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RTTY JOURNAL ©

AMATEUR RADIOTELETYPE - COMPUTERS - PACKET

VOLUME 36 NUMBER 7 SEPTEMBER 1988

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SEP 27 1988

A TRUE HAM

DXER OF THE MONTH
GEORGE WESLEY, KB2VO

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RTTY JOURNAL

Dale S. Sinner, W6IWO
OWNER - EDITOR - PUBLISHER

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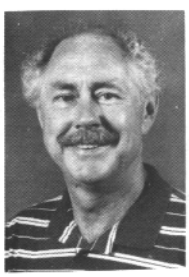

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HITS & MISSES

SSB BELOW 7100

In a recent issue of the Journal I related a problem we were going to face regarding a move by some special interest SSB'ers who wanted to operate down below 7100 Khz. I asked that you all respond to this proposed move which was being brought before the ARRL Annual Board Meeting. Well I'm happy to say that it was defeated again, this time by a vote of twelve (12) to three (3). You are all to be commended for your help in writing to your director to stop this proposal. However, please keep in mind that this was not the first time this proposal had been before the Board and probably will not be the last time. So, our fight is not over yet. I'm going to publish the names of those who voted for and against the proposal, so you will know where your individual director stands on this issue. If you feel strongly against this proposal and do not want it to come before the board again then may I suggest that you take the "Bull by the Horns" and write to your director (especially if he voted NO) telling him so. Here's the vote: Those in favor of SSB to have privileges between 7075 - 7100 were, Messrs. Harrison, Milius and Nathanson. Those who voted against the proposal were Messrs. Butler, Drake, Frenaye, Grauer, Haynie, Heyn, Mark, Mendelsohn, Metzger, Quiat, Stafford, and Turnbull. Thanks again to all for helping to defeat this proposal but let us not fall asleep.

ARRL SOUTHWESTERN DIVISION CONVENTION

It was my pleasure to host a Digital Digest forum at this convention and even though we did not have a very good time slot, the room was full. I would like to thank Craig Martin, KR6T (Kenwood), Mark Allen, WJ7X (ICOM), and Bill Henry, K9GWT (HAL CORP) who represented industry and Cole Ellsworth, W6OXP (RTTY Journal), George Sanso, AB6A, (Henry Radio) and Richard Polivka, N6NKO (RTTY Journal) who represented the Ham community. The panelists from the Ham side asked the questions which had been prepared prior to the convention and the industry side gave the answers. The industry group did not have the questions before hand only an idea of what subjects would be covered. Questions were also taken from the audience. It turned out to be a very good forum. I hope there is enough room for some of the pictures in this issue. (Pictures page 12 and 13)

For some time now I have wanted to publish pictures showing some of the booths of manufacturers who advertise in the Journal but it always seems there are so many people in these booths that taking pictures is out of the question. But this time I was able to get into the exhibit area before it was open and finally got my pictures. You will find them in this issue (Forgot the Henry Radio booth, sorry George) (Pictures page 12 and 13)

(cont. pg 15)

Roy Gould, KT1N
P.O. BOX DX
Stow, Ma. 01775

DX NEWS

I hope everyone is ready for the CQWW RTTY Journal DX Contest; should be fun. I will be operating Multi OP from this QTH, but how serious an effort we have not determined. But I am sure we will have fun. Watch 10 meters; lately there has been some activity on this band and could be a great band for the contest. I think he who watches and makes use of 10 will be the winner.

DX NEWS

1A0KM Knights of Malta.... Joe I0AOF reports that there will be an effort to activate this station during the CQWW RTTY Contest. Long time since this has been on RTTY.

HC8 Galapagos.... Ted HC5K and a gang from the ASSOC of DX-EX plan to activate Guido's HC8FR's farm house for the CQWW RTTY Contest. Call used will be once again HD8CQ. QSL's to me please with appropriate return postage. This trip may be canceled at the last minute but as now it is a go.

D68 Comoros... In a recent QSO Jean Louis TR8JLD, who won Africa in the last CQWW RTTY Contest, told me he has plans to activate D68 for the test. QSL Via AK1E.

JD1 Ogasawara and Minami Torishama... KD7P who is now on Guam/NH2 told me he plans to operate from Ogassawar Sep 14-21 and Minami Tor from Sep 23-30, with some activity in the contest.

YI1BGD Iraq.. as of this writing so far no sign, word has it first of Sep but so far nothing heard.

VK2AGE Mailbox.. this AMTOR mailbox will be off the air for 1 month from Sep 21 to approximately Oct 19. TG9VT should still be up on 14.074 Mark and will try to fill the gap.

VP5 Turks and Caicos... Don AA5AU is trying to secure operation permission to activate this rare RTTY Island group during the next BARTG in March 1989.

VR6TC Pitcairn Island... latest word has it that Tom fell and broken a hip or leg and will not be doing much operating, RTTY or otherwise.

6T2MG.... Latest word is if you are having trouble getting a card, send it certified mail, it seems not much of the regular mail gets through.

UA9FBV.... Alex has sent along a note after receiving his award for the CQWW RTTY Journal contest of last year. He is 30 years old and on the air since 1977, has a daughter Kayta 5 years old, and a son Mike 1 year old, and his wife Lucy is also a ham UA9FKB. Alex is interested in Packet as well as all the Digital Modes. He has asked if any of the US or otherwise RTTY Gang would be interested in sponsoring a subscription to the RTTY Journal. Perhaps 1 or 2 of you might get together to sponsor a Subscription for Alex, if so let me know and I will send you all the info and I am sure you will make a new friend to correspond with. Drop me a note and I will get you the info.

VP5 ... Our own Eddie Schneider, W6\G0AZT (see AMTOR column) will be on Turks & Caicos Islands during the week of Oct 12 thru Oct 17. Eddie will be operating primarily RTTY except maybe the last day on SSB. He does not have a call secured yet but has been assured a license. Watch for him on the bands.

CQWW/RTTY Journal DX Contest

Last year there were Plaques sponsored in the following categories:

World Single OP, World Multi OP, Top Score North America, South America, Asia, Africa, Oceania, and Europe.

There are other categories open, such as Top Score 20 Meters World Wide or other bands to stimulate interest. I am open to suggestions so if interested, for a club project, a group or whatever, let me know.

I received a few letters of criticism and suggestions for the contest and I hope you all will bear with me, this was the first time out and some mistakes were made. For instance even if one makes 2 contacts on a given band and is the only entry for that band for their country, he or she will be in BOLD face type as the Band winner for that country.

DXER of the Month
George Wesley, KB2VO

This months story is somewhat different than our regular stories, however I am sure you will enjoy George's well written story.

(cont. pg. 4)

(DX NEWS cont. from pg. 3)
George is very active on RTTY and is a good friend and supporter of Karl PS7KM in all his efforts.

Next month we will cover Karl's PS7KM DXpedition to Trindade Island, by the NATAL DX Group.

A DIFFERENT KIND OF DXPEDITION

George Wesley, KB2VO

This year I had the pleasure of attending the Dayton Hamvention and to enjoy all the exhibits, presentations, forums and the outdoor flea market. But, the most memorable was meeting RTTY friends who for years were just another entry in the log. I knew most of the statistics, gear, antennas, age... but now we had the eyeball meetings, handshakes and warm smiles.

In June it was time to escape the heat of Florida and to celebrate my XYL's birthday. We decided to visit her native land and her family in SM-land. Of course, being a true ham I made my own preparations. Icom 735, power supply, dipole and HT safely packed I was ready to face 4 weeks of travel by car, train and boat. I made a sked with Bo, SM4CMG at his QTH. We knew each other for years and he was a faithful participant in almost every RTTY contest. Last year I achieved first place USA in S.A.R.T.G. Contest and Bo was listed first in SM-land, it was natural that we should finally meet. That meeting turned out to be for me the highlight of our trip. We arrived in Fellingsbro, about 100 miles West of Stockholm. We arrived early in the morning and checked into the only hotel in town and a few minutes later heard Bo calling us on 2 meters. Directions to his home?? "Just look for the tower or ask anybody where the crazy ham lives". And sure enough we had no problem finding him. The antennas are visible for miles. Bo, his Wife Eva and daughter Kristina greeted us warmly and made us feel at home. I had a hard time to move my head down from the sky. There in the blue Summer sky was the greatest antenna farm I have ever seen!

There was another surprise awaiting us, within an hour we had visitors. Calls so familiar to RTTY mode. SM5FUG, Jan, SM4LLP Lennard and SM4AWC, Eskil, and a telephone call from SM4JEV, Anders inviting us to visit him the next day.

Eva had prepared a wonderful dinner and served coffee and cakes throughout the day. We had a grand tour of the Antenna farm. First the main tower, mounted on a solid rock on cement pads, each leg fastened by four 8' long bolts in the holes drilled in the rock. A metal ladder inside the tower leads to a round fenced platform at 100' on which Bo mounted another rotatable tower some 20'. There, in full majesty 40 meter 3 element monobander at 105' followed by 5 element 15 meter and 4 element 20 meter and a 6 element 2 meter. The ground for the tower was simple - 3 buried copper plates each 45 sq ft!!!. Not satisfied with this arrangement, Bo, as a true antenna enthusiast put another tower, (of course!).. 60 foot conventional tower featuring 6 element 20 meter, 7 elements on 15 and 10 meters and 6 on 2 meters. Well, impressive? But there is more... 160 meter slopers, one East and one West, Another 4 band sloper between the towers, dipoles for 75, 18, 10 and 24 meters. Still something was showing between the trees... well that turned out to be 4 20 meter quarter wave verticals arrays switchable in all directions. By that time my head was spinning... anything more?? Oh, yes those wires on 12' poles.. those were beverage antennas, again one firing East and one West and merely 500' long each. A labor of love of past 20 years. Just an example of uncompromising standards to which Bo adhere... The 4 verticals have 100 radials each for total of over 6 miles of wire buried in the ground. That alone took him 2 years to complete. All cables are buried of course.

The station itself consists of. Icom 745, Heathkit tuner and SB220 linear and 2 meter rig with 150 Watt amplifier.

What followed was of course hours and hours of radio talk, and inexhaustible supply of coffee, cookies, fresh fruit served in the garden. After saying goodbyes to wonderful hosts and the friends we returned to the hotel. A good nights sleep, traditional Swedish buffet breakfast and off to Hempetorp to visit Anders, SM4JEV. Anders and his charming wife greeted us at their beautiful home on the lake with a tubular tower. There another surprise awaited us. Take a look on the enclosed photo of only one wall of his garage! Antique radios, all beautifully restored and most in working condition. In the house there were radios in every room, in the attic, on the staircase and in the hall. From crystal sets to military gear. I had a chuckle seeing the manufacturers name on some radios, "Goteborg Velociped (bicycle) and Radio Co". Anders, seriously considered my advise of opening a antique radio museum. Anders is a teacher of science and mathematics and his XYL a foreign language teacher. After coffe and cake we thanked them for a lovely and interesting time and headed home.

During our stay at different places I always managed to string a dipole and work either CW or SSB.

Russian stations came with S9 signal and were eager to work the exotic call SM5/KB2VO and so did most of other Europeans. I was sorry not to have my RTTY equipment with me but 3 suitcases were already bursting at the seams. Birthdays in

Sweden are very serious affairs and as my wife, Maj-Britt celebrated hers July 10, we selected that time to make a boat trip from Gothenburg to Stockholm through the Gota Canal. We crossed Sweden from West to East going through about 60 locks. Up and up to Vanern and Vattern Lakes and then down and down all the way to Stockholm. Going slowly through one of the locks I noticed on the shore a group of people holding American and Swedish flags. It turned out to be Maj-Britts brother and sister with spouses who had traveled by car from Stockholm to meet the boat. They presented her with flags, flowers and everybody on the shore sang her "Ja ma hon leva" - Happy Birthday. Everybody on the boat apparently was in on the surprise including the crew except the two of us. The family booked part of the passage some month in advance. We had champagne dinner and the crew again sang Happy Birthday and of course the Birthday cake.

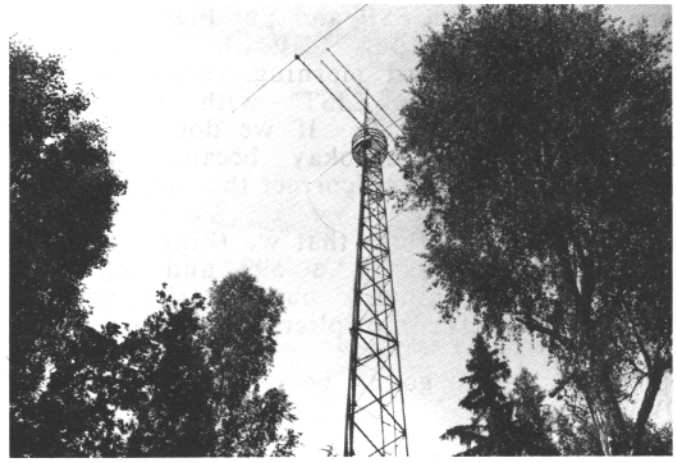
We had a very busy 4 weeks in beautiful SM-land, the WX ordered by me in advance was perfect and I consider my what I call "Friendship DXpedition" a great success. Next year - South America and my RTTY friends there.

Thanks George for sharing your trip with us, it certainly is exciting to be able to make trips like this and sit down with the folks at the other end of the keys face to face.

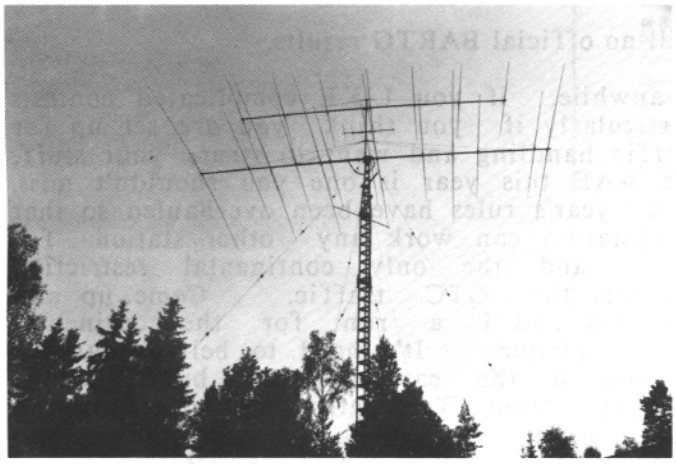
See you all next month and have fun on RTTY, Thanks and a Tip of the RTTY DX Hat to, W1DA, TR8JLD, KB2VO, K6WZ, KD7P, UA9FBV, TG9VT, I0AOF, PS7KM, the DX Bulletin and the ARRL DX Bulletin.

de Roy, KT1N

L. to R. SM4LLP, SM4CMG, SM4AWC, KB2VO, SM5FUG, all familiar calls to RTTY family



The main tower at SM4CMG. 40 meter 3 element monobander, 5 elements on 15 and 4 on 20 meters



Second tower at SM4CMG, 6 elements on 20, & 7 on 15 and 10 meters

SM5JEV, Anders showing part of his antique radio collection

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

CONTESTING

One night Jay and I were listening to **W1DA/7** work the **KH5**. I kept dialing (to get through the busy signal at the list-taker's house) when, like a revelation, this great contest strategy came to me.

We could start about a week early on SSB. All the stations that we know who might want to work us in the contest, we would call on the phone or talk to on SSB and put them down on "THE LIST". We put "THE LIST" into a big buffer and on contest morning, ready or not, we transmit "THE LIST" with appropriate pauses after each call. If we don't have the call quite right, it's okay because we can always go up on SSB and correct the call later.

We give all the stations that we think we might be able to hear, sort of, a 599 and log them. Of course, to maintain our integrity, we will listen extra hard for multipliers.

Yep, we were gonna be extra tough in the CQWW this year.

When you start talking about working lists for DX, you can almost always get more than one viewpoint.

Let's talk contest snob factor. For instance, on Saturday morning, 16 hours into a 48-hour contest, the neighbor finds the extension cord where I plugged into his garage and I have to do emergency by-pass surgery on my power meter. By the time I'm back on the air, everyone is in the 300's but I am still on number 043. The guy I work needs my number repeated four times..."43?? 430?? AGN NR??". I can almost hear the sniggers. Every year I start the CW-SS contest. Four hours into the contest I am already 100 contacts behind the leaders with no hope of catching up so I tear the knobs off the gear, shred my log, put the Bencher on the list of trading stock for the next swapmeet and go to bed.

Contests without serial numbers are more fun and will usually generate more activity. On some contests, the exchange itself is enough to make the casual, drop-in operator try needlepoint as an alternative hobby. Carlos lives in Chile. He gets up on Saturday morning, does a line of coffee beans to get his system perking and fires up his station. It's contest season and the bands jumping with RTTY signals. He listens to a couple of exchanges and then calls one of the loud guys, thinking maybe to give out a point or two and have some fun.

"NO, NO", he gets back, "I NEED YOUR ITU ZONE, THE GMT TIME EXPRESSED AS A FOUR-DIGIT NUMBER AND YOUR MOTHER'S AGE." Carlos figures this is about as much fun as watching paint dry and shuts off his gear.

The CQ-WW has it right. RST and CQ zone. US stations send RST and state. Only way to improve on that would be to scratch the RST which is meaningless anyway since under current contest protocol the RST is always 599. Incidentally, pay special attention to multipliers. The first USA station is a country, a zone and a state. We almost missed that when we were scoring the log from last year's HD8CQ effort. This year, with the bands about 600 times better (flux is 185 as I write), this year's CQ-WW RTTY is gonna be nothing short of amazing. If you have ever wanted to try a contest, this is the one! 0000z Sept 24 until 2400z Sept 25 is a weekend you won't want to miss.

The new ARRL RTTY exchange looks like RST and STATE for the exchange. If they don't mess it up with a bunch of cute rules and scoring (which so far they have shown no indication of doing) it should move right up toward the top of the list for activity. This one comes out in mid-January as the FIRST ARRL RTTY CONTEST and another DONT MISS. Keep an eye on QST (and here) for a final set of the rules which should be out any day.

Still no official BARTG results.

Meanwhile, if you LIKE complicated contests particularly if you think you are set up for traffic handling and want to strut your stuff, the WAE this year is one you shouldn't miss. Last year's rules have been overhauled so that any station can work any other station for points and the only continental restriction involves the QTC traffic. Come up and give Jay and I a run for the continental winner plaque. It's hard to belive that the stations on the east coast can't bury a couple of guys from Washington State in a European DX contest. The WAE runs on the second weekend in November, the 12th and 13th.

SEE YA IN THE CQ-WW. **de Hal, WA7EGA**

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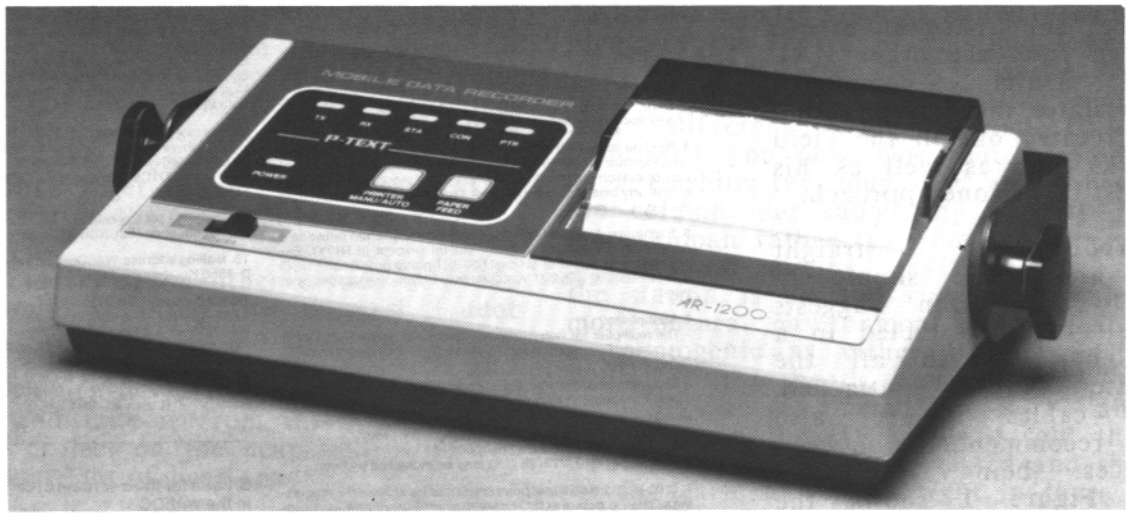
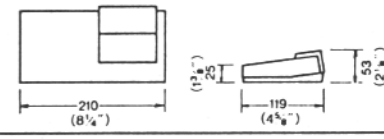


SPECIFICATIONS

GENERAL	
Protocol	AX.25 level 2
Modem	VHF/AFSK
Processor	Z80 Software compatible
Memories	ROM 32K, RAM 32K
Communication speed	1200 bps (wireless)
at RS232C terminal	1200 bps (300 – 9600 bps rate selective)
Power source	DC–12V +/– 15%
Current drain	700 mA 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 × 1.1 mm Characters/Numerics/Marks
Characters per line	40 characters
Paper	Thermal sensitive only
Paper size	80 mm +/– width 40 mm diameter of roll

Dimensions:
(mm)



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ST-6 TO VIC 20/ C64 COMPUTER INTERFACE

From time to time the Journal has received requests for information on how to connect different types of Terminal Units to a computer. I asked Don Allen of HAL Communications if he would supply us with the circuitry for hooking the ST-6 to a Vic-20 and a C-64 computer. Don has complied with our request and also said that in the near future he will be submitting an article on how in interface other HAL Terminal Units to computers. Don also states there is probably other circuitry out in the field that works just as well as his but at least this is one approach.

The circuitry is straight forward and quite simple to build. However, Don suggests the circuitry be assembled in a separate box with all the appropriate cables attached. Shielded cables are also strongly recommended between all pieces being connected together. Figure 1 shows the changes that must be made internally to the ST-6. Figure 2 page 22 shows the block diagram and ciruitry needed to complete the project.

GAME PORT CONNECTIONS

Pin #1 - RX/TX PTT TTL Level
Active Low
PTT ON = 0 volts.

Pin #2 - RTTY Out - TTL Level
Mark = +5 volts
Space = 0 volts

Pin #6 - RTTY In - TTL level
Mark = +5 volts
Space = 0 volts

Pin #8 - Ground

EUROPEAN DX-CONTEST

The Deutscher Amateur-Radio-Club (DARC) has the honour to invite amateurs all over the world to participate in the annual EUROPEAN DX-CONTEST.

1. Contest periods: CW: August, second weekend
1988: 13/14 August
1989: 12/13 August

SSB: September, second weekend
1988: 10/11 September
1989: 9/10 September

RTTY: November, second weekend
1988: 12/13 November
1989: 11/12 November

1200 UTC Saturday to 2400 UTC Sunday

2. Bands: 3,5 – 7 – 14 – 21 – 28 MHz.
The minimum time of operation on a band after a band change is 15 minutes - except for working a new multiplier. According to IARU-region 1 regulations contest operation is not allowed on the following band sections:
cw: 3550-3800; 14075-14350; 21100-21450; 28100-29700 kHz
ssb: 3650-3750; 14300-14350; 21400-21450; 28700-29700 kHz

3. Classifications:
a) Single operator – all bands
(no assistance in log-keeping and multiplier-searching allowed.)
b) Single operator – high bands
(as above, but operation on 14 – 21 – 28 MHz only.)
c) Multi operator – single transmitter
(only one signal on any band at the same time is permitted)
d) SWL
see special regulations (rule 12).

4. Rest periods: Of the 36 hour contest period only 30 hours of operation are permitted for single operator stations. The 6 hours of non-operation may be taken in one but not more than three periods at any time during the contest. They must be clearly noted in the log.

5. Exchange: A contest QSO can only be established between a non-European and a European station (except in RTTY). Exchange the usual five or six digit RS/RST plus a progressive QSO number starting with 001. A station may only be worked once per band.

6. Multipliers:
– The multiplier for non-European stations is determined by the number of European countries worked on each band (see WAE-country-list).
– European stations use the current DXCC-country-list. Each non-European country counts one multiplier unit per band.

Multiplier bonus:
The multiplier on **3,5 MHz** may be multiplied by **four.**
The multiplier on **7 MHz** may be multiplied by **three.**
The multiplier on **14/21/28 MHz** may be multiplied by **two.**

7. QTC-traffic: Additional point credit can be achieved by reporting a QTC, i. e. data of a QSO between a non-European and a European station earlier in the contest, back to a European station. After working a number of European stations these QTCs can be reported back during a QSO with another European station. A QTC can only be sent from a non-European to a European station (for RTTY see rule 13).

a) A QTC contains the time, call sign, and QSO number of the station being reported. QTC: 1307/DA1AA/431 means you worked DA1AA at 1307 UTC and received his serial number 431.
b) A QSO may be reported only once and not back to the originating station.
c) A maximum of 10 QTCs can be sent to the same station, which can be worked several times to complete this quota. Only the original contact, however, has QSO point value.
d) Keep a uniform list of QTCs sent. QTC 3/7 indicates that this is the 3rd series and that 7 QSOs are now being sent.
e) European stations may record the QTCs received on a separate sheet with a clear indication of their sender.
f) If more than 100 QTCs are claimed, a QTC checklist must show that the maximum quota of 10 QTCs per station is not exceeded.

8. Scoring: The final score is computed by multiplying the sum of the total number of QSOs and QTCs by the sum of multipliers from all bands (cf. rule 6).

9. Contest awards: Certificates will be awarded to the highest scorer of the different classifications in each country, a reasonable score provided. Continental leaders will receive a plaque. Each participant with at least half the score of the continental leader will receive a certificate.

10. Disqualification: Violation of the rules of this contest, or unsportsmanship conduct, or taking credit for excessive duplicate contacts will be deemed cause for disqualification. Each duplicate QSO or excessive QTC will result in a penalty of 3 QSO/QTC points.

11. Logs: To ease checking participants are expected to arrange their logs according to the official WAEDC log form. All band changes have to be clearly indicated. The log must be accompanied by a summary sheet and dupe check sheets for all bands with more than 200 contacts. Sample log and summary forms are available from the address below. Please send an S.A.S.E or sufficient postage (IRCs).

12. Special regulations for SWLs: SWLs log stations working in the WAEDC. Participation is only possible in the single operator/all band class. SWL-logs from members of a team in the transmitting category cannot be accepted.
The same call sign – European or non European – may only be logged once per band. The log must contain both call signs and at least one of the control numbers. Each contest QSO logged counts 2 points, each complete QTC (max. 10 per station) 1 point. Multipliers are determined by the DXCC-and WAE-country-lists (rule 6).

13. Special regulations for RTTY: In the RTTY-section of the WAEDC there are no continental limitations. QTC-traffic, however, is not allowed within one's own continent. Each station may send and receive QTCs. The sum of QTCs sent and received must not exceed 10.

14. Deadline for log entries:
CW: September 15th, SSB: October 15th, RTTY: December 15th

15. Mailing address: WAEDC-Contest-Committee, P.O. Box 1328, D-8950 Kaufbeuren, FRG

16. WAE-country-list: C31 – CT1 – CU – EA – EA6 – EI – F – G – GD – GI – GJ – GM – GM Shetland – GU – GW – HA – HB – HB0 – HV – I – IS – IT – JW Bear – JW Spitsbergen – JX – LA – LX – LZ – OE – OH – OH0 – OJ0 – OK – ON – OY – OZ – PA – SM – SP – SV – SV5 Rhodes – SV9 Crete – SY Athos – T7 – TA1 – TF – TK – UA1346 – UA2/UZ2F – UA1 Franz-Josef-Land – UB – UC – UN/UA1N/UZ1N – UO – UP – UQ – UR – Y2 – YO – YU – ZA – ZB2 – 1A0 – 3A – 4U1 Geneva – 4U1 Vienna – 9H1

Criteria for the awarding of certificates and trophies in the WAEDC

1. Minimal requirments for a certificate or a trophy are 100 QSOs or 10.000 points in addition at least one of the following conditions must be fulfilled.

2. Certificates
a) Top score in a country.
b) In countries or districts with high participation an additional certificate will be given for each full block of ten participants.
c) Members of the Top Ten or Top Six (multi operator) lists.
d) Continental winners.
e) Stations with at least half the score of their continental winner.
f) Participants with at least 100.000 points.

3. Trophies
a) Continental winners in the single operator category are awarded a plaque.
b) Continental winners in the multi operator category will be awarded a plaque if they have at least 100.000 points or at least the score of the winner in the single operator category in their continent.
c) A station may receive a plaque in the same category only once within a three year period.
d) Special plaques will be presented to all members of the Top Ten/Six if they have been in this list for at least five times.
e) The WAEDC-Committee reserves the right to honour outstanding achievements in the contest by additional plaques.

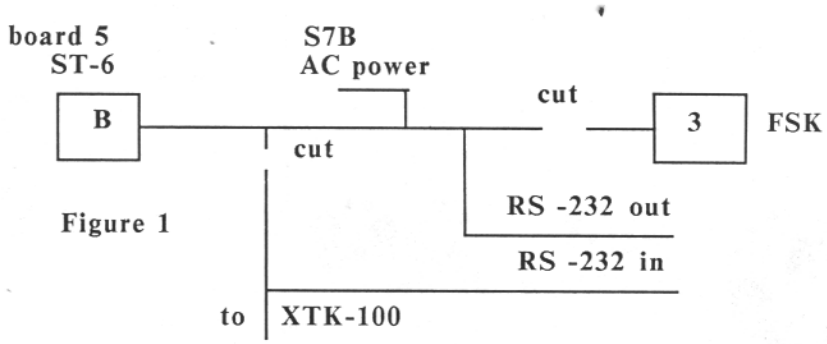


Figure 1

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

PACKET

PHASE SHIFT KEYING

Several months ago, I spoke of trying out a modem on Packet that uses Phase Shift Keying. Well, I have been fooling around with the circuit designed by James Miller, G3RUH of Cambridge, England. I built it up around wire-wrap components and the ICs. I have run loopback tests on it and it works quite reliably. I tried it at high speeds and ran into a problem with the PLL being unstable due to the parts used but still I have been able to get it up to 2400 baud. Once I get it more stable than it is now, I will put it on the air from here on VHF.

I have plans to try it on other modes with the PK-232. It would be interesting to send Baudot on PSK rather than FSK. Then there is AMTOR and ASCII. I will have to do some research and see if the TXCLOCK is still running in those other modes and take it from there. So, I now have another project on the heap and to coin a line, I am almost "out of heap space".

WHAT HATH HE SUGGEST???

Bill Henry, K9GWT, is at it again. He has done some studies involving AFSK as it is sent. With the aid of a computer and some high-level mathematical software, he processed the transmitted waveforms which go out on HF from a radio that is being used for Packet. The normal shift for HF Packet is 200 Hz but there are units out there, like mine, that use something a little less, like 170 Hz. Remember the speed of HF Packet is 300 baud. What he came up with was a description of the frequency spectrum, like the output from a spectrum analyzer, and printed it out on paper. The best way to describe the pattern is that it looks quite like a FM signal on two meters. FM by using SSB? Not quite, but the result is there, because the interaction of the frequencies used and the transmission speeds involved, the signal ended up that way. He also ran a simulation using 300 baud but changed the shift from 170 Hz to 600 Hz. Well, the end result was two discrete peaks of signals centered around their respective tone with the area between the two tones quite empty. This type of signal, per Mr. Henry, is easier to decode by using discrete filters than by PLL which is better used for decoding narrow shifts. Unfortunately, PLL's have a tendency to lock onto noise and look at a side range of signals where discrete filters would be looking at what they are designed to do. Reprints are available from HAL Communications (see their Ad this issue). They will be interesting reading and maybe he might have an answer to some problems with these suggestions.

A BIRD'S EYE VIEW

This past weekend was the ARRL Southwestern Division convention in Anaheim, California. Dale Sinner, W6IWO, had a booth there for the RTTY Journal and I was there to help for the three days. I spoke with many Hams, both young and old alike, and received many different comments and I will share some with you now. One that I will follow up on is trashing the "mug shot" at the beginning of the column and submitting another that looks more human rather than one that looks like the numbers are missing. I will do this as soon as the station is up and running and I am in a more natural environment. I am definitely not as photogenic as either W6IWO or WA7EGA. While at the booth, several hams asked me about how to get started into RTTY and Packet, especially on the HF bands. I told them to do what I did when I first started and that was to watch, learn, and jump right in there by either doing something rare to most people, calling CQ, or answering someone else's CQ. We learn by doing. So, on the basis of that, we shall get the ranks of the digital users growing even faster.

One of the questions that I asked several hams, especially dealers, is how long does the newcomer to Packet stay active on it, using it for ragchewing and the like, before settling to intermittent use, like checking a BBS. That question prompted some interesting answers and , unfortunately, many had the same thought. They all thought the new user will use Packet for about a month religiously and then put it on the back burner. An additional qualification to that statement was made by one gentleman who felt strongly most newcomers to Amateur Radio start out because of the lure of Packet radio and being able to send messages around the world by using a radio and a computer. I have also seen this and it is sad. I think that it is an indicator of how narrow minded our training and nurturing of young hams has become.

(cont. pg. 10)

(PACKET cont. pg. 9)

A very good example of this is that I finally got to try my hand at ATV. There was a small camera available to try at a club booth. I took it around after a few instructions on how to use the set-up. Off I went. I got a BIG kick out of it. When I saw the tape played back, I was definitely pleased and really enjoyed seeing the fruits of my fun. We need to install the "Killer Instinct" into the young ham to go out and try the other modes that are available to him.

There was a panel discussion sponsored by Dale, W6IWO that involved both hams and representatives from industry. Most of the questions were prepared in advance but there were also questions from the floor. The discussion was mostly on how the manufacturer's are responding to the needs of the ham community with regard to the digital modes. I left there with a good feeling that the manufacturers will respond to the needs of what the majority want in a radio. There were some good suggestions made about how the manufacturers can make their radios perform better for HF digital use by allowing the use of a 250 Hz filter to receive RTTY while in the SSB position instead of having to deal with a 2.1 Khz wide filter and the accompanying interference. It all came down to, manufacturer's will respond if the demand warrants it and the market will support it by buying the unit. So, if you want to see a particular function available on a radio, then set your pen to paper and let them know of your desires and if there is enough response, then maybe you will see it.

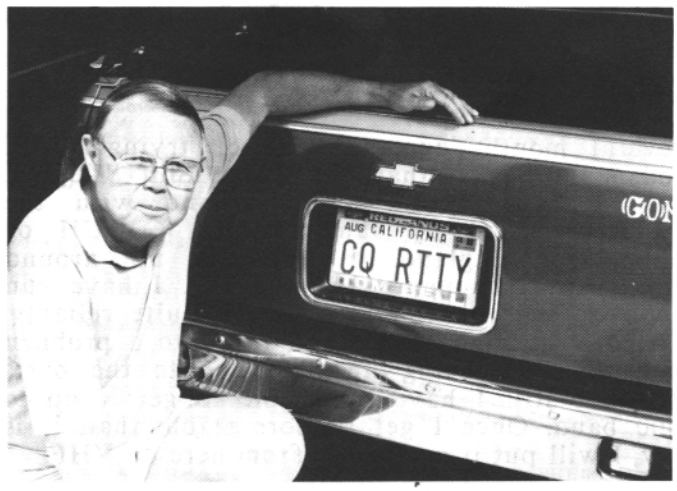
MAIL

Today I received a letter in the mail from Tom Cage, K5GJ, in Amarillo, Texas. That is the city whose logo has two cowboy boots for the l's and a Big 0 at the end. I had dinner there twice one month while on the road. Tom asked in his letter for help in using his computer on Baudot. I don't have enough space this month to cover the reply I intend to send him but I will cover the meat of the reply next month.

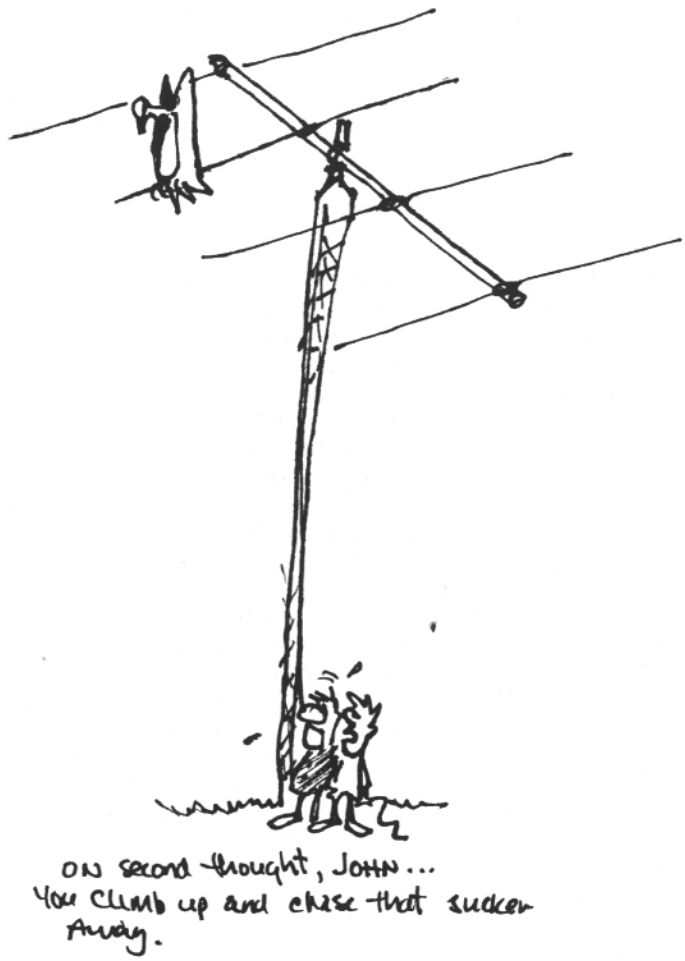
PERSONAL AD

Wanted: A few Good Men. Reason: Ham Radio Needs You!! So, get out there, the sunspots are coming back. Let's fill the airwaves with glorious transmissions of deedle, deedle, the spoken tongue, BRAAAAAAP, the Crickets (my wife's interpretation of AMTOR), and the clickless sound of fists pounding brass. Now comes the fun part. Invite someone over and let them get some dirt under their nails. Who knows, they might get hooked on Ham Radio. I sure did! So, go forth and spread throughout the land that Ham Radio is here and it is great. You have been so charged!!

de Richard, N6NKO BRAAAAAP



Dean, WA6PJR shows us his new license plate



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

MSO'S

Hi Gang! I'm back at the old word processor again, after what seems like a year. As some of you may know, I underwent some very serious heart surgery just after returning from the Dayton HAMVENTION, and although I'm doing absolutely fine now, there were a few scary minutes while the surgeons were sharpening their knives! But fortunately for me, I did not have any heart damage at all, and am now returning to full strength, and doing such mundane chores as mowing my lawn, riding my Honda Gold Wing, and trying to keep ahead of the worst drought in fifty years by hauling water hoses around the property.

I want to take this opportunity to thank each and every one of my friends across this planet who took the time to call me on the phone, and write many nice letters to me, while I was recovering from my surgery. Unless you've experienced such a serious surgery, you do not know how important and wonderful it is to receive a letter or a call when you are really feeling down. I know that it was a major factor in my mental outlook, particularly right after the surgery, and I appreciate each and every communication. Thanks fellas!!

COMMODORE C-64 MSO SOFTWARE

I received a nice letter from John Beckman, W4BTX, who is looking for some MSO software that will run on his Commodore C-64. John presently maintains the only RTTY Mailbox in the Atlanta, Georgia, area, but is dis-satisfied with his present MSO program. He would like to find a MSO program capable of running up to 74 baud Baudot, and up to 300 baud ASCII. John states that he works well with computer Basic, and has the capability of compiling it in the "C" language.

John will gladly forward disks and return postage to anyone that has a program he can try. John's address is: John Beckman, W4BTX 4453 Sentinel Post Road, Atlanta, Ga. 30327.

APLINK AMTOR MAILBOX

Ever thought about using your IBM PC (or compatible) to run a AMTOR Mailbox, including an interface to your local (or national) Packet Radio system? Vic Poor, W5SMM has written a very comprehensive software package for ham radio, which includes these very features. It is available without cost from Paul Newland, AD7I, P.O. BOX 205, Holmdel, NJ, 07733- 0205. Paul requests that those interested provide a floppy disk mailer, with sufficient return postage, a formatted 360 K diskette, and a self-addressed mailing label.

APlink is a software system that runs on an IBM PC, (or compatible). It provides an AMTOR mailbox via either an AMT- 1 or PK-232 through the computer's serial port. AMTOR users, via HF, can enter messages or bulletins to other stations. The commands are similar to VHF Packet systems but without the verbosity that we often find on some of those systems.

An additional feature of APlink is that HF AMTOR users can enter messages to be automatically forwarded by way of the North American Packet network. To do this, the SYSOP installs an additional serial port on his PC, and connects this port to a PK-87, (or PK-232), for a VHF Packet interface. With this addition, AMTOR stations can enter messages for relay via Packet. Also, Packet users can forward messages to remote AMTOR stations.

Craig McCartney, WA8DRZ, 160 Montalvo Rd., Redwood City, Ca, 94062, is presently utilizing APlink, and can be contacted via the address listed for technical support. You can also contact Craig via AMTOR on his APlink system, which scans 14072.5, 14073.5, 14074.5 and 14075.5, (Mark frequency), looking for AMTOR ARQ selcal of WDRZ.

Paul, AD7I, notes that they are looking for additional stations to run APlink, particularly in the Northeast or Mid-Western part of the United States. This software is free for the asking, so here's your chance to put that PC to work!

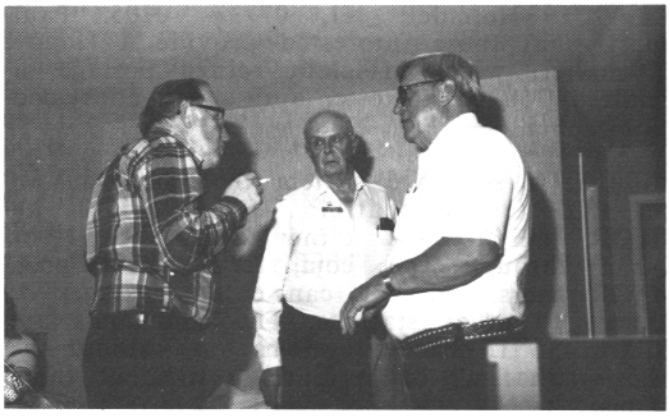
MSO RAMBLINGS

Clark, W9CD, is presently vacationing in the Oklahoma City, Ok, area, and his MSO remains active from that area....

Gaylord and Louise Crawley, WB8ICL/WB8JIB, continue to expand their digital stations with the addition of a 10 Meter MSO. (More about this system in a later issue). ...

Brownie, K5FL, Denton, TX, tells me that he and Joy will be heading for a well deserved vacation in Europe before long, and his MSO will be inactive for a few weeks. Hurry back Brownie, as we'll miss that booming signal of yours! **(cont. pg. 15)**

PICTURES DAYTO



Clark, W9CD and Larry Workman, KA0JRQ and another friend (who's name escapes me) probably talking about MSO's Dayton 1988

More MSO regulars enjoying Jerry, WA1IUF's hospitality. Jerry does this every year for all to enjoy. Dayton 1988

Can't remember all the names in this picture but might reconize Bill Henry ,K9GWT at the blackboard, no doubt talking terminal units Dayton 1988

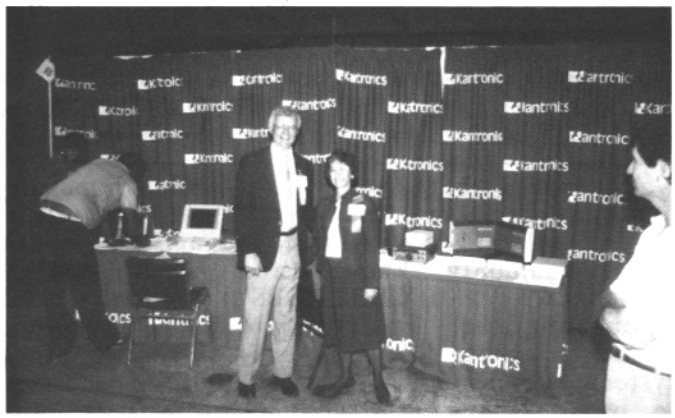
Some of the gang hanging out at the RTTY Journal hospitality suite. Talking RTTY for sure. Dayton 1988

Atitude adjustment hour before RTTY dinner DAyton 1988

Some of our industry friends also stopped by to chat with the gang. In this picture there are two from Kantronics and one from ICOM. Dayton 1988

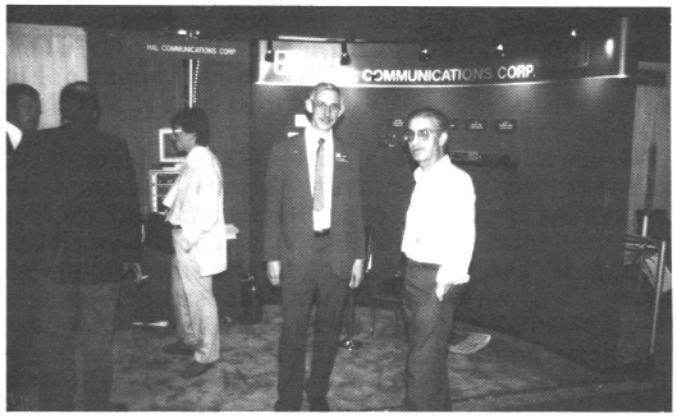
N & HAMCON 1988

Digital Digest forum at ARRL Southwestern Division Convention. Panelists: Craig, KR6T, Bill, K9GWT, Mark, WJ7J, myself, W6IWO, Cole, W6OXP, George, AB6A, Richard, N6NKO Hamcon 1988



KANTRONICS booth at HAMCON 1988 Anaheim, Ca.

Looking over the pictures from the previous year . Dayton 1988



HAL booth at HAMCON 1988 Anaheim, Ca.

Just relaxing at the RTTY Journal suite. Dayton 1988

AEA booth at HAMCON 1988 Anaheim, Ca.

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

AMTOR

Well, now that you have all, hopefully, recovered from my "mug-shot" at the top of this page, I will attempt to give you a listing of the most commonly known and used, AMTOR mailboxes (MBX,BBS,RBBS's) (pg. 22), throughout the Amateur world. I have only included what I define as an MBX, those systems which will allow you to leave messages to other Hams, retrieve messages from other hams, and those that give out information on a variety of subjects, i.e. DX news, ARRL bulletins etc.

There are other systems, called "Mail-drops", that are much like a telephone answering service. They send out a periodic "beacon" call, announcing to the world, that the SYSOP is not available, but you can leave a message to him, if you wish.

FEC beacons can be a real QRM problem if the software in use cannot "sense" whether the frequency is in use at the time it is due to "fire up"! If you use an FEC beacon, how about setting it for, every half hour, starting on the hour. That way, if you use the same frequency as other MBX's, other users will know not to try to access the other MBX at those times.

This list is by no means complete. I have compiled it from information that I have personally gleaned by listening and watching the bands and accessing the various MBX's over the past four years. One or two of the frequencies quoted are not too accurate, because certain MBX's tend NOT to be on a regular "set" frequency. This makes life a little difficult when trying to find the darn thing but with a little time and patience, you are bound to find them sooner or later! They may not be on the same frequency the next time you try, but that makes finding them, more of a challenge and keeps you on your toes!

WHY HAVE AMTOR MAILBOXES

Well just listen to the Baudot National Autostart frequency and see how much traffic there is at 100 WPM! Lots! Okay you say, why then should we have ARQ BBS's as well? Firstly, they make excellent propagation beacons, like the ones on 14.100. If you can access an MBX in a certain part of the world, you know conditions are favorable to that area. Secondly, most of you will have realized that the ARQ mode is slower and more leisurely BUT virtually error free. A burst of QRN/QRM on Baudot and you lose a fair amount of traffic. This in itself should convince you that sending and receiving information of any length, in ARQ, has a much better chance of getting through.

Now before the Baudot BBS SYSOP's come down on me like a ton of bricks, let me say that I am not asking all Baudot operators to go out and buy AMTOR software, and abandon the Baudot BBS's forever! There is room for both types and as someone once said: "variety is the spice of life!"

Talking about variety, leads me to the various methods of "accessing" the MBX's in the list. Because there are now so many different computers, TNC's and software designs available to us, it is very difficult to have just ONE simple method of gaining "access" to all the MBX's out there. This applies to the Baudot BBS's as well! To try and illustrate what I am saying, take the VK2AGE system. Once you have linked with the station using the normal selcall, you MUST type: VK2AGE de your call +? In other words, you must "log on" before it will do anything. If you do not, the MBX will just sit there giving you nothing more than "idles" until it "times out" or you get bored and close it down with Ctrl-A.

Then there are the systems that DO NOT require you to send the +? at all, just a CR/LF will do the "change over" for you. I think that most of these NO +? types, now give you the option of "user control", you use the +? or "system control" where you just send CR/LF. There are exceptions to the rule, AA5CQ (nice call) requires a period (.) after each contact to enable his home brew software to sense the "change over".

A relatively new system written by W5SMM, is now being used by W5SPJ and WA8DRZ and is called "APLINK". One of the very useful facilities of this system operated by WA8DRZ, is that it has a direct link to the U.S. Packet Radio Forwarding Network. No +? change over is required, just use the CR/LF routine. The potential for this system is quite interesting. You can drop a message into WA8DRZ via 20 Mtrs AMTOR and ask it to be re-transmitted via the 2 Mtr Packet network to the destination party.

To those of you who have not tried out the "wonders" of these mailboxes, I suggest that you try to access one or more of them in the normal way you would link with another station. Once "inside", the usual thing for newcomers to do is type: HELP and then follow the prompts given by the system. Be sure to have your QSO buffer "on", that way you can review the method of operation later and also make a hard copy for future use.

Do not be afraid to try out these systems, the SYSOP's welcome newcomers and if they are at the "controls", they will jump in and give you some help if you get tied up. I still have a terrible time getting used to the variety of systems in the U.S.A. and I have been here for over twelve months, so there is still hope for you.

It is impossible, within the scope of this article, to explain every different system there is. Anyway if I did, it would take away some of the "challenge" of doing it yourself and save you a lot of computer paper in the bargain. I have only skimmed the surface of the MBX scene but I hope that this information will be of some use to the AMTOR operators.

If I have omitted any regular MBX's from the list, apologies to the SYSOP's concerned and would anyone who knows of any changes, omissions or additions, please let me know, via one of the Baudot, AMTOR MBX's or via the U.S Postal service. I like to get mail, other than QSL cards and bills. That's all for this month. 73 GL and enjoyable "chirping"

de Eddie, W6/G0AZT

(MSO'S cont. from pg. 11)

NEWCOMERS TO THE NATIONAL AUTOSTART FREQUENCY

I'd like to take this opportunity to welcome two newcomers to the National Autostart Frequency, (Mark is 14 085 625 Hz). Al, K2BDM, from the Heart of the Big Apple, (New York City), and Jack, W7JHX, from Tucson, AZ, have their MSO's operating. Al's access code is MSOBSM, and Jack's is MSOJHX. Although I have not had the pleasure of getting to know these gentlemen yet, you can be sure that we'll have many fine QSO's in the future. Welcome aboard!

THE NEW HAVEN CONNECTION

What's happened to the New Haven Connection? Is it really true that RTTY signals will not radiate from the west coast area of Florida? We miss hearing those sweet tones from WA1IUF, and hope that Jerry Thrichter is able to find the solution to once again maintaining a MSO from his retirement QTH in Florida. We wish him and his XYL all of the good things in life, and hope to see him pounding away on the keyboard before long.

That's it for this time from the heart of the beautiful Black Hills of South Dakota. This column is dedicated to all RTTY'ers interested in MSO/Mailbox/CBMS operations, and we encourage you to drop us a line with information, questions or technical data, relative to those systems. See you next month!

73 de Dick, K0VKH

(HITS & MISSES cont. from pg. 2)

YOUR EDITOR GOOFS AGAIN

In the last issue I devoted the entire center spread to pictures of Dayton 1988 but the caption at the top of the page reads 1987. How I managed to do that, I don't know. Anyway, to fix it up, elsewhere in this issue you will find a 1988 published in a place where you can cut it out and paste it over my goof. That's if you are so inclined.

If space permits this month, I will publish more pictures of the Dayton Hamvention. Jerry Trichter sent some he took and I still have others to share with you.

ON THE COVER THIS MONTH

I met George Wesley, KB2VO this year at Dayton and we had a very nice visit. George is retired from the printing business and I picked up some ideas from him which I'm sure will help me with the Journal. George is a real gentleman and you will enjoy his article in this month DX NEWS column.

The cover drawing last month was done by Jay Dyer, WB8ZTY who is a good friend of Dick's, K9VKH. Dick tells me he has a large drawing similar to the one I used hanging in his home.

AEA AMATEUR AMBASSADOR AWARD

Mike Lamb, N7ML, President of AEA will present this award for $1000.00 at this year's National ARRL Convention in Portland, Ore. The award this year goes to a great Ham and ambassador extraordinaire, who has also been very active in the past on RTTY, Mr. Barry Goldwater, K7UGA. Barry is now retired from the U.S. Senate where he has fought for the Amateur radio cause for many years. Congratulations Barry, you are certainly deserving of this fine award.

QUICK ANNOUNCEMENTS

DXPO 88 will be held Oct 8 & 9, 1988 at The Best Western Inn, Falls Church, in Northern Virginia (on Rte 50). DXPO-88 is sponsored by the National Capital DX association. Contact Stuart Meyer, W2GHF/4, 2417 Newton St, Vienna, Vi 22180 for more info. Banquet speaker will be Father Moran, 9N1MM.

Watch for a new catalog soon to be released by AEA, Lynnwood, Wa. Some new products are in the offering and if my source has it right, there will be one in your mail box real soon.

That's it for this month. **de Dale, W6IWO**

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

CONNECTIONS

Ahh! September has arrived, with attendant brilliant coloured foliage soon to fall upon your lawn. Which causes you to wonder why any sane Ham (you say the words are mutually exclusive?) would plant deciduous trees in proximity to one's abode. Adding insult; yes, this labour must occur just as the contest season and Sunspots match the autumnal equinox when summer's static crashes are no more.

PROMISES, PROMISES

Last issue I promised a review of the AEA PK-232 Firmware Update and here it is. (Heh, bet you thought I was going to try to wiggle out of it, didn't you?) This firmware release is dated 23 Feb., 1988 and has a major mode addition (NAVTEX) and about ten other changes and enhancements since the most recent previous update of 25 June, 1987. The firmware update consists of two PROMS (Programmable Read Only Memories), firmware installation instruction sheet and a 14-page Revision Supplement to revision E of the PK-232 operating manual. I had no problems removing the old PROMS and installing the new ones. Just follow the instructions on the installation sheet. The new NAVTEX mode should be a great boon to seagoing Hams. NAVTEX is a new marine weather broadcast service that is being installed in coastal areas around the world. Operating on a standard frequency of 518 KHz (just below the AM broadcast band) NAVTEX broadcasts navigation and weather information to ships. The acronym NAVTEX stands for Navigational Telex. It is a direct printing service designed to distribute navigational and meteorological warnings and other urgent information. NAVTEX is not yet fully operational in all areas of the world at this time.

Currently NAVTEX covers most of Europe, and the East coast of the United States and Canada. Stations to cover the west coast of the U.S. are under construction and scheduled to be operational in 1988. I could not test this feature here as the Long Beach NAVTEX station is not yet operational. Planned west coast stations will be located in San Francisco, California; Astoria, Oregon; Adak, Alaska; Kodiak, Alaska; Honolulu, Hawaii and possibly other locations. Operational NAVTEX stations on the East Coast include Sydney, Nova Scotia; Boston, Massachusetts; Portsmouth, Virginia; Miami, Florida; and New Orleans, Louisiana. Technically, NAVTEX is a form of Mode-B AMTOR (FEC or Forward Error Correcting mode) with a special header on each message. The header contains a code which includes the type of message being broadcast, the station identifier, and a message number. The types of messages currently defined are as follows:

A. Navigational Warnings
B.. Meteorological Warnings (Storm Warnings)
C. Ice Reports
D. Search and Rescue Information
E. Weather Forecasts
F. Pilot Service Messages
G. DECCA System Information
H. LORAN-C System Information
I. Omega Systems Messages
J. SATNAV System Messages
K-Z. Reserved for future use.

NAVTEX is an immediate PK-232 command used to go to the NAVTEX mode. There are two NAVTEX-peculiar commands used to set message reception parameters.

NAVSTN - used to select or lock out specific stations in an area. It can be set to allow monitoring of all stations, no stations, Yes list of stations, or No list of stations. A list may contain up to thirteen station identifiers. The default is ALL.

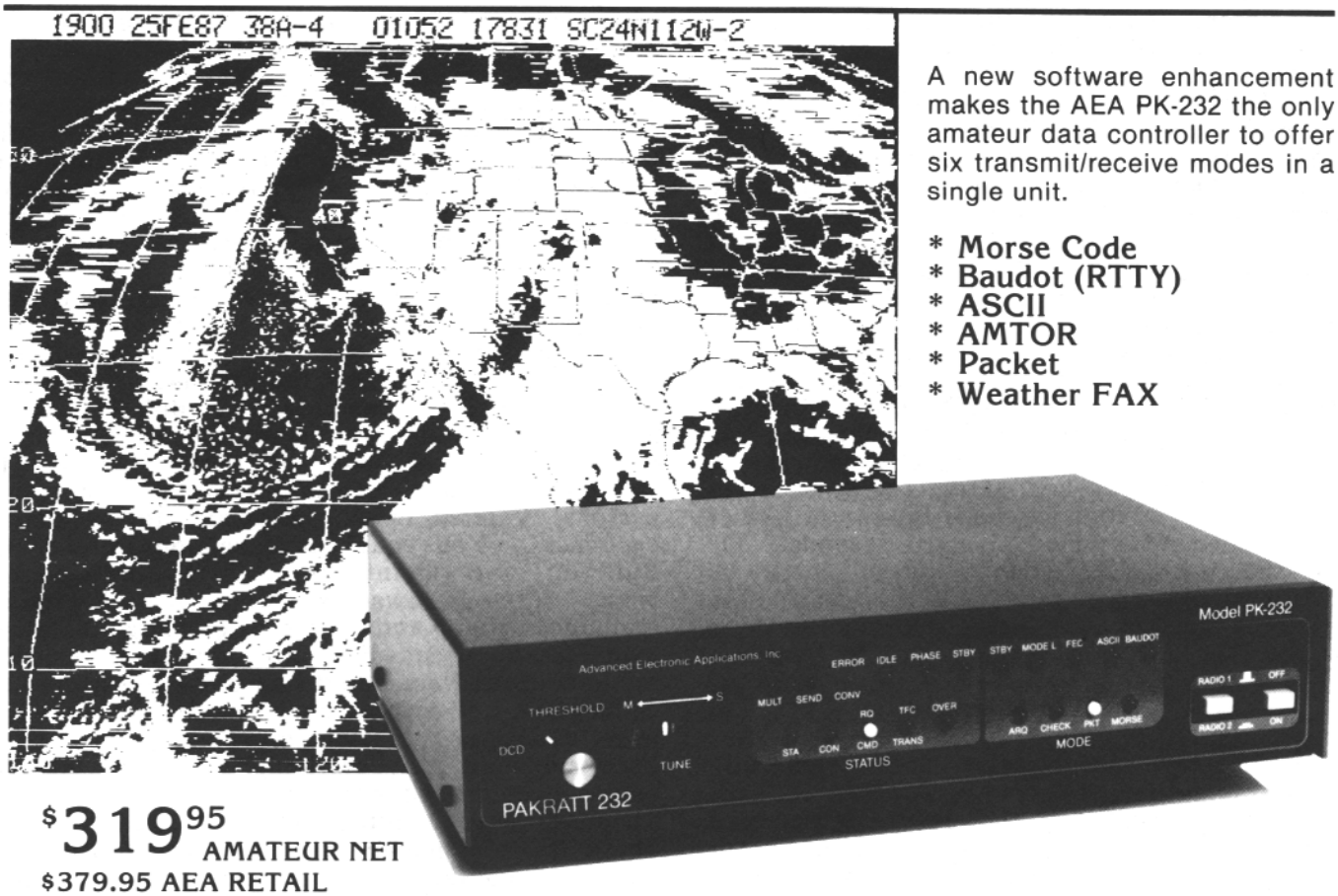
NAVMSG - used to select or lockout the various types of messages described in A through J above. The parameters of this command are the same as NAVSTN; All, None, Yes list, No list with the exception that message types A, B, and D CANNOT be excluded. Because the NAVTEX broadcast frequency is at the low end of the AM broadcast band, the maximum range of reception will vary according to the usual propagation conditions of this frequency band. If the received message errors exceed 12.5 percent, the message will not be printed. The other changes and enhancements in this firmware update include:

AFILTER Command: AFILTER is an ASCII Filter that works the way MFILTER does, only in all modes to prevent unwanted ASCII characters from ever being sent to the terminal or computer.

BBSMSGS Command: BBSMSGS strips some of the unwanted "friendliness" from the command responses generated by the PK-232, making it compatible with older versions bulletin board software such as that from W0RLI and WA7MBL. **(cont. pg. 18)**

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**

$319.95 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

(CONNECTIONS cont. from pg. 16)

CBELL now sends three BELLcharacters on DISCONNECT as well as CONNECT. MFILTER $80 no longer filters the TAB character (ASCII more printers including the Anadex, Citizen, NEC and the HP-Thinkjet. Five Morse Code Characters that are useful for Swedish and German Morse have been added to the National Morse alphabets CODE Command. In the KISS and Raw HDLC modes, activity on the RS-232 link is now shown via the STA and CON LEDs. In Morse, Baudot and ASCII, the delay at the end of a transmission before going back to receive has been shortened from 1 sec to 0.2 sec. The TAB character (ASCII $09, CTRL-I) is now accepted as a delimiter in command strings, same as space and comma always have been. Defaults changed: The parameters MPROTO, RESPTIME, PERSIST and PPERSIST have had their default settings changed. For me, at least, the most important change was the shortening of the delay after going back to receive in the Baudot mode. In contests that original 1 second seemed like 10 seconds. Of course the NAVTEX mode will no doubt be very interesting once the NAVTEX station in Long Beach gets on the air. To sum up - Good Show, AEA!

THERE IS MAIL

Received a very informative note from Bill, K4IH, responding to my request in the Connections column for the July/August issue of the RTTY Journal regarding the need for information on the Crown Co. I will quote directly from his note: *"Crown Microproducts, 606 State St., Marysville, WA 98720, I believe, went out of business three or four years ago. They manufactured the ROM-116 interface (excellent) for RTTY and CW and supplied the software for Tandy Models 1 or 3." "It could be interfaced with the following TU's: FSK-500, FSK-1000, ST-5000, ST-6, Flesher TU-170 and possibly others." "A very knowledgeable young man by the name of Gary Martin was among the top personnel with the Company and when they closed, I believe, attempted to carry on the business or at least, part of it. The last telephone number I have for Gary is : (206)-653-9596".* Bill also mentioned he found the Journal to be both educational and enjoyable to read. Thank you Bill, for taking the time to write and pass on this information, and for your kind words. Dale and the rest of us scribblers try hard to give you folks the best, but without reader feedback and assistance, it would be an impossible task.

THE PROBLEM WITH LETTERS - is that they often go unanswered. My mail frequently mentions the "no response" syndrome when writing for information. It seems there are a lot of dealers who just will not answer mail. Yes, it does take time to respond to mail queries and requests, and time is indeed MONEY. BUT, it leaves one with such a bad feeling when your letters go unanswered. Bad feelings translate to "bad mouthing" on the air and within messages on Bulletin Boards. It is said that Bad News travels fast, and in Ham Radio it travels at the speed of light. Now this problem exists not only with the Manufacturer/Distributor/Dealer group but also with columnists, as I too must plead Mea Culpa. For on occasion I have forgotten to respond to a letter, or inadvertently misplaced it till far too late. But, you Dealers out there - you are missing sales because a letter went unanswered. You manufacturing firms are impacting your sales because you did not answer that letter. If you find that answering letters just takes up too much time, you Dealers and Manufacturers/Distributors might consider a land-line type computerized Bulletin Board system. Since a great many of us now have personal computers and MODEMs, it would be an ideal method of maintaining direct and personal contact with customers and potential customers. You could have sections on Service Bulletins and maintenance, Software Updates, New hardware/software product announcements and even complete catalogs. And don't forget that all important message section. Callers could leave questions or comments and you could answer them in non-real time. (Shame on you if you don't keep up with this section!). An 800 number would be nice but not necessary to provide this service. Now don't forget that I am talking about the telephone, not a Ham Radio BBS which of course would be illegal in a business application. Once this system is set up and running, it will require the efforts of a knowledgeable member of your firm to maintain the system and answer the messages. Should be well worth the effort. Now, how about you customers? Would you spend a buck or two on long distance charges to call such a BBS if you had a question? Do you think such a system would be worthwhile?Do you think it would get any better results than your letters get now? Maybe we could get Dale to print up a questionnaire on this for the next Dayton Hamvention and pass it out to all the digital types.

PROMISES BROKEN - While I did review the PK-232 Firmware Update in this issue as promised, the review on the PK-FAX PC compatible program for the PK-232 in the FAX mode is just going to have to wait until next month. Likewise the information on interfacing the IBM PC serial ports is being postponed until next month. Sorry about that, too many things going on this month I guess. Until then, very 73

de Cole W6OXP

RTTY PILE-UP'S
by Donald Simon, W6PQS

The RTTY DX Association has shipped a HAL Telereader to KA2CC, in the hopes it will reach him in time for his upcoming trip to Mininami Tori Shima. Charlie is not yet a RTTY operator and requested specific instructions for the event. Included in these instructions were suggestions on how to work a RTTY DX pile-up. I am outlining these instructions in this article hoping they will spread to the amateur fraternity. They may not represent the ultimate technique, however using them would have improved the results of several recent expeditions by at least 1000 %.

KEEPING YOUR SANITY IN A RTTY DX PILE-UP

During my recent RTTY expedition to Christmas Island I had the chance to experiment and develop a method to control pile-ups on RTTY. Those who worked T32BG will attest to the success.

W6PQS RTTY Rule #1 - Always work split!

Three stations can generate an unworkable pile-up on RTTY! In response to your CQ or QRZ, RTTY stations will typically transmit a call string lasting about 10 seconds. That's well and good, however, if you're not quick on the reply, they will repeat their call strings, soon overlapping each other at random intervals. The result is bedlam.

You will have difficulty discriminating a single call to reply to and even more difficulty regaining control of the frequency unless you possess a very powerful signal.When operating simplex, a QSO rate of perhaps one call every three or four minutes would be remarkable. One recent DXpedition was lucky to make 6 QSO's per hour.

Operating split enables you to easily select a call from the first response to your QRZ, load it into a buffer along with your "canned message" (using other buffers) and prepare to transmit, often in as little as 10 seconds. When the bedlam eases a little, transmit and log the pending QSO. Don't worry about stations transmitting on your frequency, the policemen will keep it clear for you or you can do it yourself with the traditional UP2 UP2 following each QRZ.

W6PQS RTTY Rule #2 - Don't Tune!

Park it at 2Khz up and let them find you! Whenever you QRZ, some signal will pop through. It might be the loudest, the quickest, or just the luckiest... but you will see one. Or at least enough of one to initiate a QSO. If you start tuning however, you will probably not be able to get a particular signal decoded before the station stops transmitting or gets covered by some other signal. Then you wait until he tries again, or start tuning again, in any case the result is a very low QSO rate.

In a very short time you will have worked all the loud signals (there are not that many RTTY DX nuts) and you can settle down and work the rest. If you feel that some geographical area is getting short changed, ask for call areas or Europe only, etc. Keeping your response time short will also cause the mob to keep their calls short too!

W6PQS RTTY Rule #3 - Always repeat the QSO station's call at the end of your response!!

In the bedlam, you may not be able to tell if the station you are responding to is continuing to transmit or not. In fact, it is likely that he will miss seeing his call unless you repeat it at the end of the first exchange.

If you repeat his call at the end of your response, he will see it and scramble to load his standard "canned message" ,reply from memory. A skilled RTTY operator will do this so fast you will never know that he caught it on the fly. In fact, really sharp operators always load a reply whenever they cannot tell who the QSO station is , just in case it is them! Using this technique will speed your QSO rate to about one every minute.

W6PQS Rule #4 - Always give the QSO station a complete exchange!

You will avoid having to give numerous insurance contacts on the same band if you make certain that the QSO station had a good opportunity to see you reply to his report. Giving a full exchange will add perhaps 5 seconds to your response, and eliminate "minutes" of repeats.

SAMPLE EXCHANGE

QRZ QRZ DE KA2CC/JD1 UP2 UP2 PSE KK

W6PQS W6PQS W6PQS W6PQS W6PQS PSE KK

W6PWS W6PQS UR 599 599 599 ON MININAMI TORI SHIMA QSL?? W6PQS W6PQS DE KA2CC/JD1 KN

DE W6PQS W6PQS R R R UR 599 599 599 IN LOS ANGELES.. NAME IS DON DON.. HOW??? DE W6PQS W6PQS KN

W6PQS R R R R QSL, QRZ QRZ DE KA2CC/JD1 UP2 UP2 PSE KK

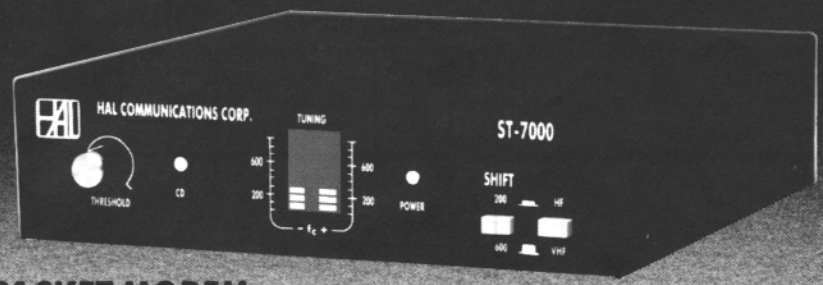
73 de Don W6PQS

LIST OF KNOWN AMTOR-MAILBOXES JULY 1988

CALL	FREQ. (SELCALL -SYSOP - ETC.)
A4XFW	14075/78/79/80, 21075/115, 28075 (AXFW)
AA5CQ	14072.3 (AACQ - JOHN)
DK0TV	3581, 7038, 14075/78/81, 21081,115, 28075 (DKTV - CLUB STN)
DK4PR	3581/2/3, 14073,75,80, 21115, 28075 (DKPR - HARALD)
DK5PR	14073/75/78, 21075 (DDPR - HANS)
DK9PG	3582, 7040, 14073/75/79 (DKPG - KARL)
G3PLX	3587.5/88/88.5/89, 7030/31. 10140/41
HB9AK	3581/3/8, 7030, 10146, 14072/75 (HBAK - CLUB STN)
HB9BJJ	10140/142/146, 14075/84 (HBJJ - ROY)
JA5TX	14072/74/80 (JATX - MITSUO)
K4CZ	10146, 14072.3 (16 - 2000Z) (KKCZ - HENRY)
KL7VZ	14073.2/076.4 (KLVZ - GEORGE)
LA9OK	3548, 7030, 10146, 14073/75 (LAOK - GEIR)
OH1NHN	3584, 14075/76/77/78/79/80/81 (ONHN)
OD5NG	14073.7 (ODNG) ON TEST
PA0RYS	3581/88/89, 7030, 14073/75/77/79, 21075, 28075 (PRYS)
PA2AGA	14073/75/77/79, 21075, 28075 (PAGA)
ST2SA	14078/80 (STSA - SID)
TG9VT	14073.5 (0330 - 1100Z) (TGVT - JOHN) LOG-ON: GUATMAIL
VK2AGE	7045, 14074/75/77 (VAGE - GORDON) (LOG-ON: VK2AGE DE UR CALL)
VE8DX	14080 (VEDX - BOB)
W3GL	3647.13, 7037.13, 7049.63, 10142.13, 14074.63, 14075.63, 14076.63, 21077.13 (WWGL - RALPH) QRGS ARE LSB AND AFSK
W5SPJ	14073.5 (WSPJ - GERARD)
WA8DRZ	14072.5/073.5/074.5/075.5 (WDRZ - CRAIG)
YB0AQT	7045, 14073/75/77/79, 21075/76/77, 28075 (YAQT)
9K2DZ	14071.5 (NKDZ - ABDUL)
9M2CE	14078 (MMCE)
9M2CR	14078 (NMCR)

ADD TO THIS LIST AS WE PUBLISH UPDATE INFORMATION

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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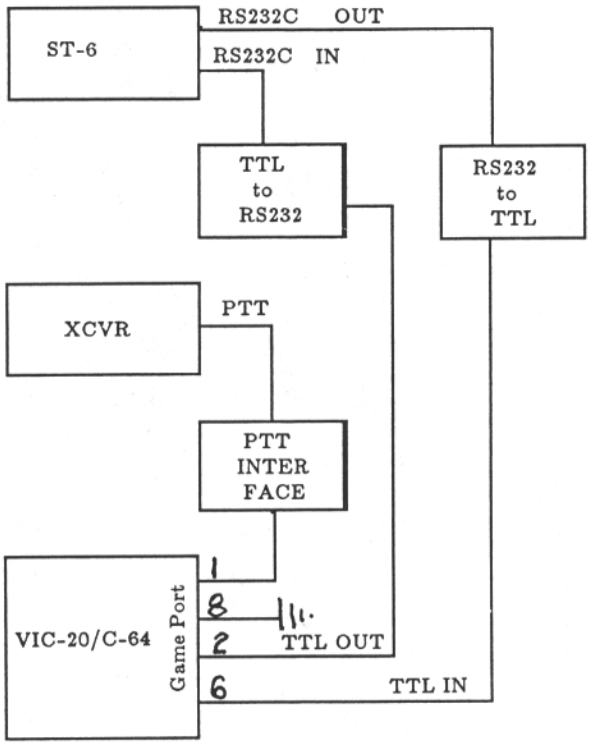


RS 232 TO TTL

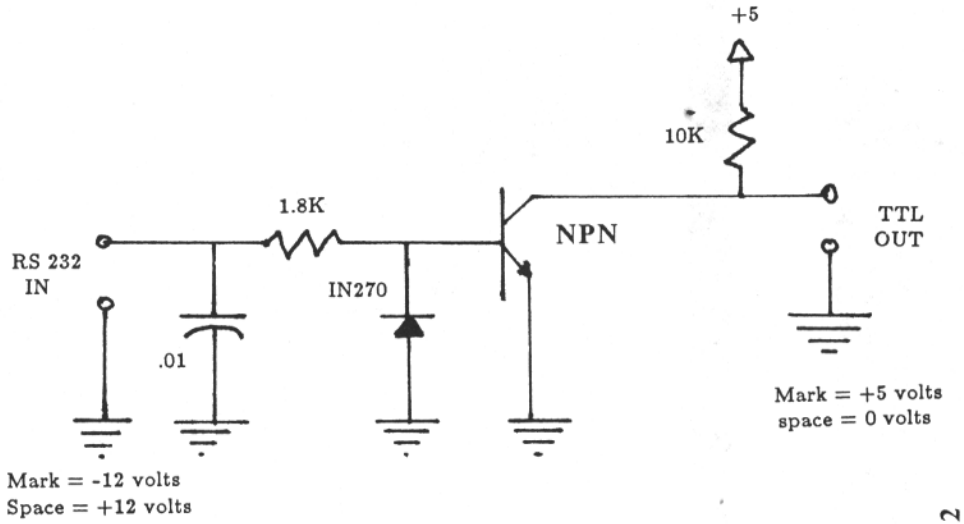
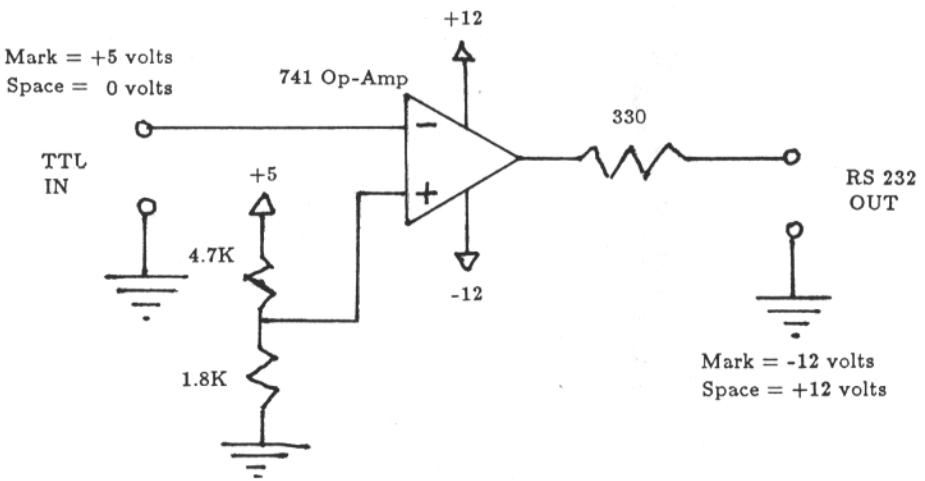
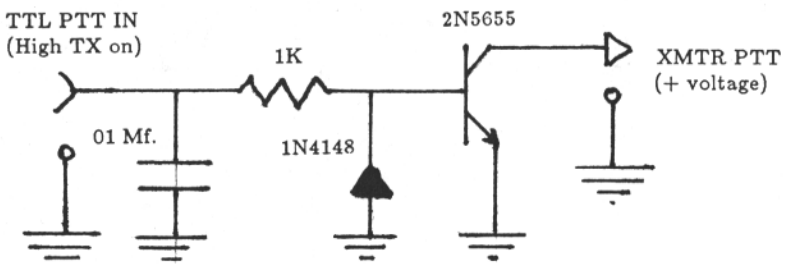


Figure 2

TTL TO RS232





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YOUR AD HERE?

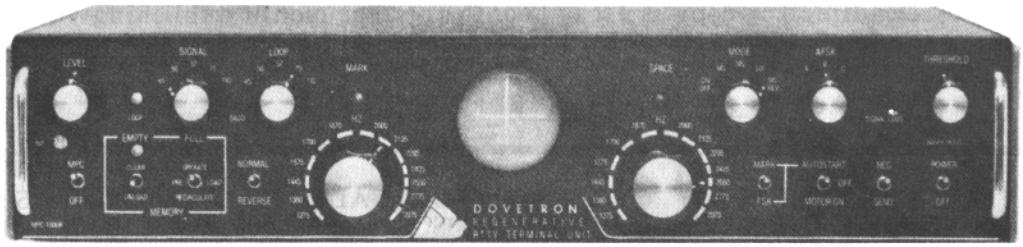
ANNOUNCEMENTS

KANTRONICS, Lawrence, Ks. has announced the release of several digital communication books as well as other books related to the amateur radio hobby. Some of the titles include, RS-232 and Packet, The Packet Glossary of Terms, Quick Start Packet, Communications Tables, The Hamfest Book, and The Ham Radio Book. For more info contact Kantronics, 1202 E 23rd St, Lawrence, Ks. 66046

MFJ ENTERPRISES has announced the release of new DX software for IBM PC/XT/AT and compatible computers. The new MFJ-1286 Gray Line DX Advantage/Terminator is a computerized DXing tool. It predicts DX propagation by giving users instant access to Gray Line positions for any place in the world at any time and date from 1980 to 1999. Need more info contact MFJ, 921 Louisville Rd, Starkville, Mi. 39759

MPC-1000R BY DOVETRON

MULTIPATH CORRECTION, IN-BAND DIVERSITY, SIGNAL REGENERATION, UP-DOWN SPEED CONVERSION, 200 CHARACTER FIFO MEMORY, KEYBOARD-CONTROLLED WORD CORRECTION & DIGITAL AUTOSTART



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The DOVETRON MPC-1000R is a complete Transmit-Receive modem designed for optimum radio teleprinter communications on land, sea and in the air.

Standard features include a high level loop supply and keyer (neutral or polar), EIA and MIL FSK outputs, a phase-continuous AFSK Tone Keyer with three selectable Mark - Space - Shift tone pairs, Mark, FSK & Digital Autostart, Automatic Markhold, an internal RY Generator for terminal unit Self-Test and circuit adjustment, and a Signal Loss Alarm circuit.

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