DIGITAL JOURNAL™

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PICNIC IN THE PARK

DXers enjoying a picnic in Syakuji Park near Tokyo. L. to R. JA1JDD, JA3DLE/1, JH1BIH, JA1DI. No doubt they are discussing some rare DX.

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RTTY JOURNAL

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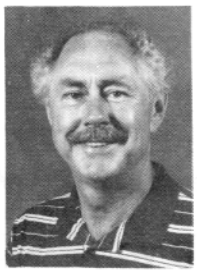

Hits & Misses

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ARRL Questionnaire

I have just received word that the digital survey on Unattended Automatic Operation will be published in the December issue of QST. The RTTY JOURNAL will also publish this very important survey form. I am informed you will have until January 15, 1992 to return the form to ARRL HQ in Newington. Please take the time you need to fill out the survey. This is a very important issue that will affect all of us in the future. Whether you use the form I publish in the RTTY JOURNAL or the one published in QST, is not important. It is important that you return the completed form before the deadline.

You have been asking for a long time to be a part of the decision making process at ARRL and now you have your chance. I cannot over-emphasize the importance of this form. Unattended Automatic Operation on the Ham bands will be affected by what you relate to the ARRL in your answers to the questions on the form. If you feel you need to say more, then simply add more pages and address the issue in more detail.

The RTTY JOURNAL has published many articles over the past year on this subject and the issues have not always been popular with all the readership but if you cannot say what is on your mind in some publication, then where do you turn. I accepted the challenge to publish the articles surrounding this important issue even at the risk of losing some of the readership. I now believe it has paid off. This time around you, the reader, can speak your piece about how you would like Unattended Automatic Operation on the bands to be handled. Don't let this opportunity pass you by, fill out the survey as soon as it is published and immediately return it. This is one time where you cannot say "Let George do it!", you must take the bull by the horns yourself. Don't let yourself down.

Over the years I have heard, on numerous occasions, that the ARRL does not listen to the rank and file. Whether or not this is true in some instances, it is not, in this case. The ARRL wants to listen to you this time and the Survey is your chance to speak up. As soon as the December issue of QST hits the streets, I hope all the SysOps have a file on this subject in their systems reminding everyone of the importance of filling out the survey form and returning it to ARRL HQ.

OUR ADVERTISERS

It seems that every month I run out of space in my own column and this month is no exception. But there are two things I want to mention this month, even if only briefly.

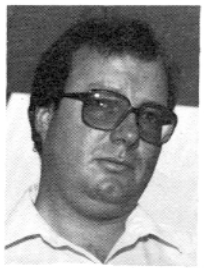
First, I would like for all to remember our advertisers when they plan to buy a new product. Without their support, we would not have this publication. The next time you buy a piece of gear that you read about here in the RTTY JOURNAL, please mention that you read about it here.

Second, I feel very fortunate to have such a fine staff of writers who unselfishly commit their time each month to keep you informed of what is happening in our digital arena. Take a little time and drop them a note thanking them or better still ask them to cover something of interest to you. They need your support just as much as I do. Maybe you have a story you would like to share with us all. Why not submit it and see what happens. I have published many of them over the past five years and there will be more but I can't do it without your input. Send me pictures of your shack, a mod you designed, a digital story, or your questions, and I'll do my best to give you recognition for your effort.

All for this month.

73 de **Dale, W6IWO** ■

Software



Jay Townsend, WS7I
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My Busy Month

Lots of fun and challenges occurred in the software arena over the past couple of months. This software reviewer had lots of fun and some challenging experiences.

CQWW RTTY was another fun event from the local contest station. Hal, WA7EGA, had a group of us typing and running software for many hours. A few even got in a NAP. Conditions were not great above 49 degrees North which is my part of the world, but it is still always fun.

David, WB2DZH, reported via packet that ARIES-2 and his ICOM 761 had a pretty good go in the CQWW RTTY from the Big Apple.

KC2HO sent in a bug fix for his CompRTTY II program just before the contest. Rumor has it that a HAL PCI 3000 version is well under way by KC2HO.

ACUTERM 0.454 arrived along with a call from the author as well. It's in the review stack.

I received a message on my phone BBS system that WF1B was very concerned about the comments made concerning his program in the September issue. It seems that one of my good friends Roy, KT1N, alerted him to the fact that the fine WF1B software wasn't working at my location. Goes to show you that if you don't subscribe to the RTTY Journal your information isn't very current. (As I related to you a couple of issues ago, programmers working with the AEA PAKRATT II software need to be aware of the steps that an end-user (YOU) might have to go through to get it from Host Mode into the various command modes. (I have very GOOD news on this see below.) I had a long telephone conversation with WF1B and I think and hope it was good for him. A reviewer sometimes thinks only of the little guy who is going to be using the program while the software authors perspective is often different. In this case the differences between versions of AEA PK232s led to a problem that hadn't occurred to many other users or in other tests. Roy thought I didn't like the software when actually, it may be the answer that many of you guys have been looking for. Today, I received another note in the mail relating still another problem with the disk label. Contact the author if all else fails.

Perhaps, at this point, a general discussion of multi-mode controllers is in order. To simplify the explanation, what we really have, is two computers trying to talk to each other. The Kantronics KAM, AEA PK232, HAL PCI-3000, and MFJ 1278 all have there own built-in computer which runs there respective software (instructions). The folks writing programs, write programs that interact with your computer and the computer in the box you are using. This is the reason so many fun things they can do are quite spectacular.

This makes the programmer who is writing code for many or all of the above boxes job, a lot more difficult. He or she has to figure out a lot of complicated things and often it requires the use of the actual box in order to get it done. This is why each combination presents so many difficult choices.

Dealing with the Manufacturer

This month I had the opportunity to deal with about five of the leading manufactures of digital devices and I think that it is very worthwhile to tell you of my experiences. It is even more enlightening since I am taking a professional Customer Service Course at work.

First, Kantronics sent me one of their KAMs for testing along with the HOST MASTER II version 2.0 software. This is the main part of this months review as well as at least another couple of months of reviews. I phoned them about a project I was working on relating to Packet. Usually I have a good idea of how to get through the phone gates and get some action. But having not had the need to call Kantronics for quite some time I was very impressed with the answers to my many questions. As I had not indicated to them that I was with the RTTY Journal like I usually do, it was even more impressive. Suggestions were made and advice given which was very helpful and very professional. They listen at Kantronics.

The second instance was a call to AEA which included the opportunity to use AEA's new phone system. John Downing, whom I contacted about the problem with Host Mode interaction and the WF1B program was as always, helpful. AEA has a new update to the PAKRATT II program which lets the user leave the device in HOST MODE or NON-HOST MODE. This corrects the problem that I was having with the PK232 and a lot of programs. John sent the program right over. I installed it and found a little bug for them. In this case, you must erase old versions of the program before installing a new one. This is especially true if they are almost the same. My computer locked up with lots of memory errors and was unusable. Deleting all the files in the directory and then re- loading the software cured the problem. John Downing of AEA had in the meantime sent over a new copy. This is another example of their fine customer service. In addition I installed the new EPROM (erasable programmable read only memory) chips and can now continue working with the PK232.

After installing the latest firmware for the PK232, I reviewed the latest enhancements. These enhancements include: AMTOR maildrop on HF, Packet Lite, PakMail, and baud changes for non-standard speeds. For more info call (800)432-8873. The release date is July 22, 1991. If you don't have the MBX model of the PK232 you will need booth the MBX daughter board and firmware.

The third chance I got this month was sending my HAL Communications ST6000 in for repair. After fighting with the unit for about a year, I finally boxed it up and requested repair. I had two ST6000s. Gave the one I got from Dale, W6IWO, to Ted, HC5K, a year ago because the second one had some intermittent problems. It was

finally time to get it in order. The ST6000 is my main test piece in the hardware department and all other software/hardware combinations are put up against the HAL unit. The HAL DSRTTY program is used almost everyday and is a benchmark. TO SUM UP, service from HAL is professional, complete, and boy, does the unit perform now. Many thanks to all at HAL for their efforts.

Customer service in the digital world is definitely alive and well. It is very nice to be associated in a small way with professionals. I can only say if your experiences haven't been positive then maybe you should call one of the above companies. By the way, they all advertise in the RTTY Journal.

SOFTWARE REVIEWS ARE ABOUT COMPLETED FOR WS7I

Amazing what fun things I have been able to do while reviewing software over the last couple of years. I plan for this review of the Kantronics KAM and in particular its HOST Mode software operation, to be the final review that I do. Dale has agreed that I can move on to interfacing and hardware hookup questions and advice. I will have to brush up on my technical abilities and get lots of advice but I'm ready to give it a try.

KANTRONICS — KAM A MULTI-MODE CONTROLLER

After years of discussions with one of my many friends from Ecuador I finally received the opportunity to take a detailed look at the KAM controller. The box arrived at work one day and I couldn't resist opening it, much like an early Christmas present. Good packing, lots of documentation, and a solid, heavy little case. Ted, HC5K, has ranted and raved about the Kantronics KAM for years and now I finally had one. The first thing I noticed was the power supply. Yes it comes with the unit.

Cables, Power, and Interface

This is where I always have to start a review. I can now hook up about anything to my ICOM 751A and one of my personal computers. Being from the old school, I quickly took the screws out of the KAM and added the two wires so that I can have scope output. I had just finished building the little scope that my friend Carl, K6WZ/0, described in last month's Journal. I just had to have a scope.

Well the old cable Gods got to me, again. First the RS232 cable to the computer was about two miles too short. And for this review I needed to hook up to VHF and HF at the same time so that the new HOST MASTER II software could be checked out. Well that was a bit of a problem because of the way my shack is setup. It became apparant I would have to move a couple of things around. Next, like all projects, I had to make a store run. Then out came the soldering iron to make up a couple of cables. Lucky for me the interface box allowed me to do the non-KAM ends to HT plugs. This actually has worked out pretty well and was an idea I got from the way that HAL Communications did their SPT-2 box for the PCI 3000.

Fire It Up

The KAM was fired up and put through a few of its paces. Since the HAL ST 6000 was still in the shop, I really didn't have much to compare it to. The filters and functions of the unit seem quite nice. The scope output at least on HF is a pretty good idea. The LEDs (light emitting diodes) work pretty good, but a scope pattern seems much better. The HOST MASTER II software manual was then consulted and it's a pretty smart piece of work.

Kantronics manuals are quite nicely bound and they have a number of different ones which cover the operation of the unit in good detail. They are : INSTALLATION, COMMANDS, and OPERATIONS that cover all these areas for the KAM, KPC-4, KPC-2400, KPC-2, and KPC-1. The Host Master II software also has its own manual. It includes a QUICK START page, a Quick Ref Manual and then a 22 page software guide. Unfortunately, these are just loose papers and aren't in the nicely bound and hole-punched style of the other manuals. There is also a nicely done template for both styles of keyboards. Both sizes of diskettes are included.

Next month I plan to detail the Host Master II software and run it through its paces with you. Keep the mail flowing and if anyone on this side of the pond has the BARTG Results I would appreciate a copy of the 1991 results.

73 de **Jay, Ws7i** ■

QSL Routes

3B8CF/3B7 Qsl Home Address of Set Woosankar, Mandary, Stri Road, Candos, Qatre Bornes, Mauritius Island

3B9FR BOX 31 RODREGUEZ, MAURITIUS

3D2RW Qsl Via ZL1AMO

5W1KM Qsl Via JR3OIB

6W6JX Qsl Via Box 10, Kaolak, Senegal

7Z1IS Qsl Via OE6EEG

8P9HR Qsl Via K4BAI

9K2ZZ Qsl Via W8CNL

9Y4VU Qsl Via W3EVW

C9RKL Kurt Nygren Box 2524, Mapu, MOZAMBIQUE

C9RTC Qsl Via IK8QIX

CO2JJ Qsl Via Box 1, Habana, Cuba

CU3LF Qsl Via KB3GG

EM3W Qsl Via WB2RAJ

HK3CAA/HR1 Box 3591, Tegucigalpa, Honduras

HL9HH Qsl Via UB5QDF

HS0ZAA Qsl Via KM1R

HV3SJ Qsl Via I0AOF

KC6DX Qsl Via JA2NVY

KG4DD Qsl Via N5FTR KG6DX Joe Chalmers, 93 Gardinia Ave, Latte Heights, Guam 96913

OD5SK Qsl Via KB5RA

RI1OA Qsl Via Box 9, Namangan, Uzbek 716000, USSR

ST0DX Qsl Via WA2NHA

TA7E Qsl Box 76, Trabzon, 61000 Turkey

TJ1GG Qsl Via I2EOW

V44KW Qsl Via WB2LCH

VP25EE Qsl Via KA3DBN

XQ0X Qsl Via CE3ESS

XY0RR Qsl Romeo Stepanenko, Box 812, Sofia 1000 Bulgaria

ZA1A Qsl NCDXF BOX 1, LOS ALTOS, CA 94023 USA

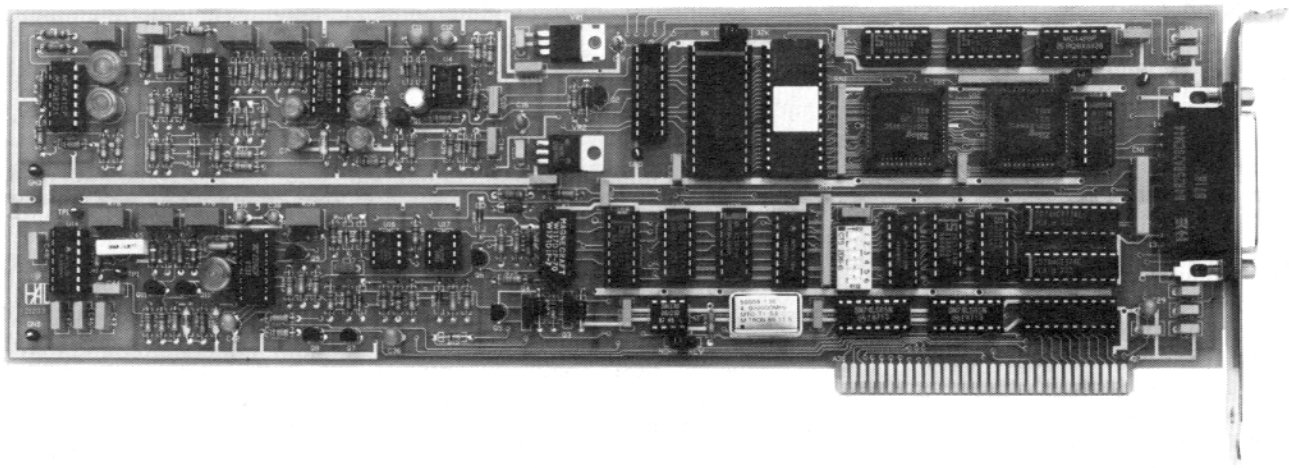
ZK1AP Qsl Via BOX 494, Rorotonga, COOK ISLANDS

Send any routes or changes to :

WV7Y@WS7I.WA.USA.NA

88 de **Betsy, WV7Y** ■

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!

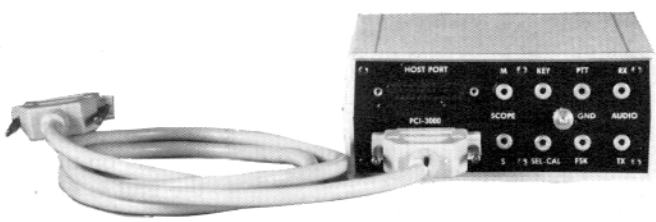
The PCI-3000 doesn't limit you to Amtor. You also get high-performance Baudot and ASCII RTTY, CW, and Search Mode. Search Mode lets you simply tune in the signal—we take it from there. The PCI-3000 automatically finds the correct code, speed, and polarity. No more guessing!

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.
P.O. Box 365
Urbana, IL 61801
Phone (217) 367-7373
FAX (217) 367-1701

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.)

PACKET

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ABOUT LAST MONTH

I hope that you found last month's column interesting. The article contained a drawing of a 3 1/2" floppy disk that was done with a drawing package I have here. Well, that program resided on the D drive but, unfortunately, the drive was a borrowed device and I gave it back to the owner. So, I had to decide what programs would have to be moved to the C drive while still others would be relegated to backup status. The graphics programs lost out here. Too bad. If everything turns out the way that it should, I will have a new disk drive in this crate. I'll then be able to turn out the graphics that are just as good, if not better than the 3 1/2" floppygraphic in the last issue.

Still, I hope that you have tried out the idea. It has worked for me here better than I had expected. It is beneficial to have a large amount of disks because it allows one to store one project per disk. I now have about 100 disks.

THIS MONTH

I was going to continue the subject of hooking up handhelds to TNCs and the best way to do that is to give you quality pictures. But without the graphics package, I can't give you good quality diagrams. So, I will pick up that path next month. So instead, this month, I will cover a product that is now out and has proven to be quite versatile.

BayCom 1.2

Some time ago, there was a program written and a modem card developed to work Packet using the Commodore 64. The name of the package was DigiCom64. The package gained wide use and acceptance as an effective and cheap way to work packet with little invested.

This new program and modem I am going to discuss is named BayCom, ver. 1.2. The program is written by the same people that wrote Digicom64. They are Flori, DL8MBT, and Johannes, DG3RBU. The program runs on IBM compatibles and uses a serial port for communications to and from the modem.

The Hardware

The modem is based on the popular 7910 modem chip. The modem board I received, with the software, is distributed by A&A Engineering. It uses a 12 volt power supply with regulators to supply the different on-card voltages.

The input to the modem is through a female DB-9 connector. The output of the modem is sent to a female 5 pin DIN connector. A set of jumpers is provided to configure the modem card to drive a regular transceiver or handhelds without having to resort to adding parts for a specific combination.

The transmit PTT function is handled by a small reed relay on the board. I do not know how much current the relay can safely switch. There are some radios whose PTT lines need to have a significant amount of current sinked to engage transmit. If you have one of those radios, I suggest building a transistor buffer to isolate the reed relay from the heavy current or you may find the reed relay welded closed or failing quite prematurely. The two LEDs that are on the board let you know when the unit is either transmitting or locked onto a received signal.

The unit as supplied needs to run squelched. I am quite sure that the unit could be modified to use the State Machine DCD unit from TAPR and other sources to allow for unsquelched operation. Around the Owl's Nest, I prefer to have squelched operation because of the significant amount of intermod present at this location.

The modem, as received, was built minus the two LEDs installed. I soldered the LEDs to the board directly instead of something fancy, like a box. The construction of the board is quite good and uses through-plated hole construction to support the two-sided board wiring. After soldering in the LEDs, which were supplied with the kit, and wiring in the connectors to talk to the still surviving 02-AT, I powered the board up. None of the magic smoke that can come out of a part developed. You see, it is the magic smoke that makes the part work. If you let the smoke out, the part does not work, hi hi.

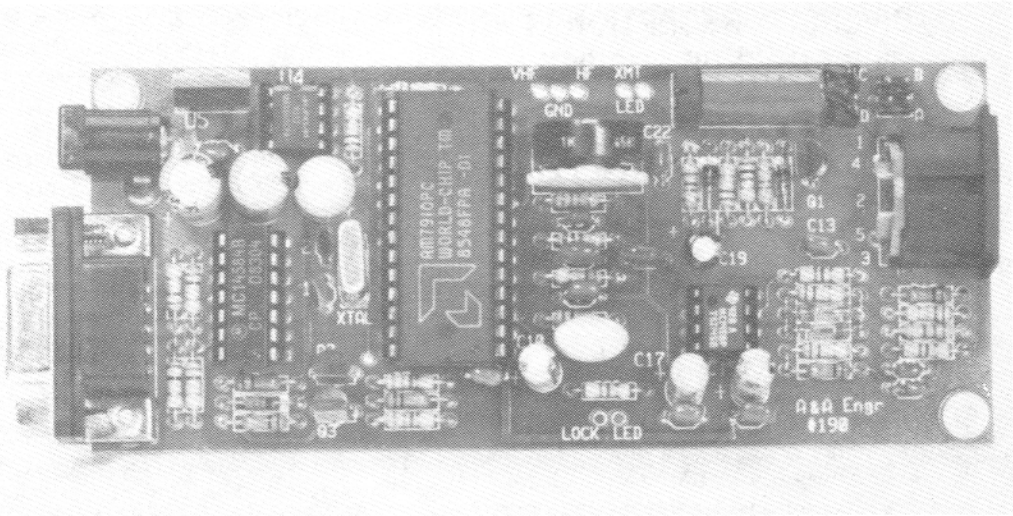
One thing that I might recommend is a heat sink on U5, the +5V regulator. Mine became quite warm to the touch after a couple of minutes and I do not know how much heat that particular device can handle.

The only adjustment that I had to make, besides setting the radio type jumpers, was the transmit level. The 02-AT likes a high level signal. The on board level pot was turned up a little and that cleared up the transmit modulation (3.5 KHz max dev. pls.)

There was one little gripe that I had concerning the modem board. My gripe is that the power connector for the board is backwards. Just about everything that I have here uses what I call the "barrel" power connector. The center is positive and the outside is negative. Well, the power connector on the modem board is just the reverse and there is no reverse current protection. So, do not hook it up backwards.

The Software

The software controls everything. The strangest attribute to the software is how it uses the RS-232 port to talk to the modem



BayCom Modem (Low cost Packet for PC/Clones)

card. It does not use RXD and TXD. It uses RTS for the PTT control, CTS for the RX Data, and DTR for the TX Data. This way, the problems associated with byte and framing errors are avoided thus allowing for faster transfer of data. The program as received was configured for 1200 baud operation. The speed of the serial port will not change with the HBAUD command. It is fixed at 1200 baud. In order to operate at the higher speeds, an expansion card will be needed. There is a statement in the back of the manual that points out that a board could be designed if there is enough interest in such a project. It would be nice if the specs to the board were printed or a way to change the speed of the COM port to 9600.

Configuration of the program can be achieved in two ways. You can configure many of the parameters while it is running from the keyboard. The initial parameters come from a file that is edited using a word processor. After the editing is done, the file has to be converted into a form that the program can read. There is a program supplied for that purpose. It would be nice if the BayCom program did it directly but I guess that doing the conversion this way saves on code space and processing time.

Starting the program just involves running a batch file. The batch file brings in a couple of programs. The two programs names are SCC.EXE and L2.EXE. L2.EXE is a TSR (Terminate and Stay Resident) program. It controls the modem and the HDLC encoding and decoding processes making the computer a stand-alone TNC in background operation. When this program is up and running, a flashing square will appear in the corner of your screen to indicate the program is functioning. The flashing square can be equated to a "heartbeat" signal. The second program, SCC.EXE, is the terminal program that talks to L2. I do not know what the links are between the two programs but it would be interesting to find out. If you do not have SCC.EXE running, L2 will decode any received packets and hold them until SCC.EXE starts running. Whenever you exit SCC.EXE, via the batch file, a program named OFF.COM kills L2 and frees up the memory.

As presented at startup, the screen is divided into three sections. The bottom section will display incoming packets from a channel. This allows you to monitor the channel while connected or disconnected. The middle section is for the information that you have received from the person you are connected to. The top section is for the information that you have typed in, either in command or converse mode. There are two status bars separating the three windows. One bar lists the connect status of the channels to a maximum of nine ports of which one port will be the monitor port, and the other bar gives the status of the program. The keyboard function keys allow you to switch between the windows and the various connects that you may have going at once.

Using the Program

To make a connect, you have to be in the command window. Press the Escape key to get the command prompt to show up. The command prompt with this program is the ":". The majority of the command names are the generally used types with a few custom names thrown in. This is explained in the manual that comes with the distribution disk. The manual was origanally written in German and was tranlated into the English language. The reading may be a bit hard to understand in some places but if one looks at what is being described, it should be understood. One item that needs to be mentioned here is that some of the responses may come from the program in German. This should not be a hinderance.

The program is easy to use. I would say that the program is easier to use than PC-Pakratt and other programs of that gender. If the display gets to be too fancy and cluttered, the user is overwhelmed and won't use the program. The display with the BayCom program is simple and easy to understand. I like it.

Overall, I appreciate the work that has gone into the BayCom project. The software is done quite well in Turbo C. If there was a way to increase the port speed up to 9600 baud from 1200 baud, it would be nice. The documentation as supplied from A & A Engineering is quite concise and to the point. The supplied Docs even give you instructions on how to hook the modem to the major manufacturer's handhelds and to low band rigs. I had my unit up and running in about a half hour after opening the box up.

Version 1.4 Coming Soon

I just recently found out that there is a new release on the way to replace version 1.2 that I have been testing. I wonder what improvements were made to the software package?

I contacted Stas at A&A Engineering concerning a couple of questions involving the modem. One question concerned the current carrying capacity of the PTT reed relay. He stated that the relay is designed to switch one amp of current. If you are switching a relay for PTT, I would suggest installing a back diode across the PTT relay. Reason being that the current on breakout can easily exceed one amp even if the current flowing through the coil is a few hundred milliamps. I had also made mention on the temperature of the regulator U5. He said that the regulator load should not overheat the regulator to a point of concern. Of course the more voltage that the regulator has to drop, the hotter it will run. So, the regulator does not need a heat

sink for normal 8-12 VDC operation. If you want to, a small piece of metal attached to the back of the regulator will give you piece of mind. The last question that I asked of Stas was about the polarity of the power jack. He said that wall transformers he is purchasing for the kit were configured this way and is the standard for Asian countries. So, be careful how you hook it up. The regulator can only take a brief moment of back voltage before doing itself in.

If someone wants to get into Packet and wants to do things the easy way, I suggest buying this unit. The unit can be purchased in either kit ($59.95) or assembled ($89.95) form from A&A Engineering, 2521 W. La-Palma, Unit K, Anaheim, CA 92801. The phone number is (714) 952-2114 and the FAX number is (714) 952-3280.

SOFTWARE

I now have in my posession a copy of TheNetPLUS 2.08. I will be going over this in the future covering the setup and operation of the software. This will be of interest node operators.

THE CONTEST

Well, I tried to hack it out on the RTTY JOURNAL/CQ RTTY contest last month. I can only operate on 10 meters. I only worked the contest for a couple of hours and then bailed out. Below 28.100 MHz, it was a feeding frenzy. Above 28.100, that was a different story. Admittedly, I would not get that many contacts working there because you have to go after the multipliers. It was mentioned that the operators should go forth and seek out the people in the novice/tech subband but it sure did not materialize from my standpoint. It is too bad because I know that there were other operators in the same boat as I was. Maybe next year things will improve.

NEXT MONTH

I should be able to continue the discussion on how to hook up your TNC to various styles of radio equipment and have drawings to back it up. It may involve me doing a software juggling act here but we will get it going. I will also start covering the TheNetPLUS software.

Until then . . . de **Richard, N6NKO**

■

DIVERSITY RECEPTION IN THE AMATEUR SERVICE

Bernard Grokett, KR6E
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Hollywood, Ca. 90029

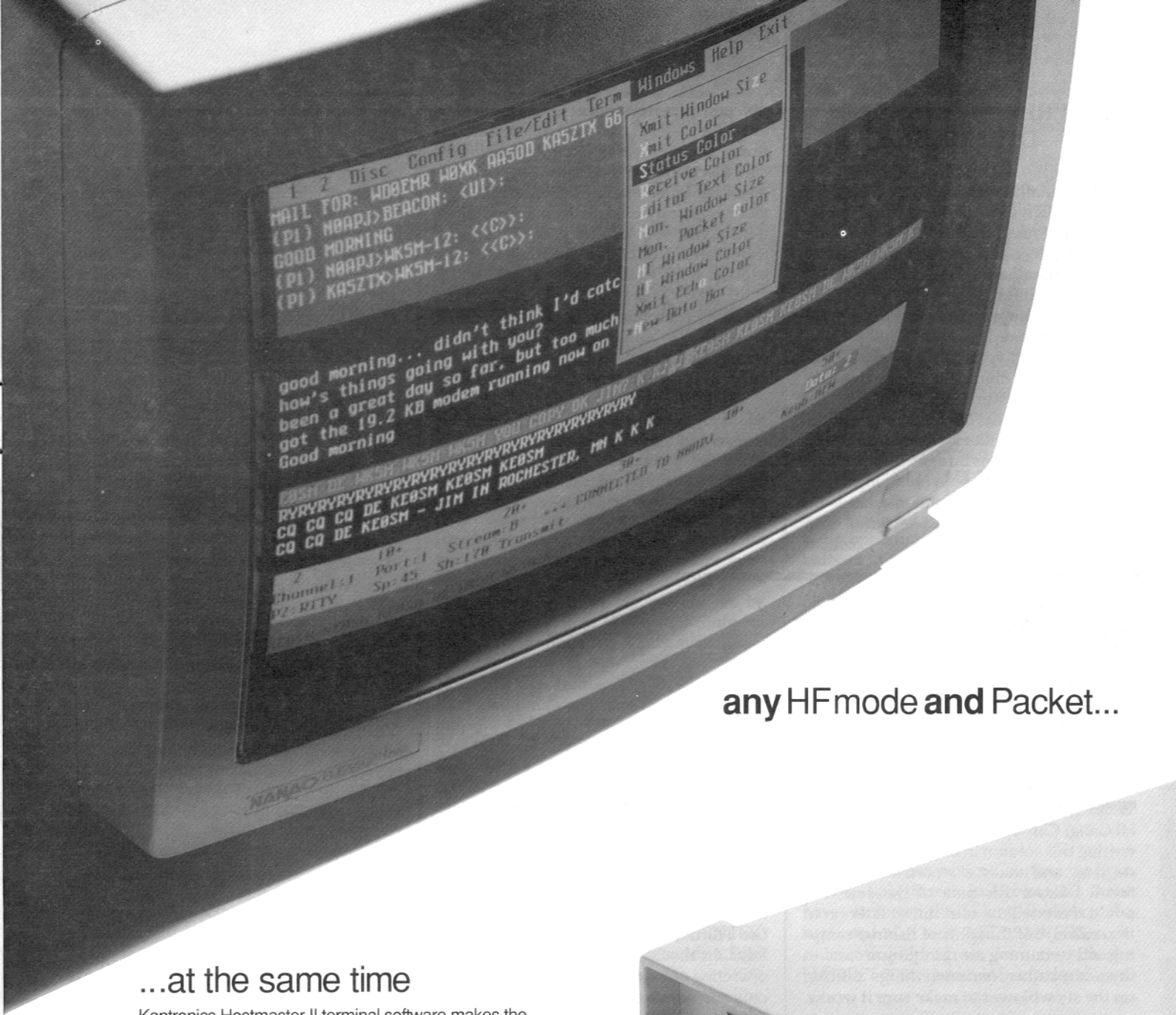
During the last five years I have been able to use diversity reception for both Baudot and AMTOR applications in my amateur station. Although there is no substitute for a high gain antenna with good elevation, diversity reception does enhance receive performance of the digital modes during times of unsteady or transitory high frequency conditions. Unstable conditions are often characterized by selective fading of the mark and space channels and multipath distortion or "flutter." Diversity reception acknowledges the presence of such instability and takes advantage of changing channel conditions to lower the bit error rate of received signals. There are several diversity techniques available to accomplish this trick.

TYPES OF DIVERSITY

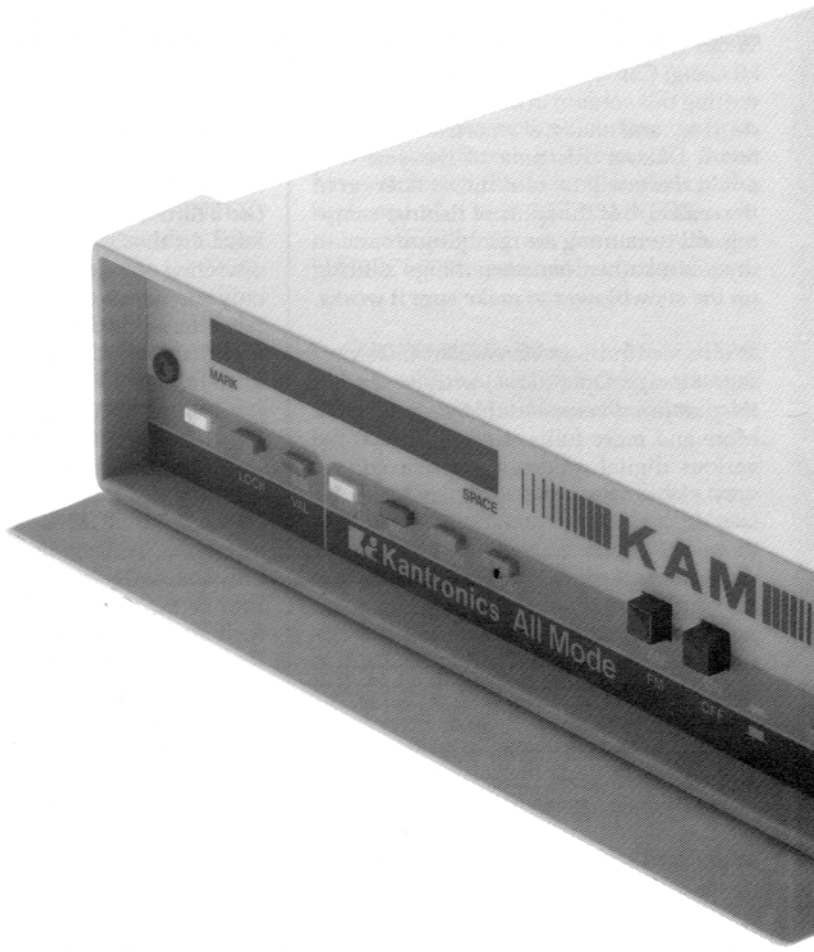
There are three basic categories of diversity reception that are in common use today. These are frequency, time, and space diversity. Frequency diversity involves the simultaneous transmission of data over two or more frequencies. In the HF spectrum usually at least one of two separated frequencies will be open between two points at any given moment in time. The selection of greatest channel strength is typically done at some point after detection, usually by an intelligent modem. The transmission of frequency diversity signals is illegal for the amateur service although it is fairly common in commercial applications. Single frequency time diversity is based on the assumption that receive conditions are continuously changing from moment to moment. If poor copy is received at one moment it may be better the next. One common example of time diversity is the FEC mode of AMTOR. Redundancy is built into the mode in the expectation that improved copy will result. Time diversity is weak however, under deep fade conditions and where the fading cycle has a long period. The ARQ mode of AMTOR addresses these weaknesses in a splendid manner. The type of diversity reception I use in my station is space diversity. Space diversity takes advantage of the phase angle differences that occur for a given signal when antennas are located one or more wavelengths apart. For 20 meters this is approximately 66 feet of separation. Often, the antennas will also have vertical separation to further discriminate between high and low angle radiation. Two or more receive channels are required for space diversity, and channel selection is usually done post detection by an intelligent modem. In commercial practice combinations of all three types of diversity are frequently used.

USING DIVERSITY

Many of todays modern transceivers allow dual channel receive functions. In my station I can use independent receivers in separate transceivers or the dual channel capability of a single Yaesu FT-1000D transceiver. The audio output from each receiver channel then goes to a pair of HAL (Urbana, Ill.) ST-8000s which are connected by a special interconnecting cable that allows diversity operation. The output from both terminal units is a single channel of data at the RS-232 level. The antenna system is very modest because I live in an apartment. One antenna is an 80 meter open wire fed dipole and the other is a multiband short yagi. The distance between them is 60 feet with the average height for both antennas approximately 40 feet. When conditions are good, I have found diversity offers little or no advantage in received copy performance. However, during transitory periods, particularly during Spring/Summer or Summer/Fall conditions, diversity offers definite advantages, even with the modest antenna setup I am using. During severe conditions I can copy signals that many others have difficulty copying, even though these stations are running more antenna gain in their systems. In tests where I have compared diversity reception versus single channel performance using identical terminal units diversity will provide 10 to 20 percent lower bit error rates. This is very significant when one considers no increase in antenna gain has occurred. It is also interesting that you can obtain diversity effects resulting in improved copy by comparing receiver I.F.s that are set for different bandwidths. This effect is particularly noticeable when observing higher baud rates under HF conditions such as found with AMTOR. In any given moment a narrow bandwidth will favor a 100 baud signal over that of a wide bandwidth channel with the reverse also equally true. I have found this useful when operating baudot under crowded conditions such as during a contest.



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



...at the same time

Kantronics Hostmaster II terminal software makes the multi-mode single keyboard system a reality. With a PC compatible computer, Kantronics All Mode (KAM ver. 4.0), your own HF\VHF transceivers and just a few keystrokes, you can work any mode on HF and packet on VHF at the same time.

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.

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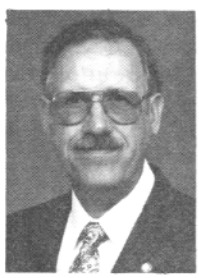
EXPERIMENTING WITH DIVERSITY

For most amateurs it is not the requirement for dual receive or the need for properly spaced antennas that keeps them away from diversity operation. It is the inability of the terminal unit to select from two independent sets of data at any given moment the optimum channel that is to be part of the data stream. HAL has a unique system of comparative circuitry where the balance between channels is continously variable. This feature allows the operator to achieve the optimum balance po int between two channels. However, an ST-8000 is not in every Hams budget. So how does the average Ham go about obtaining diversity capability? The surplus market is an excellent source for used terminal unit equipment that will provide excellent div ersity performance. One commonly available series of terminal units is the 1200 series of modems manufactured by Fredericks Electronics (Fredericks, Md). All the terminal units made by Fredericks that were originally designed for HF applications have low diversity capability and they can be obtained through surplus sources at truly bargain prices.

Diversity reception offers a relatively simple method to obtain significantly lower bit error rates for all the digital modes used by amateurs. There is a need for more experimentation by amateurs in this area and for relatively modest effort many more amateurs could enjoy the benefits of diversity reception. If you have experimented with diversity reception please drop me a note telling me of your experience.

de **Ben, KR6E** ■



MSOs

Dick Uhrmacher, K0VKH
212 48th St.
Rapid city, SD 57702

Hi Gang! Can it be Winter already? As I'm writing this column in mid- October, it's 86 degrees, and that's a record for western South Dakota this time of the year. No doubt there will be retribution later on in the season, but thoughts of fishing, camping and swimming are rumbling around in my brain, rather than such things as firing up the snowblower to make sure it works.

We've seen quite an increase in MSO (Message Storage Operations) activity during the past few weeks, and that's a good sign. More and more folks are finding that the various digital modes are a relaxed, yet very viable way of keeping contact with friends and acquaintances, for catching those rare countries, and for just plain old ragchewing. I think it's quite obvious that the digital modes are becoming more popular every day, by the amount of digital activity observed on the bands, and during DXpeditions.

At the risk of angering, arousing, upsetting, irritating, and otherwise agitating the "good ol' boys" on 75 Meter SSB, I think it takes a bit more intelligence, interest and motivation to install and operate a well run digital system, as compared to grabbing a microphone, turning up the audio compression until you occupy 10 KHz bandwidth, and then setting forth to show the world that you really did graduate from the Third Grade! Digital folks are good folks. In the 20 or so years that I've been operating the various digital modes, I've only run across one fellow who really irritated me sufficiently enough to remember, and thank goodness he grabbed that big knob in the middle of his transceiver, gave it a spin, and we haven't seen anything of him for years. It appears to me that the digital modes have a way of automatically weeding out those who really are "appliance operators", those who are referred to as having "CB intellect", and those who only have the capability to understand how to turn up the microphone gain and load up the "firebox."

BASIC MSO AND DIGITAL INFORMATION

I received several letters over the past few weeks from folks who asked that I describe some of the basic MSO and digital operating techniques. Bob Gordon, WA4LYH, of Fairfax, Virginia, expressed it best when he asked, "Where can I find information concerning MSO's, APLINK, the "National Autostart Frequency", mailboxes, etc." Bob, reading the "RTTY Journal" is absolutely the best source of information that I've ever seen concerning all of these subjects. The RTTY Journal is the only publication that consistently publishes timely information on RTTY, AMTOR, APLINK, PAMS, Packet radio, digital DX and DXpeditions, equipment and software reviews, digital contests, etc., without being stuffed with uninteresting subjects and articles. If you have friends and acquaintances who also desire to increase their knowledge of the various digital modes, recommend they subscribe to the "RTTY Journal", as it's a vital source of information.

Now for a few specifics in answer to Bob Gordon's questions. The "National Autostart Frequency" (NAF) is located on 20 Meters, specifically at 14 085 625 Hz Mark frequency, (or 14 087 750 Hz, carrier frequency.) The National Autostart Frequency originated in 1978 when several digital enthusiasts decided that they wanted a specific frequency where they could converse with friends on a routine basis. It didn't take long until the first "automated" systems made their appearance, which allowed digital operators to leave messages for friends and acquaintances that could be retrieved at some later time. The original "mailboxes" were a bit crude, (as compared to todays systems), but they did provide a service, and as can be seen by the popularity and use of current mailboxes, the concept was quick to catch on, not only with Amateurs themselves, but with commercial equipment manufacturers as well.

From 1978 to date, there have been as many as 18 individual MSOs parked at one time on the National Autostart Frequency, all operating with a purpose and harmony that is hard to understand, particularly in this day of individualism, frequency conflicts and outright purposeful interference. MSO system operators (SysOps) on the NAF have always been extremely aware of the possibility that their automated systems might accidentally interfere with already established communications on (or near) the NAF, and take precautions to preclude this from happening. Secondly, there has always been a conscious effort on the part of all system operators to insure that remote users of the various MSOs understand that even though the prime purpose of the NAF is to provide mailbox

services, routine RTTY QSOs do occur on this frequency, and are not discouraged in any manner.

All MSO activity on the NAF is at 100 words-per-minute, (74 Baud.) Most routine QSOs also take place at this speed, on this frequency. There are no restrictions on who may or may not use the MSOs parked on the NAF, and all properly licensed Amateurs are more than welcome to use them. The system operators dedicate their time, equipment and money so that remote users may have these systems to utilize. There is a distinct lack of commercialism on the MSOs on the NAF, so don't expect to find "for sale" items, etc., which are of dubious legality throughout Amateur Radio.

Following are some hints which will make operating the various MSOs, (as well as other mailboxes parked on the other bands and frequencies), very easy for you. Probably the most important item in using a MSO is equipment frequency calibration and stability. If you can't find the NAF because your transceiver isn't calibrated properly, you can send "access codes" all day long and receive no response. Secondly, if your transceiver drifts abnormally, you must learn the technique of re-zeroing your equipment to the NAF periodically, or you'll drift out of the passband of the MSO, and your traffic will be lost. You must determine what information your digital readout is providing. For example, when in the "FSK" mode, the Kenwood TS- 940S displays the "space" frequency; when this transceiver is used with AFSK, (LSB mode), the readout displays the "carrier frequency"; the Kenwood TS-440S displays the carrier frequency; the Kenwood TS-830S also displays the carrier frequency, etc. You won't be able to find the NAF unless you can routinely dial in the proper reading on your transceiver.

MSOs and mailboxes have an "access code." This code merely activates the system, allowing you to use its various features. Most always this access code contains part of the system operators callsign. With respect to the NAF, access codes are the letters "MSO", followed by the last three letters of the system operators callsign. For example, to access my MSO, the access code is: MSOVKH. There are no "spaces" between letters of the access code, and it can be sent from anywhere in the text stream, and it will activate the system. Please be sure that you have closed (Exit'ed) the MSO when you are through using it. MSOs left activated will respond to commands directed to other MSOs, causing lots of interference!

Once activated, most all mailboxes, and all MSOs have a "Help" feature. It is usually a list of commands, with a description of what each command will provide. Use it! When first accessing a automated system, call up its "Help" feature, and download it to your printer so that you'll have it for future reference.

Probably the most misunderstood concept concerning use of automated systems, is the way the system must differentiate between what is "normal text", and text that is formatted so as to cause the system to act upon some command. Most all automated systems use some form of "delimiter", which causes the command text to be easily identified by the system as "command text." For example, probably the two most used delimiters are the punctuation marks "period" (.), and "slash bar" (/). To be absolutely sure that the system only responds to "command text", the system also requires that both a delimiter is present, AND that the command text is RECEIVED by the automated system on the left-most margin. Confused? Well, I don't blame you, as it is a bit difficult to put down in writing.

Let's assume that you have already accessed one of the MSOs on the NAF, and you want the system to output a listing of all files contained in its message directory. In order for the command to be RECEIVED by the MSO on its left-most margin, you must first press the RETURN (or ENTER) key on your keyboard. This sends a "carriage return/line feed" signal to the MSO, causing the next print to start on a new line, at the left margin. Without this CR/LF, the command will be ignored. Secondly, (in the case of MSOs), the command itself must be prefaced with a "period", (the delimiter.) This period makes the text very distinctive to the system, indicating that "command text" follows.

The sequence then is: properly identify your station by sending your callsign, press the "ENTER" key twice, (left justifies following text), type a "period" and then the command text, followed by a final press of the ENTER KEY. For example, CALLSIGN ENTER ENTER .SDIR ENTER.

IMPORTANT NOTE: Note that there is a CR/LF (ENTER) immediately after the command (.SDIR). This CR/LF "executes" the command, and without it in the proper sequence, the automated system will ignore you!

Retrieving messages stored in the MSOs is very easy. Writing messages to these systems is a bit more complicated, and my suggestion is that you catch one of the MSO SYSOP's on the air, and have him run you through that particular sequence. Believe me, it's not all that difficult, and once you've done it a couple of times, you'll be an "ol' Pro" at it!

There are other items that need to be explored concerning proper use of the automated systems, but they are better left to following articles. Such systems as AMTOR, APLINK (AMTOR/PACKET Link), PAMS (Personal AMTOR Mailbox System), are a bit out of my particular purview, and have been covered by other authors in the RTTY Journal. If you have questions concerning any of these systems, please do not hesitate to write to the Journal, and I can guarantee you that information will be forthcoming.

MSO RAMBLINGS:

Larry, KA0JRQ, has returned his system to full time MSO service on the NAF, after having corrected some equipment difficulties. It's good to see his booming signal again.

Smoke has been noticed curling up from 2208 S. Race Street, in Urbana, IL. Some have attributed this to long sessions at the keyboard as a new RTTY/AMTOR communications program for use with the HAL PCI-3000 system is being developed.

Dennis, WA8ZRK, Dearborn, MI, is still off the air with his HF/VHF MSO systems, with equipment problems. He hopes to be active again soon.

That's it for this month Gang. Please drop me a line when you have anything that you would like to see published in this column, questions about systems, equipment, software, etc., and I'll certainly try to provide some timely input. This is YOUR column, and without some input, it becomes "OLD HAT" in a hurry.

—73— de **Dick, K0VKH** ■

THE LINK

Jim Jennings, KE5HE
RT 2 BOX 165E
Hearne, TX 77859

In continuation of the tutorial that we started in this column in the August 1991 issue I plan to use the space this month to go into the details of entering a message on APLINK over the AMTOR channel. Messages are entered on the PACKET channel in a form very similar to that used on most PACKET BBSs. Continuing with the format that I have used in the past, I will first show the help file from APLINK associated with the point being discussed, and then I will offer further explanation and comments. We again thank Vic, W5SMM, the author of APLINK, for the use of this help file information in the column.

ENTERING A MESSAGE ON AMTOR (using APlink)

1. Messages may be entered directly from your keyboard into the system, however it is better if you prepare a file before logging on and then send it at machine speed. This reduces the connect time to the system and the potential for transmission errors.

YOU MAY SEND THREE KINDS OF MESSAGES: (SP, ST, and SB)

2. 'SP (CALL)' is a message to a specific station and may only be read by that station (or you to the SysOp) and will appear on the message list only for those stations. For others, it simply isn't there. 'SP' messages will remain in the system for 21 days or 24 hours after being marked 'FORWARDED', whichever comes first.

3. 'SP' type messages may also be entered for automatic forwarding to another MBO/BBS. They may be entered in the form 'SP (CALL) at (ROUTE)' where (CALL) is the addressee and (ROUTE) is the hierarchical route to his local MBO/BBS. Since AMTOR does not provide for a number sign character, use the equal sign character in its place when required in an H-ROUTE address and APlink will convert it to a number sign character.

4. 'ST (ZIPCODE) at (NTS STATECODE)' is used to enter a message to anyone to be delivered by the NATIONAL TRAFFIC SYSTEM(NTS.) The subject (FIRST LINE) should read: QTC (CITY, STATE) and the body of the message should be in standard ARRL message format.

5. 'SB (ID)' addresses a message to 'ID' and marks it as a bulletin. You may also include a Bulletin Indentification (BID) by adding 'BID' followed by the BID on the same line. For example:

SB ALL BID 12345W1ABC

This is a message to 'ALL' with a bid of 12345W1ABC. Bulletins without a BID will not be forwarded.

Bulletin type messages will remain in the system until removed (CANCELLED) by either the originator or the SysOp.

To send a message, type the command (I.E., 'SP W5SMM(CR/LF)') and wait for a response from the system. The line will be typed back and you will be requested to confirm with 'YES' or 'NO'. A the 'GA SUBJ/MSG' prompt, type the subject of the message on its own line and then enter the text of the message.

At the end of the message send 'NNNN' on a new line. 'NNNN' embedded in text is ignored. After sending 'NNNN' wait for a new 'GA' prompt to enter a new command.

Identify your station at regular intervals by sending your identification after a 'GA' prompt. Any character sequence that is not a valid command is ignored by the system.

If you have already sent a partial command line and want to cancel the line, just send three or more '/'s in a row anywhere on the line. That line will be ignored. This only works on command lines. /// imbedded in a message will be passed on to the addressee.

After you have transmitted a message you may cancel it with the 'CANCEL (NUMBER)' command. This is normally used to only remove a bulletin you have placed in the system, but it may be used to remove any message you have previously sent.

Hints, Kinks, and Other Comments on the APLINK Help File

Refer to item number 1 above.
Using a file to send a message is very handy. When you create a file on your computer, you may go back over it, edit it, and change it in any way that you like. If you manually enter a message into an MBO, you can't change what you have put in, other than cancelling the whole message and starting over. However, whether you can do this or not will depend on whether your terminal program/computer system will support the function. You must be able to "Send a File" while linked. If you can, here are the commands (I am assuming that you are not in EXPERT mode, although the same scheme will work then also.):

First, before you link with the MBO create a file

SP W5ABC AT W5AC.TX.USA.NA +?, YES +?, MESSAGE SUBJECT (The Subject of Your Message), MESSAGE TEXT (Your Message) and NNNN +? (Must be on a New Line and Followed by a Carriage Return.)

You may put as many messages as you like in the file, one after the other, and they should all go out in order. If you are in the EXPERT mode, the file would be the same except leave out the YES +? line. In the EXPERT mode, confirmation of the CALL/BBS is not required. If you notice that a message is entered incorrectly, you can cancel it with the CANCEL (Number) command after it has been entered. Of course you may also put only the text of the message in a file and only send that part automatically, the SP command and the

YES response could be entered manually. The NNNN can also be entered manually.

Second, LINK to the MBO, get a GA+? response and send the file. That's all there is to it.

Refer to item number 2 above.
Private messages entered in this form will stay on the MBO on which they were originally entered unless arrangements have been made with the SYSOP to have traffic forwarded to some other MBO/BBS. If you are entering messages manually, just follow the responses given by the MBO.

Refer to item number 3 above.
Always use the form shown in Item number 3 to enter messages that need to be forwarded. If the MBO/BBS is an APLINK station, most APLINK stations will forward the traffic on AMTOR. If the BBS is unknown to the APLINK station on which the message was entered, it probably will be forwarded on packet if to an address in the USA. Most international traffic will be forwarded on AMTOR, although some is forwarded to SATELLITE PACKET. Be sure to use the full hierarchical address for the BBS. That is use the following form:

SP VK2ABC AT VK2AGE.NSW.AUS.OC
or **SP K7XYZ AT W7ABC.NV.USA.NA**

The reason for using the full form is that the APLINK forwarding system parses the hierarchical address and can flag a forward on any part. An APLINK station in Europe, for example, might flag all his NA traffic to be forwarded to TG9VT in Guatemala. If the NA is left off then the traffic will sit on the MBO until the SYSOP can change the address appropriately.

Refer to item number 4 above.
This is the proper form for entering NTS traffic. A good explanation of the details of the form of NTS traffic is contained in THE ARRL NET DIRECTORY published by the ARRL and available at most Ham stores or the ARRL. I urge you to get involved in the handling of NTS traffic. You may find that taking it off an APLINK MBO and putting in on a SSB/CW net strikes your fancy. Most of the traffic is trivial. However, it is important that all Hams learn how to move traffic to be prepared for times of emergency and these messages provide very good training.

There is an APLINK/NTS network, albeit a rather informal operation, which passes about 5000 messages a month. The APLINK MBOs most involved with this operation are:

W1FYR	KB1PJ
W3GL	KK4CQ
WA9FCH	W2TKU
WA1URA	K4YZU
K4CJX	KA0JRQ
KE5HE	W7DCR
N0IA	NH6VT

Each of these stations welcomes NTS traffic and are prepared to get your messages moved through the system efficiently. At most of the MBOs, there is a cadre of users operating either on the APLINK PACKET port or the AMTOR port who regularly check in and move the traffic to CW/SSB nets for local handling or deliver the traffic themselves. The group of MBOs listed above take pride is seeing that the integrity of the delivery system from NTS traffic is maintained. So, get involved, pickup your thing. You may like to pick the traffic up and help it be delivered. You may like to generate messages to friends across the USA. There is a place for all in the operation.

At the present time, there is no provision for NTS traffic to foreign countries except Canada within the APLINK/NTS group. The primary reason is that we have no automatic means of determining which traffic is allowable third party traffic. You should realize however, that traffic from a Ham to a Ham in any foreign country is authorized. The only requirement is that the person on both ends of the communications must be legally authorized to operate an amateur transmitter. Therefore, private messages sent with the SP command will be forwarded internationally.

Refer to item number 5 above.
This item explains how to enter a bulletin. Most APLINK stations prefer that bulletins be limited to the scope of the service the MBO performs. That is, bulletins on AMTOR/APLINK operating and traffic handling are usually welcome, but long bulletins not pertaining to these topics are generally better put on a PACKET BBS. The reason for this is that AMTOR is a slow mode when compared to VHF PACKET, and the entering/reading of long bulletins may tie the MBO up so that it cannot provide it's primary function.

The remainder of the help file is self explanatory. That's it for this month.

73 AND GOD BLESS de **JIM, KE5HE**, AT KE5HE.TX.USA.NA

SARTG New Year RTTY Contest 1992

We have the great pleasure to invite you to join the popular New Year RTTY Contest run by the Scandinavian Amateur Radio Teleprinter Group on HF.

Time: 0800 - 1100 UTC, Wednesday, January 1st 1992

Bands: 3.5 and 7 MHz only, 2-way RTTY

Classes: A) Single operator B) Multi-operator C) SWL

Message: RST, QSO number, Name and HAPPY NEW YEAR in your own language

Points: One point for each QSO on each band. The same station may be contacted once on each band.

Multipliers: A multiplier of one is given for each DXCC country (except Scandinavia) and each LA - OH - OZ - SM - TF prefix number (0 - 9) contacted on each band.

Final Score: Sum of QSO points X sum of multipliers

Logs: Logs to be received by January 21, 1992, containing: Band, Time UTC, Message Sent and Received, Points and Multipliers. Use separate sheet for each band and enclose a Summary Sheet showing the Scoring, Class, Your Call, Name and Address. Logs from Multi Operator stations must contain the Calls or Names of all operators involved. SWL use the same rules, but based on stations and messages copied.

Logs to:

SARTG Contest Manager
Bo Ohlsson, SM4CMG
Skulsta 1258
S-710 41 Fellingsbro

AMTOR

Eddie Schneider, G0AZT/W6
1826 Van Ness
San Pablo, CA 94806

ISLAND IN THE SUN

Once again, AA5AU, Don, and I teamed up for a trip to the Caribbean. This time we decided to try a contest operation from Antiqua (V2), in the Multi-op, Single transmitter class.

We met at the Dallas Airport on the 25th September and reached Antiqua via Puerto Rico, at 0130Z. Emigration and Customs were no problem as long as you leave all the talking to the baggage handler. Mind you, we had to pay a six dollar agricultural tax despite the fact that all we planned to "plant", was a Butternut vertical.

Obtaining a license for Antiqua is relatively easy, although you have to have the patience to find the issuing officer at his desk. Applying in advance does not work and attempting to telephone the PTT is futile. The communications officer likes to meet you in person and once the paper work is filled out, you go to the Inland Revenue office to pay the $25 EC (about $10 US) fee. Upon receiving your receipt, you either return to the Comms officer or telephone the receipt number to him and then you are "legal."

Don and I stayed at the QTH of V21ACE, whose shack we had rented for five days. Upon arrival, we were met by Ted Meek, his wife Trudie and two dogs. We were immediately shown to a nice cottage with all amenities, like beds, shower, microwave, ice-maker and so on. (This is the only way to do a DXpedition.)

Naturally, number one priority was to unpack our gear and set up the two stations. We had two of everything, and planned to have one station running the QSO rate while the other did the spotting for choice multipliers and handling the logging, etc. Well, from the start, things did not work out very well. My TS440S decided that is needed over three hours of warm-up, just to produce a frequency readout. Another hour before it would receive or transmit and a further forty minutes, before the VCO was stable enough not to drift into the commercial bands. Once the rig stabilized, my problems were far from over. I hooked up the coax from the tribander and checked VSWR, 2.5:1 on 20m, har, get that down with the auto ATU, no pain, however, every time I keyed the transmitter with the computer hooked up, my tones had more "warble" than a Nightingale in Barclay square, (RST 595?)

Feverish re-soldering of all patch leads from, to and around the station, did not improve a thing. Maybe I needed an earth ground? Nar, too bloody dark outside and we were not familiar with the terrain or what type of animal or insect life might be prowling around. Suddenly, despite the lack of sleep, I had an idea, try a different A.C. power plug. That did it. We now had one station ready to go, no RFI or BFI, despite the computer, TNC and rig, all running off the same wall socket.

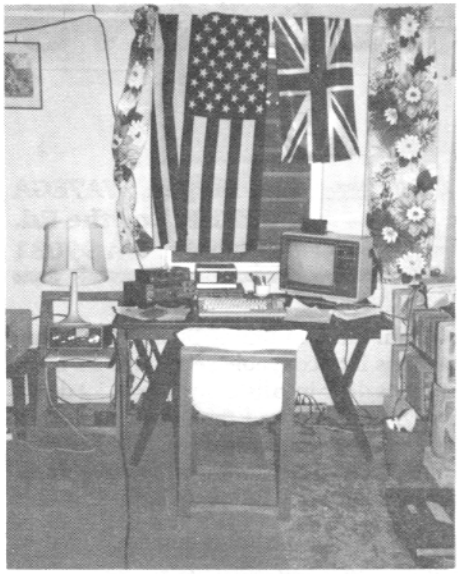
Meanwhile, Don was also having his fair share of problems. His FT757 and power supply did not take too kindly to some rough handling by the airline baggage department. The ground terminal on the rig was bent and the PSU had a few dents in it, but they both worked okay. Don was busy making up cables to go between my 440 and the Heathkit SB 220 amplifier, more cables were needed to hook up his rig to the spare computer and AIR-1 TU. Once those chores were completed, it was Don's turn to have strange sounding tones emit from his system! More head scratching, RFI proofing and cable changing, did not resolve the problem. We decided to sleep on it and figured that we would be able to sort the second station out after a few hours of rest. WRONG!

Next morning, Don decided that he ought to build the Butternut vertical before attempting to get the second station operational. After reviewing the parts list of the HF6 he found that the ground post was missing. Luckily there was an old HF4 lying around and Don proceeded to sweat and swear profusely in the 80 percent humidity. Once he had no more parts left, and was ready to erect it, I insisted that he "plant" the vertical as far away from the beam as possible. We had both experienced very bad inter-mod when we tried to run two stations from C6A and we did not want those kind of problems again.

With the aid of an electric demolition hammer, Don proceeded to dig a hole in the very rocky ground for the HF6. After much sweating and more swear words, the antenna was erected and Don's experience with assembling the HF6, proved to be a boon. VSWR was nearly flat on all bands, so we decided to do an inter-mod check. The beam had suddenly gone haywire with an SWR of 10:1 on all the high bands. After changing coax connectors and lots of head scratching, we discovered that we had been given the feedline for an 80m dipole, by the owner! Once the correct line was hooked up, inter-mod between the two stations was non existent. At last, we thought, things are beginning to work out for us. Well, Don was still being plagued by Mr. Murphy. We just could not get the AIR-1 and spare C-64 to work successfully, despite re-configuring his whole set-up and RFI proofing all the leads. Don decided to abandon the idea of having two RTTY capable stations. If we had problems with the main station during the contest, we had lots of back-up gear, including a spare amplifier to fall back on.

At 2016Z on the 26th, I gathered up the courage to try the main station. W6RSZ, Paul, had the dubious distinction of being first "in the log." After some checking of tones and ensuring that the 400 watts output, was not QRMing the whole 20m band, I had a few QSOs just to make sure that the old SB 220 would handle the rigors of key down. To ensure that the amp ran cool, Don hooked up a .45 amp muffin fan to the spare 20 Amp PSU. Talk about over-kill!

I apologize to those of you who called me prior to the contest without success. Firstly, I was not in a fit state to work any form of a pile-up and secondly, we hoped



Main RTTY station at V2

that you would call us in the contest, when we needed all the points and QSOs we could get.

Meanwhile, Don was doing his CW thing on the low bands and as far as I could tell, he was having fun.

Contest day arrived and Don and I spent most of the pre-test time working out a plan of action, how to keep logs and multiplier lists up to date and so on. We agreed not to worry about dupes while we were running a frequency. Telling a station he is a dupe, tends to waste time and we could sort any dupes out when I made up the entry logs. However, we did not keep dupe sheets for the times when we were chasing new multipliers.

Zero hour was fast approaching and the adrenaline began to flow freely. We figured that as we were the "DX", we would begin by working one band at a time, until it dried up. This proved to be a good decision as far as we were concerned and we started on 20M. The pile up was amazing, with a alphabet soup covering the screen and propagation to all continents, giving us a rate of one QSO every 1.4 minutes over a seven hour period. Giving out the QSL info frequently, tended to "slow" down the rate a bit. Hi.

When we QSY'd to another band, the pile ups began again. It was a great feeling to know that we were in demand! Despite Don having a few problems with unfamiliar software, he managed to either use the pre-programmed buffers or type "live" from the keyboard. Don's ability to touch type, came in very useful. We had a mains power supply breakdown while I was grabbing 40 winks and Don had to type direct from the keyboard, after he got the standby 4.5 KVA, air-cooled (noisy!!), diesel generator fired up. We apologize for fourteen hours of semi-rough tones, but without that standby power, we would have been dead in the water. We knew that we had problems because some reports we got were 598 and everytime we keyed the rig and amp, the monitor would nearly black out and the generator would groan in protest!

To add to our operating problems, it rained everyday, squally showers I think they call it, but heavy enough to produce an S-9 plus, or rain static. At times we just had to sit in front of the gear and twiddle our thumbs, mumbling obscenities until the static ceased. Very frustrating indeed and enough to drive Don to another glass of Canadian Whiskey!

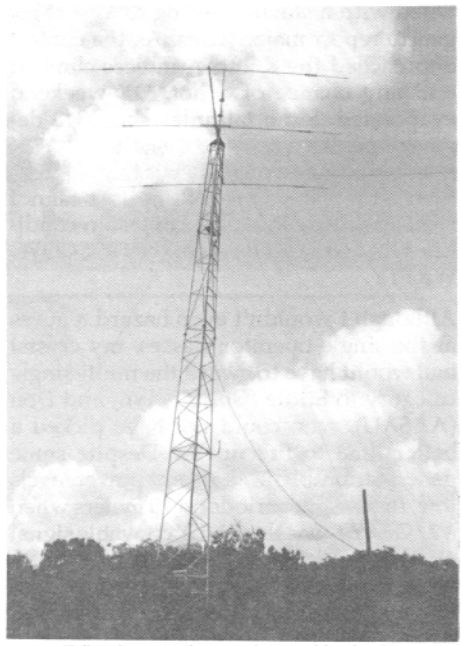
Despite all our initial problems, we really did have a great time. I learned a few things about contesting from Don. Working a string of three-pointers may look good in the log, but spending some time looking for new multipliers is worth far more in overall points value. I slipped up badly in that department from ZF-land! Contesting from a DX QTH rather than your own home area is a whole new ball game, believe me!

Don and I would like to thank all the stations who helped us reach a 1500 plus QSO level, 400 odd multipliers and a reasonable score to show for our first contest effort together. Band conditions from the Caribbean were exceptional. At one time, on 10M, we could copy ZL, JA, USA, ZS and Europeans, all at the same time! 80m was a real disappointment for us. Where do all USA contesters go when it is time for the low bands?

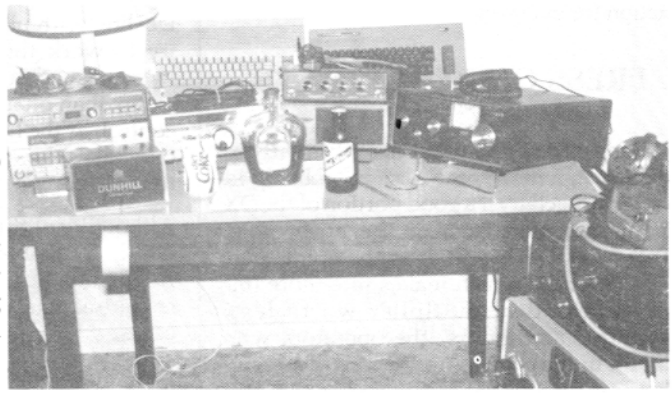
My thanks to Gabriel KP4BJD, Hiro JH1BIH and some of the Tokyo RTTY gang for their support. To WA6AHF, Rubin, for the loan of the software in cartridge form and for supplying the QSL cards for V2 and VP2M.

We hope that some of you got a new one for DXCC and RTTY QSLs are being processed and mailed as you read this. Don, I and are already planning for the next CQWW/R.J. but it will be from some place where we get three points per QSO! Yes Don, W6PQS, it will be from another warm QTH! We don't have room for long-johns and thermal underwear to operate from OJO-land, Hi.

73 GL and DX de **Eddie, W6/GOAZT** ■



Tribander at 140' (32m) above seal level at V2



Basic items for Dxpedition at V2

CONTESTING

Hal Blegen, WA7EGA
2021 E. Smythe Rd.
Spangle, WA 99031

Following a week during which the HF conditions were the best we have had all year, Thursday before the CQWW I listened with a sinking feeling as WWV began to report major flares. As the contest approached the K and A indices climbed and any chance of a hot, DX weekend evaporated. From latitudes above 40 degrees, opening a contest when the Bolder K index exceeds two is like starting a marathon with blisters on both heels. I cannot remember running a DX contest in conditions that were worse than the 1991 CQWWRTTY.

Although I wouldn't even hazard a guess at the single operator classes, my crystal ball would have to award the multi-single category to Eddie (G0AZT/W6) and Don (AA5AU), who could not have picked a better time to fire up V2. Despite some generator problems that kept power levels low, there were periods on 10 meters when V2/G0AZT was the ONLY copyable signal on the band. After listening to W3LPL work Europe while polar-path propagation to the west coast (for VE7ZZZ) was but a fond memory, I also doubt that there will be any surprises in the multi-multi class. When conditions are poor, contesting resembles the restaurant business in which the single most important factor is location. The saving grace for CQWW RTTY was your own country being worth one point and that states and provinces were multipliers. High latitude DX was sparse on the top three bands but 40 meters had some great openings and there was plenty of action for everyone.

PRESS ON REGARDLESS

When a geomagnetic storm strikes early in a contest, a new game plan is probably in order, especially if a good portion of the DX paths are over or near the north pole. Fewer DX QSOs will drop the points-per-QSO average which makes rate more important and a multiplier worth less. Within a few hours, the operators who aren't in the contest for the long haul may become discouraged and drop out and it's important that you log them before they QRT. In terms of lost rate, spending time in a pileup for rare DX is too costly. (This is the point that separates the DX'er from the contest operator.)

On northern beam headings, lower antennas pointed as much as 20 degrees south of normal will perform better over disturbed paths. While absorption may be high on long DX, 40 and 80 meters, propagation tends to be less affected and activity will build on those bands earlier usually. The old adage of working the highest band open may not always hold since QSO rates may be better on a lower band.

Trends are important. Check WWV every 3 hours (18 minutes after each hour.) Before you take a rest period, look at the A index. If the K is still high but the A index is beginning to drop, take your rest period, since conditions will probably improve. If the A is going up and there are still signals, better work everything you can hear since you may awaken to dead bands.

Do not let poor conditions cause you to quit. During the contest, crummy conditions always seem to hurt YOUR QTH more than the other guy's. Remember that he feels the same about you. The one, sure way to prove yourself right is to quit. The absolute worst thing you can do is to work the contest and then NOT submit your log.

WORKING A PILEUP

This brings up another common problem. Dealing with pileups. As always, the ability to work through an RTTY pileup is more dependent on the skill of the DX operator than on any factor under your own control. If the DX is working transceive, it only takes three or four voices in the choir to make copy nearly impossible.

Although splitting the pileup spreads the QRM, a capable operator using a 250 Hz filter can pick individual calls from a spread as narrow as 2 Khz with relative ease.

Without the narrow IF filter or the tuning skills to run split, the 2nd best technique is to allow the pileup to boil for 30 seconds or so until random timing breaks the calling stations into copyable segments. As more stations drop into listening mode, jot down individual calls and then work five or six stations in rapid succession. Your overall rate, even with the wait, will average several a minute.

If the DX has a strong enough signal to command the frequency, he can accept tailenders but in RTTY, this can be dangerous as not all stations can control their transmit timing well enough to be anything but QRM. If tailenders are being accepted, pause a little before starting each transmission. This technique rewards the better pileup operators and can improve your rate.

On the pileup side of things, if the DX is an experienced operator, quick, short, precisely timed calls work every time.

Here is how it usually works:

"QRZ DE 4U1991CQWWUN K K K"

(Nice short, commemorative call from rare, NYC, NY. Note the series of K's at the end which are sent to be sure that all stations answer at precisely the same time.)

"RYRYROUWOEU['[OIU[OKJQ[09ULKASJDFPOISLKLDL

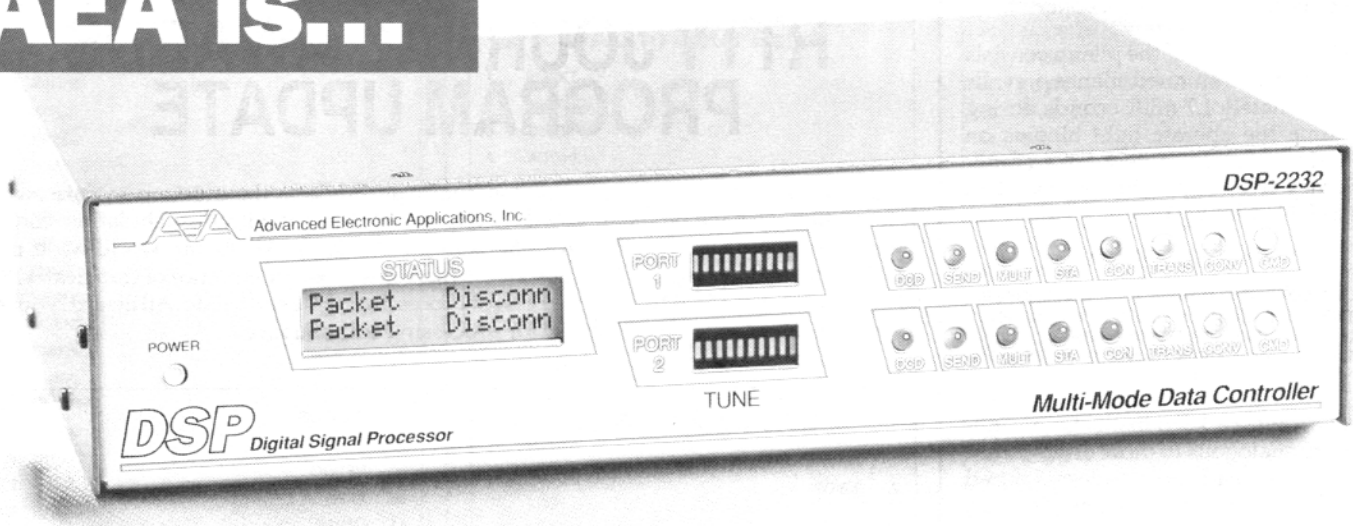
(When calling a DX station, always start your transmission with a string of RY's to be sure that no meaningful information has a chance to slip through at the start of the transmission while stations are still coming on the air. To prevent the possibility of a quick call being sent in the clear as the pileup subsides, the DX must answer immediately.)

"QRZ AGN. I HAVE QRM, DE 4U1991CQWWUN
4U1991CQWWUN K K K"

(All stations increase power. Five more, stumbling across the weird call (which is repeated several times on each transmission), join the pileup. A jogger falls to his knees in reverence as leaves and bushes in Central Park begin to smolder due to focused RF.)

"DE 4U1991CQWWUN THIS IS AWFUL LETS TRY SOMETHING ELSE

AEA is...



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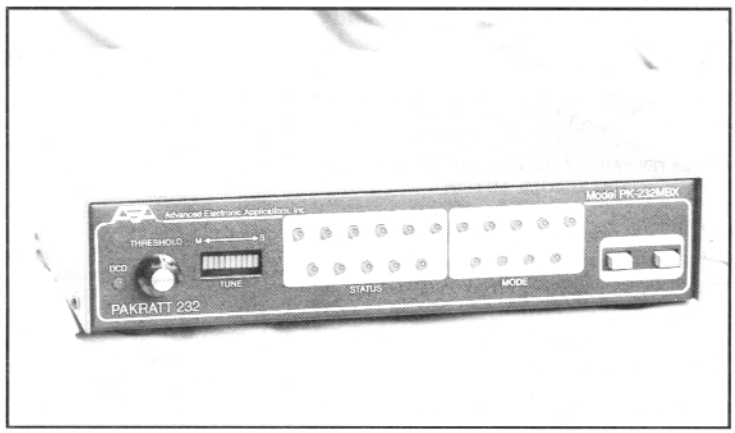
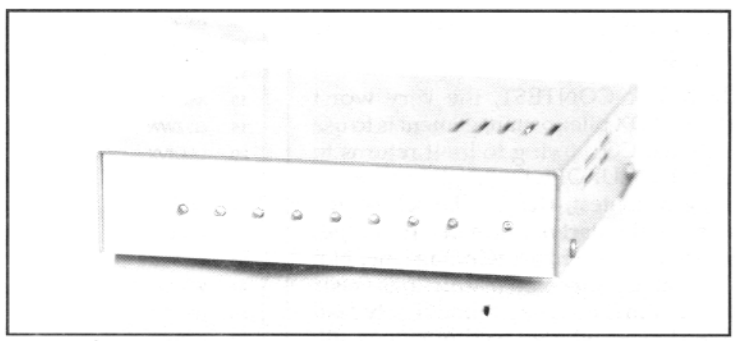
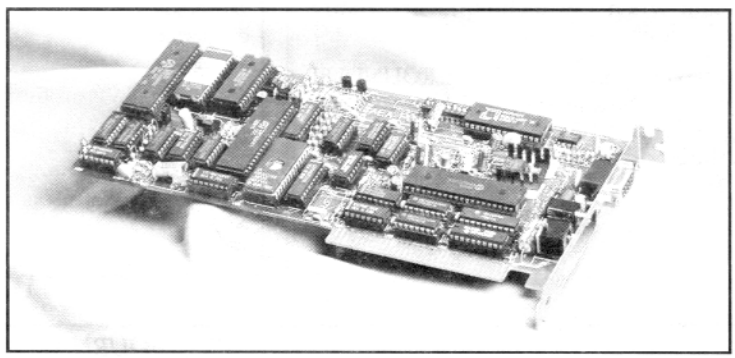
For Packet only, the PK-88 (center) and its PC-compatible plug-in counterpart, the PCB-88 (bottom right) offer AEA's famous Host Mode, Packet maildrop, KISS mode, lithium battery-backed RAM...the list goes on and on.

When hams think of Packet, they think of AEA.

AEA *is* Packet...plus!







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CQ EUROPE ONLY. QRZ EUROPE ONLY"

(Since 99.796 percent of the pileup consists of USA stations, a stunned silence prevails for approximately 1.7 milliseconds during which time the operate light blooms on Barneys Hornsnozzer's new 8877 amplifier. Barney lives approximately 300 feet from the UN building.)

"RYRYRYRYRY DE KB2QRM"

"DE 4U1991CQWWUN I DISTINCTLY SAID EUROPE IF ANYBODY BUT EUROPE CALLS ME I WILL BE SEVERELY UPSET CQ CONTEST EUROPE ONLY CQ CONTEST EU DE 4U1991CQWWUN 4U1991CQWWUN PSE K K K"

(WA7EGA, whose keen instincts for finding DX are analogous to those of a buzzard searching for dead meat, senses injured prey and begins to circle. Meanwhile, Barney realizes that he knows the operator and with the happy exuberance of a farm boy who just found a Winchester, a new saddle and Setter puppy under the Christmas tree, drives the grid up to 85 mils and sends:)

"HI BILL DE KB2QRM YOU SURE ARE LOUD DE KB2QRM HOW COPY"

(The UN station, recognizing his buddy, stops and chats for a minute, allowing his "CQ EU" immunity to lapse. WA7EGA is now hunched on a branch waiting for something to die.)

"SEE U LATER BARNEY 73 DE 4U1991CQWWUN NOW QRZ EUROPE EU PSE"

(WA7EGA, sensing the demise of his prey and having channeled 42 percent of the output from Grand Coulee Dam into his nitrogen cooled amplifier, launches a string of approximately 273 RY's following by the polite request:)

"DE WA7EGA EITHER WORK ME OR YOU WONT WORK ANYBODY"

(This procedure is repeated until the quarry gives up.)

DURING A CONTEST, the very worst method of DX pileup management is to use directional CQs, trying to limit returns to W5 ONLY, EUROPE ONLY, ad-nauseam. During a contest, this is like telling the runners at the start of a race that the judges have already picked the winning lane. Not only do all the repeated instructions waste valuable time, but they immediately lead to even longer-winded recriminations and threats when the technique invariably breaks down!

The next big one is the RTTY ROUNDUP in January. Meanwhile, I will be busy writing "I WILL STOP BEING SARCASTIC" on the blackboard. See you on the air.

73 de **Hal, WA7EGA** ■

RTTY JOURNAL AWARDS PROGRAM UPDATE

This awards update is only publihed annually and reflects the most up to date award information we have on file. If you have any disaggreement with this tabulation, contact Betsy Townsend, WV7Y, P.O. 644, Spokane, WA 99210. All Hams world-wide may participate in this program. For subscribers there is no cost for issuance of certicicates. For all others, there is a $5.00 fee to cover cost of processing of the certicifate. All award requests should be directed to Betsy, WV7Y, for processing and issuance.

WAC 80 Meter Band

1. W1WX
2. K6KW

WAC 40 Meter Band

1. DLL0TD
2. W1MX
3. W6JOX

WAC 20 Meter Band

1. K3SWZ
2. W5RYA
3. W0MT
4. DJ8BT
5. SL5AR
6. DK4ZF
7. JH1TFF
8. SWL13-13-018
9. DJ1QT
10. W4LH
11. VP2MRW
12. K4YZV
13. F6ALL
14. W7WI
15. SM6AEN
16. W1MX
17. W9OEQ
18. K6KW
19. G3ZWW
20. DLL8VX
21. W3EKT
22. W0JCO
23. PY2CYK
24. WB9LUK
25. WA6WGL
26. WB4TPU
27. K4GJW
28. DL8QP
29. I8YRK
30. G3YDR
31. I1PYS
32. LA2IJ
33. JA7MLL
34. G3HJC
35. W8JMG
36. K1LPS
37. WB4VUP
38. W1GKJ
39. VE2QO
40. K4ZS
41. OH1NI
42. WA0YDJ/4
43. K4VDM
44. G4ALE
45. GW3IGG
46. K4JAF/WA0AKT
47. W6JOX
48. JA4LNZ
49. G3IIR
50. SWL-BRS-18456
51. N3AI
52. I5HZZ
53. I5GZS
54. I1OLW
55. I5KPK
56. SM5EIT
57. WA8CZS
58. WA9BOW
59. B. Niendorf
60. K4RN
61. IS0ESS
62. K5GH/W5KHP
63. HB9AVK
64. WB6CYA/KG6CM
65. I2WEG
66. WB2VDT
67. WA6CQW
68. K. Wustner
69. K0HSC
70. W8JLN
71. KA7CYK
72. VE2JR
73. LZ1KDP
74. DL8GO
75. DJ2Y2
76. KD5WJ
77. K0PJ
78. JA1EN
79. E. Prawalschke
80. DJ3OE
81. WB7BFK
82. I5FLN
83. SL6ZB
84. W2LFL
85. VE7BTO
86. I5YTP
87. PJ5SO
88. JA1DSI

89. YO3AC
90. JR2TZL
91. K4UDM
92. K0BJ
93. YB3BLI
94. W4MWP
95. KD4OM
96. HB9BQL
97. WB3HAZ
98. ON7EV
99. KB2BO
100. N8AKF
101. FM7WO
102. I8JRA
103. OH5YW
104. GM4KHE
105. DF1UO
106. N4FJL
107. KA4BDB
108. KT1N
109. WA4JJY
110. WA6VZG
111. VK5RY
112. G3KQS
113. SP2UU
114. SP2FF
115. SP2UUU
116. KE6T
117. I5WT
118. HB9AVK
119. SM5EIT
120. SM7LSU
121. OE3HCS
122. ZL3AKI
123. G4JLU
124. G0AZT
125. PY6ACP
126. AB0Y/4
127. KA7IVA
128. VK3EBP
129. VP5/G0AZT
130. W6/G0AZT
131. SWL ZL2-266
132. JR2PAU
133. WB6SSW

WAC 15 Meter Band

1. I0LVA
2. G3UUP
3. I5NOD
4. WB6CYA/KG6CM
5. DJ5OE
6. JA1DSI
7. DK5WJ
8. K4VDM
9. G4EJA
10. EA8RU
11. ON7EV
12. JR2TZL
13. I8JRA
14. N4FJL
15. N4FJL
16. VE6ZX

WAC 10 Meter Band

1. FG7XT
2. WA6WGL
3. DJ6BT
4. W1GKL
5. W6JOX
6. HB9AVK
7. SM5EIT
8. K3SWZ
9. W2PLQ
10. K4YZV
11. W4QI
12. WA8NGJ
13. W9OEQ
14. I8AA
15. DJ3OE
16. JA1DSI
17. LZ2KRR
18. K4VDM
19. K1LPS
20. SP6IPY
21. 5Z4BH

WAC Mixed Awards

1. DF7FB
2. I5TIV
3. KB9DM
4. DKYUC
5. G4FLM
6. LZ2KRR
7. W2IUC
8. G3GGL
9. 9A1ONV
10. DJ0WQ
11. K4YI
12. YO3AC
13. N9BHH
14. OZ1CRL
15. EA4BLQ
16. W0LHS
17. 4X6GV
18. DH2BAB
19. DL5MBI
20. WB5HBR
21. SM5FUG
22. OK3CNJ
23. SM6AAY
24. GI4KQA
25. C21BD
26. YB2BLI
27. N4FJL
28. KE6T
29. G4NYO
30. G4NJW
31. C. Gibbs
32. LZ2KIM
33. G0ATX
34. VK2BQS
35. KE7PN
36. W2FG
37. LA7AJ
38. KE7PL
39. G3SJX
40. JA1DSI (YL)
41. CR6AUR
42. TG9VT
43. ONL5923
44. G6LAU
45. G0ARF
46. OH2BYS
47. NT0V
48. EI3GC
49. CT1AUR
50. G3XTT
51. I4IBR
52. KI6OT
53. LA0BX
54. WB6ZHN
55. IV3ZDO
56. KI6VW
57. N6CGB
58. OZ1IWE

DXCC Awards

NO.	*CALL*	*COUNT*	*DATE*
1.	ON4BX	200	7801
2.	W3KV	210	7802
3.	I5KG	120	7803
4.	ON4CK	150	7804
5.	W5QCH	130	7804
6.	W8CQ	120	7804
7.	WA3IKK	150	7804
8.	DK3CU	100	7804
9.	W5EUN	120	7804
10.	G6JF	140	7804
11.	W3LFL	200	7805
12.	I5ROL	100	7805
13.	W4YG	100	7805
14.	W3DJZ	150	7805
15.	JA1ACB	100	7805
16.	K8YEY/W8US	100	7805
17.	I5WT	226	7805
18.	W1GKJ	150	7805
19.	W4CQI	110	7805
20.	DL8VX	100	7805
21.	K6WZ	147	7806
22.	W3EKT	100	7806
23.	W8JIN	150	7806
24.	W5EGY	100	7806
25.	I8AA	225	7806
26.	K3SQZ	100	7806
27.	OK1MP	100	7806
28.	W5VJP	100	7806
29.	K4YZV	100	7806
30.	K7BV	210	7809
31.	F6ALL	100	7809
32.	F5JA	160	7810
33.	HB9AVK	100	7811
34.	F8XT	100	790401
35.	OH2HW	100	790410
36.	W9RY	100	700416
37.	DJ8BT	100	700524
38.	DF2KU	100	700716
39.	DL8KS	100	700829
40.	JA8ADQ	100	700915
41.	W3FV	150	700901
42.	VE2QO	100	701114

43.	W7MI	100	701201
44.	DJ3OE	100	800210
45.	I5FLN	220	800214
46.	W6JOX	164	800724
47.	JA1DSI	200	800724
48.	VK2SG	100	801103
49.	W2IUC	100	801103
50.	K0BJ	120	801103
51.	DJ1IJ	100	801215
52.	JA1BK	100	801215
53.	W2PSU	100	810221
54.	SM6AEN	100	810225
55.	I0AOF	100	810602
56.	SM7CLZ	100	810602
57.	DK5WJ	100	810602
58.	ON4WG	105	810605
59.	JA6GIJ	100	810921
60.	JA1JDD	100	811012
61.	WA6WGL	100	811102
62.	GI4AHP	100	811110
63.	SM7CLZ	100	811215
64.	KG6CM	100	811217
65.	JA1MIN	100	811219
66.	YB2BLI	100	820426
67.	W0HAH	100	820506
68.	K4VDM	100	820517
69.	DK1BX	120	820702
70.	K1NVY/7	100	820815
71.	JA1ZF	100	820825
72.	GM3ZXL	100	820925
73.	WOLHS	100	821027
74.	W8JMG	100	821122
75.	JR2TZL	100	821122
76.	JA3EOP	100	821221
77.	KB9IS	100	830105
78.	K4JAF	100	830401
79.	WB3HAZ	100	830501
80.	K9LPS	100	830520
81.	JR6AG	130	830615
82.	JA2VFW	100	830701
83.	DK4KK	100	830910
84.	N1BNK	100	830910
85.	XE1M	100	830926
86.	JA1DXV	100	830927
87.	JH1BIH	100	830928
88.	JR2CFD	100	831025
89.	N4FJL	100	831102
90.	SM5EIT	100	831104
91.	KY4I	100	831106
92.	To 98	Not Issued	
99.	VE7VP	100	840102
100.	KA7BDB	100	840131
101.	JH2PDS	100	840404
102.	K4AGC	100	840520
103.	WB2VTD	100	840601
104.	HB9HK	100	840915
105.	N6ELP	100	850211
106.	WB4UBD	100	850501
107.	JA5TX	100	850515
108.	JA1BYL	100	850601
109.	JE1DTV	100	861128
110.	JA1QWF	100	861229
111.	I2WEG	109	870714
112.	VK2BQS	102	870818
113.	G4SKA	108	870911
114.	JA2NNF	113	870928
115.	KE7PN	105	871010
116.	G0ATX	102	871127
117.	DL8QP	100	880606
118.	JA3BN	128	880613
119.	JA1BWA	108	881018
120.	ZL2AKI	117	881213
121.	JA6JPS	101	890123
122.	JA4VUQ	103	890404
123.	DU1AUJ	118	890423
124.	JA6TMU	109	891022
125.	JR2PAU	125	891022
126.	VK3EBP	100	900127
127.	JE2GAL	100	901027
128.	WA6PJR	237	900127
129.	WA3ZKZ	103	900127
130.	G0ARF	105	900127
131.	G0AZT/W6	110	900127
132.	KA9PJZ	172	900606
133.	VE6CNV	104	900606
134.	OH2LU	156	900606
135.	EI3GC	100	900606
136.	N3UN	190	900606
137.	N6CGB	202	910418
138.	JA0DAI	106	910930
139.	K1GVW	114	911930

DXCC to SWL

1.	G8CDW	821108
2.	Chris Gibbs	831106
3.	JA1-3477	841231
4.	F11ADB	870427

Worked All Zones WAZ

1.	TG9VT	870929
2.	JE1DTV	871130
3.	GM3ZXL	880801
4.	W6JOX	891022
5.	OH2LU	891022
6.	JR2CFD	891022
7.	WA6PJR	900127
8.	W7MI	900127
9.	W0HAH	900127
10.	KA9PJZ	900606
11.	N3UN	900606
12.	JA6YMU	901229
13.	G0AZT/W6	901229
14.	K6WZ	900930

WAZ 15 Meter Band

1.	JR2CFD	891022

WAZ 20 Meter Band

1.	JR2CFD	870914
2.	JA1DSI	871130
3.	JR2PAU	891022
4.	W2JGR	900127
5.	N6CGB	900314

Congratulations to all of the above Hams who have applied for RTTY JOURNAL awards. These awards are certified by wallpaper attesting to their skill at operating and at being able to track down those elusive QSL routes.

There is also a separate listing that bears mentioning here. The RTTY JOURNAL DXCC Rankings shown below have not been confirmed by the RTTY JOURNAL but are well recognized World Wide.

CALL	*Confirmed*	*Worked*
JA1ACB	310	312
I5FLN	292	
K6WZ	282	289
WA6PJR	265	268
W0HAH	261	268
TG9VT	260	269
W6JOX	242	252
I5IGQ	240	259
I5ICY	240	257
NN2G	237	
WS7I	229	
OH2LU	228	238
W2JGR	228	234
I5WT	226	
I8AA	225	
G0AZT/W6	223	284
W0LHS	218	230
N3UN	218	229
JA3EOP	216	
W3KV	210	
K7BV	210	
KA4PJZ	204	
ON4BX	200	
W2FLF	200	
JA1DSI	200	

Please bear in mind that some of these records go back many years and at times were not as accurate as we would like. So your input with regard to accuarcay would be appreciated.

If you like to chase DX, then you will also like the certifcates that can be obtained from the RTTY JOURNAL.

If you would like particulars on "How To" apply for one of the many awards available from the RTTY JOURNAL, simply mail an SASE to our office and we will send you the information.

Best DX to all and good luck chasing down those QSL cards.

73 de **Betsy, WV7Y** ■

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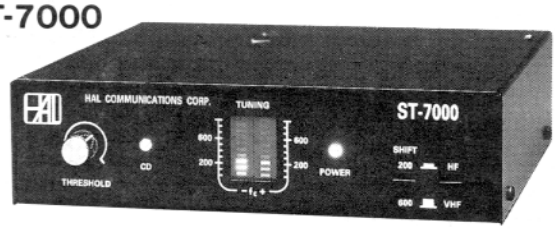

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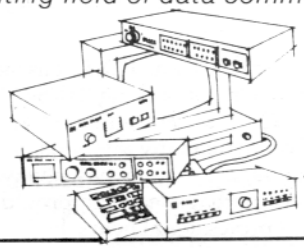

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DX News

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

Once again I am sorry to report DX Editor John Troost, TG9VT, is not feeling well. This time he developed an angina problem, probably brought on by working to many "new ones" during the RTTY DX bonanza in late September and early October.

His new medicines were having a positive effect... now this. It's tough to stand by helplessly while a good man is hurting. When you read this John, you'll know we were all in there urging you on with our best wishes.

This past month has not quite kept pace DX wise with past months, however, the one bright spot was the appearance of John, XQ0X, on October 13th, as promised. The training provided by Don, CE3GDN, and Mickey, CE3ESS, was obviously effective. John's operating style was smooth and efficient within a few contacts and by the second night he was knocking out calls at a rate of one every two minutes .. sometimes even faster. John drew quite a crowd and we all had a great time watching the action. QSLs go to CE3ESS.

IRDXA has now activated 25 countries.. including 16 "All Time New Ones!" If you enjoyed working XQ0X perhaps you would also enjoy knowing your greenstamps helped. Send your donations to IRDXA, 356 Hillcrest St., El Segundo, CA 90245, USA.

Many are receiving QSLs from the ZA1A operation, however, I do not know of any RTTY QSLs yet. The world's record for fast QSLing appeared to go to "Fast Eddie" VP2M/G0AZT. I got my card within days of his return to Northern California. Thanks again Eddie for a new one and another of your famous red on yellow QSL cards.

Congo: Last month, JA1ACB, Gin, asked if someone could obtain some paper and ribbons for a Siemens RTTY unit available for use by TN1AT. W2FG got word to Henri, DJ6JC, who immediately located the necessary supplies.. only problem now is that we do not have an address for TN1AT. If you have any info, please pass it to TG9VT on APlink.

RUMOR MILL

(all the news that's fit to print, and some that ain't)

Nepal - Lennie, KB2NK, announced on the Family Hour Net recently that during a recent conversation with the good friar he learned that a "competent" RTTY op would visit Father Moran, 9N1MM, in December and operate the 9N1MM station.

This statement does not jive with a conversation Father Moran had with RTTY DXer Irv, W6GC, later the same week... but what the heck, work em first, worry later.

Irv tried to talk the good Father into taking a IRDXA Robot 800 home with him, to no avail. Father Moran said he has trouble just getting on SSB these days. He also said Nepalese PT&T has refused to license any of his students.

Mozambique - Another rumor circulating on the Family Hour has C9RKM coming up on the "gentleman's mode", in 7-8 weeks. Many of us worked C9RKL in August but no QSL card has been received from op "Kurt" here, as of this writing. TG9VT sez the cards are imminent.

Bangladesh - Jim Smith is still in S2 trying to obtain permission to operate. Apparently the problem now is that S21A must operate first, and not with Jim's gear... he must have his own radio. Word here is that INDXA is rushing a "gift" into the country. Meanwhile, Krrsti has returned home. Good Luck Jim.

NON-RUMORS

Southern Sudan - Dennis, ST0DX, has returned to the Netherlands. Looks like we worked him just in time. Once Dennis started working split he appeared to be having a good time working RTTY. His operating technique and QSO rate were both quite good and he became a regular on the RTTY bands for a week or so. Thank you Dennis for an "All time New One." Another great IRDXA operation under our belts.

Albania - Lucianno, I5FLN, (alias ZA1A) reports he made 1328 RTTY contacts from ZA land, a total of 63 countries. The continent totals were: Africa 3, Asia, 286, Europe, 597, North America, 422, South America, 9 and Oceana 11 (guess that includes Australia which was a continent last time I checked.) In any case, we all hope you had as much fun as we did Luciano.. great work. How would you like a mice vacation of 24 hour days in a hot stuffy radio room in Ethiopia?

Mauritius - Jacky, 3B8CF, is home again and back on the air from his home QTH. QSL his call book address. All cards for 3B7/3B8CF and 3B8CF go to his call book address: Seewoosankar Mandary, Shastri Road, Candos, Quatre Bornes, Mautitius Island, Indian Ocean.

Please note that Jacky, 3B7/3B8CF, is not Jackie, F2CW.

Afghanistan - Jackie, F2CW, has been stationed in Afghanistan for the past year or so.. in fact, he arrived just as Romeo and the YA0RR crew were winding up their operation. F2CW has recently been able to get on the air as YA2CW and can be found occasionally on CW. He does own RTTY gear, but we have no information about whether he will be active from YA land. Meanwhile, F2CW's YL is receiving tons of QSL cards for 3B7/3B8CF and having to return them all.

San Feliz - John, XQ0X, is active on 20 meters around 0100- 0400Z.

Algeria - Seghur, 7X2DS, is once again active on RTTY. He does QSL, however, it may take several attempts to get though the greenstamp filters at his post office.

Other interesting DX heard recently includes: 5V7DP, VQ9RB, FK8BK, XX9AS and S79DL. For details, read the VK2SG DX news on APlink. The DX News has a new look and can be read faster than the old style.. congats to Syd.

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

Navassa - Bob, KW2F, and several others plan an expedition to Navassa Island KP1 in January. IRDXA has offered use of one of the HAL Telereaders.

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.

South Orkney - IRDXA is shipping a RTTY set to Brian, VP8CFM, via Bob, VP8FH, in Port Stanley. Transportation is a major problem and the route is not yet resolved. Stay tuned.

Mayotte - Jean, F8XT, has accepted the challenge of talking fellow Francophile FH8CB into becoming active on RTTY. I have made many attempts on SSB but the language problem has always ruled the day... perhaps Jean can provide the necessary professional help .. hi.

Kermadec - Ron, ZL1AMO, is still working on a plot to activate this one for us.

Currently active IRDXA stations include 7Q7LA, 3B9FR, 4K2OIL, ZD9BV, P29BT and now XQ0X.

Good luck, cu in the pileups ..

de **Don, W6PQS** ■

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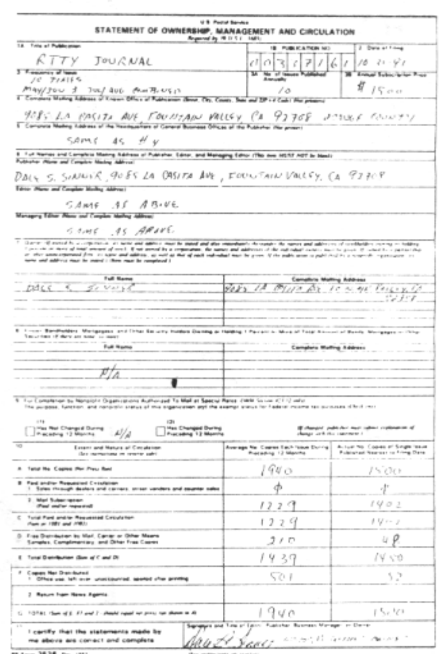
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