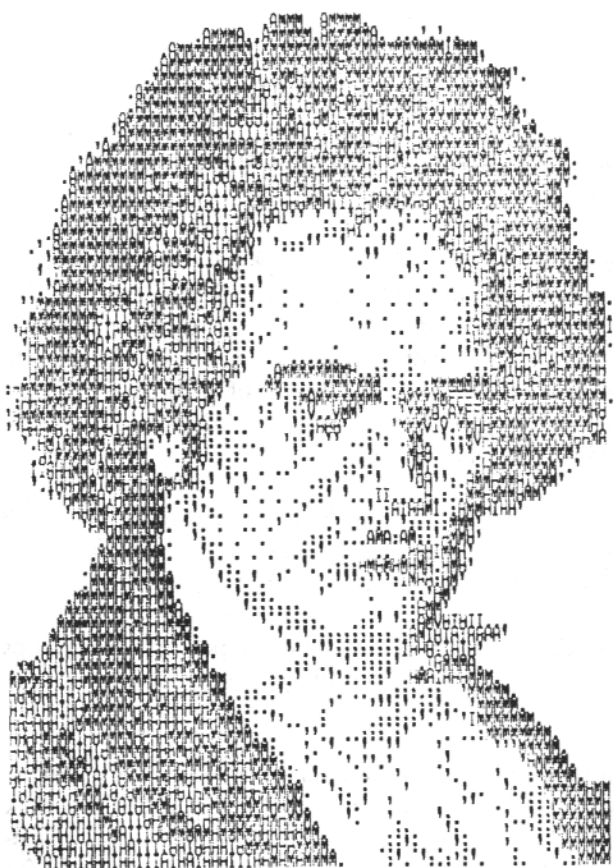# RTTY ART
"ALIVE AND WELL"

SEE STORY ON PAGE 20

LUDWIG VAN BEETHOVEN 1770-1827
GERMAN CLASSICAL COMPOSER

ORIGINATED FOR RTTY BY "SLIM", WA0BGV, FREEMAN, MISSOURI 10-26-88
RECEIVED FROM WA0BGV AND RELAYED BY GENE, WA7RCR, LONGVIEW, WA...

PETER ILICH TCHAIKOVSKY, 1840-1893
RUSSIAN ROMANTIC COMPOSER

ORIGINATED FOR RTTY BY "SLIM", WA0BGV, FREEMAN, MISSOURI 10-9-88
RECIEVED FROM WA0BGV AND RELAYED BY GENE, WA7RCR, LONGVIEW, WA...

IN THIS ISSUE

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

AMTOR

Sorry I missed the January issue folks. As most of you know, I made another trip to VP5, this time with the "illustrious" AA5AU, Don. Organizing the whole trip took up a fair amount of time, writing and costly phone calls to "Provo", to insure licenses and accommodations would be available.

MAILBOX

I'd like to thank K2PEQ, Bill, for his note and comments on the NON use of amplifiers in the ARQ mode. Quote: "perfect copy, is perfect copy!" and that is a fact. Bill also mentioned that he has 102 countries on ARQ with 81 confirmed. Well done sir.

KI4WV, Gordon, was asking about a program for an IBM clone, that would allow him to correct spelling mistakes, before they went "on air". Gordon, I owe you a letter, but one would need to know what type of Modem/TNC you had hooked up to the IBM clone, and also the trade name of the computer would be useful to know. If you have the PK-232, AEA does have software for IBM type computers.

My thanks go to KL7PG, Harold, in the part of the USA that tends to prove that thermometers can read down as low as -60F or less! Brrrr. Harold is of the opinion that power ain't everything, and he is right! His concern, like a lot of ours, is the "over-driving" of the audio signal and too much power, which causes distorted, wide and terrible sounding tones etc. Anyone try to print that YV-stn lately?

Last but by no means least, a letter from Mark, KJ6JC asking for an article on how to get started on AMTOR, for the "rank novice". Your wish, is my command sir! The old hands at "chirping" can now fall asleep, turn the page or read on and wait for me to make a mistake. Hi!

GETTING STARTED ON AMTOR

I was "weaned" on AEA's MBA-TOR software for the C-64 and PK64/CP-100 systems, so I can only give the new-comer, advise on this package.

Assuming that you have read your software/TNC manual, at least once, I would suggest that you first ensure that ALL the connecting leads between the computer, TNC, radio and even
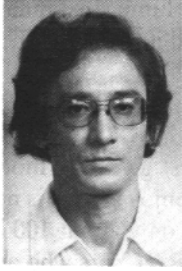
Taka
Yasutaka Nagata, JA1JDD
2-31-9 Shakujiidai,
Nerima-Ku, Tokyo, 177 Japan

INTERNATIONAL

Hello friends, it is really my pleasure to have a chance to join the RTTY Journal. I am not so long subscriber of this magazine, but I have known this magazine since I started RTTY on HF bands. I really thank Mr. Dale Sinner who gave me the chance to show my article on this column.

INTRODUCTION

First of all, I will introduce myself. I am 48 years old, and have a wife and three children (one daughter and two sons). I have been a Ham since 1960, and I started RTTY in 1978. I have worked approximately 2500 RTTY QSO's on HF bands for the world, and approximately 1500 QSO's with USA. Of course I already got RTTY DXCC from both of RTTY Journal (#60) and ARRL (#32). I also got RTTY WAS (worked all the states) from both of RTTY Journal (DX column Editor was Bill Snyder, W0LHS) and ARRL (#64) too. It was really my pleasure to get RTTY WAZ on 20 Meter single band (#7) and Mixed bands (#5) at the end of 1987. I think it is easy to know how I have been active on RTTY on HF bands. I have been columnist of RTTY mode for Japanese CQ magazine for approximately four and half years and I recently finished as columnist (April 1988). I passed the job to another Ham in Tokyo. The new columnist is JH1BUH (Hiro) and he is also one of the active RTTYers here in Toyko. These are the summary of myself.

JAPANESE RTTY HISTORY

This time I will introduce the history of RTTY (F1) in Japan. We Japanese couldn't operate Amateur radio for several years after World War II finished. Of course, there were several people enjoyed Ham radio before World War II. But all the activity of Ham radio had to stop by government when the war began. It wasn't until 1952, we could operate Ham radio after was (in fact, the first examination was held in 1951, but the license were not issued until 1952). This time, the F1 mode was only allowed above 10 Meter band. There were very few people who enjoyed F1 by using surplus gear from NTT (Nippon Telegraph/Telephone, same as ATT in USA). This was around 1960. But the machine is domestic purpose (6 units "kaka" code with alphabet and numeric) and they operated above 10 meter band, so that it was not International. This is the reason that Japanese was late to get into RTTY internationally. There were several Hams who were interested in RTTY communication to the world. They asked the Ministry of Posts and Communications why they didn't allow F1 mode below 10 Meter band. Finally in 1967, Japanese Hams were able to operate F1 mode below 15 meter band. So I think, this is the year that Japanese could operate F1 mode on all the frequencies allowed Hams.

RTTY PIONEERS

The pioneers of Japanese RTTY mode were JA1MP, JA1ACB, JA1FFX, JA1EUL and JA1ADN. The license was not so easy to give them since they asked Ministry of Posts and Communications. So some Hams used 5 units code, and operated make-break mode like CW preparing for their licenses. The first Ham who given F1 mode license was JA1MP. It was in 1967. But others were not given licenses for a few years. The next Ham who was given F1 mode license was JA1ACB, and it was in 1972. JA1ACB couldn't wait to get license, and started F1 mode in 1969. This time, he mentioned, he didn't operate F1 mode, but just operated A1 mode which had very frequent QRH and the QRH frequency was accidentally 850 Hz and fit for 5 unit code. Oh boy, how clever he was!! After JA1ACB was given the F1 license, other Hams who I listed were given the F1 license one after another. In these five Hams.

There are two Hams who still are famous in the Ham world. One is JA1MP (Mr. Saka Hasegawa) who is the founder, owner and chairman of the board of the famous Yaesu Musen company. He was also one of the pioneers of SSB equipment in Japan. When Yaesu Musen was a very small company, he made SSB generator kits and delivered them to market. It was just the beginning period of SSB in Japan. Then Yaesu Musen produced complete SSB gear which was single band transmitter. So Yeasu Musen has been a major company for SSB gear for a while. Then Kenwood and other companies joined the SSB gear race.

Another pioneer, who is a famous RTTY DXer all over the world with 280 countries confirmed on RTTY mode is JA1ACB and his name is Gin Naniwada. He is not only famous in RTTY, but also as the pioneer of SSB here in Japan. He wrote many articles concerning SSB, such as "how to build the SSB filter", "how to build the linear amplifier:, etc. Now, he is not only a famous RTTY DXer, but also one of the important donors for Dxpeditions of RTTY mode. He has donated approximately 10 or so pieces of gear every year lately. He still had much interest and passion for RTTY DX communications. He enjoys not only DX chasing, but also rag-chewing. If you carefully watch 20 or 15 meter band, you can find him often with ease. Gin is now one of the most famous Hams and he has already been introduced by Bill (W0LHS) in World Radio, and also here in the Journal by Roy (KT1N). So I think, I need not write anymore about him. To my regret, most of these pioneers except JA1ACB are not to active now.

(INTERNATIONAL cont. from pg. 3)

They all seem to be interested in another hobby these days. They seem to be only interested in the technical part of RTTY and are missing the enjoyment of the communications via a printer. But there are some possibility they will come back again to RTTY in the future.

I remember one very famous person, Bill Halligan (W4AK). He was the president of Hallicrafters company and he was very busy on the job. But when he retired, he had a lot of time to enjoy Hamming. I had several QSO's with Bill Halligan. He lived in Florida and came on the band in the morning. He always told me that this was just his fingers training for his golf game. He always said, " Okay Taka, now I will close my transmission, I will play golf with my friends. So long Taka....". He really seemed to enjoy RTTY communications.

In 1973, JA1DI, JA1EZL, JA3AUQ and other Hams started to operate F1 mode. The f1 mode was gradually popular here in Japan, and in January 1976, CQ magazine (published in Japan and different from published in USA) started RTTY column and offered the information to the subscriber. It was published that there were approximately 60-70 RTTYers but there were still no RTTYers from JA4, JA5 and JA0 areas. At this time the column was written by people at CQ magazine but in January 1979, JA3AHQ became first editor of the column. In January 1984, I followed until July 1988, when I passed it to JH1BIH.

20 YEARS GONE BY

Twenty years have passed since we were first given F1 mode license, and the population of RTTYers who enjoy DXing is not so many here in Japan. It appears, there are only about 100 in this category. The reason that population of RTTYers who are active on HF bands doesn't increase much, is typing and translation. First we have to master English, American spelling and above all, mastering typing. These are the biggest reasons for lack of growth in RTTY here in Japan. Of course, the micro-computer is very popular here to and there are so may young guys who don't hesitate typing. But most feel some hesitation to make a sentence in English with the correct spelling in real time.

There you have the history and summary of HF-RTTY (F1) in Japan. Next time, if I again have a chance to be given a page of the Journal, I will tell you the latest news of Japanese digital modes. There are so many Hams who enjoy Packet radio. I think, the population of these people is still improving, and is maybe #2 or #3 all over the world. They have very intimate and friendly communications with those who are active in USA.

de Taka, JA1JDD

Mr. Sakooh Hasegawa, JA1MP

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

PACKET
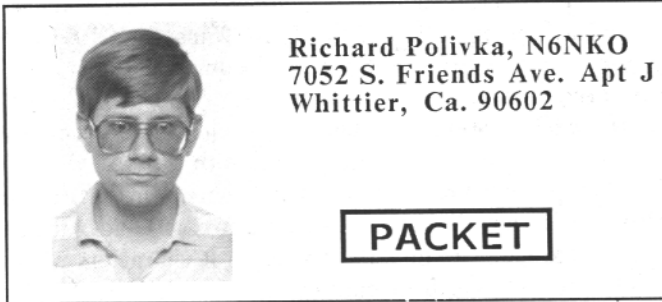
A MARTIAN

I thought that I would start out by saying I have officially dropped the "T" in my MARS call since my training is completed. So, now it will be more fun and interesting.

SPRAY ON

Over the past few months, I have been receiving requests on where to get the EMI spray that I mentioned in a previous article. Well, much to my disbelief, the distributor that I originally bought the spray from does not carry the item any longer and I have checked with some of the larger electronics distributors out there and they say that they have never heard of it. Well, I love to prove them wrong. Ureka, I received a catalog from a friend of mine and found the stuff. It is located in the Newark catalog #109 on page 835. It is made by GC/THORSON and it is called "EMI-RFI SHIELD". It comes in a 12 oz. can and the GC part number is 10-4807 and the Newark part number is 00Z725. It is listed in this catalog at a price of $5.44 per can. Here is something to always remember. This is not a cure-all for RFI problems, it is only an aid for helping one rid themselves of the problem. RFI comes from everywhere. Our newfangled pieces of electronic equipment that come in a plastic case allow RFI to escape from their circuits and cause many problems for all concerned. As an example, I had a terminal that was spreading more than its share of noise and hash. I bought a can of the spray and applied it to the case and made sure the spray was grounded. Well, it helped some. I took my HT and used it as a probe and found that I was still getting RFI through the monitor screen and the keyboard plus the data cable out the back.

Nothing could be done about the leakage from the screen and the keyboard could have been cleaned up by using a metal screen under the keys but that was too risky. I limited the radiation from the data cable by using ferrite beads inside the terminal on the wires leading to the RS-232 connector. So, I had to put up with what was still there after all of my work. Oh well, I guess designers do not take into consideration the effects of RFI when something is designed and built. Another notorious emitter of RFI is the C-64. Anytime a cable is plugged into the cartridge port of the unit, that cable is tied to the address bus and data bus of the machine. Therefore, it becomes a radiator sending out the signals that are caused by ringing square waves and of course we all know that square waves are laden with harmonics (like a 100KHz marker generator). So, somehow that cable should be shielded to prevent radiation (cable shielding...naw, TV CATV is shielded, RIGHT? Try 145.240 MHz simplex and see if there is a birdie there. You'll find it sings quite loudly!!). So, grounded foil needs to be added to the cable if possible or you may have to use a new cable with a built-in shield. When you are using receivers that have sensitivities in the tenth's of a microvolt range, the smallest amount of leakage will be heard.

So, if after all of that you still have some birdies, then you may have to go further and it may end up being more money than it is worth. Me, I live with the birdies on 10 meters and work around them.

We sure need an enforceable standard of RFI radiation for ALL electronic equipment. Clean equipment can be built but it costs a bit more.

DIGICOM 64

Last month, I covered the qualities of the circuit board kit. This month, I was planning to cover the operation of the unit but I have decided to hold off on that until I thoroughly understand how it works and how it can be used to the best advantage. When one has only three hours a day to do the chores, change the baby, play with the baby, and all of the other things that I am responsible for, trying to set aside time and space is not easy ANYMORE. So, I have decided to take a logical first step and cover the operations manual for the DIGICOM 64.

The manual that I received in the mail is punched for a three ring binder and looks like it was printed on a high quality copier. The manual was compiled and edited by Bernie Fuller, N3EFN and the technical advisor was Rick Silverio, WB3JDI. All of the printing is done on one side of the page. I personally wish it had been done on both sides of the page to make it easier reading.

At the beginning of the manual, they give a brief discussion on what Packet radio is. Also covered is what is necessary to get the DIGICOM 64 system working. One nice thing mentioned is that you do not need a "full gallon" to run Packet, just an HT will do. That I think is great, you do not need much power to run Packet because of the ability to digipeat. Plus, this system will not work on the HF bands at the moment because it is stuck at 1200 baud. I am sure there is work going on to get it to work at 300 baud. They briefly cover some of the options and how they should be set initially for trial purposes until you get the feel of the unit.

(PACKET cont. from pg. 5)

One of the more interesting things is that to issue a command to the DIGICOM 64, you have to preface it with a ":". This should be no problem at all for someone to get used to. The only problem I see with this, is if the first character was to be a ":" in a typed line.

The system also has built into it the ability to be remotely queried as to what is on the disk of a remote station. Those commands have to be prefaced with the leading characters "//" and then the command. This way you can read a file, get the directory, and write a file to the remote system.

There is another mode of operation here which emulates a Node in operation. You have to connect to someone who has the version 2.0 software first. Then you issue the remote command sequence "//" and then "C4 (station). This makes the other station a pseudo-node. This uses the ability of the DIGICOM 64's four connect channels. This will prove to an interesting option. I guess that it allows for "store and forward" and not just straight digipeating.

There are of course several commands that are used for disk maintenance such as renaming a file, initializing a disk, verifying the disk, printing a file and editing a file. There is also the ability to store standard message strings for future use with the system. They are called "Standard Texts". This looks like the CTEXT on a PK-232 system.

There is also a map of Eastern Pennsylvania with some digipeaters and associated frequencies. I am quite sure this is out of date by now.

Appendix C gives some great hints on how to build stubs to kill RFI and how to reduce the heat in a Commodore. The circuit that is described is credited to Ray Sine, W3JIW. It is a good one and should be considered. The circuit relies on using a transformer wired for voltage bucking and not boosting to lower the line voltage fed to the Commodore equipment. This will reduce the amount of power that has to be dissipated by the regulators and therefore create less heat. I would say that it should be used to make the unit last longer. It is also built with surge suppressors to kill any spikes coming down the line. Surge suppressors are always a good idea.

PK-232 QUIRK

This is for you MARS operators out there. The PK-232 has a weird problem which I hope will be changed by AEA. If you have

USOS OFF and you hit a carriage return after your last character which is in upper case, the PK-232 inserts a LETTERS character in the string just before the line feed character to return the receiving machine to letters. This is not allowed in MARS. So, be careful. It entails you forcing a letters character to be transmitted to be in compliance with NTP08(A). I hope the folks up at AEA read this and make a change in the firmware. Also, I have found that if the PK-232 has to assert one of the control lines to stop the host from sending it characters while in Baudot, the PPT line drops causing a glitch in the data. This happens when you tell the PK-232 to use hardware flow control. That may be a fault of the 8530 SCC. The best way to avoid this is to feed characters to the PK-232 at the rate you are sending them. I am using a 1200 baud link and I send the characters out at an equivalent 75 baud speed to overcome the problem. I have seen it also in Packet but that tends to be self- recovering, I think. It is just something else to watch out for.
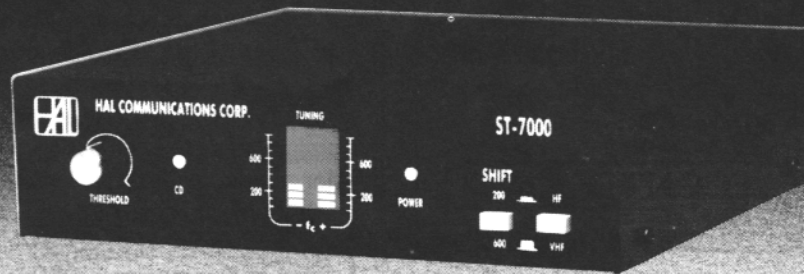
NODES

There was a request of me to explain how Nodes work and all of the hows and whys about them. Well, I will first explain the names of the nodes. One of the first ideas implemented was to give the Nodes the abbreviation of the nearest airport. For instance, a Node in Los Angles would be called LAX and a Node in Detroit would be called DTW, etc. Well, you can't name 15 Nodes with the same call. So, then came the idea of naming the Node for its location. Well, sometimes that will work and sometimes it will not. As an example, WA6RIK-1 which is near Lake Arrowhead, Ca. is called "ARROW". As far as I can tell, there is really no agreed upon way of naming a Node so that can add to the confusion to where each one is located. Usually, on a local PBBS, there are listings available as to where these Nodes are located to help you figure out a path. However, the paths can change due to propagation problems so be on the lookout. The reason for this Nodes check the links now and then and update who they can talk to. Consequently, the "NODES" list will change. Sometimes it will be quite large or it will shrink down to just a few stations because a Node that links the two groups together can't be heard.

Hopefully, that will explain the naming and why the Node lists change all of the time.

NEXT

Next month we will continue with the discussion on how to use the Nodes and the DIGICOM 64 review. Fatherhood agrees with me. So, I can be reached at WB6YMH-2 on Packet or at the station NNNOPCO SCA via Navy-Marine Corps MARS. Till then, BRAAAAAAAAAAAAP   **de Rich, N6NKO**

Hal Blegen, WA7EGA
12910 E. Broadway
Spokane, WA.
99216

CONTESTING

THE GOD-GIVEN RIGHT TO COMPLAIN

There are rules governing dissatisfaction. The unconditional right to whine is bestowed only on certain neighbors who are addicted to TV. The license to gripe about software is acquired only two ways. If, in a moment of weakness, some author trusts you to test his program, a few, gentle murmurs of discontent may be appropriate. If you paid money, you are allowed rude!

All software has something wrong with it. Although sometimes the fix can be so time consuming that I can overlook a bug or two in my own stuff, nobody's program does it all. **Jay,WS7I**, is a computer professional. He is also expert in the subtle art of criticism. When he doesn't like something about my new logging program, he throws up his hands and stomps off to the kitchen. "Garbage," he says, "When are you gonna fix this?"

He continues to mutter imprecations while rooting though my refrigerator in search of enough pastrami to inspire him to give me another chance. I am now on version 612B, have gone through at least a metric ton of lunch meat, and have decided that I will never, ever, let anybody buy the program. I would, however, appreciate a chance to review RTTY software (for a clone) that has been developed by our readers and would offer the logging program in exchange. Drop a me a disk in the mail. No pirates please.

PK232 RIDES AGAIN... AND AGAIN...

The AEA PK232 has been well documented. It runs all digital modes. While the filters are somewhat compromised toward Packet, overall, it's a pretty good unit. But without software, it's out of gas.

AEA markets a clone-compatible program called PC-PAK-RATT (about $40). **Joe Kasser, G3ZCZ** has developed a program called LAN-LINK for the same market (shareware with a $35 registration fee). Joe's program also will run on MFJ, KAM and Kaypro. Although you can run the PK232 from a MODEM program, the 150 or so commands can be overpowering without unit-specific software.

PC-PAKRATT handles messages with ten buffers that send disk files. These can be programmed during transmit. It also sports enough programmable key combinations to keep the average user in a perpetual state of confusion. If you do not require automatic QSO incrementing in the exchange buffer, it also works well for contests, but keep the soft-key programming simple. Trying to use a bunch of buffers in a contest without any prior practice will give you about the same satisfaction as carrying a sandwich board that says STUPID.

LAN-LINK increments QSO numbers on each contact, sends the exchange and logs the QSO to disk in a DBASE compatible format. It also calls CQ automatically with a programmable delay and sounds an alarm if you get an answer. (If this keeps up, we may get around to awards for unattended operation!)

The split-screen, type-ahead mode on the AEA program is less than splendid. During receive it's fine but in transmit you can only edit the word you are typing regardless of how far ahead you are. The spacebar makes it indelible. This may be a hardware- specific problem since LAN-LINK does about the same thing, even requiring a separate command to initiate the type ahead mode in receive.

The PC-PAKRATT does no logging. LAN-LINK logs as well as runs the PK232, but no attempt is made to check for duplicate QSOs. Both PC-PAKRATT and LAN-LINK have an on-going history buffer to make sure that you don't waste any free memory and both offer a separate capture command that saves specific copy to disk. PAKRATT has a built-in text editor using WORDSTAR commands (which were designed by Arnold Swartzenegger to develop his left little finger). The one command missing is the ability to block and save a selected portion of the QSO buffer which would make on-line message handling easier. The LAN-LINK requires all file editing to be performed outside of the program. A program like SIDEKICK might allow editing from within LAN-LINK but in my experience, the compatibility of ram-resident programs with software that does interactive communication with a port is like betting on a boxer who wears ear rings.

Some RTTY stations are also used on MARS (the military radio system, not the planet). This heats up the GREAT CONTROVERSY about computer generated formats and end of line functions. Although I have my doubts about anyone who spends his time fingering a strip of tape produced by a machine that was copyrighted the same year as fly paper, the PC-PAKRATT will configure the PK232 close enough to military requirements to slip by. Getting all the functions correct on both originated and relayed traffic can be a trick (the latest versions respond to a command called NAVTEXT). I cannot personally vouch for it without reading tape, but for what it is worth, LAN-LINK is being widely distributed for use by NAVY MARS.

(CONTESTING cont. from previous pg.)

LAN-LINK begins to really shine in mailbox operations. The automated functions almost make it into a BBS. It can be programmed to look for calls, answer calls, remove traffic, and tell you when somebody on the frequency is talking about you. It also lets you program a host of other unattended, or keystroke saving operations, all of which are extensively documented in the 74-page manual included on the program disk. I am always impressed with any documentation responsible for three printer jams.

One last word on the PK232. The folks who built the PC-PAKRATT program leave the machine in some sort of crippled mode requiring a bunch of precisely spaced CONTROL-C commands to bring it back to life. If you want to try any sort of generic software on it, the easiest way is to put it into the DUMB TERMINAL mode and then unplug the computer. (Purists will suggest a "WARM BOOT" to avoid the hard disk meltdown caused by a dangling wall plug.)

The AEA PC-PAKRATT is distributed by dealers who sell the PK232. The listed support address for LAN-LINK is Joe Kasser, PO BOX 3419, Siver Springs, MD. 20904.

"THE LIVE KEYBOARD

IS DEAD"

Why bother with buffers? There are two kinds of RTTY operators, those who type, and those who keep saying they will learn to type. Surprisingly, buffers will improve the contest score of BOTH kinds.

Old Lightning Fingers will gleefully send a lot of useless keystrokes, calling folks he knows by name and being profuse with gratitude for the QSO. "THANKS A LOT JOHN AND GOOD LUCK IN THE CONTEST" only takes seconds. Under normal conditions, a maximum of 30 characters are all that is needed for a complete exchange requiring virtually zero repeat transmissions. If you send more than necessary, the little piece of time lost on each QSO is like being nibbled to death by ducks.

Of course, if you can't type, a live keyboard is about as much fun as trimming your nose hair. Granted, everyone doesn't have to be a major-league contest station but part of the fun is working as fast as possible. Without typing skills, you cannot begin to approach any sort of contest proficiency unless you use buffers.

NG7P, 2nd place in last year's BARTG and who may have walked away with the RTTY ROUNDUP is a two-fingered typist. Read that as, "USES BUFFERS".

THE PRICE OF PLASTIC ROPE

Everyone but the folks who advertise amplifiers by showing a picture of a brick operating CW will agree that a contest is won by the antenna. Although the most important ingredient of a winning effort is the skill of the operator, I secretly believe that aluminum, not gold, should be the world's currency standard.

With this in mind, you can see what a shock it was to find that a 7-foot chunk of clothesline rope was crucial. On page eight of the instruction manual for my 5-element, 15 meter beam is a single, lonely sentence describing the function of a few cents worth of rope that was supposed to be stuffed into each element. It says, "The rope inside the element will prevent vibrations caused by low wind velocities."

With the October wind already whistling through seven yagis, a pair of 80-meter wires and a 4-element, 2-band quad, I didn't worry about one more voice in the choir. I chucked the rope into my fishing tackle box and put up the beam.

Now it's a new year and my neighbor, who hasn't spoken to me since last year's SARTG, dropped by to say hello. With an upward wave he said, "How much more of this stuff is going to fall in my yard?" Considering this was the third load of aluminum that he had delivered to my door, it was a reasonable question. Although nothing in the instructions may so indicate, if the manufacturer includes rope with his beam and you do not put it in the elements, prepare yourself for aluminum rain. Osha has declared my block a hard hat area.

BARTG'

If you do not operate in this year's BARTG contest you are not only missing the first international contest of season but you are depriving yourself of the chance to work Jay and I on our attempt at a record-breaking, 3rd consecutive Multi-Op 1st Place. We are considering old two-bucker himself, F6FLN to handle the QSLs.

Good luck, see you on the band,   de Hal, WA7EGA
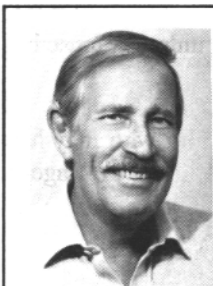
John Troost, TG9VT
POB 296C Vista Hermosa
Guatemala City, Guatemala

DX NEWS

As our friend Roy, KT1N, has decided to spend more of his time on business (yuck!) and less time on DX (ouch), Dale has asked me to spend less time working DX and instead a lot of time writing about it .. hi: sure will miss Roy.

Many of you may have worked me over the years, and even gotten a QSL card from my manager, W3HNK. I have been a Ham since 1961, with calls of HC2JT, TI2JTS and now TG9VT and TG4VT; I have been active in RTTY since 1983. My station, on a 2100 Meter mountain in Guatemala, consists of a four element cubical, a 40 Meter 4 element monobander, the full HAL 3100 line, and ST-8000, an ARQ1000, a PK-232 and various X-receivers, including ICOM's 761 and 781, and an Alpha 78.. how is all this gear? Well, it is .... forget it, if those manufacturers want to blow their horn, there is plenty of advertising space available in the Journal.

To write about RTTY DX, and not to give you a lot of stale information is not easy: this column has to be in Dale's hands about the 7th of the month, goes to the printer on the 10th, is ready for mailing on the 21st or so, and will be in your hands the 25th if you are lucky, the 2nd or so of next month, if you are in a place like Guatemala.

By then any "Bandpass" is old stuff and can only make your mouth water.. therefore, in general, this column will try to deal only with upcoming DX, (if I have the info far enough in advance..), so what to do for day to day info??

WEEKLY RTTY DX NEWS

VK2EG compiles a weekly listing of up-to-date developments of the RTTY DX World. The input comes from many sources including OD5NG, VK2EGG, W1DA, JA5TX, VE3GU, G3XTL, W9CD, VU2SJV, I5FLN and yours truly. This news comes out every Friday about 0400Z and is about 3200 bytes long. It may be found, among others, in the following MSO's:

ARQ: (all frequencies are MARK frequency) VK2AGE (VAGE) 14,075 and 14,077, JA5TX (TATX) 14,074 and 14,080, WA8DRZ (WDRZ) 14,072.5 - 073.5 - 074.5 - 075.5 - 076.5, W3GL (WWGL) 14,072.5 - 073.5 - 074.5 - 075.5 and 080, TG9VT (TGVT) 14,074 from 0500 to 1200Z, 9K2DZ (NKDZ) 14,072, W9CD (WWCD) 14,074, 9M2CR (NNCR) 14,078 from 0800-

1600Z, OD5NG (ODNG) 14,082 at 0330Z, 21,082 at 0800Z and 28,082 at 2400Z, both ARQ and RTTY.

RTTY MSO's: On 14,085.63 MARK, 74 Baud: MSOVKH, MSOKOZ, MSOICL, MSOFL, MSOCD, and GUATMAIL. From all these mailboxes it is widely distributed to both the VHF and HF Packet Networks on all continents.

Please have a peek at it, it may help you to work a "new one".

Syd, VK2SG, signs the weekly DX bulletins as "DX1"; this is not "patting himself on the back", but because he is known as such "down under", since he was the first Ham in that part of the world on AMTOR. The interesting story that Syd, VK2SG wrote about himself will be published next month or April.

DX COMINGS

DJ6JC, Heinrich, recently from A15 and 5U7, will be TY6JC, BENIN, around Easter.

UW3TT, Nick, advises that he will be QRV from UW3TT/UG1G, Armenia, late February-early March. QSL to POB 96, Gorky 603000, USSR.

ZL1AMO, Ron Wright, is scheduled for NORTH COOK for Mid March and the word is that he will have RTTY gear.. we hope!

XE2TCQ tells me that the XF4T expedition from REVILLO GIGEDO will now take place first week of May for 7-10 days, the RTTY operator will be XE1JEO .. but it is still doubtful if the transport available will be able to carry computers for RTTY .. Pray!

ANGOLA, I5FLN, Luciano, tells me that there will be a U.N. contingent in Angola: Mario, IK5IFT, is part of the U.N. group and plans to be active from Angola all band, all modes as D2/I5DEX or D2ONU.. RTTY is 90 percent sure. That will be a good one and he is scheduled to be active for about 9 months beginning late March 89, the Lord willing.

7J1ADJ tells me that he will be active from OGASAWARA as 7J1ADJ/DJ1 from 22 to 27 March.. if his request is not approved by the "powers that be", because he needs to protect something important (like a lot of Yen), then he will ask permission for week earlier. RTTY is the main objective. QSL via KA1BE.

Rumors are that VK0MP will be active from Australian ANTARTICA for 13 months. I have no further details, but QSL via VK6AGC.

Regarding the LACADIVES, VU7, there is no clear info yet that an RTTY operation will be allowed. VU7JX, J.S., who par-

ticipated in the Andaman operation last year as RTTY operator, advised me that the Indian Government has not yet made up it's mind about RTTY from VU7, and is not keen on RTTY operations from these Islands; let's hope that by the time you read this column this matter will have been resolved, favorably that is.

Karl, PS7KM and his group, who did such a great job from Fernando de Noronha last year, is trying to set up a trip to St. PETER and PAUL's ROCKS, and island group far off mainland Brasil. I hope to have further details on that next month. Right now it looks like mid-year 89.

And Yama, 5W1GP, is planning another trip to ZL1, plus A35, KH8, ZK3 , probably in April, we wish him (and ourselves) good luck.

And Giuliano, T5GG, is still in SOMALIA, but though he is rather active on SSB, he seems to have an allergy to RTTY, though he has tried it, and was recently reported on 20 Meter Packet.

QSL informaation for YI1BGD, Ali - POB 7075 Bagdad

And finally there is some indication that KURE may be active soon, apparently our friend Gin, JA1ACB, has gotten Dean, WA6PJR working on it, at least that is what we hear and hope.

More rumors have it that RTTY gear is in the WESTERN SAHARA and also on SOUTH GEORGIA, VP8BLN, but you cannot prove it by me.. hi!

MISCELLANEOUS

W3HNK advises that QSL cards for Tom, OD5NG's operation during the last CQ WWDX RTTY Contest have been received from the printer and will be out shortly. Tom, OD5NG, will take part in the BARTG Contest and those contacts can also be handled via W3HNK.

Rumors are, that someone called Victor, a member of the Long Island DX Association, who was the RTTY operator on Mellish Reef and Willis Island, is being awaited at JFK by a shotgun party consisting of East Coast DXers.. please fellows, not till I get my Mellish card... please.

All kidding aside, it is truly a pity that not more of an RTTY effort was made from Mellish and Willis.. neither country is very rare on CW and SSB (by my logbook anyway), the group did a bang up job on the "normal" modes, with a whopping total of 45,000 QSO's. But unfortunately, though Mellish Reef was an "all time new one" on RTTY, and Willis Island had been activated last in 1984, only very little RTTY was worked, as far as I have heard, two half hour tries from Mellish (the all time new one), and two short tries from Willis.

Now whose fault is that?? OURS! We don't carry the message that RTTY is THE modern mode of communication: we work these guys on SSB or CW, and when they say they are too busy with those modes to do any RTTY, we don't give a good argument. Seems that if we wish some of those expeditions, to places never before heard on digital modes, be active on RTTY, WE need to spread the RTTY GOSPEL. We need to tell those expeditionists that RTTY is fun, that it is State of the Art, and that there is a big crowd out there waiting for a QSO; yes, surely the QSO rate will decrease as compared to CW and SSB, but so will the QRM; and intentional interference on digital modes I have yet to see! Besides, we must put our money where our mouth is and support these ventures, while making it clear that the support is for digital modes! Besides, if RTTY is considered only for freaks, I might get an inferiority complex.

Well, this starts sounding like the lead editorial in the "Daily Worker", so I better QRT, but had to get it off my chest.

73 SEE YOU IN THE BARTG

Dale said last month that Roy's column would be taken over by someone with wit and charm who would overwhelm you (sic); well, I guess that myth is laid to rest. Neither did I take pen to hand, but used a PC plus the input of guys like VK2SG, OD5NG, I5FLN, VU2JX, W9CD, W2JGR etc.. and many thanks to them! (Plus my spelling checker).

See you in the BARTG, if the XYL does not have something else lined up ... 73 (and 88 where appropriate) **de John, TG9VT**

DXer of the month next month Syd, VK2SG

Dick Uhrmacher
K0VKH
212 48th ST
Rapid City, SD.
57702

MSO'S

NEW YEAR UNFOLDS

Hi Gang! The New Year has rolled around, and it won't be long now until we see the annual migration to Dayton for the 1989 HAMVENTION. From listening to others speak about their plans, it looks like this years HAMVENTION will be well attended by those interested in RTTY and MSO's, including this author, and I hope to see all of my friends and associates there. Gaylord, WB8ICL, tells me that the "Radisson Inn Dayton", (the old Imperial House North, traditional meeting place of those interested in RTTY and MSO's) is full at this point, (mid-January 1989), and is no longer accepting reservations for the HAMVENTION weekend.

1989 RTTY DINNER

It doesn't seem possible, but eleven years ago a handful of Hams met at the Peerless Mill Inn, near Dayton, Ohio, during the HAMVENTION weekend, to have a very informal dinner and socialize a bit. Out of that informal gathering has sprung the annual RTTY Dinner, which is the highlight of that particular weekend for many who travel to Dayton. Since many of those folks have turned into a rather persistent group of attendees, I thought it might be appropriate to mention just a few of the folks that attended that first dinner. The initial attendees were, Don Gallagher, K8WZX, and his wonderful XYL Ruth, Chuck Mooney, K8EWK, Louise Crawley, WB8JIB, Gaylord Crawley, WB8ICL, George, KA9BTX, Dick Williams, K8ZTT, Tony Toulis, KI4X, Dennis, WB8TAX, Ralph, AI4D, Don Knollinger, WB8ZTV, myself, and whoever took the picture of this elite group, and will forever remain anonymous! Ruth Gallagher has recently undergone heart bypass surgery, and according to the OM is making a very good recovery. The RTTY Dinner wouldn't be the same without Ruth, so we're all hoping that she's far enough along in her recovery to attend this years Dinner. Chuck Mooney, K8EWK, continues to be active on RTTY, is enjoying retirement, and checks into the MSO's from time to time. Tony, KI4X, and Ralph, AI4D, still are wrestling alligators near Clewiston, Florida, and we miss hearing from both of them. The California "grape vine" has it that Dick Williams, K8ZTT, has retired from the United States Air Force, and is now flying for one of the airlines. Hope to see Dick at the 1989 HAMVENTION.

This years RTTY Dinner, will again be held at the Raddisson Inn Dayton, on Saturday evening, April 29, 1989. The Raddisson Inn Dayton is located on the northeast corner of I-75 and Needmore Road, approximately two miles directly east of Hara Arena, (the HAMVENTION site). The cocktail hour is at 1800 hours, and dinner will be served at 1845 hours in the "Crystal Room". This years sponsor of the RTTY Dinner is none other than the Quacky-Whacky-Goose, Bob Foster, WA9QWG, from Indianapolis, Indiana. Bob tells me that it is a very important for those wanting to attend this years Dinner to pre-register with him by sending $22.00 per person attending, to Bob Foster, WA9QWG, 11920 Cable Drive, Indianapolis, Indiana, 46236. If you'd like to visit with Bob about the arrangements, you can contact him at Area Code (317), 823-1411, (home phone). As in years past, reservations at the RTTY Dinner are limited to approximately 50 attendees, and all those desiring to attend are encouraged to register with Bob as soon as possible.

VIC POOR, W5SMM
RTTY DINNER SPEAKER

As of this time, Vic Poor, W5SMM, is scheduled to be the Dinner Speaker, and his subject will be operation of the APLINK system. I'm certainly looking forward to the RTTY Dinner, and hope to see all of my friends there again this year.

MSO OPERATING HINT

With the significant increase in the use of digital modes recently, we see quite a few newcomers to the National Autostart Frequency, (14 085 625 Hz "Mark" frequency). One of the most frustrating things to newcomers, is to see someone else enjoying the use of one of the MSO's parked there, only to have no luck in operating one of the systems yourself. In observing these failed attempts across the years, two things come to mind that are the most common mistakes that newcomers make. Both have to do with using the "Enter", (or Newline) key on you keyboard. In order for the MSO's to distinguish your "commands" to the MSO from regular text, the command itself MUST be left-justified, (received by the MSO on the left most margin). If the command is not left justified, the MSO considers the command as just regular text, and ignores it! To insure that your comments are left justified, just place a couple of carriage return/line feeds prior to each command by pressing your "Enter" key. Secondly, the "Enter" key is also used to "execute" the command you are sending. So, once you have the command left justified, be sure to include another press of the "Enter" key AFTER the command to cause the MSO to execute your command. Simple as that may seem, the vast majority of ignored commands I see onday to day basis are for those two reasons. **(cont. next pg.)**

(MSO's continued)

MSO RAMBLINGS

For some reason I seem to have had many requests recently for information on the CRT in the HAL ST-6000 Demodulator. This CRT is made by Telefunken, (West Germany), and is their CRT number D-3-111-GH. Replacements for this CRT are currently available from the HAL Communications Corporation, Urbana, Il.

John Troost, TG9VT, has upgraded his station by the addition of one of ICOM's new IC-781's. John says that a six week college course comes along with the unit, in order to exploit all of its features.

Ernie Johnson, W6ZRR, MSO SYSOP from San Luis Obispo, Ca. recently underwent emergency surgery. Ernie tells me that he's home now, and although he did have a few complications, he's recovering nicely now, and that his MSO is back in service.

Frank Bascomb, K4KOZ, reports that although he'll be with us in heart and spirit, he will not be able to attend this years Dayton HAMVENTION. Frank's XYL Erna is having some health problems, that require him to be at home. We'll miss Frank!

Don Kiefer, W5QXK, recently acquired a used HAL MSO system, and has it up and running on the National Autostart Frequency. Don's an Official ARRL Bulletin Station, so those needing the latest information from the ARRL can find it on his MSO.

KA0JRQ sent me pictures of his antenna farm and shack. Larry is a popular MSO SYSOP. See pictures this page.

Antenna farm at KA0JRQ

That's it for this month gang!

Spring is just around the corner!

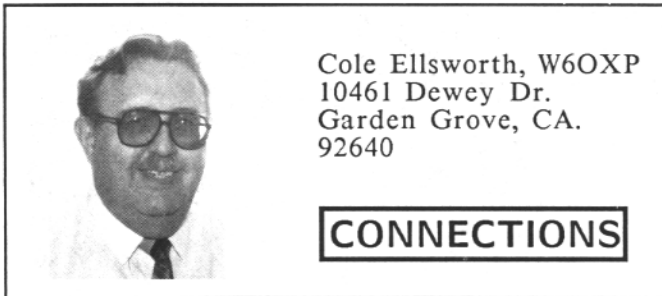See you all at Dayton! Best 73's

de Dick, K0VKH

ARE YOU READY
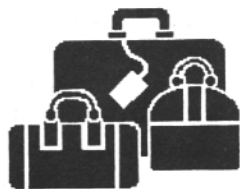
DAYTON IS ALMOST HERE

The shack at KA0JRQ, Larry Workman - MSO SYSOP

Cole Ellsworth, W6OXP
10461 Dewey Dr.
Garden Grove, CA.
92640

CONNECTIONS

HIGH-TECH INDIGESTION

Over the past year or so I have received correspondence from several users of the PK-232 Multimode Controller who have had problems using this unit. The problems are not hardware or software related, but rather they are "User Interface" or "Man/Machine" problems. There can be a wide variety of problems, from failing to get it on-line and working with a terminal to frustration with the multiplicity of Commands and Functions.

One can divide users of the PK-232 and other multimode controllers such as the KAM and the new MFJ unit into at least three categories:

1. The veteran packeteer who started with a TAPR TNC1 and then a TNC2 and now wants to go the multimode route.

2. The veteran RTTY "green keys" fellow who still has oil and grease spots on his trousers from maintaining his mechanical monstrosities and now discovers his wife will let him in the spare bedroom if he goes the "quiet" video machine route.

3. The new ham or the SSB DXer who hears the only way to get a certain rare country is on RTTY.

There you are - three categories of multimode controller users each of which will probably have some trouble in getting their new toys "talking" digitally. Now lets paint a fantasy scenario for each category to illustrate what can and frequently does occur as the proud (at least in the beginning) owner tries to get going on the air.

THE FIRST SCENARIO

The veteran packeteer unwraps his (or her) new PK-232 and proceeds to connect to terminal or computer. In either case, the connection is an RS-232 cable to the PK-232, and our packeteer has already cut his teeth, RS-232 wise, because his TNC2 used the same interface and cabling so maybe no problem here. Unless of course, he had been using a terminal with the TNC2 but now has a new computer and a communications or modem program - now he might have difficulty because he has his modem program set up for COM port 1 and the cable is con-

nected to COM port 2 or some other such mixup. Now, once he gets the terminal/computer talking to the PK-232, he can start setting up his packet parameters, such as TXDELAY, etc. Blazes!! what is this, new parameters? Some of them just don't look like they did in the TNC2. Maybe just different name for same parameter? Now our packeteer is a bit less confident, with a hint of frustration hovering in the background. Turns out, some new parameters and lots of different names compared to TNC2 parameters. Other than this, operation of the PK-232 is quite similar to the TNC2. Nevertheless, our packet old timer has had his ego bruised and is going to be grumpy for a while.

THE SECOND SCENARIO

Our "grease monkey" mechanical wizard RTTY enthusiast (he started with a Model 12, graduated to a Model 26, majored in Model 15's, with post-graduate studies on tender loving care of Model 28 ASR's, and he knows that Lithium Grease lubricates best of all) decides to go the video route. Ahh! what pitfalls await him! Our friend has heard of RS-232 but doesn't know a DTE from a DCE. And what is all this stuff in the PK-232 manual about a mode called "Packet"? Reading about it gives him a headache and the acronyms are the cause of an acute case of Alzheimers. Talk about bruised egos, his is completely shattered. The section in the manual about RTTY is mostly understandable and very interesting; but, sadly, he can't get the terminal to communicate with the PK-232 so he furtively boxes it up and takes it back to the dealer. If he is really honest he will tell the dealer "Jack, it is just not what I had expected". And the visions of that nice warm spare bedroom operating position fade away. Say now, no smirks from you "expert digital operators" out there. Did you know that about 20% of all VCRs (Video Tape Recorders) are returned to the dealer because the customer, and a literate customer at that, cannot figure out how to operate them? Is it any wonder that High Tech Phobia is endemic among us?

THE THIRD SCENARIO

Comes now our new ham, our babe-in-the-woods, our innocent lamb (yes, even a SSB DXer is an innocent lamb when he first comes to digital communications). What horrors await him? Perhaps not as many as you might think. For he knows he knows nothing about digital modes, he has no old habits to break, no old acronyms to forget, only a new language, new acronyms, and new techniques to learn. Only? Well, the new ham is a sturdy fellow and his study habits are still good from preparing for the ham exam, and everyone knows the SSB DXer is a tough cookie who never gives up. These fellows read the manual, thick as it is and suffering from lack of an Index. Then they read it again and then ask a few friends already active in the digital modes. Soon they are on the air and having fun, at least some of them are. Sure, there is still some ozone and brimstone in the air, along with muttered deprecations and incantations. And no

(CONNECTIONS cont. from pg.14)

doubt some bruised egos but then, as someone said, a bruised ego ensures the well-being of the soul.

Which scenario do you identify with? I see myself in all three although not necessarily simultaneously. I started packet operations with a PK64 and Commodore C64 computer. The software was such that it was easy to use and operating was fun. Then I got a IBM PC clone and tied it to a new PK-232. Now I had to refer frequently to the operator's manual because of all the commands and functions with no menu's to guide me. Then AEA came out with the PC-Pakratt software for the PK-232. There was a bit of struggle to get things going correctly but then - Oh Joy! - Menus on call for most of the parameter settings, pull down windows for calling stations instead of having to go to Command Mode, all available at the press of a function key on the computer. The convenience of a 64 K buffer instead of the basic 2 K buffer in the PK-232 internal memory. Save buffer to disk or to printer! Continuous on-screen status of memory, connect status, retries, acks; all the goodies. Really user friendly. Of course everyone may not react to this the way I did. I know of one old timer that did not like the software because it did not have a command mode for packet, it was always in converse mode. My attitude was there was no need for a command mode. He did not like it because he was used to using the command mode instead of the shell provided by PC-Pakratt. It is tough to try to be everything to everyone, but you have to give credit to vendors for trying.

At the beginning of this column I mentioned correspondence from PK-232 users who had difficulty. One of their major complaints was about the manual. The manual I have is about 275 pages (letter size - 8-1/2 by 11 inches), nearly half of which is devoted to PK-232 Command descriptions. There are about 150 distinct commands in the command list. The manual does not have an Index but it does have a three-page listing of commands and the page number where you can find the complete command description. The Table of Contents occupies 10 pages and is very detailed so that ameliorates the lack of an index to a certain extent. I have spent a lot of time reading this manual. I admit it is not easy to read but when I try to come up with specific items that need correction or change, I cannot do it. I think the organization of the manual should be changed but I cannot say exactly what the new organization should be. Perhaps a method of breaking up the information into smaller and easier to read portions would help. The manual should be reworked with a desktop publishing program and illustrations should be added to help illustrate commands and responses. Most of these illustrations could be screen dumps from the terminal or computer. Section headings and subheadings should be printed in a bold, larger type size than the following paragraphs.

Now it is your turn. You folks who have PK-232 Controllers must have an opinion on the manual. What would you recom-

mend to improve the manual? You folks who have been complaining about the manual. Do you have any specific ideas to make the manual easier to read. Is it the manual organization? Or is it the complexity of the contents? When you drop me a line, try to go beyond just saying the manual stinks. Try to make it a bit more specific than that. I will not publish names or call signs concerning your thoughts if you specifically request anonymity.

WE HAVE MAIL

It is nice to see that a request in this column for help produced some quick results. Curt K6AL had asked for help in finding software to drive his TONO 777. The note in this column brought a response from Irv, WA6LVE informing Curt of a suitable program from VE3BKB. Curt now has this program running with his Tono and it works very well. The program, called "arpTRM2" is described in the new products section of this column, in this issue. Thanks Irv, for passing on the information to Curt.
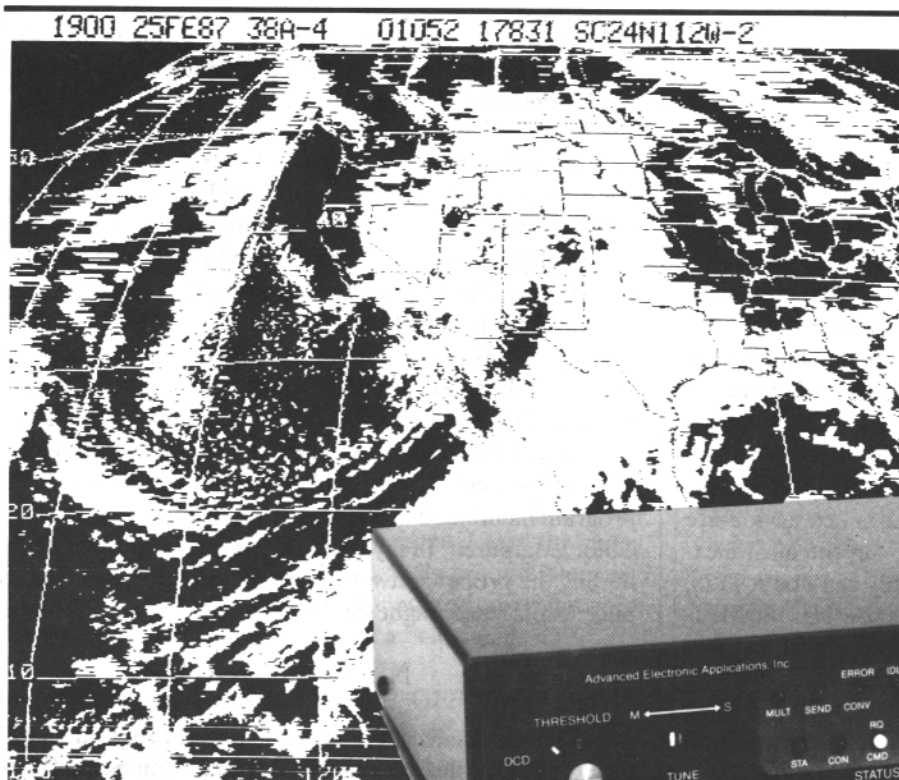
REQUEST FOR HELP

Tom K5GJ, 5010 Everett, Amarillo, TX 79106 has a new MFJ-1278 multi-mode data controller and he says it works well and is user friendly. However, it does not have scope output for external scope indicators. Tom says this makes tuning a challenge on HF packet. He would like to see some information on adding a scope output to this controller.

Without a schematic of the MFJ-1278, I am a bit blind, but will do some guessing. The MFJ must have some tone filters in it and the output of these tone filters is the place to connect taps for scope output. Now it is not wise to just solder in a couple of wires and bring them out to connectors on the rear panel. You have to, first of all, isolate the filters from the effects of capacitance and excessive loading when the connection is made. Usually this is done with a relatively high value isolating resistor in series with the signal(s). However, the high value isolating resistor cause a severe signal level drop. In many cases the level is not nearly adequate to drive a scope directly. If your scope has both horizontal and vertical amplifier inputs, then there may have enough gain to provide full screen deflection on the scope CRT. If your scope does not have amplifiers, then you will have to design and build amplifiers with enough gain to properly drive the scope display. If I can obtain a MFJ-1278 schematic I will try to provide a design that should work with most scope indicators. I agree with Tom that a scope tuning display is very convenient. My PK-232 has scope output connections on the rear panel which I run to my ancient (tube type) Millen 3-inch CRT rack-mounted display with rack-mounted amplifier.I really like the scope for tuning RTTY or AMTOR.

MORE MAIL

Gerhard Seck, WB5WOO, Rt. 3, Box 447, Morrilton AR 72110 has a Terminal (I will have to assume it is an ASCII CRT terminal) from Perkin-Elmer Data Systems. It is a System 1100 terminal. He needs a book on this terminal. Gerhard, try writing to Perkin Elmer for the manual. Better yet, try calling them on the phone. Ask for the Customer Service Department. They will be able to tell you if the information is available and what it will cost. It may be that they no longer support this terminal. If this terminal is working and is indeed an ASCII coded terminal with a standard RS-232 port, then all you would need for packet would be a TNC (Terminal Node Controller) and I am assuming that you already have a transceiver. Inasmuch as you are looking for an inexpensive way to get on the air, the most inexpensive TNC for packet only would probably run about $125. The least expensive multi-mode controller I know of is the MFJ-1278 at about $250. Used TNCs would of course cost less, but make sure they work before you buy. One last word, don't be surprised if the Perkin-Elmer terminal is non-standard in some way or many ways. Older computer terminals have a good chance of being very specialized.

AND MORE MAIL

Les Anderson, WA4SWE, 36 Stafford Ter. RR-1, Brewster MA 02631-1667 has a Tandy Color Computer "2" with double disk drive and a DMP-132 printer. He currently uses a program from 73 Magazine, January 1988 issue. This is a direct drive system (no TNC or demodulator used and of course no filters) which does work, as he has QSL cards from 4 European stations on RTTY. However, Les wants to use the Color Computer with a Data Controller and needs some advice.

He is considering the KAM, the PK-232, and the MFJ-1278. He is leaning toward the MFJ-1278 as it is the most inexpensive and as Les is retired, that is important. Les, you will be happy to know that any of the three units you mentioned all use the same RS-232 interface and similar command/control sequences. So that is not your problem. Your problem is determining the following:

a. Does the Color Computer "2" have a standard RS-232 serial port or if not, can one be installed? You must have this serial port or an equivalent adapter in order to use any of the three controllers you mentioned. Check with your Tandy dealer where you bought the computer for information on this if you cannot determine it from the manual.

b. Just as important, you will need a communications program to run on the computer in order to talk to the controller. If you have a MODEM program that will run on your computer, that will probably be adequate. This will allow the computer to act as a "dumb" terminal which is the minimum requirement to talk to the controller.

c. Join a Tandy Color Computer Users group. Ask you dealer if he knows of any local groups. Some have bulletin boards and public domain software. Compuserve has a Ham Forum that covers all kinds of ham/computer applications and software. It has been my experience with Users Groups that they are far better sources of information on what has been done, what has been attempted and failed, and as sources of low-cost software than are the dealers. Ideally, what you need is a Color Computer "2" compatible communications program similar to the AEA PC-Pakratt or COM-Pakratt for the IBM PC and Commodore computers respectively, or something similar to the VE3BKB program mentioned above in this column but able to run on the Color Computer. In my opinion, your most difficult problem is finding the proper software. Perhaps a reader with Color Computer experience might shed additional light on this matter.

NEW PRODUCTS

VE3BKB announces a new full-featured program, arpTRM2, for PC compatibles at a reasonable price. Can be configured for any "smart" TU. Comes configured for TONO 777, PK-232, AMT-1. Has built-in Editor, message buffers, short form variables, uses ALT keys and redefinable F keys, access to DOS, large QSO buffer, transmit/save files. Many features are said to be configurable. When ordering requires TU, first name, last name, call and preferred SelCal. $17 US check or MO to Lloyd Computer Services, VE3BKB, 7 Westrose Ave., Toronto, Ontario, Canada M8X 1Z9.

Kantronics, Inc announces the release of its new manual set. The three manuals included in the set are an Installation Manual, Operation Manual and Command Manual. This set includes instructions for KAM, KPC-4, KPC-2 and KPC-2400. The listed price is $15.00 per set. Contact Kantronics Inc, 1202 E. 23rd St, Lawrence, Ks 66046 for more information.

Kantronics Inc also announces the WeFaxWorks program which is designed for the Apple Macintosh computer to allow reception of weather maps and charts. Screen scrolling, easy synchonization, picture saving and printing via the Mac Paint format files are some of the features announced. Again for more information on all the features and pricing of this program contact Kantronics Inc, 1202 E 23rd St, Lawrence, Ks. 66046.

That's all for this month. If there is a subject you would like for me to write about, please write to me. If you write to me with a question and would like a reply, be sure to include an SASE. If no SASE is included then I will try to answer your question in this column. Until next month. 73   de Cole, W6OXP

(AMTOR cont. from pg. 2)

the video monitor , (It's no fun watching text bouncing up and down on your monitor at 20MS intervals, believe me!), are wound around ferrite rods. All leads should also have good shielding and be bonded together to a good ground.

All computer owners should have a mains power line spike/surge protector of good quality installed. I run my TN, computer and peripherals from the surge protector, and the rig is run from a different household circuit, but then, the shack has only two-pin wall sockets and a 15 amp circuit breaker.

Okay, everything nicely installed and ready to run. What next? Load the software into the computer, set the various parameters such as, WORD-WRAP, CR/LF/ ZULU time and MOST important, insert YOUR SelCal into the system. Selection of Sel-Cals was covered in my October, 1988 column. Leave the "delay" time at the default setting, which is usually around 20ms, and don't try to work someone who is very close to you, to start with. A T5 would be about right. Did I hear a "who needs it?"

If you are using AFSK, select LSB, RIT OFF, Processor OFF, Mic gain down to within the ALC bracket and to start with, have the AGC in the fast or off position.

Now the BIG decision, do you try a CQ call in FEC, or hunt around for someone else calling CQ? If you decide to call CQ in FEC, please do NOT send a string of RY's. They are of no real significance or use with modern day Baudot and are totally useless in FEC (no mark or space is used in the FEC mode). FEC sends each character TWICE, so here's what you can try.

Hit whatever keys you need to key the transmitter, I use Ctrl and B, let the transmitter send some "idles", similar to the "did-dle" (mark/space) you hear in Baudot, when someone stops typing. About 5-10 seconds (max) should be enough to attract someone's attention and give their system time to synchronize with yours. Then type the following: CQ CQ de KJ6JC KJ6JC KJ6JC SelCal is KJJC KJJC KJJC KJJC de KJ6JC (KJJC) pse K

I always drop my call and SelCal in at the end, just in case some-one comes up on frequency halfway through your CQ call and misses the first part. If you do not get an immediate response, don't give up, call CQ a few more times.

"BINGO"

Bingo, you strike lucky first time, and all of a sudden your trans-mitter starts to "key" on and off. Instant panic! What do I do now? Well, someone has typed your SelCal into his system and now the computers via the TNC's take over, and trigger the rigs, producing the familiar chirping sound that you may have thought was a male and female cricket "enjoying" themselves at dusk!

The station that initiates the ARQ call, by selecting your SelCal, is called the Master. The station being called in ARQ, is the Slave. If the link has been started but the Slave gets no text, the SLAVE should try moving his VFO, VERY slowly, one way or the other, to "net" onto the Master's exact transmit frequency. The Master should not move his transmit frequency back and forth, to try and "lock-on" to the Slave. If the Slave is slow to es-tablish a successful link and no text is flowing, the Master can use his RIT to compensate for any slight off-set there may be be-tween the two transmitters and hopefully get text flowing.

Assuming that the link is now established, the Master should have passed his name, QTH, etc, and should then type the "change-over" sequence of + ?. The + ? indicates to the Slave computer that it is it's turn to do some work. The Slave operator should have had time to type ahead, with his name, QTH, whatever else he wishes to say and then he in turn should type + ? to pass it back to the Master. You've made your first ARQ contact, not as bad as you thought eh?

Okay, the link is going well, suddenly some QRM on or nearby your frequency either slows down the traffic or in an extreme case, may even break the link and stop your transmitter al-together. Don't worry, the Master should still have your SelCal logged in at his end and as soon as his computer senses a broken link, it will start a re-call and try to re- establish contact. If the Master doesn't come back straight away, his system may have "timed-out", so give him a chance to re-set things at his end. Two stations trying to call each other in ARQ, at the same time results in a lot of chirping, but no link!

Your fingers are getting tired, your brain cannot function be-cause there is too much adrenaline flowing, this being your very first ARQ contact, so you want to sign off and sit back and have a stiff whiskey and kiss the cat, to celebrate your achievement.

Obviously you would like to be polite and say your goodbyes etc., so do just that and either let the Master cut the link or if you have plucked up enough courage, just hit Ctrl and D at the end of your last transmission. Ctrl and D is the polite way of closing down the link. It leaves both stations ready for another ARQ call and does not leave one transmitter chirping away until it "times out", which in my case could be as long as 90 seconds.

Right, you're drunk in charge of a radio, the cat is contented and you think you ought to try and answer someone else's FEC CQ call.

Tune around the band until you hear the now familiar sound of FEC. Depending on what software/TNC package you have, you will get an indication of some sort via LEDs or flashing lights, that you have synchronized with the calling station.

RTTY ART

Gene, WA7RCR- Notice where mics are located

ED: For some time now, I have been wanting to publish an article on RTTY art and now it has come to pass. Thanks to Edwin E. (Gene) Wagner, WA7RCR of Longview, Washington for this up to date report on what is happening on twenty meters with regard to RTTY art. Hopefully, this will stimulate more articles of this type for our readers. For those of you who have never printed a pix or are newcomers to RTTY, I think you will find this facet of RTTY quite fascinating. Here is Gene's article.

Some fifteen years ago I became interested in the printing and saving of RTTY Art. With the aid of an old model fifteen teletype machine I was able to save pictures that others were sending over the air ways. With the patience of Job from my wife in putting up with the noise, I worked with this for awhile. Later I was lucky enough to get myself a model 28 with all the good things, like a tape reperf and distributor, boy, was I the lucky one! I thought I had most everything a RTTY nut could want. Then came computers! I graduated to a new Microlog, then my son, WA7RCQ helped me set up a Tektronics 4051 terminal with some eight inch drives. It had the storage I wanted and a computer with software that I could do what I wanted with RTTY art.

When the new IBM PC's came out I was totally hooked. I found myself down at the computer store putting out several hard earned dollars to get my first compatible IBM PC XT. Now the problem was to find the software to be able to save, edit, and with some luck, be able to make some of my own pictures. My trouble began immediately when I encouraged my XYL to learn how to use my brand new computer! In just a short while she had taken over my new toy to write a book! Needless to say, I found myself back down at the computer store to purchase another PC, this time to devote strictly to RTTY art.

The problem was software. After many phone calls and many sleepless nights I found KC2HO, David Rice, in New York who would work on software for me and with many updates from my input he was able to furnish me with compatible software so I could receive and make RTTY pictures. After about a year many of the other RTTY stations kept coming up with new PC's, so David and I had some help keeping the software updates like all the picture nuts thought it should be. Now I believe just about all the regular stations are using David's software which works with all the smart terminals and does CW and Packet as well.

For those of you who are interested in RTTY art, the 20 meter frequency is 14 089 060 and has two MSO's running with nothing by RTTY art on them using the same numbering system. They are: MSOREA in Eugene, Oregon, WB7REA, Monty Millican and MSOKDK in Nashville, Tennessee, WD4KDK, Parker Wilson. Monty has his MSO on all the time during the week, and Parker's is available during the weekends, when the frequency is not being used to pick up new pictures that are being sent that particular weekend. There are some 2400 pieces of RTTY art in the MSO's with some full size pictures done by various Amateurs around the world. The last count was somewhere in the vicinity of 500 different authors.

There are a great number of RTTY enthusiasts out there in RTTY land, many are active, while many others are silently printing without participation. We would like to invite all those who listen in to join us each weekend when we are sending our RTTY art over the air waves.

We do experience some interference from time to time from those operators who believe we are not doing it right, but we plug along and will resend a picture, or part thereof, as many times as needed to be sure we keep it as near as possible to the original.

The last few months a fellow picture maker, WA0BGV, Slim, from Freemont, Missouri has made 25 pictures, all of music composers, with a very basic RTTY system. As I write this article, there is a picture being sent on the frequency that is heavy overlined, in four panels, and uses about 90K of memory. So you see, the pictures run from the very small to several panels large.
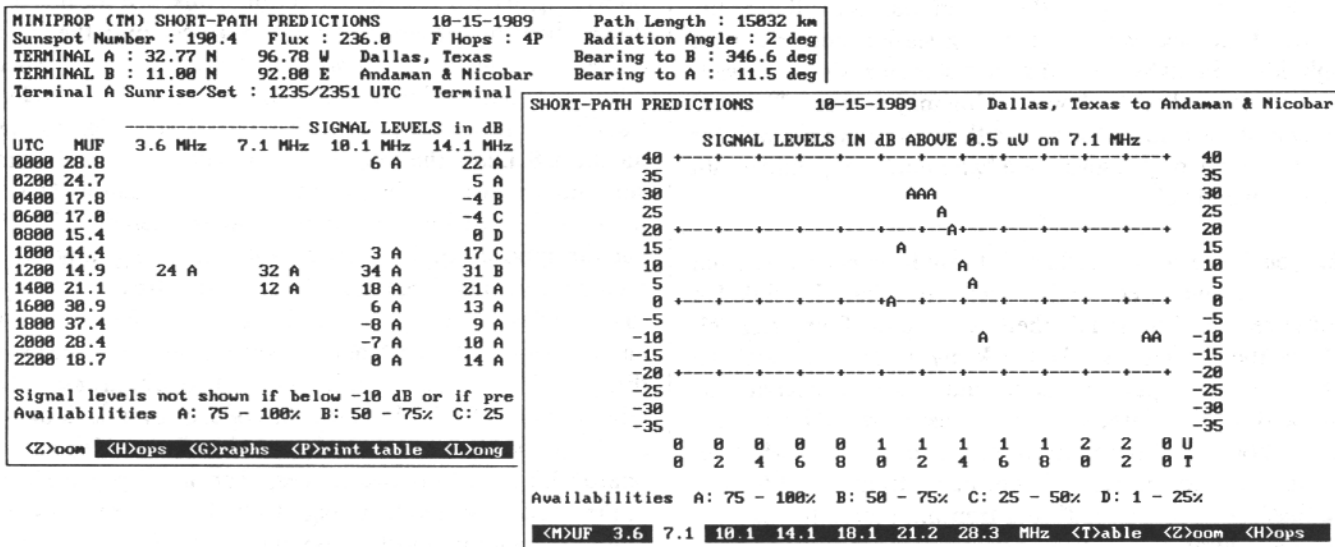
THE WELCOME MAT IS OUT!

Anyone who drops by the frequency or gets on the MSO's are invited to join in and we will be more than happy to help them get started. We will help them with software problems and help them to copy overline pictures, as some printers will not copy multi-overlines until some of the switches are changed or adjustments are made in the software. In general, let me day, THE WELCOME MAT IS OUT.   **de WA7RCR, Gene**

M I N I P R O P™
Version 3 with Mode Searching

Version 3 of the popular MINIPROP propagation prediction program is now available. MUF predictions alone are misleading because they provide no information about the strength of the received signals. To know when to expect band openings, you need to know when usable signals will be received. MINIPROP predicts both MUF and signal levels.

```
MINIPROP (TM) SHORT-PATH PREDICTIONS      10-15-1989     Path Length : 15032 km
Sunspot Number : 190.4   Flux : 236.0   F Hops : 4P   Radiation Angle : 2 deg
TERMINAL A : 32.77 N   96.78 W   Dallas, Texas     Bearing to B : 346.6 deg
TERMINAL B : 11.00 N   92.00 E   Andaman & Nicobar  Bearing to A :  11.5 deg
Terminal A Sunrise/Set : 1235/2351 UTC    Terminal

------------------ SIGNAL LEVELS in dB ------------------
UTC   MUF   3.6 MHz   7.1 MHz   10.1 MHz   14.1 MHz
0000  28.8                                 6 A     22 A
0200  24.7                                         5 A
0400  17.8                                        -4 B
0600  17.0                                        -4 C
0800  15.4                                         0 D
1000  14.4                                 3 A    17 C
1200  14.9    24 A    32 A     34 A        31 B
1400  21.1             12 A    18 A        21 A
1600  30.9                      6 A        13 A
1800  37.4                     -8 A         9 A
2000  28.4                     -7 A        10 A
2200  18.7                      0 A        14 A

Signal levels not shown if below -10 dB or if pre
Availabilities  A: 75 - 100%  B: 50 - 75%  C: 25

<Z>oom  <H>ops  <G>raphs  <P>rint table  <L>ong
```

```
SHORT-PATH PREDICTIONS       10-15-1989      Dallas, Texas to Andaman & Nicobar

         SIGNAL LEVELS IN dB ABOVE 0.5 uV on 7.1 MHz
    40 +---+---+---+---+---+---+---+---+---+---+---+---+  40
    35                                                   35
    30                      AAA                          30
    25                       A                           25
    20 +---+---+---+---+---+A-+---+---+---+---+---+---+  20
    15                    A                               15
    10                        A                           10
     5                       A                            5
     0 +---+---+---+---+--+A--+---+---+---+---+---+---+   0
    -5                                                   -5
   -10                        A              AA         -10
   -15                                                  -15
   -20 +---+---+---+---+---+---+---+---+---+---+---+---+ -20
   -25                                                  -25
   -30                                                  -30
   -35                                                  -35
        0   0   0   0   0   1   1   1   1   2   2   0 U
        0   2   4   6   8   0   2   4   6   8   0   0 T

Availabilities  A: 75 - 100%  B: 50 - 75%  C: 25 - 50%  D: 1 - 25%

<M>UF  3.6  7.1  10.1  14.1  18.1  21.2  28.3  MHz  <T>able  <Z>oom  <H>ops
```

MINIPROP version 3 uses a unique, new method for finding the strongest ionospheric mode (combination of E and F hops) at each time on each frequency (up to seven) of your choice between 3 and 30 MHz. Effects of the D, E, and F layers are all taken into account. You enter the locations of the two stations, the date, and the sunspot number or solar flux; MINIPROP does the rest. At each half hour UTC, and for each frequency, MINIPROP searches through the possible ionospheric modes to find the one that provides the strongest signal. For this strongest mode, MINIPROP reports the predicted signal strength, the radiation (take-off) angle for the mode, the mode configuration, and the predicted mode availability (percentage probability that the mode exists). MINIPROP also predicts MUF, and in addition tells you the beam headings from both ends of the path, path length, sunrise and sunset times for the path terminals, grayline directions, and more. All of this information for both the short and long great-circle paths is displayed on your computer screen, and the signal strength and MUF predictions may also be sent to your printer. A DX Compass feature helps you determine which bands are open in 12 compass directions from your QTH at any time of day.

Your own QTH may be stored in a disk file so you do not have to enter it each time you run MINIPROP. MINIPROP will obtain DX latitudes and longitudes from the included on-disk atlas containing latitudes and longitudes of all DXCC countries. Built-in utilities allow you to add, modify, or delete atlas entries, and to print a customized table of beam headings from your QTH to all of the locations in the atlas.

MINIPROP is not a MINIMUF clone. MINIPROP uses a superior method developed by the BBC for predicting MUF, and extends this to predict signal levels that tell you the best time to QSO on any path. See reviews of MINIPROP version 2 in CQ 10/87 p88, National Contest Journal 7/88 p23. MINIPROP version 2 was used by the US National Oceanic and Atmospheric Administration to schedule communications with its ozone hole measurement team in the Antarctic.

MINIPROP version 3 is for the IBM PC, XT, AT, PS/2 and compatibles with a minimum of 320K RAM, DOS 2.11 or greater, and an 80-column monitor, either monochrome or color. An 8087, 80287, or 80387 math coprocessor is strongly recommended but not required. Specify 5¼" or 3½" diskette. Detailed, printed manual included. MINIPROP is copyrighted, but not copy protected.

The price of MINIPROP version 3 is $49.95 postage paid in the US and Canada. Add $5.00 elsewhere for air mail. California residents please add 6.5% sales tax. Checks in US funds on US banks only.

W6EL Software • 11058 Queensland Street • Los Angeles, CA 90034-3029

(AMTOR cont. from pg. 19)

If you do not get any text on the screen, but can still hear the **FEC sound**, do not worry, the calling station does not have **enough "idles"** in his system, so your system just sits there waiting for the **"Sync-idles"** to show up. You may only get: "Pse KK" at the end of his transmission, so either you move on, wait for him to call again, or just give out a "who dat?" call, ending with your callsign and SelCal.

Right, you find a station calling CQ, you have his callsign and SelCal up on your screen and you want to establish a link. On my software, I hit Ctrl and A, then just type the four letter SelCal. Once the last letter key is struck, my system will initiate an ARQ call to that specific station and you then become the Master and he, the Slave, and the process starts all over again, the Salve should "net" onto you etc. etc. If you find that whatever you have typed to the Slave, is not being transmitted to him, check that you have "opened" your transmit buffer, to allow the info to get to him!

HINTS AND KINKS

1. Don't use an amplifier in ARQ. 2. Leave your AGC in the fast or off position to begin with. Most modern day JA-boxes have switching times, RX-TX-RX, fast enough for successful ARQ operation. 3. Don't use VOX, Processor or Mic amplification and keep the mic gain down. 4. Don't "sweep" the band in an attempt to lock-on to the other station, don't forget that he is trying to find YOU so if you keep moving frequency you are both going to have a hard time getting a link. 5. If the link breaks down, allow the Master to attempt to re-establish the link first. 6. There is no need to send words/text more than once, when in ARQ. 7. When calling in FEC, you are at full duty cycle, like Baudot, so turn down the power out, if your rig/psu cannot handle it. 8. Leave the software timer at default, usually 20ms. If you want to work a close by station, you will normally have to increase the switching time to less than the default (10- 15ms) and the opposite applies if the station is very long way away. Increase the default time to 30-40ms to allow time for the signals to get to destination and back. Long path ARQ is hard work and very slow and usually not too successful due to the extreme distances involved, but still possible if conditions are good. 9. Give a couple of CR/LFs at the start of each over, it looks good and helps the other guy find your next bit of text. Don't go overboard with CR/LFs between lines, because if you are like me, in the head-down mode, trying to find the correct keys to attempt to spell fairly well, too many CR/LFs and his text has scrolled off the screen by the time you look up to read it.

Well I hope the above info will be of some use to the newcomer to a very fascinating and virtually "error-free" HF mode. All the best and do not despair if everything doesn't go right after the first few attempts.

(AMTOR cont. next pg).

CLASSIFIED ADS

30 words $5.00, additional words 5 cents each. Cash with copy.
Deadline for copy is 1st of month for that month publishing
(Example - Ad arrives by 1'st of Sep 88, will be in Sep 88 issue)

INFO ON THE SECOND TRIP TO VP5

Don, VP5/AA5AU turned out to be a real good CW mechanic and made 3415 "Q"s 10 thru 80m, taking the "red-eye" shift, 260 SSB and 18 on RTTY. (I wouldn't let him near my computer,hi). I made 508 on RTTY 10 and 20m, one on CW (!!) to get South Dakota, 70 on 15m SSB, and 1821 on 10m SSB. Sorry we could not swing the planned 160 and 6 bit.

That's it for this month, hope to see all of you in the BARTG in March. 73 and good DX. de Eddie, W6/G0AZT

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ATTENTION

We get letters all the time from people who are looking for used equipment. I won't be specific but if you have equipment just collecting dust, why not place an AD with us and see it go - ---

BYE! BYE!