DIGITAL JOURNAL™

Price: $2.95

A DEDICATED DIGITAL PUBLICATION Since 1953

VOLUME 39, NUMBER 8, OCTOBER, 1991

# ARRL DIGITAL COMM. MEETS IN SAN JOSE, CA

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**RTTY JOURNAL**

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USA/CANADA/MEXICO surf.$15.00
1st Class ..... $18.00
FOREIGN ..... Surface $22.00/Air30.00

**EXCEPTIONS:** Estonia, Latvia, Lithuania, USSR, Asia, Australia, New Zealand, Pacific Islands, Africa (other than North Africa), Indian Ocean Islands and Middle East - AIR only: $30.00 (Surface mail not advised). Cash, check or money order, in U.S. funds only and with request - no credit cards accepted.

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**POSTMASTER:**
The RTTY JOURNAL (USPS 391850) is published monthly, except combined May/June and July/August issues, for $15.00 per year, by RTTY JOURNAL, 9085 La Casita Avenue, Fountain Valley, CA 92708. Second Class postage paid at Santa Ana, CA 92799-9998 and additional mailing offices.

**ADDRESS CHANGES:**
Please send all address changes to: RTTY JOURNAL, 9085 La Casita Avenue, Fountain Valley, CA 92708.

**ISSN 0033-7161**

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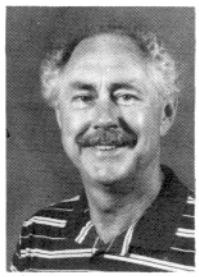

# HITS & MISSES

**Dale Sinner, W6IWO**
**9085 La Casita Ave.**
**Fountain Valley, CA 92708**

## DIGITAL COMMITTEE REPORT

On Sunday September 29, 1991, I attended the ARRL Digital Committee meeting in San Jose, Ca. As the front cover picture shows, attendance was very good. Almost all members of the Committee were present plus observers.

A number of subjects were covered and I will herein highlight those that are most important to our phase of the hobby.

The first item on the agenda was the ARRL questionnaire that has not yet been finalized. This survey form is designed to obtain the rank and file opinions about Unattended Automatic Operation on the HF bands. Much discussion was held regarding the wording used on the form. Vic Poor, W5SMM, was present as an observer and made some specific suggestions. I and others asked Vic to submit his suggestions to us. He has since done so and I have forwarded them on to ARRL HQ. Paul Rinaldo, W4RI, asked that all suggestions be sent to him by the end of October.

Hopefully, the questionnaire will be published before the end of this year. It is important that all of us fill out the questionnaire and mail it back to the ARRL immediately. The questionnaire will be a valuable tool for the ARRL in determining what type of Petition should be presented to the FCC. The ultimate goal is to resolve the HF Unattended Automatic Operation dilemma we are presently experiencing. It is my hope the questionnaire will be ready real soon. The RTTY Journal will publish the form and I'm hoping that most all the national magazines will also publish it.

Unfortunately, not having the form ready means that the ARRL will again ask for an extension of the present STA governing Unattended Automatic Operation on HF. As your representative to the Committee, I voiced my opposition to again asking for an extension but I must admit until we agree on what to replace it with, we are obliged to go along reluctantly.

Bill Henry, K9GWT, and Ray Petit, W7GHM, explained to the Committee the designator definitions they will present to the FCC for the Clover method of transmission.

DSP (Digital Signal Processing) is the hottest topic these days and the ARRL would like to hear more from those in the field working with this process. Authors and experimenters are encouraged to submit their works for publication. (I have been looking for such articles for some time now.)

Two possible choices were suggested for the next Networking Conference. The choices suggested were Omaha, NE and Washington, DC. No decision was reached.

At the last ARRL Board meeting the Digital Committee made a suggestion that the Digital committee be broken into two parts. One group would focus on Short Term Projects while the other would focus on Long Term Projects. The ARRL Board was receptive and this suggestion will most likely be implemented with the Committee appointments next year.

Some discussion was held regarding the possibility of using organized Nets for traffic handling. This would need FCC approval but might be an acceptable method to help alleviate the present problems on the HF bands. Further study will be needed on this idea and no conclusions were reached at this meeting.

That concludes my report on the Digital Committee meeting. If you have something you would like to have discussed at the next meeting, please submit it to me in written form and I'll try my best to have it included on the agenda.

de **Dale, W6IWO** ■

# CONTESTING

**Hal Blegen, WA7EGA**
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**Spangle, WA 99031**

**Read this column carefully. It has many hidden contesting hints that will be obvious to the trained eye. Hal also makes the point for those with less equipment who wish to contest.**

## TROUBLE IN GOSHEN

I seldom devote a whole column to a single letter, but last month's mailbag contained one from Jon, KB9ATR, who alerted me to a serious morale problem in Goshen, IN.

"Those of us with small stations, young families, large home loans, and teenagers heading to college," he wrote, "do not have the money for the big rigs, big towers and big antennas (but we) are still part of the Ham community. We could use some praise for our efforts also."

## RIGHT ON, Jon!

I immediately waded into the ARRL ROUNDUP results to find me a bunch of NON-BIG-GUNS to praise. I figured that I'd be safe if I skipped over the top five places in each category... but then I remembered the 1990 results when WS7I beat W3LPL in SINGLE-OP HI- POWER using an ICOM-751, an ancient HENRY 2K3 amplifier (about 900 watts out until it melted), a KT34XA (tri-bander) at 62 feet and a ground-mounted Butternut. When I got to checking, I found that the class record is still held by EARL, NG7P, out of Seattle, WA who ran a tri-bander on a single, 75-foot tower and a pair of inverted VEE's. Curiouser and Curiouser, AA5AU won the 1990 SINGLE-OP LOW- POWER running 100 watts to a ground-mounted Butternut and KE0KB, the current LOW-POWER record holder, has won the contest two years out of three years using a tribander at 55 feet and a G5RV.

I started to chuck out the top multi-ops... but then I couldn't figure out what to do with WB7AVD who nailed the low- power, multi-single record this year using a TEN-TEC OMNI into a HEATHKIT-1000 amp which he throttled down to 150 watts (set by a borrowed, Bird wattmeter). He said his TEN-TEC tended to overheat at 100 watts key down and he wanted to run everything cool while putting out the 150-watt max for a low power entry. His "farm" is a low tri-bander on a 50-foot city lot with a trapped, inverted vee!

It's probably all relative, but somehow none of these guys sounded much like a 12-inch howitzer but Jon still seemed pretty upset. "I feel that your article did more to keep people (with low end equipment) out of contesting than you know... I had persons ready to take a try at this and other contests. That was until the pen, which is also mightier than 2-years work, got all that work blown away. Please think about that in the future."

YESSIR! I'm thinking! It has been scientifically proven that people just naturally try harder if you keep 'em in the dark and feed 'em... a... mushrooms. It must be kind of like looney-tunes. If you don't realize that you're standing on thin air, you don't fall! I have mistakenly been blabbing away all the winners' secrets in hopes that it might give everybody some new ideas. In fact, I figure I have more reason to be depressed than Jon. No matter how much gear I get, there is always somebody, whose stuff is bigger or newer, or who lives in a better QTH. If you can imagine, I've sunk so far that I'm beginning to treat ham radio as a HOBBY and I have been telling people that I do radios for FUN! What a concept!

The way to enjoy contesting is to recognize that there are categories (and contests) that you CANNOT win. If winning is important and you KNOW that you absolutely cannot successfully compete with this or that station, enter another class! The size of the certificate for a world multi-multi is exactly the same as for a single band 20 meter effort that wins Washington state. In some of the contests that I enter, I would be ecstatic if I finished in the TOP TEN! Set a realistic goal and take pride in the fact, if you achieve it.

This is why the ARRL contest has high-power multi-single and why CQWW has a MULTI-MULTI category —it gets the big kids out of the pool so everybody else can have some fun.

Meanwhile, let me explain to the boys in Goshen that, as one of the authors of the RTTY ROUNDUP contest and a longtime supporter of contesting in general, it is obviously NOT my intention to discourage anyone who has even a casual interest in toasting the cobwebs out of his traps on a contest weekend. To make it work, a contest must attract a certain "critical mass" of folks who, FOR WHATEVER REASON, will join us ...even for a few hours.

Now and again, operators, like Jon, work very hard in a contest only to find that a competitor has parlayed a slightly different interpretation of a particular contest rule into a giant scoring advantage.

"We also have a bunch of purists around here," Jon writes. "Send people home to watch for multipliers? Forget it! ...People would be writing to the ARRL about that, to have us thrown out of the contest. One transmitter and one receiver means one transmitter and one receiver, period."

Sorry Jon, but tell them it ain't so! For multi operator efforts, spotters are just a part of the tool kit, like a handle on a rake. There is no ethical question about designating off-duty operators as spotters and having them call in on 2 meters. Single transmitter operation means ONE SIGNAL ON THE AIR. A now-defunct contest once had a rule that said "ONLY ONE TRANSMITTER ATTACHED TO THE POWER MAINS AT ANY ONE TIME." It also had a whole paragraph about how to substitute another if you fried the original during the contest but for all the RTTY contests that I know of, read SINGLE TRANSMITTER, as ONE SIGNAL. If it doesn't specifically rule it out, a single operator can have as many rigs on the air as he can handle, provided

that he does it all himself! This has nothing to do with ethics. This has to do with how hard he wants to work at winning. (Note that the RTTY ROUNDUP even limits single ops to one signal on the air and has an iron-clad, no-exceptions, 10-minute rule for multi-single stations. This was specifically done to keep the playing field more level.)

According to ARRL contest editor, Billy Lunt, sometimes the rules are deliberately left a little vague to encourage ingenuity and to reward those who are innovative enough to find and exploit the loopholes.

If you don't have room at your contest QTH to get everyone who might be interested involved, see if another operator would designate his station as a spotter and let some folks, who don't have an RTTY setup of their own, work the spotter station with an off-duty op so they can see how contesting on RTTY is done. We have a sore need for contest Elmers!

It is always easier to point to reasons for losing which were beyond your control than it is to figure out ways to improve your score with whatchu got. When you look over the results, check the QSO rate of the winning station and make some comparisons. The next time you hear that station in a contest, see how many characters he sends for each contact. How long are your CQs? If you're not using buffers, how many times do you have to make repeats because you miss-typed something? How long does it take to get your station on the air when it is your turn to send? Which bands and what times are most productive for low power and why? On what bands were you able to hold a frequency and call CQ? Do the WWV propagation broadcasts (18 minutes after the hour) give any useful clues to band conditions for your particular QTH? Where are you most likely to work the rare states that you need? A hint here: During the RTTY ROUNDUP, Nevada is always on 20 meters on Sunday afternoon, top of the band. If you have only 24 hours to run, is there an unproductive time during the day that would let you to slip in a 2-hour break? (At my QTH, the bands just die at straight up NOON local time. I typically dump from 11:30 local to 1:30 local to make up for an extra two hours spent on the band when it is full of DX on Saturday night.)

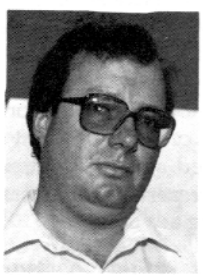
How about computer logging? I hear that the CT (K1EA) now does the RTTY ROUNDUP! If you are planning a multi-op shot, talk these things over with the ops that might want to join you and don't wait until the week of the contest to do it. Multi-op contesting is as much a social event as it is a contest.

It's supposed to be FUN. If all of us had to be sure of winning before we started, there wouldn't be any contests. Pick your best shot and make the best use of your resources. Satchel Paige said it better. "I don't ever look back because somthin' might be gainin' on me!"

See you on air,

de **Hal, WA7EGA** ■

# SOFTWARE



**Jay Townsend, WS7I**
**P.O. BOX 644**
**Spokane, WA 99210**

**New software makes our operating more interesting. This month Jay compares two software programs for the contesting group. Contesting is becoming more popular every day and if you have not tried contesting because you were afraid of the work invloved, then one of these programs may be just the inticement needed to get you started.**

It's fall in the Pacific Northwest and Betsy and I have just returned from a trip to Montana, Wyoming and Yellowstone National Park. First time that we have ever done any mobile operation and it was quite a lot of fun. This month the mailbag was almost empty, just a letter that Dale forwarded from Pete, K5GV, who was having trouble with TLA (Three letter acronyms.) You know he's right, I don't even know what MSO stands for or have forgotten over the years. But it's essentially an RTTY bulletin board! Pete goes on to talk about CLOVER which is a program on which a series of two articles appeared in the RTTY JOURNAL. Pete writes that ham radio doesn't have much to offer, anymore. Boy, Pete, you oughta get out and start working with the new hams that are coming into the ham fraternity. Just this month I answered about 30 questions, helped build a 2 meter beam from a old TV antenna, constructed four kinds of direction finding devices and showed a guy how to put on BNCs (another TLA I don't have a clue!) I fixed two of my amplifiers and build yet another interface to a Terminal Unit.

## TWO NEW CONTEST PROGRAMS THAT SEND AND RECEIVE RTTY

As I indicated last month, a new software program hit the desk. It's by WF1B[1] and is based on the K1EA contest software principle.

A lot of you guys and gals are familiar with the K1EA program so this should fit right on the desk and alleviate a lot of your problems. It has a couple of things, that I haven't found in any other program. It allows you to enter your name, address, and information and makes the summary sheets for you. The main criticism that I have of the program is that it's limited to two contests, ARRL RTTY Roundup and CQWW RTTY. These certainly are two of the big events in the U.S., but the lack of coverage for some of the other, older, traditional events being in the program is unfortunate. BARTG one of my favorites, VOLTA, ANARTS, SARTG, WAE all have been around a long time and sure are fun. As I was discussing the other day with my contest buddy, there are only three that we

have a good chance of winning, but I still like the ability to enter them all and have a good time.

The second program is a new version of SCOTCHLG after a million times of griping, finally Hal, WA7EGA, added receive to the program we have been using for years and years. After a lot of threats, he also added a lot of score keeping and multiplier checking that will ensure the operator is on top of the game. Being a programmer by profession, I never write a line of code for Ham Radio, but it is a joy to watch as a friend and a hacker programmer transcends and completes a fine piece of work. Programming for Hal is relaxation and he brings over copy after copy of new code. Most is not eloquent and none works the first time. But as the years have passed he sure has a lot of fun. I guess it's relaxing to put your thoughts and ideas into program code.

I am prejudiced. First of all I have used and assisted in the development of SCOTCHLG (including the name!) since the early days when it ran on an Atari computer. This month I am going to examine the two programs WF1B and SCOTCHLG and give them some ratings. This is not objective and should be considered in that light.

## User Friendliness

Another of the catchy buzz words of the computer industry. In this department WF1B gets all the awards. It uses the fairly standard Alt-H key (Alt key plus H) combination to get a help screen. Actually the handling of screens by the WF1B program is quite nice and they flash on your screen and look very well. Scotchlg is a lot less crisp in the handling of screens.

## Functionality and features

WF1B does most things just like the K1EA CT program and its influence is felt throughout the program. It displays screens of stations worked and shows multipliers and countries. You can print labels after the contest if desired which is a nice feature. It does only two contests and this allows the author to have very defined setups and implement them well.

Scotchlg on the other hand can be configured (if you know how) to do any contest that is presently on the books. It can do SS (Sweepstakes) ANARTS, handles the point charts, and WAE (Worked all Europe) the program even assembles the QTCs (messages) for you and on and on. What is difficult here is figuring out how to do the contest. Frankly what it takes is sitting down at least two to three days prior to the contest and getting things to work. It might even take a couple of phone calls to Hal, WA7EGA. What I have found over the last couple of years is that most of you contesters wait until the last minute to decide to contest and, if that is the case, then go with the fixed format programs.

If you are just interested in the CQWW RTTY or the Roundup and have used or are using CT (K1EA Contest Program) then I would opt for the WF1B program. If you are interested in Multi-single or the other contests and would like to spend some time and energy, then SCOTCHLG is for you. What amazes me yet to this day is that our friends in BC (British Columbia) haven't ever dialed Hal up on the phone.

## WF1B Specific Features

The WF1B works on the KAM, the PK232, and the MFJ1278, which covers the big multi-mode controllers. It doesn't yet support the HAL PCI-3000, which seems to be an oversight.

Features includes Partial Call Searches, log editing, lots of windows showing score, zones, states all in the style of the famous K1EA. It does all the handling of dupe sheets, and includes the summary sheet. WF1B has a three level window scheme which is attractive and easy to use. There are two ways to use his RTTY program during a contest. Manual and semi-Automatic.

## Manual Mode RTTY WF1B

Incoming signals are displayed in the upper window. Calls are copied and you use ALT-K to chat with the station. To log the QSO you follow these steps. Press F8 then enter his call sign, press F9 and enter his CQ Zone, press F10 for state or province, and finally hit CTL-L to log the contact. This can be repeated.

## Semi-automatic Mode WF1B

You use the Insert Key automatically to move the callsign and begin the logging process.

## A Sample Detailed QSO using WF1B

You call CQ by pressing the F1 key, which sends buffer number one. When you get an answer, you either press HOME to place the call in the QSO input window and then press F2 to send the exchange or if the call is not captured you use F8 to put the cursor in the call sign field of the program and then on to F2.

The station contacted then sends exchange info and you use F9, F10 as above to log the station. Pressing PgDn will then log the contact to disk, update the statistics and call QRZ? and ready you for the next contact.

## Change and progress are possible in Digital

When I started these software reviews, one of my plans was to increase the number of programs available to the RTTY enthusiast for contesting. Success has finally arrived. We now have reviewed a number of different programs that fit the bill and more are being currently developed by software authors, both professionals and hackers. You can spend up to about a $100 or get one free.

This concludes my examination of contest software and should appear in print just after the CQWW/RTTY JOURNAL WORLDWIDE RTTY CONTEST. If you used one of these programs during the contest, I would like to hear about how the program performed. I will then compile your comments and publish them here in my column. Please send me lots of mail. Don't worry about spelling or grammar or anything I just need your input. Take a second and spend a thirty cent piece and mail me your ideas.

It is important, I think, to note that this grand event at the end of September is a joint contest and one that the RTTY Journal has been sponsoring for many years. We/You are the founders!

## Disk Operating System 5.0

DOS 5.0 is out and seems to run quite well with everything that I have tried. If you are running a 286 PC (personal computer) or above, then I would suggest you give it a try. I haven't had any problems with any of the software I use.

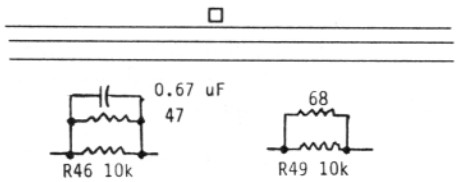
It will give you a bunch of extra memory and you can always use that while using a computer. About the only thing that seems to be kind of strange about the DOS is that it takes a bit of space on the hard disk.

## RUMOR ABOUT THE PCI-3000 SOFTWARE

I have heard via the grapevine that there is a new version of software to be released very soon for the PCI-3000 that should fit right into some of the things that we have discussed previously in this article. Maybe we can get another look later in the year. For now the winter season is upon us.

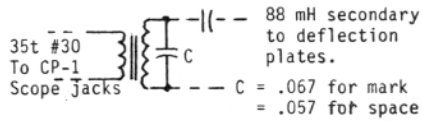
73 de Jay, Ws7i ■

**1. Ray Ortigiesen, WF1B, Wyvern Technology, 35 Hornet Road, North Kingstown, RI, 02852, 401-885-1364 ... 6-10 P. M. Eastern**




### Errata/data for Tuning Scope, September 1991 RTTY Journal, pg. 22.

Second paragraph: .006 uF , should be .067uF. Third paragraph refers to pictures, should have been schematics. (Shown below) Fifth paragraph indicated wire wound pots should be used, this is optional.




# PACKET

**Richard Polivka, N6NKO**
**7052 S. Friends Ave., Apt J**
**Whittier, CA 90602**

**Richard has a mixed bag for us this month. First how to save a couple of bucks on disks, then, acronyms explanation and finally how to wire your radio for Packet operation.**

## DOUBLE YOUR MONEY!

That's right, double your money. Now for the incredible secret on how to do this amazing, almost risk free, trick. All you really need to invest are the following: a variable speed drill, a 5/32" or 1/8" drill bit ( a good one, not a cheapie), and a box of 3.5" DSDD floppy disks.

I can hear you saying how is doubling your money possible with the above listed equipment. Now, here comes the lesson and then you will understand the method to the apparent madness. Whenever a company manufactures computer disks, the disk media needs to meet certain standards. The minimum standard for recording capability, to my knowledge, is the same for both 3 1/2" DSDD and DSHD floppy disks. Now does a light start to glow? If not, read on. If the assumption is made that the recording media is the same in both 3 1/2" DSDD and DSHD floppy disks, what is the difference between the two?

If you compare a 3 1/2" DSDD disk and a 3 1/2" DSHD disk side by side, providing that they are made by the same manufacturer, they will look the same except for two areas. One area is near the door slide where, on the DSHD disk, there is imprinted the letters "HD" signifying that the disk is a high density disk. The other one is a physical difference. Is the light glowing brighter yet? The other difference is a rectangular hole that is on the opposite side of the label area from the write protect hole. That hole tells the drive that the disk is a high density model. Now the light should be full on. If not, read on.

What needs to be done now is to put a hole in the DSDD disk where the high density hole should be. By having the hole there, the computer runs that disk in the high density mode. It can be done quickly and efficiently if you have a drill press. You can do it with a handheld drill but the chance of misalignment is greater. Measuring for the location can be done in two ways. One way is to use the provided drawing (see figure 1) to measure where the hole needs to go. The other way is to use another disk as a guide. Take the disk that you want to use as a guide and open the write protect notch. Turn that disk over on top of the disk that you want to mark so that the label sides are together and the metal slides are on the same end. Mark through the open hole onto the disk and that is where you need to drill through to activate the high density mode.

When drilling the disk, you should keep several things in mind. Keep the disk flat. Any misalignment of the shells can cause a problem. Feed the drill through the plastic at a slow rate. If the feed rate is too fast, there is a good possibility of cracking the disk shell. The sharp drill bit allows for clean drilling and very little chip deposits inside the disk housing.

When I did mine, I built a jig first to align and hold the disk that was to be drilled. I mounted the jig to the adjustable plate on a drill press. Once the jig was aligned, it was assembly line time. I have done this process to about 100 disks and I have had only three failure to format and that was because of a bad Track 0. Excluding the bad ones, the rest of the disks successfully formatted at the higher density setting.

Now comes the savings. My latest acquisition of disks was done at a major nationwide retailer of computer products. I purchased a box of fifty 3 1/2" DSDD disks for $25.00. That works out to $0.50 per disk. The same company wanted $50.00 for the high density model. The disks were made by a reputable manufacturer from Japan. I

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## HAL Communications' ST-7000

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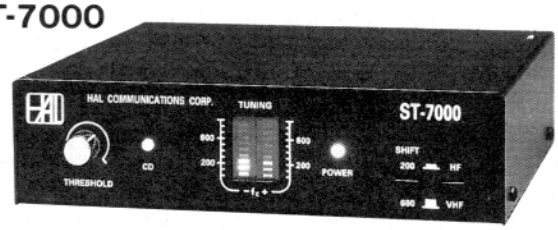
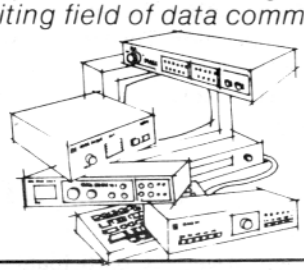


## The PK-232 by AEA

. . .the only controller offering Morse Code, Baudot, ASCII, AMTOR, Packet, and facsimile Transmission & Reception plus the ability to monitor the new Navtex marine weather and navigational system. . .7 modes in one controller. The PK-232 makes any RS-232 compatible computer or terminal the complete amateur digital operating position. All decoding, signal processing and protocol software is on ROM. Only a simple terminal program (like those used with telephone modems) is required to interface the PK-232 with your computer. **Watch for the new and exciting AEA FSTV-430. Have fun on amateur TV!**

*Obviously, we can fill in a system that you have already started. Or we can furnish a complete system to fit your needs and budget. For example, here's some suggestions for the amateur just entering the exciting field of data communications, or: for the amateur who wants the best available.*



**NO. 1** For the fun (and very affordable) mode, VHF Packet, AEA PK-88 with personal mailbox, 8K programmable memory and TCP-1P compatability.
For serious 20 M world-wide DXing on Packet, 200 or 600 Hz shift. . .add the superb HAL ST-7000.

**NO. 2. . .top of the line!** The HAL ST-8000 or HAL ST-6000 and AEA's PK-232 . . .the winning combination. You can't do better for all-mode, all-band enjoyment of hi-speed data communications.

**If you have any questions concerning these units, or would like to discuss your requirements with a knowledgeable specialist, please call or ask for Fred Daukantas, N6SFD. We also carry a large selection of excellent commercial products for data communications and emergency systems as well as a complete inventory of amateur equipment and linear power amplifiers.**

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proceeded to modify all fifty disks at once. The whole procedure took about forty minutes to drill all fifty holes needed. So, for forty minutes of my time and a drill press, I doubled my money. All the converted disks formatted to 1.44 MB.

In my book, that is doubling my money. Just follow what I have said above and you too can enjoy the fruits of your labor.

## WORDS

Every profession has its own special jargon. People who use packet are no exception. Unfortunately, this use of jargon can cause problems for the newcomer. So, to help out, I offer the following list:

**TNC:** This is the Terminal Node Controller. This device is what converts your typed data into the tones that the radio sends out. The unit also decodes the tones received and sends them to your terminal. The TNC also acts when the radio keys up and a few other housekeeping functions.

**CONNECT:** The procedure of connecting is initiated when you tell the TNC to connect to another station. The TNC sends out a connect request. If the destination station hears the request, it tells the originating unit that it exists and the two units start talking to each other. If the destination station is not there, your TNC will tell you that the connect was not possible.

**DIGIPEATER:** Commonly referred to as a "DIGI." A digipeater is a digital repeater without a brain. It was a good idea when packet started but when the activity grew immensely, they were more of a hindrance than a help. This function was replaced by the "NODE."

**NODE:** The Node is a Digipeater with intelligence. Where a Digi could only repeat what it heard blindly without the benefit of error checking, the Node operates with full error checking. The Node is also capable of remembering routes to other Nodes. The invention of the Node allowed for the efficient networking of geographical areas.

**PBBS:** This is the Packet Bulletin Board System. Putting it simply, the PBBS works the same way as a dial up computer BBS except that you access the PBBS using the radio. Through the use of these and Nodes, mail is sent all over the world.

**PACKET:** This term describes the bundle of data that is sent out by the TNC whenever it transmits. It contains the calls of the sending and receiving stations, any digipeaters used, the information that is being sent to the destination station, and the error checking figures. The packets are sent at many different speeds, but most users use either 300 baud or 1200 baud.

**9600:** This stands for 9600 baud. This speed moves information faster than 1200 baud. Where 300 and 1200 baud use AFSK (Audio Frequency Shift Keying) like your phone modem, 9600 baud work does not use tones to represent the data. The process uses direct FSK, where the encoded data modulates the frequency of the radio. If listened to on a regular FM receiver, instead of hearing tones, 9600 baud packet sounds like a noise burst that breaks your squelch.

**TCP/IP:** This refers to Transport Control Protocol/Internet Protocol. The process is referred to usually as just "IP." It is a system that was adapted from the computer world and applied to the amateur world. The system can perform many functions at once. You can be chatting to one person, receiving mail from someone else, be receiving a file from another person, and sending a file to yet another person, all at once. The operation of the system is easy. It is just that the people who use it are more technically oriented and have the ability to forget that there are newcomers out there. Though the program is large and somewhat confusing to set up, once the program is up and running, it is quite useful. You definitely need a computer for this one.

The use of jargon in the presence of the uninitiated has a way of isolating the newcomer. If it is used and not explained, the newcomer will not become interested and be turned away branding the subject as too confusing to learn. This is where we fail as amateurs by not explaining ourselves and putting on the Elmers Hat.

## LET'S GET WIRED

I know many people that are naturally wired. I am one of them. So, lets get wired — the TNC to the radio, that is. I will cover wiring the TNC to the average HF radio first. Then I will cover hooking up the TNC to the VHF radio.

Wiring up the TNC to the HF radio is quite simple. Before starting, prepare yourself, have the manuals to your particular TNC and HF radio present. You will be connecting the Microphone, PTT, Speaker, and Ground to the TNC. On some of the newer radios, the receive audio is available on a pin of the microphone jack. That makes life easy. Usually though, this is not the case. Hence, my reason for both manuals available. The manual for the TNC will have the directions for hooking up the TNC to the radio. If you run into any problems, you can call either the manufacturer of the radio or the TNC for help.

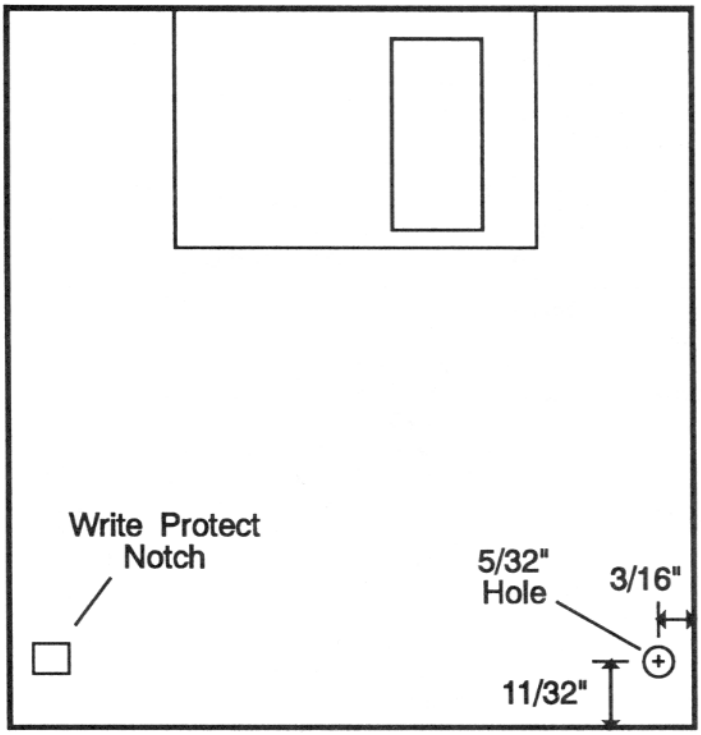
After wiring up the radio, you need to adjust the transmit level properly. This takes a dummy load on the radio. You will want to key up the radio by following the calibration procedure for your particular model of TNC. Make sure that the MIC gain is turned all the way down. Set the output level from the TNC to what the manufacturer recommends. Now slowly raise the MIC gain on the radio while watching the ALC meter. As soon as you see the needle come off the peg, stop advancing the knob. Back it off until the needle rests back on the peg and then turn the knob just a hair more CCW. That will set the level to optimum. If the ALC circuit started to work, the signal would end up distorted and cause all sorts of problems. Clean signals are very important. I personally hear many stations that are distorted and many KHz away from where they are (frequency wise). Clean signals keep everybody happy, including the FCC.

Adjusting the volume and tuning to receive packets takes a bit of patience. The TNCs manual will explain the procedure for receiving packets from HF. Follow the manual and take some time to get it right. If you don't see many packets appearing on the screen but you are hearing activity on the channel, that will usually be caused by faulty packets or off-frequency stations. Keep in mind, Packet was not designed for HF operation. The HF medium is too fluctuating to support error free communications reliably, despite what some people say.

## NEXT MONTH

I will cover my participation in the 1991 RTTY JOURNAL/CQ Magazine RTTY contest. We will also continue on how to hook up your TNC to your VHF radio, with particular emphasis on handhelds. Until then, have fun.

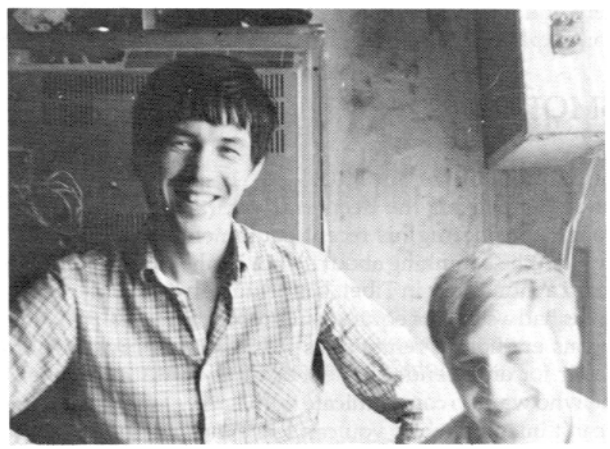
de **Richard, N6NKO** ■




## DX FLASH

(continued from last month)

Last month the Journal reported that a number of Hams from USSR were going to Turkoman between Oct 15 - Nov 15. Two of those to participate in this DXpedition are shown below. On the left is UH8EA and Serge, UA9TZ on the right. Expected callsign to be used is UH8E. Picture courtesy of John, N0FAC, who may become their QSL manager soon, Until then, all mail to Box 29, Gaj, Russia, USSR 462630.



# MSOs

**Dick Uhrmacher, KOVKH**
**212 48th St.**
**Rapid City, SD 57702**

**Dick tackles the acronyms question in a humorous way. Plus, he takes a jab at the ARRL for forgetting to mention MSOs in their Handbook. .**

Hi Gang! Another year is slipping away fast, and it's amazing to me how fast time flies. It won't be long now and it will be cold up here in the Northern Plains, and I need to get some antenna work done. My Inverted Vee for 40 meters was put up in a very temporary configuration so that I might experience the joys of APLINK (see the following paragraphs), and in this case "temporary" should be replaced with the word "haphazard!" So, I guess that it's time for all of us to review our outdoor work, and get started on it, before we find ourselves out there up to our waist in snow, trying to feel the ends of our finger tips.

## ABBREVIATIONS, ACRONYMS AND ARROWS

Let me extend a hearty welcome to new reader Peter Buyaki, K5GV, from beautiful downtown Harrison, Arkansas. And, let me start off by apologizing for causing him days, weeks and months of pure agony in attempting to decipher the abbreviation "MSO!" As a new reader of the RTTY (Radio Teletype) Journal, I'm certain that many of the abbreviations and acronyms that appear in this highly technical publication can cause a bit of confusion, and my inattention to providing insight into these mysterious letters is inexcusable. I am astounded to learn that the ARRL (American Radio Relay League) doesn't include MSOs in their Handbook, and since our publisher is a member of the ARRL Digital Committee, I expect (and demand) that he see that this injustice is rectified, post haste! I am so incensed, that I may even request that all issues of this prestigious handbook since 1980 be recalled by the ARRL, updated with an in-depth explanation of MSOs, and re-issued, at League members expense! After all, with more than ll years of MSO operations under our belts, you'd think that MSOs would at least garnish enough attention to receive a small credit in the ARRL Handbook. Get with it, Dale!

Unfortunately I don't think that I can convince either "Scientific American" or "Sky & Telescope" that they should carry articles about MSOs, as someone spilled the beans, and they already know that CLOVER II (Circuitous Light-speed Operations

in Vacuumed Electromagnetic Radiations) will soon replace all forms of digital communications as we know it, including Packet (Poorly Accomplished Communications Kept Entirely Trashy), APLINK (Asymmetric Piezometry Levator In Nonrestrictive Kiloamperes), AMTOR (Alliteration Modulation to Overcome Reverberations), and of course TCP/IP (Trans-continental Carrier Pigeon/Incommodius Pyrrhuloxia). So Pete, hang in there buddy, and we'll certainly try to be more explanatory in future articles.

## SMOKE ON THE HORIZON

For all users of the KA0JRQ MSO, Larry hasn't jumped off the deep end yet, (although considering his recent equipment problems he's thinking about it), nor has he joined a monastery in Tibet. Unfortunately he has had a series of equipment problems, serious enough to remove his MSO from the air for an extended time. For those of you who want to communicate with Larry, (I can't imagine why), you can leave messages in the K0VKH or K5FL MSOs, and we will be glad to forward them to him via his APLINK (see preceding paragraph) system on 40 meters. Larry hopes to be back up and running as soon as possible.

Dennis, WA8ZRK, also reports that he's had some bad luck with equipment recently, and hopes that repairs will be forthcoming so that he can return both his HF (High Frequency) and VHF ( V E R Y High Frequency) MSOs to operation. Dennis has had the pleasure of spending an extended vacation on his sail boat on the Great Lakes, and for my part, that's a real vacation!

And while I'm on the subject of equipment failures, let me pass on a few tips on how to extend the life of your favorite transceiver, amplifier, power supply, etc. The "computer explosion" (they're just blowing up all over the place), has provided Hams with a ready source of cooling fans that are readily adaptable to use in cooling some of our over-stressed electronic equipment. For example, I have a friend who uses a Collins 30L1 (the "30L1" is a Collins designation, and Pete I have no idea what it means), on RTTY, which places not only a lot of stress on the 572B (as differentiated from the normally installed 811A), tubes he has installed in it, but also on the power supply components as well. My friend has placed a "whisper fan" that he removed from an old computer system, directly over the top of the amplifier RF (Radio Frequency) deck, that sucks the air out of the 30L1 cabinet, allowing him to be much more at ease when long RTTY transmissions take place. It's important to note that fans of this nature should be oriented to suck air out of cabinets, and not to blow air into them, as dust/dirt accumulations can cause arcing, premature failures and nesting places for Incommodius Pyrrhuloxia. This author has experienced failures on several occasions of the small DC (Direct Current) fans installed in Kenwood transceivers and power supplies, and I have utilized salvaged computer power supply fans to provide excellent cooling for these units when used on the various digital modes.

## MSO RAMBLINGS

As I write this article (mid September), I've just received word that John Troost, TG9VT, has returned to Guatemala from Boston, after undergoing an extensive medical exam, and I'm delighted to hear that he's in good health, and probably will be banging away at the keyboards for years to come. Now that's good news! — Sysop (System Operator) Frank, K4KOZ, Boca Raton (Rats Mouth), Florida, tells me that he will be able to attend the 1992 Dayton HamVention (Ham, contraction for Amateur, Vention, contraction for Convention), and of course we'll be anxious to see him there. Banging the drums (not literally Pete), for the Dayton HamVention is a favorite topic of mine, as it's certainly enjoyable to see all of our friends gather there for some exciting times. Hotel/Motel accommodations in the Dayton area are always at a premium, so if you're thinking of attending next year, now is not too early to make reservations. — Sysop Brownie, K5FL, Denton, Texas, tells me that Vic Poor, W5SMM (of APLINK fame), has written IBM (Itty Bitty Machine) computer software for an AMTOR-only MBO (Mail Box Operation). Called "PAMS" (Personal AMTOR Mailbox System, I think), it will be much like his well known APLINK software, sans the packet portion. For those of you thinking of operating an AMTOR only MBO, this easy to use software will be a natural. Stay tuned for further information.

## AUTHOR OF THE YEAR AWARD

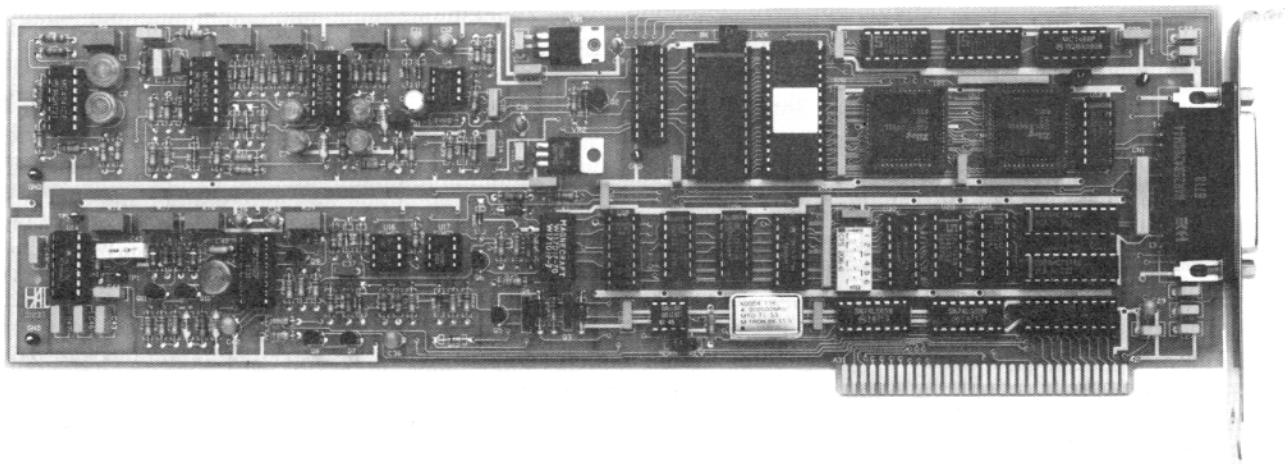
Congratulations go out to Eddie Schneider, W6/G0AZT, for being selected as Author of the Year, and for having his April 1991 article selected as Article of the Year. The highly respected Buyaki Trophy is in the mail, and we all look forward to bigger and better things from Eddie in coming articles.

That's it for this month Gang. Keep those letters coming, and have fun on RTTY and the MSOs. Oh yes.....I nearly forgot Pete. It's almost unbelievable that you were able to guess that the letters MSO do stand for Microwave Satellite Operations! Amana, (yes, they are still banging out those Microwaves), along with NASA, the ARRL and the ASOA (Appliance Stores of America), have been launching satellites for several years now. No wonder there's a hole in the ionosphere with all of those ovens flying around up there! dit dit dit dah dit dah!!!

de **Dick, K0VKH** ■

*This photo represents approximately 630 RTTY DX Countries: The world's leaders, Luciano, I5FLN, and Gin, JA1ACB.*

# A Winning Combination . . .
# The PCI-3000 and SPT-2 from HAL!



The HAL PCI-3000/PC-AMTOR system is designed to put your PC on the HF bands with outstanding performance at an affordable price. Amtor allows you to get through when other methods fail. If you've ever been DX-ing with someone on Amtor when 20 meters dies out in the evening, you know what we mean. Things may slow down, but you can usually keep up the QSO!

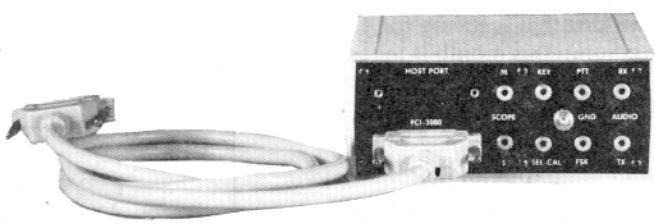
The PCI-3000 doesn't limit you to Amtor. You also get high-performance Baudot and ASCII RTTY, CW, and Search Mode. Search Mode lets you simply tune in the signal—we take it from there. The PCI-3000 automatically finds the correct code, speed, and polarity. No more guessing!

If you want to communicate on HF, do it right with the PCI-3000! Call HAL Communications—your AMTOR source—and put your PC on the air today!

## SPT-2 Spectra-Tune:

For ease of tuning your PCI-3000, add the SPT-2 Spectra-Tune. The Spectra-Tune lets you tune in CW and RTTY signals quickly and accurately with a calibrated linear 30-segment bar graph. The bar graph represents a 600 Hz range of the audio spectrum, centered at 2210 Hz for RTTY and AMTOR, and 800 Hz for CW. Calibrated marks indicate the proper frequency for AMTOR, RTTY, and CW tuning.

A cable is included with the SPT-2 for providing power and control from the PCI-3000. The rear panel of the SPT-2 provides convenient "RCA" phono connectors for all radio connections. This avoids having to make radio connections directly to the PCI-3000. Enhance your PCI-3000 system with the SPT-2 Spectra-Tune Today!




**HAL Communications Corp.**
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**Urbana, IL 61801**
**Phone (217) 367-7373**
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PCI-3000/PC-AMTOR with software **$395.**
SPT-2 Spectra-Tune with cable **$169.**
FIL-1 Amtor/RTTY filter (installs in SPT-2) **$69.**

(Low tone export models available.)

# THE LINK

**Jim Jennings, KE5HE**
**Rt. 2, Box 165E**
**Hearne, TX 77859**

**Do we need another acronym? Vic Poor, W5SMM, thinks so. Jim explains this month as he introduces the new PAM software written by Vic Poor, W5SMM, for those who would like a Personal AMTOR Mailbox without the Packet portion included. Keep in mind that the commands outlined in this article will work with the regular APlink software.**

Since early June, my XYL and I have been traveling and enjoying the fruits of retirement. How sweet it is! I have many things relating to APLINK to talk about; the new developments coming along, my experiences as a user over the summer, and just continuing with the tutorial that I started two months ago. I am happy to see that more and more hams are getting their feet wet and using AMTOR and of course taking advantage of the message storing and forwarding capabilities of APLINK.

I had an AMTOR setup in my travel trailer that I used this summer. It consisted of an ICOM 751A, the AMT-1 controller, a 386SX laptop computer, a tuner, and a "BUG-CATCHER" antenna on the pickup truck. With that system, I was able to check into the KE5HE MBO at least twice a day to keep in touch with my ham buddies.

Early last summer Vic, W5SMM, and author of APLINK, had provided me with a beta test version of PAMS (Personal Amtor Message System) to test and use while on my travels. I used it all summer and I am glad to report that Vic has the initial release of that software available at this time. Since I believe that PAMS will be a valuable tool for many of you, this month I will outline that software for you. Much of the column this month is taken directly from the PAMS.DOC (PAMS documentation file).

## PAMS (Personal Amtor Message System)

PAMS is software that is completely compatible with APLINK. If you were to install and run PAMS on your system, other hams could check into it and leave messages for you or others as well as leave/read bulletins or NTS traffic automatically. It will operate unattended to accept connections from other stations. The user command set is the same as the AMTOR command set of APLINK. PAMS has all of the functionality of APLINK, but without the PACKET capability. With PAMS you can forward/reverse forward messages and traffic with another PAMS station or an APLINK station. Once initiated, the forwarding is automatic. PAMS should be ideal for traffic handlers because of the automatic message handling features.

## REQUIREMENTS TO RUN PAMS

PAMS is written for MSDOS 3.x or higher and requires a IBM-XT class computer or higher, preferably with a hard disk drive. The minimum acceptable free memory is 256K. At least one free COM port is required, unless you are using the HAL PCI-3000. Like APLINK, it will run in the background under DESQVIEW. In addition and like APLINK, PAMS will only run with the PK-232, AMT-1, and PCI-3000 controllers. Several have asked, "Why doesn't Vic write drivers for the KAM and MFJ line of controllers?" The reason is simply that those controllers do not provide the controller status reporting needed to implement a driver. Of course, you will need to have the system hooked up to an HF radio system.

## OBTAINING THE SOFTWARE

The PAMS software may be obtained from:

1. TUCSON AMATEUR PACKET RADIO (TAPR)
P.O. BOX 12925
TUCSON, AZ 85732
(602)749-9479
(Credit Card - Ask for Heather)

Mail $2 US for a 5 1/4 inch or $3 US for a 3 1/2 inch floppy. Outside USA, additional postage is required.

2. Landline BBS (512)690-5312 8 data bits, 1 stop bit, No parity, 2400/1200 baud Password, use your call or "APLINK" Follow the instructions and download PAMFILES.EXE Version 1.02 or later, it takes about 24 minutes at 2400 baud.

Once you have the floppy, make a directory called PAMS. Copy PAMFILES.EXE into that directory and execute the program. PAMFILES.EXE is a self extracting archive file that creates all the files you need to run PAMS except the NORTON EDITOR which must be supplied by the operator.

## THE PAMS FILES

After executing PAMFILES.EXE, the following files will be in the PAMS directory:

- PAMSAMT.EXE - The main program when using the AMT-1
- PAMS232.EXE - The main program when using the PK-232
- PAMSPCI.EXE - The main program when using the HAL PCI-3000
- READ.ME - Read it!
- COPYRITE - Author's copyright statement
- HELPWDO - A help file used by PAMS
- PAMS.DOC - The operator's manual (ASCII format)
- PAMS.WP - The operator's manual (Word Perfect 5.1 format)
- USERS.EXE - The users' file editor

- PAMS.CNF - A sample system configuration file
- FORWARD.APS - A sample autoforward routing file
- HELP - The short form help file
- INFO - The info file (should be operator edited)
- HELP1. through HELP9. - Detailed help files the operator will install using the SH command
- INTRCPT.APS - A sample intercept file
- MBBIOS.COM - A TSR communications port driver
- MBBCONFG.EXE - The MBBIOS.COM configuration program
- MBBIOS.DOC - Documentation for MBBIOS.COM

The first thing you should do is to print out the documentation and read it carefully. The documentation is available as a DOS text file, PAMS.DOC or a Word Perfect 5.1 file, PAMS.WP.

## HARDWARE INSTALLATION

If the AMT-1 is used, it should be configured for 110 baud. Only Rx and Tx signals are used. The COM port used by the AMT-1 selected in the configuration file, PAMS.CNF.

If the AEA PK-232 is used, the interconnecting cable between the PK-232 and the computer should include wires 1 through 8 and 20 and no others. As with the AMT-1 the COM port used by the PK-232 is selected in the configuration file, PAMS.CNF. PAMS will "cold start" the PK-232 if the PK-232 ROM is 19 JUL 1990 or later. You do not need the battery in the PK-232 as PAMS configures it each time PAMS is run.

If the Hal PCI-3000 is used, simply install the unit in the computer. Do not connect the "HOST" port of the PCI-3000 as all communication between the computer and controller is through the internal PC bus.

## SOFTWARE INSTALLATION

Assuming that you have all the hardware hooked up (radio, computer, and controller) and that you have all the software in the \PAMS directory, you will need to perform the following steps to run PAMS.

1.Rename either PAMSAMT.EXE, PAMS232.EXE or PAMSPCI.EXE to PAMS.EXE to correspond with the AMTOR controller that you are using.

2. Rename the copy of the Norton Classic Editor in the \PAMS directory to E.COM.

3. Put the following line in your AUTOEXEC.BAT file: \PAMS\MBBIOS.COM (If you are using the PK-232, you may have to use MBBCONFG.EXE to change the configuration of COM port 1 in MBBIOS.COM to hardware handshaking equal to 'Y'.)

4.Using the Norton Editor, edit PAMS.CNF, INTRCPT.APS, FORWARD.APS and INFO to fit your station. The documentation is a real help here. If you edit the USERS.APS file using USERS.EXE, be sure to turn off PAMS. Otherwise the USERS.APS file may get corrupted.

5.Set the TIME and DATE on your computer to local time and put the following line in the AUTOEXEC.BAT file: SET TZ=aaann (where aaa = local time designator, i.e. CDT and nn = hours difference between local time and GMT)

To run PAMS, just move to the PAMS directory and type PAMS (return). (PAMS creates 2 subdirectories, \PAMS\MESSAGES and \PAMS\ARCHIVE when it runs.) Next, you should type the following commands to enter the user help files into the system:

- SH PAMS HELP1 (return); SH PAMS HELP2 (return) etc. through HELP9

To check that the HELP files are in the system, type:

- LH (return) LH is the list help files command.

## RUNNING PAMS FROM THE POINT OF VIEW OF THE SYSOP

To the external user, PAMS works just like APLINK, (I will continue with that tutorial next month.) From the SYSOPS point of view, PAMS is very user friendly. The SYSOP may be in one of two different modes, the channel mode and the message manager mode. Additionally, the operator may edit the control block of each message on the system.

In the channel mode the operator has control of the AMTOR linking and communications aspect of the system. The commands for this mode all involve 2 keystrokes on the computer, the first being the "TAB" key. When you hit the "TAB" key, a pull down menu is presented and the operator sees a list of the channel commands each with the associated second required keystroke.

In the message manager mode, a set of commands is available to the operator similar to, but not the same as the commands used by an external user. That is the operator may kill messages or bulletins, list messages, read messages from the system, and enter messages into the system.

To autoforward messages, simply link with the other PAMS/APLINK station and press "TAB F." The system will first send all messages that you have enabled to be forwarded to the other station to be sent, and then the other station will forward all traffic for you. When this is completed, both systems will return to the standby mode ready for another contact.

## WRAP UP

Well, it looks like that's it for this month. I found the operator interface of PAMS very user friendly and very easy to use on a laptop or notebook version of the PC. Now that I'm home (the snow at our cabin in the mountains of Wyoming ran me off, HI) maybe I will spend more time on the rig and less time fishing. Fat chance! I sure did like those rainbow trout.

Several other APLINK SYSOPS have used PAMS and will be happy to answer questions about it. A partial list is:

Steve, K4CJX.TN.USA.NA
Bud, N0IA.NV.USA.NA
Harvey, KK4CQ.FL.USA.NA

As a final note, I'm sure that you will join me in the happiness that I have in having John, TG9VT back with us again.

73 AND GOD BLESS

de **JIM, KE5HE AT KE5HE.TX.USA.NA**

# DX News

**Don Simon, W6PQS, (Guest Op)**
**356 Hillcrest St.**
**El Segundo, CA 90245**

We're sorry to report DX editor John Troost is not feeling well. He recently returned home from a visit to the hospital in Boston (just in time too work XY, 3B7 and ZA) but he is still having bad headaches and trouble adjusting to a new series of medicines. John regrets not being up to writing his column this month. After reading my feeble efforts, we will all regret it.

John, all of your RTTY DXer friends from A22BW to ZA1A hope you start feeling better soon. We need to see your cheerful greetings on the screen and read your DX notes every month. Hurry back.

Guys and Gals, please don't hesitate to check into the TGVT Aplink on 14074, 21074 or 28074 and leave a get well message for John. He would love to hear from you and know we are all cheering him on. There is some rationing of electricity going on in Guatemala these days, so keep trying if you can't find TGVT the first time.

September and early October will go down in history as one heck of a month for all DXers... especially RTTY DXers. At this QTH we logged Burma (XY0RR), St. Brandon (3B7/3B8CF), Kaliningrad (UZ2FWA), Montserrat (VP2M/G0AZT) and Albania (ZA1A) for new ones... the XY, 3B7 and ZA were new on any mode for me.Who would have thought a few years ago that we would ever work ZA, or XY, or 3B7 ... let alone all three in less than a month. You'll have to admit, we are living in an incredible time.

## DX HAPPENINGS

**Burma** .. Romeo and his friends were very active as XY0RR in spite of poor propagation to some parts of the world. We are all dying to read of their experiences in Burma. If they were anything like their time in YA... it will be a terrific story. QSL Romeo Stepanenko, Box 812, Sofia 1000, Bulgaria (be generous, this was a very expensive DXpedition).

**St. Brandon** .. Jacky, (3B7/3B8CF) was active on RTTY from the first day of his expedition with good signals to most parts of the world. He is a good operator and controlled the pileups well. Unfortunately, for the SSB DXers he spent most of his time on nets and many of us with "pure" DXCCs were not able to catch him operating freestyle. Maybe next time. QSL Jacky at his callbook address.

**Kaliningrad** .. Alex, UL7PCZ, operated the UZ2FWA club station as UW2F during the contest, and later as RA2/UL7PCZ to the delight of many on the US west coast, and elsewhere judging from the pileups. Alex should have done well in the contest. QSL his callbook address.

**Antigua** .. Eddie, G0AZT, and Don, AA5AU, were a hot item during the contest from V2. Surely a good score.

**Montserrat** .. VP2M/G0AZT, was a popular call in the days following the contest as Eddie and Don provided some of us yet another "new one." Notice how they never go anywhere cold? Thanks guys... don't forget Navassa is a nice warm place too... although the hotel is not quite as nice.

**Albania** .. Luciano, I5FLN, made the trip to Tirana to activate ZA1A for us. He had several great days and was banging out the QSOs at a furious pace on all three high bands for most areas. Thanks Luciano... cards are in the mail... hi hi!

**Southern Sudan** .. Dennis, ST0DX, was heard occasionally in September. Unfortunately, he was listening on his own frequency and without a few kilowatts to keep order he was quickly buried by the pileups. If someone has contact with Dennis, please ask him to operate split. Going split will increase his QSO rate to one every minute or two.

The International RTTY DX Association (IRDXA) has a number of interesting projects underway.

**Clipperton .. WA2WIJ, will join the Clipperton Club DXpedition to this infrequent RTTY location in the Spring of 1992. He will carry one of the IRDXA Hal Telereaders.**

**South Sandwich** .. One of the IRDXA Hal Telereaders is on the boat now, enroute to the March 92 DXpedition.

**San Felix** .. John, XQ0X, has been trained to use the IRDXA furnished KAM with an IBM PC provided by Don, CE3GDN, and is enroute to the island as this is being written. Expect to see John's signal around the 13th of October. Thanks also to Mickey CE3ESS for help with the training and QSL chores.

**South Orkney** .. IRDXA is shipping a RTTY set to Brian, VP8CFM, via Bob, VP8FH, in Port Stanley. If we are lucky, Bob will be able to make the transfer to the South Orkney supply boat in mid November and Brian may be on as early as mid December. Please remember, many of these IRDXA operations are expensive. For example the freight alone for the South Orkney effort will be on the order of $150.

Over the past four years IRDXA has activated 24 countries... including 15 "All Time New Ones!" If you enjoyed working some of them, perhaps you would also enjoy knowing your greenstamps "$" helped. Send your donations to IRDXA, 356 Hillcrest Street, El Segundo, CA 90245 USA.

Other currently active IRDXA stations include 7Q7LA, 3B9FR, 4K2OIL, ZD9BV and P29BT.

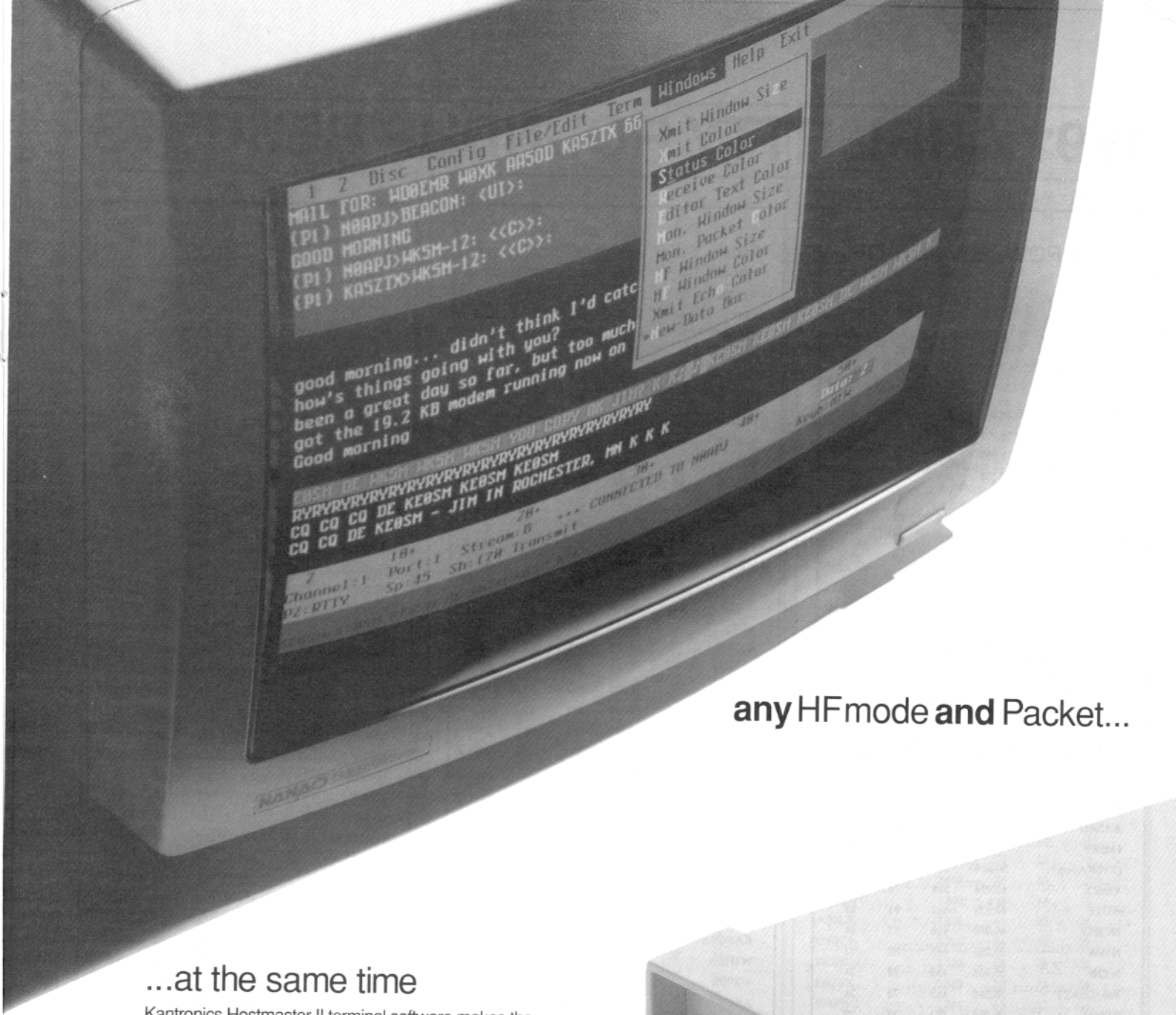
## SERMON

Over the past few months, we have all had a chance to watch what happens to ST0DX whenever he comes up on RTTY.

Yes, it is a shame he is trying to operate transceive on his own frequency, and yes, it is a shame he doesn't have the benefit of a commanding signal... but that is not the real reason we have not all worked Dennis. The real reason, is that we act like fools and bury him in a never ending pileup... in other words, we are fouling our own nest. Even birds don't do that! It does not take a rocket scientist to figure out that the way to deal with the situation is to make a short call, then shut up and let him work someone. Pretty soon, it will be your turn. But if we just drive him off the air with a sound trashing... can we expect him to keep coming back? Probably not!

On the other hand, Luciano, I5FLN, was knocking off QSO's at the rate of one every 30 seconds operating split from ZA1A. At that rate, he could work the 600 or so truly serious RTTY DXers in about 5 hours. But we are forcing Dennis off the air after just a few contacts, and he doesn't come back for a week or two. What are the odds he will ever work us all? Not good! It seems to me there is a fine line between enthusiasm and foolishness. Good DX, cu in the pileups.

de **Don, W6PQS** ■




## **any** HF mode **and** Packet...

## ...at the same time

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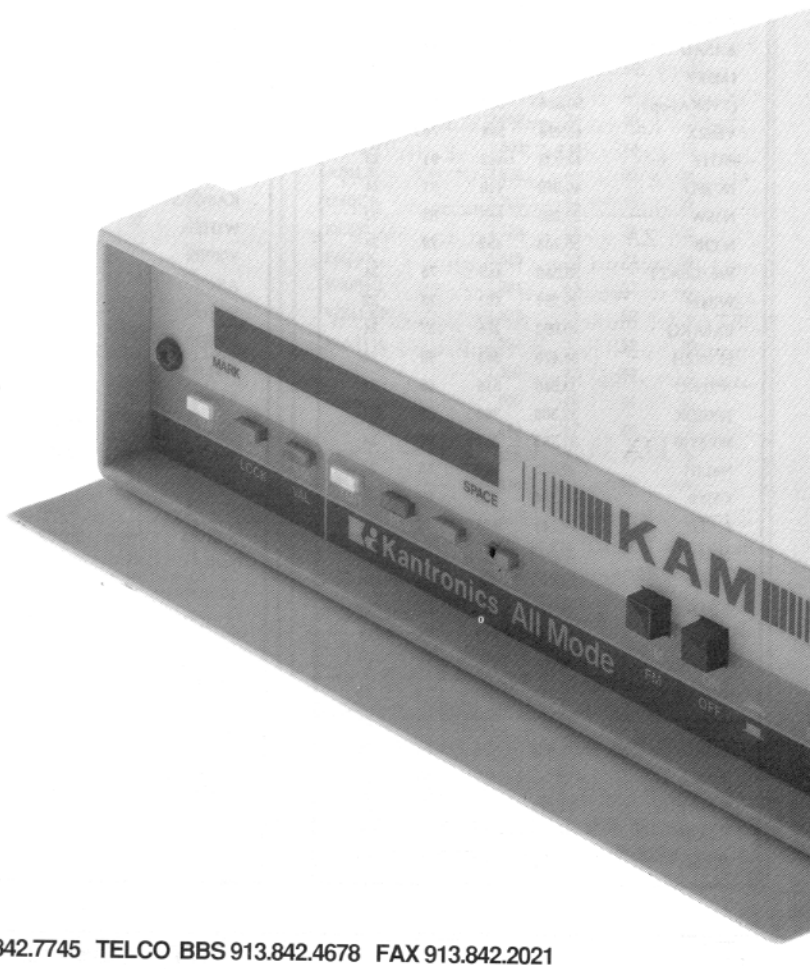
Now with KAM version 4.0 firmware, you can operate CW, RTTY, FEC, ARQ, packet or copy NAVTEX on HF and packet on VHF/UHF simultaneously. Toggle back and forth between any HF mode and packet, view monitored and connected packets and HF data at the same time, or output text to your printer.

Additional features like scroll back for monitor/receive windows, built in text editor and multiple user programmable buffers which can be sent with a single keystroke enable you to easily run multi-channel and multi-mode whether you are a beginner or an expert.

The Host Master II /KAM all mode combination. The next step in the state of the art from Kantronics.




**Kantronics 1202 E. 23rd St., Lawrence, KS 66046 913.842.7745 TELCO BBS 913.842.4678 FAX 913.842.2021**

# 1991 ARRL RTTY ROUNDUP RESULTS

## LOW POWER MULTI-OP

| | Score | QSO | Mult | Hrs |
|---|---|---|---|---|
| WB7AVD | | | | |
| (+WS7I,WV7Y) | 59,660 | 628 | 95 | 24 |
| NJOM (+ops) | 54,426 | 579 | 94 | 24 |
| W5VZF | | | | |
| (+KB4HB, WA4DDE) | 19,241 | 271 | 7 | 24 |
| KB5ILS (+KB5ILT) | 14,904 | 276 | 54 | 17 |
| WM9M (+OPS) | 13,980 | 233 | 60 | 21 |
| KC9NG (+OPS) | 12,154 | 206 | 59 | 21 |
| VE3UR | | | | |
| (+VE3s,NIT,ZAB) | 11,285 | 185 | 61 | 24 |
| K0OZ (+NF0Q) | 10,065 | 165 | 61 | 21 |
| N4UBW (+AB4TC) | 5,720 | 104 | 55 | 23 |
| WA3BAT | | | | |
| (+NZ3Q, W3FZR,) | 3,154 | 83 | 38 | 22 |
| KB4FEN (+KA4WOC) | 1,947 | 59 | 33 | 10 |
| K3UA (+NET) | 484, | 22 | 22 | 4 |
| N4JYX/T (+N4YOD) | 266 | 19 | 14 | 13 |

## LOW POWER SINGLE

| | Score | QSO | Mult | Hrs |
|---|---|---|---|---|
| KE0KB | 58,590 | 630 | 93 | 24 |
| AA5AU | 53,240 | 605 | 88 | 24 |
| 4M5RY | | | | |
| (YV5KAJ-op) | 50,666 | 517 | 98 | 24 |
| VE6ZX | 43,956 | 594 | 74 | 23 |
| NO1Y | 42,133 | 463 | 91 | 23 |
| KC2FD | 40,040 | 440 | 91 | 24 |
| N1SW | 39,355 | 463 | 85 | 22 |
| NT3B | 35,708 | 452 | 79 | 24 |
| W6/G0AZT | 35,340 | 465 | 76 | 24 |
| WB4M | 35,259 | 483 | 73 | 22 |
| EA8AKQ | 35,052 | 276 | 127 | 24 |
| FF1NZH | 34,470 | 383 | 90 | 24 |
| W7LHO | 33,540 | 516 | 65 | 24 |
| W9KDX | 32,300 | 380 | 85 | 21 |
| WB8YJF | 31,132 | 362 | 86 | 24 |
| N4LIH | 29,070 | 342 | 85 | 24 |
| K4JYS | 28,188 | 324 | 87 | 20 |
| KA7T | 27,744 | 408 | 68 | 24 |
| N3UN | 27,720 | 330 | 84 | 17 |
| KP4FP | 26,980 | 355 | 76 | 20 |
| KD4W | 25,949 | 337 | 77 | 24 |
| WB2ZQP | 24,948 | 324 | 77 | 23 |
| WA3Q | 24,450 | 326 | 75 | 17 |
| WB8WRY | 24,192 | 336 | 72 | 22 |
| NM3E | 23,141 | 317 | 73 | 24 |
| AG9S | 22,923 | 283 | 81 | 18 |
| KF0LZ | 22,914 | 402 | 57 | 24 |
| KA4RRU | 22,344 | 294 | 76 | 24 |
| G0ARF | 22,268 | 293 | 76 | 20 |
| WK5M | 21,630 | 309 | 70 | 23 |
| W9XU | 21,390 | 310 | 69 | 24 |
| VE3OCX | 21,360 | 267 | 80 | 21 |
| AL7BK | 21,240 | 360 | 59 | 16 |
| K9BX | 20,424 | 276 | 74 | 24 |
| KK4DK | 20,264 | 298 | 68 | 20 |
| PA3DBS | 20,090 | 287 | 70 | 24 |
| WD7I | 19,980 | 333 | 60 | 24 |
| KA1SDI | 19,500 | 260 | 75 | 23 |
| WM2U | 19,296 | 288 | 67 | 24 |
| W0YHE | 19,045 | 293 | 65 | 20 |
| WF1F | 18,840 | 314 | 60 | 20 |
| N1AFG | 17,920 | 256 | 70 | 22 |
| WA3ZKZ | 17,621 | 263 | 67 | 18 |
| KA0SIX | 16,980 | 283 | 60 | 21 |
| VE7SSS | 16,756 | 284 | 59 | 24 |
| N2EIK | 15,540 | 259 | 60 | 24 |
| KX2A | 15,450 | 206 | 75 | 17 |
| N1FIO | 15,312 | 232 | 66 | 17 |
| AE0Q | 15,138 | 261 | 58 | 20 |
| N8FEH | 15,120 | 210 | 72 | 23 |
| AB0Y/4 | 15,048 | 198 | 76 | 22 |
| N7GVV | 14,697 | 213 | 69 | 19 |
| WJ1Y | 14,559 | 211 | 69 | 24 |
| VE6KRR | 13,992 | 264 | 53 | 24 |
| KM4IG | 13,860 | 210 | 66 | 22 |
| WA3UXZ | 13,746 | 237 | 58 | 24 |
| KF6HI | 13,702 | 221 | 62 | 20 |
| KD2XN | 13,333 | 199 | 67 | 15 |
| EA6ZP | 13,224 | 152 | 87 | 24 |
| N0FMR | 12,712 | 227 | 56 | 21 |
| K7NHA | 12,711 | 223 | 57 | 10 |
| WB5ASP | 12,426 | 218 | 57 | 24 |
| WB3ETY | 12,376 | 221 | 56 | 14 |
| KA8WAS | 12,350 | 190 | 65 | 24 |
| W1HFN | 12,139 | 199 | 61 | 19 |
| W8PBX | 11,904 | 192 | 62 | 18 |
| AB4SF | 11,644 | 164 | 71 | 19 |
| W6IWO | 11,591 | 173 | 67 | 13 |
| VP2EE | 11,286 | 209 | 54 | 24 |
| W8LNK | 10,478 | 169 | 62 | 21 |
| KI4MI | 10,360 | 148 | 70 | 17 |
| WA4MCZ | 10,318 | 154 | 67 | 12 |
| WA0QIT | 10,192 | 196 | 52 | 17 |
| N2KAD | 10,140 | 195 | 52 | 21 |
| K1HKI | 10,120 | 184 | 55 | 24 |
| KE4BM | 10,032 | 176 | 57 | 18 |
| NJ1H | 9,990 | 185 | 54 | 18 |
| K0VW | 9,310 | 190 | 49 | 11 |
| AB4GR | 9,169 | 173 | 53 | 24 |
| WA3MKB | 9,150 | 183 | 50 | 14 |
| WA4BHK | 9,145 | 155 | 59 | 22 |
| K9RRB/3 | 9,145 | 155 | 59 | 22 |
| WA6ILT | 8,957 | 169 | 53 | 20 |
| HL9RY | 8,925 | 175 | 51 | 15 |
| HK3AHM/1 | 8,820 | 180 | 49 | 24 |
| SP3BGD | 8,784 | 144 | 61 | 24 |
| VE3QO | 8,680 | 155 | 56 | 21 |
| WA3GGM | 8,256 | 172 | 48 | 22 |
| VE2OWL | 8,160 | 160 | 51 | 20 |
| W1VXV | 8,092 | 119 | 68 | 24 |
| OK2BXW | 7,920 | 132 | 60 | 24 |
| G4UZN | 7,808 | 128 | 61 | 24 |
| YS/WD4IFN | 7,350 | 150 | 49 | 24 |
| WA0GMX | 7,222 | 157 | 46 | 15 |
| NY1V | 7,089 | 139 | 51 | 16 |
| VE3ATT | 6,962 | 118 | 59 | 24 |
| WA6FIT | 6,820 | 124 | 55 | 8 |
| KD2BW | 6,576 | 137 | 48 | 15 |
| N3FOG/T | 6,336 | 144 | 44 | 16 |
| N3GWV | 6,302 | 137 | 46 | 16 |
| EI3GC | 6,292 | 121 | 52 | 24 |
| WA2EYA | 6,150 | 123 | 50 | 15 |
| WA9AQE | 6,136 | 104 | 59 | 10 |
| W7DBV | 6,116 | 139 | 44 | 17 |
| WB2DZH | 6,105 | 111 | 55 | 24 |
| KD7H | 5,985 | 133 | 47 | 13 |
| KA1FHD | 5,922 | 126 | 47 | 13 |
| WA8FLF | 5,916 | 116 | 51 | 17 |
| N6TTO | 5,904 | 123 | 48 | 7 |
| KL7TF/4 | 5,750 | 115 | 50 | 17 |
| N5NUG | 5,676 | 129 | 44 | 22 |
| NJ8M | 5,440 | 136 | 40 | 24 |
| IO0KHP | 5,304 | 104 | 51 | 12 |
| K2SHL | 5,243 | 107 | 49 | 12 |
| W9FXV/1 | 5,220 | 116 | 45 | 18 |
| WA3SDV | 5,170 | 110 | 47 | 20 |
| GW0ANA | 5,049 | 99 | 51 | 12 |
| OK1DIG | 4,922 | 107 | 46 | 24 |
| JR4GPA | 4,859 | 113 | 43 | 24 |
| N6RJB | 4,770 | 106 | 45 | 24 |
| W2KHQ | 4,600 | 92 | 50 | 12 |
| WE0Q | 4,578 | 109 | 42 | 13 |
| AH6IX | 4,472 | 104 | 43 | 16 |
| N1AKS | 4,416 | 96 | 46 | 15 |
| NH6VT | 4,400 | 110 | 40 | 24 |
| KB5F | 4,284 | 119 | 36 | 15 |
| WB5IGF | 4,264 | 104 | 41 | 8 |
| WN1E | 4,042 | 94 | 43 | 14 |
| KI7Y | 4,032 | 96 | 42 | 16 |
| K4FPF | 4,004 | 91 | 44 | 8 |
| NR5Z | 3,895 | 95 | 41 | 17 |
| WD9FTZ | 3,870 | 86 | 45 | 11 |
| VE3IR | 3,850 | 70 | 55 | 24 |
| KG2H | 3,822 | 91 | 42 | 8 |
| N5NA | 3,800 | 100 | 38 | 17 |
| KG5RM | 3,774 | 111 | 34 | 12 |
| AL7MK | 3,663 | 99 | 37 | 24 |
| N3KAW/T | 3,496 | 92 | 38 | 17 |
| K9JNB | 3,239 | 79 | 41 | 13 |
| KC6BZO | 3,081 | 79 | 39 | 5 |
| N8LAZ | 3,040 | 80 | 38 | 10 |
| VK3EBP | 2,967 | 69 | 43 | 17 |
| WA3SCW | 2,812 | 74 | 38 | 24 |
| WB8STD | 2,808 | 72 | 39 | 9 |

| | Score | QSO | Mult | Hrs |
|---|---|---|---|---|
| K5TU | 2,775 | 75 | 37 | 24 |
| W2JGR | 2,775 | 75 | 37 | 6 |
| W8UMD | 2,736 | 76 | 36 | 17 |
| KZ3X | 2,665 | 65 | 41 | 15 |
| HE7CEY | 2,640 | 60 | 44 | 24 |
| KN3P | 2,624 | 64 | 41 | 24 |
| KH6CP/1 | 2,555 | 73 | 35 | 7 |
| LA0BX | 2,535 | 65 | 39 | 14 |
| WA0WHT | 2,520 | 70 | 36 | 14 |
| K7JRN | 2,448 | 72 | 34 | 16 |
| KD0RN | 2,442 | 66 | 37 | 16 |
| WB8TTWS | 2,432 | 76 | 32 | 3 |
| KW3U | 2,418 | 62 | 39 | 9 |
| WB0QIR | 2,370 | 79 | 30 | 11 |
| N1FKR | 2,291 | 79 | 29 | 13 |
| WA4OPV | 2,278 | 67 | 34 | 18 |
| W2HCA | 2,275 | 65 | 35 | 12 |
| KD2NF | 2,232 | 62 | 36 | 6 |
| KI5GX | 2,205 | 63 | 35 | 7 |
| KS4S | 2,204 | 58 | 38 | 15 |
| KK7A | 2,145 | 65 | 33 | 4 |
| KF8ES | 2,135 | 61 | 35 | 7 |
| KD9HT | 2,100 | 60 | 35 | 14 |
| G4XDD | 2,088 | 58 | 36 | 24 |
| KE9CU | 2,077 | 67 | 31 | 24 |
| KB2SE | 2.016 | 48 | 42 | 24 |
| KA8OUT | 1,925 | 55 | 35 | 11 |
| NN9Y | 1,829 | 59 | 31 | 7 |
| ND2K | 1,800 | 50 | 36 | 3 |
| NI1L | 1,767 | 57 | 31 | 10 |
| W0EGV | 1,764 | 63 | 28 | 16 |
| N5NMX | 1,705 | 55 | 31 | 12 |
| WA9ZXM | 1,682 | 58 | 29 | 7 |
| SM6BUV | 1,680 | 48 | 35 | 24 |
| N9GNQ | 1,596 | 57 | 28 | 6 |
| W8IDM | 1,595 | 55 | 29 | 8 |
| WD6FYJ | 1,568 | 56 | 28 | 14 |
| N7IXI | 1,550 | 50 | 31 | 6 |
| N7AQX | 1,484 | 53 | 28 | 10 |
| N0HXZ | 1,479 | 51 | 29 | 12 |
| N0KXH/TT | 1,430 | 65 | 22 | 13 |
| W1UDB/4 | 1,326 | 51 | 26 | 24 |
| VE6SH | 1,320 | 44 | 30 | 6 |
| WA8OJR | 1,280 | 40 | 32 | 5 |
| VE2FFE | 1,269 | 47 | 27 | 24 |
| WA8MEM | 1,147 | 37 | 31 | 7 |
| WB8SVK | 1,131 | 39 | 29 | 4 |
| VE2GDZ | 1.066 | 41 | 26 | 24 |
| K2RYI | 966 | 42 | 23 | 8 |
| KA1SSU/T | 925 | 37 | 25 | 7 |
| SP2UUU | 924 | 33 | 28 | 24 |
| W8EXI | 782 | 34 | 23 | 8 |
| WA8OUI | 779 | 41 | 19 | 7 |
| KA2WYE | 629 | 37 | 17 | 16 |
| N8IRS/T | 476 | 28 | 17 | 6 |
| AB4BZ | 456 | 24 | 19 | 4 |
| WB0Z | 450 | 25 | 18 | 5 |
| W3TUX | 450 | 25 | 18 | 5 |
| KB0UZ | 442 | 26 | 17 | 11 |
| VK2BQS | 432 | 24 | 18 | 24 |
| KC1SP | 414 | 23 | 18 | 6 |
| N2DCH | 408 | 24 | 17 | 24 |

| | Score | QSO | Mult | Hrs |
|---|---|---|---|---|
| KN5W | 396 | 22 | 18 | 9 |
| LA5RBA | 384 | 24 | 16 | 8 |
| WA3DAZ | 357 | 21 | 17 | 2 |
| JA3BSH | 300 | 20 | 15 | 11 |
| N6WDT | 204 | 17 | 12 | 5 |
| NF1J | 195 | 15 | 13 | 2 |
| KB5OHG/N | 171 | 19 | 9 | 6 |
| WA4DYD | 156 | 13 | 12 | 24 |
| KB2BBW/T | 120 | 12 | 10 | 3 |
| KA3TOV/T | 119 | 17 | 7 | 5 |

## HIGH POWER MULTI

| | Score | QSO | Mult | Hrs |
|---|---|---|---|---|
| WA7EGA (ops) | 69,936 | 752 | 93 | 24 |
| KY1F (+KA1RJJ, KD3HN) | 38,982 | 534 | 73 | 16 |
| JJ3YBB (+ops) | 36,036 | 273 | 132 | 14 |
| UZ0CWA (+ops) | 26,690 | 314 | 85 | 24 |
| NL7HP (+NL7RT) | 24,367 | 413 | 59 | 24 |
| W7ZAC (+ops) | 22,680 | 378 | 60 | 19 |
| WA0VQR (+WA0VPK) | 11,773 | 193 | 61 | 13 |
| KC1BS | 4,116 | 84 | 49 | 9 |

## HIGH POWER SINGLE

| | Score | QSO | Mult | Hrs |
|---|---|---|---|---|
| W3LPL (W3EKT,op) | 73,359 | 741 | 99 | 24 |
| WF1B | 69,387 | 687 | 101 | 24 |
| VE7ARS | 66,555 | 765 | 87 | 24 |
| KP2N | 64,848 | 772 | 84 | 22 |
| WF5E | 59,032 | 628 | 94 | 24 |
| AA4M/6 | 55,000 | 625 | 88 | 21 |
| N6GG | 53,037 | 639 | 83 | 24 |
| AA4TH | 51,069 | 587 | 87 | 24 |
| WF5T | 43,624 | 532 | 82 | 24 |
| K6WZ | 40,670 | 490 | 83 | 22 |
| 9L1US | 38,802 | 446 | 87 | 24 |
| NO2T | 36,855 | 405 | 91 | 24 |
| WA1WIA | 35,673 | 517 | 69 | 20 |
| W8MQK | 35,506 | 433 | 82 | 22 |
| AL7LB | 34,788 | 446 | 78 | 24 |
| W1BYH | 34,443 | 387 | 89 | 20 |
| NQ6C | 32,640 | 480 | 68 | 21 |
| AL7BB | 30,360 | 440 | 69 | 24 |
| N2FF | 29,963 | 361 | 83 | 22 |
| W4TOY | 28,080 | 360 | 78 | 19 |
| N9ITX | 26,860 | 316 | 85 | 21 |
| K5ALU | 25,280 | 316 | 80 | 21 |
| WB2EAR | 25,258 | 346 | 73 | 18 |
| WI1Y | 23,944 | 328 | 73 | 15 |
| KB9DO | 23,634 | 303 | 78 | 24 |

| | Score | QSO | Mult | Hrs |
|---|---|---|---|---|
| N2HOS | 22,185 | 261 | 85 | 13 |
| KA1BVM | 19,776 | 309 | 64 | 16 |
| KB4GID | 18,772 | 247 | 76 | 14 |
| NX1T | 18,304 | 286 | 84 | 19 |
| KN4IC | 18,180 | 303 | 60 | 21 |
| N9CCI | 18,135 | 279 | 65 | 18 |
| KN4CG | 17,018 | 254 | 67 | 19 |
| OH2LU | 16,724 | 226 | 74 | 16 |
| WA4SSB | 15,519 | 235 | 66 | 24 |
| W2DNO | 15,330 | 210 | 73 | 24 |
| OH2BP | 15,232 | 224 | 68 | 24 |
| K0EU | 13,668 | 201 | 68 | 10 |
| HA5CP | 12,144 | 184 | 66 | 24 |
| KB2R | 12,006 | 207 | 58 | 24 |
| W3FV | 11,820 | 197 | 60 | 24 |
| W9RXJ | 9,548 | 153 | 62 | 15 |
| IK0CNA | 8,265 | 145 | 57 | 24 |
| WV0P | 7,728 | 161 | 48 | 19 |
| SM3RGD | 7,436 | 143 | 52 | 24 |
| KA1LMR | 7,280 | 140 | 52 | 15 |
| WB3AVN | 7,072 | 136 | 52 | 4 |
| KD9BC | 6,669 | 117 | 57 | 24 |
| WA1IML | 6,448 | 124 | 52 | 15 |
| LU9DBK | 6,027 | 123 | 49 | 11 |
| 4Z8OTA (4X6UO) | 5,014 | 109 | 46 | 24 |
| AA2Z | 4,995 | 111 | 45 | 3 |
| AH6JF | 4,961 | 121 | 41 | 14 |
| WD4JBL | 3,900 | 100 | 39 | 14 |
| KE9A/DU3 | 3,528 | 98 | 36 | 24 |
| IK0CNA | 3,404 | 92 | 37 | 24 |
| WB6SMX | 3,403 | 83 | 41 | 16 |
| KB0AIT | 3,124 | 71 | 44 | 24 |
| JA9MJR | 3,120 | 65 | 48 | 24 |
| K8CV | 3,096 | 72 | 43 | 7 |
| N8KHS | 2,738 | 74 | 37 | 10 |
| WA5VBE | 2,660 | 76 | 35 | 7 |
| WA5JWU | 2,508 | 66 | 38 | 12 |
| AB4LX | 2,508 | 66 | 35 | 24 |
| N9BCA | 2,240 | 64 | 35 | 15 |
| KE0YG/F | 2,178 | 66 | 33 | 24 |
| F6GVK | 1,815 | 55 | 33 | 24 |
| W8PHG | 1,701 | 63 | 27 | 24 |
| WB4LKP | 1,632 | 51 | 32 | 6 |
| WA3VIL | 1,596 | 57 | 28 | 10 |
| W9IL | 1,260 | 42 | 30 | 3 |
| LZ1KXA | 945 | 45 | 21 | 24 |
| OZ7XE | 893 | 47 | 19 | 6 |
| SM4CMG | 420 | 21 | 20 | 5 |
| SP3XR | 336 | 28 | 12 | 24 |

*CHECK LOGS*

G4SKA, HK1LDG, SM6EZI, WA3YTE

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# OMNI - D Automatic Mode Switch

## Problem

Having to change modes, SSB-N to SSB-R, when going from twenty to forty meters using my Ten-Tec OMNI-D on RTTY.

Several times with the old Ten-Tec OMNI -D, I found myself wondering why I couldn't copy a strong signal. Then I would realize that I hadn't made the corresponding mode change when I switched bands. Something had to be done to keep from getting frustrated over the need to always change modes when going from forty to twenty and vice versa.

Criteria: "for this Something had to be done" were:

1. Simple
2. No new holes in the OMNI-D
3. No relays
4. Use parts on hand
5. Mode switch functions to remain as marked

## Circuit Installation

The automatic mode switch circuit uses two inputs. The first is the +13 volts going to the noise blanker switch on the front panel. This voltage can be readily picked up at the noise blanker socket. Just find the socket terminal that has the +13 volts when the noise blanker switch is on.

The other sensing point comes from the bandswitch on the VFO MIXER/OSCILLATOR board, #80455. Actually, it's obtained from the 14-28 MHz terminal on the side of the board. When the bandswitch is in any of the 14-28 MHz. positions, this terminal is +13 volts. Again, find the terminal on the side of the MIXER/OSCILLATOR board that has the +13.8 volts when the bandswitch is in a 14-28 position.

Next, the control voltages from the mode switch need to be modified so they will correspond to the condition of the inputs to the automatic mode switch. These modifications are simple and easily made.

First, locate the SSB GENERATOR board, #80449, and remove it. This allows you to get to the mode switch and a terminal on the board connectors socket.

Attach a wire from the output of the automatic mode switch circuit to the LSB terminal on the SSB GENERATOR board connectors socket.

Finally, locate mode switch S3B poles SB-N terminal (see Fig.1). The SB-N terminal has +13.8 volts on it.

Once located, cut the wire going to it. (A red wire goes to this terminal on my OMNI-D.) Splice a wire to the wire going to the SB-N terminal on the mode switch and run it to the LSB terminal on the SSB GENERATOR board connectors socket. Tape the other end of the wire that was cut.

After a suitable Vcc and ground are found in the OMNI-D for the automatic mode switch, it should be mounted near the reinstalled SSB GENERATOR board.

## CIRCUIT DESCRIPTION

When the bandswitch is in any of the 14-28 MHz positions, current is available to the base of Q1, (Fig. 2.) This causes the automatic mode switch circuits output to always be HIGH even if the noise blanker switch is on.

If the bandswitch is in any other position, current isn't available to the base of Q1 and it is off. The output of the automatic mode switch circuit is now determined by the condition of Q2.

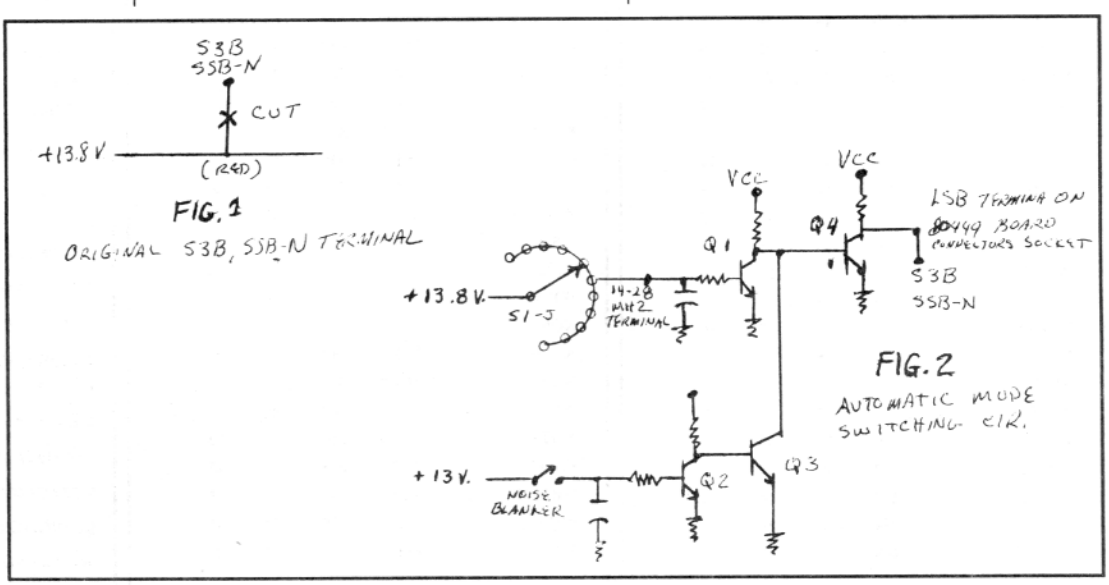
With the noise blanker switch on, current is available to the base of Q2, turning it on. Q3 is then turned off and the output is determined by the bandswitch position.

The circuit component values aren't critical. 2.2 K ohm, 1/4 watt, resistors were used throughout. The capacitors are 0.01 Mfd, disc ceramic. The transistors are TO-5 NPNs that were in my "junk box." Q4 should be capable of sinking approximately 100 ma. My construction is point to point on perf board material. The perf board is mounted on a standoff attached to a convenient screw protruding near the SSB GENERATOR board. Vcc is obtained from one of the auxiliary +13.8 volts output terminals.

## CONCLUSION

For one who is forgetful, this circuit has eased the frustration of using an older Transceiver. Hopefully, this circuit will stimulate other modification ideas by those who are using "vintage" equipment on RTTY.

*Submitted by:*
Michael Sims
410 Brooke Rd.
Fredericksburg, VA 22405



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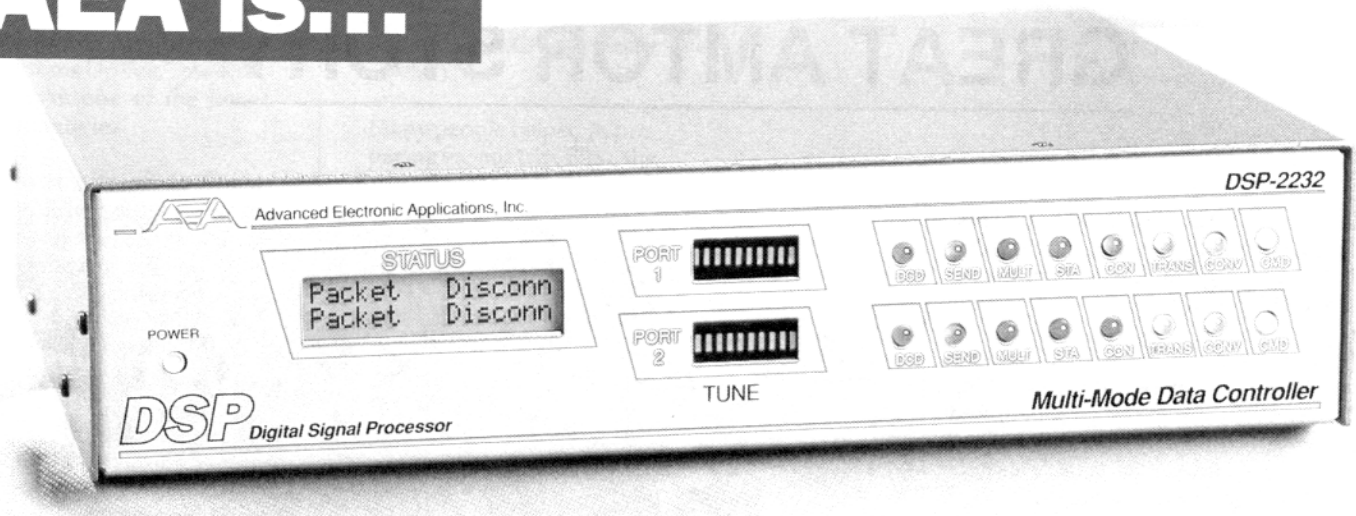


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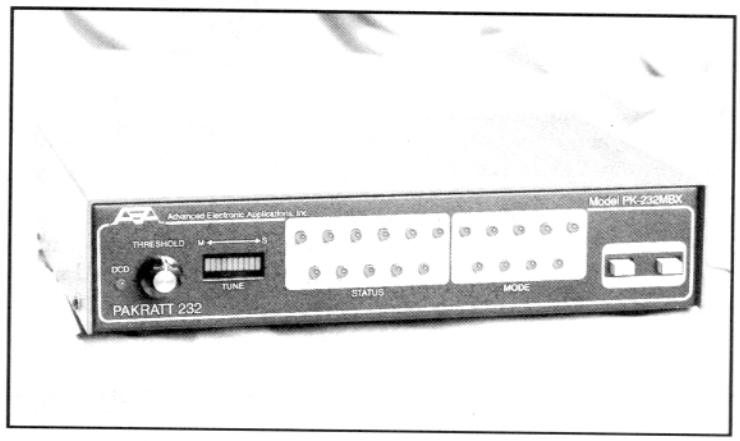


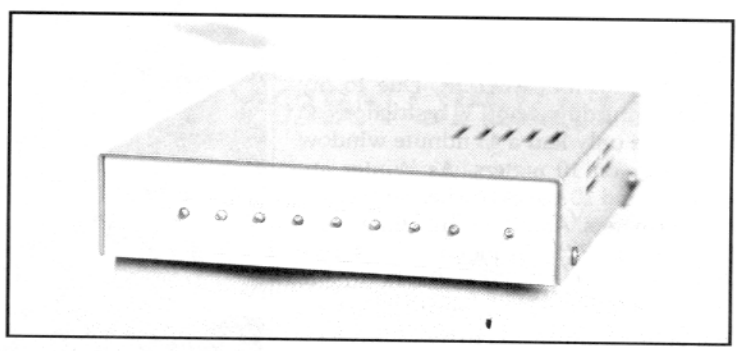

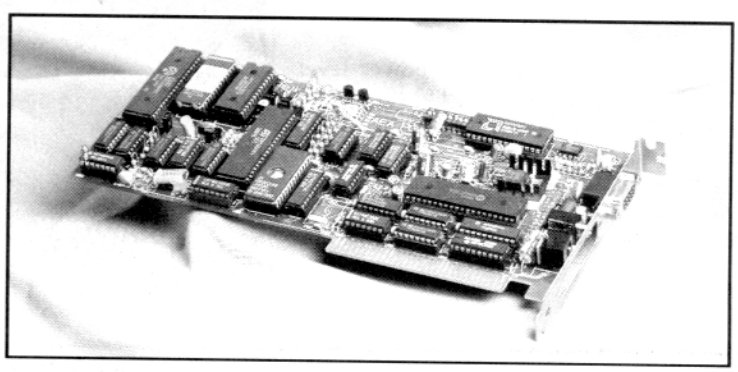

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# GREAT AMTOR STORY

It was the last part of March 1989. I had just finished a QSO with a JA on 10 meter AMTOR. As I was logging the contact, the rig started to chirp away.

Looking at the screen, I saw that someone was asking me about World Class Hiking in the Las Vegas area. Yes, I replied, Red Rock Canyon is noted for its hiking and climbing trails. He said that he and his wife would be in Las Vegas in about six months and asked if I would mind showing them around the trails and town in general. He signed as V85GA.

Looking in my 10 year old call book, I noticed that V85 was not even listed. "Where is V85 land?", I asked. He laughed (try that on AMTOR) and told me to guess.

I responded that I have talked to some people in the Caribbean, and they have calls like that. Hmmmmmm..., more laughter. Let's see, about ten years ago, I worked some guy on Christmas Island. His call began with a V, and had two numbers also. Hmmmmm..., (He's still laughing!)

That was the beginning of my friendship with Gerald, V85GA, and his wife, Carol, V85CA, on Brunei (in Malaysia), 800 miles north northeast of Jakarta, Indonesia, and 800 miles east northeast of Singapore, nearly half way around the world. (Picture 1)

Over the next six months we continued to meet of 10 meters AMTOR. Due to my working Saturdays, and TVI restrictions on Brunei, we only had a 45 minute window each week on 10 meters. As Winter approached and 10 started to die, we decided to try 20 meters. About the only time available was 1030Z. In Brunei, that was 1830 local time Sunday, right in the middle of prime time TV. For me, it meant 0330 local time Sunday, much too early to leave for church.

Gerald had to maintain his power level from 3 to 5 watts due to the TVI restriction (isn't AMTOR wonderful?) I ran my usual 35 watts out to the vertical. One to two hour QSOs were the norm. My only problem was staying awake during the church sermon four hours later!

*Picture 1 - QTH of Gerald, V85GA, Brunei, Malaysia. L. to R. Richard, KE7XO, XYL, Patti, Carol, V85CA, and Gerald, V85GA.*

Before we knew it, Gerald and Carol started their trip to the States. Although they only stayed with us for two days, we made the most of the time. As we sent them off, we received an invitation to visit Brunei. Four days in a rare DX country was too much for me to pass up. Patti, my XYL, and I started our plans for a visit to Brunei. A year later, we took off for Hong Kong, where we met Albert, V85PP, who has

*Radio station of Gerald, V85GA, in Brunei.*

lived there for 10 years. He took us to such places as the "Bottoms Up Bar," made famous in one of the James Bond movies.

Then it was off to Singapore, a few days rest, and then on to Brunei. About the time we arrived, Bob, N0OO, was departing. I managed a short QSO with him from East Malasia a few days later.

Our first night was at the Airport Restaurant. We enjoyed meeting a group of 15 Hams and spouses. I met interesting people and learned a great deal about their home countries.

The rest of my time was mainly spent working DX. Patti did manage to drag me off to town for some shopping, but, as you might imagine, I stuck steadfastly to the HF gear.

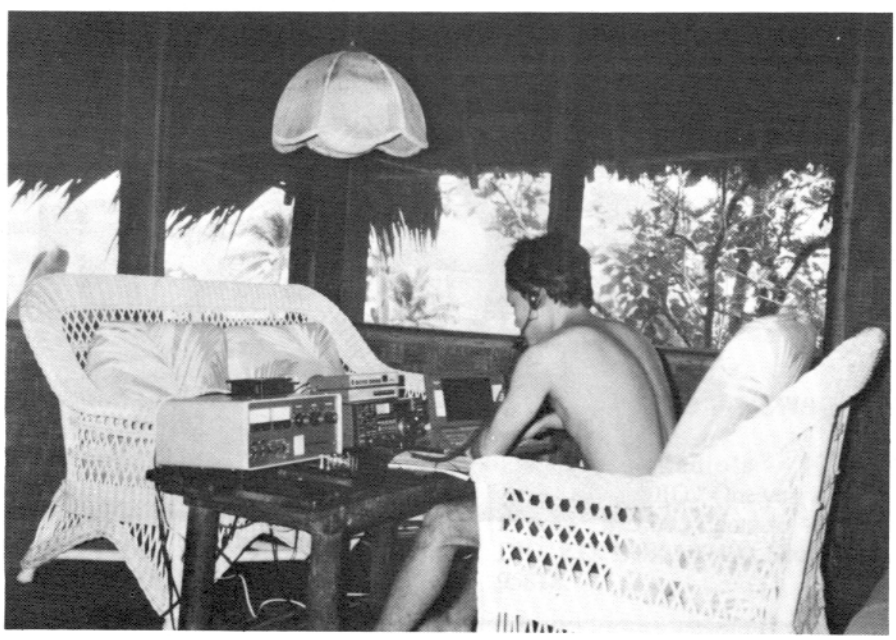
The pictures only show a small segment of the people and fun we had but, they do portray the important part of out trip - the folks we met. Working DX from overseas is truly fascinating. (I can tell you first hand, Packet Cluster really works.)

Many people helped in preparing for our trip. First, the APlink stations that moved messages from Brunei to Las Vegas in 9 hours, including VK2AGE, AH6D, and "Bud", N0IA, the APlink sysop here in Las Vegas. These guys went out of their way. Advanced Electronics Applications provided same day shipment to me of needed parts for a few of the Hams in Brunei. A big "thank YOU" to all the DX stations I worked while overseas who were first rate, never giving me a hard time, even though this was my first attempt at a major pileup.

And of course, many thanks to Gerald and Carol for letting us stay in their home. They are most gracious hosts.

*Submitted by:*
Richard Kulaga, KE7XO/V85XO
4741 Brushfire,
North Las Vegas, NV 89031-0111

*QTH of Gerald, V85GA, and Carol, V85CA, on Brunei*



# V63BN OPERATION

Takashi, JG1NBD, operated from V63BN, in Pompei late May 1990. Takashi later went on to S79NBD. RTTY was not his main thrust at Pompei but did have more than 200 QSOs, mostly with the USA. He mentions that conditions to Europe were very bad and therefore not much action with that area was possible.

The photo at left is from the V63BN operation. Takashi also hopes to work us from some other rare spot later this year or early next year. Good luck to Takashi and thanks for sharing your experience with us. You definitely made many DXers happy.

# TOURING KANTRONICS, LAWRENCE, KS. JUNE 1991

Your publisher Dale, W6IWO, and XYL, Faye, visited the Kantronics factory this Summer while on vacation. Thanks to Kantronics for letting us tour their fine facilities. My wife and I enjoyed the visit with both management and the plant employees.

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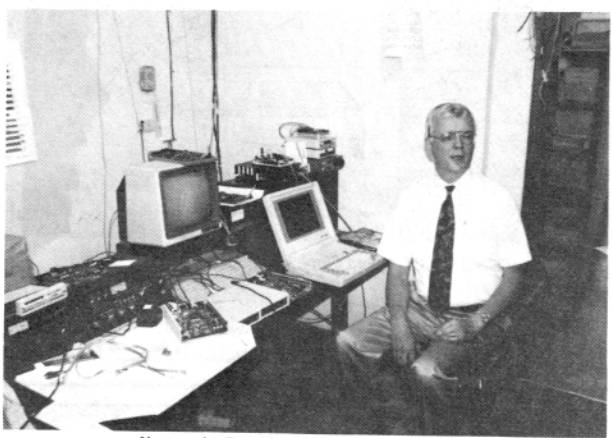

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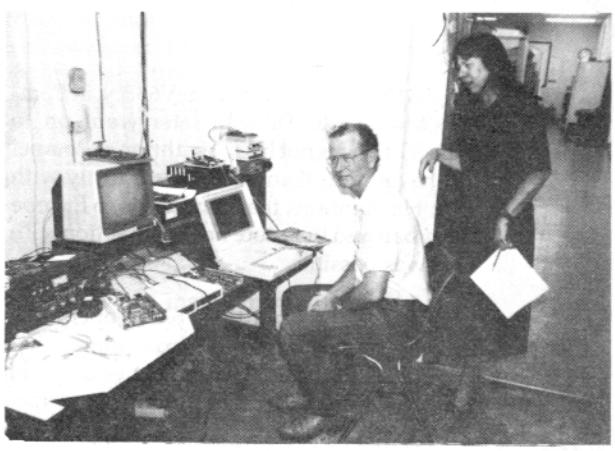

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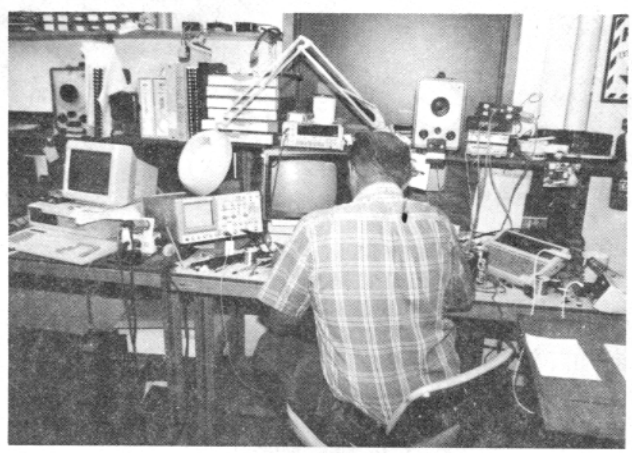

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