



ROUNDTABLE

The Denver Radio Club Newsletter

April 2009

Since 1917

PRESIDENT'S MESSAGE

By Gerry Villhauer-W0GV

Hello DRC Members,

I hope this April issue of The Round Table finds you all in good health and ready for spring and summer activities. The club has several things for which we need member operator participation. The first is April 16th. This will be a simulated disaster exercise in the Boulder and Nederland area. It will be a simulated flood of Boulder Creek, which flows through the city of Boulder. We will be assisting The Salvation Army at the command post in Boulder and Nederland including 3 canteen sites. We need operators at about 5 locations to coordinate operations. The next activity will be June 6th. We need help to cover 4 or 5 locations in Golden Gate Canyon for a 30 mile charity run. DRC operators will provide first aid communications and coordination information for the run. *Please contact Gerry Villhauer, W0GV or Oscar Hall, K0SSE, to sign up to help.* And please don't forget Hamcon Colorado 2009 at Estes Park on May 29, 30 and 31. This is the ARRL Regional Convention. Please check the website at hamconcolorado.org or click on the blue link on our own DRC web page at w0tx.org for information on all the activities, presentations, sponsors and vendors. This convention is only in Colorado every three years and it is blasts...please don't miss it! Thanks to Dr. Steve Lee for last months presentation on "the red planet" Mars. We will ask him for another presentation as his scientific studies gain further knowledge of Mars.

I would like to welcome new DRC members: Paul Turner, W0GV and Ben Roe, K0YDS. Please come to the meetings and activities and be an active member.

This months program will be on April 15th and presented by Barry Wilson, KA0BBQ. Barry has been licensed since 1978 and after retiring from the U.S. Coast Guard moved to Colorado. He has varied ham radio interests including Navy Mars, packet, APRS, voice and digital modes on HF, VHF, UHF and is presently ARES Emergency Coordinator for District 13. Barry is a founding member of Colorado D*STAR Association. D*STAR will be his subject for our program. Very few hams are familiar with D*STAR but in a nut shell, it is "true digital" voice and data communication which is interconnected all over the world via the internet to other D*STAR sites. He will give us an interesting overview of this new digital communication mode.

See you all at the meeting April 15th 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 pm. followed by the Regular Meeting and Program at 7:30 pm.

Gerry, W0GV
President

Happy
April
Fool's
Day!



INSIDE THE ROUND TABLE

March Meeting - What'd I Miss	Pg 2	Up Coming Events	Pg 6
Tech Committee Report	Pg 2	Calendar	Pg 6
Work Sporadic E — Part 4	Pg 3	DRC Information	Pg 7
Puzzle Answers	Pg 5	Puzzle	Pg 8

MARCH MEETING - WHAT'D I MISS

By Bill – W6OAV

There were 56 attendees at this month's meeting! W0GV began the business meeting with introductions. KB0PVD then gave an overview of various upcoming Salvation Army exercises of which the earliest one is detailed elsewhere in this publication. K0SSE followed by covering the developing plans for field day. K0TOR then described the April 8th annual siren test and asked for volunteers. W0GV, after reminding the attendees about the upcoming HamCom Colorado convention, turned to meeting over to the guest speaker, Dr. Steve Lee. Dr Lee is curator of Planetary Science at the Denver Museum of Nature & Science. Dr. Lee gave a spectacular slide and movie presentation detailing the latest results from the Mars Exploration Rovers Spirit and Opportunity, the Mars Reconnaissance Orbiter and the Phoenix Mars Lander. The presentation covered how the Phoenix was built, how it was sent to and landed on Mars, how it functioned and what it discovered. Dr. Lee ended the presentation with a look at the future plans for robotic missions to Mars.



The meeting ended with a couple of lucky attendees winning door prizes.

TECHNICAL COMMITTEE REPORT

By Bill – W6OAV

This report provides an overview of items discussed during the March Technical Committee meeting. Due to meeting room conflicts, all items on the agenda were not covered. Those that were covered are listed below.

HIGH PRIORITY PROJECTS

147.33 Relocation Project

Goal: Fine tune the Hudson repeater:

- WA9TVH will troubleshoot the tinny audio issue in the near future.
- KB0A is working on programming a double courtesy beep and different control codes.

Voter System

Goal: Design and build a voting repeater system:

- WA9TVH has begun assembling the remote station.

TSA Battery Backup Project

Goal: Automate the station battery backup system:

- KB0A will purchase of two West Mountain Radio PowerGate modules with the 1 amp charger and a spool of appropriate power wire.

Field Day

Goal: Develop Field Day plans:

- K0SSE has completed a draft of the Field Day plans.

MEDIUM PRIORITY PROJECTS

TSA HF Antenna Project

Goal: Design and install an HF bi-directional wire antenna which will favor Chicago and San Diego:

- N1ETV has finished assembling the antennas.
- K0HTX has finished putting together the antenna stanchions.
- N4ATA is assembling a rig to be used to lift the stanchions to the roof.
- A work party will be scheduled ASAP.

SIREN SYSTEM TEST

By Jim – K0TOR

On Wednesday, April 8, 2009, the Lakewood Police Department will be conducting an audible test of the City's Outdoor Siren System. Each year during the April siren test, the Denver Radio Club supports the City of Lakewood by checking and verifying each of their 25 siren sites. The test is conducted at 11:00 a.m. Checking the condition and functionality of 25 sirens involves quite an effort. We assign a ham radio operator to each site for this test. The siren test net control operates from the Lakewood Emergency Operations Center (EOC) for collection and recording of test results. Volunteer ham operators arrive at their assigned siren site 30 minutes before the test begins. Each ham inspects the site for any solar panel damage or contamination (bird poop), condition of the siren horn(s) and performance during the siren operational test. There are two types of siren horns, one is a single horn that rotates to each of four

(Continued on page 3)

(Continued from page 2)

quadrants and the second type has four fixed horns. During the test the siren sounds, followed by a voice announcement. In an emergency the voice announcement would give information regarding the emergency and what action the citizens should take. So the performance of the voice announcement i.e., audio level and understandability are very important. Due to the audio level (100dB plus) it is necessary to locate oneself a minimum of ½ block away from the siren site. Also during the test, the rotating sirens are verified to move through the four quadrants. It is important that each ham volunteer arrive on site on time with HT/mobile radios to ensure all siren sites are covered. Siren test results are relayed to net control for a summary report. The summary report is provided to the city of Lakewood immediately following the siren test. This is a valuable service to Lakewood, as it saves many man-hours. Free pizza is provided for test volunteers at the Lakewood Public Safety building following the test.

This is the first time we will be supporting the siren test using the 145.490 MHz repeater located on Centennial Cone, as our primary repeater. So we will also use the 147.330 MHz repeater as a secondary repeater. If either repeater access is not possible from a specific site, an alternative approach would be to transmit directly on the repeater output frequency i.e., 145.490 MHz or 147.330 MHz. Our EOC base antennas are accessible from most siren sites.

WORK DX VIA SPORADIC E – PART 4

By Bill – W6OAV

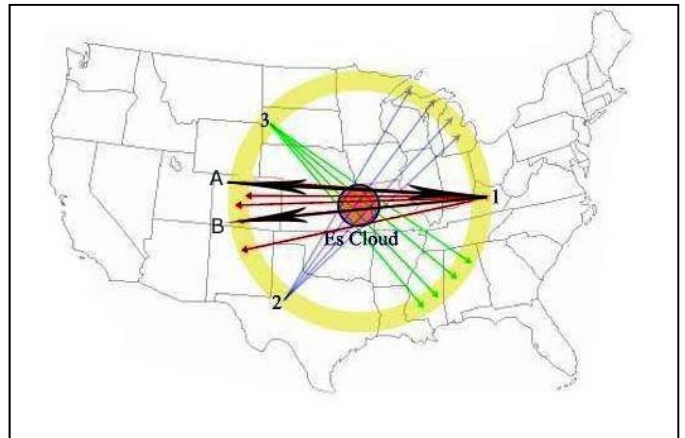
Part 4 discusses working Sporadic E (Es).

Working Sporadic E

Use the tools discussed in Part 3. The Es web sites are especially useful. As mentioned in Part 3, one can watch the movement of Es clouds and determine when a cloud might be “in range” for successful Es contacts. Remember that the Es cloud must be over your horizon and half way between you and the remote stations.

If you are interested in working a particular area, note on the Es web sites which bands are being reflected by the Es cloud towards the area of interest. If several bands are being reflected, the higher of the two bands will normally be reflected the farthest distance. For example, if 6 meters and 10 meters are being reflected by Es, then the 6 meter signals will be reflected farthest.

Do not get concerned if you hear only one side of several conversations. Why? The photo below shows an Es cloud over the central US.



When Station 1 is working Station A via the Es cloud, Station B hears only Station 1 via the same cloud. Station B does not hear Station A, and visa versa. Stations A and B are beyond ground wave coverage of each other. Likewise, when Station B works Station 1, Station A will only hear Station 1.

Use CW or SSB. FM suffers severe phase distortion as the Es cloud fluctuates. This phase distortion will cause long periods of un-intelligibility. Also, CW and SSB are much more efficient when the going gets rough.

Upon establishing contact with another station via Es, immediately give your name, your Grid Square and the other station's signal report. Serious operators do this because of the rapid fading and instant fade outs common to Es.

I hope this article has “turned you on” to a very fun aspect of VHF operation. Sometimes it is amazing what one can work. One time I worked Utah from California on 146.52 using a handheld with a rubber duck! Another time, I worked six stations in New Jersey from Florida using my one watt 6 meter mobile!

References:

- “Worldwide Occurrence of Sporadic E”, by Ernest K. Smith, PhD, 1957
- “ARRL Amateur Handbook”, 2007
- “Sporadic E and 50 MHz Transatlantic Propagation During 1987”, *Ham Radio*, 10-35, July, 1988, Grayer, G.H.
- “Midlatitude Intense Sporadic-E Propagation”, *QST*, December 1970 and March 1971, Wilson, M.
- “Technical Correspondence: Sporadic E Causes”, *QST*, April 1993, Spokes, G.N.
- “Eleven Years of Sporadic E”, *QST*, 23-28, March 1992, Pocock, E and Dyer, P.J.
- “Sporadic-E and aurora propagation”, *Worldradio*, 19-28, March 1993, Neubeck, Ken,

(Continued on page 4)

(Continued from page 3)

FIELD DAY 2009

By Oscar – K0SSE

The annual ARRL *Field Day* exercise will be held on the last full weekend of June this year. The dates of which are the 27th and the 28th of the month. However, the Denver Radio Club will also conduct its annual cleanup of the Hudson repeater site, most likely, on the Friday the 26th preceding the exercise. So we're asking for individuals with weed whackers, lawnmowers, rakes and other appropriate tools to come out and help us clean up the site. The DRC has a commitment to clean up the site once annually in order to use the facility year-round for its repeater operations.



This year we're adding several activities which have not been a part of our *Field Day* in the past. Robert White will hold a class on connecting Power Poles. If you don't know what Power Poles are you need to come to his class. Also, we're hoping to have a 160m station this year. This should be a fun activity for all of us. Gerry and Dave will be the Presidential Team to beat. More on this will be coming.

Hopefully all will go well, and the Salvation Army will be able to provide food for us this year. By that I mean we hope there will be no wildfires, anywhere, so that the Army will be able to stay around to provide sustenance for us.

So start planning to form your two-person teams, bring the young ones. Gather your friends both old and young come on out to the Hudson repeater site for the 2009 Field Day and have a great time. We will provide more information in the next *Round Table*.

BOULDER FLOOD EXERCISE

By Mike – KB0PVD

On April 14th, 6 am-3 pm, the Salvation Army will partner with the American Red Cross and CU Boulder in a Boulder Flood exercise. The Salvation Army will deploy multiple kitchens to feed responders from Nederland to eastern Boulder County. They will also setup a command post and tower. The Salvation Army needs ham volunteers to provide communications via ham radio and their commercial portable repeater system. This will be a great opportunity to test your equipment for severe weather and the fire season. To volunteer, or to obtain more information, contact Mike Gelski at kb0pvd@comcast.net or 303-906-4695.

BLAST FROM THE PAST

The photo below is a photo of the cover of QST from December 1944. If you look closely you will see a familiar call, although this call was held by another HAM at that time.



WINTER DRIVING

Winter is a beautiful time of the year, especially when a fresh layer of new snow covers everything.

Winter can also be a very dangerous time of the year. If you plan on traveling during the winter, it pays to be prepared for the unexpected. Getting stranded during a winter storm can be a matter of life and death.

Simply following a few simple driving habits like planning ahead, driving at a safe and legal speed, driving alert and sober and buckling up could insure that you make it to your destination safely.

If you must use your car during a storm:

- Plan your travel, selecting both primary and alternate routes.
- Let someone know your travel routes and itinerary so that, if you don't arrive on time, officials will know where to search for you.
- Check latest weather information on your radio.
- Try not to travel alone - two or three people are preferable.
- Travel in convoy (with another vehicle) if possible.
- Drive carefully and defensively. Watch for ice patches on bridges and overpasses.
- Take note of your odometer and coordinate it with exit numbers, mileposts, or cross-roads so if you are in a crash or slide off the road you'll better be able to identify where you are and summon law enforcement officers, rescue workers, or tow truck operators more quickly to your location.

- If a storm begins to be too much for you to handle, seek refuge immediately.
- If your car should become disabled, stay with the vehicle, running your engine and heater for short intervals. Be sure to "crack" a window in the vehicle to avoid carbon monoxide build-up.

Be courteous to those awaiting your arrival:

- Call ahead to your destination just as you are leaving.
- Let someone at your destination know the license number of your vehicle, what route you'll be traveling, and give a realistic estimate of your travel time.
- If you have a cell phone, give that number to the party at your destination.
- If you have friends or family at your place of origin, you should call when you arrive to let them know you have arrived safely.
- If road conditions, tiredness, etc. delay or postpone a trip, make a phone call. Let people on both ends know of the delay.



HRO 12 STORE BUYING POWER WORKS FOR YOU!!

www.hamradio.com

8400 E. Iliff Ave #9, Denver, CO 80231

303-745-7373 800-444-9476

24 HOUR FAX 303-745-7394

e-mail: denver@hamradio.com

Y	T	I	V	A	R	G	L	Y	F	F	O	D
R	T	F	A	F	A	Y	A	R	X	F	D	
T	A	E	B	F	O	N	S	U	S	O	G	
N	S	N	A	N	V	O	J	T	B	P		
A	G	R	A	L	L	R	L	L	U	L		
G	N	L	O	T	E	O	C	E	A	R	A	M
I	E	L	O	K	C	A	L	A	D			A
K	A	D	P	O	W	I	D	E	D	R	E	
O	S	L	O	S	I	D	Y	S				
G	N	P	I	N	P	O	L	L	A	P	A	
K	S	N	U	S	Z	G	I	P				
L	N	G	C	S	T	N	S	C	L	O	C	
S	X	A	O	I	N	I	L	V	L	E	K	
O	S	E	S	E	R	A	W	A	A			

UP COMING EVENTS

APRIL 4 – LARCFEST

Longmont Amateur Radio Club For more information go to <http://w0eno.org/node/266>

15-17 May – ARRL NATIONAL CONVENTION (DAYTON HAMVENTION)

Dayton ARA
<http://www.hamvention.org>

HAMCON COLORADO 2009 MAY 29, 30 & 31ST



The 2009 HamCon Colorado convention will feature both new and time-tested technologies. Although the technical sessions have not been finalized, topics you can expect will include D-Star, Satellite Operations, and a presentation on the Mars Phoenix Lander, ARES and the popular ARRL Forum.

Go to www.hamconcolorado.org for more information and current information.

27-28 JUNE – FIELD DAY

Watch for more information in future RoundTables.

18 JULY – PPRAA MEGAFEST

Pikes Peak Amateur Radio Association
<http://w0eno.org/node/266>

16 AUGUST – DENVER RADIO CLUB SWAPFEST

<http://www.w0tx.org>
Contact: Bryan Steinberg, KB0A
1011 South Foothill Drive
Lakewood, CO 80228-3404
Phone: 303-987-9596
Email: drcfest@w0tx.org

APRIL 2009							<i>DRC Net Sunday 8:30pm Local</i>
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
			1 <i>Learning Net</i> 7pm	2 	3	4 <i>LARCFest</i>	
5	6	7	8 <i>Learning Net</i> 7pm	9 	10	11	
12 <i>Easter Sunday</i> 	13	14	15 <i>DRC Meeting</i> Elmer 6:30pm General 7:30pm	16	17 	18	
19	20	21	22 <i>Learning Net</i> 7pm 	23	24 <i>ARBOR DAY</i> 	25	
26	27	28	29 <i>Learning Net</i> 7pm	30			

Check www.ARRL.org for Contests and Rules!

DRC BOARD OF DIRECTORS

President	W0GV	Gerry Villhauer	303-467-0223	W0GV@hotmail.com
Vice-President	WG0N	Dave Baysinger	303-987-0246	WG0N@arrl.net
Secretary	WA9TVH	Orlen Wolf	303-279-1328	owolf@mines.edu
Treasurer	K0TOR	Jim Beall	303-798-2351	K0TOR@arrl.net
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

DRC STAFF AND VOLUNTEERS

Trustee	WA9TVH	Orlen Wolf	303-279-1328	owolf@mines.edu
Net Control	K0TOR	Jim Beall	303-798-2351	K0TOR@arrl.net
Emergency Coordinator	K0SSE	Oscar Hall	303-375-0627	oscarh@aol.com
Membership	KC0OUQ	Bob Proctor	303-986-0612	KC0OUQ@att.net
Club Librarian	WG0N	Dave Baysinger	303-987-0246	WG0N@arrl.net
VE Team	AC0T K0MEL	Wally Gamble Mel Minnick	303-202-0339 303-761-3456	wallygamble@comcast.net 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	Not In Service
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	Local Area, Members Auto-Patch. Does NOT transmit PL!
2m	147.330mHz (-) 131.8Hz PL	NE Area Remote. Does NOT transmit PL!
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

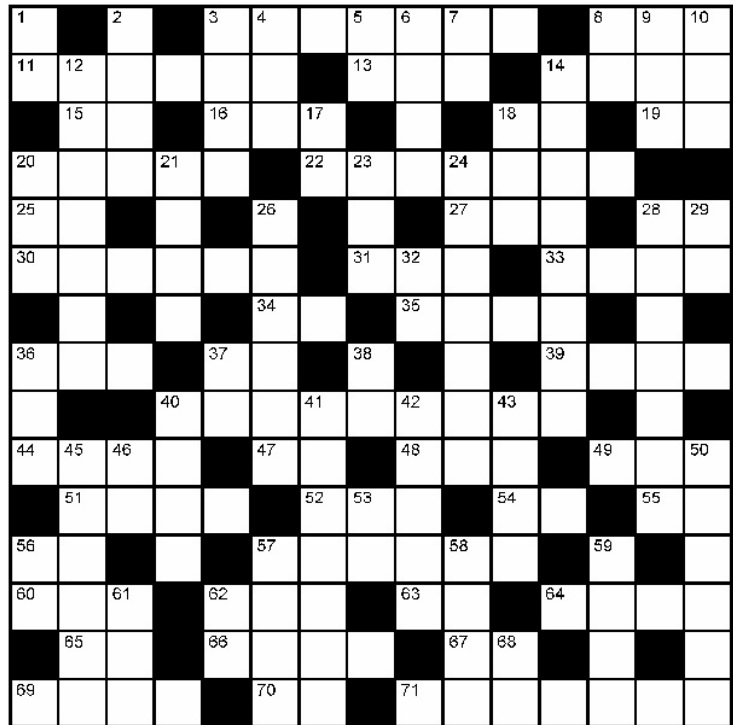
DRC members - this is your newsletter. If there is something which is club or amateur radio related you'd like to see as a regular feature, email suggestions to the editor. Members are the heart and sole of The Denver Radio Club, if you have an expertise or an interest in a particular segment of ham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

Did you see the moon and Venus in close conjunction in April 2007? With the ISS whizzing around the globe and our latest ham star talking it up from space, how about a puzzle on all things astro long ago? You can be a star! The sky's the limit!

By H. Ward Silver, NOAX

NOTE: Puzzle solution on page 5.



Across

- 3. What the tone of an unstable signal does
- 8. Before Windows
- 11. Temperature scale
- 13. Atom missing an electron
- 14. Symmetry of spin
- 15. Atomic clocks are based on oscillations of electrons in this type of atom (chemical symbol)
- 16. Message handling network (abbr)
- 18. Morse abbreviation for an evening goodbye
- 19. Largest component of liquified air (abbr)
- 20. Water vapor you can see
- 22. Ratio of mass to volume
- 25. This are squared
- 27. Prefix meaning "one"
- 28. Prosign for end of contact
- 30. Space program that landed a human on the moon
- 31. RF switching diode type
- 33. Echo off a meteor trail
- 34. Prefix meaning "two"
- 35. Capital of country with prefix of LA
- 36. Light is shifted to this color if source is receding
- 37. Add 'fi' and get a network
- 39. Unknown type of matter and energy
- 40. Nothing escapes it (two words)
- 44. Lunar sea
- 47. Prefix meaning "with"
- 48. Original manufacturer of Alpha amplifiers
- 49. Condensed methane fuel (abbr)
- 51. Pause or break in the action
- 52. Oldest logic family
- 54. Prosign for 'end of message'
- 55. Unit of wire or sheet metal thickness
- 56. Element being removed from solder (chemical symbol)
- 57. Things related to Jupiter
- 60. Prefix meaning "of the Earth"
- 62. Center of the solar system
- 63. Grouchy elder (CW abbr)
- 64. Heterodyne
- 65. To locate by radio (abbr)
- 66. Penetrating radiation
- 67. Label for volume knob
- 69. Take off
- 70. Need more of this type of ham (abbr)
- 71. Attractive force

Down

- 1. Northwesternmost state (postal code)
- 2. Included or added
- 3. Mechanical form of solar power
- 4. Abbreviation for skyhook
- 5. Prefix meaning "twice" or "every other"
- 6. Means the same as QTH (abbr)
- 7. Add 'd' on one side to finish and on the other side to make a burrow
- 8. Signals from far away
- 9. Lubricate
- 10. Count of dark patches hams love
- 12. To block or obscure
- 14. The opposite point on a globe
- 17. State with the Badlands (postal code)
- 18. Helpful pole
- 20. Person licensed to be accountable
- 21. The good, the bad, and the
- 23. Contact made by imagination
- 24. What 10 Down counts
- 26. The twelve astrological constellations
- 28. It's raining, it's pouring, so what is the Old Man doing?
- 29. 2.2 pounds for every one of these (abbr)
- 32. Moon of Jupiter
- 36. Type of computer memory (abbr)
- 37. Usual symbol is lambda (abbr)
- 38. All is well
- 40. Where the asteroids are
- 41. Hole that causes poor propagation
- 42. Prefix meaning "of the sun"
- 43. Complement to borrow
- 45. Measure of reflectiveness
- 46. Internet domain for Russian computers
- 50. Holds up the rocket until launch
- 53. Comes in both fast and slow
- 56. Position reference in a book or magazine (abbr)
- 57. If no decision has been made, this group is still out
- 58. Distant
- 59. Program to look for inhuman signals
- 61. Powered down
- 62. Prefix for Hallicrafters equipment
- 68. A milli-pico amp (abbr)