

RTTY

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JOURNAL

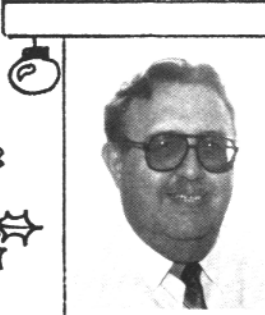
AMATEUR RADIO TELETYPE - COMPUTERS - PACKET

VOLUME 35 NUMBER 10

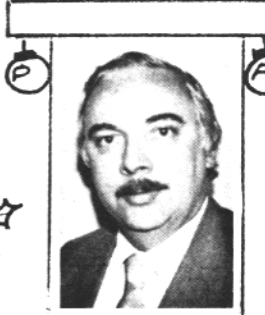
DECEMBER 1987



FRÖHE WEIHNACHT



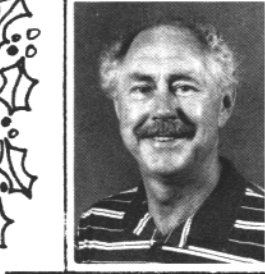
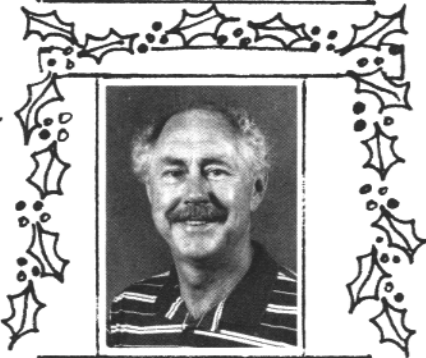
BUON NATALE!



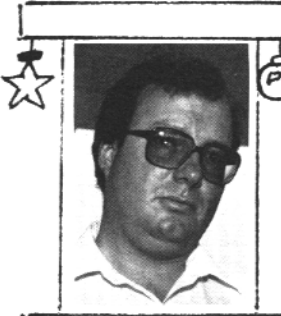
HAPPY CHANUKAH!



¡FELIZ NAVIDAD!



GOD JULÖCH



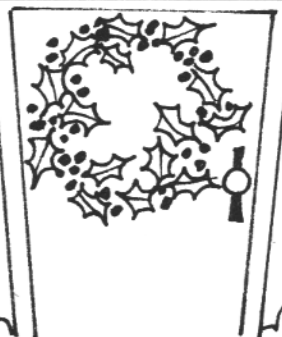
PRETTIGE KERSTDAGEN



JOYEUX NOËL



MERRY CHRISTMAS!



HAPPY NEW YEAR

Shiner 7/87

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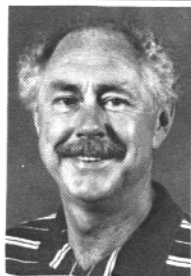
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MSO's RNX-3100 CONNECTIONS

1987 INDEX DX NEWS AWARDS



Dale Sinner, W6IWO
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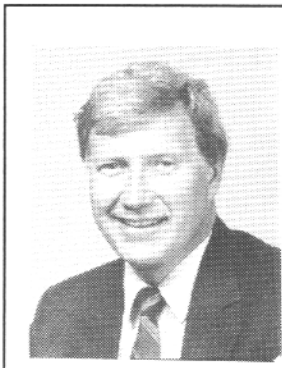
HITS & MISSES

MY, HOW TIME FLIES

It just doesn't seem like another year has passed us by. It has been a busy year for me but it has been a gratifying year. As for the Journal, I have so many people to thank for helping out this year that I don't even know where to start. In alphabetical order it goes like this: to Hal Blegen, WA7EGA my thanks for joining the staff and bringing your wit and humor to contesting. I look forward to your RTTY contributions this coming year knowing that you have already laid out an outline to follow. To Cole Ellsworth, W6OXP a man with many callsigns in his background and much experience in the electronics field. You have brought us many fine technical articles and our readers have been encouraged to write you for that reason. I hope you will continue your contributions to RTTY and the digital modes this coming year with the same vigor as last

year. You have also been a great help to me personally with your ideas and assistance with my own Ham projects. To Roy Gould, KT1N, my oh my, where do I begin in thanking this man for his contributions to RTTY this past year. When the year started he was wearing many hats (DX,AMTOR,CONTESTS,etc) because our staff was short in some of these areas. Consequently Roy filled the gap. He alone produced the CQ/RTTY Journal RTTY Contest, working closely with the staff of CQ Magazine. All this and much more he was able to contribute and still keep pace with a very heavy work schedule where he is employed. To Richard Polivka, N6NKO who has joined us to teach us the wherefores of Packet and keep us abreast of this fast moving mode of operation. Your articles are creating interest and your mail is starting to show it. You have filled the shoes that Danny Wilson, N6IHQ had to leave behind temporarily due to job commitments. Your expertise is welcomed to the pages of the Journal. To Jay, KE7PN & Betsy, KE7PL, the Townsends, they have accepted the responsibility of the RTTY Journal awards program. This program has been behind and that I only have myself to blame for but I see light at the end of the tunnel now with these two fine people in charge. Look for new awards to be introduced next year and soon we will have new certificates to issue also thanks to Danny Wilson who is doing the designing. Jay and Betsy will not have a regular article each month in the Journal but throughout the year they will have reports and updates for you. Many thanks to you both for joining the Journal staff and helping with this important phase of digital Ham radio. To Dick Uhrmacher, K0VKH, your contributions to Ham radio are immeasurable from your active MSO work which includes even a technical library,

(cont. pg. 4)



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

CONTESTING

There's a basic premise of contesting about which most stations who like to win are fanatical. It is more important than tall antennas and continuous-duty amps. It's called: "READ THE RULES." Until recently I smugly considered myself immune but in the WAE, I punted a sentence.

After a contest weekend, how easy was it to describe to an anon-ham what you were doing that was more important than watching the playoffs? A simple explanation, right? The more accurate the description, the more difficult the explanation. Contesting is a complex activity.

A different version of the rules for the same contest routinely appears in at least three Ham magazines, all of them the "official" rules. They are usually the same except for a sentence or two.. like: "A contest QSO can only be established between a non-European and a European station." (except if you're European!). Read the rules (RTR). With Murphy's optimism, it may not even be enough to read one set of the rules.

A good percentage of the stations that compete in contests handle the rules the same way that my neighbor's teenager figures out the commands on a game program. Just beat on the keys until something happens and then try to make sense out of the results. For the WAE, this year, I'm not sure this approach wouldn't have been more fun but when K6WZ pointed out my oversight, I succumbed to a conscience attack about accurate journalism.

Jay, KE7PN keeps telling me that every set of rules contains an angle that will give you at least a fighting chance at winning. Short of trying to quest-op someplace on the East Coast, I haven't yet figured one for that last WAE rule. Although there are probably a lot of stations that did not enter their logs, if you work every European listed in the 1986 results, you will have 56 contacts at the end of the

contest. I'll tell you next month if I was overcome by a flash of inspiration.
ED: Below starts his answer; written later.

NO CIGAR FOR THE WAE CONTEST COMMITTEE

WAE fulfilled my worst expectations. Although KTIN said the activity was fast and furious on his side of the continent, all Jay and I could hear was about ten other North Americans working the contest. With a flux of 95 we might have still had some fun had the K index dropped below four but European openings were brief and signals disappointing.

Even the Europeans had rule difficulties. Some stations offered to send us QTCs while others explained that European stations were receive only. I gleefully added Walter, S79WS to my log as he was apparently exchanging contest numbers with all stations with no thought to the "non-Europe works only Europe" rule.

K6WZ may have the right idea. He was planning to let the contest committee choose between two logs, one scored by the new rules and one by last year's rules. A lot depends on how the Europeans view their contest. They may be completely satisfied with the current rules and have no intention of modifying them for a few discontented westerners.

ONE MORE ATTEMPT TO GET THE ARRL TO SPONSOR

Some years ago, the RTTY JOURNAL, in cahoots with Dovetron, kicked off a bi-centennial WAS contest and the winner walked with one of Hank's spanky-new terminal units for a prize. Since it was after the fact, nobody got too upset about it but the FCC raised its toothless head and indicated that giving valuable prizes for amateur radio contests could turn out to be unhealthy for the licenses of all involved. After that, the whole topic got treated sort of like puppy-sign on the new carpet.

The beauty of the contest turned out to be all the activity it generated. Most of the participating stations ended up with an RTTY WAS, not exactly the easiest of the domestic awards.

In the spirit of the times, Jay and I figure its about time that the ARRL sponsors something for RTTY.

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(CONTESTING cont. from pg. 3)

The question may be moot if there isn't enough support but I think the interest is there. More info later but a little mail on the subject would never hurt. Initial contact with the ARRL has been very favorable.

IN THE PURSUIT OF HAPPINESS AND A HIGHER UTILITY BILL

No contest column would be complete without a little chatter about toy-boxes. I happen to belong to a religion which staunchly believes that the sinner with the biggest toy-box goes right straight to heaven. (Dale figures he has the inside track there). With that in mind, it is not surprising that last time I bought a rotor I added a Pro-Search control box. It turned out to be one of the more useful contest aids I have used, assuming that you only have one antenna, two hands and live somewhere that requires waving your beam around during a contest.

There is apparently one caution in using the Pro-Search controller. If you're off doing your RTTY stuff and the beam gets hung up somehow, the controller will tell it to just keep right on truckin' and according to the man I talked to at TELEX, if that happens, the smoke from the frying solenoid coil and motor windings will follow you all the way to your savings account. Of course, everybody has an axe that could use a little touch of the grinder. I was willing to take the chance.

THE FLAMBOOZLE OF THE MONTH AWARD

Jay and I pretend to know all the contest tricks so when somebody shows us a new one, or a better wrinkle on an old one, we're impressed. The flamboozle of the month award goes to a station that we heard in the WAE for perfecting the Band Snatch. Here's how it works. You find a new multiplier on 20 meters. Being a clever devil that can figure out his log before the contest is over, you find that you need this particular multiplier on another band. You have two chances of him deserting a sizable pileup to generously accept an invitation to join you on 15, slim and none. At the end of your exchange, you hit him with, "Have you worked the BY4 on 15 meters yet? He's up there right now!"

The multiplier (and ten or twelve admiring eavesdroppers) immediately scramble for 15 meters thereby creating a whole new band opening. When he gets there, the odds of catching him approach certainty if for no other reason than he will want to know the frequency (cleverly not previously given) where you heard the BY4. Who knows... maybe there was a BY.

AND TO ALL A GOOD NIGHT

CARTG is history. My efforts to drum up a sponsor for a replacement to fit that prime, mid-October slot netted me coffee stains on my cleanest necktie and an empty cup. This leaves us with six contests yearly: BARTG in March, Volta in May, ANARTS in June, SARTG in August, CQ/RTTY Journal in Sept., and WAE in November.

Not a bad year for RTTY. We lost one but through the efforts of Dale (W6IWO) and Roy (KT1N) we gained what has already proven to be THE most popular RTTY contest. Next year is going to be better. Happy Holidays from Jay and I up here in the frozen northwest. Keep the faith and if you're looking for a New Year's resolution, promise me you'll never send another string of RY's during a contest. (SIGH!) de Hal, WA7EGA

(HITS & MISSES cont. from pg. 2)

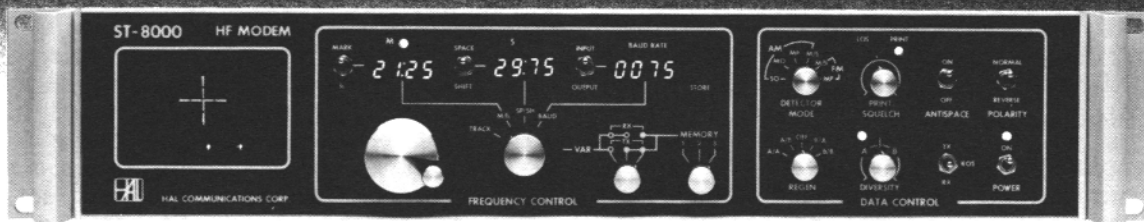
to the many years you have been writing for the Journal. Your articles are well known all over the world. You have been a great help to me from the day I took over the reins of the Journal and your knowledge has helped me tremendously, I look forward to working with you again this coming year.

Now to all of our faithful readers. My sincerest thanks for hanging in here with me. By now you all know that I am not really a publisher, only a fellow Ham trying to help out our hobby by providing an outlet for your thoughts, ideas, reactions, complaints, questions, impressions, compliments, and suggestions to better Amateur Radio and the digital modes of operating. I look forward to serving you again this coming year. Let me hear from you once in awhile even if it is only a note at the time of your renewal.

My very best wishes to all for a prosperous New Year and may there be peace with you always. To my family, a special thanks for all their help each month, so the Journal gets out on time. Happy Holidays de Dale, W6IWO

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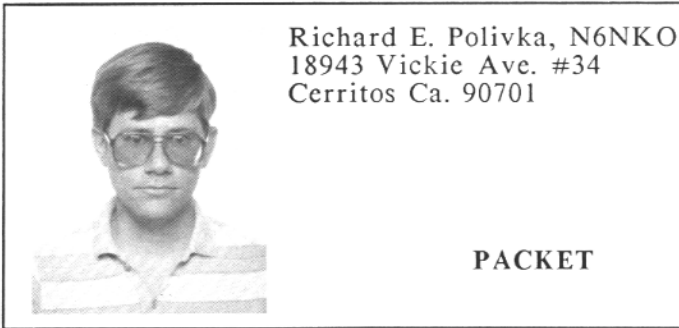
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Richard E. Polivka, N6NKO
18943 Vickie Ave. #34
Cerritos Ca. 90701

PACKET

The Holiday Season is now upon us here. People will be thinking about getting gifts for family and friends and, of course, themselves. Be nice to yourself and go down to the nearest Ham radio store or call one and get a terminal node controller. Just think, you may get one of the multi-mode units, with new communications forms for you to get involved in. There is more to Amateur Radio than just CW and voice. There is FAX, AMTOR, Packet, RTTY, and ASCII forms of information transfer. So, go for it and indulge yourself. It is a growing world out there so join in and read on. Packet, here we come.....

BEGINNER'S CORNER

Last month we talked about some on the timing commands in a TNC but how do you talk to that little box which is to do so much. Well, you can talk to it with a computer or dumb terminal. So you are thinking "You mean that in order to get into Packet radio I have to get a COMPUTER. YUCK!!" Ok, so I mentioned a computer. So what. A computer is only a device that takes in information and processes it into another form. The TNC is a computer. So is the RTTY modem that you have probably been using along with the small pocket size calculator that you use to add up the grocery bill. So, you see, you are already using computers and have found that they are really not that bad. Also, I had mentioned that you could use a dumb terminal. All a dumb terminal is, is a device with a screen and keyboard for sending and receiving information with. Now, with those two things in mind, let's start talking to the little blue, black, or silver box called a TNC. By the way, the TNC is a computer also, so what is there to be afraid of. Using a dumb terminal is the simplest way to start talking to the TNC. The communications take place over a RS-232 communications line. All you have to do is connect up the TNC to the back port of the terminal and turn the two on. The newer TNC's have a routine built into them that adjusts the way they talk to and listen to the terminal or computer.

With that in mind, it is practically plug in and run. If you are using a computer, then you need to get some kind of terminal emulation program to turn the computer into a terminal. So with that out of the way, there are a couple of caveat's to be aware of. One is that the communications speed between the terminal/computer could be too slow and cause data to back up into the TNC and cause problems. Packet communications are at a speed of 1200 baud on VHF and at 300 baud on HF. Even though it may seem that the channel is not that busy, when it does get busy, there is much information flying around. If you have the communications speed set at a speed that is slower than the highest speed that you are using on the Packet channel, backup will occur depending on the loading of the channel. The speeds are adjustable. So adjust to a speed that you are comfortable with. Most people use 1200 baud as the speed of choice. At 1200 baud, the data is moving over the RS-232 link at about 120 characters a second. I myself prefer to have the link set at 9600 baud which is about 960 characters per second. So, the speed is adjustable to suit you and your equipment. Setting up the communications is not that hard at all. The owner's manuals that come with the TNC's have information on the RS-232 link used and there is material available in publications like "Radio Amateur's Handbook" and other books of similar caliber. Now that you have the computer or terminal talking to the TNC, play around with it.

PIX

How many of you out there are dyed-in-the-wool RTTY fanatics? Well, I am sure that after being on the air, you have found aside from just talking on RTTY, there are people with a creative bent who made the medium a forum for their creative talents. They are artists and/or collectors of pictures, better know as PIX. There are thousands of pictures floating around out there and as far as I know, no one has gone and sent pictures over Packet. Packet would be great for doing that because of the error free nature of the communications so that you would not get any glitches in the picture due to noise and static. I have a good friend who loves to collect pictures and she has hundreds of them. I am going to be purchasing an 80286 based computer for myself very soon and one thing that I want to do is copy the collection for myself and start sending out pictures on Packet. I am sure there are some Packet users out there who are shuddering at the possibility of someone sending pictures via Packet. What a better way to go but with pictures.

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(PACKET cont. from pg. 6)

Besides, all I see on the Packet channels is verbal traffic. Why not make things interesting for the channel watchers by sending a picture they can view on their screen. I know that there are many of the pictures used on RTTY which incorporate overprinting to yield shading and darker colors. In order for overprinting to work on Packet, the receiving TNC's would have to disable all output formatting and print out the information as received. Basically, you would tell the printer it is not to automatically linefeed unless specifically told to do so and the receiving TNC is not to format the received data in any way so that the information coming over the channel controls the show. So, you RTTY people out there who have these files and files of PIX on your computer, start sending them over Packet to your friends. They will get a kick out of it and who knows, we may start another craze in Amateur Radio. Isn't that what Amateurs Radio is about -- to have fun while learning.

QUESTIONS AND ANSWERS

I received a letter from Hal, WA7EGA the other day and as he puts it, he is an 'old' RTTY man and has no capability but currently ripe for an excuse to change." Well, there are no excuses needed. I got into Packet Radio to expand my own abilities and meet new people and that is what it did for me and I had fun along the way. I am sure that since you stated that you have been into RTTY for a long time, you may have kept some pictures. Why not try sending them to friends via Packet. There is really no reason to tie up your computer at all. The TNC has the ability to store received traffic in its memory for you to read at a later time. If you want to go and continuously monitor the channel you are presently using, you can get a dumb terminal for a few bucks at a swap meet and then use one of the TNC's which support a printer directly, like the AEA PK-232, and not have to dedicate the computer to the TNC. Admittedly, using the computer would give you the chance to store and send files of information. So, in that respect, you have to weigh what you want to do with it.

Hal also mentioned that he owns an ATARI computer. That can be used with the TNC using just a communications program. I am not sure if the ATARI has an outside RS-232 port but if it does, that's the way to go. Hal also suggested how a contest could be run using Packet and I will respond on that in another issue. I will also act on a suggestion of his about providing a comparison chart of the different TNC's on the market at that time. It

would be nice to get my hands on each brand so that I could test and evaluate them first hand rather than try to just list a lot of specifications. That way, "Specsmanship" can be ruled out and what really counts can be evaluated. Hal, I want to thank you for your letter and I will have more answers for you in the next issue.

THE YEAR IN REVIEW

This is just a brief review of the year as I see it. Packet radio is growing fast and the overall growth has been steady. There are forwarding networks built up all over the country to carry traffic. Packet has provided an added incentive for young people many of whom are more computer minded, a reason to get into Amateur Radio other than Morse Code, voice, rules and regulations. You can talk almost everywhere on Packet radio these days. There are people trying Packet via moonbounce and satellite. What the future holds for Packet radio is anyone's guess. Maybe the FCC will allow unattended, automatic forwarding of traffic on the HF bands. Who knows we are limited only by our imagination.

I wish all who read this the very best of Holiday Greetings and enjoy the riches that we all have to offer others, and I bid you peace.
de Richard, N6NKO

QSL INFO

S79WS ... Walter Skudlarek DJ6QT
An der Klostermauer 8
D-6476 Hirzenhain
W. Germany

CO2BB .. New Addr: Box 6022, Habana, Cuba

4K1LPK .. Via UY500, P.O. BOX 1551
Kharkov, Ukraine, USSR

TA3C .. BOX 839, Izmir, Turkey

TA1D .. BOX 1167, Istanbul, Turkey

FO4NJ .. BOX 1422, Papeete, Tahiti

A35PP .. Jim Cairns, BOX 830,
Nukulofka, Tonga

A71BJ .. BOX 1, Doha, Qatar, Arabian Gulf

4U1UN .. New Mgr: Harry Westervelt, NA2K
72 Kuhlthau Ave. Milltown, NJ. 08850
(Herman, W2MZV became a silent key in July)



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

MSO'S

Hi Gang! And a Very Merry Christmas, and a Happy Holiday Season to all of you! I hope that Santa has his bag full of exciting goodies for each of you, and that all of your hopes and aspirations for the New Year are fulfilled. In this world torn by strife, war, famine, sickness and lots of other problems, I think we all should be very thankful that we have such a rewarding hobby as Amateur Radio, and especially thankful for all of the good friends and associates we make on a worldwide basis. I know of no other hobby where we have the opportunity to foster good will and friendship on such a large scale, regardless of some of the more geo-political positions. Hopefully each positive QSO we have negates some of the less than positive happenings in our societies, and we should nurture each carefully.

BROWNIE DOES DALLAS

"**B**rownie" K5PL, from Denton, Texas, dropped me a very nice note, outlining some information on the "Dallas Amateur Teletype Association", (more commonly known as "DATA"), who's local RTTY Repeater is a very popular one. The DATA RTTY Repeater operates on 146.10/70 Mhz, at 110 Baud ASCII, and has an approximate coverage area of 60 to 70 miles, with very good reception in the Denton area. Brownie maintains an IBM clone mailbox system on the DATA Repeater, which runs the very popular W9CD MSO program, and invites one and all to utilize it at any time. Brownie also maintains a very fine HAL MSO system on the National Autostart Frequency, and keeps current copies of the ARRL Bulletins in his system. Thanks for the information Brownie, and keep up the good work.

BILL ORR, W6SAI, THREAT TO DIGITAL COMMUNICATIONS?

In a recent letter from Russ Tower, K1DOW/4, Arcadia, Fl, it was pointed out that Bill Orr, W6SAI, suggested in his Ham Radio Magazine column "Ham Radio Techniques", (Nov 1987 issue), that the ARRL should petition the FCC to allow SSB operations in the 30 meter Digital

Band. Not only do I heartily disagree with even the suggestion on allowing SSB activities on 30 Meters, but I have for a long period been on record as not favoring any further expansion of SSB activities, until we have the desire, motivation and capabilities to clean up our act on SSB! One need only listen to the inane SSB activities on 75 meters in the evening, or the discourteous bedlam on 20 Meters during a SSB contest weekend, to quickly realize that there's something better in Amateur Radio than stuffing each segment of spectrum full on nonsensical monkey chatter! It was Sir Edmund Hillary that was asked why he climbed Mount Everest, and replied with something like, "... because it was there". That rationale may well apply to climbing mountains, but signals, (no matter the mode), but particularly not with SSB signals, when that mode already occupies significant portions of the available Amateur Radio frequencies. The well known explosion of interest in digital communications clearly points out the need for a portion of the spectrum dedicated to digital interests, and even though 30 Meters is a very small portion, it does provide room for growth, without stacking signal upon signal. As much as I respect Bill Orr's experience and technical expertise, I think he's wrong on this issue, and I hope that his suggestion dies a very early death!

Russ additionally provides information from Dave Sumner, K1ZZ, Executive Vice President, ARRL, that the ARRL ran an extensive survey of Amateur opinion formulating its proposals to the FCC for implementation of the 10 Mhz allocation, and somewhat surprisingly, there was overwhelming support for limiting the band to CW and digital modes. No evidence of a shift in that opinion has been noted. And incidentally, this view is also shared by the IARU membership on a world-wide basis, as evidenced by their adoption of band plans at the three Regional Conferences. I want to take this opportunity to thank Russ Tower for bringing this matter to my attention, and I think we should be constantly alert for suggestions of this nature.

MEGA-VOLTS, MEGA-AMPS, EQUALS MEGA-BUCKS

Lest some think I have been beating the drums a bit hard about adequate lightning protection, I would suggest that they visit with Don Kiefer, W5QXK, who recently has returned to the National Autostart Frequency, after a disastrous lightning strike at his home near Kaufman, Texas. Rather than provide a blow-by-blow description of the event, it's only necessary to say that Mr. Lightning Bolt

(MSO's cont. from pg. 8)

did over \$16,000.00 damage to Don's electronic equipment, much less almost burning his house to the ground, even when Don had disconnected his antennas in anticipation of just such an event! Even thought it may be time to think about snow balls, instead of lightning bolts, it's never too early to plan for an adequate lightning protection system. Those Spring thunderstorms will be here before you know it!

MSO RAMBLINGS

MSO SYSOP John Troost, TG9VT, reports that he will be issued WAZ RTTY Certificate Number 2!! A most worthy accomplishment for John, and our congratulations go out to him.

It's been reported, but not substantiated, that Joe, AJ0X, is actually alive and kicking down there in Laurel, Mississippi. However, reliable sources tell me that he's having a hard time finding the "on" switch.

The use of four N's, (NNNN) in MSO "sign off" messages is encouraged, as it will help in shutting down systems that have been inadvertently left open. However, the NNNN sequence should not be included in each and every MSO reply transmission, as there are times that files are sent to more than one MSO at a time, and the four N's will cause the other MSO's to shut down.

MSO HINTS

If you are using a Kenwood TS-940S, and it has literally been "going nuts" recently, and requiring that you frequently reset the system microprocessor, there's a distinct possibility that poor pin contact on IC-2, on the Digital "A" board, may be the root cause. The cure is to "exercise" the chip in its socket, by raising and lowering it until the chip pins are scraped clean. My TS-940S suffered from these episodes of loss of memory, (operating program really, since IC-2 stores the microprocessor operating program), and after following Kenwood's suggestion to exercise this chip, all is well again with my unit. If you need specifics on how to find the chip and exercise it, see the Technical Library information in the K0VKH MSO, on the National Autostart Frequency. (14 085 625).

That's it for another year Gang! Enjoy the Holiday Season, and I'll see you next year!
Best 73 de Dick, K0VKH

RMX-3100

Larry Workman, KA0JRQ
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About 4 years ago at the Iowa Convention in Cedar Rapids, Ia. I met Bill Henry, K9GWT of HAL Communications Corp. for the first time eye to eye. Having owned three different HAL rigs since 1981, I had gotten acquainted with him and some of his staff by phone on occasion. We visited about a switching arrangement of some kind later in Dayton. I had no idea that Bill was or would later build such a unit. Discovering this at Dayton 2 years ago when they showed a prototype that would be on the market in the next year I asked him if I could have serial No. 1, which I now have (101), the first unit off the line. Bill thought this could be arranged, so finally after a long time it was ready and it arrived and I started putting it through it's paces. Some problems were present which have been overcome due to the excellent service and cooperation from the HAL folks.

HOW IT WORKS

The HAL RMX-3100 is a switch that interfaces one computer or the HAL MPT- 3100 system to two ports (I/O) channels. It sits between the computer and two radio digital systems and is reasonably simple to hook up. Its purpose is to make possible the operation of two digital radio systems by one mailbox or BBS. You may work RTTY and Packet simultaneously, or RTTY HF and RTTY VHF, Packet HF and Packet VHF, or mix Packet and RTTY. Also ASCII of course and Baudot, and Oh yes, I forgot, AMTOR. Any of these modes and or speeds, with the terminal always working at 1200 ASCII, the unit automatically converts the speeds and codes. All data coming and going from the demodulator or keyboard goes into RAM being duplicated.

The process goes something like this for one example. If you have the RMX set to the "Automatic" position the lines on your screen will be lettered at the left with an "A" or "B" depending on which port it is copying. You will see text from both ports on the screen if both digital systems are "copying the mail". You may select in the parameter "SET UP" for it to copy both, one, or none.

The first port calling for the mailbox will have precedence of course and when busy if the other port calls it will get a 'busy message' (up to 256 bytes) telling it that the mailbox is
(cont. pg. 10)

(RMX-3100 cont. from pg. 9)

'busy' and that it may either wait or proceed at this time with it's message of any length. This is done with another callup code other than the MSO callup code and the message is ended with 4 N's (NNNN). At this time the RMX-3100 will send a receipt for the message, including the total bytes. On the SYSOP's end the RMX is designed to print this message from the second user on a printer at the same time the other port is using the mailbox. All this operation is being done without "QRMin" the first user. By the way, the printer shows all connect attempts times and date along with the messages.

In my case instead of a printer I use a "Centronics to data" interface, reversing the printer data back into serial to another computer. Going first into a RAM buffer and then into another terminal at my control if I am using the computer for something else. I find this and the whole concept of the radio multiplexer to be ideal for any operation today, since it is common to have more than one digital mode going in a shack at one time. In other words "neat". A few years ago I would have said "awesome" but today one can expect anything in the computer field. In some cases it is real handy to have 2 modes using the same file directory, like VHF Packet and HF Packet.

If a user would rather not go for the mailbox he may use the special or second "Callup Code" for just the SYSOP's printer or other computer and send his message, getting a receipt at the end. This saves bringing up the mailbox or BBS thus saving a lot of time. The box has a manual 'override' to either port that you may use at anytime, since the "Busy" messages are always active regardless if you are using one of the ports for your own use. Two LEDs let you know which channel is active, plus there is a "SETUP" and "RUN" switch and LED and of course, the power "ON" and "OFF" switch and LED. Very simple to operate.

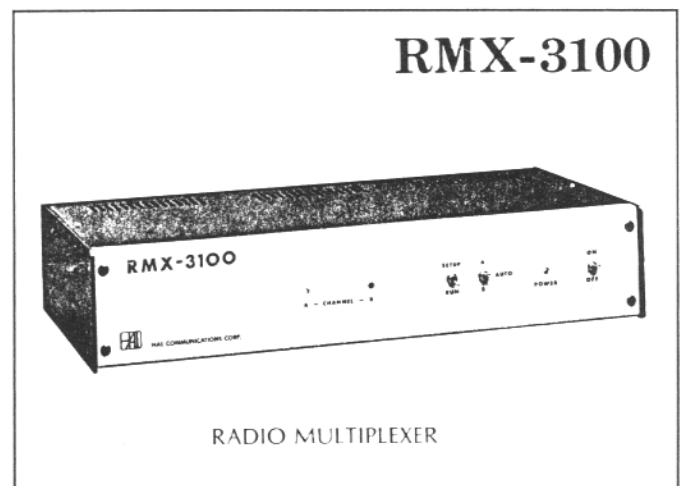
There is a large selection of parameters to set that remain active after power off. All necessary to the operation and once used a few times become second nature. I won't go into detail but everything you can imagine you need in a sophisticated system like this is there except upshift on space which is forthcoming. I find very little if ever a problem with figure inversion in the set up. I like the way the "Sync Idle" comes on the very instant someone calls the MSO up and for messages. There is a brief "Diddle" then on to business.

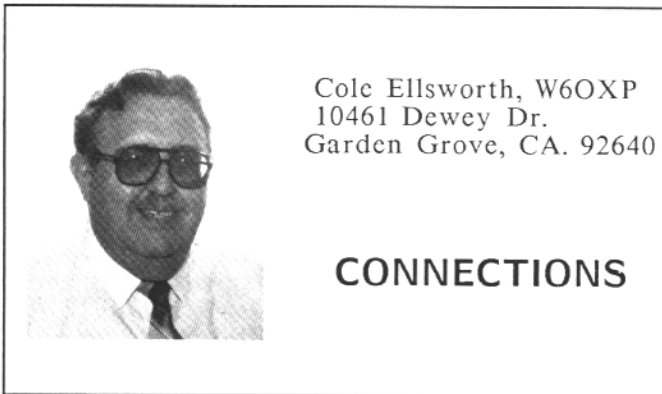
I should mention that the printer message part is an option of around a \$150.00 and includes a time and date stamp with it, making the whole price around \$700.00, give or take a little. If you don't elect this option the system still has the "Busy" message, but just to tell the second user that he will have to wait until the other port is free. Even if a SYSOP does not do much mailboxing, I like the complete system with the printer option since it gives me piece of mind that when I am using one of the ports the other will not go unattended. I doubt if the cost is to unreasonable when compared to computer systems after buying the extra serial boards, software, cables and all it takes to make your computer multi-tasking for more than one port.

One last remark I would like to make about the equipment and the HAL folks. If you have never used any of their equipment you have a treat coming. Their digital expertise goes back many years in RTTY and they have produced some really fine equipment which is backed up by their excellent service policy. No one paid me to say that, it is just a plain fact in my humble opinion. Good equipment keeps Hams on the air and bad or cheap equipment all to often runs them off because they can't print the weak ones or can't separate signals in QRM, etc.

My MSO callup is "MSOJRQ" on the National Autostart Frequency that Dick, K0VKH writes about here in the Journal. So look for particulars on MSO's in his column and about RTTY the "Friendly Mode" for all around enjoyment. And by the way, to you that have the RMX or are thinking about it, Dick has some interesting notes about the unit in his "Tech Files" which you will find helpful.

73 Larry, KA0JRQ





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CONNECTIONS

LAST MONTH'S COLUMN PHOTOS

Back in January of this year, when I first started writing this column, Dale wanted a picture of the writer for the head of the column. I scrounged around and finally came up with an old duplicate passport photo, (if you travel you know they always give you extra photos for visa applications, etc.) Now this photo was "only" about 18 to 20 years old but it was all that was handy. Problem was, readers could not relate my "real" appearance with the column photo. Snide little remarks like "are you really the same guy as in that photo?" made me decide it was time for a photographic update. Alas, as you can see, I do not withstand the ravages of time any better than anyone else.

THE SAGA CONTINUES

Last month this column discussed the connection of a computer to the ICOM IC-751 HF transceiver. I mentioned that a level converter (ICOM CT-17) was needed and expected in a week or two. Well, expectation is one thing and actuality is another. It is four weeks later and still no level converter. Perhaps it is on a slow boat from Osaka. Meanwhile, I have been digging into the Basic program to run the ICOM R7000 VHF/UHF receiver through a PC. Contrary to my previous thoughts about it being Microsoft basic, it turns out to be something else. Exactly what is yet to be determined. My Microsoft GW Basic does not like the "CONSOLE" statement in this program. Likewise, GW Basic does not permit branching to a label, which this program does quite frequently. Therefore, inquiry has been made directly to the ICOM home office in Osaka via air mail about the pedigree of the Basic involved, and also asking about a program similar to the R7000 program that might already be written for the IC-751. This would save me considerable time. I have discovered that Turbo Basic (Borland) does permit branching to a label, but it does not know anything about a

statement like "CONSOLE". In way of explanation, a Basic program usually branches (jumps to another section of the program) by referencing to a program line number. In the program under discussion, branching is done (sometimes) by referencing a label (a name like MAIN or DATAOUT) instead of a line number.

No word from ICOM Osaka as of today (11-29-87) but "hope springs eternal". Having waited four years to get this IC-751 "computerated" I suppose a few more months won't make me any more cranky than I already am. So, as you have seen, a "simple" connection problem can grow and grow. (Fig. 1)

ANOTHER KIND OF CONNECTION PROBLEM

Operating AMTOR or RTTY on HF with a high power amplifier can be a problem, especially with AMTOR. No, I am not referring to RFI or huge electric bills, but to the send/receive antenna switching problem. Depending on the impedance of the antenna feed line, five amps of RF is not unusual with a legal limit output. If you have listened to an AMTOR signal chirping away, you know that it is sending several characters and then waiting for an acknowledgment. Each chirp is a complete send/receive antenna relay cycle. Now it does not take much math to come up with really large numbers of relay switching cycles over a period of several months of AMTOR operation. Think for a moment about how this affects the antenna relay. Disregarding any "hot" switching that may be taking place, this means hundreds of thousands of switching cycles, and that can be quite a strain on an electromechanical device. Think also of the time required for the relay to switch from one position to another, including extra time for the contacts to stop bouncing! Even the vacuum relay is not a cure-all for these problems. Most vacuum relays are only rated for a hundred thousand cycles and they don't like "hot" switching either. In AMTOR operation switching time is critical both in the changeover relay and in the receiver recovery time - it can directly affect the minimum and maximum distances over which you can communicate. "Hot" switching only makes matters worse as it means the contacts are making or breaking under the full power of the amplifier output - usually due to improper control circuitry timing sequences.

So what is a good method of handling the transmit/receive antenna switching function?
(cont. pg. 12)

(CONNECTIONS cont. from pg. 11)

One method that has been in use in commercial equipment and military equipment for a number of years is the PIN diode. Most of you know that you can switch RF signals using diodes that are biased with a DC current. Off with no current flowing, and On with current flowing. You have probably built circuits like this using small-signal switching diodes. The same principal can be applied to switching RF signals in the hundreds and even thousands of watts range by using specially constructed PIN diodes. This method permits very fast switching times so that the recovery time of the receiver becomes the primary obstacle to close-in AMTOR communications. Also, within limits, the PIN diode is unaffected by hot switching. There is at least one PIN diode "antenna relay" that is available to the amateur community and was reviewed in the September, 1985 QST in the New Products section. It is rated for 1500 watts CW at forty words per minute (makes for pretty fair QSK), but must be derated to about 800 watts under continuous keydown conditions such as RTTY requires. Besides costing \$300 or more, the 800-watt RTTY limitation does not meet my requirements of 1500 watts continuous service. A new amplifier that probably would work fine is the recently announced ALPHA 86 1500 watt output desktop amplifier with new PIN diode T/R system that has no time limit in any mode. This sounds like an ideal high-power amplifier for AMTOR and RTTY. However, at three grand it certainly won't fit in my budget.

This all boils down to a lot of research, looking for the proper PIN diodes, and the proper circuits. Has anyone out there already done this and come up with some sort of solution? Please let me know if you have any suggestions or information to share.

THERE IS MAIL

Dale passed along a note from new subscriber WD6EEK, Peter, who is considering acquiring a new IBM PC or compatible clone and a PK232 data controller. He would like to know if he will be able to receive commercial radio RTTY transmissions such as Associated Press or UPI news with this equipment and would like to know what frequencies are involved.

In a word, Yes; you can receive press and other commercial digital transmissions with a PK232/PC combination. Recall that most commercial press wireless services use 425 hz shift. The PK232 has two basic shift widths - 200 hz for packet and normal RTTY/ASCII/AMTOR or Wide Shift (1000 hz)

for the older style 850 hz shift RTTY. To copy press at 425 hz shift, use the wide mode and then "straddle tune" the signal until you get good copy. Remember that most international press is transmitted at 50 baud rather than the 45 baud rate most US hams use. Also, the signal may be inverted compared to amateur practice (high space instead of low space for the RF frequency). And don't forget those commercial SITOR or TOR stations out there that handle ship traffic and also send press and weather. Just go to the AMTOR mode B (FEC) and print them.

The Kantronics KAM multimode controller can also be used for copying any of the services mentioned above. The KAM has the capability of allowing you to set the shift exactly on the transmitted shift width, by programming the shift tones into the unit. Therefore, no straddle tuning is required with a properly set up KAM! KALT Associates in Alaska has a program that will work just fine with a KAM and IBM PC combination.

As for what frequencies are in use for these services, the best approach is to get copies of any one of several RTTY/PRESS/SITOR/WX frequency lists and publications which are available at radio stores, Universal Electronics, Ham Radio Books, etc. Some of these publications advertise in the RTTY Journal. If you write to an advertiser, mention the Journal as the publication in which you found the ad. It helps Dale keep the Journal in or near the black instead of red ink!

A happy Holiday Season to all of you and may Santa fill your stocking with a fulfillment of your dreams. Very 73
de Cole W6OXP



Fig. 1 CT-17 Level Converter (ICOM)

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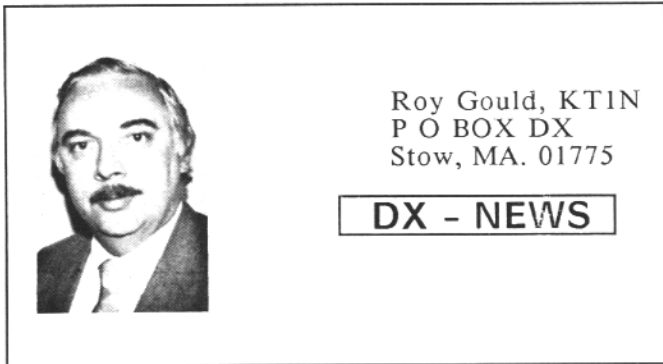
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Roy Gould, KT1N
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DX - NEWS

I was going to start this months column by talking about the excellent conditions recently on the bands, but then I received a call from Hal, WA7EGA, who commented on how terrible conditions were on the West Coast. Hal and Jay, KE7PN only worked a handful of stations during the WAE contest. However, here on the East Coast conditions have been pretty good, 15 and 10 have both been open to Europe and the Indian Ocean. I worked Walter, S79WS, on both 15 and 10 during the WAE with very strong S9 plus signals. But all in all I think we can look forward to much improved conditions ahead. Now if only those conditions bring us some new DX.

DX NEWS

Uganda 5X5GK ... evidently Gerry is having some problem with his RTTY gear and has not been active at all of late, as reported in a SSB QSO with Dick, WA4WIP. Dick is sending him a unit and will try to get him back on the keys.

Taiwan BV0RY ... (as reported last month) is still a go for November 26- 30. QSL direct to JR1RVN.

Antartica 4K1LPK ... Alex continues to be active from Hobbs Coast, Marie Byrd Land. He has an excellent signal into my area. Last week I got up about 0600 UTC, couldn't sleep, went down to the shack and there was Alex calling CQ. I called him and he and I had a great QSO for an hour and a half. Alex is 30 years old, married with a daughter and has been on the Ice since February. This coming February he leaves. His base is manned by 12 men and he is the Radio Operator/Engineer for the group. He promised photos when he reaches New Zealand in February. He also is a good friend of Dima's, UT5RP. Dima is also back active on the keys and I had a nice chat with him last week also. Welcome back Dima, we missed that big signal out of Odessa.

Turkey TA3C ... has been worked November

11 at 1610 UTC on 20 meters. Name is Umit and his QSL info appears elsewhere in this issue. Also TA3D is reported active.

Johnston Island WY5L/KH3 ... Bob continues to be active and is trying AMTOR usually on 14.075 about 0900 UTC or so.

St. Lucia J6LIH ... has been worked on 28.092 recently. Also just worked was NC8Q/J6L. However, he is there for the CQWW CW test and I am sure will be gone by the time you read this. If you did work him QSL to his home call.

Trinidad and Tobago 9Y4RJS ... has been reported active also on 20 meters at various times usually after 0000 UTC. 9Y4NW has been worked from here.

Greenland OX3FG ... has been booming into North America around 1300 UTC on 20 also.

St. Pierre and Migueleon FP5HL ... also active at both 1230 and 2200 UTC on 20 meters.

Botswana A22BW ... still likes his favorite band 21 Mhz and has been worked there recently at 1400 UTC.

San Andres N3JT ... who is there for the CQWW CW test? Was hoping he would get on the keys for a new one for us. QSL to W2GHK if you catch him.

Egypt SU1ER ... says that he will look on the AMTOR frequencies every Friday at 1200 UTC for AMTOR QSO's. He is having trouble with the ARQ mode, but his FEC mode works OK.

Ogasawara, 7J1ADJ ... says he will try to operate from here this month or if not this month, sometime in February.

Amsterdam Island FT8ZA ... has been active on Tuesdays and Fridays on 14.095 at around 1400 UTC. F8XT is usually around to help him. Also reported that F6CZB (FT8ZB) is on his way there and is taking AMTOR, Packet and RTTY gear.

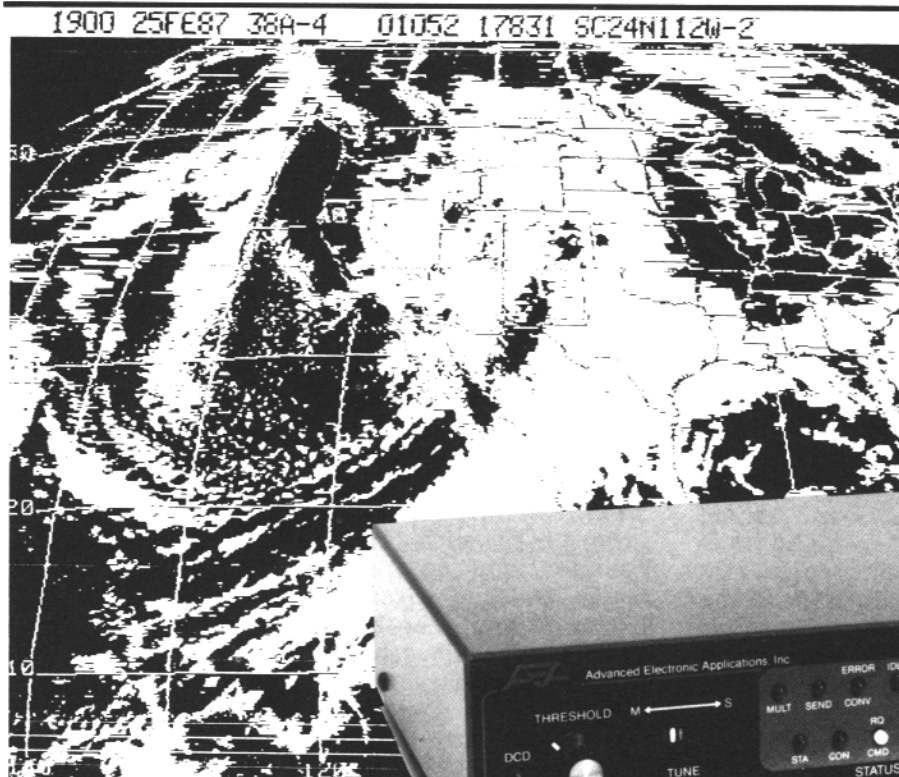
Guam KH2CK ... likes AMTOR and has been worked around 1100-1200 UTC on 14.075.

Tonga A35PP ... has been active but only reported being worked in VK land at 0800 UTC.

(cont. pg. 16)

New PK-232 Breakthrough

Six Digital Modes - Including Weather FAX



A new software enhancement makes the AEA PK-232 the only amateur data controller to offer six transmit/receive modes in a single unit.

- * Morse Code
- * Baudot (RTTY)
- * ASCII
- * AMTOR
- * Packet
- * Weather FAX

\$319⁹⁵
AMATEUR NET
\$379.95 AEA RETAIL

Your home computer (or even a simple terminal) can be used for radio data communication in six different modes. Any RS-232 compatible computer or terminal can be connected directly to the PK-232, which interfaces with your transceiver. The only program needed is a simple terminal program, like those used with telephone modems, allowing the computer to be used as a data terminal. All signal processing, protocol, and decoding software is in ROM in the PK-232.

The PK-232 also includes a no compromise VHF/HF/CW modem with an eight pole bandpass filter, four pole discriminator, and 5 pole post detection low pass filter. Experienced HF Packeteers are reporting the PK-232 to have the best Packet modem available.

Operation of the PK-232 is a breeze, with twenty-one front panel indicators for constant

status and mode indication. The 240 page manual includes a "quick start" section for easy connection and complete documentation including schematics. Two identical back panel radio ports mean either your VHF or HF radio can be selected with a front panel switch. Other back panel connections include external modem disconnect, FSK and Scope Outputs, CW keying jacks, and RS-232 terminal interface.

The RS-232 connector is also used for attaching any Epson graphics compatible parallel printer for printing Weather Fax. Weather maps and satellite photos, like the one in this ad, can be printed in your shack.

Contact your local AEA dealer today for more information about the one unit that gives you six modes for one low price, the PK-232.

AEA Brings you the Breakthrough

2006-196th St. SW
Lynnwood, WA 98036
(206) 775-7373

(DX NEWS cont. from pg. 14)

Faroe Islands OY6FRA ... worked a lot of stateside at 1200 UTC on 14.086 this past week.

Qatar A71BJ ... showed up for a short time the first week in November but has not been reported since. His QSL info in the QSL column.

Belize V31AB ... has been operating AMTOR (ARQ) at 1300 UTC on 14.078.

Zaire 9Q5BG ... was worked in Massachusetts on the 12th of October at 1900 UTC on 21.088, also on 21.090 at 1900 UTC on November 15 working Europe, heard in Florida but not worked. No QSL info reported however.

MAILBAG

George, KB2VO writes and enclosed some pictures of Karl, PS7KM and the gang that activated Fernando ZY0 recently. George also comments on what a great time he had in the CQ/RTTY Journal contest. He also reports that in 3 weeks he worked 100 DXCC countries on RTTY for the Golden Jubilee!! How about that?

Jules, W2JGR sends in a very nice letter that I would like to share with you. He writes,

"While we did not hit the top score in the Multi-Op category in the recent contest, we did manage 764 QSO's on all bands with a score of approximately 600,000 points. The score is only a small part of the 'saga'. The real point of this letter to you Roy and hopefully you will share with the readers of the Journal, is to pay homage to one of the most gracious and generous Hams I have come across in my 52 years as a Ham.

John Troost, TG9VT, his lovely wife Chiqui and their 2 children, Christian and Juan Alexandro opened their home and their friendship to me. As their house guest and the 'second op' at the station, I had 24 hour access to a World Class station. The station description can be found in John's mailbox on the National Autostart Frequency so I won't go into it here. But the site cannot be fully appreciated without seeing it.

TG9VT is located about 2000 meters above sea level on the side of a mountain overlooking Guatemala City in the valley below. There is a clear view toward the Pacific with a string of volcanos providing a truly unbelievable view. The beam antennas are on 2 towers 75 and 90 feet above the local terrain, and separated by about 300 feet. Wire antennas for 80 and 160 are strung from the towers.

The opportunity to operate this station in such inviting surroundings and amid such congenial people was the ultimate in Ham Radio! Before and after the contest, it was my pleasure to operate the station as W2JGR/TG9, the license of which will always be a reminder of a unique experience.

So Roy, when any of our fraternity have the opportunity to work TG9VT, they will know they are truly talking to 'one of a kind'.

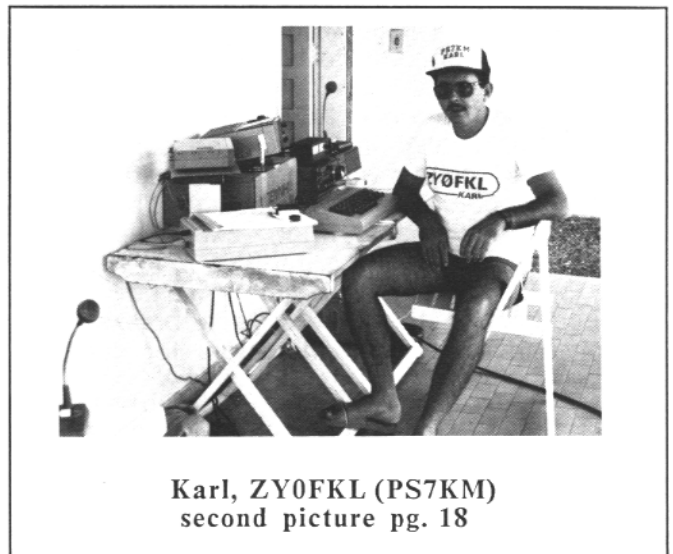
Yours for better DXing, Jules Freundlich, W3JGR"

Thanks Jules, and also have had the opportunity to meet John here in Boston and can attest that he surely is one of a kind. Thanks for sharing your experience with us.

The letter from Jules, along with my own experience with Hal, Jay, and Betsy in Ecuador, can only attest to the fact that this really is the Greatest Hobby in the World. Those of you who have had the opportunity to travel and visit other Hams around the world, and those of us that have opened our homes to fellow Hams, will find that it is a great experience. An appropriate close to this months column as we enter into the Christmas and New Year Holidays. May the true spirit of the Christmas Season and the coming on the New Year bring all of us to a better understanding of each other and Peace on Earth. Happy Holidays everyone.

Thanks and a tip of the hat to, W1DA, KA7IVA, K6WZ, WA4WIP, KB2VO, WA8FLF, W2JGR, TG9VT, The VK2AGE RTTY DX Bulletin by VK2SG, and the DX Bulletin.

de Roy, KT1N



**Karl, ZY0FKL (PS7KM)
second picture pg. 18**

WHERE DO WE GO FROM HERE?

Jerry Trichter, WAIHUF
136 Alden Ave.
New Haven, CT. 06515

Have we reached the end? Is there anything more we might do with digital communications? Is RTTY on the way out? Will Mailbox and MSO operations be a thing of the past on RTTY? What can we as operators do to help our favorite mode of communications? Do you have any answers to the above? I sure as heck don't!

Since the advent of Packet Radio, I have seen a serious slide in the amount of RTTY communications on 20 meters and I wonder if there is a viable way to prevent the loss of RTTY communications as we know it today? As the originator of one of the two best known RTTY MSO/Mailbox operations on the air today, I have been closely watching the use of these operations dropping very steadily -- and I have to tell you that it is bothering me quite a bit. Any of you who attended the "Digital Digest" (the old RTTY forum) at Dayton in April of 1987, heard me play the "devil's advocate" when it came to Packet operations, and I honestly believe that it is the Packet mode that is slowly putting an end to RTTY operations.

I think the time has come for the manufacturers of the new, highly sophisticated gear such as the AEA PK-232 and the Kantronics KAM, to realize that there is no way that those of us who want to continue to run viable Mailbox/MSO type operations on 20 meters and at 74 Baud (100 WPM) can do this, and I mention 20 meters as this is where I hang out, 24 hours per day, 7 days per week. All of this would apply to all bands, and not just to 20 meters.

If you want proof that mailbox and MSO operations exist, go down to 80 meters and see the proliferation of C-64 Mailboxes! They are running rampant down there and some of them have directories of more than 80 files, legal and illegal. There are automatic beacons on which to my limited knowledge, are illegal. I feel that some of these will fall by the wayside, as some of the users of these systems will run the directories time and time again and then play so many of the files, that another user does not get the opportunity of using the system, therefore it is reasonable to assume that the SYSOP would either remove them from use or at least clear out some of the files.

One of the questions I asked of manufacturers at the Forum in Dayton last year was, "did they think that RTTY was on the way out", as all the new items I saw coming from them was pretty much dedicated Packet equipment. Their answer was, "let us know what you want as regards RTTY and we will see what we can do". Well, the only one who I think really considers the RTTY operator is Bill Henry of HAL. At least they have the new RMX-3100 multiplexing switchbox that will allow you to run Packet and RTTY Mailbox/MSO operations, but even in this case the average Ham could not afford to buy it due to its high price. This does not mean that it is not worth it, it's just that if I had to purchase it I would first have to give serious thought to taking my operation off the air rather than trying to justify the cost to stay on the air.

In the fall of 1988, I will be retiring to a condo in Bradenton, Fl. and it means that I will have to completely remove my Mailbox operation from the air. It certainly is not what I want to do, but something that I will be forced into. I will only have so much room to install equipment (let alone an antenna) and will really have to consolidate equipment into a very, very small area. So, even I have purchased an AEA PK-232 so that I could have the use of CW/RTTY/AMTOR/PACKET from just one piece of equipment rather than using separate interfaces, demodulators, etc., etc. So, even after being the longest running 74 Baud Mailbox system on the air on 14.0975 Mhz, I will have to take my "amateur radio utility" and fade into the sunset on the Gulf of Mexico. Don't think you are getting rid of me, as I will certainly make my presence known, with or without a viable Mailbox operation.

Don't get me wrong, I am not mad, I am not upset, it's just that I wish that the manufacturers would think about people like us who have run such super systems and can no longer do so due to the lack of thought in the design of some of the most sophisticated equipment that the amateur radio fraternity has ever seen. I sure would have liked to put some input on RTTY to the manufacturers had I known that some of this stuff was on the drawing boards. You can rest assured, that once retired and away from the humdrum and problems of professional life, I will once again play the "devil's advocate" and will do my utmost to see that my favorite mode of operation will remain just that!

If you feel the same way that I do, then let your thoughts be known - contact the

(cont. pg 18)

(WHERE DO WE GO cont. from pg. 17)
 manufacturer, write letters, send letters to Dale here at the Journal and I am sure that they will sit down and listen to us. Heck man, you never know, they might even agree with us!

If you would like to contact me, my station is on all day long on 14.0975 Mhz (carrier) at 74 Baud (100 WPM) and you need only to send the following to get a response: CR/FL IUFZ (Yourcall) CR/FL, it will then tell you how to do the rest. I would appreciate any and all comments, and you can rest assured I will respond.
 73 de Jerry, WA1IUF

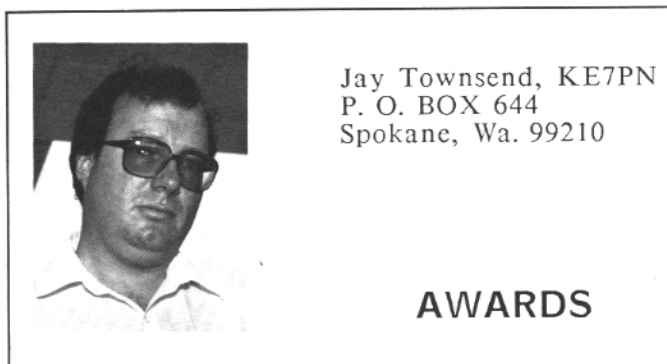


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FOR SALE: The PK-232 Multimode data controller \$240.00 including- operating manual, software programs, cables interconnections (except mic. plugs), shipping prepaid. Please call Bill, WB3VJF Phone: (201) 471-3798

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Jay Townsend, KE7PN
 P. O. BOX 644
 Spokane, Wa. 99210

AWARDS

We have finally started catching up on the various awards. New styles of the various certificates are being designed and should be in the mail shortly.

RECENT DXCC QUALIFIERS

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- 112. VK2BQS 102 870818
- 113. G4SKA 108 870911
- 114. JA2NNF 113 870928
- 115. KE7PN 105 871010

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Mixed Band
 G0ATX VK2BQS
 KE7PN W2FG
 LA7AJ KE7PL
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20 Meters W.A.C.
 OE3HCS ZL2AKI

Also received was the first entry for the W.A.Z. (Worked all Zones) award. I will have the full details on this award in the next issue. Pending final review of the documentation it will be a Japanese ham (JR2) with the first W.A.Z.

Get ready for the 1988 United States of America bicentennial W.A.S. award. This award will be given for any W.A.S. worked and dated from January 1, 1988 to January 30, 1989. Look for the full details next month.
 de Jay, KE7PN

CLASSIFIED ADS

30 words \$3.00, additional words 5 cents each. Cash with copy.
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