

DIGITAL HAPPENINGS #12

(July 2013)

By W0NAC ("Matt")



As Mammy Yokum once said: "Good will always triumph over evil because it's nicer!" You may be asking what this quote has to do with Digital operations. The answer is **nothing at all!** I just really like this quote so I stuck it in here for "grins"!

I find it difficult to believe, but this article does mark the one year anniversary of Digital Happenings. Thinking back over the past year, I have only one simple observation to share with you. Digital operation is growing! I liken the shift toward Digital operation much the same as the situation when amateurs were transitioning from AM (Ancient Modulation) to SSB. It took years, but inevitably it did come about. I don't believe that SSB will fade away like AM. Rather, Digital operations will evolve into a welcome addition to SSB in most county hunter's bag of tricks. Further, Digital operation doesn't need me to defend it. It will flourish or die on its own merits. It's just that Digital operation has so many unique advantages going for it that it is bound to succeed!

Do you remember when SSB seemed to be so complex years back? SSB operation is now treated almost casually every day. I believe the same will happen with Digital operation as time passes. Are you ready to "Take the plunge"?

Challenge Department:

Last month I challenged you to solve a number problem as follows:

What is the next number in the following sequence: -7, 0, 17, 50, 105, ??

The following three people came up with the correct answer of **188**:

1 & 2) K7TM/WA7YEI (Bob & Vonnie). They even derived an equation for the sequence!

3) KK5NA (Joe)

The equation I used to derive this sequence was $Y = X^3 + 2X^2 + 4X - 7$. If you plug in values for X of 0, 1, 2, 3, 4, and 5, the resulting sequence will end with $Y = 188$ which is the correct answer. Bob and Vonnie came up with the formula $Y = X^3 - X^2 + 3X - 10$ which also works if you plug in values of X of 1, 2, 3, 4, 5 and 6. It appears that there is a whole family of cubic equations which will all produce the desired sequence, but would start with different integer values of X. Very interesting!

I will "shift gears" this month and give you 4 riddles to solve. Maybe riddles will spark a bit more interest than number problems? Please don't cheat by using Google to find the answers. Just use your brain. Here they are:

- 1) What do you throw out when you want to use it, but take in when you don't want to use it?
- 2) Six glasses are in a row. The first three are filled with milk and the last three are empty. By moving only one glass, can you arrange them so that the full and the empty glasses alternate?
- 3) How is it that a person born in Massachusetts, whose parents were both born in Massachusetts, is not born a U.S. Citizen?
- 4) If you were standing exactly on the earth's South Pole facing north, which direction would you travel if you took one step backward?

Watch for the correct answers in next month's article along with a list of those that send in correct answers to any of the four riddles. Have fun, and send your solutions to w0nac@comcast.net .

First Ever Digital Meeting At Deadwood:

The first ever Digital meeting was held at the National Convention in Deadwood, SD on Saturday, July 13 at 11:00 AM. 15 people attended, including myself (W0NAC), Sharon (N0LXJ), Ron (N5MLP), Dave (KU4YM), Cliff (AC0B), Barbara (AC7UH), Brian (NX0X), Lloyd (NX0X), Neil (K7SEN), Mary (AB7NK), Paul (N7JPF), Jack (KC7YE), Darl (NA8W), Bob (K7TM), and Phil (AB7RW).

I welcomed those in attendance and copies of a suggested agenda for the meeting with several attachments were passed out. A copy of this agenda (with attachments) is available at the following link:

<https://dl.dropboxusercontent.com/u/26171574/Digital%20Meeting%20Agenda%207-14-2013.doc> .

In my opening remarks I stated my desire that we discuss primarily operating techniques and not dwell too much on technical issues. That is pretty much what happened. Some of the topics discussed by the group were:

- 1) Paul (N7JPF) raised the issue of how we should inform others that their signal is too wide. No clear answer was forthcoming, but it was clear that criticizing someone's signal quality in the middle of a run was not a good idea.
- 2) Dave (KU4YM) had a question on FLDigi when operating RTTY. The fact that FLDigi has a "Rev" button was pointed out to him.
- 3) Using a standard 599 report for all contacts was discussed and all seemed OK with doing this. It was pointed out that many contests use standard 599 reports and that these contacts are still valid because significant information has been exchanged.
- 4) Lloyd (NX4W) described how he adds "log" to his macros. This technique can be helpful to those running Digital Modes while mobile, especially if operating solo.
- 5) Whether a mobile should put out 3 or 4 Modes during a run was discussed. Ron (N5MLP) pointed out that this could work a hardship on Digital operators who don't do CW as they might end up with a lot of counties with only 4 Modes (SSB + 3 Digital). I stated that putting out a county line using only 3 Modes still takes a long time. 4 Modes, of course, would take even longer! Ultimately, the mobile must make the trade-off between their time and the needs of others for 4 Modes. This topic probably needs further discussion at the next meeting.

6) There was a brief discussion on use of RTTY 45 versus RTTY 75N and Domino 22 versus Olivia 8/1000. It was noted that more people have equipment/software that is compatible with RTTY 45 than RTTY 75N. However, RTTY 75N is much faster and more efficient than RTTY 45. I stated that I would not like to see Digital operators standardize too soon on a small set of Modes. I referred people to the large list of potentially good Modes (attached to the agenda) available for use, and that more experimentation is needed before we start limiting ourselves to a small set of standard Modes.

7) Mary (AB7NK) raised the issue of whether the way mobile teams currently operate (signing as W0NAC/N0LXJ/M or N6PDB/WA6OCV/M or AB7NK/K7SEN/M etc.) is totally legal in the eyes of the FCC. I stated that I felt it was legal since both Sharon and I are sharing operating duties (more or less equally), but I am in the process of doing further research on Part 97 rules. I will keep you informed of the results.

8) The topics of whether or not a net control is needed and the use of relays were discussed at length. I believe the consensus of the group was that neither is needed right now. It was felt that relays would just slow things down. As additional mobiles and mobile teams begin operating, the need for a net control may need to be re-evaluated, but for now, some form of informal coordination should suffice. A couple of ways that mobiles can avoid “stepping on each other’s toes” were mentioned. For example, a fixed station copying both mobiles could jump in and suggest that one of them either hold off for a while or change frequency. Also, if only two mobiles are involved, they could coordinate their operation/frequency by cell phone.

9) The subject of what frequencies should be used for Digital operation was discussed at length. I pointed out another attachment to the agenda where I give my suggestions. It is very difficult to define standard practices in this area since we have to continually observe FCC rules which state “No frequency will be assigned for the exclusive use of any station” and that operators “must cooperate in selecting transmitting channels”. When only one mobile is running, this is not a big problem, but as more and more mobiles try to operate at the same time, it becomes progressively more difficult.

Overall, I was very pleased with the outcome of this first Digital meeting and look forward to Digital meetings (and Digital group photos) becoming a standard agenda item at every convention.

Summary Of Results Of W0NAC/N0LXJ Trip To/From Deadwood:

Overall, Sharon and I had a very successful trip. Between the 8th and 15th of July we put out a total of 47 different counties while on 23 county lines and in 5 single counties. Between us, we made a total of 2738 contacts while using 6 different Digital Modes and CW or SSB as summarized below:

CW	12
SSB	1089
<u>DIGITAL</u>	1637
TOTAL	2738

Table 1 below shows our Digital contacts broken down by Mode/Sub Mode for all of the 29 stations that called us during the various runs. The top three callers were Dennis (N6PDB), Al (N1API), and Dick (N8CIJ). Their numbers are colored **Red** in the table.

For those out there with sharp eyes – YES, the total number of contacts on the table is 77 less than the correct number of Digital contacts shown above (1637). This happened because I had to manually construct the table. While doing this, I got “bleary eyed” and had to quit before the numbers were totally reconciled.

We also learned a good lesson on this trip. When there are 2 or more Digital mobiles converging on a convention location and they cannot hear each other (too close together), they will many times find themselves running at nearly the same time! If they use the same frequency (14.074 MHz), they can be “blasting” each other out and not even know it! The solution, of course, is better coordination, but exactly how this should be achieved has yet to be determined. It is one of the “growing pains” we will have to solve as mobile Digital operations grow.

I, for one, feel very grateful that these kinds of problems are coming up because they indicate that mobile Digital activity is finally on the verge of “taking off”!

Table 1 – W0NAC/N0LXJ DEADWOOD NATIONAL TRIP RESULTS

DIGITAL CONTACTS BY CALL SIGN										
#	CALL SIGN\ MODES	DOMINO 22	HELL 80	OLIVIA 8/1000	BPSK-31	BPSK-63	MFSK-32	RTTY-45	RTTY-75N	TOTALS
1	AA8VG	8				4		8		20
2	K0FG					8				8
3	K4PBX				4	24				28
4	K5YAA							4		4
5	K8QWY					32		12		44
6	K9EN	4				4		4		12
7	KA8JQP								4	4
8	KD5YUK					12		4	4	20
9	KE1CY	4								4
10	KU4YM	4								4
11	LU4ECN					4				4
12	N0LXJ							92		92
13	N1API	70	4			70	4	66	8	222
14	N4JT	32				40		32		104
15	N6PDB	72	4	4		86	4	86	4	260
16	N8CJ	60				68		56	8	192
17	N9WNN	4				16				20
18	NA8W								4	4
19	NF0N					4			4	8
20	NW6S	8				12		12		32
21	NX4W	20				24		20		64
22	UX1LW					4				4
23	W1OER							4		4
24	W3DLM	8				14		8		30
25	W5QP	20				36		28		84
26	WA4UNS	36				20		28		84
27	WA6OCV	28	4	4		32	4	32		104
28	WB0PYF							4		4
29	WD4OIN	36				24		32	4	96
	TOTALS:	414	12	8	4	538	12	532	40	1560

July Activities:

Digital activities during July were marked by a minor flurry of Digital mobiles all converging on the Deadwood National convention. These included Lloyd (NX4W), Matt & Sharon (W0NAC/N0LXJ) mobile team, and Darl & Pamela (NA8W/KA8JQP) a new mobile team. Even though we only worked the new team one time on our trip

to and from Deadwood, we (and others) worked them in a series of Michigan counties (on various Digital Modes) on the 17th and 18th of July. Welcome aboard the Digital band-wagon, Darl and Pamela!

Support calls related to Digital setup, etc. have continued at a moderate, but steady pace. As always, I stand ready to help anyone who has problems or wishes to get started with Digital operations. Just email me at w0nac@comcast.net or call me any time at 303-799-3658.

The updated Table 3 is given below. Several people let me manually derive their "stats" as described in the following section, but there are many people on the list (some of who are very active on Digital) who need to either submit updated numbers or send their databases to me so I can update them. Please contact me if you need help!

Table 3 - Active Digital County Hunters Award Status

#	CALL	NAME	STATUS* (M,F,I)	USA - DIGITAL Counties (of 3077)	(1 MODE)	(2 MODES)	FIVE MODE COUNTIES (3 MODES)	(4 MODES)	(5 MODES)	TOTAL	% 5-Mode Completed	LAST UPDATED
1	AA8R	Randy	F	1000+	-	-	-	-	-	0	0.0%	9/30/2012
2	AC0B	Cliff	F	205	-	-	-	-	-	0	0.0%	12/10/2012
3	AD1C	Jim	F	-	-	-	-	-	-	0	0.0%	
4	K0DEQ	Bill	F	-	-	-	-	-	-	0	0.0%	
5	K0PVW	Rob	F	-	-	-	-	-	-	0	0.0%	
6	K0WJ	Lou	F	-	-	-	-	-	-	0	0.0%	
7	K4PBX	Jim	F	106	2575	84	6	0	0	2665	17.3%	10/15/2012
8	K5GE	Gene	F	26	1893	575	8	0	0	2476	16.1%	5/26/2013
9	K5SF	Dick	F	-	-	-	-	-	-	0	0.0%	
10	K5WAF	Bill	F	599	3044	?	?	?	?	3044	19.8%	5/2/2013
11	K7REL	Tom	F	-	-	-	-	-	-	0	0.0%	
12	K8QWY	Ed	F	-	-	-	-	-	-	0	0.0%	
13	K8ZZ	Ed	F	-	-	-	-	-	-	0	0.0%	
14	KA8JQP	Pamela	M/F	-	-	-	-	-	-	0	0.0%	
15	KC3X	Hollis	F	-	-	-	-	-	-	0	0.0%	
16	KC6AWX	Bob	F	450	3077	1592	264	59	14	5006	32.5%	5/7/2013
17	KC7YE	Jack	F	-	-	-	-	-	-	0	0.0%	
18	KD5YUK	Billv	F	-	-	-	-	-	-	0	0.0%	
19	KD7KST	Bill	M/F	1792	-	-	-	-	-	0	0.0%	9/30/2012
20	KG5RJ	Greg	F	557	3048	2062	496	147	34	5787	37.6%	5/2/2013
21	KM1C	Bill	F	-	-	-	-	-	-	0	0.0%	
22	KM6HB	Mark	F	714	3077	2936	694	87	1	6795	44.2%	2/3/2013
23	N0KV	Barry	M/F	412	3077	2996	2064	249	24	8410	54.7%	8/26/2012
24	N0LXI	Sharon	M/F	1359	3077	2243	1194	465	234	7213	46.9%	7/26/2013
25	N1API	Al	F	313	3077	519	128	22	6	3752	24.4%	4/10/2013
26	N3HOO	Ed	F	-	-	-	-	-	-	0	0.0%	
27	N4JT	Jim	F	572	3077	3058	575	99	55	6864	44.6%	10/30/2012
28	N5MLP	Ron	M/F	391	3077	409	54	37	9	3586	23.3%	5/19/2013
29	N6PDB	Dennis	M/F	598	3077	2737	672	364	282	7132	46.4%	7/26/2013
30	N8CIJ	Dick	F	481	3077	2971	393	117	109	6667	43.3%	1/21/2013
31	N8HAM	Jim	I	0	3077	0	0	0	0	3077	20.0%	4/2/2013
32	N9WNN	Steve	F	0	2180	0	0	0	0	2180	14.2%	2/24/2013
33	NA8W	Darl	F/M	535	2993	?	?	?	55	3048	19.8%	4/6/2013
34	NF0N	Mike	F	785	3077	3077	915	108	50	7227	47.0%	12/31/2012
35	NN9K	Pete	F	816	3077	859	78	1	0	4015	26.1%	3/23/2012
36	NT2A	Gene	F	-	-	-	-	-	-	0	0.0%	
37	NU4C	Paul	F	-	-	-	-	-	-	0	0.0%	
38	NW6S	Jim	F	-	-	-	-	-	-	0	0.0%	
39	NX4W	Lloyd	M/F	1135	3077	1274	436	290	97	5174	33.6%	7/27/2013
40	W0NAC	Matt	M/F	1801	3077	2811	1943	1036	407	9274	60.3%	7/26/2013
41	W3DLM	Don	F	-	-	-	-	-	-	0	0.0%	
42	W4IHI	Garv	F	-	-	-	-	-	-	0	0.0%	
43	W4SIG	Kerry	F	-	-	-	-	-	-	0	0.0%	
44	W4YDY	Dave	F	752	3077	3077	921	213	46	7334	47.7%	3/6/2013
45	W5QP	Rick	M/F	138	3077	2362	137	57	46	5679	36.9%	5/30/2013
46	W6RK	Risto	F	-	-	-	-	-	-	0	0.0%	
47	W6RLL	Joe	F	-	-	-	-	-	-	0	0.0%	
48	W7IN	Larry	F	-	-	-	-	-	-	0	0.0%	
49	W7QQ	Bill	M/F	-	-	-	-	-	-	0	0.0%	
50	W9JR	Rich	F	90	3077	1674	44	0	0	4795	31.2%	10/31/2012
51	W9SUQ	Larry	F	-	-	-	-	-	-	0	0.0%	
52	WA4EEZ	Leslie	F	1034	3075	1257	483	69	6	4890	31.8%	6/4/2013
53	WA4UNS	Doug	F	-	-	-	-	-	-	0	0.0%	
54	WA6OCV	Susan	M/F	328	3077	328	320	130	10	3865	25.1%	3/28/2013
55	WA7JHQ	Sterling	F	-	-	-	-	-	-	0	0.0%	
56	WB0M	Jeff	F	-	-	-	-	-	-	0	0.0%	
57	WB2ABD	Paul	F	-	-	-	-	-	-	0	0.0%	
58	WD4OIN	Jack	F	395	3077	3065	410	67	8	6627	43.1%	3/3/2013
59	WQ7A	Terry	F	158	3077	3011	163	96	81	6428	41.8%	5/26/2013
60	WY4D	Bennie	F	-	-	-	-	-	-	0	0.0%	

How To Get Your 5 – Mode Statistics Updated:

Currently there are only 2 ways to get your 5-Mode stats for counties completed using 1-Mode, 2-Modes, 3-Modes, and 4-Modes. These are:

- 1) Pull up the following Logger screen. From the “Main” menu, click on View/Edit/Book and then select 5 Mode & States: All. This will display a large table of all 3077 counties, each of which shows the status of all five modes. If you then click on the Header for the Mode column, it will sort the table by 1 Mode, 2 Modes, 3 Modes, 4 Modes, and 5 Modes. You then need to manually count all populated (non-blank) lines for 1-Mode, populated lines for 2-Modes, populated lines for 3-Modes, and populated lines for 4-Modes. You don’t need to count the 5-Mode lines because your View/Edit/Summary screen will give you the total for 5-Modes. This is a very tedious process and prone to error!
- 2) Send “Zipped” copies of your database files to me. I will open your call sign database file using Microsoft Access and then open the 5-Mode Book table. I then sort each Mode column in descending order and calculate the number of records that have something in them by determining the record number of the bottom record that is non-zero. That is the number needed for this Mode column. Again, I don’t need to do this for the 5-Modes column as View/Edit/Summary (5-Mode) displays this number. The reason you can’t do this for yourself is that all databases are password protected plus not very many of you have Microsoft Access software.

The single number you need for the **USA-Digital Award** is always available in the Logger View/Edit/Summary screen.

The Total Number for all 5 Mode columns and the % complete are automatically calculated in the spreadsheet that appears in each month’s article when numbers are inserted for all five Mode columns.

If you decide to send your databases to me for updating your stats, please carefully follow the steps below:

- 1) Make sure you are running the latest version of Logger software (4614). If not, do a manual update as described in the addendum to the latest Logger Newsletter.
- 2) Manually download the latest version of “CountyHuntersMaster.x” from the MARAC website, place it in your “C:\Logger Data” folder and complete the update process. Exact steps to take are also described in the Logger Newsletter.
- 3) Complete a recalculation (under “Tools”) of the “5 – Mode” and the “USA – Digital” books. Recalculating ALL your books would be even better, but be aware that this operation may take several hours to complete. Starting it at bedtime and letting it run all night may be your best plan!
- 4) Open your “C:\Logger Data” folder and locate the following files:
 - “County Hunters – Common.mdb”
 - “County Hunter – XXXXX.mdb” where XXXXX is your call sign
 - “County Hunter – YYYYY.mdb” where YYYYY is your team mates call sign (Only if you have one!)
 - “CountyHuntersMaster.mdb” (This file is optional, but will be useful to me if you send it)

5) Create “Zipped” copies of these files (either individually or as a single group)

6) Either attach them to an email sent to me (w0nac@comcast.net) or if they are too large, send them by another method such as “Dropbox”. I can also transfer them from your computer to mine using remote control software.

Possible topics for the coming months include (in no particular order) –

“How To Log Your Digital Contacts In Logger”

“Macros – Revisited”

“New Digital Awards?”

“Digital Software Installation – Revisited”

“Award Difficulty Index”

“Additional Digital Mode Test Results”

“Digital Software Choices”

But I really need your suggestions on topics for future articles! Or if you have something you wish to contribute I will certainly try and include it. Short stories describing your experiences/frustrations/etc. in getting started in Digital ops would be especially welcome. Summaries of your Digital trips would also be good. I look forward to hearing from you.

So long again.....Please email me with your comments/suggestions at w0nac@comcast.net and don't forget to send me your counties worked status on the **USA – Digital** and **5 - Mode Awards** so I can update the Digital County Hunter Status List again next month.

73's and we hope to see you on our waterfall again real soon!

Matt – W0NAC