



ROUNDTABLE

The Denver Radio Club Newsletter

July 2008

Since 1917



PRESIDENT'S MESSAGE

By Gerry Villhauer-W0GV

Greetings DRC Members,

Where is the summer going? I can hardly believe it is July already! As I write this, our DRC Field Day is over for another year. What a great weekend it was! I think anybody who attended will agree it was a huge success. Oscar, K0SSE, did a super job of planning the event down to the smallest detail. When we operate 5 transmitters at a site we have not operated from before it does take some planning. Oscar had a list of objectives and I believe we completed all of them except the 1000 contact goal. Poor band conditions limited the majority of the contacts to 20 and 40 meters. Given better band conditions we would have easily obtain the 1000 contacts. I am sure Oscar will have the details of our contacts after he gets it all totaled. I was pleasantly surprised at the number of visitor we had, many were non-hams interested in the hobby. We gave them all an opportunity to operate which really generated excitement for them. I want to thank everybody that participated with the site clean up, equipment setup and teardown. Please, next time you see Oscar, thank him for an extraordinary job.

I can't even guess how many days and hours our members and non-members supporting The Salvation Army operation at the Windsor tornado site donated. A huge THANKS to the following hams is in order: Oscar K0SSE*, Dave WG0N*, Rita N0UEW*, Jim K0TOR*, Becky KD0AOE, Perry WB5VCC*, Darrell WK0C, Mike N0VBY, Jerome N0OMA, Wally AC0T*, ED, AG1M, Frank N3PQ, Jerry KD0BIK, Gerry, W0GV, Doc, KC0TWD, Dennis, KI0PN, Barry, KA0BBQ, Charlie N6LD* and Robert, KB0BZZ. The asterisk (*) indicates individuals who participated in two or more days.

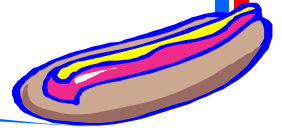
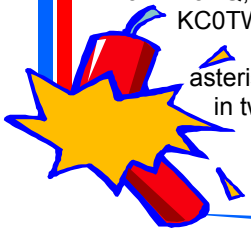
I would like to welcome new DRC members Jerome Davidson, N0OMA, Robert Hicks, KD0CRU, Paul Mueller, K0DPR, Chris Tenorio, KD0DUJ and Bradley Longhurst, (no call yet). Thank you for choosing the Denver Radio Club as your club. Please come to the meetings and activities and be an active member.

Thanks to Darrell Connelly, WK0C for last months program on Stealth Magloop/Vertical Antenna Systems for 20m Packet. Darrell has really gotten into antenna design and construction and provided us with some great ideas.

Brant Zirker, W0BKZ, will present this month's program. He will be discussing the soundcard packet software program AGWPE and it's various uses. This will include the use of Winlink's Airmail program on VHF packet and it's application for emergency communication. There will also be a demonstration linking common e-mail programs such as Microsoft Outlook to VHF packet using AGWPE. Brant works for a landscaping company located in Evergreen. He earned his Technician license in January 2006 on Wally Gamble's (AC0T) dining room table, followed by his General license a year later at the same table.

See you all at the meeting July 16th at the St. Joseph's Episcopal Church, 11202 West Jewell Ave., Lakewood, CO. That is about two blocks West of Kipling on West Jewell. 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



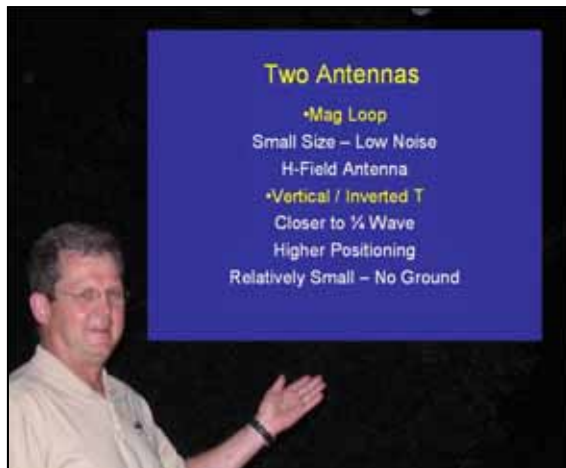
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JUNE MEETING - WHAT'D I MISS

This month's presentation was given by Darrell Connelly, WK0C. He showed how he developed a stealth antenna system for 20m packet composed of a "mag-loop" (for listening), a vertical (for transmitting), and an antenna relay switch driven by a packet TNC. Antenna design components and software were touched upon and the audience could hear the antennas' performance differences from a recording of packet signals.

Here is a link to his PowerPoint file if you wish to review his presentation.



http://www.einfopipe.com/Mag_Loop_Vertical_Talk.ppt

ELMER REPORT

By Rob AJ0C

An open Q/A session was held with discussions centering on VHF and UHF voice operation. Key topics discussed were:

- How to program a memory channel to use a repeater.
- What happens when the wrong access tone is used on a repeater and talked about why access tones are so common in Colorado.
- How to check the repeater's input frequency for possible simplex operation.
- Common simplex frequencies.
- Need for allowing extra time between transmission to allow EchoLink stations to join a QSO.
- AJ0C demonstrated an EchoLink QSO with W6OAV who was temporarily in Arizona.
- Demonstrated a D-STAR simplex QSO and what a D-STAR Digital Voice signal sounds like when received by a D-STAR radio and when received by an analog receiver.
- Challenged everyone to conduct a simplex QSO before the next club meeting.

TECHNICAL COMMITTEE REPORT

By Bill - W6OAV

This report gives an over view of the items discussed at the June Technical Committee meeting.

Field Day Exercise

Goal: Develop a Field Day Exercise plan:

- Discussed adapting KOSSE's Pre-Field Day Exercise document to the Field Day exercise. The document was accepted.
- Discussed the upcoming field day exercise. KOSSE said that the SA will be there with their kitchen trailer and 40KW generator. WG0N will go to the garage to pick up the comm van. K0HTX will arrange for the portapotti.
- KOSSE finalized his list of items still needed.

145.49/448.625 Relocation Project

Goal: Relocate antennas and repeaters to Centennial Cone:

- Completing a volunteer waiver form for the club.
- Will arrange an installation work party shortly after field day.

147.33 Relocation Project

Goal: Bring a second 147.33 repeater on line at Hudson with a different PL.

- WA9TVH is hoping to get to Station 4 to swap the ICOMs prior to field day so that he can get the Hudson location on the air field day weekend.

Windsor Project

Goal: Define an emergency plan based upon what we learned during the Windsor project:

- KOSSE is working on this.

New PL Frequency for DRC Repeaters.

Goal: 100Hz is a common PL in the area. Certain stations on the LDS repeater are keying up 147.33:

- Discussed. Need to have further review.

Failed SA Power Supply

Goal: Repair the main 12 volt Astron power supply.

- Fixed. W0GV will get it to the SA.

147.33 Station 4 Power Supply Switch

Goal:

- Troubleshoot and fix intermittent power supply

(Continued on page 3)

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OFF/ON power switch.

- No problems since KB0A cleaned the switch.
- Will wait for next time problem crops up and then investigate.

WM Fire Station 4 Power Line Noise

Goal: Force Xcel to reduce power line noise which affects all systems at Station 4.

- WA9TVH finally got a response from Xcel. They sent a truck to the site last week and fixed "major problems" on two poles. Suspect there may be more issues since noise level on HF is still high. There have been occasions since Xcel was at the site where the impulse noise has intermittently covered stations using 147.33.

BELKIN FM TUNEMASTER TRANSMITTER POWER SUPPLY FOR MOBILE RIG AUDIO Darrell - WK0C

I wanted to mount a UHF/VHF radio in my vehicle. The radio (a Kenwood TM-700A) was one with a remote head which would allow me to mount the main part of the radio under the seat. However, the small speaker would be worthless in this location. I really did not want to find and mount another speaker as my car has limited space. I remembered I had a Belkin FM Tunemaster Transmitter (Photo 1) that would plug into my iPod so I can listen to the music on the FM radio in my car.

I took the transmitter and plugged it into the Kenwood. It worked beautifully.

You can still buy these transmitters on the web for less than \$20. The Belkin FM Tunemaster Transmitter uses 2 1.5V AAA batteries so I decided to build



Photo 1

a 12V-to-3V power supply to power it at 3V without batteries. I used an LM 317 Variable Voltage regulator to build the power supply. The circuit is shown in Figure 1.

The components are mounted on a small mini board (Photo 2), and the board is trimmed so the whole circuit

would fit in the original package. The potentiometer (R2) was adjusted so that the supply put out just over 3V. I powered the assembly from the car battery and

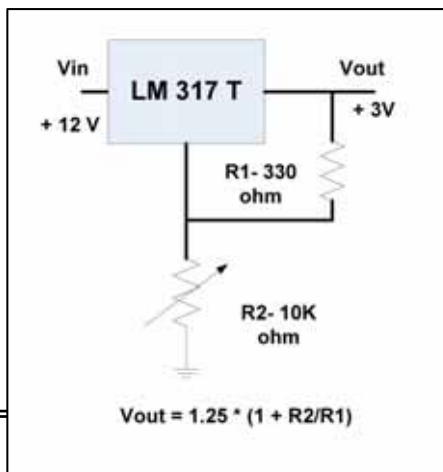


Figure 1

could hear some slight alternator noise. So, I built a PI low-pass filter from a Toroid and two capacitors and placed it in the power line. Success, the noise was attenuated.

You can use this supply to power a variety of circuits requiring different voltages from 1.25V to 12V.

Current drain is capped at 1.5 amps and you might need a heat sink. For my application, I did not need one. Please be aware I can't be responsible for the use of this circuit on any of your equipment.



Photo 2

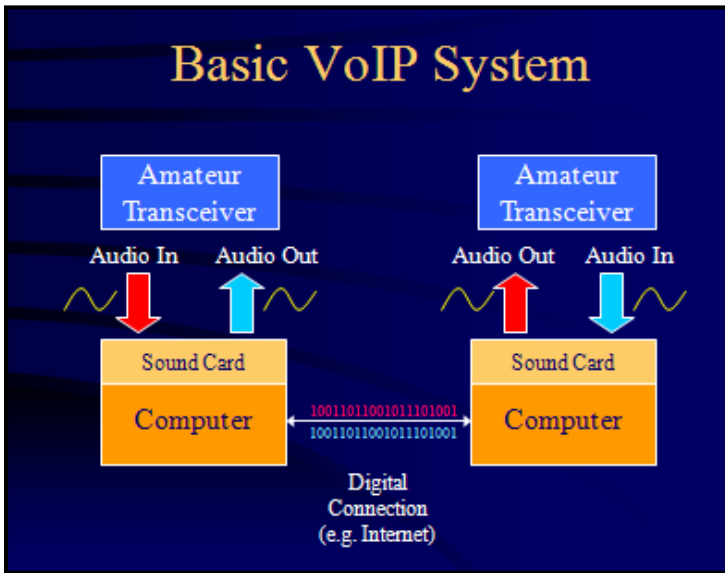
Below is my parts list with costs of major components. I didn't put a cost on R1, the PI filter components, and the wire as I already had those.

1. LM-317 Adjustable-Voltage Regulator LM317T RS (Radio Shack)#: 276-1778 \$2.29
2. R2 10K-Ohm Horizontal-Style Trimmer RS#: 271-282 \$1.49
3. R1 330-Ohm 1/4 Watt Resistor
4. Dual Mini Board RS#: 276-148 \$1.99
5. Alternator noise filter components from an old computer power supply.
6. 20 gauge wire + Power Pole Connectors

ECHOLINK 101

By Bob - KC0CZ

Echolink is a program, software, which runs on a computer and allows licensed Amateur Radio stations to communicate with one another over the Internet using Voice-over-Internet Protocol (VoIP) technology. The program operates in either of two modes, single-user mode or sysop mode. The basic VoIP functions of both modes are the same, but sysop mode adds features to support a link transceiver or repeater connected to the computer. The Denver Radio Club, DRC, utilizes Echolink in the sysop mode to connect to the 449.350 repeater, W0TX-R, node number 4140.



First let's discuss the VoIP technology. You have two computers that are connected together over some kind of digital network, such as the Internet. They can exchange bits and bytes with each other. Then, each computer has a sound card. A sound card is just an analog-to-digital converter that works at audio frequencies. This way, analog audio that goes in at one end is converted to a stream of bits, which is transferred over the internet to the other end, where it is converted back into analog audio. When you put this at both ends, you can exchange audio in both directions. Finally, by adding an amateur radio transceiver to the audio path, to convert the audio to and from an RF signal, you've created a "path" that connects RF signals in one location with RF signals in another.

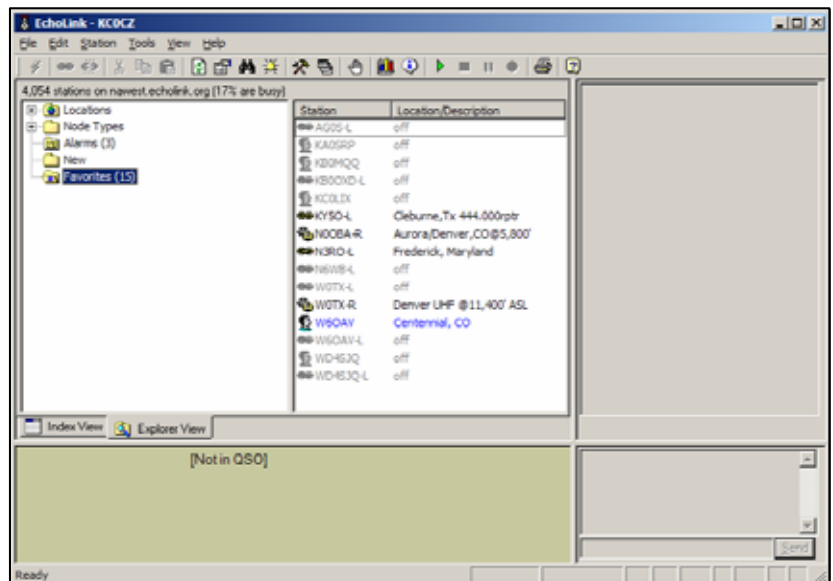
To get started with Echolink, you have to download the software to your computer. The URL to download the software is www.echolink.org. Along the left sidebar of the URL is a hyperlink to download the software. Click on the Download hyperlink and you will be asked for your call sign and an E-Mail Address. It is important you remember this E-Mail Address, as you will need this information in the future if you need to download the software again. The downloaded file is a self-extracting installer, about 3 Mbit, which installs the

program and the help file. Download the file to your hard drive and open it to begin installation. After downloading and installing the software, you will need to run the Echolink software to register your call sign with the system. Each new user must be *validated*, and the most critical part of validation is *authentication*. Authentication is simply verifying that you are who you say you are. You will not be able to connect with anyone on the Echolink network until you have been authenticated. The next step is to visit the Echolink validation page, www.echolink.org/validation/. Type your call sign in the space requested and click "Continue". You will be given some options on how to authenticate your call sign; you are who you say you are.

Now you are ready to access the Echolink network as a User. You will need a microphone connected to the sound card of your computer and speakers. A headset/microphone combination is a nice option to use in place of speakers. Your first connection should be to the Echolink Test Server. You can connect to the test server by choosing "Connect to the Test Server" from the Station menu. The Test Server records and plays back your message for testing purposes. The test does two things, first it gives you an idea if you have a firewall issue, more on this later, and also let you know how you're audio, level and clarity, sounds to others on the network. It is a good idea to test your connection to the Test Server occasionally to make sure things in your computer and router have not changed.

Now you are ready to use Echolink. When you start Echolink, I recommend you use the Explorer View to show nodes that are currently connected to the system.

Below is a screen shot of the Echolink screen showing the Explorer View.



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The Explorer View shows connected nodes in a similar fashion as the Windows Explorer, folders showing the locations of connected nodes. The Explorer View also allows you to use the Favorites and Alarms folders. These folders allow you to store the calls of your favorite nodes for fast and easy access. This can become your address book for Echolink. Both folders can quickly give you the status of specific nodes, but the Alarm folder will give you an alarm when the status of a specific node changes, i.e., online, busy, not busy, off line. To connect to a node on the system, select the node you want using either the Index or Explorer views and double click with the left mouse button or click the Connect icon on the toolbar across the top of the Echolink window. You will see an message in the lower part of the screen "Connecting to w1abc". After a few seconds, you should see a message in the lower part of the screen "Connected to w1abc". You need to wait a couple seconds before you announce your call. This allows you to listen to the far end to hear if the node already has an active QSO. If you hear nothing, then you can announce your call, give a call for a specific station, or give a short CQ call. Remember, once you connect to a -L or -R node, your call is announced over the airways so if you disconnect, the far end will know who "kurkunked" the system.

Some tip for operating Echolink. The "push-to-talk" is by default the space bar. Tapping the space bar will switch to transmit mode and tapping the space bar again will switch back to receive mode. The space bar can be set to operate just like the "push-to-talk" button on your radio by clicking the Momentary box in the Push-to-Talk dialog box in the Connections tab on the Preference dialog box located in the Tools menu across the top of the Echolink screen. This allows you to hold the space bar down while you talk and release to switch back to the receive mode. The Station Information File, info.txt, can be edited to show information concerning yourself that will be displayed in the right side pane of the Echolink screen to the stations that you connect to or that connect to yourself. Access to the info.txt file is the Connections tab on the Preference dialog box located in the Tools menu. You can also send a text message to the station you are connected. Click in the text box located in the lower right corner of the Echolink screen and type a message. With the mouse, click the Send button after you finish typing and the message will be sent to the far station. This option is only valid when in a QSO with another User node.

A common issue with Echolink is most likely a firewall problem. If you attempt to connect to an available node on the system and after about 30 seconds you receive an error message, "Cannot connect - timed out", you have a firewall problem. This is not a problem with the Echolink software itself. The first place to look for help is again www.echolink.org and click on the "Support and FAQs" link along the left side. This link will take you to the Support page where you will find a link to Firewall Solutions. You will find a good amount of help on the Echolink web site. The main problem is Echolink uses UDP ports 5198 and 5199 and TCP port 5200 to communicate on the Internet with other nodes. You will have to configure your Firewall to allow Echolink to pass and configure your router to "forward" these ports to the PC on which Echolink is

running. Again, refer to the URL for help.

Another firewall issue is if you travel and take your laptop computer into a hotel/motel or maybe a public Wi-Fi, the router used by the establishment will block the above ports. The Echolink application does have the capability of utilizing a proxy to get through the router. Understand this proxy is not for the home user where you can control your router but for the traveler. To utilize this feature, click on Setup on the Tools menu and select the Proxy tab. On the Proxy tab, click "Choose Public Proxy" and select a proxy that will allow you to connect through the provider's router. The first connection to test this setup should be to the Echolink Test Server to test for connecting ability.

If you plan to operate Echolink in a sysop mode as a -L, Link, or a -R, Repeater, you will have to provide an interface unit to interface the audio from the computer sound card to the radio and back from the radio to the computer sound card. This information hopefully will get you started as a User to help you understand the system before you attempt the sysop mode.



FIELD DAY 2008

By Oscar Hall, Emergency Communications Coordinator

As I write this, Field Day has not occurred, though as you read this our club participation in the annual Field Day event has already taken place. What a paradox. If you took part, I hope you had a good time and helped the Denver Radio Club (DRC) and the Salvation Army Emergency Disaster Services Group learn how to better operate under field conditions. Yes, that was one of our main goals. Of course, another goal was to have a good time and to try and to make as many contacts as we could and also learn how to better use some of the equipment that was on hand.

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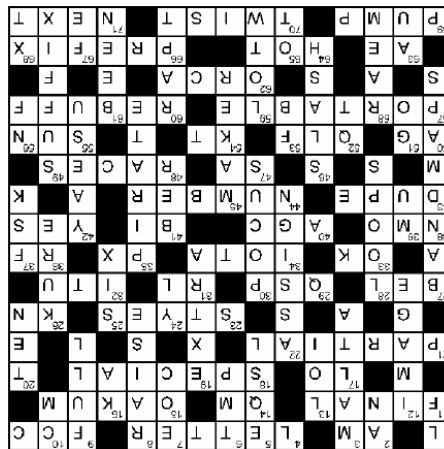
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It was also an opportunity for each and every one, young and old to hone his or her operating skills, so to speak. To that end a number of our club members, early on, tried real hard to make things work and to ease the learning process for all of us. To name them now (before the event), I would risk missing somebody, please forgive me if all are not named at this time. Among those who have helped so much before hand are Gerry Villhauer, WØGV; Dave Baysinger, WGØN; Jim Beall, KØTOR; Dave Gillespie, KØHTX; Lance Wilson, N1ETV; Jerry Taylor, KDØBIK; Bryan Steinberg, KBØA; and Mike Gelskie, KBØPVD. These individuals did a lot of the preliminary work to get things going. Like helping to make arrangements for the site location, the equipment to be used, the food consumed, shelter for operations; power to operate equipment and agreeing to hang antennas. Thank you guys.

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In the initial planning for this 2008 Field Day we believed very few people would take part, however it seems that assumption may not be correct. Based upon the inquiries received to date (24 June) there may be many more than expected. At any rate, I will report in the next issue of the **Roundtable** the outcome. That is I will pass on to you our club's statistics. Final results will be listed in the December 2009 issue of QST. Yes, **December 2009 of QST.**

If you liked Field Day 2008 tell our Club officers or thank some of the fellows mentioned above, if you have a complaint about Field Day tell me. Either way we will still love ya'.
 '73 Oscar



JULY 2008							DRC Net Sunday 8:30pm Local	
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday		
		1	2 Learning Net 7pm 	3	4 	5		
6	7	8	9 Learning Net 7pm 	10	11	12 IARU HF World Champ. Starts 1200U		
13 IARU HF World Champ. Ends 1200U	14	15	16 DRC Meeting Elmer 6:30pm General 7:30pm	17	18 	19		
20	21	22	23 Learning Net 7pm	24	25 	26		
27	28	29	30 Learning Net 7pm	31				

Check www.ARRL.org for Contests and Rules!

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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

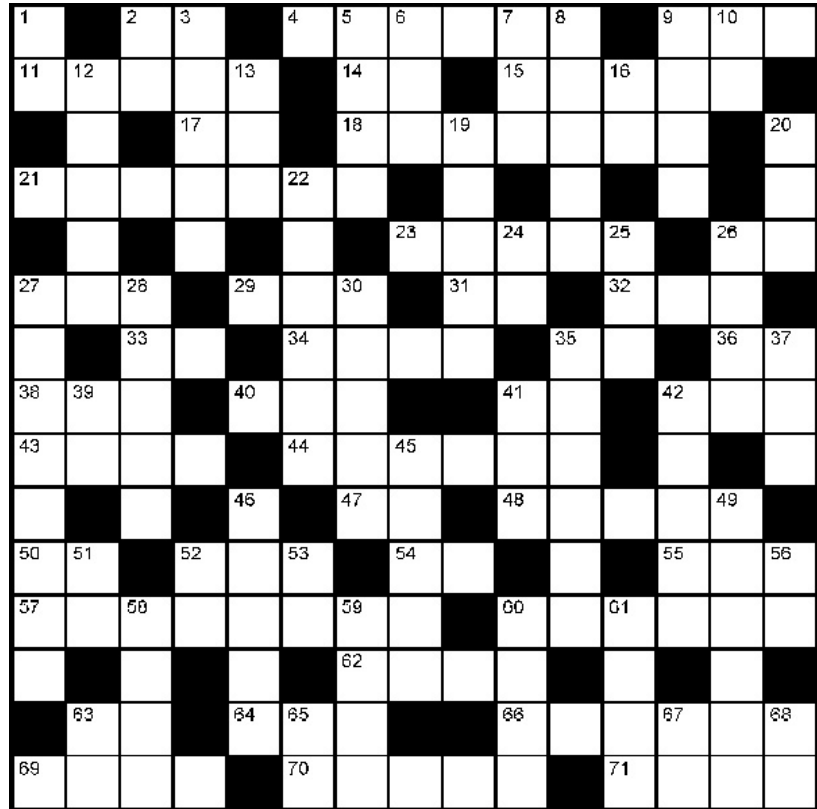
DRC members - this is your newsletter. If there is something which is club or amateur radio related that you'd like to see as a regular feature, email suggestions to the editor. Members are the heart and sole of The Denver Radio Club, if you have an expertise or an interest in a particular segment of 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

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 on page 6.



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 (prosign)
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)