ROUNDTABLE

The Denver Radio Club Newsletter

October 2008

Since 1917

PRESIDENT'S MESSAGE

By Gerry Villhauer-W0GV

Hello All,

Summer is officially over, but what a great fall! Cool nights and warm days, my favorite time of the year. Thanks to our tower climbers and ground crew for getting our Centennial Site antenna work completed. Great Job Guys! We have a few adjustments to get the audio squelch levels set and some other small things to resolve. Our new vhf repeater for the Hudson site just arrived in town. Orlen will be working on the interface and we will plan a site visit to get it up and running. Our annual election of board members and club officers was held at the last meeting. The result was no changes. All board members were re-elected, as were the four principal club officers. Thank you from the board and myself for your continued support of the DRC.

I would like to welcome new DRC members: David Ehler, KA0KYB, Greg Lester, N5CMK, Jack McComb, W0JMC, Bill Rodgers, KD0FAE and Dennis Starr, KD0FFG. Thank you for choosing the Denver Radio Club as your club. Please come to the meetings and activities and be an active member.

Thanks to Dave, WG0N, for last month's program and live demonstration on the Americom satellite system. Dave gave a very interesting talk on the system and being able to observe the set up and finding the satellite really gave a good understanding of "how it all works".

Please pay close attention to this! Our DRC monthly meeting will be held on Oct 15th at the City of Lakewood's Emergency Operations Center (EOC). The EOC is located in the Lakewood Public Safety Center at 445 South Allison Parkway. Directions to the Lakewood Public Safety Center from the intersection of Alameda and Wadsworth are; drive west on Alameda to the first traffic light (1 block west of Wadsworth). This is South Allison Parkway. Turn south and proceed to the traffic circle. Enter the traffic circle and proceed to the first turn out (west). Proceed approximately ½ blocks to the parking lot on the left hand side. Enter the Public Safety Parking lot and drive to the south side of this lot. Park in any non-reserved parking space (majority are non-reserved). Take the stairway down to the first level and continue south across the street to the Public Safety Center. Inside the entrance you will be required to pass through a security magnetometer and package x-ray screening. *(Note: Please leave pocket knives etc. in your parked vehicle.)* After passing through the security screening, turn left and walk around the police counter to the stairway. Proceed up the stairs to the entrance to the EOC hallway. *This is a controlled entrance so you will need to arrive before 7:30 PM to obtain access. No food is allowed in the EOC.*

The technical presentation for our meeting will be given by Brian Nielsen. Brian Nielsen is the Manager for the City of Lakewood's Environmental Services Division. He is also the Emergency Preparedness Director for the City of Lakewood, a responsibility that he has had since 1984. In 1993, Brian Nielsen earned recognition from the National Coordinating Council in Emergency Management by being the first group of professionals to be designated as a Certified Emergency Manager. During his employment with Lakewood, Mr. Nielsen has received numerous awards for merit and innovations for his work in the area of emergency management from such agencies as the Denver Regional Council of Governments, the Colorado Municipal League and the Colorado Emergency Management Association.

The presentation will address the purpose, operation and capability of the Lakewood EOC. This is a brand new facility placed in operation this past August. It primarily supports the City of Lakewood, and the West Metro Fire District and their interface with other Metro and Colorado state agencies. DRC provides emergency radio communications support to the Lakewood and West Metro Fire agencies. The DRC has been provided a radio room in the EOC to provide this support.

Access to the EOC generally requires a background check and badges through the Lakewood Police Department Volunteer Program. The purpose and requirement for access control and procedure for obtaining volunteer badge will be described.

This presentation will provide you with an overview and appreciation for the service the DRC membership provides to these agencies.

See you all at the meeting October 15th. (Please refer to the meeting location above) And remember to check our website, w0tx.org, for lots of important information about the DRC. The Elmer Session and Tech Meeting start at 6:30 p.m. followed by the Regular Meeting and Program at 7:30 p.m.

73
Gerry, W0GV

INSIDE THE ROUND TABLE

SEPTEMBER MEETING - WHAT'D I MISS
By Bill - W6OAV

There were 41 attendees at this month's meeting! After introductions, Jerry, W0GV, gave reports on this month's antenna work party at Centennial Cone and the status of the new repeater for Hudson. Following the reports, WA9TVH chaired the election for next year's executive board members. The present board members were nominated for another term. The nominations were moved and seconded by the attendees. THANK YOU board members for all that you did, and will do, for the club. After the elections, Dave, WG0N, gave a great demonstration on setting up and using a field portable satellite station. He demonstrated how the system can handle two way simultaneous high quality video, audio and phone calls. It seems the satellite system operates much like our repeater stations, but it talks on 11.700 Ghz and listens on 14.260 Ghz. Oh yes, it's 22.500 miles in space. Dave also gave examples how the Denver

Museum of Nature & Science uses the station for different education applications. The meeting was closed after door prizes were given out to lucky attendees.

Technical Committee Report
By Bill - W6OAV

This report presents an overview of the main items discussed at the September Technical Committee meeting.

HIGH PRIORITY PROJECTS
145.49/448.625 Relocation Project
Goal: Relocate antennas and repeaters to Centennial Cone.
- WA9TVH is modifying the VHF repeater on his bench. He hopes to install the repeater on Centennial Cone by the end of the month. *Note: WA9TVH installed the repeater at Centennial Cone on 9-26.*

147.33 Relocation Project
Goal: Bring a second 147.33 repeater on line at Hudson with a different PL.
- We are still awaiting the arrival of the new Kenwood repeater. All the necessary installation hardware is ready.

Voter System
Goal: Develop plans for voter system (A good winter project).
- Once the above projects are completed, the tech committee will schedule a system design meeting at W0GV's wife's office.

MEDIUM PRIORITY PROJECTS
145.49/448.625 Command-able System Split
Goal: Implement a command which will allow remote control of the interconnection of the two systems.
- WA9TVH will investigate the possibility of replacing the present controller with a 7330 controller. The 7330 will allow the split feature plus other desirable features.

Windsor Project
Goal: Define an emergency plan based upon what we learned during the Windsor project.
- The SA will critique their past emergency operations at Windsor and the DNC. The critique will result in an updated emergency plan.

Special Courtesy Tone/Announcement for Repeaters in Emergency Mode
Goal: Configure the controllers for: 1).Command-able special courtesy tone (such as a double beep) which will indicate to users that the repeater is in the emergency mode, 2). A command-able emergency mode message.
- The tech committee agreed that this feature should be implemented. The board will decide on what features are desired.

TSA Battery Backup Procedure
Goal: Modify the backup battery activation/deactivation procedures to support the Kenwood 430.
- N1ETV will modify the existing procedures and email to W6OAV.

TSA HF to HF Interference
Goal: Reduce interference between the Kenwood and Drake.
- K0HTX and W6OAV will test in near future.

LOW PRIORITY PROJECTS
Harris Radio
Goal: Dispose of the Harris.
- The tech committee discussed salvaging the more valuable parts from the radio and selling them.

HF NVIS/Non-NVIS Telpac Gateway at the SA
Goal: Provide an NVIS/Non-NVIS HF Telpac Gateway as an alternate for existing VHF Telpac Gateways. This Gateway will provide access when communicators are out of range of the existing VHF telpac Gateways.
- W6OAV to discuss on a future conference call with N4ATA and W0BKZ.

TSA projects
Goal: Determine future antenna requirements.

● The committee agreed that a tower and beam are not feasible. N1ETV is engineering a bi-directional wire beam.

CENTENNIAL CONE PROJECT

By Bill - W6OAV
Photos by Bob - KC0CZ and Brian - N0TBM

On September 8th, a work party took place on Centennial Cone. The 145.49 antenna was repaired and installed at the top of the 150' tower. Photo at right shows the 145.49 and 448.625 antennas mounted between the top two horizontal arms of the tower. Note K0HTX, N0TBM and WG0N at the top of the tower. Photo Below shows the view looking down from N0TBM's position on top of the tower. If you look hard, you will see people on the ground.

The SWR of the installed 145.49 antenna was 1.6:1 at 145.49 mhz. The efficiency of the antenna was tested by Bob, KE0SJ, who was working on another repeater system. He connected a 20 mw HT to the antenna and contacted his wife in Commerce City. The signal was full quieting to her!

A special thanks to the following: Tower crew - Dave WGØN, Brian NØTBM and Dave KØHTX. Ground crew - Bob KCØCZ, Frank N3PQ and Joe AC7SX.
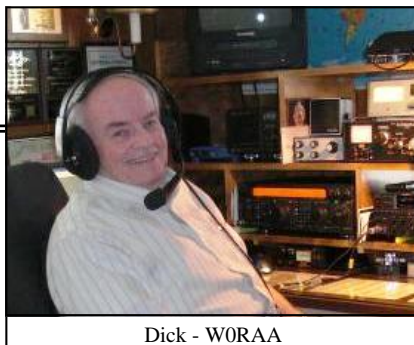
In mid September, WA9TVH removed the non-functional VHF repeater and took it to his home for troubleshooting. He had to perform several modifications to make the repeater function.

On September 26th, WA9TVH installed the modified VHF repeater at Centennial Cone. He plans to make a few "Tweaks" in the near future to optimize the repeater's performance. Presently, the VHF repeater does not transmit a PL tone. Thanks Orlen for all your work.

ENTERING A CONTEST

By Dick Thompson - W0RAA

Dick - W0RAA

So you've decided that you want to give ham radio contesting a try to see what all the fuss is about. But, having never entered a contest before (for some, not all), you have a bunch of questions that need some answers before you're ready to jump in and get your feet wet.

I am by no means a contest guru. I have done a lot of contesting and manage to achieve a First Place in a few, but nothing like a First Place in the World. I usually enter a contest because they are fun. And, I suggest that maybe you will want to approach this new adventure with a similar attitude. Initially, get into a contest and have some fun. That's the key word, FUN! Winning can come later. Being realistic, you may find that contesting is just not your niche in ham radio. That's OK. Not everybody likes to contest. For every ham that loves contesting, there are probably an equal number that dislike it. Many of the nay-sayers claim that the contesters take all the frequencies away from the non-contesters. Not true. Contesting is not permitted on any of the WARC bands. So, if you like to rag chew, you can always go to 12, 17, & 30 meters. Seventeen & 30 meters are pretty good bands, and at times, better than 20 meters. Also, keep in mind that if the contest is a CW contest, or a RTTY contest, the voice frequencies are still available and vice-versa. A good place to start, I guess, is to find out what contests are being run in any particular month. A good place to look is Bruce Horn's Contest calendar page which is located at: http://www.hornucopia.com/contestcal/ .

That being said, let's move on. There are several ways you can enter a contest as far a logging is concerned. If you are used to the old fashioned way, you can do it with paper and pencil. And, some still do, for some reason. But in this age of computers, there are some mighty nice computer contest programs available. A free one that is quite good is N1MM Logger. N1MM is available at www.n1mm.com. If you have never used it, download the latest Full Install Version 8.0.0. This file *must* be downloaded first, and installed. Then, download the latest update, which, as I write this is version 8.6.2. All previous updates are incorporated into the latest update, so you only need to install one update and it will take care of any glitches that may have been present in previous versions. There is an excellent Yahoo-Groups reflector for N1MM Logger and I would suggest that you join this reflector if you are going to run N1MM. N1MM has a learning curve to it, but it's not insurmountable. The N1MM web site is overflowing with information and help. So, this is one option if you want to contest using the computer.

Another popular choice is Writelog. Writelog has been a choice of many contesters for many years, and even though N1MM Logger is popular, Writelog still holds a slight edge, despite the $35 fee for the program. It is available from www.writelog.com, then go to Downloads, read that page and download the program. You will need to buy the program if you want to use it, but the $35 price tag is not very steep. It would be nice if Wayne, K5DJ, the author of Writelog would have a version that could
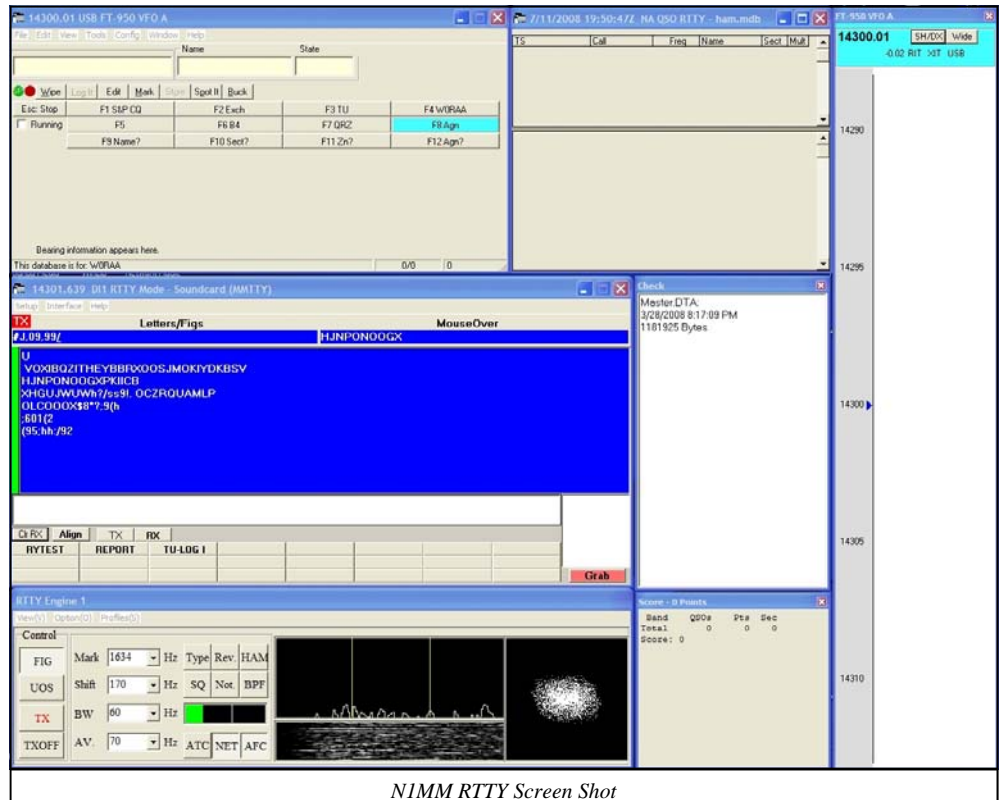
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be downloaded and tried for a couple weeks, and then quit after that. But, as of yet he doesn't. I have used Writelog as my favorite contesting program for the past 4+ years. I use it and occasionally N1MM Logger, but my favorite program is Writelog. I guess I find it more user friendly. At my age, I need all the user friendliness I can get. Hi Hi!

There are other programs out on the web that are very capable contest logging programs, but the two mentioned above are the 2 most popular, especially if you are going to operate in a RTTY, CW or SSB Contest. If you are into PSK31 or one of the other digital modes, then you may want to look at some of the programs that are capable of doing those modes. Google for "Ham Radio Contest Software" (without the quotes) and you will find a lot of different options to choose from. I use MixW for PSK contesting, although I am not convinced it is the best PSK contest program out there. I'm sure there are others. Just do a little research and ask some questions. Many folks use MixW during a contest and find it suits their needs. You know the old saying "…whatever fires your rocket" or something like that. Writelog has a good reflector on Yahoo.Groups.com that is a good source of help for the newcomer. There is no such thing as a stupid question. If you need help, ask. That's what hams do, and we usually get help from somebody.

The easiest mode to set up for a contest is SSB. It doesn't require any special add-ons and you can simply type in the call of the station you work, along with the report you receive, hit Enter and the contact is logged and scored. If the same station happens to call you again, and you type in his/her call, and you've worked them before, it will show as a duplication (or DUPE). You can tell the station that you've worked before or just go ahead and work them again. I choose the latter, as it takes less time than telling the other station that I worked them at such and such a time on a frequency of xxxxx, etc. Also, I try to keep in mind that they may have typed my call in wrong. I may have said "W0RAA 59 CO" and they may have entered my call as K0 or W0AA or W0RA. Who knows? It's much easier to just work them again, and let the contest scoring software sort it out when you send in the Cabrillo file after the contest. Better to have a DUPE than a BUSTED contact. So, if you are going to enter a SSB contest, pick your software and just jump in and have fun. By the way, if you work a friend or buddy, forget the amenities of "Hi Steve" or "Hey, how's it going, Joe?". Just exchange reports and move on. That little chatter could cost you a contact or two, especially if another station is waiting for you to make the contact and exchange reports. He may just move on and contact somebody else. If that station may have been a multiplier, it could cost you several hundred points.

If you are going to operate in a contest that is CW or RTTY (FSK or AFSK) then, another roadblock is tossed into the mix. I operate

AFSK. I find it is adequate, the station at the other end may be operating FSK RTTY, but neither of us knows (or for that matter cares) what the other station is running. As long as the Exchange is made and acknowledged, that's all that matters. If you are going to operate RTTY, you will need the MMTTY Plug-in for Writelog and N1MM Logger. MMTTY is a stand-alone RTTY program for RTTY. You can download it from the Internet or one of the contest software web sites. The installation is pretty easily accomplished. Just let it install itself in the default location. You will need to have an interface or a cable that you plug into the rear of

N1MM RTTY Screen Shot

your rig. Almost all of the newer transceivers have a RTTY/PKT DIN plug on the back and the cable from one of those sockets would go to your soundcard on your PC. If you use an interface such as Rigblaster from www.westmountainradio.com, the chore is quite easy. West Mountain Radio makes excellent products and will definitely be worth the cost if you want the ease of getting on the air in digital modes or contest in digital modes. I may be mistaken, but I think the RigBlaster Pro also has the ability to allow you to key your radio in CW mode in a contest, using the Function (Fn) keys. Keep in mind that there are several interfaces available on the ham market, all of which are advertised in the hobby magazines such as QST, CQ, World Radio and the National Contest Journal, etc. If you want to operate CW during a contest, you must have a simple keying circuit that consists of a transistor, capacitor and a resistor. To have radio control using the software, you will need a serial cable (not a null modem cable). With the circuit in the system, you can program the Fn keys to send the contents of what is programmed into the Function keys. It's the only way to go in a contest. All of the information you need to do this is available on the web. I could go into a lot more detail, but I don't want anybody to fall asleep reading this article. The intent is to get you interested in contesting. If I can help in that effort, please let me know. I use the K1EL Winke-
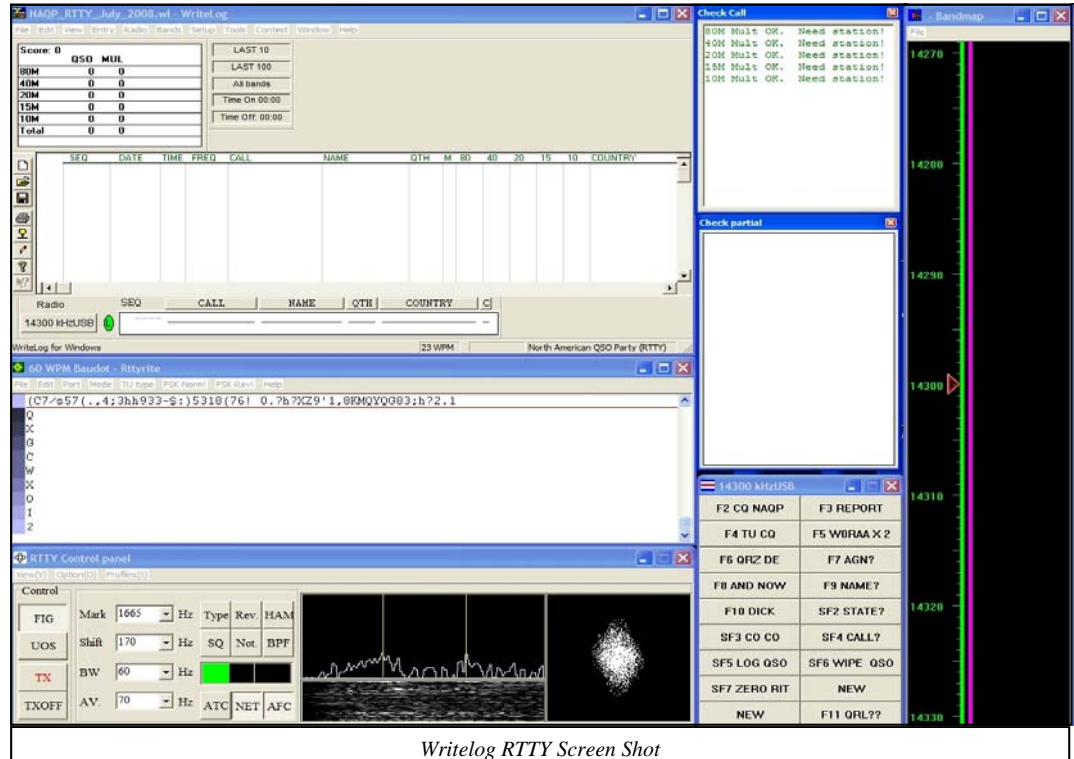
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yUSB keyer for keying CW. Go to www.k1el.com for details. If you don't have a keyer, this is a nice unit. I also use a Logikey K5 Keyer. It's available from www.idiompress.com.

Next, choose a category that you want to enter the contest in. It can be SOLP (Single Op Low Power), MS LP (Multi Op Single Radio Low Power), QRP, and so forth. Each set of contest rules generally have a listing of categories.

Do a little planning ahead. If I can offer some assistance, please feel free to contact me on the reflector or at w0raa@comcast.net.

Join the fun. You'll be hooked in no time.

Writelog RTTY Screen Shot

THE DENVER RADIO CLUB
THE SALVATION ARMY & THE 2008 DNC
By Oscar – K0SSE

The Denver Radio Club (DRC) began preparing for the Democratic national convention (DNC) way back in 2007. Several members of the club held discussions with various agencies concerning the activities which were to take place during the DNC. Among these groups were some law enforcement agencies, other amateur radio groups and the Salvation Army. The group I worked with was largely the Salvation Army.

There were several planning sessions at the beginning of this year (2008). We started holding training sessions, which included raising the Salvation Army's portable 50 foot tower and installing several antennas such as UHF/VHF antennas, and the portable wire HF antenna and the various radio packages in which the Salvation Army would use when it deployed. Several of our club members trained in food handling techniques, as well as different types of vehicle operations. Many of our club members participated in the Salvation Army's version of the FEMA ICS 100 course.

To further hone our skills, we planned two exercises. One was to be a two-day exercise in May, 2008. This was going to be an overnight weekend exercise with the Salvation Army. The Army was to provide food, shelter, and some power equipment for our use. The DRC would set up five radio stations with operations to take place at the Hudson repeater site. This would be right after the Memorial Day weekend (last weekend in May). Unfortunately, fate intervened. Due to wildfires, the Salvation Army could not participate in our first exercise. We had to cancel the exercise. We had planned to contact Long Beach, California via single side band radio (the amateur radio station, W6RO,located aboard the

docked Queen Mary), which was going to be part of the exercise. This was to give some HF experience to various members of group who have not had that opportunity. We were disappointed, but we moved on.

We prepared for field day (this was the second exercise, we planned for). I have to admit I was on pins and needles. The Salvation Army, had agreed to provide food for us, and various items of equipment. (This has been covered in previous Roundtable Articles.) But fate intervened again, wildfires continued to plague us during the month of June as well. The Salvation Army couldn't participate as much as they wish to. But Field Day did go off and we got more practice getting ready for the DNC. And so the month of August rolled around.

Our club, along with members of the ARES District 13, met at the Salvation Army's 49th St. garage and set up the emergency operations center (EOC) and helped prepare for a number of mobile canteens due to arrive from California, Wyoming, and Nevada. The DRC was to provide amateur radio operators for the EOC and shadows for the mobile canteens. However, the mobile canteens had their own radio operators, and we did not have to provide any.

In the meantime Jim Beall, K0TOR, was providing assistance to the Lakewood Police Department's EOC, and it should be noted, when Jim was not working at the Lakewood EOC he would come and help us at the Salvation Army's EOC. Talk about double duty.

With all due respect to Mrs. Murphy, I must say her son continued to mess with us on the setup. At first everything seemed to go well. Jim went down to the garage on 13 August and installed an 8 foot ground rod using a water wrench. Everything was going great, so it seemed.

(Continued from page 5)
Next on 16 August was the raising of the 50 foot tower, the installation of an Alpha Delta HF antenna, and the VHF/UHF antennas. But it rained cats and dogs, and we were unable accomplish all we had been planned. It was just too dangerous, so further work was put off until August 23.

By 23 August, a crossbar support had been constructed, which would permit the installation of VHF and UHF antennas at the top of the portable 50 foot tower. This worked out very well for it allowed Doug Parker, N4ATA, to install the necessary antenna for packet Winklink and Airmail opera-

tions. This came in handy during the next week when several Winlink and Airmail messages were passed back and forth during our DNC operations. But credit must be given to not only to our fellow club members from the Denver Radio Club, who help set up things, but also to the members of the ARES District 13, as well to the many SATERN members who helped set up the SA's emergency operations center.

We began our formal support of the Salvation Army's backup operations for the DNC on August 24, on schedule. However, we were short of amateur radio operators for the first day. Due to work commitments our local operators just were not available. I guess because of a quirk in the protesters schedule the out of town operators were available. They pitched right in, and manned the radio equipment in the EOC. With the afternoon shift, the DRC operators begin to come in, and were raring to go.

The HF operations which had been set up by David Baysinger,WG0N; Bill Hedeen, Charlie Wright,N6LD; David Gillespie,K0HTX; Perry Compton,WB5VCC; Gerry Villhauer,W0GV; Lance Wilson, N1ETV; and others worked just great. Although we never made contact with Long Beach California. We did work the

West Coast both into the Los Angles area as well as the SATERN Net Control Station in Portland, Oregon; which was one of our goals. We even made HF contacts back to Chicago, and to the East Coast. Keep in mind that we were

using 100 W of power, single side band. Propagation was great for us.

When it looked like it was going be very difficult for us to continue our support of the mission at the EOC, due to the of lack of operators; various members of the Denver radio club and others just came forward at the right time. These included Bill Hester, N0LAJ; Bob Willson, KC0CZ; Charlie Wright, N6LD; Jim Beall, K0TOR; Donald Clair, KB0USF; Ryan Straughan, N0RYN; and several others. They filled in the empty holes, where we needed operators. Let's not forget the great help we had from Linda Parker—the wife of Doug Parker and also Rob Gentry, KA0VNB (who came all the way from Greely, Colo. to give us a hand and loaned us a much needed chair). We made check-ins on an hourly basis with the area amateur command operations center. We never failed to make a contact utilizing our VHF and UHF radio communications.

In short, I think the Denver radio club performed very well. It give the Salvation Army the communications support it needed to perform its mission during the Democratic National Convention. I believe all club members of the DRC can be proud of the work its members did during this period of time.
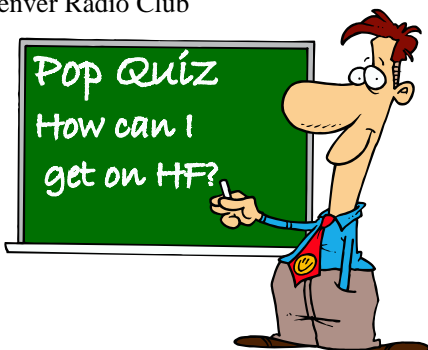
A NOTE FROM MIKE GELSKI

Denver Radio Club Members,
Thank you for your support during the Democratic National Convention. Special thanks to Oscar Hall K0SSE for covering some long hours, especially when other hams no showed at the last minute.

Thank you for the use of the 147.33 and 448.625 repeaters. Fortunately there were no major events, nothing really bad happened.
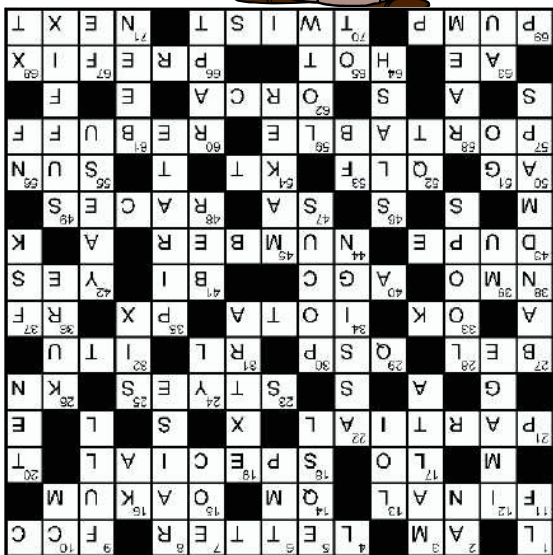
Mike Gelski - KB0PVD
Metro Denver Coordinator
Emergency Disaster Services/Special Events
USA Western Territory SATERN Coordinator

"It wasn't raining when Noah built the Ark"
Preparedness is Protection

**Pop Quiz
How can I
get on HF?**

GENERAL
LICENSE
CLASS

When: Friday, September 19th, 2008 From 7:00PM - 9:00PM
Where: St. Joseph's Episcopal Church @ 11202 W. Jewell Ave.
(just 1 ½ blocks west of intersection of Kipling and Jewell, south side of Jewell Ave.) Meet in the Parish Hall on the first floor. Enter through the door at the east side of the church.
Materials: "ARRL General Class License Manual", Sixth edition as the study guide. Cost is $25.00 and is available through HRO or ARRL.
Contact: Jim, K0TOR at 303 798 2351 or general@frupac.net.

SEPTEMBER 2008

DRC Net Sunday 8:30pm Local

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 *Learning Net* 7pm	2	3	4
5	6	7 — First Quarter	8 יום כפור Begins *Learning Net* 7pm	9 YOM KIPPUR	10	11
12	13 COLUMBUS DAY	14	15 *DRC Meeting* Elmer 6:30pm General 7:30pm — Full Moon	16	17	18 *ARRL* Int'l EME Competition Begins 0000 UTC
19 *ARRL* Int'l EME Competition Ends 2359 UTC	20	21	22 *Learning Net* 7pm — New Moon	23	24 **United Nations Day**	25
26	27	28	29 *Learning Net* 7pm — Last Quarter	30	31	

Check www.ARRL.org for Contests and Rules!

DRC BOARD OF DIRECTORS

President	W0GV	Gerry Villhaurer	303-467-0223	W0GV@hotmail.com
Vice-President	WG0N	Dave Baysinger	303-987-0246	WG0N@arrl.net
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Board Member	KB0A	Bryan Steinberg	303-987-9596	KB0A@arrl.net
Board Member	K0HTX	Dave Gillespie	303-880-1938	K0HTX@comcast.net
Board Member	AC7SX	Joe Delwiche	303-233-6229	lakewoodjoe@aol.com
Board Member	K0RCW	Robert White	303-619-1048	rcwhitejr@mac.com

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Net Control	K0TOR	Jim Beall	303-798-2351	K0TOR@arrl.net
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Club Librarian	WG0N	Dave Baysinger	303-987-0246	WG0N@arrl.net
VE Team	AC0T	Wally Gamble	303-202-0339	wallygamble@comcast.net
	K0MEL	Mel Minnick	303-761-3456	k0mel@msn.com
Swapfest Mgr	KB0A	Bryan Steinberg	303-987-9596	drcfest@comcast.net
Field Day	N6LD	Charles Wright	303-347-0188	cwright@haxsystems.com
Tech. Committee Chair	W6OAV	Bill Rinker	303-741-2537	W6OAV@arrl.net
APRS Chair	KB0MQQ	Lloyd Plush	303-277-0785	LloydPlush@aol.com
Benevolent		Carolyn Wolf	303-279-1328	
RT Editor	AG0S	George McCray	303-751-7246	AG0S@arrl.net
Education	AJ0C	Robert Rude	303-841-6443	AJ0C@comcast.net

DRC REPEATERS

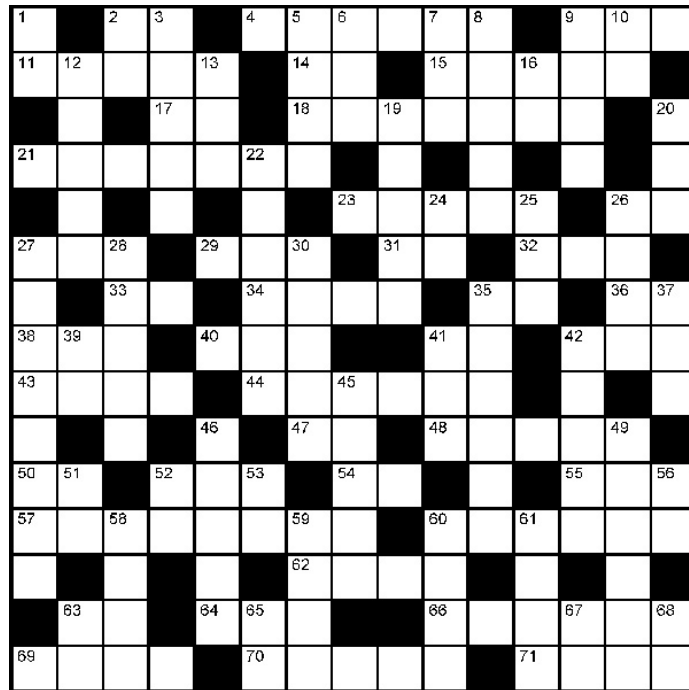| BAND	Freq / Shift / PL Tone	Additional Information
10m	29.620mHz (-100kHz) FM	
6m	53.090mHz (-1mHz)	
Packet	145.05mHz<>14.105mHz	
2m	145.490mHz (-) 100Hz PL	Linked to the 70cm - 448.625mHz machine.
2m	147.330mHz (-) 100Hz PL	Members Auto-Patch
1.25m	224.380mHz (-) 100Hz PL	
70cm	448.625mHz (-) 100Hz PL	Linked to the 2m - 145.490mHz machine.
70cm	449.350mHz (-) 100Hz PL	Wide area coverage with Echolink Node # 4140.

EDITOR'S NOTE

DRC members - this is your newsletter. If there is something which is club or amateur radio related that you'd like to see as a regular feature, email suggestions to the editor. Members are the heart and sole of The Denver Radio Club, if you have an expertise or an interest in a particular segment of ham radio that you'd like to write about, you may email your submissions to DRC_RT@comcast.net. Submission deadline is the 25th of the Month. **Editor**

Puzzle Page

What's Your Call?

During a big contest or DXpedition, the bands are full of signals giving the most important part of any transmission. The call sign! Nothing is more important to a ham than his or her identity, so closely bound up with the call sign. I have friends whose call signs are etched in my mind, but whose last names are a true challenge to remember. You too, huh? It really must be true that we receive our calls in exchange for our last names! At any rate, here's a call sign puzzle to do when the pileups ebb.

By H. Ward Silver, NØAX

NOTE: Puzzle solution is located on page 7.

Across

2. Add to your call in flight
4. Make up most of a call
9. Administers US calls
11. Power amplifier
14. Suffix of the top DeSoto Cup operator
15. Stuffed in cracks to prevent leakage
17. Opposite of HI
18. Type of event for which 1x1 calls are used
21. Only some of a call
23. What a lot of shacks look like
26. Everybody else stand by (prosign0
27. 10 decibels
29. Relay
31. Inductor resistance (symbol)
32. Administrator of international call sign system
33. Home state of the new Sweepstakes Manager
34. Island DX award
35. Military base store
36. Our favorite type of signal
38. Mobile antenna mount type
40. Both a fuse and a volume controls system
41. Prefix meaning "two"
42. Affirmative
43. Work twice
44. Usually separates prefix and suffix
47. Continent for 9Y and PJ9 (abbr)
48. Amateur sub-service with separate call signs
50. Denotes upgrade to General
52. Sounds like sending with a left foot
54. The old abbreviation meaning Tech Plus
55. Our favorite star
57. What you say to denote operation away from home
60. Refuse or turn away
62. The real name of killer whales
63. Denotes upgrade to Extra
64. Lots of action
66. First part of a call sign
69. Inject energy into
70. Method of seating a BNC connector
71. Following in time

Down

1. Range below MF
2. The coldest continent (abbr)
3. The knights use the prefix 1A
5. Electronic QSL service
6. Temporary (abbr)
7. Place where emergency response is coordinated (abbr)
8. Lift
9. Always give your call sign in this way
10. 10 mm
12. Modes for transmitting pictures
13. Letter stating your intentions (abbr)
16. Microwaves between 18 and 40 GHz
19. Top license class
20. Highest HF band
22. Be given a call sign
24. Can give 00 as age in All Asia contest
25. Maximum characters in US call sign
26. Adds K to standard Hawaiian prefix
27. These show where stations are operating
28. Elements of quads
30. Companion to hocus
35. Makes up a call sign
37. Method of sending RTTY signals
39. Greek letter denoting permeability
41. Error rate in digital communications (abbr)
42. Fox Tango manufacturer
45. Person who creates
46. Denotes portable operation on CW
49. Ending portion of a call
51. Begin
52. Quiet (abbr)
53. Excellent! (abbr)
56. Uses the VO1 prefix
58. The only ham call that was all letters
59. ARRL's electronic QSL service
60. Attention paid to unworked DX station
61. Was in the past
63. Precious yellow metal (chemical symbol)
65. Posting not on the original subject (abbr)
67. Magnetic metal (chemical symbol)
68. Crosstalk (abbr)