THE OHM TOWN NEWS
Voice of the Bridgerland Amateur Radio Club

April 2008

PRESIDENTS MESSAGE
Radio Direction Finding (Bunny Hunt)

We are again going to attempt to have a bunny hunt for our club activity this month. I don't know what the weather holds in two weeks. Hopefully it is amiable to outdoor activities. I would love to have some fun stories shared about radio direction finding at the club meeting. Please contact me if you would like to share, or know someone who might have, a good RDF story. For more information about this activity, please refer to last month's newsletter.

7QP Guest Speaker

Don Butler, N5LZ, will be visiting us to give a brief presentation on the seventh call area QSO party (7QP - http://www.7qp.org/) contest coming up the first weekend of May. He is trying to drum more participation in the contest and is especially interested in mobile operators or those who can go sit on county lines like the Cache/Rich county line in Logan Canyon to help activate multiple counties.

Notice of special election

Erik Larson, AD7OV, has moved out of the valley so we have a club officer vacancy. As per article IV section 4 of the club bylaws a special election at a general meeting will be held to elect a new vice president. Cordell Smart (KE7IK) has accepted a nomination to the position. We will accept write-in nominations and nominations from the floor for others at the club meeting as well. Erik wore many hats and we are still look-
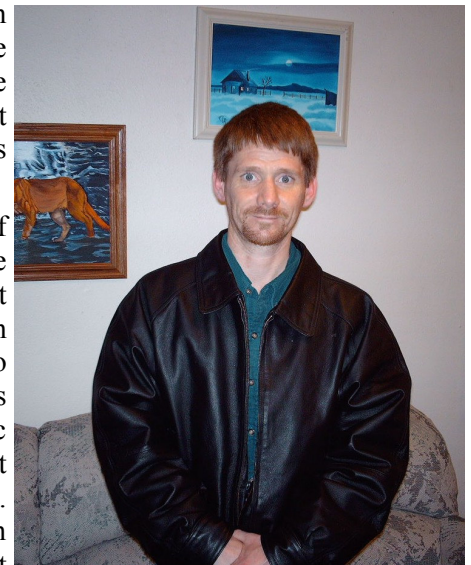
HAM PROFILE
by Brent Carruth KE7QHP

Featuring Brandon Preslar, KE7QHU

We have all read the ARRL red book "Ham Radio License Manual" to prepare for the FCC Technician class license exam. The sequels are the ARRL blue book "General Class License Manual" and the ARRL green book "Amateur Extra Class License Manual". In as little as three weeks Brandon Preslar carefully studied the red book and passed the exam, entirely self-taught. This is his strategy for passing the exam. He read all of the chapters and then quizzed himself by reading the question and answer section at the back of the book with the answers covered up. He proceeded forward only when he ascertained that he knew and understood the correct answers. His wife, Florence, noted that he answered 34 of the 35 questions on the exam correctly, a notable accomplishment. The exam was taken on 8 Dec 2007 and he received his license three days later, just less than four months ago.

A native of Hyrum and a graduate of Mountain Crest High School, Brandon was first introduced to radio by neighbors Scott and son Isaac Shooker of Paradise at fourteen years of age. He watched with amazement as Scott deployed a dipole antenna from a nearby tree while on a field trip in Blacksmith Fork Canyon and reached the Mount Logan repeater. Paul and Bonnie Hoth, neighbors of Brandon, now a resident of Logan, have

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UPCOMING ACTIVITIES 2008

April Club Meeting - April 12

May Club Meeting - May 10

Mountain Man Rendezvous - May 21,22,23

Cache Valley Biathlon - June 14

Wasach Back Relay-ARES - June 20-21

Field Day - June 28-29

Utah MS 150 - June 28-29

The VE test sessions are held at the Merrill Cazier Library, Utah State University, FACT Center Classroom at 7:00 PM

BARC Club Meetings are normally on the 2nd Saturday of the month at 10:00 A.M. on the 3rd floor of the Cache County Sheriffs Complex on 200 North and 1225 West, Logan, Utah

ARES Meetings are usually held on the Third Wednesday of each month at 7 P.M. at the Cache County Sheriffs Complex. Contact Tyler Griffiths for more information.

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The Listening Post

Name	Frequency	Days	Time
Notes			
VHF morning rag chew	146.720- 103.5	M-F	6:30AM
VHF evening rag chew	146.560	M-F	4-5PM
BARC Net	146.720- 103.5	T	9:00PM
SLC SSB VHF Net	144.250 USB	M	9:00PM
(horizontal polarization)			
Logan Storehouse ERC	146.420	1&3 Sn	8:30PM
(W7MOY)			
Ogden Utah North VHF	145.590	2,4 T	7:15PM
(W7OGD)			
SPARC Net	146.800- 88.5	1 W	8:00PM
(Sedgwick Peak)			
RACES VHF Net (IRLP)	147.200+ 103.5	3 Th	8:00PM
(even months)			
HF daily rag chew	7.228	Dy	12:00PM
High Noon Net	7.240	Dy	12:00PM
(relaxed)			
Beehive Utah Net (NTS)	7.272	Dy	12:30PM
HF daily rag chew	3.904	Dy	6:00PM
Ogden Utah North HF	3.993	1,3,5 T	7:15PM
RACES HF Net	3.918	3 S	8:00AM
(odd months)			

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Answers to questions on page 8:
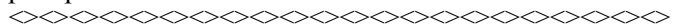1-B, 2-C, 3-A, 4-A, 5-D, 6-D, 7-C

ing for individuals to step up and take on some of the other responsibilities he shouldered. The first two that come to my mind are the BARC net manager and a VE team member who can help take care of all the paperwork and processing.

Notice of budget vote

We had a good year last year, thanks in part to the efforts of many individuals, the most important of them being all of you. We shook things up at the start of the year by trying out an online payment form via Pay-Pal. Eight households paid for fourteen 2007 memberships at the first of the year and three more households paid for four 2008 memberships at the end of the year. Our total membership stood at eighty-six, up nine from 2007.

In May and June we sent out a mailing to hams in the valley asking for help with a repeater donation to upgrade the repeater systems. The details of the systems needing upgraded and the estimated costs was outlined in the letter we sent out. This was very well received and we look forward to seeing some good steps made towards those goals this year. These funds will not be part of the normal BARC operating budget. The donors have already been presented with an outline of where the funds will be spent. The BARC officers will supervise the funds to ensure they are spent on the repeater upgrades as outlined by the repeater committee.

BARC was within budget for 2007. Some lightning damage up on Mt. Logan cost us, but we were well under on many other categories, exceeded our dues income goal, and didn't go over our overall budget. This year I am anticipating lower repeater repair costs with replacements being upgrades paid for by the repeater fund raiser instead and am presenting a balanced budget with a higher contingency amount in case we get a repeat performance from the weather.
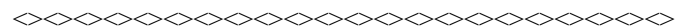
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also been instrumental in developing his interest in amateur radio. Their antennas have inspired many a Logan resident to think of talking around the world! Coworker Gary Spence's old-style crystal sets have kindled an interest in Brandon to learn how to make his own AM receiver and SSB and FM receivers and transmitters. Yes, he has his eyes set on studying the green book and obtaining his FCC Amateur Extra Class license. Brandon also has CB radio experience in the trucking industry in which he drove refrigerated trailers and flatbeds for three years. He found CB radios very useful in shipping and receiving and passing traffic up and down the highway. He also got to see CB used at its best and its worst, unfortunately.

You can hear Brandon on the weekly Bridgerland net with his ICOM T90A triband radio. Its internal lithium-ion battery will provide about two days power. He is adding a 12 volt gel cell for external power which will also boost the transmitter output power from ½ watt to 5 watts and he has installed a mag mount Comet triband antenna on his vehicle. He plans to add a portable HF station with solar power someday and wants to be prepared to assist with communications whenever called upon. In fact, he got started in amateur radio when his bishop asked him to be the emergency communications specialist for his ward. He has signed up to help with this year's Logan to Jackson bicycle race and Top-of-Utah marathon public service events. It is evident in speaking with him that "If you are able to help, then you have an obligation to help" is a principle he lives by, indeed, a very good principle for all to live by.

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As readers of the Ham Profile column know, for eight or nine months each year over the last five plus years, Boyd Humpherys, W7MOY, has introduced valley hams to the readership, about fifty or so in number. A characteristic trait of Boyd's style of writing is saucy or spicy, some might say, with an international flavor. More than this, though, is that by listening to each story told in-person has given him a perspective to write great stories that we find interesting, and love, to read. Many have expressed their thanks for bringing us all a little closer together. Perhaps little known, is that for many years, years ago, Boyd called the intermountain weather net every morning on HF gathering temperature and wind conditions throughout the west and then by phone went on the air with KVNU to relay this information. Today we know him, along with his son Bob, as the net control operator for the Logan Bishop's Storehouse ERC net. He is an example of dedication to amateur radio service. With an unassuming generosity he has also benefited more than one recipient with much needed radio equipment. When we see Boyd or hear him on the radio let us thank him for his service, for helping us to get to know these fifty valley hams a little better.

Beginning this month Boyd is passing the reigns to Brent Carruth, KE7QHP. Brent and his wife, LaJean, are the proud parents of three children who have recently ventured off on their own. They are happy to call Cache Valley their home of nearly nine years along with their many fine neighbors and friends. They love the mountains, the blue skies, the crystal clear spring water of this beautiful valley along with its rural and agricultural setting.

Here is the proposed 2008 budget for our club. For an overview of the various categories please see the President's message in this month's OHM Town News. If you have more detailed questions, feel free to contact Jacob KD7YKO or be sure to show up to the April 2008 club meeting on the 12th where we will discuss last year's budget and the income and expense goals for this year in further detail before holding the vote.

Bridgerland Amateur Radio Club
Budget 2008

Category	*Amount*
Income dues	$1,700.00
Total Funds	**$1,700.00**
Promontory repeater site rental	$600.00
Field Day	$375.00
Repeater repairs	*$200.00*
Newsletters	$180.00
Club fees (eg. Post Office Box rental)	$35.00
Christmas Party	$150.00
Socials and Refreshments	$160.00
Total Expenses	**$1,700.00**
Contingency Fund*	**$850.00**

*The contingency fund is added to the budget vote to provide the board with emergency access to those funds without an additional vote should the need arise. The intention is for unforeseen repairs to repeaters or other emergency expenses. If needed the money is pulled from savings.

_____ I approve of the 2008 Budget

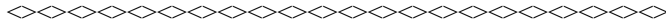_____ I do not Approve of the 2008 Budget

Signed: _____ Callsign:_____

Vote on April 12th at Club Meeting, or mail your vote to P.O. Box 111, Providence Utah to arrive by April 12th. You may also send it with another club member.

In The News

Anyone who subscribes to the *Herald Journal* would have had a hard time missing the front page article about Amateur Radio titled "*A little help from ham*" on Friday 28 March, 2008. It chronicles Eldon Kearl's (K7OGM) and Roger Ellis' (KE7HTE) coordinated efforts in reporting an accident in Logan Canyon between Beaver Creek Lodge and the Sinks. Emilie H. Wheeler quotes Roger, Brent Carruth (KE7QHP) and Tammy Stevens (N7YTO) in this professional article that paints these operators, our club and ham radio in general in a very positive light. KSL TV ran a story as well, giving Eldon a little more "*air time*" in the story. It can be seen online at:

http://www.ksl.com/?nid=148&sid=2960552

These hams and others who stand by ready to serve, monitoring various frequencies like the Mt. Logan repeater output deserve our admiration and thanks.

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Winlink Update Information

I have finished the new version of the Winlink for Dummies book and posted it on the club page thanks to the help of Ted AC7II. Special thanks to Bud N0IA who wrote the original assignments.

It covers all NEW lessons for installation and the procedures for getting Winlink 2000 up and running!

Winlink 2000 is a packet radio program that makes an easy interface for sending email messages over your radio. A very handy resource for Emergency Communications

This book is based on the Yahoo group…

http://groups.yahoo.com/group/ LOADING_WL2K_USER_PROGRAMS/

The book asks that you join this group and step through the different assignments. If you join the group there will be a mentor to help you through the assignments.

Basically Winlink 2000 lets you create an email in Microsoft Outlook Express (or your favorite email program), click send and a program called Paklink MP talks to your TNC which connects to your local RMS (Radio Message server) which forwards it onto the internet.

You can send and receive messages with out any connection to the internet! Thought the lessons do cover how to do it connected to the internet if it is available!

I would like to get this installed and running at all the City and served agencies in Cache County! Years ago almost every city in the county purchased, with the help of a grant, a radio, TNC, power supply, computer and antenna.

Most original computers out there at city stations for ham use are not upgradable to successfully make Winlink 2000 run properly. Computers need to be able to run Windows 2000 or better!

So you would like to give Winlink a try, download the manual and get going!

Link to the file is http://home.comcast.net/ ~noutares/files/WL2K_For_Dummies.pdf

Also if you have a desire to help out with you city station please feel free to let me know.

Enjoy
Tyler Griffiths N7UWX
Cache County ARES Emergency Coordinator
n7uwx@winlink.org

Elmer Resource List

Name	Call	Areas of expertise
Vernon Harris	W7GGM	Antennas, computers, and general theory
Kevin Kesler	KE7AAF	Youth HAM programs
Neil Dabb	KC7GCL	Beginning home brew techniques and general theory
Nick Dundon	N7DCL	HF and HF Digital, antennas and towers
Tyler Griffiths	N7UWX	ARES and RACES, APRS, Packet, Winlink and other digital modes
Kevin Reeve	N7RXE	VX7R and D700A radios, APRS, soldering, and youth programs
Jacob Anawalt	KD7YKO	Technician level theory and rules.
Bob Wood	WA7MXZ	APRS, HF, Packet, Electronics, etc.
Kelin Gibbon	KE7CMH	IRLP, Theory, Soldering

Of Bells and Bels and Decibels
Brent L. Carruth, KE7QHP
12 March 2008

Can one hear the sound of a bell? Why, yes, is the answer. Of course, for the sound to be heard there must be a medium through which that sound can be transmitted such as air, or water, or steel, or concrete, etc. A medium such as earth is not as good for transmitting the sound and a vibrating bell makes no sound at all in a vacuum, though it still vibrates.

How loud does the bell ring when it peals? The measurement of the loudness of this sound and other sounds uses a logarithmic scale because the human ear is such a dynamic instrument it can hear sounds over a span of many orders of magnitude in intensity from the faintest sound of a rustle of leaves to the roar of the space shuttle's engines at liftoff.

If the intensity of the faintest perceptible sound of the human ear is denoted by I_0 then the loudness, or intensity, of another sound, denoted by I is measured as $\log I/I_0$ and the unit of bel is attached to this measurement, or more commonly, $10 \log I/I_0$ db. We will learn what log is in two paragraphs and db after that.

Other quantities are measured with logarithms. For instance, the Richter scale that measures the intensity of an earthquake uses logarithms. Also, the attenuation of radio frequency energy propagating along a transmission line is measured with logarithms.

Let's look at what is a logarithm. We write $2^5 = 32$ and $3^4 = 81$. 2 is called the base, 5 is called the exponent. So, we also write $\log_2 32 = 5$ and $\log_3 81 = 4$. This is read as "log base 2 of 32 is 5." So, we see that a logarithm is an exponent. Continuing on, we write $4 * 8 = 2^2 * 2^3 = 2^{(2+3)} = 2^5 = 32$ and $3 * 27 = 3^1 * 3^3 = 3^{(1+3)} = 3^4 = 81$. So, when the base is the same we can add the exponents. This principle of adding exponents is what makes logarithms so useful when calculating quantities that are multiplied together. Hence, we can also write $\log_2(4 * 8) = \log_2 4 + \log_2 8 = 2 + 3 = 5$ and $\log_3(3 * 27) = \log_3 3 + \log_3 27 = 1 + 3 = 4$. When 10 is the base we write can write $\log_{10}$ or simply log with the base understood to be 10.

Exercise: calculate $\log_{10} 100$ and $\log_{10} 2$.

From whence cometh decibels?

Suppose we measure the length of a table with a ruler. What is a convenient unit of length to use: yards, feet, inches? Probably feet. What if we wish to measure the length of a sheet of paper? We would likely want to use inches. While it is certainly possible to express a measurement of length with any unit of measurement we choose, we typically use a unit appropriate to the size of the object being measured. We have an 8 1/2 by 11 inch sheet of paper or we have a 3 by 4 foot table, or the distance from Logan to Smithfield is 5 miles, and so on.

The metric system is convenient because it uses multipliers and divisors of 10. For instance, 1 meter = 10 decimeters = 100 centimeters = 1000 millimeters and 1 kilometer = 10 hectometers = 100 decameters = 1000 meters. The same idea for meters applies to bels. We can write 1 bel = 10 decibels with db being a shorthand for decibels. Since $\log_{10} 2 = 0.3010... \approx 0.3$ we have $10 \log_{10} 2 \, db = 3 \, db$. To convert 3 db to a number take $10^{3/10} = 10^{0.3} \approx 2$, so 3 db represents a factor of 2.

Let's put this to use. Say we have 40 feet of RG-58U coaxial cable with an RF attenuation of 11 db per 100 feet at 150 MHz. The signal loss of this cable is $40/100 * 11 \, db = 4.4 \, db$ or since $10^{0.44} = 2.75... \approx 3$ this means the signal power at the antenna is about one-third the power of the signal the transmitter sends. For a 50 W transmitter using this cable the antenna receives only approximately $50/2.75 = 18$ watts of power.
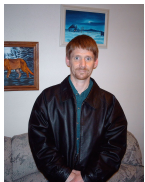
Exercise: calculate the signal loss of a 150MHz signal sent through 80 feet of RG-58U coaxial cable.

The ARRL Letter   Vol. 27, No. 10   March 14, 2008
"Spirit of Knoxville" Sees Successful Launch:

The trans-Atlantic balloon flight of the "Spirit of Knoxville IV" <http://www.spiritofknoxville.com/> launched into orbit on March 11 at 0200 UTC (10 PM EDT March 10). The balloon, designed to stay aloft for more than 24 hours, was successfully inserted into the current jet stream at normal flight altitudes of 30,000-40,000 feet. On Wednesday, March 12, it had made two-thirds of its journey and crossed the tectonic plate to Europe. Organizers hoped the balloon would make to Europe, but after 40 hours and 3300 miles, the balloon lost altitude late Wednesday and went into the ocean as it neared Ireland. Using radio frequencies, the balloon transmitted data detailing its current location, distance traveled, speed, height and health of the balloon. The balloon's payload consisted of hand-made computers and radios, along with a GPS and self-authored software. The onboard computer gathered such information from the GPS as altitude, speed and temperature; the computer then determined whether the balloon needed to drop weight to maintain its altitude and sent this information, via Amateur Radio frequencies, to volunteers around the globe.

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Amateur Radio Exempt from California's
New "Hands Free" Law:

On July 1, the State of California will have new laws on the books to deal with the use of wireless telephones while driving. There has been some confusion as to whether California amateurs who operate in their car will be affected by the new law. According to the California Department of Motor Vehicle's Web site <http://www.dmv.ca.gov/cellularphonelaws/dl208_03cell_phone.pdf>, "the use of dedicated two-way radios such as walkie-talkies or Citizen Band (CB) radios is not affected by the new law" for drivers 18 or older.

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The ARRL Letter   Vol. 27, No. 11   March 20, 2008
EMCOMMWEST COMING TO RENO IN MAY
EMCOMMWEST 2008

An ARRL specialty convention devoted entirely to emergency communications—is coming to the Circus Circus Hotel Resort in Reno, Nevada May 2-4. ARRL Emergency Preparedness and Response Manager Dennis Dura, K2DCD, will host an Emergency Communications forum and deliver the keynote address. Gordon West, WB6NOA, will be the special guest for the Saturday night banquet; West will also bring his mobile communication unit and present an "Introduction to Emergency Communications" forum on Saturday. Special Counsel of the FCC's Enforcement Bureau Riley Hollingsworth had been scheduled to make an in-person appearance, but instead will attend EMCOMMWEST via a special video presentation. The Reno Spring Hamswap will be held on Saturday, May 3 starting at 6 AM, adjacent to the hotel (corner of Sixth and Sierra). Everyone is invited to swap and sell. Unlike last year, there are no charges for buyers or sellers. Bring your own tables or swap out of the back of your vehicle. There are four tracks of programs currently scheduled for EMCOMMWEST: General/Technical EmComm (covering public relations, hazmat awareness, recruiting EmComm teams and more), EmComm 101 (including an introduction to Emergency Communications, Net Control Station training, message handling training, EmComm go-kits and a message handling competition), EmComm Served Agencies (including a weather spotter class, emergency operation centers, search and rescue, Salvation Army, MARS and CERT), and Education and Recruiting (including a Technician "Ham Cram" and VE sessions). The Ham Cram is for anyone interested in obtaining their Technician class license without suffering through a classroom environment. There will be a special event station, N7Z, on HF, UHF and VHF. A special QSL card will be available. Registration is now available online via the EMCOMMWEST Website <http://www.emcommwest.org>. Special room rates are available from Circus Circus <http://www.circuscircusreno.com/>. Please visit the EMCOMMWEST Web site or e-mail <info@emcommwest.org> for more information.

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The ARES E-Letter   March 20, 2008
ARES Training Recommendations

All ARES operators should periodically review their training and qualifications. Now, is a good time to do so as we look ahead to the start of hurricane season just a few months away. First and foremost, ARES operators should take Level One of the ARRL Emergency Communications courses, progressing to Levels Two and Three when possible. Here are some links to find out more about the ARRL Amateur Radio Emergency Communications Courses:

- Frequently Asked Questions <http://www.arrl.org/cce/faq.html>
- CCE Course Syllabi <http://www.arrl.org/cce/syllabus.html>
- Registration for Online Courses <https://www.arrl.org/forms/cce/>
- Listing of Classroom Courses and Exams <http://www.arrl.org/cce/activity-list.php3>
- CI/CE Search Page <http://www.arrl.org/cce/cice-search.php3>
- Discussion Forum (Members Only) <http://www.arrl.org/members-only/forums/w-agora.php3>
- CCE Student Page (Members Only) <http://www.arrl.org/members-only/cce/>
- Course Listing <http://www.arrl.org/cce/courses.html>

In addition to the ARRL Emergency Communications Courses, field operators should also complete certain formal training courses:

- Red Cross combined course in Adult CPR/First Aid Basics
- Red Cross online Introduction to Disaster Services <http://www.redcross.org/flash/course01_v01/>
- FEMA IS-100 (Introduction to Incident Command System)
- FEMA IS-200 (ICS for Single Resource and Initial Action Incidents)
- FEMA IS-700 (National Incident Management System) <http://training.fema.gov/IS/>

Except for the first two, all courses are free of charge, and CPR/First Aid may be free to members of the Red Cross. CPR/First Aid is the only course that requires periodic refreshers and the only course that must be taken in person rather than on the Internet. The American Heart Association (AHA) also offers Basic Life Support (BLS) courses. Where FEMA courses exist in more than one current version - aimed at somewhat different audiences - any of the currently-available versions will suffice.

Questions for General License

1. (G1A02) On which of the following bands is phone operation prohibited?
A. 160 meters
B. 30 meters
C. 17 meters
D. 12 meters

2. (G2A13) What does the expression "CQ DX" usually indicate?
A. A general call for any station
B. The caller is listening for a station in Germany
C. The caller is looking for any station outside their own country
D. This is a form of distress call

3. (G3B07) What does LUF stand for?
A. The Lowest Usable Frequency for communications between two points
B. The Longest Universal Function for communications between two points
C. The Lowest Usable Frequency during a 24 hour period
D. The Longest Universal Function during a 24 hour period

4. (G4E10) Which of these materials is used as the active element of a solar cell?
A. Doped Silicon
B. Nickel Hydride
C. Doped Platinum
D. Aluminum nitride

5. (G6C07) What is one disadvantage of an incandescent indicator compared to a LED?
A. Low power consumption
B. High speed
C. Long life
D. High power consumption

6. (G9B10) What is the approximate length for a 1/2-wave dipole antenna cut for 14.250 MHz?
A. 8.2 feet
B. 16.4 feet
C. 24.6 feet
D. 32.8 feet

7. (G0B02) What is the minimum wire size that may be safely used for a circuit that draws up to 20 amperes of continuous current?
A. AWG number 20
B. AWG number 16
C. AWG number 12
D. AWG number 8

THE OHM TOWN NEWS
PO BOX 111
PROVIDENCE, UT 84332

April, 2008

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