

THE EASTERN IOWA DXer

Eastern Iowa DX Association Newsletter - April 1986

HAPPY SPRING de WOVX, Editor

Well Spring is finally here. Maybe I should have said Summer is here judging from the record temperatures on Holy Saturday and Easter Sunday. Any way you slice it, the Equinox is behind us and the days are now longer than the nights. That means more hours of sunlight on the ionosphere in the northern hemisphere and the summer propagation conditions (and QRN) that go with it. Even though we are near the sunspot cycle minimum, look for 20, 15 and 10 to stay open later in the evening. As I sit here typing this at 9:00 PM I am hearing WNVH on 15MHz at a solid S-9.

You will notice that this issue is not quite as heavy as previous ones. For one thing, there are no contest forms this time. There are, however, some interesting contests coming up. In May is the USSR CQ-M contest. This is a golden opportunity to clean up those Russian countries, modes, oblasts, etc. that you still need. QSLs still take about 2 years to get but it will give you something to look forward to! Armed Forces Day is also in May. It is not strictly speaking a contest but it does give us a chance to work AIR, NPG, WAR, and others. Also, don't forget the IARU Radiosport Championship in July.

The other reason this issue is a bit on the light side is that contributions to the newsletter are down. As always, your inputs are solicited and will be used. The next issue will be coming out about the first of October so you have plenty of time to write something! Give it a shot.

APRIL MEETING

Friday, April 18, 7:30 PM
Linn County REC
999 35th St., Marion

We will have a dual program this month. A presentation on the exciting world of packet radio will be given by an as yet unnamed volunteer. Several of the members are on that mode and seem to be enjoying it. Don't think there is a packet DXCC yet but who knows... Also, K0GVB will be featured with a talk about his latest trip and Expedition to the Caribbean.

SUMMER BANQUET

As you can see by the announcement elsewhere in the newsletter, W0MJK, W0WP, N0OH, and W4NIN have put together a banquet package for us. Your officers and W0SR are still working on several program options and we do have a speaker sort of on the hook. Things may be finalized up by April 18.

Our last banquet a few years ago was very well attended and a good time was had by DXers and (X)YLs alike. By the way, in the days of \$1000 rigs, \$35 Callbooks, and \$.44 DX postage, 25 bucks is a good deal so take the XYL / YL too. It may get you a little more slack in the next contest!

HR PROPAGATION FORECAST BULLETIN NR 12 FROM ARRL HEADQUARTERS
NEWINGTON CT MARCH 24, 1986
TO ALL RADIO AMATEURS BT

FROM MARCH 16 THROUGH 23 THE SOLAR FLUX CURVE WAS A NEARLY STRAIGHT HORIZONTAL LINE, VERY SIMILAR TO THAT FOR THE SAME DAYS IN THE PREVIOUS SOLAR ROTATION IN FEBRUARY. THERE WERE THREE 70S, THEN THREE 69S AND TWO MORE 70S. SUCH LACK OF VARIATION IS COMMON IN THE LATE YEARS OF A SOLAR CYCLE.

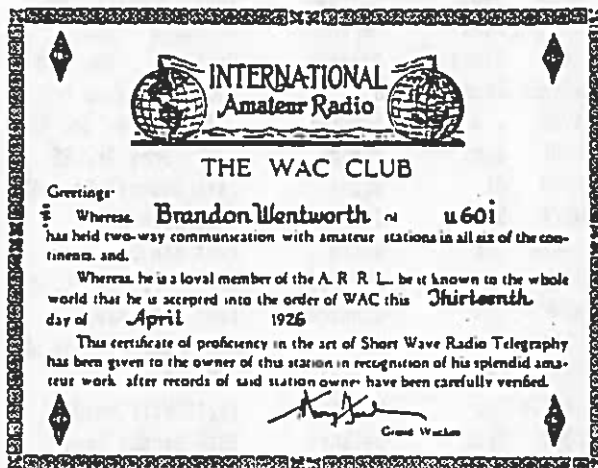
THERE WAS JUST ONE SUNSPOT GROUP OF ANY IMPORTANCE VISIBLE IN MARCH TO DATE. IT WILL BE RETURNING TO VIEW AGAIN, DURING THE FORECAST WEEK, BRINGING HIGHER FLUX VALUES AFTER ABOUT THE 25TH. HOW MUCH HIGHER CAN BE LITTLE MORE THAN A GUESS AT BULLETIN TIME, BUT THIS LATE IN THE SOLAR CYCLE IT IS LOGICAL TO EXPECT ONLY A MINOR RISE.

PROPAGATION WAS GENERALLY GOOD OVER THE PAST TEN DAYS, BUT WITH LOW MUF. MORE ERRATIC CONDITIONS ARE EXPECTED MARCH 25 THROUGH 29. MARCH SHOULD END WITH IMPROVING PROPAGATION AND HIGHER MUF, CARRYING THROUGH THE FIRST FEW DAYS OF APRIL.

AS WE MOVE INTO SPRING, THE MUF FOR A GIVEN LEVEL OF SOLAR ACTIVITY DROPS OFF. THIS CONDITION IS APPARENT IN THE QST PROPAGATION CHARTS FOR EARLY APRIL. BECAUSE SOLAR READINGS IN EARLY APRIL WILL BE ABOVE THE BASE FIGURE USED FOR ONE MARCH QST CHARTS, THEY WILL APPEAR TO BE ON THE CONSERVATIVE SIDE THROUGH THE REST OF MARCH AND THE FIRST FEW DAYS OF APRIL AR

FROM THE ARRL LETTER

WAC was first issued by ARRL in April 1926. The original WAC was along the lines of the Rag Chewer's Club certificate's "Old Sock" and was validated by the "Grand Wacker"!



Certificates are presently available for mixed, CW, Phone, SSTV, RTTY, FAX, Satellite, & 5 Band. Stickers are available for 6 Band, QRP, 1.8, 3.5, 50, 144, 430 MHz and HF bands.

EIDXA MEMBERS

4-1-1986

CALL	FIRST NAME	LAST NAME	ADDRESS	CITY	ST	ZIP	STATU	HOME PHONE
KUOA	Nelson	Moyer	28 Ealing Dr.	Iowa City	IA	52240	ASSOC	319-351-8775
NOAFL	Dave	Holcomb	609 6th Ave	Coralville	IA	52241	FULL	319-351-4380
KOAL	Al	Culbert	618 First Ave	Charles City	IA	50616	FULL	515-228-1443
WDOANL	Terry	Cellman	511 Park	Ainsworth	IA	52201	FULL	319-657-3681
N9BD	Joe	Visalli	Rt. 2, Box 4	Parkersburg	IA	50665	FULL	319-346-2220
KZOC	Jim	Bohnsack	1169 Rainbow Dr.	Waterloo	IA	50701	FULL	319-233-7189
KAOCEH	Steve	White	380 Brentwood Dr. NE	Cedar Rapids	IA	52402	ASSOC	319-377-1892
KOCF	Craig	Fastenow	1207 Wylde Green Rd.	Iowa City	IA	52240	FULL	319-351-8258
KJOD	Eric	Santon	947 Belmont Parkway NW	Cedar Rapids	IA	52405	FULL	319-396-0073
W0EAN	Bob	Joy	5750 Country Lane NE	Cedar Rapids	IA	52401	FULL	319-393-6342
W0EJ	Wade	Walstrom	7431 Macon Drive NE	Cedar Rapids	IA	52401	FULL	319-393-8982
W0FO	Gayle	Lawson	1509 Oakland Rd. NE	Cedar Rapids	IA	52402	FULL	319-364-6284
KBOFP	Tom	Melichar	RR 1	Shell Rock	IA	50670	ASSOC	319-885-4803
K0GT	Gary	Toomsen	1056 Eisenhower Rd.	Hiawatha	IA	52233	FULL	319-395-9329
K0GVB	Gary	Ernst	RR 2	West Branch	IA	52358	FULL	319-643-2287
KJOH	John	Schwandke	1515 Lucas St.	Muscatine	IA	52761	FULL	319-263-5645
NBOH	Jack	Muckler	2084 Eastern Blvd. SE	Cedar Rapids	IA	52403	ASSOC	319-362-3462
KOHIR	Clark	Pantel	1610 Hershey Ave.	Muscatine	IA	52761	FULL	319-263-9150
KOINR	Tom	Taylor	RR 1	Shell Rock	IA	50670	FULL	319-885-4400
WOIZ	Dale	Repp	1618 Texas Ave. NE	Cedar Rapids	IA	52402	FULL	319-393-6724
KOJGH	Glen	Kesselring	RR #7 Box 160	Ottumwa	IA	52501	FULL	515-934-5320
ABOM	Vern	Lang	110 E. 2nd St.	Muscatine	IA	52761	FULL	319-263-2697
AKOM	Steve	Sutterer	6 Pringarden Ct.	St. Peters	MO	50613	FULL	
W0MJN	Joe	Finkstein	2501 27th Ave.	Marion	IA	52302	FULL	319-377-6573
NKON	Orville	Duecker	226 Southcrest	Waterloo	IA	50702	FULL	319-296-2390
W4NIM	Bob	Hill	2510 White Eagle Trail SE	Cedar Rapids	IA	52403	FULL	319-366-3975
NCOO	Tom	Hise	2000 17th Ave.	Marion	IA	52302	ASSOC	319-377-3536
W0PLS	Fred	Young	RR 4 Box 150	Cedar Rapids	IA	52401	ASSOC	319-393-0429
W0PPF	George	Carsner	411 Terrace Rd.	Iowa City	IA	52240	FULL	319-338-1601
KBOPR	Larry	Jenison	3805 Pine Tree Dr.	Cedar Rapids	IA	52402	FULL	319-393-2663
KCOQ	Jeff	Russell	2125 Linear Dr. NE	Cedar Rapids	IA	52402	FULL	319-363-4139
KDOQ	Glenn	Thorne	1210 18th St. SW	Cedar Rapids	IA	52404	FULL	319-366-0285
KKOR	Bob	Tillman	1257 Deloris Dr.	Waterloo	IA	50701	FULL	319-232-8223
N4RR	Roger	Hoffman	1006 Locust Drive	Rock Falls	IL	61071	FULL	815-625-6647
KORN	John	Lenahan	923 N. 9th St.	Burlington	IA	52601	FULL	515-682-0711
NOSM	Steve	Miller	Route 6 Box 180	Ottumwa	IA	52501	FULL	515-684-4753
W0SML	Doug	Byal	4601 Northwood Dr. NE	Cedar Rapids	IA	52402	FULL	319-393-2974
W0SR	Jim	Spencer	3712 Tanager Dr. NE	Cedar Rapids	IA	52402	FULL	319-393-7353
W0UZ	John	Nelson	3109 Terry Dr. SE	Cedar Rapids	IA	52403	FULL	319-365-4432
KOVM	Al	Groff	1446 Council St. NE	Cedar Rapids	IA	52402	ASSOC	319-393-8134
W0VX	Dave	Jaksa	2721 28th Ave.	Marion	IA	52302	FULL	319-377-7507
KOVZR	Tom	White	1244 4th St.	Jessup	IA	50648	FULL	319-827-6738
NGOW	Keith	Erickson	1810 Hillside Dr. NW	Cedar Rapids	IA	52405	FULL	319-396-8510
W0WP	Tom	Lindgren	1260 13th Ave.	Marion	IA	52302	FULL	319-377-4279
KCOXK	Brian	Joy	5750 Country Lane NE	Cedar Rapids	IA	52401	FULL	319-393-6342
KEOY	Tom	Kraemer	905 LeRoy	Muscatine	IA	52761	FULL	319-264-3259
W49YZN	Tom	Vinson	10211 Hall Road NE	Cedar Rapids	IA	52401	FULL	319-393-8057
AGOZ	Bill	Delaney	2818 Garden Ave.	Cedar Falls	IA	50613	FULL	319-277-5150
KFOZ	Jan	Clute	209 Fifth Ave. N	Mount Vernon	IA	52314	FULL	319-895-6435



ARRL DX CONTEST 1986

BY TOM LINDGREN W0WP

The ARRL DX CW Contest 1986 was a test of perseverance and plain hard work. The first evening produced very little other than a handful of PYs and LUs with the few DX-peditions operating from the Caribbean Sea area creating challenging pile-ups. 20 meters for the most part closed to Iowa shortly after 0200Z leaving nothing but the low bands to contend with. Hanging in there is the name of game, and that is what we had in mind. The low bands were noisy but produced consistently throughout the night with most countries in Europe and an occasional surprise like FOBJP or ZL80Y being logged. It isn't easy to keep going under slow conditions but I try to establish goals such as making it to 200 QSOs by 6 AM or logging at least 30 countries on 80 meters the first night.

All Band efforts in the major contests such as the ARRL Contest, are won by good low band scores. If you look at the winners over the years the statistics will bare this out. In many cases a station will finish second or 3rd behind the winner that had 100 or so less QSOs but better multipliers. A KL7 or even JA on 80 meters is every bit as good as a JT1 worked on 20 meters for contest scoring. I have felt that a multiplier total of 35 to 40 is par on 80, 55 to 65 countries on 40 meters is respectable, and 10 or so on 160 good.

With the crack of dawn the beam is headed east and ears are straining to hear the big guns from Europe pop through. This Saturday morning they were very much attenuated due to the proton event in progress. Disheartened, I struggled to work a handful of the European KW stations that were able to copy me. Being as it was, tediously I searched the 21, 28, and 14 mhz bands for any station that was calling CQ from DX land. Scratching hard for every QSO, we passed through the morning averaging 20 per hour, far below our expectations. By mid afternoon the Japanese stations started to appear out of the 20 meter noise. Bingo! We were in it with a fairly good Asian opening. I quickly searched for a quiet sheltered part of the 20 meter band and called CQ and sure enough we generated a small pile of JAs and UA0s. The next hour or so went very quickly with 75 quick QSOs logged. It almost seems unfair when I recall that the previous evening's efforts hardly yielded 75 QSOs! Being as it is, that is contesting.

The second evening low band conditions were considerably better. Most of the DX stations then heard were already logged the previous evening but there was enough new stations to keep us calling until 2AM. I took an extended break from the contest action

at that time. My contest history has dictated that the second evening activity is not productive enough to warrant being exhausted for Sunday's stretch run, especially under these low sunspot years.

With the alarm going off at 6AM, I quickly popped off the couch and grabbed a quick cup of contest wake up juice and headed for the shack. I quickly worked a few on 80 and 40 meters. The bands seemed better. I swung the TH6 up toward Europe. Glory bee, yes, it was much better. As 7 AM broke, I was hearing many Europeans with 579 signals. I quickly cleaned the band of the DX stations calling CQ that I had not already logged Saturday and then headed for a clear frequency to run rate. I quickly had things going my way and was soon settled in for several hours of enjoyable contest exchanging. Conditions, although not superb, were workable. CW is much better for weak signal work and a 100 watt European is perfectly Q5 while the same station on SSB would be buried in the QRM. A 500 Hz filter is a necessity to work the weak ones under contest conditions. Try to avoid heavy QRM from US stations calling CQ close to you. Concentrate on a spectrum of plus and minus one Khz of your frequency because many of the station calling you will not be exactly zero beat. Swish your RIT often or you may miss QSOs. Under contest conditions it is common to only receive partial callsigns but work them in with patience and careful tuning. As the morning Europe opening fades away it becomes a matter of more band switching and the ever continuous search and pounce method of contesting. Those ZSs and EABs become Clippertons and Bouvets to the multiplier hungry participants. A continuous sharp ear to the receiver carefully tuning between stations for the weak ones can pay big dividends. It is much easier to work the 50 or 100 watt ZS than the S-9 KW one with his horde of callers.

The contest wears down to the final couple hours. It seems that I have worked about everything on the bands. The rate is at a snails pace until the end when I tune down to 40 meters as dusk approaches. I hear several strong Europeans in there amongst the W1 and W2 stations calling CQs. I try a CQ in the 020 area and behold I get a couple of takers. I proceed to work a good run of Europeans which I really didn't expect to find. I guess all the East Coasters had already logged them earlier but better for us late than never. Unlike the CQWW contests, the DX stations are in need of State multipliers on the low bands so they have more patience with W0s, W5s, and W7s. I finished the contest on 7 Mhz.

My results showed that the second day was almost twice as productive as the first. Although the total score was not as good as I would have liked, it was fun and satisfying. (XYL didn't divorce me! hi)

JAN 17, 1986 MINUTES

The meeting was called to order by President KOVZR at 7:32 pm at the REC building, Marion. Minutes were read and approved.

Those in attendance were KORN, W0NB, W80BHF, KOAL, K06VB, K20C, W4NIM, KCOQ, N8OH, N0EBA, K0J6H, KDORT, WA9YZN, NOXM, W0IZ, KOVM, KAOCEH, N0G0B, KAOSTA, KA0SSZ, KJOH, NCOO, KFOZ, KBOPR, W0M0N, NKON, KKOR, KOCF, W0OAWL, W0WP, W0OHMA, WA7VEK, K0GT, KB9YF, W0PPF, KE0Y, KOIIR, W0UZ, W0SR, W0PLS, W0VX.

OLD BUSINESS: Treasurer's report showed a balance of \$126.15. N8OH reported on trip arrangements to Dayton. Using a 47 passenger bus would run \$43 per person. Room reservations would be another problem. KAOCEH reported rooms were available for \$25-\$65. ... Four of our newest members were recognized with membership certificates. ... It was decided that W0EJ would, at least for the present, drop the hot 100 list. ... W0SR gave a DXAC report. He explained some of the politics of the Pribilof vote. He talked about Peter I Is. Any operation from Peter I will have to be credible to count. He gave us some insight to the 4U1VIC story. He reported Rule 5B has been modified. Aruba's independence won't take place for a couple of years. DXAC is encouraging the League to recognize 50 years of country counting. ... W4NIM reported the repeater is running well. ... W0M0N reported RBBS activity up since the newsletter. Many have been adding info for all to use. ... Net check ins have been running from 4 - 10 on Sunday evening at 9:30.

NEW BUSINESS: Awards for efforts in the CQWW went to CW W0WP, Best Excuse to W0FD and Phone is pending decision of the officers. ... KOVZR discussed hosting VK9NS at our April meeting as Jim will be visiting Dayton the following week end. ... It was moved that our summer meeting be a dinner meeting. Moved by W0M0N second by W4NIM. Planning committee is W0M0N, W0WP, N8OH, and W4NIM. W9KNI was suggested as a candidate speaker. ... KBOPR will check for us about a table for club promotion and possible flea market side table at the CVARC Hamvention August 2-3. ... ARRL contest participation was discussed. Awards will be made as in CQWW. ... Dues increase was discussed. While the treasury is in the black, the balance has declined with increased expenses of the newsletter. Fund raisers such as a winter hamfest and equipment auction after a meeting were ideas discussed. ... K06VB reported he was going to C6A land Feb 13 - Mar 1. ... W0M0N proposed a packet radio demo at an upcoming meeting.

Respectfully submitted,
Gary J. Toomsen, K0GT, Sec. EIDXA

LATEST CALL SIGNS

As of 1 March, N00V, KE0EA, N0G0V, & KA0WEC

FROM THE PRESIDENT de KOVZR

After a long Winter, I hope plans for good weather antenna projects are well in hand. Antennas will work if put up in good weather too. A new Mosley tribander will go up soon at my QTH.

It seems there are a lot of people missing from the repeater yet or again. Remember, there are a lot of friends that deserve a Spring greeting.

The club meeting, April 18, should be a good one. We'll be talking about contests, trophies, and dues. A good part of the program will be about packet radio. We're starting to get some good club participation in packet so it should be an appropriate program. Tom, NCOO, gave a few of us a good view last Summer and I hope that he and a couple of others will give us the whole show. The other part of the program is still being firmed, but the choices are good so be sure to attend.

Be thinking about a field day effort. We have had some small groups involved before. Shall we expand on it? Also, the fall contests (CQ WW) are worth thought. Should we try some multi efforts this year or some inter or intra club competition? Bring your thoughts.

I hope to see everyone on April 18 and June 14.

ARRL SCORES de K0GT

I need scores for the ARRL DX Contests to determine winners of the club trophies for Phone and CW. I will accept scores on the Sunday net at 9:30, by mail, via another member or at the meeting. Awards will be given at the meeting. So far we have only 3 entries, one each for CW, Phone and Multi op. These will be the winners unless you get your scores in. (The phone score is the K0GT QRP effort and anyone should be able to beat that!)

THE DX BULLETIN SOLD

The DX Bulletin has been sold to Chod Harris, VP2ML / WB2CHO. He began editing the bulletin with the March 7 issue. The new address is 816 Fourth Street, Suite 1001, Santa Rosa, CA 95404. We wish Chod luck in his new venture.

EXTRA CLASS CERTIFICATES

Over 400 ARRL Extra Class certificates have been issued. If you have an Extra Class license, and would like a certificate that attests to your achievement, send \$3.00 and a photo copy of your license to ARRL HQ Awards Branch. From ARRL Letter

EIDXA ROSTER

On page 2 you will find the latest EIDXA roster. While every measure has been taken to insure accuracy, I'm not infalable. If you find an error in your listing, please let me know ASAP and I will correct it in the master file.

THANKS FOR THE CONTRIBUTIONS

Thanks to contributors W0WP, KFOZ, KOVZR and K0GT. Special thanks to W0WP for providing camera ready copy and to KFOZ for sending his article via packet with an HF RTTY relay.



EIDXA SUMMER DINNER MEETING



DATE: SATURDAY JUNE 14TH, 1986
PLACE: LONGBRANCH RESTAURANT
MARION, IOWA

6 PM ---Cocktails, Cash Bar

7 PM ---Dinner

8 PM ---Program

Price ---\$12.50 per person/\$25.00 per couple
(price includes tax and gratuity)

Dinner Menu

Entre'e choice --12-14 oz. Filet Mignon or Fried Shrimp
Potatoes
Salad Bar
Drink - Coffee, Tea, Milk

Program

To be Announced

Prizes !

You must be there

Reservation form and payment must be provided to Gary Toomsen (KOGT) not later than May 23, 1986. So you don't forget, bring your reservation to the April 18, 1986 club meeting.

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1986 EIDXA Dinner meeting Reservation

Name: _____ Call: _____

XYL/YL: _____

Entre'e choice (check one):
Filet Mignon, Fried Shrimp
--- --- ---

Amount enclosed: \$ _____ (\$12.50 single, \$25.00 couple)

Send to KOGT by May 23, 1986

DX and Packet de KFOZ

There has been a good deal of sense and nonsense on the subject of Packet Radio on the EIDX repeater, as on a lot of repeaters lately. I have gotten involved recently and know fairly little about the topic, but I have had enough experience to begin to be able to see some of the potential for the group who reads this newsletter. Those of us who were using the W0MJN or W4NIM RBBS on 147.45 MHz were, although we did not know it, yearning toward the sort of system that routinely exists on packet (they call them PBBS's for "Packet Bulletin Board System"). While the frequency could only be used by one person while the RBBS was in use, and that could take a while, virtually all other potential activity was brought to a halt by this use.

What did we use the RBBS for? Exchanges of information, downloaded bulletins and DX reports, propagation reports, what amounted to exchanges of short letter-like messages on a variety of topics, offering of things to sell, requests for information, extracts from publications, etc. Those of us who used it regularly liked it, but our activity languished because of general inactivity. Those of us who thought we saw the Board's potential never saw it realized.

Now, however, I see what I really yearned for was a Packet Bulletin Board System. Only one station can use it, also (although I would bet that a system could be devised permitting multiple users simultaneously), but it goes much, much faster. Moreover, a fair number of stations can use the same frequency, in the same vicinity, at the same time. Or stations can digipeat packets through stations in the area while 1) they are having QSO's while being digipeated through, 2) someone is using the PBBS, and 3) other QSO's both direct and digipeated are occurring within range of their receivers, all of this at the same time. Granted, activity at this level slows things down, but it can and does happen. Moreover, you will be notified (***CONNECT REQUEST FROM W0IZ***, or whoever) while you are "connected" (in QSO with) another station (or a PBBS). The PBBS's I've seen will, in fact, notify you at some point that "W0XYZ would like to use the PBBS when you are done, Jan" while you are

using it. This permits a great deal more flexibility and cooperation than is possible on RTTY; or even FM, for that matter!

Another consideration is that members on the fringe, such as KOJGH in Ottumwa, stations along the river, south of Iowa City, Fort Dodge, or Mason City could access a specialized bulletin board or individual stations in the Cedar Rapids/Marion area by digipeating through intermediate stations rather than having to use considerable power or incredible antenna installations to overcome distance limitations at VHF. Although 145.01 MHz is the "mainstream" packet frequency, .03 through .09 are presently acceptable as packet frequencies and a specialized PBBS (say, hypothetically, a "DX" PBBS) could be put on such a frequency to get away from the digipeating hordes who are appearing on 145.01 in increasing numbers. For that matter, a "DX" PBBS (or one specialized for any interest group, for that matter) could coexist with others (and QSO activity) on 145.01 for those interested, in an area with such relatively low activity as Cedar Rapids/Linn Country (compared with Chicago, say) and still make individual users accessible to general packet activity.

At present, known EIDX members with packet capability are W0EJ, W4NIM, W0MJN, and KFOZ. If any of the above has given you ideas or raised questions, ask one of them. This is strictly hypothetical, of course, but if enough of us get involved with it, anyway, using it to promote and facilitate contest and DXing interests will develop anyway... so it is probably time to start thinking about it. The TNC's (Terminal Node Controllers) presently available cost in the vicinity of \$200. One, made to plug into a Commodore 64 (obtainable for under \$100, when you can find them) has CW, RTTY, AMTOR, and packet capability for very little more. It may be, as some of you have stated on 2 meters, that you would not like it, would not find enough use for it, or that you don't want to tie up your computer and/or 2 meter rig with another gizmo. On the other hand, besides working DX and talking to the locals, what other piece of gear do you have that offers the sort of versatility that I have described above? Think about it...

W0VX

David M. Jaksa
2721 28th Ave.
Marion, IA 52302

Jim Spencer
~~124-115~~

124-317