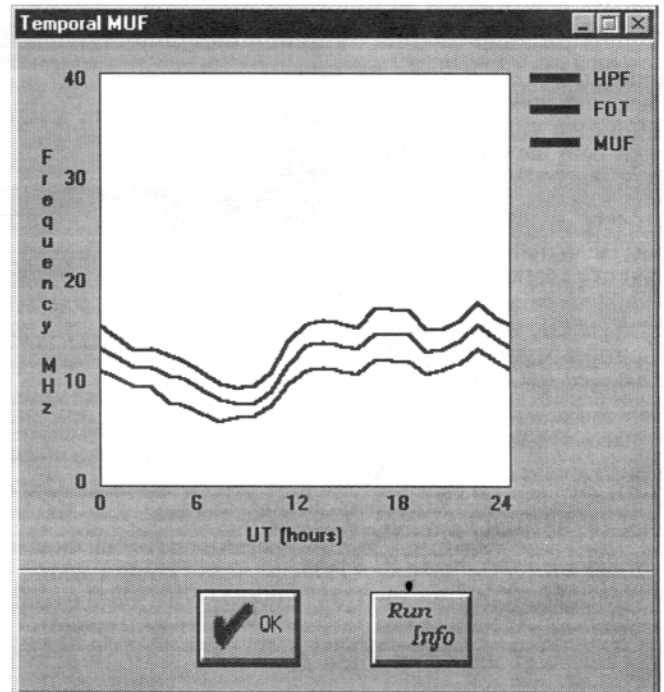
*<http://www.sunspot.noaa.edu/>)*

If the main general question is "at what time and at what frequency", then the first answer that comes to mind is usually MUF, the maximum useable frequency. We are introduced to the concept of MUF, to a greater or lesser extent, quite early in our ham careers. The MUF is indeed a useful concept and can give qualitative insight into propagation. For simplicity, it isn't all bad to consider the MUF as exactly the answer to our question, provided we are generous with the definition of "exact". Frequencies well above the MUF are unlikely to be reflected back to earth and those well below the MUF undergo strong absorption or E-layer reflections that make them unusable.

This is all correct, as far as it goes, but calculations of the MUF only tell a part of the story. Actually, the basis for MUF calculations is determined from statistical data on the ionosphere. There are fairly well known relationships between ionospheric parameters and key solar parameters, such as solar flux (sunspots), time of day, season of the year, etc. But, Mother Nature being what she is, the statistical variation is quite large. The MUF is defined as the median value, which means that on any given day there is a 50-50 chance that higher frequency paths will be open.

The MUF has two lesser known cousins - the HPF (highest possible frequency) and FOT (from a French term which is roughly the optimum working frequency). The HPF is the upper limit and can only be exceeded 10% of the time - which is still 3 days a month or 1 day out of a typical 10-day DXpedition. The FOT is defined as 0.85 times the MUF and can be exceeded roughly 90% of the time. The frequency spread between the FOT and the HPF is often 4 MHz or more, which is enough to include two different ham bands. So the "required reliability" (i.e. the odds) is something for us to consider.

Even with statistical considerations aside, MUF calculations don't give enough information to do the job correctly. Let's return to the word "effective" for the moment. Effective communications requires that the path be open and that there be distinguishable signals at both ends of the path. Distinguishable means different things under different circumstances. If you are the only station trying to make the contact, then distinguishable implies adequate signal-to-noise ratio, which depends on bandwidth (mode) and things that don't depend on the ionosphere - like transmitter input power, feedline losses, receiver and transmitter antenna gain profiles, receiver sensitivity and location, and the distance between the receiver and transmitter. It should be easy to see why this problem requires a software solution. In competition with other stations, distinguishable may mean signal-to-interference ratio. For example, if your path to Kermadec from the Midwest US crosses southern California, then noise may matter a lot less than the power output of your California competitors. I'm not aware of any program that calculates signal-to-interference ratio directly but you may need to calculate signal-to-noise ratios for both your path and theirs to determine when your chances are best.



*MUF, HPF, and FOT from the HFX software package (Pacific Sierra Research Corporation).*

Now we can define the task. The target location must be defined, mode and hardware specified, required probability determined, solar information obtained, and competition identified. Then the software model can be run to determine optimum and backup frequencies and times.

Our goal is to compare various propagation analysis software packages so we should start by defining the criteria for comparison. Based on our discussion so far, some of the following questions should be asked. Are MUF, HPF, and FOT included? What model is used? How is signal strength or signal-to-noise ratio quantified? How is required reliability addressed? Is single band information readily available?

There are other important questions. How is geomagnetic activity treated? For example, many paths from the central US into Asia or the mideast cross over or through the auroral zone. These signals can be dramatically affected by geomagnetic activity. Are real antenna parameters included? We think of our Yagi antennas as having a certain gain but, in fact, that gain is the *peak* gain at a certain elevation angle. If the path includes a different arrival angle, and the odds are very good that it will, then a different gain value should be used.

Is the locations database in the software useful, or can it at least be easily modified for amateur use? There's nothing more frustrating than having to look up longitude and latitude in some other reference. Are the graphics clear?

Can printing and screen dumping be accomplished easily? Does the program run under DOS or Windows or both? What are the speed and memory (or other hardware) requirements? How much does the program cost? Are manuals included, available, or useful? Is there on-line help? Is it useful? What extras are offered that make the program different from its competitors?

In the next installment of this series, we'll introduce the basis for many propagation analysis programs - IONCAP (Ionospheric Communications Analysis and Prediction Program) - a program developed originally for mainframes and now ported to higher power personal computers. Then we'll begin our software review with two generations of a program from the Voice of America - VOACAP and VOAW-IN. In subsequent installments, we'll review most of the software packages available and, in one installment, we will review popular and professional books on propagation. What happens after that depends on you. We would like to hear from you about what you would like to see on these pages. Get in touch with me, or AA5AU or N2HOS, and tell us what you think.

73 de Jim, KA6A

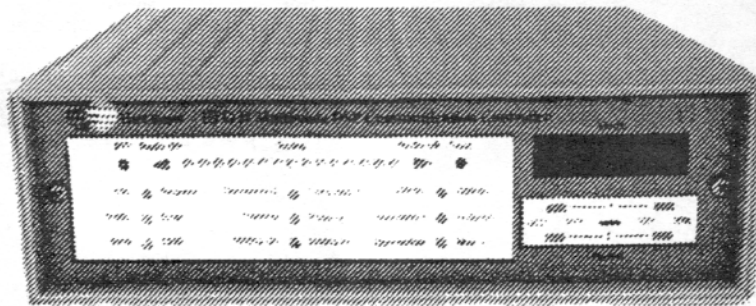
## The PacComm PTC-II

The PTC-II is a new multi-mode controller and "communications platform" which contains powerful and flexible hardware and firmware.

Built in the United States by PacComm under license from S.C.S., the group that developed both the original PACTOR and PACTOR-II.

The PTC-II offers the most robust HF digital protocol available to radio amateurs, but it should not be overlooked that the PTC-II is configurable as a triple-port multimode controller supporting packet data rates of 1200 and 9600 bps and numerous other modes.

- A step-synchronous ARQ protocol.
- Full support of memory ARQ.
- 10 character MODE display, multi-colored LED tuning and status displays.
- Watchdog timer on HF PTT port.
- Specialized communication program provided.
- Firmware contained in Flash memory. Easy upgrade.
- Long-path capability for worldwide connectivity.



- Full compatibility with PACTOR-I (the original PACTOR), AMTOR, and RTTY.
- Automatic switching between Level-1 (PACTOR-I) and Level-2 (PACTOR-II) at contact initiation.
- All-mode mailbox with up to 32 megabytes of storage.
- Occupies a bandwidth of under 500 Hz - use your 500 Hz CW filters.
- DBPSK modulation yields 200 bps (uncompressed).  
DQPSK modulation yields 400 bps (uncompressed).  
8-DPSK modulation yields 600 bps (uncompressed).  
16-DPSK modulation yields 800 bps (uncompressed).

- Independent of sideband: no mark/space convention. Center frequency adjustable between 400 and 2600 Hz to exactly match your radio's filters.
- Differential Phase Shift Keying with two continuously transmitted carriers. 100 symbols per second. Constant bandwidth irrespective of actual transmission speed.

- Powerful Forward Error Correction (FEC): High performance convolutional coding. Constraint length of 9. Viterbi decoding using soft decision point. Coding rate varies between 1/2 and 7/8.
- Intelligent data compression monitors compression ratio and self-bypasses if not being effective. Huffman compression for English or German text. Markov (2 level Huffman) compression. Run-Length encoding for repeated sequences.
- Limited availability. Packet modems available later. \$995. Packet modems are optional at extra cost.

DSP firmware now supports audio filtering.

**PacComm Packet Radio Systems, Inc.**

4413 N. Hesperides Street, Tampa, FL 33614-7618 USA

Switchboard: +813-874-2980

Facsimile: +813-872-8696

Orders/Catalog Requests: 800-486-7388 (24 hr. voice mail)

BBS: +813-874-3078 (V.34)

Internet: [ptc@paccomm.com](mailto:ptc@paccomm.com)

URL: <http://www.paccomm.com/info>



# DX Views

## A visit Chris, ZS8IR

by Don Hill, AA5AU PO Box 625, Belle Chasse, LA. 70037 • email: <AA5AU@bayouweb.com>

DX Views is a new addition to the Digital Journal. In an attempt to expand our coverage to the far reaches of the world, we hope to present "views" from various DX locations. This month we talked with Chris de Beer on Marion Island.

Chris is one of the most sought after RTTY contacts today. Chris is a native of South Africa, and at the age of 23, has been a ham since 1991. He also holds the callsigns ZS5IR and ZS6RI. He has operated as 3DA0/ZS6RI and was one of the operators in the 1994 CQWW SSB team of 3DA0Z. Previous callsigns were ZR6TAA and ZU1TAA.

In an early E-mail to Randy, WX5L, Chris explains that unless there is a "serious shortage" on the island, the expedition team is on its own. "We live in total isolation, except for telephone and fax (and in my case the wonderful hobby of Amateur Radio)".

**AA5AU:** *Chris, how long have you been licensed and how did you get interested in Amateur Radio?*

**ZS8IR:** I got interested in Amateur Radio through my work as a paramedic. I started working in the field on a part-time basis as a volunteer while I was still in high school. This was before trunked radio or cellular phones were in use in South Africa (1987). I found the communications field very interesting, and a vital link in the Emergency medical field. During a few large incidents we worked with members of HAMNET (SA equivalent of ARES/RACES). I passed my license in 1991, but only got my class A license (Technical exam and 12 wpm CW) in 1993.

**AA5AU:** *How did you get the opportunity to come to Marion Island?*

**ZS8IR:** I am qualified as an Advanced Life Support Paramedic. (Equivalent to US EMT-Paramedic) I read in a local Emergency Medicine magazine about a medic who had been down to Marion Island before. This, combined with a few QSO's I'd had with other ZS8 stations, prompted me to apply to go on one of the expeditions. I applied for posts as both medic and communicator....anything to get down there. They dropped the communicator's post, now that we have an Intelsat link, and I then got the post as medic.

**AA5AU:** *You are doing a very good job on RTTY. What is your digital history?*

**ZS8IR:** RTTY and digital communications is still a very new field for me. Except for about a month, playing on a local PBBS, and using our mobile dispatch terminals in an ambulance, I have no other experience in the digital field, but I must say that I am learning very fast. And enjoying it!!

**AA5AU:** *What equipment and antenna(s) does your station consist of?*

**ZS8IR:** My station is put together with an Icom IC-735 transceiver, Yaesu FL-2100Z amplifier (tnx NCDXF), homebrew ATU, which seems to be working OK. The TNC I'm using is a PK-232MBX, which Jan, ZS6NW, who now lives in Phoenix, AZ, kindly let me use while he's in the US. On CW I use a Bencher BY-2 (what else???) and a CMOS Superkeyer (tnx

ZS6EZ). PC is a 486DX-40, and I'm using RTTY by WF1B (tnx Ray, WF1B!!). On the antenna side I have a choice of 3 antennas. I have got two rhombics (up 100ft). One north/south, the other east/west. These are not terminated, so are bi-directional. I also have a N/S V-Beam. I keep a G5RV rolled up under the desk for when disaster strikes.

**AA5AU:** *What is it like working the pileup from a rare DX location, and especially on RTTY? And do you find 20 meter propagation improving any into your winter?*

**ZS8IR:** I thought working a CW pile-up was bad..... an RTTY pile-up is terrifying!!! But I'm slowly getting the hang of it. Up to now I have only operated RTTY on 20m and a few QSO's on 40m. 20m is definitely improving now that winter is settling down here in the southern parts of the southern hemisphere. I hope to try the low bands as well on RTTY in my summer.

**AA5AU:** *Give us a good "view" of what you hear down there and when. When are the best times for the different continents on the different bands?*

**ZS8IR:** At the moment I am sticking on the bands with best propagation. This is mostly 20m during my daylight hours. I start at about 0600z. At this time I get stateside longpath and VK and Indian Ocean are shortpath. I end up with horrific pile-ups from JA (on SSB, RTTY, CW!!!) Later I might change to 30m CW to work Stateside as well. I usually go down to 80m at my sunset to try and make VK and ZL happy. By then I'm exhausted, but might try 40m before I go to bed. I am sure later this year I will be able to work out a schedule that will keep the whole world happy. That's a real tough job!

**AA5AU:** *When I worked you on 30m CW on June 5th, you had the best signal I've ever heard from you. Have you ever considered any 30m RTTY? Is it allowed from ZS8?*

**ZS8IR:** I must be honest and say I'm not sure about if it's allowed. I'm quite sure it is, as we are allowed phone and CW on 30m. As soon as I find out about it, I will give RTTY a bash on that band.

**AA5AU:** *Chris, I've been following you ever since you arrived on the island. The info coming across the wire and wireless has had nothing but praise for your operation. The entire DX community appreciates your effort, especially from the digital crowd. But there are still several more out there still looking for you. We hope propagation improves for you.*

*Tell us a little about Marion Island and what life is like there.*

**ZS6IR:** Marion Island is a relatively small island (about 110 square miles) and our team consists of 12 persons. These include myself, as medical officer, a radio technician (also our team leader), a diesel mechanic, 3 meteorologists, and 6 biologists, who are doing research in a wide field of subjects, ranging from Wandering Albatrosses and other sea birds, to Elephant seals, mice and invertebrates. Our team gets along very well, and life around the base is like being part of a large family.

*Chris may not realize it, but he is part of an even larger family now. Thanks, Chris!*

# Across the Pond

## *A look at the digital-doings of our European neighbors*

by Neal Campbell, AB4MJ/ON9CNC • 10817 Ann Davis Dr. • Fredericksburg, VA 22401

Internet: neal.campbell@ping.be



The world of digital radio is getting more exciting with each passing month. More coverage of tried-and-true modes like RTTY and Pactor are appearing in magazines, new and innovative products continue to appear, and participation in new operating events such as the North American QSO Party is on the rise.

Likewise, on the Internet, more exposure to digital radio modes and events is occurring. The Digital Journal Web Page is a good place to watch these developments. The RTTY Contest Reflector and the Advanced Digital Techniques Reflector provide an excellent forum for discussions ranging from the very technical to extremely silly. Its all fun, and if you are connected to the Internet, you should be part of it.

Last month we explored a bit about e-mail and file attachments on the Internet. This month we are going to take a ride on the Internet to one of my favorite destinations: DX Packetcluster nodes.

### **Introduction to Packetcluster**

In case you have not used a Packetcluster node, let me introduce you to one of the biggest sources of pleasure in amateur radio!

Packetcluster is a software system written by Dick Newell, AK1A, that broadcasts announcements of where DX stations are located. Usually, Packetcluster stations (usually called nodes) are connected to each other.

To explain how a Packetcluster works, let's assume someone in New Hampshire detects ON4UN on 160 meters and alerts their local Packetcluster node. The Packetcluster node immediately notifies everyone connected to that Packetcluster node about the DX, specifying the frequency, callsign of the DX station, callsign of the station alerting everyone, and the time of the alert.

Simultaneously, the Packetcluster node is telling all other Packetcluster nodes that are connected to it that ON4UN was spotted on 160meters. These Packetcluster nodes alert all of the stations connected to them of the alert, and likewise tell all Packetcluster nodes connected to it.

It is amazing how quickly these alerts are sent around the world. While I lived in Virginia, I was the sysop of a Packetcluster node. It literally took only 5 minutes for a DX spot originating in Massachusetts to reach Virginia. I plan to write much more on Packetcluster in the coming months, as not only is it a convenient way to keep abreast of DX, but it is a very powerful system of databases and mail that can assist you in many ways.

### **Surf the Internet to a Packetcluster?**

Now, on face value, this seems like a ridiculous prospect. After all, we love using ham radio for any and all things possible (and sometimes for things not very possible). What is the value of using the Internet to connect to something that you can access via amateur radio? The easy answer is none! Of course, this assumes that you have a very reliable connection to a Packetcluster node that has spots originating

from every region that you desire.

There are many Packetcluster nodes located throughout the world, but as a sysop I can tell you many people have problems connecting to them. Some of these problems are related to packet radio parameters, low VHF/UHF antennas, long distances, or inappropriately adjusted 2 meter or 440 MHz radios. Weather can play havoc with connections. An acceptable link in the winter can be unacceptable in the summer.

Many hams like seeing what DX stations are being heard at different locations in the world. This is a very controversial topic, in fact, as many hams also do not want to know. With the global reach of Packetclusters interconnected via Internet, it is not unusual to see someone in another continent "spot" DX on your local Packetcluster. I assist in ON7PC running the ON4DXB Packetcluster node in Brussels. Routinely I see spots for DX coming from the US.

Why is this so controversial? The main reason is that propagation is different everywhere in the world at a given time. At 0900 GMT I can hear Asian stations from Belgium. I am sure that these stations cannot be heard in the eastern part of the US at that time. Many people do not like seeing spots for stations they cannot hear. Other stations like knowing what is being heard so they can follow the effects of propagation around the world. Unless your Packetcluster node is very well connected via Internet to other parts of the world, you will not be able to follow the propagation, if you are interested.

Another great reason is that many times you are not near your shack, but would like to watch what is occurring on the bands. I would not suggest that some of us might keep an eye out for DX while at work, but I am sure it has happened at least once! The final reason you might want to access a Packetcluster node via the Internet is that it is pure fun! It is comforting to see something so familiar as Packetcluster on the Internet.

### **Your Internet Packetcluster Station**

To connect to your local Packetcluster node, you need a VHF/UHF radio and antenna, a TNC, a terminal program, and the frequency of where Packetcluster users connect. To connect to a Packetcluster node, you need similar equipment, but if you currently can connect to the Internet, you already have most of what you need.

To utilize the Packetcluster fully, you need a phone modem, an account with an Internet-capable service provider, and a Telnet program.

Telnet programs provide you with the capability to log onto remote Internet hosts. This method of connection is older than connecting to a Web page, and you usually need a separate program to communicate with a Telnet host.

Where can you get a Telnet program? From the Internet, of course! If you use a Macintosh, the most popular Telnet program is NCSA Telnet. You can download it from many sites. For the PC, I use NTCRT, which is also available from many sites. If you have problems finding these programs, let me

know and I will help you. (Note: Win95 includes Telnet among its many tools. Merely go to the DOS prompt and type Telnet—Ed).

If you are using a Web browser such as Microsoft Explorer or Netscape, you can tell these programs what program to use when attempting a Telnet connection. Going to the Preferences section of these programs will show you where to specify the name of your Telnet program.

#### From Here to There

Once you have a Telnet program, and have told your Web browser where it is, accessing the Packetcluster is very easy!

One very easy way to access a Packetcluster node is to visit

Sometimes, the system will ask you to register. To do this, type Register and then answer what ever questions the system might ask you. If you do not know the answer to these questions, type something and it will usually accept it.

Once you have successfully connected to MIGATE, you are talking with a node not unlike TheNet or any digipeater that you are used to. You can enter commands to see what nodes are available by typing NO (which stands for nodes).

When you type NO, you will receive a listing of many nodes available (I will guess almost 100 nodes are accessible by MIGATE). As with most digipeaters, each node is known by a callsign/SSID (like ON9CNC-9) and an alias (such as NCN-ODE). You can connect to any node in this list by either spec-

**Netscape: KA9FOX: Contest/DX Ham Internet Resources**

Location: <http://www.qth.com/ka9fox/links.shtml>

What's New? What's Cool? Handbook Net Search Net Directory Software

### DX PacketClusters accessible via Internet

To use these links, you will need to have a TELNET application associated with your browser.

- [KI8W-6 Cluster](#)
- [IK5PWJ-6 Cluster](#)
- [N8BJQ Cluster](#)
- [K9FN Cluster](#)
- [WD5B Cluster](#)
- [VE3CDX Cluster](#)
- [WB9DFD Cluster](#)
- [KS9K-7 Cluster](#)
- [NO4J Cluster](#)
- [F6CNB-6 Cluster](#)

a Web page that has a link created. For instance, I regularly visit KA9FOX's page, as he has links to so many places about amateur radio. He has a small section of his web page dedicated to Packetcluster nodes accessible, and gives easy instructions.

If you want to visit the KA9FOX web page, enter "HTTP://www.qth.com/KA9FOX" into your browser program.

Otherwise, from your web browser, type "TELNET://migate.ampr.org". This will cause your Web browser to start up your Telnet program and point it to MIGATE. MIGATE is a TCP/IP bridge between the Internet and amateur radio.

Once you connect to MIGATE, the system will prompt you for your user name. Enter your callsign. It will then ask you for a password. Usually, I enter my Internet address as my password, but the system does not validate it so you need not remember what you enter.

ifying the callsign/SSID or the alias.

There is a normal naming convention for alias used to access Packetclusters. They usually start with DX. If you look at the nodes connected to MIGATE, you may see the following Packetcluster stations accessible:

KI3V (DX2400)	VE3CDX (DXGATE)	WD5B (DXCNWY)
NO4J (DXFLA)	KC8FT (DXIT)	IK5QGO (DXCPC)
WD5B (DXARK)	IK5PWJ (DXCPL)	

One of the first Packetcluster nodes accessible via Internet was VE3CDX, so lets try that one.

Enter "C DXGATE". You will next see a message saying that a connection is in progress and if you change your mind to type CTRL T. With any luck, in 5-20 seconds you will be connected to a node that will tell you what to type to connect to the Packetcluster node.



```

205.153.140.12
You have 0 messages.
ARGATE:WD5B-7 Area: on9cnc (#0) >
ARGATE:WD5B-7 Area: on9cnc (#0) >
C DXGATE
Trying... The escape character is: CTRL-T
*** connected to DXGATE:VE3CDX-2

Welcome on9cnc,
to the VE3CDX-2 TCP/IP Mailbox (JNOS 1.101 (80386)).
Currently 16 users.

This station provides gateway service only.

This machine has NO MAIL facilities.

To access the VE3CDX DX Cluster type:
c dxcdx

To access the VE3DTU BBS type:
c bbsdtv

E-Mail bgarratt@cdx.net
?,B,C,E,H,I,IH,IP,J,M,N,NR,P,PI,T,X >

```

## Basic Packetcluster Commands

If you are new to Packetcluster, let me introduce you to a few commands that can get you going quickly.

If you know your latitude/longitude coordinates, type "SET/LOCATION". For instance, for my QTH, I would enter "SET/LOCATION 50 51 N 04 41 E". By doing this, you are telling the Packetcluster node exactly where you are located. Once it has this information, it can tell you where to point your beam for short-path directionality. You can find this information by typing "SHOW/HEAD" followed by a prefix. This feature is very handy if you do not get this information from your log-

Assuming this is the first time you have ever connected to VE3CDX's node, it will ask you for your name. It will confirm that you have typed the correct name, and repeat this process for your address.

Once you have told the Packetcluster who you are, you are now a regular user of the VE3CDX node.

```

205.153.140.12
Welcome on9cnc,
to the VE3CDX-2 TCP/IP Mailbox (JNOS 1.101 (80386)).
Currently 16 users.

This station provides gateway service only.

This machine has NO MAIL facilities.

To access the VE3CDX DX Cluster type:
c dxcdx

To access the VE3DTU BBS type:
c bbsdtv

E-Mail bgarratt@cdx.net
?,B,C,E,H,I,IH,IP,J,M,N,NR,P,PI,T,X >
c dxcdx
Trying... The escape character is: CTRL-T
DXGATE:VE3CDX-2 Connected to DXCDX:VE3CDX
Hi ON9CNC!
Welcome to the NF1DXA PacketCluster.
Cluster: 21 nodes, 9 local / 2081 total users Max users 32764 Uptime 0 06:36
ON9CNC de VE3CDX 6-Aug-1996 2049Z Type H or ? for help >

```

Type "SHOW/USERS" and you will see the call sign of everyone connected to VE3CDX. Likely, you will see 6 or more Canadian amateurs, but also visitors like you from all around the work. Last week, I saw stations from Italy, Belgium, Brazil and Portugal.

```

migate.ampr.org
HIIRAC:KS9K WLMPAT:K1LT-11 WORM:K2CC-2 WUA:KB4WUA-13
VOG1:W9VB-3 YQZ:UE7MBH YUR70A:UE7UPO-5 YUR70B:UE7UPO-4
YURARQ:UE7TPG-3 YURDEL:UE7ROB-3 YURSRY:UE7SRV#3 ZEG:HG1KZB
ZHGATE:HB9AB-10 ZORASH:N8JSF-4 ZQ1TCP:4Z4ZQ-7
Area: 'on9cnc' Current msg# 0 of 0
BBS: CHLL,CONF,DX,?,R,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R,S,T,U,V,W,X,Y,Z
C DXFLA
Trying... The escape character is: CTRL-T
*** connected to DXFLA:N04J
Hi ON9CNC! Welcome to the North Florida DX Association PacketCluster
NF1DXA is Co-Hosting the 1997 ARRL National Convention in Jacksonville, FLA.
DXT: Name the only landlocked country between Iran and India? SH/TR1VIA 21Z
WE HAVE A NEW DATA BASE - SH/CONFIRMED - READ MSG # 1 FOR INFORMATION
Visit the NF1DXA Web Page: http://www.jaxnet.com/~nf41/nf1dx.html
Cluster: 4 nodes, 18 local / 24 total users Max users 853 Uptime 0 20:50

ON9CNC de N04J 6-Aug-1996 2059Z Type H or ? for help >
sh/u
Users connected to local PacketCluster node (N04J)
(KF4RHG) KD4FRZ KC6CEX K04GC M4UJK
LD40NB (OH2BUR) (N04J-9) R71CX WB2TQE DL3H1B
LD460Z SM4CRH K4PYT PT7WR ON9CNC
ON9CNC de N04J 6-Aug 2100Z >

```

ging program, or it is not readily available.

While you are connected to the Packetcluster node, you will see spots appear as other amateurs post them. If you would like to see the last 10 spots broadcast, type "SHOW/DX/10". If you would like to see all spots from a certain country that were posted in the last 2 days, enter "SHOW/DX/D2" followed by the country prefix. If you would like to see the last 5 spots for RTTY, type "SHOW/DX 'RTTY'". This command usually works because people usually type RTTY as a comment when spotting a RTTY station.

What if you would like to announce some juicy DX that you just found on 30 meters? As we are all supposed to be monitoring 30 meters each day for digital action, lets assume you just discovered N2HOS on 10133 mHz. As Jim is considered very rare DX here in Europe, many people would love the opportunity to work him (getting a QSO with the founder of The Copper Dipole in the Attic Association is always very exciting HI). Type "DX 10133.0 N2HOS RTTY JIM". In a few seconds, you will receive a spot from the alert that you just entered.

Built into the Packetcluster system is a mail system. Hams use mail just like on a regular PBBS. You can address mail to specific amateurs (if the Packetcluster system knows where they are) or to generic addresses like ALL. Each cluster system has a set of rules on how to use mail, so please make sure you understand the etiquette before you try to send mail. Many of the Packetcluster nodes that are accessible will not allow you to send mail, since there are better and more efficient ways to do that on the Internet.

To see what mail has been posted to the general community, type DI. You will then see the last 5 mail messages posted to the general community. When you look at the listings of the mail messages, you will see that each has a unique number at the beginning of each line. Just as with any PBBS, to read the mail message, type "R " followed by the mail message number.

## Packetcluster - The Easy Way!

If the above method of connecting to a Packetcluster node is too intensive for you, you can browse the cluster by point your browser at "HTTP://www.clinet.fi/~jukka/webcluster.html". Jukka has provided a web-style access to the Packetcluster that lets you submit certain command. You will not be able to experience the full power of the Packetcluster by this method.

Location:

# OH2BUA WebCluster

Helsinki, Finland. (The palm trees are imported from elsewhere!)

**DX-Spots and WWV-information from PacketClusters.**

Since the 20th of November 1995, WebCluster has been visited 682923 times.

**NEW Check the World Desk with input form!**

- **World Desk** with 3 WWV's, 15 DX-Spots, 3 Announcements and **INPUT FORM**
- **Last 25 or 250 or 1000 DX-Spots**
- **Last 25 or 250 or 1000 Announcements**

You will not be automatically notified when a new DX station is spotted. This method is very easy, however, and if you are not familiar with Packetcluster, it is a nice introduction.

I plan to cover Packetcluster operations in more detail for the

future. Otherwise, if you have access to one locally, experiment! If you have any questions about how to use it, contact the sysop, as they are always willing to help.

*Until next month, 73 Neal*

## ICOM IC-761 MODIFICATIONS

### permit selection of 500 Hz filters in SSB modes

Robert W. Lewis, AA4PB / email: <rlewis@staffnet.com>  
P.O. Box 522 • Garrisonville, VA 22463-0522

The stock IC-761 only permits selection of the 2.4 KHz or 2.6 KHz IF filters with the front panel filter switch while in the SSB modes. With a relatively simple modification we can cause the filter switch to select the 2.4 KHz or the 500 Hz CW filter while in the SSB modes. Use of the 500 Hz filter is compatible with the SCS or PacComm Pactor-II units or any other controller whose output spectrum is less than 500 Hz and can be centered on 1500 Hz. All other IC-761 filter selections remain unchanged by this modification. I expect that this modification will work with the IC-765 as well, although I have not tried it.

Filter selection in the IC-761 is made via a CMOS multiplexer, IC3. Signals for each mode and for the filter switch positions on the front panel are applied to the input terminals of IC3. The output terminals (0 through 7) apply, through steering diodes, bias to the appropriate filter selection circuitry. By rearranging the steering diodes we can change the filter selection options for the different modes.

To perform the modifications, remove the bottom cover of the IC-761 in order to gain access to the "main unit" printed circuit board. If you are careful, the modifications can be made without removing the PC board from the chassis. Clip the diode lead very near

the PC board, leaving the maximum possible lead length attached to the diode. Use small, un-insulated, solid buss wire to make connections to the diodes. After attaching one end, slip a small piece of insulation over the wire and then attach the other end. Wrap one turn around the existing diode leads. Solder very quickly in order to avoid overheating the diodes.

Clip the cathode end of D36 from the PC board. Run a jumper wire from the "floating" cathode end of D36 to the cathode end of D39 which is still attached to the circuit board.

Set switch S5 (SSB) on the PC board to the reverse position. This will select the 2.4 KHz bandwidth with the filter switch out and the 500 Hz bandwidth with the filter switch pushed in. If you prefer the filter switch positions reversed leave S5 in the normal position.

Both the 2.4 KHz and 500 Hz filters are centered 1500 Hz away from the suppressed carrier (dial frequency reading). It is necessary to center the PTC-II's tones on 1500 Hz by setting mark at 1600 Hz and space at 1400 Hz. The following PTC-II commands will accomplish this:

TONES 2                      MARK 1600                      SPACE 1400

Don't forget to use the OFFSET command to enter the offset (+1.6 KHz if you use USB or -1.6 KHz for LSB) so that frequencies can be entered into the PTC-II as the standard MARK frequency. The PTC-II will then calculate the proper dial frequency to send to the IC-761.

# Contesting

## Coming Events and Awards

by Rich Lawton, N6GG • 14395 Bevers Way • Pioneer, CA 95666



### — RTTY Contests - Coming Events —

Date:	Contest:	From:	Rules in:
SEP 28-29	CQ/DJ WW Digital	(USA)	June DJ
OCT 19-20	JARTS WW RTTY	(Japan)	July DJ
NOV 9-10	DARC WAE WW RTTY	(Germany)	August DJ
DEC 14-15	TARA RTTY SPRINT	(USA)	Sept DJ

### — Reminders for Logs —

#### RUSSIAN RTTY WW (July 27-28)

Logs must be received by Sept 13 '96.

Mail to:

**RUSSIAN RTTY WW CONTEST MANAGER**  
**YURI KATUTIN, UA4LCQ**  
**P.O. BOX 1200**  
**ULYANOVSK, 4322035 RUSSIA**

#### SARTG WW RTTY (August 17-18)

Logs must be received by Oct 10 '96

Mail to:

**Bo Ohlsson SM4CMG**  
**Skulsta 1258**  
**S710 41 Fellingsbro**  
**SWEDEN**

### — — COMING UP — —

#### — TARA RTTY Sprint — December 14-15, 1996

Sponsored by Troy Amateur Radio Association, New York  
(Ref: TARA, NY2U)

**CONTEST PERIOD:** From 2100Z Saturday, to 0100Z Sunday  
(4 hours)

**BANDS:** 80, 40, 20, 15, and 10M

**MODES:** RTTY only

**CLASSES:** A) Single op, all band  
1) Less than 150W output  
2) More than 150W output  
B) Multi-op, single transmitter

**EXCHANGE:** USA stations: send RST + state  
Canadians: send RST + province  
All others: send RST + QSO nr.

**MULTIPLIERS:** each USA state, DXCC country, and  
each Canadian province, + VE8 and VY1

#### NOTES:

- Multipliers count only once, not once per band.
- KH6 and KL7 count as DXCC countries only.
- USA and Canada do NOT count as DXCC countries.

**QSO POINTS:** Count 1 point per QSO.

**FINAL SCORE:** Total of QSO points x total of mults.

**DEADLINE:** Logs must be received by January 17th. Mail to:

**Bill Eddy, NY2U**  
**c/o TARA, 2204 22nd St**  
**Troy NY 12180**

**COMMENTS:** Strictly a 4-hour RTTY speed contest. Rules are the same as ARRL Roundup. There are NO band multipliers. It should be a good warm-up for the ARRL Roundup 4 weeks later.

### -- Handy Software for Contesters --

I have 3 DOS programs that I have used over the years that I find so convenient for Contesters (all kinds) that perhaps you might find them useful, too.

First: **REMIND**. This program is set to pop up by the AUTOEX-EC.BAT whenever you turn on your computer. Through simple edit commands you can tell the computer to remind you when ANY event is about to occur, and give you a choice of how many days warning you'd like. I usually warn myself 5 days before each contest. You are allowed up to 3 lines of info about the event. When that 5-day warning happens, the following occurs: As the computer finishes booting itself up, a white background screen pops up and a beep sounds as each of 3 big, bright colored boxes appear. Here's an example:

The first box is blue, with the words, "**JUST A REMINDER**" flashing on and off. Just below the flashing is, "**Today is Monday July 22, 1996**"

The second box is red, with the words, "**YOUR REMINDER FOR TODAY: Russian RTTY Test 0000 Sat - 2400 Sun. Exchange: RST + CQ Zone... in 5 days. Prepare!**" The following day it says the same, except its "**in 4 days.**" It repeats each day until Contest day.

The third box is green, with the words, "**Press [Enter] To Continue...**" By the way, you can have more than one reminder box, too. For the actual Contest day I make a box appear that says, "**Hey, Boss... Set my clock to WWV, will ya?**" and another that says, "**And another thing... don't pound my keyboard so hard during the Contest!**"

After the contest is over Remind can be used to tell you the deadline date for sending in your log. It can be a simple date reminder that can start a week or so after the contest, and come on each day 'til you get tired of it and do it.

Other things you can do: use it for birthday reminders. It keeps the date for year after year. And it makes the computer play "Happy Birthday" on that date, too. Speaking of tunes, on Christmas it plays, "I Wish You a Merry Christmas," on New Years it's "Auld Lang Syne," on the 4th of July it plays, "America," and so on - appropriate tunes for major holidays.

It has an excellent calendar - in bright colors - that you can pop up when you are typing in the info you want. You can go backwards and forwards for dates to look up. I looked up to find what day of the week I was born in 1921 - it was Friday. I really like this neat program. I bought it in 1990 when it was listed as shareware, for \$10. **REMIND**, Ver. 4.9 by Robert M.W. Tsou, 28441 Cedarbluff Dr, Palos Verdes, CA 90274. It comes with an on-disk manual.

The second DOS program I want to mention is **DIRMAGIC** (Directory Magic), a file management and directory utility program I use just about every day. DIRMAGIC uses the Function Keys that are programmed as batch files to quickly navigate around your files on the hard drive. It's exceptionally fast and simple.

For contesting I can look up and quickly find just about any contest log I've ever done on the computer. Once found, it can be instantly displayed on the screen by just pressing <Enter>. It can Copy, Move, Rename, Delete, Search, Go to New Path, Sort by Name, or Extension, or Size, or Date, etc. all with the help of a simple Menu on the right side of the main screen.

**DIRMAGIC** by Michael Medford. It was a freebie for PC Computing subscription promotion around 1988 and has appeared in shareware listings since then.



The third program is "QuikMenu" a graphical menuing program for DOS. (I am not a Windows fan. Windows gobbles up too much memory for fancy, unnecessary graphics, causing slower computers to be m-u-c-h slower) This is an outstanding program for running ANY program on your hard drive with a simple mouse click. I bought this in Nov '89 for about \$40.

I installed the program as directed, and added the following to the end of the AUTOEXEC.BAT file: **CD\QUIKMENU\QM** That makes the menu pop up each time the computer is booted up.

The idea is simple; QuikMenu steps you through the creation of simple batch files for each program (directory\sub directory\file-name) and assigns a key to a colored box on the menu screen. It asks you to identify the box, such as "R - RTTY by WF1B." This box can be placed anywhere on the screen you wish. To run the program, simply press "R" on the keyboard, or click on it with your mouse.

QuikMenu has 40 pages (screens). On each page you can put at least 25 different boxes. Each box represents a program. That makes 1000 programs!

I arranged the pages to be as simple as possible. Page 1 is for RTTY and Word Processing. Page 2: Utilities. Page 3: Graphics. Page 4: Databases, etc.. I save a space on the right hand side of page 1 for Table of Contents boxes, each with a page number and one-word description. Simply click on the page you want.

Along the top of the screen is a row of command buttons (much like Windows). To set the computer clock, for instance, click on **Modify**, then **Setup**. A new menu appears on the screen. Click on **Date/Time**. Step through the requested window blocks using the Tab key. When finished press Enter. This starts the computer clock at zero seconds. So when listening to WWV you can set your clock exactly to UTC time, as announced, right on the tone, when you press the Enter key.

QuikMenu has scads of useful features, like: File Manager; Calculator; Phone book; 6 different Screen Savers; a time log that keeps track of time computer is being used, naming the program in use and time on and off; Phone Dialer; Appointment Calendar with a simple edit program that allows you to place messages in boxes of pertinent dates.

QuikMenu is NOT a TSR (Terminate but Stay Resident) so it doesn't use up your needed memory space. After each program is exited, QuikMenu pops back on the screen. So, you hardly ever see "C:\>" prompt anymore. **QuikMenu**: OSCS Software Development Inc., 354 NE Greenwood Av Suite 108, Bend, OR. tel: (503) 389-5489.

## — Retiring —

No, my car's tires are OK... But I've decided that it's time to step down as Contesting Editor and let the young whipper-snappers have at it.

Actually, it's for health reasons. I've been contesting since 1936, (won the ARRL CW Sweepstakes for East Bay Section in 1937, when I was 17 years old. I was W6MVQ then). I'm now 75 and my heart is into electronics. That is, I've got a pacemaker. Had it for 2 years now. Works great... but I'm grounded... and quite limited in activities. On top of that, my wife's health is deteriorating to the point where doctor's appointments and test procedures seem to fill our appointment books. She's seriously ill and she's my number one priority.

I'll still try to get into some of the RTTY contests, as time allows, and write a commentary from time to time, when I have a fit... oops... I mean, see fit!

It's been a real pleasure writing this Contesting Column. I've really appreciated working for the Journal... first with Dale W6IWO, and then Jim N2HOS. I wish IDRA all the best, and they have the best staff to do it, too.

((73)) See you in **some** of the pileups, Rich, N6GG

## Hints & Tips

### How To Work An RTTY Pileup

by Eddie Schneider, W6/G0AZT

1826 Van Ness Street • San Pablo, CA 94806-4555

email: <edlyn@global.california.com>



At the IDRA dinner in Dayton, Glenn, W6OTC suggested that someone with some experience at the "sharp" end of Baudot pile-ups ought to write something about how to assist the DX station in achieving maximum efficiency and ensuring that you get in the log.

### My credentials.

I have operated from VP5, C6A, ZF, V2, VP2M, VP9, P4 and 8R. By the time this article reaches our readers, TY and 3V will be on the way to activation as well.

### Modis Operandi

Like most DXpeditions, the idea is to try and work as many stations as possible in the time available. RTTY, being a somewhat slower mode than SSB and CW, requires a slightly different approach in operating habits by both the DX and the callers. Normally the DX will work contest style, "599 QRZ?" They will probably run "split" frequencies to enable the caller to have a chance of seeing his call come up on the screen and know that the report was for him. In some cases, if the DX has very good antennas and power, they may choose to run simplex, particularly in a contest, so as not to disrupt the rest of the band.

### Why RY?

One of the frustrating things the DX station has to endure is that nasty string of RY's. WHY send RYRY? What useful purpose does it serve? In the time taken to send a line of them, you could have sent YOUR CALLSIGN three, four or even five times, depending on it's length. (Oh you lucky people with 1x2, or 2x1 callsigns!). In the days of "steam" RTTY and mechanical machines, the RY was sent to enable the receive station to tune-in, but with modern TNC's, the RY is no longer needed.

When you call the DX in CW, do you send a string of V's before you send your call? In SSB, do you shout "ola ola" or whistle in the microphone? Maybe, but don't call me, I'll call you, sometime never. Banish the RY's syndrome to some black hole in outer space, where it belongs.

### Feet first

OK, you are tuning around and come across a big pile-up, spread all over the band. You find the DX station's transmit frequency and without even listening a while (and you should listen first!), you call on his frequency. Oops, your first big mistake! The inevitable policeman comes on, 20dB stronger than the DX, and proceeds to call you all sorts of unpleasant names, doubts that you had a father, wonders how you got your license, etc., etc. If you want to be a policeman, assist rather than disrupt. Tell the offender "QSX up 2" or whatever the DX is doing. Be short and to the point.

### Getting in the log

Once you have figured out that the DX is listening up, try to work out the operator's operating habits, if he has any! Is he answering tail-enders? Does he move his VFO after each contact? . . . and so on. Try and find a clear frequency and sit tight. The DX is bound to find you before the band folds, or before his QRT for a visit to the sand-box. Occasionally check your transmit frequency to make sure some big gun is not wiping you out.

The DX is bound to find you before the band folds, or before his QRT for a visit to the sand-box. Occasionally check your transmit frequency to make sure some big gun is not wiping you out.

Send only YOUR callsign. The DX knows HIS callsign (its written on his license, probably etched in stone above his operating position) but he needs to know your callsign for the log. Check out a pile up on SSB or CW, you rarely hear the DX chaser giving out the DX station's callsign, so why waste time doing it in RTTY?

Hooray, you got through the pile up. If the DX is running contest style, he is probably only interested in your callsign and a report. Drop your name in once or twice just to be friendly and possibly your State/Province abbreviation, just in case the DX is working for WAS. Forget about your city, county, the WX, what you had for lunch—and station equipment macros. Even if you know the operator personally let HIM decide whether he wants to have a QSO with you. Remember, there are probably many more stations wanting to get in the log, so please have a thought for those anxiously waiting in line. Keep the exchange short and sweet and you will not make too many enemies. Be verbose and you are sure to upset quite a few folks, believe me. I'll be one of them :-)

#### You are in the log.

After the usual exchange of reports and the DX signs "SK", do not go back for a super final. SK means, end of work or transmission to a particular callsign. In plain Queen's English, "I've finished with you, thanks very much, don't transmit again because I want to work someone else". Of course SK is also used for hams who have passed away. Beware, you may become one of them, if you attend the next RTTY dinner at Dayton and get beat about the head with cricket bats.

From the DX's point of view, sending KN after a callsign should make it clear to other callers that he wants ONLY that station to respond. In practice, most of the time, it appears that everyone EXCEPT the 'named' station, calls again. KN means "invitation to transmit, named station only", so please respect the DX station's wishes and give him a chance to work whoever he specifies. If the DX answers a non specified caller, then he has only himself to blame for the resulting alphabet soup that will appear on his screen.

#### Simplex

If the DX decides to work simplex, be on your guard and watch your screen closely. A good DX operator should put your call at the END of his transmission, with a couple of KN's for good measure. Be ready to hit the TX button, otherwise some eager beaver will jump in and mess things up for you. Do not 'break' during an exchange, it causes confusion, disrupts the flow and is basically rude and inconsiderate.

#### Lists.

List operations on RTTY have been tried many times. To date I have not seen a successful one and doubt if I ever will. In this mode, the list master has no control whatsoever. Because of the nature of RTTY, longer transmissions are required than in CW or SSB. The resulting chaos, frustrates the list master, the incessant callers and most importantly, the DX operator, who then QRT's and thinks RTTY is not for him and then returns to those "other" modes, never to be seen on your screen again. Not a good idea, especially if you NEED him for a new one.

Lets all try and prove to the DX operator and future DXpedition organizers, that RTTY operators are a polite and considerate bunch of ladies and gentlemen.

#### To summarize:

#### EDDIE'S COMMANDMENTS for the DX STATION (Not carved in stone)

1. Thou shalt not pick a transmit frequency below .082 mark, on the high bands.
2. Thou shalt not listen more than 2-5kHz above or below your transmit frequency.
3. Thou shalt ensure that the callsign of the station you are working, appears at the END of your transmission.
4. Thou shalt, after each contact, inform the callers where you are listening.
5. Thou shalt not contact anyone on your transmit frequency.
6. Thou shalt not forget that there are many countries who wish to work you.
7. Thou shalt try to "predict" propagation paths to ALL those countries who are patiently waiting to get in your log.
8. Thou shalt periodically inform all stations of the QSL route.
9. Thou shalt not make skeds and then not keep your promise.(subject to unforeseen problems, like Murphy's Law)
10. Thou shalt make it clear to all parties, when you have ended one contact and wish to make a new one.

#### EDDIE'S COMMANDMENTS for the DX chaser (Written on parchment)

1. Thou shalt not use RY.'s, EVER.
2. Thou shalt adhere to the DX station's requests.
3. Thou shalt not send the DX station's callsign more than once.
4. Thou shalt send YOUR callsign only three or four times.
5. Thou shalt not transmit on the DX station's frequency if he is running a split operation.
6. Thou shalt not become abusive to other stations who occasionally transmit on the wrong frequency.
7. Thou shalt inform the transgressor in KISS (Keep It Short Stupid) mode, as to where the DX is listening.
8. Thou shalt not send more than your name and abbreviated State/Province letters in your exchange, unless the DX station begins a rag-chew with you first.
9. Thou shalt not transmit when the DX sends KN, unless YOUR callsign is seen.
10. Thou shalt not transmit once your report has been confirmed, unless invited to do so by the DX station.
11. Thou shalt not transmit after the DX signs SK, CL or QRZ?

These are my views of how to get in the DX station's log and how the DX station ought to maximize his time on the air.

*Good luck and happy hunting, de Eddie, W6/G0AZT*

# The Contest Chair

Hints, Tips & Inspiration for Better Scores

by Ron Stailey, AB5KD • 504 Dove Haven Dr • Round Rock, TX 78664  
E-mail: <ab5kd@easy.com>



Hello Contesters/DXers! Here it is September already and time for another CQ/DJWW DX contest, the biggest event of the year. Somehow, this year, we must figure out a way to do the results better than what we are doing now. Waiting eleven months to see the results is ridiculous. ( I can't even start to tell you the amount of mail I have received asking questions like, "Where can I get the results for CQWW'96 RTTY contest, why is it so slow in coming out?" ) Naturally it takes a lot of time to check the logs and check them right. But Roy and I can handle it and still get the results out and ready for publication by May the way things are set up now.

There are several things Roy and I could do to speed up things on our end. If we did and CQ won't publish it sooner, what's the use? I wish I had an answer that would solve the problem, but I don't. Hopefully Roy will be back on Internet soon so we can discuss some of these problems and maybe get something done!! What that something is, I have NO idea. Maybe if they were printed in CQ-Contest, it would speed up the results! As for the results for CQ/DJWW'96 article in the Digital Journal everything got printed except what you really wanted to see. Well that was a big whoops. We are very sorry about it and it won't happen again.

Next month we have one of my favorite contests, JARTS WW RTTY Contest. This year will be it's fifth year. In just five short years JARTS has become one of the top contests. If you have never participated in JARTS contest, you have missed a lot of fun. Join in this year, lets keep the traditional growth going. JARTS has one major rule change this year. In Multi/Op category, Multi/TX is now permitted, starting this year. This makes it a Multi/2 category. Now we have two contests with Multi/2 categories. NAQP & JARTS. It WILL be a lot of fun.

Keeping a Contesters XYL happy: I'm going to tell a tale about myself here. Many years ago when I got married my dear old Pappy told me to make sure my XYL knew how to take care of the financial part of our lives. I did what my father asked and passed this responsibility along to my new bride. She is so good at it, I go for months without even looking at the books.

She has always handled this by hand. But the other day she asked for a computer with Quicken installed in it, so she could do the financial work in depth. Well, this was something different, especially for my XYL. She has never shown any interest in computers. Mostly because "she says" she has seen me become a raging maniac in the middle of a contest, when strange things start happening with in my computer. ( I might add, that what I do and what she says I do, under a STRESSFUL SITUATION such as a contest, are two different things altogether. hi ).

Being the kindhearted guy that I am, I gave her my best computer, then again, maybe it wasn't my BEST computer! I gave her, my OLD (but nice) 286, along with a super nice Monochrome monitor. With a relic of a printer that smears the type. What else could she ask for!!! :-)

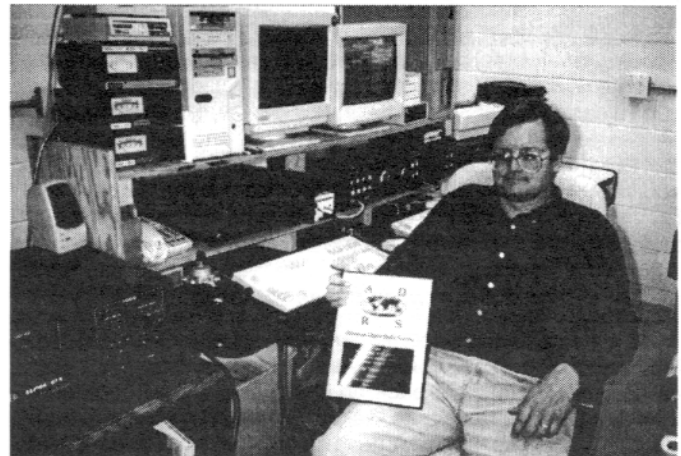
However, my sacrifice was short lived. A few weeks later a girlfriend of hers came over and stated that she had never seen an old 286, and how could she work without Windows. My world famous statements about computers only being a tool we use for contesting just went down the drain. The very next day she suggested we go to the computer store and get her something

that could run Windows. Possibly something used for a beginner, a 386 type computer and a decent printer. I agreed and off to the computer store we went. What we WENT AFTER and what we BROUGHT HOME are two different things.

We brought home a brand spanking new, 486 Pentium with Windows95 installed, 1 Gig HD, 16 meg of ram, CD ROM, SVGA monitor, a dump truck full of software, plus a new color printer. So much for the idea of a beginners computer!!!

It has been about ten days since we brought home her new computer. Now we have this little problem of learning Win95, while I have been working with Win3.1. Win95 is another story altogether. However, after dealing with Win95 for this short period of time, I would say, Win95 is the biggest blunder since Ford Motor Co. produced the Edsel !!!

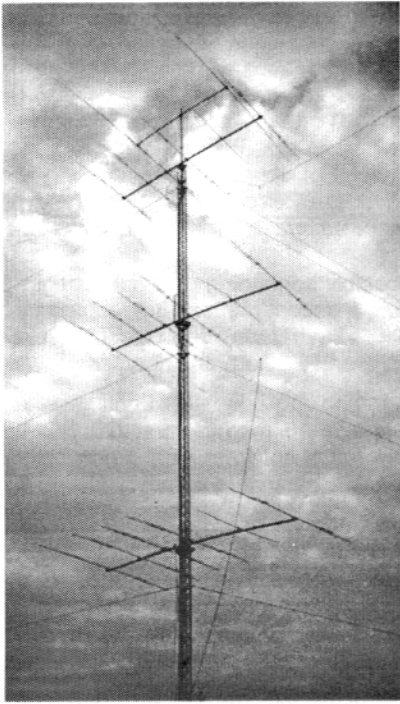
One good thing has come out of this tho', my XYL is as happy as a kid with a new puppy. She now stays in her computer room most of the day. It also gives us something NEW to talk about besides the Grand Kids, and morning pains that come into play at our age. I am also monitoring who her friends are, and their computer skills, very close. hi The very BEST way to keep your XYL happy, is make sure she has a better computer than you do. :-)



**This month we will visit with Tyler Stewart, KF3P.** He lives in Damascus, Maryland with his wife Laurie, along with two dogs, two horses and four cats. He was first licensed in 1973 as WN3UXU at age 14, then WA3UXU, getting his present call KF3P in '82. Tyler is an Electronic Technician for Potomac Electric Power Co. He also has a small business of his own, Stewart Communications. He started it in '85, he says, so he wouldn't starve to death.

Tyler isn't a new comer to Digital or RTTY contesting, he was introduced to RTTY by Don Peck, W3CRG. From Don's QTH, he has gone through the Model-15's, 19's and the Cadillac Model-28 ASR. Through Ed W3EKT he found out about RTTY contesting. "Ed W3EKT was King of the hill in RTTY contesting, in those days." Tyler got the contest bug, and later became one of the ops of the well known station of W3LPL. Here is his story titled *Winners Never Quit*. I'm sure you will enjoy it.





### Winners Never Quit!

I recall my recent response to a "CQ-contest" Internet reflector query for contesting tips from top op's. It was "... most importantly, never, EVER, quit!!". During the 1996 IDRA RTTY WPX Contest, I got a chance to practice what I had preached!

In my station, I usually run as a 2-radio, 2-computer, single-op if I'm serious about a contest. At present, I only use the second radio setup on 40 meters (and 160, if allowed). Both computers have HAL PCI-4000 cards installed running WF1B software for RTTY. Since WF1B does not have network capability, I decided I

would double-log all 40M contacts on both computers, so at least one computer would have a complete dupe and multiplier list, as well as a reliable serial number count. Since my number one computer runs Windows 95 and WF1B doesn't have packet (which is allowed in WPX), I decided to multitask WF1B with DXBase so I could watch packet, log personal QSO's, and have access to beam headings, etc. I had run this combination before for casual QSO's with complete success, so I knew it would work.

About a week before the contest, I heard excitement brewing over the new RITTY software by K6STI. I decided I had to try it, and I'd see if it would run in a window. So I had 3 windows open on computer one running WF1B, RITTY, and DXBase, using the PCI4000, a Soundblaster 16, and packet TNC—all on a 486DX66 machine! It worked fine while testing, except that RITTY was not getting the processor time it needed when in the background. Even so, it seemed to be copying some signals better than the 4000, so I decided to leave it running and flip to it for a "second opinion" when things got tough.

I got my first hint that something was wrong about 1/2 hour before the start of the contest when I tried to enable Autosave on computer 1 and got back an error message saying something like "unable to write to disk. 258,000,000 bytes required!" I chalked this up to an Autosave bug initially, since WF1B appeared to be logging properly. Since it was getting close to the start, I decided not to pursue it, but did enable the printer for backup logging.

The contest started up and things were going great! 40 meters was especially good. To keep the TX serial number in sync on the 40 meter computer, I decided I would just enter blank QSO's as needed to keep the 40 meters numbers in step with the other bands from computer one. This seemed to be working fine as well.

### Time for a reality check!

About 5 hours into the contest, and 175 juicy low-band QSO's later, KF3P was QRT! I can't remember if it was the infamous WF1B registration bug or something else, but I got dumped out on computer one. Upon restart, my jaw dropped when the screen said "0 QSO's loaded"! Panic set in REAL quick. I checked the printer. It had mysteriously stopped printing after the first partial page! I quit WF1B again and checked the file

directory. It said "WPX.bin 258,000,000 bytes"! I looked around for a WF1B "rebuild" utility and found one, but it didn't help. The log was toast.

My next thought was "well, most of my QSO's have been on 40, so at least I can salvage those from the other computer." I did a "Savelog" on computer 2 and a restart to check for integrity. Where I had had probably 125 QSO's, it now stopped loading after the first 15! I was about ready for the guys in white jackets to haul me off at this point! I fussed with both computers for another 15 minutes or so, the whole time mumbling "I just don't @#\$!in' believe it!" It seemed like there was no choice but to try again next year. With six hours of prime low-band time gone and 175 practically irreplaceable double-point QSO's gone, it felt almost hopeless.

### ... but then a lightbulb came on!

If I restarted using a new callsign, I still had a fighting chance! While the best of the low-band hours were gone, there were still plenty enough left to be competitive and those first hours could become "off-time", so I'd still get the benefit of operating the allowed 30 hours.

So where to get a new callsign at 12:30 in the morning? I called PVRC club president and friend, KE3Q, knowing he might still be awake. I dialed his phone and immediately got his answering machine, but then he broke in and said "hello?". He was up filling out QSL cards on the kitchen table! I explained my predicament and he said "sure, no problem!", whereupon I warned him to expect a lot more QSL cards.

Now I was a man on a mission, feeling the oats of an underdog! Although computer two crashing occasionally and losing its contacts, computer one was holding solid, so I used it to log everything. Realizing not only that I had a lot of ground to make up on the low bands, but also that I only had to take 12 hours off the rest of the contest, I pushed them well past my planned quitting time of 0700Z, took about 3 hours rest, and hit them again for about an hour before head-banging with the Europeans on 20. The runs on 20 were solid yet not very fast, but this is bread and butter time on the US east coast yielding the highest rates of the contest - a couple of 43 hours. Excursions to 15 brought in a few "big-gun" Europeans and stateside 1-pointers. 10 meters: well, we all know about 10!

After EU sunset, I took off a few hours both days. This is the Midwest and west coast's time domain. Back on to close out 20 about 2200Z, with a nice 1 hour JA run on Saturday. Saturday night was spent aggressively seeking out every last QSO, especially those EU 6 pointers that are so essential to a winning east-coast score. IK2BUF and IK0HBN were fixtures on 40 meters with consistently loud signals. Only a couple of hours after sunset, 40 started going flat. You know we are in a minimum when 40 shuts down at night! It was still alive, but signals were way down from earlier. 80 was noisy but still good for DX, yet skip was way long by the time most stations migrated from the higher bands, so east coast to east coast performance was severely limited. (160 would have been nice!).

Sunday was more of the same, but conditions were not quite as good (the A/K indexes were headed higher).

The DX highlight from here was probably working a very weak VK9XY on 40 meters, who got my call for a DX QSO, but I never got my number. (I wish I'd had RITTY running at the time!). I also worked VK9NH/VK4 on both 40 and 80 and A22BW on 40 and 15. VU2PTT on 20 through a swarm of Europeans was a nice catch, as were FK8GM, A92GD, VP8BFH, CN8LI, and a nice pile of JA's.

### Squashing the Bugs!

I eventually figured out the root of my problems with WF1B 2.25. After setting up the program for the contest, I had entered a few sample contacts to test things out. Rather than setup the

whole thing again, I tried to use the editor to delete those contacts. Normally, if you try to delete the very first contact, it will crash WF1B with a "disk I/O error" message. However, somehow it managed to keep running when I did it that first time. So although the file structure/allocation was now corrupted, I had no idea until much later. The other bug related to my use of "blank callsign" QSO's to keep the serial numbers in step on both computers. When reloading a .bin file with a blank callsign, it halts at the first blank QSO! Ray has since corrected this problem in version 2.5 by not allowing the logging of QSO's with a blank callsign field.

73, Tyler KF3P (aka KE3Q occasionally!)

*I would like to thank Tyler for sharing this with us. The WPX winning score was 712,963. Tyler's score was 708,178, he almost pulled it off. The tip Winners Never Quit should go in all of our memory banks. It's locked into mine for ever.*

Next Month: we will visit with the crew of station RK9CWA. Station RK9CWA has the most wins in M/S category of any station in the history of digital Contesting. Of all the checking I have done, only RK9CWA has won all Digital Contests on a World Wide Scale. New or Old contests, they have won them all. On top of that, they are still winning. It should be an interesting column for both DXers and Contesters.

JARTS Contest Records: (All records compiled by Eddie Schneider, W6/G0AZT)

S/Op: All Band Records:

Year	C/S	QSO's	Pts	Mults	Score
1994	AB5KD	1031	2384	182	433,888 (World)
1995	JR5JAQ	323	897	133	119,301 (Japan)
1994	AB5KD	1031	2384	182	433,888 (USA-48)
1994	VE7SAY	508	1173	123	144,279 (VE)
1993	KP2N	626	1466	126	184,716 (NA) (NA outside USA)
1995	CE8SFG	664	1959	148	289,932 (SA)
1993	OH2GI	530	1380	176	242,880 (EU)
1992	7Q7XX	386	1149	60	64,940 (AF)
1993	UH8EA	240	1466	191	280,006 (AS)
1994	5W1MM	698	2067	123	254,241 (OC)

Multi/Op: Records:

1994	8R1TT	1214	3631	181	657,211 (World) G0AZT, W6OTC
1994	JA1LZO	272	741	112	82,992 (Japan) Ops: ??
1995	AB5KD	741	1643	150	246,450 (USA-48) AB5KD, WA6VZI
1993	VE3SAY	472	1092	117	127,764 (VE) Ops: ??
(NA Outside USA, No entries, since JARTS started in '92)					
1994	8R1TT	1214	3631	181	657,211 (SA) G0AZT, W6OTC
1995	I4FTU	577	1456	166	241,696 (EU) Ops: ??
1993	RK9CWA	649	1764	184	324,576 (AS) UA9CGA, RW9CF
1994	VK6GOM	274	805	75	60,375 (OC) Ops: ??

Next three contests:

Contest	Dates	Start Time	End Time	Off Times
JARTS	Oct 19-20	0000 UTC Sat	2400 UTC Sun	No Off Times
WAEDC	Nov 09-10	0000 UTC Sat	2400 UTC Sun	Wrk 36 of 48
SPRINTS	Dec 14-15	1800 UTC Sat	0200 UTC Sun	No Off Times

The Sprint contest has some changes this year ('96) Starting this year TARA RTTY Sprint becomes an 8 hr. contest. Since more and more DX are participating in this contest and several request have come in for a longer contest, TARA decided to add 4 more hours. The rules are basically the same. No S/W changes that I can see. However, I will have a full set of rules for the Sprint contest next month. I'm sure we will all enjoy the New Eight hour Sprint contest.

New Vanity call signs  
New Call Old Call  
W8FDV KA8OUT

Until next time 73's de Ron AB5KD

## Other Digital Modes

CCW & CW

by Peter Lumb, G3IRM

2 Briarwood Ave • Bury St. Edmunds, Suffolk • UK IP33 3QF

**CCW - 35 kHz up on all bands - plus/minus 1 kHz**

### Operating schedules:

- AK0B - Low power beacon on 7030 intermittently but frequency may be changed
- VE3RAT - Low power beacon believed to operate continuously on 18.101
- G3IRM - Tuesdays at 1900z on 10135 -  
Thursdays at 1900z on 7035 -  
Saturdays and Sundays at 1900z on 14035
- VE30XX - Sundays at 2000z on 7033
- W6HDO - Thursdays at 0500z on 7035 and at 1830z on 14035
- W6HDO or  
WB6RIJ on Saturdays and Sundays at 1900z on 14035

### CCW notes

Once again there is no activity to report. I continue my calls and believe I have one or two listeners but I have not heard any signals other than the odd one or two calling me on cw which cannot be resolved. However I can report that John G3FMW continues with his hardware version and has sent me some details of the modifications he has made to the original Petit filter. The suggested improvements came from Ray Petit and now use Maxim 296 low pass filters in place of the original integrators. There are 10 pages including notes and diagrams and I shall be pleased to make copies available to anyone who asks for them but please enclose sufficient return postage and a contribution to the copying costs. I suggest \$2 to include airmail postage. John points out that it is difficult working alone on the filter and would appreciate any feedback/ideas.

It may be appropriate here to mention for new readers that, in addition to the original Petit filter, we now have two computer CCW programs. One of these is called COHERENT and is available from VE21Q and the other is PCW (shareware) from DJ7HS. Both these use the same interface described by VE2]Q in January 1992 QST and later reprinted in issues of the ARRL Handbook. Both programs will work with a reasonably stable transceiver (1 Hz tuning preferred) and form a good way to give CCW a try. For a long time I have wondered if the hardware and software versions are compatible but have not heard this confirmed. I see in the notes from John mentioned above that he has been able to copy my transmissions and, as these are made with the PCW program, it looks as though compatibility is confirmed.

I mentioned last time that we now have an LF band in the UK on 73 kHz and G40KW is writing a column in the RSGB magazine. He telephoned me for information on CCW as it has been suggested that this may be an ideal way to make contacts other than across town and I have agreed to make any information I have available to anyone who wants it. CCW has been proved effective by LowFer operators so I am hoping there will be experimentation on this side of the Atlantic. Who knows, some may even give the hf bands a try!

### Morse decoding

I would now like to continue my notes on Morse decoding and describe some of the programs I have come across. Years ago it was considered that it was good to have an individual style of sending the code and many operators could be recognized by their style. This was appropriate for point-to-point circuits where the same operators worked each other but I have never considered it an advantage in amateur operating where a station is contacted per-

haps only once in a lifetime. One instance where something similar to individual style operating was useful was during World War II. It was not uncommon for Welsh speaking operators to use their own language in place of official ciphers when working each another. If you have ever seen the written language you will soon realize how much like a code it is. I can just imagine some enemy cipher officer trying to decode it not knowing that it was plain language all the time. All this was, of course, unofficial but it did occur in times of emergency.

To me perfect code is the answer and I, for one, find this infinitely easier to read. The bug key was an improvement but often resulted in 30 wpm dots and 20 wpm dashes. The intelligibility of code improved considerably when OZ7BO introduced his electronic bug key and more and better keyers have become available. Many of these fall short of the ideal as, although the dots, dashes and letter spaces are accurate, the word spaces often are not. There could be an el-bug which produces perfect timing but so far I have not met it. The answer as readers will have guessed is computer generated code. If we are going to use automatic decoding the decoder needs all the help it can get and the answer is quite simply perfect code. There is still a lot of poor and bad code to be heard on the air so it is a help if the decoding program can cope with these variations but wouldn't it be better if all code was perfect? If nothing else it would alter the sounds heard on the cw bands. Some will disagree with me but, if I am promoting automatic decoding, I must at the same time ask for better code.

If you want to experiment with different programs I suggest that you include a patch pad in your lead between the computer and terminal unit. Everyone who writes programs seems to use different lines for different purposes. The first program I want to mention is called simply CW by WONFU written in 1990. There is a later version called CW200 but this does not appear to circulate as shareware. I obtained my copy from the author. The program has all the usual features including speed tracking, type ahead buffers and canned messages. It also has some features I like. It uses the first four function keys as space controls. Letter spaces can be adjusted down with F1 and up with F2. The same applies to word spaces, if spaces between words are missing press F3 and if every letter is separat-

ed by a space press F4. As an example TETE can be converted to C and J can be split into AM.

There is an on-screen indication of what is happening showing the dot time that represents the inter-letter space and also the inter-word space. It is most interesting to watch how these values change when poor Morse is converted into readable Morse with the F keys. These features are put to good use if, say, three stations are in a net and the two being received have different speeds and spacings. Two sets of parameters can be stored, one for each of the stations which can be switched with one key press. There is an adjustable digital filter built in which is very effective in reducing sensitivity to noise. The program requires a terminal unit and two suitable circuits are available. One of these is interesting and proved to be very good when I built it. The origin of this circuit is not disclosed but it is not by WONFU. The notes with the circuit are very good and give an explanation of the ideas behind the filter design which is well worth reading. It advocates using a 500 Hz filter followed by hard clipping and then by a 50 Hz filter, detector, low pass filter and threshold detector. Input and outputs are via the serial port.

The author claims to have seen code on the screen which he could not hear in the headphones and WONFU confirmed this. I haven't got that far yet but have been very nearly there. CW200 is very much the same program somewhat improved and includes RTTY. Both programs have a built-in iambic keyer and a random code generator for code practice. However, although I like the programs I must mention that I have had problems with both. CW is supposed to print @ (if the printout from the disk is correct) if the received character is not valid - mine prints a little house (ASCII code 127). CW200 doesn't do this and it doesn't even leave a blank space where there is a faulty character with the result that the resulting display is not very readable. For this reason I still use the original CW program version 1.04

Any ideas? Although the program is supposed to indicate both GMT and local time I have been unable to get this to display correctly. However, except for summer time we are fortunate in having both times the same. As a program for sending and receiving cw it works well but I certainly would not recommend it for contest operating.

(Zone 34 is, according to the recent survey, one of the most difficult for RTTY Dx-ers. This list of SU amateurs, thoughtfully provided by Ezzat SU1ER might help you track down the elusive contact and QSL card)

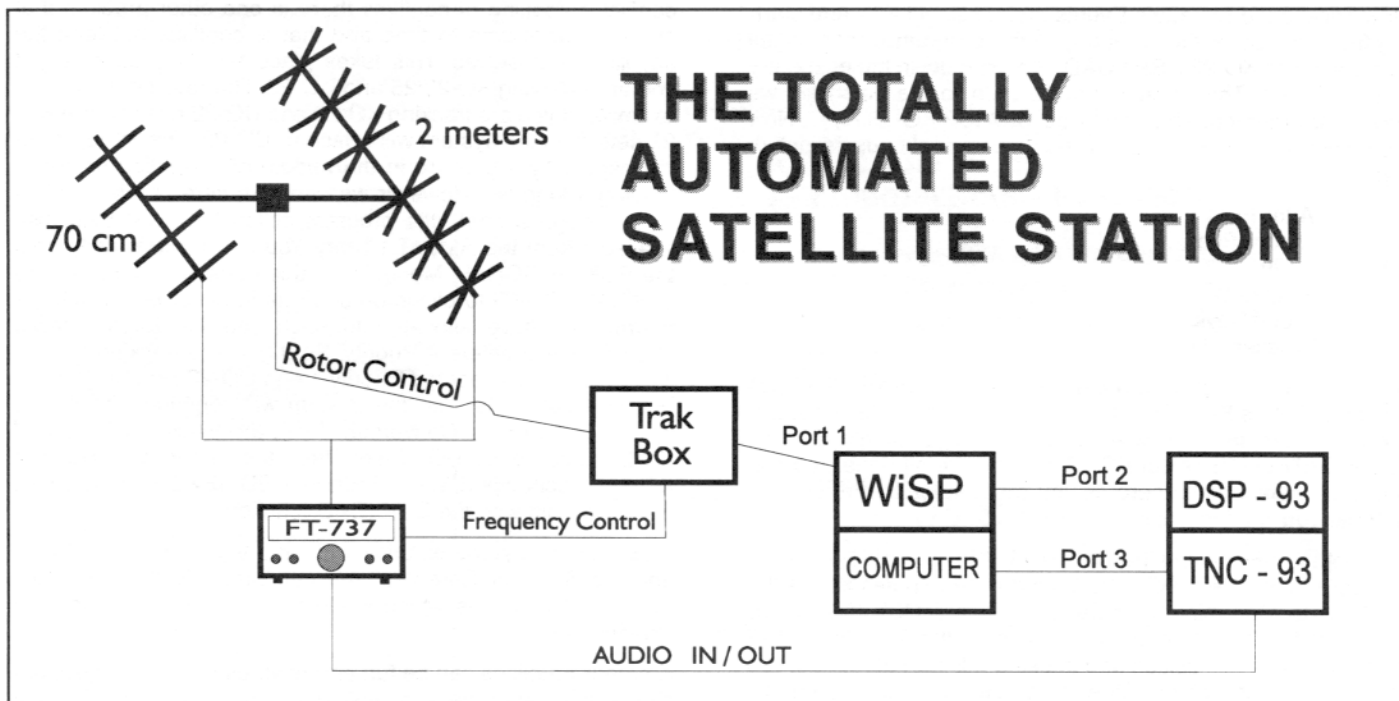
SU1AA	IMAN LOUTFY	VIA SU1AL
SU1AB	AMMAL LOUTFY	VIA SU1AL
SU1AC	MOHAMED LOUTFY	VIA SU1AL
SU1AH	AHMED HASSEN	40 AL-ZAHRAA ST., EIN-SHAMS, CAIRO
SU1AL	LOUTFY AL-MAHDY	PO BOX 109 AL-GIZA, GIZA
SU1AO	MOHAMED ATIF OSMAN	5 MANSI ST., FIASAL, GIZA
SU1BH	MOHAMED EL-ASIRY	4 EL-SAFA ST., MOHANDSEIN, CAIRO
SU1CR	MOHAMED S. REDA	50 KHIDR EL-TONI ST., NASR-CITY, CAIRO
SU1CS	MOHAMED AL-SABAH	4 BEN ZINKI ST., ZAMALIK, CAIRO
SU1DZ	ABDULJ MARAFI	32 G/ DEWAL ARABIA, MOHANSEIN, CAIRO
SU1ER	EZZAT S. RAMADAN	PO BOX 78 HELIOPOLIS, CAIRO 11341
	(Home Address: 71 Moustafa Al-Nahas St; F#102, Nasr-City, Cairo)	
SU1FJ	FATIN A.J MA'RAFI	VIA 9K2DZ / SU1DZ
SU1FN	FATHY ANWAR	17 MAHMOUD FOUAD, HELIOPOLIS, CAIRO
SU1GM	GERGIS MAKARI	4 ST. NO. 100 , MAADI, CAIRO
SU1GS	GREISS SOBHI GREISS	PO BOX 18 AGOUZA, GIZA.
SU1HA	HANY ANWER	37 EL-SUAUDI BUILDING, NEW-MAADI, CAIRO
SU1HH	AHMED HAROUN	15 HENDAWI ST.; DOKKI, CAIRO
SU1HK	HOSNI KHATER	20 ST.; NO. 2 MOKATTAM-CITY, CAIRO
SU1HM	HOSSAM EL-SHENAWY	16 EL-DAHER SQ.; CAIRO 11271
SU1HN	HAMED NASSAR	PO BOX 1578 ALF-MASKAN, CAIRO 11777
SU1HR	HESHAM Y. KHATER	PO BOX 78 HELIOPOLIS, CAIRO 11341
SU1HT	HASSEN EL-TELBANI	7 MOH. MAHMOUD, IMBABA, CAIRO
SU1JR	JAMAL EL-RIFAIE	15 CAIRO/ALEX ROAD, GIZA
SU1KR	KHALED SAID	PO BOX 78 HELIOPOLIS, CAIRO 11341
SU1KZ	YOUSEF KAMAL ZADA	51 AL-GIZA ST., GIZA
SU1MH	MAHMOUD M. HASSAN	PO BOX 226 RAMSIS (NEW) 11794, CAIRO
SU1MI	MOUNA IBRAHIM MOH.	7 ROUDA ST., AL-ROUDA, CAIRO
SU1MK	MAGDA HOSNI KHATIR	VIA SU1HK
SU1MN	MANAL NASSAR	VIA SU1HN
SU1MR	MAGI EZZAT SAYED	VIA SU1ER
SU1NK	MANAL HOSNI KHATIR	VIA SU1HK
SU1RA	REDA AMER	18 SAMI STR., LAZOUGH



# Digital Satellites

How to work 'em and more out of this world info

By David Medley KI6QE/VK2IMJ • 1020 West Oleta Drive • Tucson, AZ 85704  
CIS 74072,1261 / e-mail <davemed@ix.netcom.com>



We have discussed at some length the setting up of the Windows WiSP software and in that discussion mention was made of some of its capabilities with respect to automation. This month we will go further into this aspect and describe exactly how the station at KI6QE is operated.

First let us discuss the actual equipment in use here. The radio is the Yaesu 736R which is still considered an excellent choice for this type of work. It is a tried and tested radio over many years and is extremely reliable. On the receive side there is a low noise preamplifier which is part of an RF Concepts amplifier brick. The high power amplifier is not used in this application and the unit is located in the shack. The length of 9913 feeder to the antenna is around 15 feet so there would be little advantage in mounting the brick in the open. The antennas are single Crossed Yagis manufactured by M squared with 44 elements on 70 cm and 22 elements on 2 meters. Polarization switching is not used. The azimuth rotor is an old HAM-M and the elevation is controlled by a standard Yaesu unit. This is all driven by a TAPR/JAMSAT Trakbox and the interface with the rotors is by mechanical relays. There is on the market a dual rotor unit by Yaesu which will interface directly with the Trakbox but it is quite expensive.

On the digital side the output of the radio is taken to a TAPR/AMSAT DSP-93 Digital Signal Processor with internal PacComm TNC. This latter unit still has some problems but they are not too relevant to this application. The computer used is an elderly 486DX-33 with 8Mb of RAM and an 850Mb hard drive. It runs Windows95 and WiSP. A block diagram of this complete system is shown in Figure 1.

You will see that to tie all this together requires three COM ports in the computer. This can be a problem if you only have two ports as there always seem to be problems with ports 3

and 4 especially with windows 3.1 and DOS. With windows95 this problem seems to have been taken care of at last and I have had no difficulties with these extra ports. However, hopefully in the near future, the PacComm TNC will implement a new mode called "PASSTHRU" which will allow communication with the DSP93 through the same communication port as is used for the TNC. When this is done the system will only require two ports.

Now to make this system fully automatic the following tasks have to be completed:

The Trakbox must be switched to the appropriate satellite a short time before the pass starts.

The appropriate modem must be loaded into the DSP93.

Fortunately this is easily accomplished within the WiSP program. First with respect to the Trakbox in the rotator set up screen select TRAKBOX and then go to the next setup screen (button on the right) and indicate the appropriate COM port. In my case this is COM2. Ignore the two frequency boxes for now. These are for later developments. You can test this now by pulling down the tracking menu and selecting Enable Rotator. Assuming you have the Trakbox set up correctly this should result in some activity from the radio and rotors. If there is something wrong WiSP will inform you via a fault message to the effect that it was unable to communicate with the Trakbox. You must solve this problem before continuing. The most common fault here is selecting the wrong COM port.

To load the appropriate modem into the DSP-93 takes a little more work. In setup you will find a pull down menu called Schedule Events. This allows you to run DOS programs from WiSP at set times so all we need to do now is to make some programs to load the DSP-93. This is done with simple batch

files and the DSPLOAD function. For example a file KO-23.BAT in the \WISP folder would look something like this:

```
cd\modems
dspload fsk93k1
cd\wisp
dspbaud 1,0,1
```

The last item sets the TNC Radio Port at 9600 baud. (The dspbaud.exe file can also be found in the AMSAT utility library).

Now back to the Schedule Events menu select NEW and starting from the top of the screen give the program a meaningful name such as KO-23 DSP LOAD. Stepping down the next entry is PROGRAM. This must show the path to the batch file we have just prepared. This would be C:\WISP\KO-23.BAT . Now skip down to RUN and you will find a number of choices including:

- After Pass
- Before Pass
- Daily
- Regularly
- Week Days
- Weekend Days

In this case we want to run our batch file just before the pass so select Before Pass. Now backup to Time and enter for example 2 minutes. In the box ASSOCIATE select Single Satellite and in SATELLITE select KO-23 and we are all done. You can make as many entries here as you wish, at least one for each satellite you want to track.

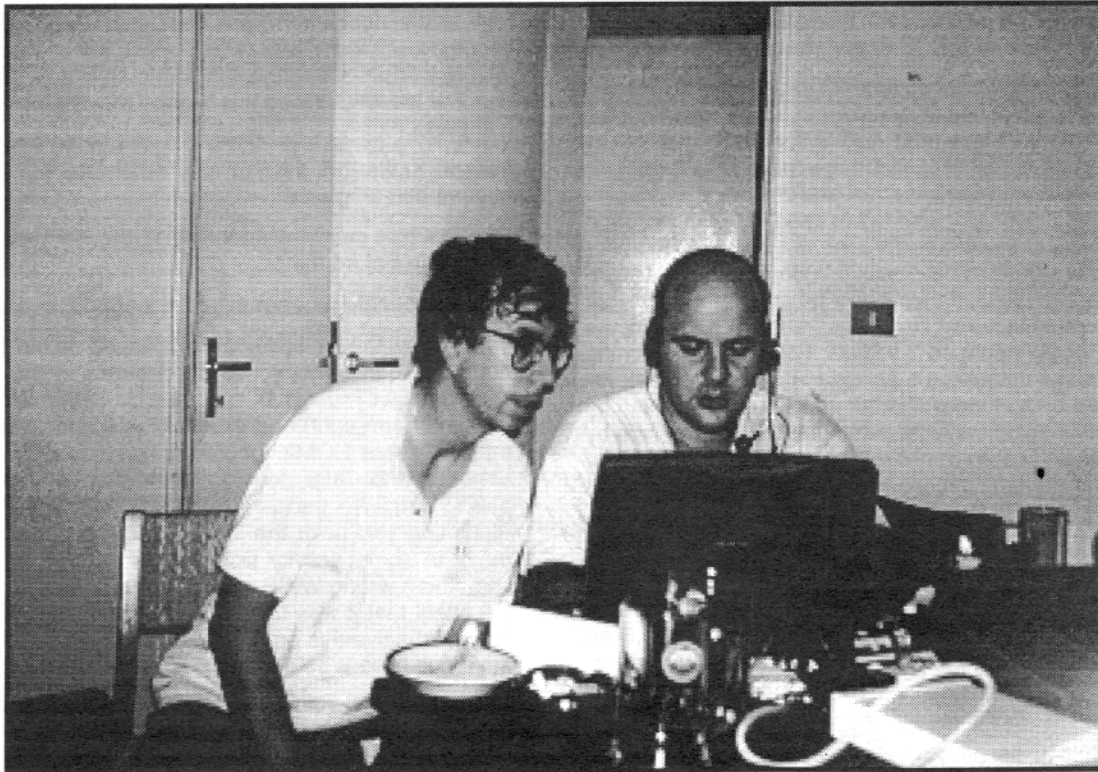
Now with WiSP running the Trackbox will be activated, the DSP loaded and the TNC radio port speed set 2 minutes before the pass starts. One minute before acquisition (AOS) WiSP loads the communications program which puts the TNC into KISS mode and data acquisition and tracking will start all without you even being in the shack. One thing you must be very careful about is to see that the clocks in the Computer and the TRAKBOX are accurately set and the Keplerian elements are kept up

to date. I check the clocks weekly and load in new KEPS as they become available. These are uploaded to the satellites regularly and you can automate this function if you wish by selecting ProcMail Setup from the Setup pull down menu. Just check the box for updating the KEPS and this will be taken care of as far as WiSP is concerned. However, for the time being, you must update the KEPS in the Trakbox manually. Later we may have a scheme to take care of this also.

It is important to get these timings correct so that there is no conflict. Speaking of conflicts there is one other problem that crops up from time to time and that is conflicts between the satellites themselves. This takes place regularly especially if you are following KO-23/25 and UO-22. The result of this is, for example, if you are tracking KO-23 and UO-22 rises before KO-23 sets then the system will switch to UO-22. This is aggravating especially if you are in the middle of uploading or downloading a long file. However we can take care of this problem also through a neat little program called SCHEDA.EXE also available from the AMSAT Library. You can run this daily from the RUN PROGRAM Menu. What this does is to rewrite a file called WISP.SKD to eliminate conflicts in accordance with the priority you have allocated to each satellite. Each satellite should have a different Priority. So if you are tracking KO-23, which you have allocated Priority 1 and UO-22 (Priority 3) rises before KO-23 sets then the system will continue with KO-23 without interruption. Conversely if you are tracking UO-22 and KO-23 rises before UO-22 sets then the system will switch to KO-23 as scheduled. You will run SCHEDA.EXE via a batch file just as we did with the DSPLOAD function.

These are just some examples of what you can do with WiSP and the Amateur Satellites. You can probably think of many more neat functions which could be included. Just use your imagination.

Amateur Satellites can be fun and rewarding and new developments are taking place almost every day. Don't forget to join AMSAT and contribute to all this great work which continues the true spirit of amateur radio.



**ON6TT and 9U5CW operating by candlelight from Burundi.**

# RADIOAFICION MICROCOMPUTACION

Es una revista publicada bimestralmente en New York desde 1979 en idioma español. La edición de Noviembre/Diciembre contiene anualmente la **GUIA DE EQUIPOS y ACCESORIOS** con las especificaciones de lo nuevo que hay en el mercado. La revista circula en todos los países de nuestro idioma en todo el mundo y contiene cuanto puede interesar al radioaficionado. Los precios de las suscripciones anuales son como siguen. México, Canadá, Estados Unidos y Puerto Rico: 25 dólares. Para los demás países de nuestro Continente: 45 dólares. España, Lejano y Cercano Oriente: 50 dólares. La revista se envía en sobre cerrado por vía aérea al domicilio del lector. Precio de la **GUIA PRACTICA PARA SATELITES**, Segunda Edición. América Latina incluyendo el franqueo aéreo: 22 dólares. España, Lejano y Cercano Oriente: 20 dólares. Estados Unidos, Puerto Rico, México y Canadá: 20 dólares. Los pagos deben hacerse mediante cheque de cuenta bancaria en Estados Unidos, cheques de viajero o giro postal a nombre de:

**PAN AMERICAN PUBLISHING CO.**  
252-35 Leeds Road  
Little Neck, NY 11362  
Estados Unidos de América

No se aceptan tarjetas de crédito ni cheques de otros bancos fuera de Estados Unidos.



C O M M U N I C A T I O N S

Make the Connection

with

**FLORIDA SKIP**

**Magazine**

.....

**Amateur Radio - Computers**

**Digital Techniques**

**News - Information - Features**

**Net News - Club News - Traffic Reports**

**QCWA, KOTK, OOTC, MARS, ARRL**

**Hamfests - Fleamarkets - FCC Actions**

.....

- What's on Internet/World Wide Web?
- Privacy issues in communications.
- Government regulations vs. amateur radio & computers.
- What is the clipper chip?
- ECPA and you.
- How secure is E-mail?

*Read about it in:*

**Florida Skip**

**672 Indian River Dr., Melbourne FL 32935**

**ONLY \$12/yr - Write for sample copy**

**Phone/Fax 800-421-3279**

**Amateur Radio Trader™ .... The Ham Radio Market Place.™**

Join ham radio's most revolutionary happening since the no-code license!

- Hundreds of radios, products and services
- Current pricing and availability
- Low subscription and ad rates
- 250+ classified headings
- Major credit cards accepted
- It's like holding a hamfest in your hands!

Call **Amateur Radio Trader** today to be a part of amateur radio's most comprehensive resource for equipment and other products and services.

For immediate service call toll-free (USA and Canada)

**1-800-774-2623 or fax 1-800-423-9030.**

Internationally, call

**615-484-5137 or fax 615-484-2532**

YES! Please start my subscription to:

**Amateur Radio Trader, The Ham Radio Marketplace.**

Subscription rates for one year (circle preferred rate):

Third class \$14.95 (just \$.62 per issue)

First class \$34.95 (just \$1.46 per issue)

Name \_\_\_\_\_

Call Sign \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_ Zip \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_

( ) Check or money order Charge my ( )      
Credit Card # \_\_\_\_\_ Exp. \_\_\_\_\_

Complete, clip and mail this form to: Amateur Radio Trader - 410 West Fourth Street  
P.O. Box 3729 - Crossville, TN 38557

*All rates subject to change without notice.*



# 1st Internet RTTY Sprint Contest

(Thanks to Barry W2UP, an Internet joke turned into a genuine RTTY Sprint. Join in for sure—de N2HOS)

## Contest period:

01:00:00Z to 03:00:00Z on October 10, 1996 UTC.  
This is Wednesday evening in the USA.

## Bands:

40 and 20 meters only (this is a real radio contest, no Internet). Suggested frequencies are 7070-7100 and 14070-14095.

## Max power output:

150 watts at transmitter output connector.

## Exchange:

Name and state or province or DXCC country (if outside W/VE).

## Call:

CQ INT

**The standard sprint QSY rule must be followed. This means that if you solicit a QSO (i.e.: with CQ or QRZ), after completing the QSO, you must QSY at least 1 kHz before calling another station, or 5 kHz before soliciting another QSO.**

Both callsigns must be sent during the exchange. Only one signal at a time, please and all QSOs are to take place on RTTY. All information submitted must have been decoded during the contest. The use of post contest detection or verification techniques or systems is not allowed. Also, do not make round robin type QSOs. A round robin QSO is one where you should QSY, but instead hang around to work the station who is QSOing the station you gave the frequency to.

You may work the same station multiple times provided they are separated by at least 3 other QSOs in both logs (regardless of band). For example, if W2UP works AB5KD, KD must work at least 3 other stations before he can work UP again. UP must also work 3 stations before working KD again. Changing bands does not eliminate the three QSO requirement. The three QSOs must not be dupes themselves.

You must not work the same station or stations using any kind of schedule or system. It is the intent of the dupe rule to make sure we don't run out of stations to work. It is NOT the intent of this rule for you to change how you would operate the contest if dupes were not allowed. If, in the log checker's opinion, you have not lived up to the intent of this rule, your log will be disqualified!!

Total score is the number of contacts you make. Any QSO found to be defective in anyway will be removed from BOTH logs (yes, if someone miscopies your exchange, you won't get credit for the QSO).

Logs must be sent in ASCII format via Internet to [barry@w2up.wells.com](mailto:barry@w2up.wells.com) within 72 hours of the end of the contest. Figuring out how to send in your log on the Internet is PART OF THE CONTEST. If you need help, we will try to assist the best we can. Using the NAQP contest format in RTTY by WF1B is suggested (but the DUPE indicator needs to be ignored, as appropriate).

Logs must show the band, time, station worked, name received and QTH received for each QSO. Also, please tell me the name you start the contest with.

Results will be published on WF1B-RTTY within 2 weeks of the contest. Decisions of the judging committee are final and arbitrary.

Good luck, tell a friend and HAVE FUN!!

Barry W2UP, e-mail: [barry@w2up.wells.com](mailto:barry@w2up.wells.com)

(Note - credit is given to N6TR for the original rules for the CW sprint, from which these rules were cannibalized)

Operating notes:

Calling CQ INT is the suggested call. Remember that your callsign AND the station you are working are part of the exchange. In order to know whose frequency it is, for a subsequent caller, the following conventions are used in the CW sprint, and I suggest they be followed, as in these examples:

W2UP initiates a CQ:

W2UP: CQ INT DE W2UP W2UP K  
AB5KD: DE AB5KD

W2UP: AB5KD DE W2UP BARRY PA

(Note that both callsigns are prior to the exchange).

AB5KD: W2UP RON TX AB5KD

(Note that my callsign is sent prior to the exchange and KD's callsign follows it. This is to indicate that the freq now belongs to KD, and UP must QSY. Hopefully there will be a caller to KD prior to him sending a CQ).

WF1B: AB5KD DE WF1B WF1B K WF1B tunes by and calls KD, knowing the freq is now his (by seeing his call last). W2UP has QSYed looking for someone to call, starts another CQ.

AB5KD: WF1B DE AB5KD RON TX KD answers 1B.

WF1B: AB5KD RAY RI WF1B

1B sends exchange and the freq is now his.  
KD goes off to S&P, or CQ on another freq.

Remember, this is a sprint, so keep exchanges short, and repeats to a minimum (and needless to say, no RYs!).

# The Last Word

from the Editor

Jim Mortensen, N2HOS • PO Box 490 Indian Rocks Beach, FL 33785.  
email: <jem@n2hos.com> • Tel: 914.276.1058 • fax: 914.276.1059.



**DX . . . it ain't like it used to be!** Oh, Don AA5AU keeps saying, "It will come back, and might be even better than the last cycle," and I do believe him, or at least try to believe (if only he knew exactly when, it would help a lot!). We all know that such predictions are true—the good old days of wide open bands will return. 20 meters will not sleep, 10 meters will deliver DXCC during a weekend contest to even the most modest antenna and (my favorite) 15 meters will present its uncrowded delights to all who prowl well into the night. I can't wait! And that is what this issue is all about . . . getting ready for the day when the signals start to bounce our way. Special thanks to Don and Neal and Eddie and Chris and Jim for putting this special issue together on such short notice. As I review it for the last time before it goes to the printer, the message is clear—if this crew can put such a fine product out in such a very short period of time, just wait until next year! The 1997 DX Special will score ten on a ten point scale.

In the meantime, during this period of waiting and watching, there are three things to keep in mind. First, don't lose your skills! If you really believe propagation is the worst ever, chances are you never get to the rig to find out how good or bad it is, never heat up the TNC, never exercise the buffer keys or your fingers, never try to remember all the magic keystrokes that make chasing DX so much more profitable. And, horror of horrors, you might even forget how to use your favorite software (and forget to upgrade it as well).

Second, don't believe the horror stories! DX is there . . . almost every week, in almost every contest, and sometimes unannounced, great DX RTTY stations pop up like the flowers in a cold spring—slowly, but beautifully. Working it is not so easy, but it most certainly is possible. Pay attention to DX news. Keep tuning, keep trying.

Third, and finally, learn and do something new while we wait for the return of the good times. Study new techniques, become serious and knowledgeable about propagation forecasting, apply it from your QTH to those parts of the world on your 'most wanted' list. Practice. Enter contests. Call CQ. Evaluate your antenna potential. Upgrade, replace, modify or at least maintain your current system so that when the time comes, you are ready to GO!

Ready to go . . . that's what this DX Special Issue is all about.

**Now, let me say that I do follow my own advice** (please do not discuss any such statement with Gen). When I said, in the paragraphs above, that we all need to keep our skills in shape by getting on the air, I meant it. And I do it, even though the copper pipe dipole in the attic is neither the most elegant nor most effective antenna I own, even though it is a bit of a downer when you can't find any kind a signal above S2 on 20 meters! But I keep at it and, from time to time, record a bit of success. I remember linking with a DJ, trying for an HK, working Central America and the Caribbean. A big signal report from the Bayou made me feel great. There have been others.

My major triumph, though, came in the North American QSO Party. After finding that I couldn't get Ray's RTTY pro-

gram to recognize the DSP4100 (my fault, not Ray's—and later corrected by the simply increasing Com1 to 9600 baud), I created a pair of macros with the F keys in Express. I had fun and I worked sixteen different stations on 20 meters and four on 40, all in a matter of about two hours! I felt so good that I offered a special certificate to all those stations. Most all of them requested it and two of them reported, within a day of receiving the piece of paper, that it was going up on the shack wall. No, I didn't win the contest, but nobody enjoyed it more than I did. Unfortunately, the Russian contest that came up the following week was beyond my reach (and apparently most everyone else's as well).

At any rate, when I get back to Florida in Mid-September, I will know how to use the rig and the software (and all the software is current). Hi!

**What do YOU do with all that disk drive space?** It is difficult to buy a computer today with less than a 1.0 gig drive, and I have read that 1.6 gig will be the standard for the Christmas specials coming up soon. And they all have space for more in one of the bays. To be honest, I didn't know exactly what to do with all that space until very recently. I didn't really have a point of view. Until now I have been working with a 1 gig internal and a 1 gig external, using the external drive as a mirror. So much faster than tape, this might be the perfect backup. The external is a SCSI drive so it attaches to any one of my computers with no difficulty, so even if the main computer blows up, I can set up shop on the next one without delay. Each computer can access it on the local network as well. Neither drive is partitioned.

Three developments led to a big change in my plans. First, I found an irresistible bargain in a 2.9 gig SCSI top-of-the-line drive. I bought it and paid less than one third the price of the first 10 meg hard drive I bought for my Macintosh. Second, I kept reading about how wasteful a non-partitioned hard drive can be. Bad news indeed. Third, I realized that I rarely if ever take time to use the reference material on CD-ROM because it is too much trouble to locate the disk, take out a disk, put in the new one, search for the icon, etc., etc.. Speed of the drive has nothing to do with it! All these forces merged and prodded me into rethinking my use of all this hardware. In truth, a fourth element intervened as well. Somehow, I got a copy of Partition Magic™ with one of my purchases. It just sort of laid there for several weeks until all of this started to happen.

We (Peter TY1PS and I) hooked up the new drive and partitioned it into four 700 meg drives. Wow! That's in addition to a two meg SCSI inside the new computer. Oh yes, some it will be used for back up, but that still leaves the equivalent of 36 football fields of space.

Suddenly, a light went on. Could I copy a CD-ROM to a hard disk? How much space would it take to put Bookshelf on the hard drive? 640 megs? That's a lot but not unreasonable. I began to play with the CD-ROM and copied it all to the SCSI. I was amazed to discover that the entire program,

with all the sound files and trimmings, occupied less than 500 megs. Imagine my delight to find I could access it at less than a 10 millisecond speed and always have it a mouse click away right there on drive H. The difference in speed is very noticeable.

Enter Partition Magic™. This small program is almost, but not quite magic. It runs from the A drive, despite what the manual says about installing it on a hard drive. An urgent notice packed with the disk contradicts the manual, but there are redeeming features to the manual which we shall touch on later. Within a couple of minutes, I brought up the disk drive on the DOS screen and reduced the size of drive H from 700 to 500 megs. Since Bookshelf is a read-only program very little space is required beyond the actual total file size.

Saving 200 megs is only part of the story. By dropping the total size from 700 to 500 megs, the minimum required cluster size dropped from 16kb to 8kb as well. This substantially reduces the waste space on that partition and delivered about a 10% bonus. It gets much worse with larger partitions. For example, if you do not partition a 2 gig drive, it is probable that 40 % of the drive is wasted because of the 32kb cluster size.

Off to the races! The next thing I did was move about 300 megs of graphic files to drive G from four different CD-ROM disks. All of them are now a mouse click or two away. Next, I will look at the library of unused CD-ROMs and decide what others might be candidates for inclusion. This is a new world of easy-access and I like it. Not all CD-ROMs like it at all, of course. Some won't execute from any other source, but we will keep working at the problem.

The software does many other things, of course. But it can be said that it partitions and sizes, resizes, formats, sets up dual-boot and all of that sort of thing extremely well. PM is fast, simple, easy-to-watch software that is single-minded. Essentially, it takes over all of the ancient, complicated DOS hard drive commands and executes them in an environment all of us will find easy to use.

There's more. The manual, despite the glitch mentioned above, is the finest tutorial on hard drive theory and management that I have ever seen. Bar none. It is state-of-the-art teaching of a kind rarely seen in manuals for any product. This part of the manual, all by itself, is worth the purchase price of about forty bucks. I strongly recommend it for all those who have entered the age of 'unlimited' space.

**This adventure all came about** because of the a funny little place on the Internet called <http://www.onsale.com>. I had been looking for a place to buy an internal SCSI drive and I stumbled on to this auction website. The list of stuff on sale varied from a considerable assortment of NEC refurbished equipment to trivial things like game paddles. But in the middle of the list there was an item that caught my eye—New Seagate 2.9 gig SCSI full-height drives. I clicked the item and found that the auction was to close in just two or three days. Fifty of the drives were available and there were barely that many bids, so I joined in and was advised a few days later that my order had 'won' the auction. A few days later it arrived in fine shape. I ordered an external case for it and am now very pleased with the way it runs. Take a look. There may be something there for you as well.

**Faster access to the Digital Journal site.** If you are as impatient as I am (and several other people I know) there is a quick way to the Journal's page on the Internet. Instead of <http://www.n2hos.com/digital>, go to <http://www.n2hos.com/digi->

[tal/flash.html](#). This will take you directly to the news page and bypass the 20K of graphics that slow the welcome page's flow.

**Rich N6GG is hanging up the gloves.** Rich has covered the contest scene for the Journal for several years. Each month his column has given us all the rules of all the contests . . . and much more. His contesting experience and knowledge is unsurpassed and he willingly passed along his advice and comments in every column. While Rich will continue to write now and then, and will help Ron with the January special issue, he does need release from the pressures of a monthly column. We understand that, but we will still miss his column and his wisdom. Thanks Rich for a job well done.

**Two new staff members appear on the masthead.** Jim Coleman KA6A was introduced last month, but his first article appears this month. The editor, not Ken, is out of sync. Hi! Don't fail to follow his series on propagation. His deep knowledge of the subject is very evident in Chapter 1! Dick Stevens N1RCT, whose first article appeared in August (and has been much discussed in the contest world) has just begun to show his wares. He invents antennas with intriguing names (his stealth 50 foot tower, for example), is a serious contender and DXer, and obviously enjoys every aspect of the hobby. The name IBM looms in his background but now that he is retired we can expect to hear regularly about his trials and triumphs. Welcome aboard!

**We had distinguished guests here in late July.** Peter TY1PS and his wonderful family were here for about a week before going on to Central Florida for the rest of a well earned vacation. The fact that Gen was in the hospital while they were here didn't slow things down at all. We were even able to get the two girls (ages 6 and 10) up to Gen's room for a good visit, despite the hospital rules. The nurses were most cooperative. Visiting was a bit easier after she got home, of course. As I look back, I must say that the week did go by in a very big hurry. And as I look at the list of things Peter just had to do while he was here, I found very few items deleted! Ah, but he will be back in November. Hi!

**September is move South month.** On September 14, it's back to the Beach. Our mail address has changed because the Post Office changed all the zip codes. The address: PO Box 490, Indian Rocks Beach, FL 33785. Voice: 813.596.3105 Fax: 813.596.7473. E-mail continues at <[jem@n2hos.com](mailto:jem@n2hos.com)>.



**VISA** **MasterCard**

**DON'T FORGET**

**NOW YOU CAN PLACE YOUR ORDER FOR IDRA BOOKS AND SOFTWARE, & RENEW OR BEGIN YOUR MEMBERSHIP, COMPLETE WITH SUBSCRIPTION TO THE DIGITAL JOURNAL USING YOUR CREDIT CARD!**





# Right On Target

## CLASSIFIED AD DEPARTMENT

First 30 words \$7.50, additional words 10 cents each. Cash with Ad. Deadline for ads is the 5th of the prior month of publication. (Example - Ad arrives by the 5th of December, will appear in the December issue.)

**NEWS - NEWS - NEWS - NEWS . . .** Amateur Radio's Newspaper "WORLD RADIO". One year subscription (12 issues) \$14.00 for U.S., non U.S. \$24.00, 2 Year subscription (24 issues) \$27.00 U.S., non U.S. \$47.00, 3 year subscription (36 issues) \$39.00 U.S. non U.S. \$69.00, Lifetime subscription \$140.00 U.S. non U.S. \$240.00. Contact: WORLD RADIO, P.O. BOX 189490, Sacramento, CA 95818

**CQ Magazine, The Radio Amateur's Journal**—If you enjoy ham radio, you'll want CQ. Published monthly, CQ brings you the best writers for some of the finest reading in Amateur Radio. Subscribe now and save up to 35% OFF newsstand prices! One year \$24.50 U.S., \$27 Canada/Mexico; Foreign Air Mail \$82. Contact CQ Communications, Inc., (also publishers of Popular Communications, ComputerCraft, Electronic Servicing & Technology and numerous amateur radio books/videos), 76 North Broadway, Hicksville, NY 11801, Phone (516) 681-2922 or FAX (516) 681-2926.

**BACK ISSUES** - All Back Issues of the Following: RTTY Digital Journal - ATVQ - A5 SPEC-COM & ATV TODAY. Write for list & prices - SASE - ESF Copy Service, 4011 Clearview Dr., Cedar Falls, IA. 50613 (319) 266-7040

**RTTY CONTEST SOFTWARE:** This is the program used by WINNERS. RTTY by WF1B is the premier teletype contest software. Supports CQWW, ARRL, SARTG, BARTG contests. New DXpedition mode recently used by AHIA. Supports HAL PCI-3000, PK-232, KAM, MFJ-1278, UTU, AMT-1, and Standard TUs. Online features: Automatic duping, Automatic multiplier identification, Automatic scoring, Mouse support, Break-in buffer, Buffer tags for dynamic custom transmissions, File transfer. Post Contest features: Complete paperwork generation, QSL labels, Statistics. Call (401) 823-RTTY for fact sheet. IBM-PC, \$49.95 delivered.. Specify disk size. Wyvern Technology, 35 Colvintown Road, Coventry, RI 02816-8509.

**DSP MODEM: RITTY 1.0** is a high-performance software modem that runs in your PC and uses your sound card. RITTY uses a limiterless front-end, optimal matched filters, automatic threshold correction, numerical flywheel, and other advanced techniques to recover RTTY signals ordinary modems can't copy. RITTY features a graphical FFT tuning indicator that's better than a scope, demodulated-signal display, signal-timing analysis, adjustable mark/space frequencies, precision AFSK, FSK/PTT outputs, and pop-up menus. RITTY supports RTTY by WF1B, 386/40 or better, math coprocessor, Sound Blaster 16, and VGA required. \$100. Add \$5 overseas. Visa, MasterCard, Discover, U.S. check, cash, or money order. Brian Beezley, K6STI, 3532 Linda Vista Dr, San Marcos, CA 92069. (619) 599-4962. k6sti@n2.net.

**FOR SALE: TOSHIBA 6600CD** luggable/portable. Runs on 115VAC or 230VAC with auto sensing and 50/60Hz auto sensing. 486-66 CPU with 16MB RAM/8MB on PC card. Graphic accelerator. Full function, movable 101 key keyboard with port for external keyboard. One 1.44 floppy. Active matrix display with port for SVGS/VGA monitor and simultaneous display. BIOS in flash ROM. Toshiba 4X CD. Also includes a Ditto backup tape system and 6 Travan tapes. Over two years left on original 3 year warranty. Microsoft Sound System with 2 built in stereo speakers. Microsoft microphone. Logitech Trackman pointing device. Windows 95, MS Office Pro and other software installed. All manuals. Room for 2 full length ISA cards. Practical Peripherals 28.8 modem with EZ way connection. 510 MB hard drive. PS2 mouse port PCMCIA slot. Audio line in and out; microphone jack, headphone jack. Volume control in front. Perfect condition. \$2,200. If interested, contact Al Matlick at matlick@gate.net; 941-923-7008 or 3835 Alamanda Drive, Sarasota, FL 34238-4578.

9/96

**Is it time to renew your subscription/membership? Be sure to check your mailing label!**

New or Renewals. Please fill out and mail form below with appropriate payment to:  
**IDRA/Digital Journal • P.O. Box 2550 • Goldenrod, FL 32733-2550**



Please forward my annual membership in the International Digital Radio Association (IDRA) and subscription (12 issues per year) to the *Digital Journal* - immediately!



Please check the appropriate boxes and enclose payment (*in U.S. FUNDS ONLY*):  NEW  RENEWAL

- 1 Year:  \$25 U.S., Canada, Mexico  \$32 1st Class-North America/Surface-DX  \$42 AirMail - DX
- 2 Year:  \$47 U.S., Canada, Mexico  \$60 1st Class-North America/Surface-DX  \$78 AirMail - DX
- 3 Year:  \$68 U.S., Canada, Mexico  \$85 1st Class-North America/Surface-DX  \$114 AirMail - DX

Contribution \$ \_\_\_\_\_ IDRA Non-Profit status could make your contribution fully tax deductible.

Credit Card  Visa /  MC # \_\_\_\_\_ Exp. Date \_\_\_\_\_ Signature \_\_\_\_\_

(For faster service, credit card orders accepted by phone. Fax your order to IDRA at: 407-671-0194)

Name \_\_\_\_\_ Call \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State/Country \_\_\_\_\_ Zip/Postal Code \_\_\_\_\_ - \_\_\_\_\_

Internet or other On-Line Address(s): \_\_\_\_\_ Age: \_\_\_\_\_



# SOFTWARE STORE



IDRA • PO Box 2550 • Goldenrod, FL 32733-2550

Tel: 407/677-7000 • Fax: 407/671-0194

## SOFTWARE

**EXPRESS 3.62** - (Windows 3.11 or above). Best Clover control program available - also handles Pactor, Amtor & RTTY. Sends digitized pictures and compressed voice, video and data. Run a full Clover BBS. Full duplex. Does it all while maintaining keyboard QSO. Requires HAL PC14K, DSP4100 or HAL P38; 486xx + 8mb RAM.. Available exclusively from IDRA for \$60.00; UPGRADE from 2.x: \$30.00; UPGRADE from 3.5: \$15.00. By TY1PS.

**RTTY by WF1B** - DOS program. For most TNCs. Ultimate contesting tool for novice and expert. Supports all major RTTY contests and Expeditions. Features include automatic call sign capture, dupe checking, country & multiplier identification, mouse support and much more. \$49.95.

**LOG-EQF** - Brand new version 8.0 now shipping. Complete computer based logging system . . . and control center for on-air activity. Easy logging, data terminal, DX Cluster, rig control, beam headings, QSL labels, DXCC & WAS info and much more. A DOS program but optimized for Windows. Available in two versions:  **Log-EQF \$39.95** or  **LOG-EQF-JR** (\$25.00) Jr. is identical without the radio and TNC interfaces. Registered users also get FILE-EQF, WAS-EQF and DX-EQF - the file utilities for record keeping. By N3EQF.

**RIG-EQF** - Have your computer control your Kenwood rig. Various

parameters can be controlled and monitored via your computer increasing the power and flexibility of your station. Includes large digital display. Sophisticated, programmable scanning and much more. \$20.00.

**PakTERM** - Here is how to take your PacComm PTC to the its limits. Makes your life easier with an assortment of automated features. There is no better DOS based PTC terminal available. Only \$30.00. By AA4PB.

**SNAPmax** - New & improved version of the famous SNAP DX propagation software. Makes finding a radio path that is open at a specific time and frequency a snap. No more guessing. Just call up SNAPmax. By WA3ZKZ. Exclusively from IDRA for \$40.00 (\$25.00 for upgrade from SNAP).

## BOOKS

**BASIC PACKET RADIO BOOK** - (2nd Edition) - In this edition you will find updated information based on based on readers comments. A chapter on operations via the Internet, Wormholes and LAN-LINK 2.30 documentation. What is packet radio. How to use it. LAN & PBBS information. Using nodes, Packet Clusters, servers. LANLINK manual and evaluation diskette. \$29.95.

**RS232C & COM PORTS Booklet** - If you use a computer in conjunction with ham radio, you will find this an invaluable tool to have in your shack. Contains information on COM Ports 1,2,3,4 and RS-232C. \$5.00.

**NOW . . . Get all 1995 issues of the DIGITAL JOURNAL ON 3.5" Disks**  
(One month per disk in Adobe's PDF format)

Order:  
**1 Month \$4.95**  
**3 Months \$12.95**  
**6 Months \$19.95**  
**12 Months \$34.95**

All orders include **FREE Viewer**  
Add \$3.50 for S/H

## \$5.00 SOFTWARE SPECIALS

Order any of the following programs for only \$5.00 including FREE S/H

- Winlink : the classic HF BBS software
- Lan-Link 2.45 : Joe Kasser's latest all-mode tnc program
- HYLOG : the latest version of this basic logging program
- Excel DXCC Template : Don AA5AU's creation
- RITTY Demo : Brian K6STT's software TNC for 16bit S/B
- HAL Files : the May 20, 1996 version is now shipping.
- Scan - ver. 1.15: New release. Requires RS232 interface. All units must upgrade

ITEM(s) ORDERED

PRICE

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Mail to  
**IDRA / Digital Journal**  
**PO Box 2550**  
**Goldenrod, FL 32733-2550**  
with your check or money order payable  
in U.S. Funds ONLY  
or FAX to 407-671-0194.  
**--Master Charge and Visa accepted--**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Disk Size: 3.5" Shipping & handling, U.S./N.A.: \$2.50 / DX: \$5.00 Total \$ \_\_\_\_\_

Note: Credit Card orders require minimum purchase of \$25.00

VISA \_\_\_\_\_ Master Card \_\_\_\_\_ Number # \_\_\_\_\_ Exp Date \_\_\_\_\_

Name \_\_\_\_\_ Callsign \_\_\_\_\_ Signature \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State/ Country \_\_\_\_\_ Zip or Postal Code \_\_\_\_\_

# With ICOM's New IC-281H... It's Not Just 2 M Anymore!

(2 M mobile transceiver *with* 440 MHz receive!)

**The ICOM  
IC-281H Wins  
Hands Down!**  
See your dealer today and find out why the  
IC-281H is the industry leader in its class!

**9600  
BAUD  
CAPABLE**

See your dealer  
for details.

## New Exciting Features!

**Bonus Receive Band** – The 430 (440) MHz bonus band is available for receive. Enables full duplex, crossband operation between the 2 M and 70 cm bands. Crossband repeat from 440 MHz to 2 M.

**Scratch Pad Memories** – 10 scratch pad memories automatically store your 10 previously transmitted frequencies (5 simplex and 5 duplex) for instant recall. No fumbling around trying to write down, or store into regular memories, frequencies which you want to use temporarily.

**Memory Allocation Function** – 60 regular memory channels can be divided between the main and bonus band. You can organize your memories for maximum efficiency and listening preference.

**Automatic Memory Channel Advance** – After a memory channel is programmed, the channel indicator automatically advances, speeding up the programming process.

**Tone Scan\*** – Scans, detects and sets the subaudible tone. Permits access to a repeater when you don't know the tone frequency.

\* Optional UT-85 required.

### Voice Synthesizer\*

The IC-281H announces the operating frequency, enabling quick confirmation without taking your eyes off the road. Very helpful for visually impaired operators, too.

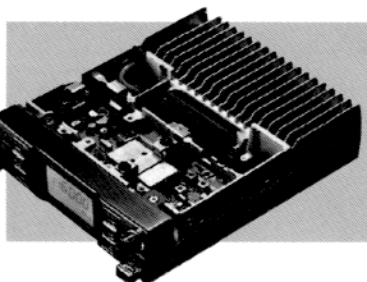
\* Optional UT-66 required.

### Packet "Plug and Play" Operation

**Data Jack** – Connects a TNC directly to the modulation circuit for packet convenience.

**9600 BPS Capability** – No modifications necessary. Provides higher performance packet operations.

**Modulation Circuit** – Newly designed, prevents over modulation even during high data throughput.



### Rugged, Durable Construction

**Die Cast Aluminum Frame Construction** – Meets the highest standards to provide reliability and long life. Will enhance your trade-in value years later.

**Large Heat Sink** – Dissipates the heat to maintain power output and stability characteristics.

### Simple Operation

**Remote Control Microphone** – Puts the operation of several functions at your fingertips.

**Auto Dialing Capability** – Programs 14 telephone numbers for autodial via repeater autopatch.

**"One Push" Action Switches** – Eliminates the need for "two step" function switch operation. Simplifies mobile operations for convenience and safety.

**Large Display** – Easy to see and logically organized for easy interpretation.

**Auto Power Off** – Shuts the transceiver down (when programmed). Great for bedside use.

**Compatible Accessories** – For easy mounting and operation.

### And More!

- Built-in Pager and Code Squelch
- Optional Tone Squelch and Pocket Beep
- Scanning



IC-281H 144 MHz  
FM Transceiver

Call our Brochure Hotline for FREE literature  
on ICOM radios: (206) 450-6088.

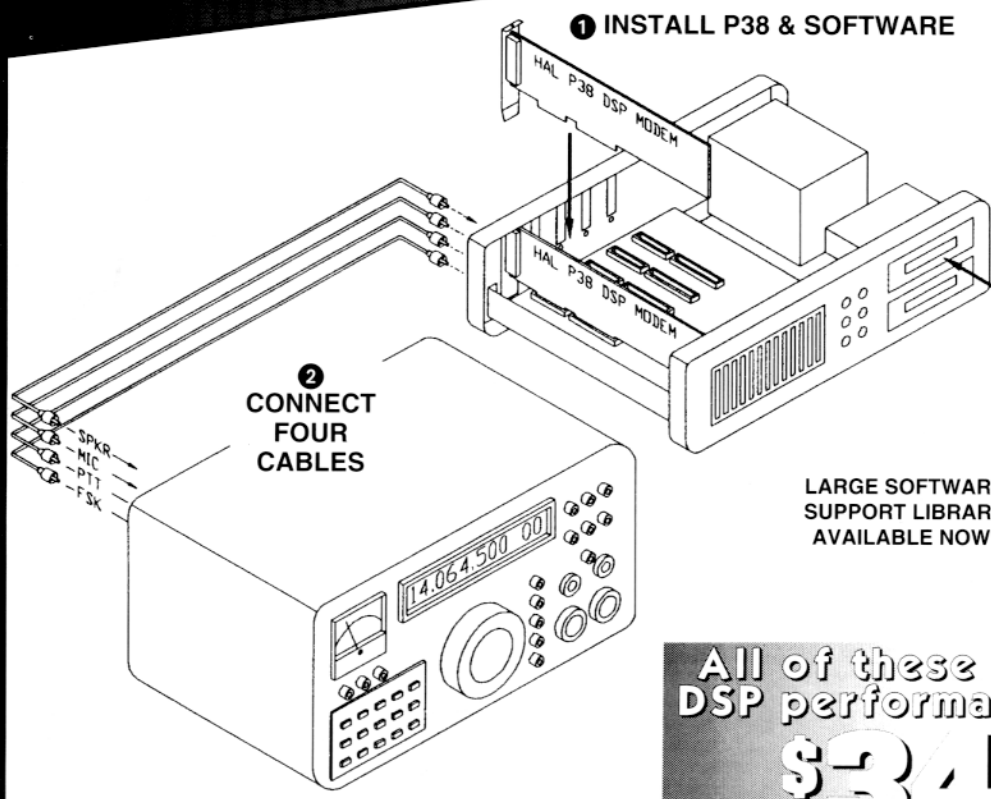
*Experience the Quality*

**ICOM**  
© 1996 ICOM America, Inc. 2380-116th Ave. N.E., Bellevue, WA 98004  
All stated specifications subject to change without notice or obligations.  
All ICOM radios significantly exceed FCC regulations limiting spurious  
emissions. The ICOM logo is a registered trademark of ICOM, Inc. 281H0W796Y



# Digital Communications As Easy As 1,2,3 With The Most Affordable Multimode *DSP* Modem This Is Your Connection To The Digital World

# P38



- EXPRESS CLOVER
- AMTOR
- FACTOR
- RAGCHEW BAUDOT
- ASCII
- WINLINK BBS NETS
- RAG CHEW
- DX CONTESTS
- IMAGE FILES
- DIGITAL VOICE
- HAL P38 ERROR FREE
- HIGH SPEED
- WEAK SIGNAL
- VF1B WORK ALL
- MODES &
- DATA TYPES
- WITH TOP
- PERFORMANCE.
- AAARE
- FUTURE

LARGE SOFTWARE  
SUPPORT LIBRARY  
AVAILABLE NOW!

All of these modes with  
DSP performance for only  
**\$349.95**  
Amateur List

Operates CLOVER, AMTOR, FACTOR, and RTTY  
CALL OR FAX THE HAMS AT HAL  
MIKE, W9KVF OR MARK, WB9HFK  
PHONE (217) 367-7373 FAX (217) 367-1701



**HAL Communications Corp.**  
P.O. Box 365  
Urbana, IL 61801 USA  
E-Mail: [halcomm@prairienet.org](mailto:halcomm@prairienet.org)

