RTTY JOURNAL

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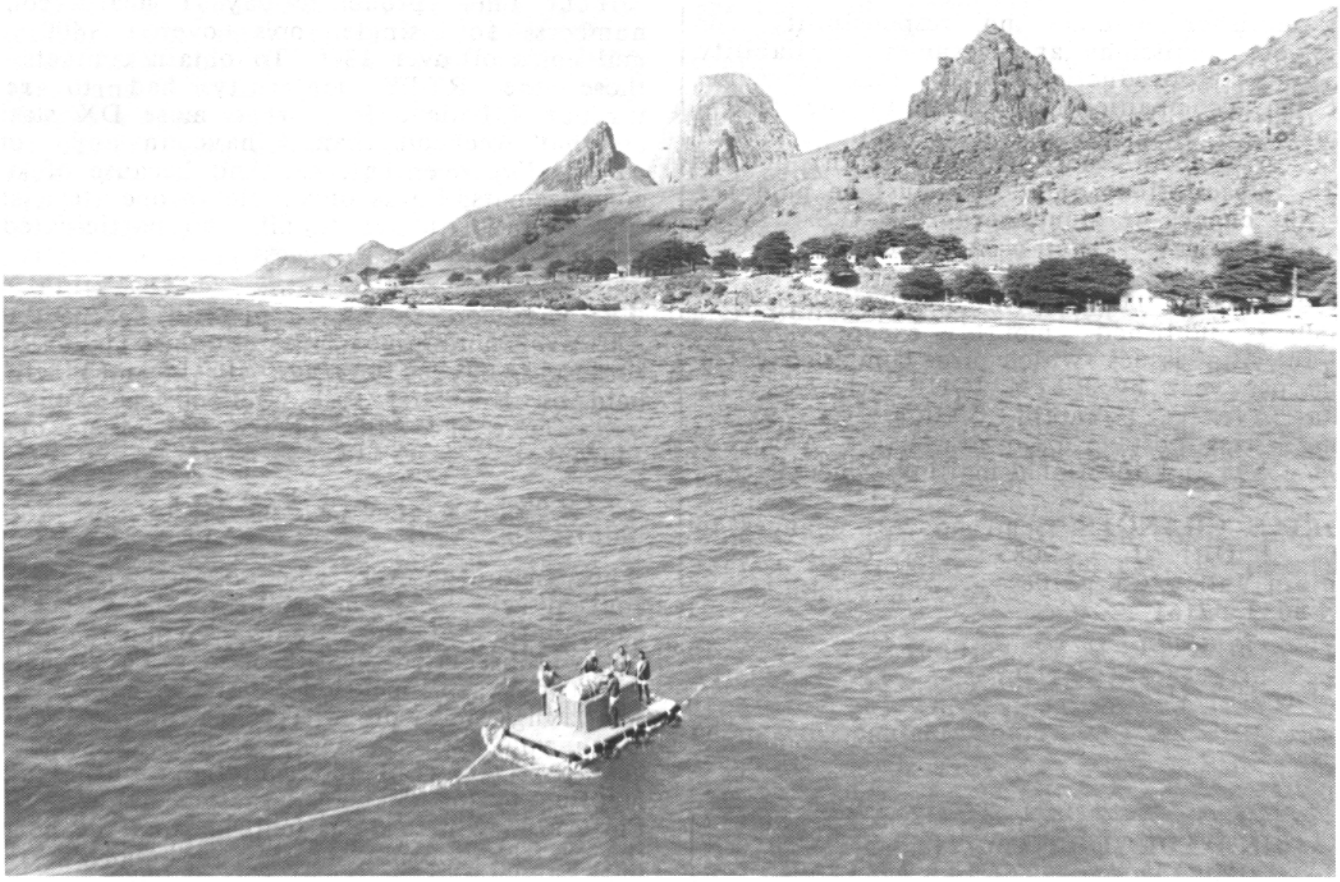
AMATEUR RADIOTELETYPE - COMPUTERS - PACKET

VOLUME 36 NUMBER 8 OCTOBER 1988



# ALL ASHORE SAFELY



Carefully approaching Trindade Island. You will notice the method by which the shore is reached. A rope at both ends is needed and the barge looks very sturdy. Even with all this precaution, they were drenched upon reaching shore.
For story, see DX NEWS

IN THIS ISSUE

# RTTY JOURNAL

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OWNER - EDITOR - PUBLISHER

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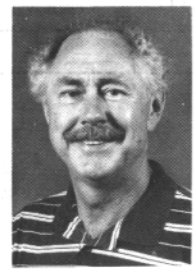
**DON'T FORGET TO WRITE**

**Our columnists would like to hear from you. There are times when they need a new idea to get them started for an article and that is where you can come into play. Write to them and give them your ideas or if you have some questions, write and ask them. I'm sure they will be well received. Maybe you even have something you would like to share with us, let us know. We look in our crystal ball each month but it gives us no help in trying to determine what it is, you the reader wants to read about. So please write to any of us, anytime. Thanks**

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## HITS & MISSES

Now that the CQ/RTTY JOURNAL WORLDWIDE RTTY CONTEST is over we can all settle down for the coming Fall and Winter. Again this year the contest had a fantastic turnout I'm proud to say. I heard contact numbers for single op's over 400 and multi-op's of over 1300. To obtain contacts like those the RTTY fraternity had to really turnout. I believe I worked more DX stations on that weekend than I have in any other contest I've ever entered. And because of other commitments, I was only able to operate a short time. Many thanks to all who participated in making this contest a success.

The next contest coming up will be the ARRL RTTY Roundup. This is the first RTTY contest sponsored by the ARRL and will be held on the first full weekend in January. I will have the rules in the next issue of the Journal.

**MENTION OUR NAME**

Those manufacturers who advertise here in the Journal are very important to the success and continuation of the Journal. Their support is really appreciated by all of us but sometimes we forget to mention that we read about something new or different in the Journal. When you are shopping or buying some new gear that you read about in the Journal please mention to the dealer or factory. I guess what I'm asking you to do is help me toot the horn of the RTTY Journal. This is an important favor I'm asking because with todays costs of publishing, were it not for our advertisers we would be suffering from red ink and I need not mention to you what happens when red ink appears on P&L statements. Especially, when your XYL doesn't think being publisher of a newsletter should be just another out-of-pocket hobby. So please mention the Journal to our advertisers whenever the opportunity arises. **(cont. pg. 18)**

Hal Blegen, WA7EGA
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99216

# CONTESTING

## A WORD UP FRONT FOR THE NON-CONTEST STATION

(WHO HAS NO INTENTION OF READING THE REST OF THE COLUMN)

**Contests** in which states are multipliers give USA stations who join in the contest late a great opportunity to work pileups just as if they were DX. If you want to have some fun for an hour or two, show up during the last three hours of ANY contest. New blood calling CQ on the band will invariably become very popular at a time when most of the stations in the contest have already worked each other. A quick tune of the band will also give you a shot at DX which by that time is begging for a contact with no pileup. The ARRL RTTY ROUNDUP CONTEST will be the next opportunity for the small-gun stateside operator to shine. Watch QST and the JOURNAL for times and complete rules but keep the 1st full weekend in January open for some fun on RTTY.

## CQWW REVISITED

To say that conditions for the CQWW RTTY contest were excellent is like describing Attila the Hun in terms of a type A personality. Words cannot convey the reality. Ten meters was open world-wide. Fifteen meters became the rate band and if there was a complaint, it might be that 20-meter productivity suffered from the increased activity on the higher bands.

**Participation** surpassed expectations. Several times during the contest our rate as non-dx from WA. exceeded 70 QSOs an hour. **Dima, UT5RP,** spent a lot of time publicizing the contest in the USSR and the Soviets were out in force. Even some of my hard-core CW DXer friends were envious of some the available prefixes, **UL, UJ, UM, J52, J73, 6W6, 5N4, 5B4, SU1, VS6** and **AT0** (India) to name a few. It's a safe bet that almost everyone who ran the contest found a new country or two in his log by Sunday night.

## THE GOOD, THE BAD AND THE UGLY

**The** bands were so good, in fact, that stations who had never heard DX before were able work it. The standout was Sunday afternoon--a **W3** on fifteen who had a new amp.

"MANY STATIONS CALLING YOU, TONY," he told the **5N4.** He then sent a description of everything in his shack which had ever been hooked to the power mains. He was on his third set of 73's when the DX started calling CQ again. Back in the days when we were still dropping bombs on some of our rarest DX locations, there was a gadget in the back seat of the F4B aircraft which used RF emissions to target missiles on radar sites. A feller oughtta be aware that the technology is out there before he reaches for the brag tape button.

**Speaking** of incredible, **J52US** used that word to describe the mob on fifteen meters who continued to call him on his own frequency when he repeatedly sent "LISTENING UP 2". The stations who could read without their lips getting tired worked him split, usually on their first call.

I have never seen anything to indicate that a contest station can be insulted by leaving off such amenities as, "THANKS FOR THE CALL" and "BEST 73'S AND GOOD LUCK IN THE CONTEST".

A new station on his first contact could probably use an encouraging word. The rest of us would settle for the exchange info without the book. A lot of the extra copy originates with an operator who is bored and wants to inject a little humanity into the contest. Anytime efficiency is important, resist the urge to type.

If you are running an amplifier to a gain antenna, why send repetitions of your report to a guy whose signal to you is S9? A completed contact could take as little as 20 seconds:

**CQ TEST WA7EGA WA7EGA (4 SECONDS)**
**WA7EGA DE KE7PN KE7PN (4 SECONDS)**
**KE7PN 599 WA 03 KE7PN (4 SECONDS)**
**R 599 OR 03 KE7PN (4 SECONDS)**
**R CQ TEST WA7EGA WA7EGA (5 SECONDS)**

I found about 1 percent of the contacts needed any sort of repeat. Granted, the complexity of the exchange can slow the process but in the CQWW it was the easiest imaginable case yet most stations blew 30 seconds or more every time they got the ball. This was largely due to unneeded repetitions, redundant call letters and meaningless pleasantries. **(cont. pg. 4)**

**(CONTESTING cont. from pg. 3)**

**If** you answered my CQ and contact has been established, why start the 2nd transmission with more repetitions of my transmission. They may still use RYs for tuning but in the arena of current technology, a string of RYs loosely translates to: "I AM SICK AND TIRED OF TRYING TO GET THROUGH THIS STUPID PILEUP. EITHER TALK TO ME OR DON'T TALK TO ANYBODY."

**A** lot of stations did the Saturday-night-shuffle on the low bands. Anybody who made the jump from 40 to 80 picked up at least 10, quick multipliers. More stations should realize how damaging the lack of some sort of wire or vertical for 80 meters can be to an all band effort. In rough figures, the 33 multipliers represented by the 42 stations I worked on 80 were worth 60,000 points. Although the DX was usually not interested in QSYing, Europe from the west coast USA was wide open on 40 meters on both Friday and Saturday nights.

**An** all-Ecuadorian crew at **HD8EX** topped last year's winning score with a 1.7 mil effort from the Galapagos. **TG9VT**, running multi-op again this year, came up with a raw score of 1.2 mil and the US multi's will have to beat **WA7EGA**'s 700 K. I suspect that something around 400 K will be the breakpoint for USA single ops but I look for some higher scores on the European continent. The Soviets made their first all-out effort in an RTTY contest. They were a definite presence for the entire show and may have sandbagged us all!

## WAE

**The** next chance at bat is the WAE (Rules last issue). This year's rule changes turned the contest from an ugly sister to an RTTY traffic handler's Cinderella. Very few of us ever get an opportunity to utilize the message handling capabilities of our software. Unless you are involved in MARS or the NTS system, chances are you have never even tried it! The WAE is a chance to test your skills. The contest has two facets. First, work any and all stations and exchange RST and QSO NR. All restrictions on QSO points have been lifted, you can work your neighbor if you want for a 1 point QSO on each band. But that isn't enough to win.

**European** stations are multipliers. With all three high bands open to the Continent at the same time, this year will be a real test of agility. Beware the 15 minute band rule, you can only jump bands for a multiplier. The general rule is to work the highest band open. A change in K index could close the higher bands in which case, you want to have as much covered as possible on the higher freqs when everyone is forced to move back to 20. But that still isn't enough to win.

**A** bare QSO is worth 1 point. But every contact made with a station outside our continent should be worth 11 points. Unless you are **9H1EL** or **1A0KM**, that is, rare enough to maintain an astronomical rate, you must send and receive QTCs. This is the only way to a win.

**The** big gun at the rare and far-distant FIZZBAG ATOLL can score 200 million points but it matters not a whit since you are only shooting at the scores on your own continent and in your own country. There is no overall winner.

**QTCs** are explained EXACTLY in the rules. Suffice it to say you are sending and receiving a copy of your log entry, time/call/his-nr for one point each until the contact is worth 11 points. It makes no difference to the score whether he sends you his or you send him yours. This is a departure from the CW and SSB rules which do not allow the European stations to send QTCs. Since your own QTCs are a guaranteed score, each station worked is worth 2 points. Its the opposite of Thanksgiving. It's better to receive more than you send so ANY off continent station should be checked for QTCs. Don't hessitate to keep checking until the total for that station is 10.

**Finally**, a word about the lower bands. With 10, 15 and 20 meters full of activity and a special class available for only those bands, low band acitivty will be at a premium. But don't overlook this year's rule change which includes non-European stations in the multiplier bonus for low bands. A single QSO with a European on 80 meters can be worth thousands! The 40 meter band is open to Europe EVERY NIGHT, even from the west coast USA. The 15 minute rule should help keep the DX on the lower bands long enough for some extra activity.

**One** more time, guys! If I were an east coast station and let **KE7PN** and **WA7EGA** turn in the continental high scores from Spokane, Washington in a European DX contest, two years running, I WOULD HIDE IN SHAME! If there was ever a contest that the eastern side of the continent should work, this is it. Good luck , see you on the band.

**Hal, WA7EGA**

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

# PACKET

**How** many of you out there remember what I said last month at the end of the article? Now, how many of you went and did just that? I have a feeling that there are not too many hands going up out there. So, I guess that it is better to feel like one in a million. Well, I would like to feel like one in two million. The airwaves are not crowded enough out there. We need to fill them up. Look what happened to the United States with their loss of the 220 Mhz band to business. What would happen if some world-wide interest wanted more HF space that has good propagation characteristics, say 20 meters? There is power in numbers which leads up to .... CHINA?

**Yes,** I heard China out there. I heard a BY5 out there and I felt sorry for the poor gentleman. Here he is, on 10 meters in the local evening (!), and he is being harangued by this whole throng of W and N stations. I was having a HARD time trying to make out who was calling this steadfast chap because of all the overlapping, multiple calls and callers and the ones who think that if a little speech processing helps a bit then more will get me through even better. Now comes the real thing, my XYL was listening. She asked how the receiving station can hear all of them and pick out who to answer. I explained the situation to her and then she asked if I was going to try for him. I said that it wasn't worth my effort to try and get through all of that distortion with what little signal I have coming from the dipole that was in the same room as we were. To be honest, I felt a little embarrassed at that statement but facts are facts. Feeding frenzies are not worth all of the hassle. I figure that he will be there another day or maybe I can get with another China station and have a GOOD ragchew with him. Contacts are contacts but making friends is what counts and I know that I have made many friends thru Amateur radio. So, with that in mind, have a good ragchew with someone.

## HARMONIC OPERATION

**How** many people know what Harmonic Operation is? 80 meter dipole on 10 meters? That is a good way of putting it but that is not what I am driving at. The type of Harmonic Operation I am talking about applies to the first subject that I covered. This Harmonic Operation involves our first child. As I write this, we are waiting on, how shall I put it, the "Toaster to finish its job". So, when the little one gets older and, of course, I get just a wee bit older, I'll be introducing the little one to the big radio that has all of these different voices coming out of it. What a way to start on World Geography. (*Yes child, the Sandwich Islands are out in the ocean and they are not a new trendy store chain.*) There was a study done some tine ago and it found out that the Amateur population as a whole knows more about world geography than the average person and I will add that many Hams can also tell you how much postage it takes to get a QSL card to Costa Rica from somewhere out in Africa. So, I will be spreading the gospel of Amateur Radio to the new one when he or she arrives and since the Mother-in-Law is here, she has not being spared the radio either. She is listening to the BBC World Service at breakfast and holding an honest cup of tea.

## MAIL

**Yes,** I do receive mail from the readers. And yes, I do answer the questions posed to me but with all of the goings on here at the Owl's nest preparing for the impending arrival, I have not been able to sit down and answer much. I know that last month I said that I would go into a little detail on a question that I received from a Ham in Texas. Well, I have not been able to really research it in great depth because of all of the happenings here. So, he will be getting a reply directly from me. Now I know why people say that it will get easier after you have the first one because you will have everything already. Enough baby talk...

**How** about propagation of... ELECTRONIC STIMULATION of the ether. We are well up the sunspot curve at the moment and know that the only signal that would qualify for a 599+20 signal report during the past RTTY contest was the computer at N6IHQ's place. This machine had the gall to spew its form of interference into a vertical that is at least 40 feet away. Well, I will help him kill that nuisance once and for all. Out comes the EMI spray and the ferrite beads, which brings me to another point. In order for packet to be received properly, it has to be heard clearly.

**WEEELLLL,** if the computer that you are using is spitting out its form of radio terror, there are ways to help combat it. you have to make sure the case of the computer is RF tight. The joints have to be together and touching metal-to-metal. The case has to be grounded also. **(cont. pg. 6)**

**(PACKET cont. from pg. 5)**

**One** of the biggest problems is that most front panels of the CPU are made out of plastic, which doesn't help. So to your nearest electronics distributor and get a can of EMI spray. There are several brands on the market. Follow the directions on the can and make sure that the coating gets grounded at several points. This should help the front panel leakage. Now the cables. This is where the ferrite beads and torrides come into play. They have to be placed onto the cables to help kill off any stray signals. One good way I have found is if the equipment is affecting you on two meters, then use your HT with a 1 inch (2.54 cm) piece of wire as an antenna and go snooping. That is how I was able to find and fix my problems. So, good luck with the sniffing.

**NEXT MONTH**

I will get to the mail that has been backing up here and I will also go in to more details of the resurrection of aluminum when it comes to antennae. I also hope to have a review of some of the books out on the market covering Packet. Til then ....BRAAAP (small packet that time)

**de N6NKO SK and still waiting ....**

ED: Not waiting any longer. Natalie Anne arrived on Monday, Oct. 10, 1988. See HITS & MISSES column this issue.

**SOME OF THE L.A. DX AND CONTEST GANG ENJOYING A NICE DINNER. THE GUEST OF HONOR WAS JOHN TROOST, TG9VT. L. to R. John, W6KE - Dean, WA6PJR - Irv, W6CG - Don, W6PQS - Cole, W6OXP - John, TG9VT - Ed, K6EV - Dale, W6IWO. A very efficient waitress handled the camera operation**

New PK-232 Breakthrough

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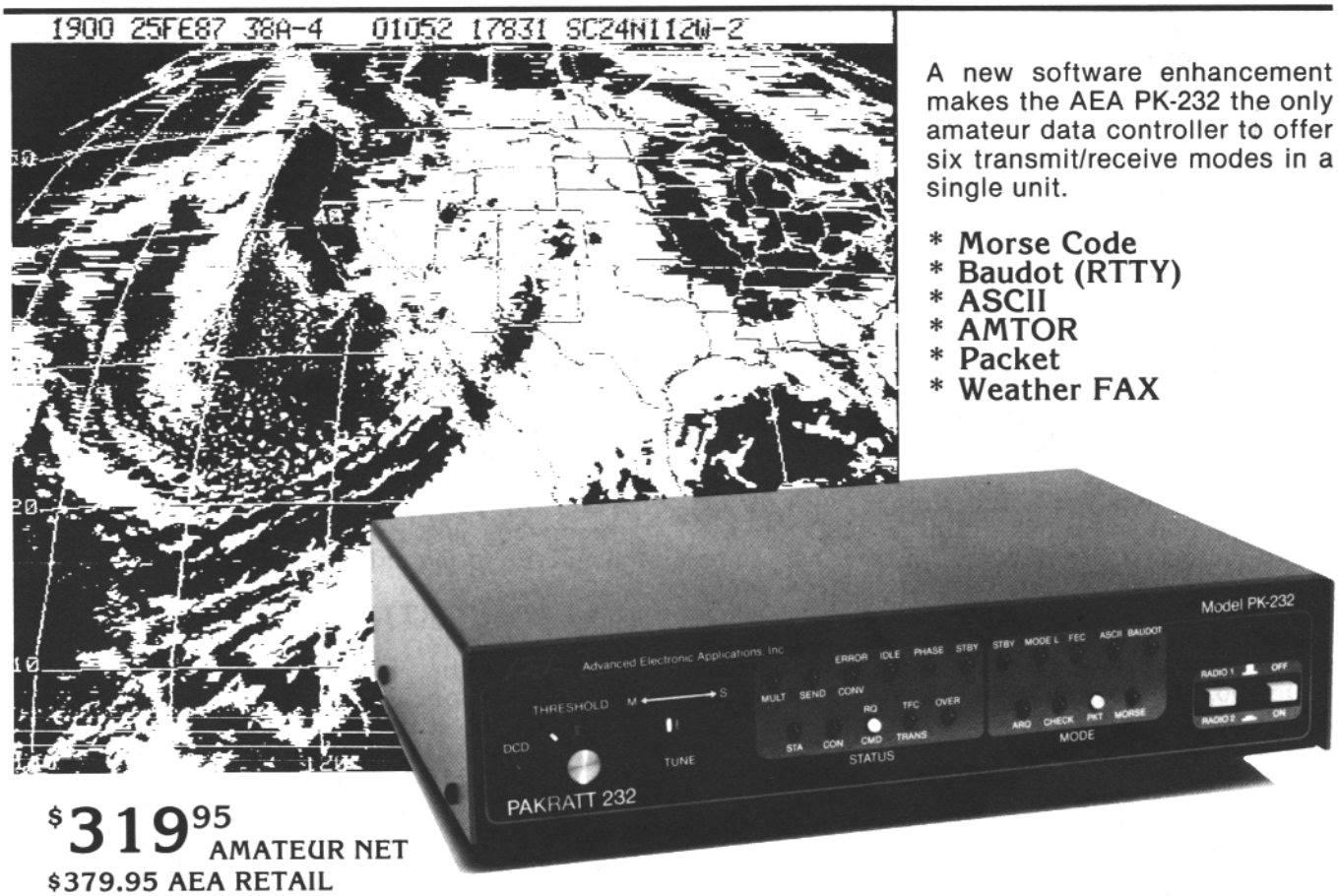


A new software enhancement makes the AEA PK-232 the only amateur data controller to offer six transmit/receive modes in a single unit.

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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.

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Dick Uhrmacher
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57702

MSO'S

**Hi** Gang! Another month has sailed by and we're now into a beautiful Fall season out here in the Black Hills. And, this past month has been one of visitors for us, something we thoroughly enjoy! Gaylord and Louise Crawley, (MSO's WB8ICL and WB8JIB), drove out from Ohio to spend a few days with us, and we had an enjoyable time showing them some of the Black Hills. Gaylord and Louise are long-time MSO operators on the National Autostart Frequency, and we really enjoyed having them out for a visit.

We also had a nice visit and dinner with Ernie Johnson, W6ZRR, who maintains a MSO on the National Autostart Frequency. Ernie has some deep roots out here in the Eastern part of South Dakota, and we always enjoy seeing him when he's in our area. Ernie is also a ARRL Bulletin Manager, and supplies the area around San Luis Obispo, California, with all of the current ARRL Bulletins.

## 40 METER SSB OPERATION DEFEATED

**Russ** Tower, K1DOW/4 from Arcadia, Florida, reports that the ARRL motion to allow Single Side-Band voice operations in the area of 7.075 to 7.100 MHz, was soundly defeated. This area on 40 meters, (as well as on other bands), has traditionally been dedicated to digital communications, and we all need to be vigilant concerning expansion into these areas. The "Gentlemen's Agreement", which over the past several decades has provided a well established and working buffer between SSB, CW and the digital modes, needs to be reinforced with ARRL officials at every opportunity. If you visit with your SCM, or other League officials, don't hesitate to bring up the subject of separation of the various modes! Thanks for your input Russ!

## KENWOOD TS-940S TECHNICAL INFORMATION

**ROM** Chip IC-2, located on the "Digital 'A' Board", of the Kenwood TS-940S Transceiver, contains the operating program (firmware) for this transceiver. Many TS-940S owners have reported difficulties with this IC, the symptoms being quite varied, and most aptly described as "the transceiver goes nuts"! In the past, partially removing this chip from its socket and re-inserting it several times seems to "clean" the chip legs, temporarily restoring the transceiver to full use. However, recently even this cleaning action seems to last only a short time, and some longer lasting fix needs to be employed.

**In** visiting with the Kenwood Service Center recently, I was told by one of their technicians that this ROM chip socket was a "one time use socket". I'm not totally sure just what that means, as I doubt that Kenwood would use a limited use item in their flagship model. In my case, I removed IC-2 completely from the socket and lightly scraped the legs of the IC with a sharp knife. Since I re-installed it I have not had any further difficulties, although it has been a short time period. Someone else suggested that it might be appropriate to remove the socket entirely, and solder the IC directly to the Digital "A" circuit board. That would appear to me to be a "last resort" type of fix, probably left to someone very familiar with that type of intricate soldering. Any further input on this subject would be appreciated, just drop me a line via the RTTY Journal, or to my call book address.

## CURRENT RTTY 'DX' INFORMATION

**Are** you looking for current and timely RTTY DX information? If so, it can be found on the National Autostart Frequency, listed in several of the MSO'S. Compiled on a day-to-day basis by VK2SG, this information is listed in a daily format, showing DX station callsigns, and their time of operation. John, TG9VT, Guatemala City, Guatemala, obtains the DX information from VK2SG, and writes it to several of the MSO's on the National Autostart Frequency, where it is available to one and all. If you're into DX, this information should help with your score!

## HAL RMX-3100 ERRATIC OPERATION FIX

**Larry**, KAOJRQ, reports that he has found a fix for some of the reported RMX-3100 erratic operation. It appears that some of the ribbon cable connectors can work loose from their pin connectors, and cause erratic operation of the unit. Firmly securing the connectors seems to alleviate many of these problems. Thanks Larry!

## SETTING MARK AND SPACE FREQUENCIES, MFJ-1224

**Jack**, KC8FR, reports that the Users Manual for the MFJ- 1224, RTTY/Packet Computer Interface, is mis-marked. When setting the Mark and Space frequencies, you are referred to Figure 4 in the Users Manual. VR2, VR3 and VR4 are mis- marked. VR4 is VR2, VR3 is VR4, and VR2 is VR3 in Jack's manual.

**(cont. pg. 18)**

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**AMTOR**

**Hello** again fellow Amtorites. By the time you read this article, my "mini" Dx-pedition to VP5 will be history but only by a couple of days, provided the Journal is mailed out on time. I hope that I was able to contact most, if not all the Journal readers. If space permits in the November issue, I hope to provide an article and some pix of my short but enjoyable stay on a VERY laid back island called Provinciales, or Provo to the locals.

**If** you read my September article, I hope that some of you have tried out the various AMTOR MBX's throughout the world and hope you found them interesting. I will be asking questions later!

**Now,** on to more AMTOR tidbits. Funny how a comment from a fellow contributor, none other than Cole, the "Connections Guru", can help stimulate the brain into finding further material to write about in the AMTOR field.

**It** appears that some AMTOR users are getting a little concerned about the increased activity on this mode and feel that the current Selcall system should be revised to prevent too many "twin" Selcalls popping up on the crowded bands. When you have finished reading this article explaining the Selcall system, I hope all your fears will lie dormant till the end of time.

**1.** There have been suggestions that we should go for a five or six letter Selcall. Big problems immediately come to mind. What do we do with the software we are all using at the moment? To the best of my knowledge the present variety of software available will only allow four letter Selcalls. The additional expense of having to purchase "updated" software and maybe new TNC's, would probably knock a large hole in everyone's bank balance but software designers would make a bundle.

**2.** If you had not "updated" and you see an old friend, or some rare DX station calling CQ in FEC and giving a five or six letter Selcall, you would have to return to him in FEC and give him your Selcall and hope that his software would accept four letter Selcalls!

Incidentally there ARE DX stations on AMTOR, over 100 countries, including some from the "Eastern Bloc". AMTOR DXCC anyone??

**3.** To try and get the three ITU region agencies, IARU, each countries national society and FCC equivalents, to get together and attempt to ammend CCIR 476 would take "light years"! Look how many countries, including the USA that still do not have full use of all the WARC 79 bands.

**SELCALLS;** (one or two L's at the end? your choice!). SELCALL stands for "selective calling". Nothing new about this system. It has been used a great deal on Mobile Phone systems to help eliminate the need for the user to have to monitor his "in-car" radio-telephone all the time. Nowadays, with more modern technology, direct dialing access is the name of the game.

**The** Selcall, for AMTOR, as opposed to SITOR, must consist of four LETTERS. These four letters usually consist of "dropping" the number(s) in your call and just using the letters. For instance: GOAZT = GAZT. Ah, you say, what happens if I have a one by two, two by one or a "nice" long call like WA7EGA (sorry Hal!). The fiendish nature of Selcalls has that problem covered too. WA7EGA usually becomes WEGA. W1DA = WWDA, KN6J = KKNJ.

**Recommended Selcall Selector:**

**If** you miss the CQ stations' Selcall but copy his full callsign, here's what you do to work out his Selcall, provided the station has not adopted a "unique" one:

1x2 call W1DA, drop the # and duplicate the first letter=WWDA
1x3 call W6TEX, drop the # =WTEX
2x1 call KN6J, drop the # and duplicate the first letter KKNJ
2x2 call AAOAA, drop the # =AAAA
2x3 call WA7EGA, drop the second letter and the # = WEGA. Simple isn't it?

**Not** so, you say! What about those countries that have a figure at the beginning of their call, no problem, just duplicate the first letter, 5H3ZO= HHZO. Naturally there are always some exceptions to cope with. ALL the 9K2-1 and stations like 9K2EC, drop the numbers but instead of duplicating the first letter of their call, they use an N, NKEC.

**The** rules: are not etched in stone, AMTOR doesn't go back THAT far! You do not have to use all or even any of the letters in your own callsign.

**(cont. pg. 10 )**

(AMTOR cont. from pg. 9)

**Common** sense suggests that you at least have your International country letter, where possible, as the FIRST letter in the Selcall, but the other three can be anything you choose. Make sure that you "advertise" your "unique" Selcall often, when you call CQ in FEC.

**Say** for instance, that you discover another AMTOR station whose call is W4AZT, yours being WOAZT. If the W4AZT was a regular user, then it may be an idea to either change your Selcall or ask him to change his. However, I would hate to work out the chances of BOTH of you being on the same frequency at the same time, calling CQ in FEC and waiting for an ARQ link! The odds of that happening must be greater than winning the jackpot in the California State lottery!!

**Okay**, so you are lucky and win the Lotto. You happen to be scanning the AMTOR portion, looking for FEC calls and your transmitter starts up all on it's own. Either someone is trying to link with you or there is someone else with your Selcall. No "biggy", stop by and see if the caller was calling you or your "twin". The odds of that happening, decrease to the same as forecasting the day of the next "BIG-UN", (Quake), in California. Dont" worry about it, life is too short!.

**If** you really want to stay with the recommended Selcall selection protocol and you have a 1x2 call i.e. WIDA (WWDA), but you find someone in another zone with WODA also using WWDA, you can try changing the number of your call area to a letter:

| | |
|---|---|
| 1 = Q | 6 = Y |
| 2 = W | 7 = U |
| 3 = E | 8 = I |
| 4 = R | 9 = O |
| 5 = T | 0 = P |

**So**, using the above table, W1DA could become WQDA and so on but once again, I would not be inclined to lose any sleep over any "twin" Selcall you may come across. Confused yet? You will be!

**When** it comes to calls like: S79WS (SSWS), 9H1BW (HHBW), 9H4C (OHRC!!), 9Q5BA (NQBA), 9Q5HT (AEZR!!), you're on your own! All I can say is that you have to be alert and copy the "unique" Selcall that some of these DX stations use. As I said before, there is no hard and fast rule to Selcalls. It is up to each individual station to select whatever Selcall they wish.

**I** think that just about covers the format on Selcalls. Just remember that when you load your software and check the various parameter settings, please don't forget to enter YOUR Selcall into the system.

**I**, personally, do not see any reason to change the present format of AMTOR in any way. The outlined method of selecting Selcalls is endless! Automation is already well in hand with the numerous BBS'S and "maildrops" around the world. My rather old but exceptionally good software, has an "auto call mode" which will send out an ARQ message to a specific Selcall at pre-determined times. There is also a "beacon" facility that can be programmed, to tell the world, propagation permitting, that I am not in the shack, but you can leave a message if you wish! I am not sure what useful purpose that serves, but it is automation.

## MAILBOX

**I** had a nice letter from Frank, NOFMR, asking about operating AMTOR in those Baudot contests that allow all computerized digital modes like ASCII, AMTOR and HF Packet.

**Well**, as you have probably worked out, it would be very difficult to operate in ARQ, during a contest. If you called "CQ" in FEC as normal, and you got a "pile-up" of more than one station trying to get back to you in ARQ, the link would be rather slow and probably you would get both ARQ callers on the screen, if they both "hit" your Selcall at the same time.

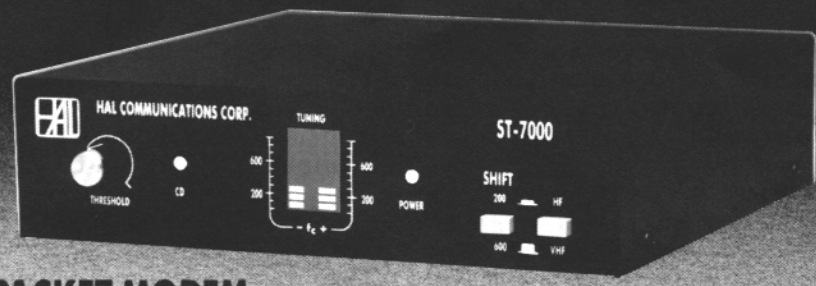
**This** of course can happen, if both callers are of equal strength, it IS possible to have a "three-way" in ARQ, but very rare. Valuable "QSO time" would be wasted in trying to get one of the callers to stop calling you, while you work the other. If you want to try contesting in AMTOR, I would be inclined to mention in your "CQ call" buffer, that you want callers to return in the FEC mode, rather than in ARQ.

**You** would also need to have a separate CQ call buffer for FEC, if you use RY in your Baudot CQ buffer "(heaven forbid!)". RYs are a waste of R.F. in Baudot, (it's like saying "Hello, Hello" into a telephone!). By all means send a SHORT string of RY if a DX station is having problems tuning you in. Other than that, RYs should be banished to some distant planet. RYs in FEC, serve no useful purpose at all. There is no continuous mark or space signal in FEC, as there is in Baudot. The "diddle" or "idles" you hear, are used to provide accurate synchronization between the caller and the listeners.

**My** personal experience with contests that permit the other digital modes, is that there is very little, if any, activity in either ASCII, Packet or AMTOR.

**(cont. pg. 18)**

# HF PACKET DESERVES A ~~GOOD~~ GREAT MODEM




## ST-7000 HF PACKET MODEM

## The verdict is in and the opinion of HF Packet operators is clear . . . the HAL ST-7000 is a winner!

The HF Packet communications world is not forgiving. Selective fading, noise, and interference coupled with poor tuning indicators and simplistic phone line modems contribute to the poor performance of packet controllers on HF.

### The ST-7000 makes HF Packet Work

The ST-7000 is designed specifically to greatly improve the 300 baud HF Packet performance of all packet and multi-mode controllers. Techniques developed for our government and military ST-8000 (MD-1232/G) HF modem are applied to the special problems of HF Packet radio. It's simple . . . just connect the ST-7000 to your existing packet or multi-mode controller . . . and you're ready to send data, **not** repeats.

The "standard" 200 Hz shift mode of the ST-7000 has a 6-pole input bandpass filter, an optimized detector circuit, plus a 40 db AGC system. These design features make 200 Hz HF Packet work!

The ST-7000 also includes a 600 HZ shift mode for even better performance than is offered by the 200 HZ "standard" shift mode.

### Other features of the ST-7000 include:

- A new tuning indicator design assures quick and accurate tuning of HF Packet signals
- CD (carrier detect) and threshold level circuits designed specifically for 300 baud HF Packet
- A sine-wave synthesized transmit tone generator assures minimum phase distortion and splatter
- Easily interfaces with all packet and multi-mode controllers via RS-232C, TTL, or TNC VHF audio tones

Best of all, the ST-7000 is manufactured and tested entirely in the United States by HAL Communications, a company you've known and trusted for years.

The ST-7000 is available directly from the factory at a price of $299.00, which includes a 12VDC, 0.25A power supply.

**WRITE OR, BETTER YET, CALL TODAY TO ORDER YOUR HAL ST-7000.**

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**URBANA, ILLINOIS 61801-0365**
**PHONE: (217) 367-7373**
**FAX: (217) 367-1701**

## HF PACKET WITH THE HAL ST-7000
### by Steve Hall, WM6P

HAL Communications, in an effort to improve the performance of packet radio on the HF bands, developed an improved HF modem operational at both 200 Hz and 600 Hz shift. This modem is to be used in conjunction with an external terminal node controller, HF radio and video terminal or computer.

### CIRCUIT DESIGN

Two separate demodulators are included, one optimized for 200 Hz shift and another for 600 Hz. Two, 6 pole switched capacitance filters are used, followed by an AGC stage. Additional mark and space band pass filters are used if 600 Hz operation is selected. A phase-locked loop detector is used for 200 Hz reception and an AM detector for 600 Hz.

A front panel threshold control allows Carrier Detect level control. This becomes useful on HF due to varying noise levels encountered but not found on most "VHF only" units.

Included is a tuning indicator using two independent ten segment LED's allowing accurate tuning to within approximately +/- 10 Hz. This is easier to use than the more common LED displays that saturate with moderate signals. Additionally the display is calibrated to allow shift measurement. The difference between a 200 and 600 Hz shift signal is easily distinguished.

### INTERFACING

Three methods are offered to interface to the TNC, either with a modem disconnect (RS-232 or TTL) or with FSK audio output compatible with common VHF tones and shift, (Bell 202). If the audio interface method is selected, two radios may be interfaced to the ST-7000, both HF and VHF. When HF is selected from the front panel control, the unit is energized and the HF receiver audio is demodulated at a center frequency of 2210 Hz. This center frequency was selected to allow compatiblty with transceivers having an FSK mode. However if the transceiver FSK mode is used, it may only be used on receive as no direct FSK keying output is available from the unit. Therefore a "split- mode" capable transceiver such as a Kenwood TS-940 is required. If the transceiver does not have this capability (most do not) then the ST-7000 tone audio output is used in the transceivers USB or LSB mode. HAL may wish to consider adding direct FSK keying.

To change from HF to VHF operation, VHF is selected on the front panel control. This powers down the unit. The radio connected to the VHF port is then fed directly to the TNC for normal VHF 1000 Hz shift operation, bypassing the ST-7000. The only other operation required, is to change the baud rate from 300 1200 using the TNC HBAUD command. Having the convenience of interfacing two radios to the modem allows both HF and VHF operation with a single TNC, without recabling.

### DOCUMENTATION

The supplied users manual is excellent. It quickly gets the system on the air, covering a variety of interfacing options. A complete theory of operation is included that describes each stage of the circuit and function of significant components within the stage. This should be of interest to any user wishing to better understand the design of a packet modem or trouble shoot an ailing unit.

### PERFORMANCE

To test the performance of the unit, both the HAL ST-7000 and other HF terminal node controllers were run in parallel and received packets were observed on individual video displays. As only 200 Hz shift signals were available, only the 200 Hz shift capability could be evaluated. This was unfortunate as the 600 Hz operation would allow the units to operate at their highest potential.

As each TNC was compared it was clear that the ST-7000 was consistently copying 5 to 10% more packets. The only unit with an equal level of performance was the TAPR TNC-1 which uses the same phase-locked loop demodulator chip. This could be explained by the fact that 300 baud 200 hz signals as received are no longer two discrete tones but a complex mix of the two tones lending itself to demodulation as an FM signal, of which the phase-locked loop detector is a popular choice. In comparison the slower AMTOR and RTTY signals commonly used maintain more of the individual mark and space signals that respond to individual mark and space detection.

Extremely subtle differences of performance could not be detected using this test method but the HAL unit was a clear winner. Care was taken to only count packets on the operating frequency so as not to only be judging which modem had the widest frequency tolerance. Future evaluations will be run by the author using a computer to determine the amount of data received over an extended period of time, not limited to the patience of the observer.....

**(HF PACKET cont. pg. 19)**

# PK-232 HINTS

**Acknowledgement for this article goes to the Rocky Mountain Packet Radio Association Newsletter. Article by Eric Gustasfon, N7CL**

Recently, several new packeteers using PK-232s have appeared on our local duplex repeater which is dedicated to Packet radio. This is one environment where the collision frequency should be very low since there are no hidden terminals. Almost immediately we noticed that the collision frequency had risen dramatically. After some investigation we discovered certain stations were almost guaranteed to be involved in stepping on in-progress packets. These stations were contacted and in all but one case they were new users of PK-232s.

We were very puzzled as there have always been some stations on the repeater using PK-232s with no apparent problems. The new stations were asked how their station was configured and what method was used to get the DCD operation adjusted. We were very surprised at the answers we got. Every single one of the offending stations had set its station up exactly according to the instructions in the PK-232 manual. However, contrary to advice given in the manual, none of these stations had configured the setup to monitor what was happening on the channel when the PK-232 was connected to the radio. None of these new operators knew what DCD meant, what it did, or why it was important that it should be working on a multiple access channel.

We obtained a PK-232 and manual to try and discover the exact nature of the problem. What we found was that although the manual is very complete and generally very well written, there are some areas where it leaves something to be desired. Specifically, in this case, the instructions given on page 2-16 (we had manual PK232UG Rev. B 9/86 for reference) for setting up the PK-232 and an FM radio for DCD operation are simply incorrect. If set up exactly as described, DCD will NEVER be asserted during a packet transmission by another station on the channel!! We had found the cause of our problem.

If you have a PK-232 and haven't already discovered this problem for yourself, please disregard the instructions in the manual for setting up a PK-232 and NBFM radio for 1200 baud packet operation and use the method presented here. All your packet neighbors will appreciate it very much.

The manual is quite correct in all respects EXCEPT where they discuss setting the DCD THRESHOLD control and receiver audio output level for proper demodulation and DCD circuit operation. The correct way to set these adjustments is as follows:

1. At lease temporarily, arrange to be able to hear the receiver audio signal which is being sent to the PK-232.

2. Set the squelch circuit on the radio for normal squelched operation. The DCD circuit in the PK-232 is incapable of proper operation with unsquelched audio from the receiver.

3. While monitoring incoming packets, adjust the receiver audio level so that the tuning indicator "spreads" fully when receiving a packet from the station on the channel which produces the LEASE amount of audio output level. There are several limiters in the PK-232 demodulator so louder stations will not be affected adversely by this.

4. Once the audio level is properly set, adjust the DCD THRESHOLD control on the PK-232 so that the DCD led lights when there is a packet being transmitted by the station on channel which produces the LEAST amount of audio output from the receiver. Make sure, however, that the DCD LED is extinguished when there is no signal and the radio's squelch circuit has cut off all audio from the receiver.

If the above procedure is followed, the PK-232 will properly hold off transmitting during a packet transmission from another station and will not send acknowledgments to individual frames of a maxframe greater that 1 packet while it is still being transmitted.

We hope PK-232 owners will find this information useful and take steps to assure that their DCD is operating properly.


**ST-7000**
**(Article on page 12)**

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

## CONNECTIONS

Hello Everyone. The CQ/RTTY Journal World Wide RTTY contest is now over and I hope everyone worked at least one new country. I was tied up with other matters all weekend and missed the excitement. Maybe next year ? or at least the next RTTY contest I will be looking for that new one.

### PK-FAX REVIEW

PK-FAX is the latest of Advanced Electronic Applications (AEA) software products for use with the PK-232 Multi-Mode controller. What PC-PAKRATT does for Packet, Baudot, ASCII, AMTOR, and Morse; PC-FAX does for the FAX mode in the PK- 232. What I liked about PC-PAKRATT was that the program did not require that you send commands in CMD mode. Instead you used a menu screen for selection, and function keys for operations like "Connect", "Disconnect", and to view or change configuration. PK-FAX is also menu driven and permits you to view the incoming picture on the computer display instead of having to print in real time on your printer as must be done if you do not use PC-FAX.

At boot-up, the PK-FAX screen looks like Fig. 1. First time users should press "C" for the configuration menu (see Fig. 2). The default (factory preset condition) is shown. If your equipment does not match this, select and change the appropriate items. If you have made changes, don't forget to save the configuration to disk so it will be correct the next time you use the program.

In most cases you would select "Y" in the boot-up menu which sets up the system for receiving pictures off the air, allows receive and transmission of FAX, and allows you to save to disk or printer. Item "N" in the boot-up menu lets you print a picture previously saved to disk. In this mode, it is not necessary to be connected to the PK-232. PK-FAX has another nice feature, an instantly accessible help screen, just press function key F1 (see Fig 3).

PK-FAX requires an IBM PC or compatible computer with 384K minimum internal computer memory. Two disk drives are recommended or a hard disk. The program is compatible with CGA, EGA, and Hercules compatible graphics adapter cards. No hardware or software changes are necessary to any FAX compatible PK-232.

The main features of this program are:

Facsimile Screen Display: All standard radio facsimile formats can be displayed.

Automatic Disk Storage: Received signals can be stored to either floppy or hard disk automatically.

Paintbrush Compatible: Convert received signal files to Paintbrush compatible format.

Facsimile Transmission: Transmits files, including Paintbrush files, in the FAX mode.

Printer Compatible: Print received files with most printers capable of dot matrix graphics.

Screen Zoom: Enlarge any 1/4 screen to four times normal size for closer inspection.

The manual is outstanding. AEA manuals seem to get better with each new product and this is the best one I have seen. It consists of 56 pages of solid information and 8 pages of appendices. Alas - still no index. Perhaps for the next product, AEA? This manual should make it easy for even computer novices to get going on FAX.

How does it work? Just great!, I was receiving weather FAX within a few minutes of getting things set up and configured. You can copy a picture even if you missed the sync pulses at the beginning of the transmission. A "frame" program allows you to convert a picture disk file to Paintbrush format and to resize, rotate, and turn them upside down. You can process the picture to match the proportions needed for EGA and Hercules video adapters.

AEA has not forgotten the Commodore user. COM-FAX will give you the same features described above for your C-64 but not disk autosave. Supports all manual disk operations, however.

Currently PK-FAX is packaged with PC-PAKRATT as a two-disk package. Likewise, COM-FAX is packaged with COM-PAKRATT as a two-ROM package.

### WE HAVE MAIL

Arnold, W8UPG, Akron, Ohio sends in the addresses for Flesher Co. and Crown .

For Flesher Co, Contact Joe Elliot K0UVN, 607 Wabash St. Topeka, Kansas, 66616.

**next page please**

For Crown Micro-Products: The Martin Co., 8918 44th Dr. N.E., P.O. Box 982, Marysville, Washington 98270 C/O Gary Martin W0XT.

Arnold is looking for information on interfacing the HAL ST-6 to a Commodore C64 computer. Arnold, look at page 22 of last month's issue (September 1988) for a complete answer to your request. Thank you, Arnold, for responding to our request for information on firms that have been dissolved or otherwise no longer in business.

While we are on the subject of Crown Products, Danny, N6IHQ confirmed previously published address and phone numbers for Gary Martin of Martin Co. and states that Gary is very helpful and provides excellent technical support for the Crown line. Thank you Danny. It is just great the way you folks are responding to our requests for information.

J. W. Dates of Corning, N.Y. sent us a schematic and "How to" sheet on connecting old Teleprinters (current loop types) to a Commodore C64 or VIC20 computer. Simple and easy to build, I will try to have it in next months column, complete with schematic and construction data. He also sells a program to copy Baudot for the Commodore printers. Thanks, J.W.

## IBM-PC SERIAL PORTS

The original IBM-PC and compatibles all had the capability to handle two serial I/O ports. Actually, the original IBM PC did not have any serial ports as standard equipment, you had to buy an Asynchronous Adapter (IBM for serial port hardware) card and you could configure it for COM1 or COM2. If you bought two Asynchronous Adapters you could configure one for COM1 and one for COM2, giving you two serial ports with data rates from 75 to 9600 baud.

There were two ways to access these ports for serial data transfer. The IBM recommended method is to have your application program communicate through PC-DOS (the Disk Operating System) and through the BIOS (Basic Input Output System) ROM to the serial port hardware. There were several disadvantages to using this method. One, the DOS could only talk to two serial ports; and two, it was easy to lose data if the incoming data rate was more than about 2400 baud. This is because the input data is handled by the computer's interrupt processing system, which, in the older 4.77 *mHz clock rate computers, could not finish in time for the next characters appearance on the line.

Of course, there are programs for MODEMS and computer-to-computer data transfer that operate very well to 9600 baud with no data loss. How is this done? These programs bypass the DOS/BIOS data control path and read/write directly to the serial port hardware. However, this does make the program somewhat more dependent on the hardware than does the recommended DOS/BIOS method. The writers of the high-speed data transfer programs, by talking directly to the hardware, were also able to overcome the two-port COM1/COM2 limitation of the DOS/BIOS method by creating COM3 or COM4 ports for their MODEMS or other serial I/O device. Their MODEMS were capable of being hardwired (jumpered) for the addresses used by COM1, COM2, COM3 or COM4. Thus, if you already had the two standard serial ports COM1 and COM2 in use, you could install the MODEM and configure it for COM3 and it would work fine with the vendors modem program because it bypassed the DOS/BIOS system. But what if you had a program that, for example, was written in BASIC and thus must use the standard DOS/BIOS I/O method and you wanted to be able to use four serial ports? Until the recent introduction of PC-DOS 3.3 and MSDOS 3.3, you would have been out of luck. Now it happens that DOS 3.3 was supposed to be able to control all four serial ports, COM1 through COM4. And, indeed, the manual claims this is possible. DOS 3.3 also allows you to set the data rate to as high as 19,200 baud as compared to the previous DOS versions limitation of 9600 baud.

However, if you have DOS 3.3 installed on your computer, whether it be a PC, an XT, or an AT with all four serial port hardware installed, and try to use the MODE command to configure ports COM3 or COM4 I will bet you get an error message saying they are not there! WHY IS THIS? Well, believe me, it took a lot of digging through reference manuals and experimentation and a good deal of assistance from Jerry, WB6WPX before we found out what was going on.

Basically, it is due to the fact that the serial I/O path involves both DOS and the ROM BIOS. DOS does indeed control all four ports but it has to get the location (hardware address) of the port from the BIOS. If you look at the I/O section of the ROM BIOS with a DOS transient program called DEBUG, you will see the hardware addresses for COM1 and COM2 (they are standardized throughout all IBM PCs and compatibles) followed by four bytes of 00, which are the locations in the BIOS reserved for the COM3 and COM4 port addresses.

This is true of all ROM BIOS I have examined including late model IBM ATs and various clones which use BIOS ROMs made by AWARD, DTK, PHOENIX and others.

**(cont. pg. 16)**

**(CONNECTIONS cont. form pg. 15)**

The latest PHOENIX BIOS 3.10 still has zeroes in the location reserved for the COM3 and COM4 addresses.

Deep in a reference manual on IBM PC standards, I discovered that there was a good reason for putting zeroes in the reserved locations. It seems there was no standard for addresses for COM3 and COM4 for the PC, XT and AT computers, and indeed I have seen I/O cards with addresses for these two ports that vary from vendor to vendor. This same reference stated that COM3 and COM4 are supported in the IBM PS2 series computers (the very latest and greatest IBM PC). So what do the millions of PC users that are not PS2 types do about this when they want all four serial ports?

It turns out there is a relatively simple solution - patch the RAM image of the BIOS by using DEBUG. When the computer is first booted up, the operating system copies the ROM BIOS into system RAM (Random Access Memory) where it is accessed normally during computer operation. Because RAM can be written to, as well as read from, the code can be changed. This can be done with DEBUG as described below.

1. Record the hardware address for COM3 and COM4 of your serial I/O boards (note that only newer I/O cards allow setting to any of the four COM ports). The addresses should be found in the I/O card users manual.

2. Use DEBUG to locate the COM3 and COM4 address locations and note they are 0000 at both locations. Then use DEBUG to key in the previously recorded addresses of COM3 and COM4. Now examine these locations and verify the addresses are correct.

3. Use DEBUG to locate the Equipment Configuration section of the BIOS image and change the number of COM ports from 2 to 4. Again, examine the location to verify the change and then exit DEBUG.

Now, when using the MODE command, you will find you can set the parameters for COM3 and COM4 as well as for COM1 and COM2. It works too, you can use any of the ports with no problems (the receiving speed versus lost data still holds, however) It was really incredible to me that almost no one I talked to, including Consultants who specialized in System Configuration, could tell me what was going on. Moreover, none of the many computer journals that I read ever said a word about this problem. Thanks Jerry, for all your efforts and assistance on this matter.

Note that the BIOS patch as described will only be valid as long as power is on and you do not reboot the system. Because RAM is volatile, to make this change permanent, you would have to program a new BIOS ROM chip with the desired COMM addresses. Another approach is to write a short Batch routine to install these addresses in the BIOS RAM image at bootup by creating an AUTOEXEC.BAT file for the installation. Next month I will go through the generation of the patch, step by step, so that you can do it with your own PC.

Until next month, very 73 **de Cole W6OXP**

```
PK-FAX                                                    18-Dec-87
Radio facsimile program for IBM true compatibles
          and the AEA PK-232 Multi-mode Data Controller
Copyright (C) 1987 by Advanced Electronic Applications, Inc.

          Task:

             C. Configuration
             Y. FAX with PK-232: rcve/xmit, disk and printer
             N. FAX without PK-232: disk and printer only
             X. Exit

Choose one:
```

**FIG. 1**

```
                    CONFIGURATION

  A. PK-232 serial port              COM1
  B. Printer type                    Epson
  C. Printer graphics density        120 dpi
  D. Printer port                    LPT1
  E. Serial printer baud rate        1200
  F. Serial printer parity           None
  G. Printer data bits               8
  H. Printer status method           BIOS 23
  I. Video graphics adapter          Automatic
  J. Transmit Morse ID               No
  K. Callsign for Morse ID           PKFAX
  L. Next auto-save disk file        (none)
  M. Auto-save start time            12:00
  N. Auto-save stop time             12:00
  O. Screen display timeout          20 minutes

  S. Save configuration to disk
Esc. Quit configuration
```

**FIG. 2**

```
                                L  Speed, LPM
                                I  Aspect ratio, IOC
                                B  Force Stby
                                F  Stop when Full
                                D  Scan Direction
                                V  Positive/Negative
                           Ctrl-X  Empty buffer

        ------------------------ In Stby only: ------------------------
        PgUp  Show top . . . x 1          Move cursor
        PgDn  Show bottom  . x 1            J  Justify edge to cursor
         End  Show all . . . x 0.5      Ctrl-D  Retroactive Direction
        Home  Zoom on cursor x 4        Ctrl-V  Retroactive Pos/Neg
           Y  Force receive sync     Ctrl-PgUp  Delete above cursor
           R  Read disk file         Ctrl-PgDn  Delete below cursor
           W  Write disk file                P  Print buffer
           C  Configuration                  G  DOS Gateway
           T  Transmit                  Alt-X  Quit PK-FAX

PK-FAX   F1:Help                                      Empty  15:12
```

**FIG. 3**

# WIRELESS DATA RECORDER

# AR1200

## TECHNICAL EXCELLENCE IN DIGITAL COMMUNICATIONS

### Mobile packet terminal


**SPECIFICATIONS**

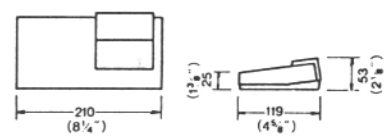
GENERAL

| | |
|---|---|
| Protocol | AX.25 level 2 |
| Modem | VHF/AFSK |
| Processor | Z80 Software compatible |
| Memories | ROM 32K, RAM 32K |
| Communication speed | 1200bps (wireless) |
| at RS232C terminal | 1200bps (300–9600bps rate selective) |
| Power source | DC–12V +/– 15% |
| Current drain | 700mA average |
| Operating temperature | 0– +40 degree C |
| Storage temperature | –20– +60 degree C |

PRINTER

| | |
|---|---|
| Printing method | Thermal head |
| Letter structure | 7×5 matrix |
| Printing space | 2 dots |
| Letter size | 2.4×1.1mm Characters/Numerics/Marks |
| Characters per line | 40 characters |
| Paper | Thermal sensitive only |
| Paper size | 80mm +/– width 40mm diameter of roll |

Dimensions:
(mm)




*Specifications subject to change without notice.*

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**AVAILABILITY: Early Summer**
**CALL: George AB6A for details**

(AMTOR cont. from pg. 10)
I tried FEC in the last ANARTS (VK/ZL) test, but only increased my electric bill and no one "took the bait". I don't think ASCII would be very productive either because most people don't recognize the "noise" of 110/300 baud and may think that it is commercial jamming/QRM. HF Packet, doubtful, and slow in a QRM/QRN environment like 20M, unless you have a KW at both ends, nevertheless, give it a whirl, nothing ventured etc. etc.

Your views and comments would be appreciated. Time to wrap this up and get down to answering the VP5 cards! I hope yours is in the pile? 73 GL and DX.

**de Eddie, W6/GOAZT.**

(MSO'S cont. from pg. 8)

VR4 is to the extreme right and above the XR2211 chip. Thanks for your input Jack!

## MSO RAMBLINGS

I'm happy to report that Annette, XYL of Jerry Trichter, WA1IUF, came through some very serious surgery recently, and is home on her way to full recovery. Jerry is retiring from his employment in New Haven, Connecticut, and will be moving to Bradenton, Florida, to soak up some sun and sand. Jerry has secured permission to erect a vertical antenna from the roof of his condominium, so we're all anxious to see him on the air from his retirement QTH, sometime after November 1988. The Bradenton SPCA, REACT and Voice Squad have been forewarned!

--- Brownie, K5FI, and his XYL Joy, are visiting their son in West Germany, with stops in England and other exotic locations. We hope they have an exciting vacation, and will look for his booming MSO signals from Denton, Texas, upon his return.

--- Al, N1API, reports that he has a pipeline into ARRL Headquarters via Packet, from, his home QTH in Meridan, Connecticut. If you have a need to send data to ARRL, there's a good source for it.

--- Clark, W9CD, is beta testing the new HAL ST-7000 demodulator, and reports that it does a very good job on both packet and RTTY.

That's it for this month Gang. OL' Man Winter can't be far off now, so it's time to spruce up those antennas, feed lines, etc., or be prepared to do it when it's cold. Those darned problems only show up when it's minus 20 degrees you know! --73-- **de Dick, K0VKH**

(HITS & MISSES cont from pg. 2)

## A GIFT TO REMEMBER

From time to time I have been asked about gift subscriptions. The answer is yes we will be happy to send along a gift subscription to anyone, simply send in the name and address with the appropriate remittance and we will start it right away. With Christmas coming maybe you know of someone whom you would like to have a year subscription to the Journal. Also there are lots of foreign countries where Hams would like to take the Journal but have no way of remitting in U.S. funds. As an example, the Journal sponsors one copy to the U.S.S.R. by sending it to Dima, UT4RP. The costs are all on the inside front cover of this issue. I would however, suggest that all foreign subscriptions be sent via air mail. We do have surface mail available but it just takes forever for the Journal to reach the intended party. If you would like to send a subscription to someone out of country but can't think of anyone, please forward the subscription money to me and I will hold it here until such time we can find a deserving Ham out there. However, it would be best if you had someone in mind for your gift. When the gift goes out to the Ham you have selected your call will be included on the label as the benefactor.

## MAIL

As I am preparing to go to press here, two very nice letters arrived that I would like to share with you all. The first one was from none-other than Jerry Trichter, WA1IUF in New Haven, Ct. Jerry was answering Dick's question (see Sept.88 MSO column) about where he went to. Jerry is just fine and is about to leave for Florida. He was delayed slightly due an operation his XYL needed but all is fine now and the anticipated move is about to happen. Jerry related that he will be back on the air soon after his arrival in Florida because the management people where he is moving have assured him that an outside antenna will be permitted. He told me he will start checking in on the National Autostart Frequency 14.085.625 as soon as the antenna is up. So watch for Jerry to show sometime in late November I would guess.

The second letter was from Bo, SM4CMG. Bo and some of the other SM hams were featured in last months DX NEWS column. Bo related to me that he will be taking over the SARTG contest in the upcoming year of 1989. He invites us all to participate and looks forward

**(cont. next pg.)**

to receiving many logs from all of us. I'm sure many of you have worked Bo over the years and can attest to his loyalty to the digital modes.

Bo is 52 years old and has been married to Eva for 30 years. They have 3 harmonics who no longer live at home. He started his ham hobby in 1954 and was on RTTY first in 1968 using a model 15 machine and a TU design of K6IBE. Bo was also the first SARTG contest manager back in 1970-73 and then the duties were taken over by others. At the present time Joergen, OZ1CRL has been handling both the contest and the awards program. That has now been split up with Bo taking the contest and Joergen taking the awards. Sounds like a good move to me and somewhat the same way in which the Journal operates. Good luck to both and thanks to Bo for the nice letter. By the way, a subscription came along with the letter.

### SOMETHING NEW HAS BEEN ADDED

Congratulations to Richard, N6NKO and his wife Vickie who are celebrating the arrival of their first child, Natalie Anne. Natalie weighted in at seven pounds thirteen ounces and arrived at 1201 local time Monday October 10, 1988. Richard has been writing our Packet column for almost a year now and has been a happy addition to our staff. Good luck to you both and of course to Natalie Anne.

### DXER VISITS L.A.

Recently John Troost, TG9VT spent almost a week in Los Angeles on business. It gave many of us a chance to visit with this fine gentleman from Guatemala who has one of the very strong signals from the South. Not only is his signal strong but his dedication to the digital modes in unsurpassed. He was presented the first RTTY Journal WAZ award at Dayton earlier this year and his accomplishments in the area of DX, AMTOR, MSO's, and other phases of the digital modes are deserving of an award also. Some of us spent an evening with John at a local dinner house and we all had a wonderful eyeball. I have some pictures of this event and I'm sure you will recognize some of the L.A faces including my own. Thanks for joining us John and we hope you will be back again many times.

### AN INVITATION

If you are coming to the L.A. area soon, why not drop me a line and let me know when you will be here. If at all possible I will try to spend some time with you or better still maybe we can have a get-to-gether such as we just had for John. I'm usually easy to get hold of by phone. You will find my number on the inside front cover of every issue. Either way, let us hear from you whenever you are going to be in this area

### A NEW FACE

Starting with the September issue and continuing for the foreseeable future you will find a subscription card slipped into all the domestic copies of the Journal. The purpose of the card naturally is to improve our subscriber list. I have been told there are times when you want to give someone an application to the Journal but don't have one. Now you have one and there will be one each month for a while. In fact as I write this, some of last months have already come back, indicating to me this is a good idea. Give this card to a friend or someone you work on the air and help the Journal grow. Thanks for your help.

That's it again for this month. 73's until next time.

**de Dale, W6IWO**

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**(HF PACKET cont. from pg. 10)**

### CONCLUSIONS

The ST-7000 offers the serious HF packet user the following:

1. An improved tuning indicator
2. Individually optimized demodulators for 600 Hz and 200 Hz operation
3. The convenience of both HF and VHF radio selection from a front panel control
4. Excellent users manual
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Roy Gould, KT1N
P.O. BOX DX
Stow, Ma. 01775

# DX NEWS

Well the Second Annual CQWW/RTTY Journal DX Contest is history, what a turn out. I am compiling a complete list of the countries that were on for the weekend and I wouldn't be surprised that one probably could have worked DXCC that weekend.

The Russians were out in force with 3 DXpeditions just for the contest and many others on. Dima UT5RP deserves alot of credit for promoting the Contest in the USSR, tnx Dima.

The logs are due by December 1 to me at the address above. If you need an extension let me know, already about 50 logs have been received. Thanks to George KB2VO I have a new software system set up to log in and check the logs so hopefully I will get the results out about 2 months earlier this year. Still time to sponsor a Plaque let me know if a couple of you or your club would like to sponsor one.

## MAIL

Received a nice note form Don AA5AU who had planned to operate portable form Mississippi for the contest but it got canceled at the last minute, he did put in a good effort from home, but had planned to put some beams up at the MISS QTH instead of his verticals. Don is planning a VP5 DXpedition for the BARTG.

Also Richard G6EQJ wrote with a problem. He has a TI-994A computer and would like to use it for RTTY, Packet etc. He also has the upgrade unit the Myarc 9640. He can not find any software or interface help in the UK and has sent his request to me along with some money for expenses that one may incur. So if any of you out there can help Richard out, let me know and I will send you the donation he has sent along to pay for mailing costs etc. He plans on using a Kantronics TU but did not say which one. If you desire to communicate directly with him, his address is: Richard Sierakowski, Rusholme, Elcot lane, Marlborough, Wiltshire, SN8 2BA, England.

Bruce K0BJ is planning a trip to the Caribbean the last part of May and asked me what island might be good to put on RTTY, well VP5 comes to mind but Eddie W6/G0AZT should be on from there this month and Don AA5AU as mentioned earlier plans to be there in March. Maybe Grenada? Anyone have some suggestions? What is needed the most out there for a new one? Bruce also adds that in 1979 he and N1DX were on a circumnavigation aboard the Yankee Trader. Bruce operated form CE0 and VR6 back then on RTTY!
Drop either me, or Bruce a note and let him know what is rare for you. His Address is PO BOX DX, Colby, KS 67701. Hmmmm that address sounds familiar.

## DX NEWS

**HD8EX**... Galapagos, this was the call that Ted HC5K and the gang from the Association DX-EX used for the CQWW RTTY Contest. I had previously announced that it would be HD8CQ, as you can see they went for a new call instead. I also said that I would be handling the QSL's and that also has changed. PSE QSL HD8EX to: PO BOX DX, Cuenca, Ecuador S.A. Not to KT1N. I will not be able to answer any request for cards.( another familiar address)

**YI1BGD**...Iraq, was still due up any day as I write this, I still do not have a solid QSL route for this operation.

Well the contest, work and many other things have slowed me down and I don't have alot of DX news to share with you. Hope to get caught up next month. I also have taken on a new Job in the company and find myself doing some traveling again. After I get this in the mail I board a plane for Minnesota for a few days. Last month I was in Florida and visted George KB2VO. One of these days I'd like to get out to Kansas to visit Carl K6WZ who always drops a note to let me know what he has been up to. 39 new countries since he moved there from W6 land. Got to check that sight out!!

## RTTY DXCC

The word is that the DXAC shot down the proposed change to the RTTY DXCC, almost by a 2-1 margin. My DXAC member was in favor of it when he and I chatted a few times on it, then changed his mind! I have not talked with him since the vote to see what happened and why, but will and share it with you.

**next page please**

**DXer of the Month**
**The Natal DX Group**

*This is a report from Karl PS7KM and the rest of the Natal DX Group trip to Trindade Island, PY0T. This is a very active group and have given all of us a few new ones on the keys. The following is the account of their effort to Trindade Island, June 4-7 1988.*

*HISTORY*

*The Islands of Trindade and martin Vaz are located some 1500 KM east of the State of Rio de Janeiro, Brazil. Their coordinates are Lat. 20 30' S and Long 29 30' W. They present a mountainous relief with peaks rising to 400- 600 meters high. Vegetation is scarce, typical of a mountainous region, grasses and herbs predominant with some trees 5 to 6 meters in height and uniquely, the giant "SAMANBAIA", a type of polpody or bromelia, a relic of the forest long lost in the Atlantic Ocean.*

*The climate is mild, with an average mean temperature of 26-30 degrees Celsius. It rains almost daily, the showers are of less then 5 minutes in duration and are called "piraja".*

*Trindade has an area of 8.2 Sq KM and its waters are rich in fish life, various groups. Last but least are the Crabs, as darkness approaches they leave their holes by the thousands in pursuit of food.*

*The Island is used as an oceanographic station, its garrison is composed of 42 men, officers and soldiers all whom belong to the Brazilian Navy. Their tour of duty lasts two months and a relief vessel arrives at these intervals carrying replacements and supplies.*

*A parabolic antenna was recently installed, this permits reception of satellite TV channels and makes garrison life on the life a little more pleasant.*

*ARRIVAL*

*Landing on Trindade is not the easiest thing in the world, since there is no port or other anchorage to facilitate docking. There is a violent surf, and waves 2 to 4 meters that make it a dangerous landing using normal means, such as sailboats, motor launches or row boats. They simply cannot stand up to the impact of the waves.*

*The solution was to build a little cargo carrier called a "Carbrita" secured on one side to the island and on the other to the ship. The trip between the vessel and the island took about 25 minutes. Our first contact with this island was a complete soaking we all experienced while approaching the surf.*

*We arrived at Trindade Island on 4 June 1988 at 1225 UTC aboard the troop transport vessel " ARY PARREIRAS ", of the Brazilian Navy. The trip from Rio de Janeiro took 3 1/2 days, in command of the ship was Capt. Otavio Sampaio de Almeida, himself a Ham PY1CDJ!*

*OPERATORS*

*The original plan was to leave with five operators, but at the last minute family and business affairs prevented PS7BF Marcilio and PS7WP William, from accompanying us. They were however, able to give us their fullest support to the success of the DXpedition.*

*Operators who took part were:*
*ZY0TF/PS7WB, Carlos*
*ZY0TK/PS7KM, Karl*
*ZY0TR/PY1BVY, Ronaldo*

*The total weight of all the equipment, supplies and antennas we took ashore, was 350KG!! Dipoles and Inverted V's were the main antennas along with a Vertical for 80-10 Meters.*

*OPERATION*

*The operating site was in the Metereological Station, better known as "RADIO SONDA", which houses the equipment for measuring air and water temperatures, windspeed, humidity etc .*

*First of all we set up the antennas, well separated so as to avoid interaction, which we did not experience. At the same time the operating positions were assembled, 2 meters apart on a single table.*

*All bands from 160 -10 meters were used with the exception of 12 and 17 meters due to some technical problems. Modes used were SSB, CW and RTTY. With this being the first RTTY from the Island. Total contacts made were 3,500 with 299 of those being RTTY. It was most interesting that we were able to use CW/SSB, CW/RTTY and SSB/RTTY simultaneously with out any interaction! It was a big surprise for us. All continents were worked during the DXpedition. A real pile up occurred every time we came on regardless of mode and we operated split all the time.*

*PROPAGATION*

*Propagation was a little above average. In the morning we easily worked European stations, in the afternoon conditions improved a little and in the late afternoon that Asia/Oceania came in for about 3 hours on 40,20,15 and 10.*

**(cont. pg. 22)**

**(DX NEWS cont. from pg. 21)**

*Propagation proved excellent for South and central America, but North America was quite variable. On some occasions the JA, YB, VK and ZL signals covered those from North America!*

*At night up to midnight, the condx were opened towards the USA with good signals, and early in the morning it opened toward Europe.*

*QSL INFO*

*NATAL DX Group*
*Caixa Postal 385*
*59001 Natal, RN*
*Brazil, S.A.*

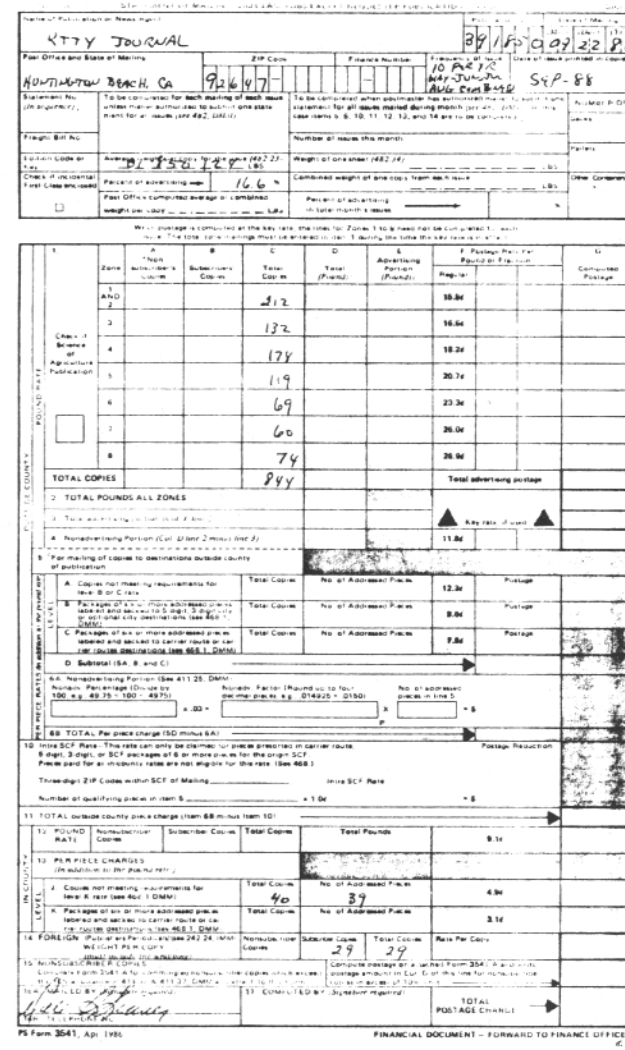
*All cards will be replied direct so pse enclose SAE and sufficient postage.*

*Thanks to all those who either directly or indirectly contributed to the success of the DXpedition. Our Sincere Thanks.*

Thanks Karl for sharing the trip with us, Karl says also in his letter to me that the Natal DX Group has more trips planned and will keep us posted.

Next month we will feature John ZC4JA who has been very active on the keys giving out ZC and is an excellent QSLer.

Thanks a tip of the DX Hat to K6WZ, KB2VO, AA5AU, G6EQJ, PS7KM, K0BJ and the rest I sneak up on and listen to. **de 73, Roy**





**RADIO "SONDA" WAS USED AS THE OPERATING STATION**

**L. to R. Karl, PS7KM (ZY0TK) - Carlos, PS7WB (ZY0TF) - Ron, PY1BVY (ZY0TR) - the fourth person not indentified.**


**THE PORT OF ENTRY AT TRINDADE IS.**

**L. to R. Ron, ZY0TR (PY1BVY) - Karl, ZY0TK (PS7KM) - Carlos, ZY0TF (PS7WB)**

# CLASSIFIED ADS

30 words $5.00, additional words 5 cents each. Cash with copy.
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