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AL JASZCAR, Amateur Radio Room
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KAISER RIVERSIDE, CA

WORLD-WIDE COMMUNICATIONS WITH HAM RADIO

Did you ever want to meet somebody in Moscow, Beijing, or Lesotho? How would you like to have a close friendship with somebody in Johannesburg, London, or Buenos Aires? You can do that and more when you upgrade your Amateur Radio Operators license. I talk almost weekly to Vlad in St. Petersburg (the one in Russia), Juan in Brasilia, and Alex in, of all places, Sarajevo, Bosnia. I've established friendships with people in 58 countries, on all continents through ham radio.

When you upgrade your Amateur Radio Operators license, new areas of the frequency spectrum become available to you, and you can literally communicate with other hams in all 326 countries that allow amateur radio. With the crumbling of the Soviet bloc, more and more countries are opening up all the time. The most recent is Albania, where amateur radio hasn't been allowed for more than 25 years. Bangladesh will soon open its doors to our exciting hobby.

People always think I must have spent thousands and thousands of dollars to have this capability. Not so. While the sky's the limit on what you can spend for new equipment, for less than \$1,000 you can buy all new equipment and be on the air in no time, establishing friendships around the world.

Another common misconception is that I must run up horrendous monthly bills. Again, not so. Remember, we're dealing with radio waves that know no international boundaries, not Ma Bell.

So how do radio waves travel around the world? That's one of the most interesting aspects of amateur radio, a science all its own, known as radio wave propagation.

Basically, the way it works, is that the ionosphere (that area of the upper atmosphere extending from about 30 to 250 miles above the earth), is used to bounce the radio wave around the world. During the daylight hours, the ionosphere is made up of four layers, known as the D, E, F1 and F2 layers; with the D layer being about 30 miles above the earth and the F2 being about 250 miles up.

The D layer acts as a gigantic sponge, absorbing the waves as they enter it, and they may be lost forever, not returning to earth. This is why long distance contacts during the daylight hours are much more difficult than in the evening. If parts of the waves do make it through the D layer, they have a chance. They might be refracted off the E, F1 or F2 layer and returned to earth hundreds or thousands of miles away. It all depends on current atmospheric conditions.

Early evening and night time is best for long distance communications. When the sun starts to go down, the D and E layers disappear, and the F1 and F2 layers combine to form a single F layer. The F layer will refract the radio wave up to 2,500 miles from your station. It will then bounce off the earth's surface back up to the F layer again, again and again. In world-wide communications it is not uncommon for the signal to bounce 6 or 7 times, all this at 186,000 miles per second!

Ever wonder why in the evening or night time hours you can pick up radio stations on your commercial AM radio from as far away as Cleveland or New York, but during the day you only hear stations in Southern California? Now you know. The D layer disappeared, and the F layer took over.

So what does it take to get world-wide communications privileges? Not much, really. You need to know a little bit about electronic theory and Morse Code. Then you take a multiple choice test to qualify for your license from the Federal Communications Commission, the same folks that regulate commercial television and radio stations. You can even purchase books that have all the FCC questions and answers in them to study (and they're legal).

If you're interested in exploring this subject a little more, give me a call at tie line 338, ext. 7823. I'd like to meet you. — Dan Royal, AB6TF

Roamin' Round — *All Mode Contact in the Fast Lane* I'd been talking to Napp, KD6NIS on WALA repeater with my HT, when we decided to see if I could hit the local Condor Connection from Redondo Beach. We QSYed to Condor and out of the woodwork came Röger, KD6NIV. Later, I called Napp on the 147.27 MHz (+) repeater only to hear back a familiar call sign. It was our own Carl, KD6PER, he was west bound on Roscoe and I was east bound. We made contact on simplex. Then ETE contact (eyeball to eyeball). — Alan, KD6NIS

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Q: I heard an amateur using nonstandard phonetics to identify. Is this okay? It's confusing to hear such phonetics.
A: In the FCC Regulations, Section 97.119(b)(2) states that identification must be made "By a phone emission in the English language. Use of a phonetic alphabet as an aid for correct station identification is encouraged." If KB1AFX identifies her station using the phonetics "Kilo Bravo One A Funky Xylophone," it's confusing, even to the FCC! For this reason, FCC-licensed amateurs operating in the US should use standard ITU phonetics. As long as your transmissions aren't being repeated through someone else's station, you can do whatever you want as long as FCC rules aren't being violated. If you are speaking with other amateurs in a foreign language, you must identify in English.

A Condor Flies North

The Condor Connection repeater at 224.88 at Quartzite, AZ, has moved to Hualapai Peak near Kingman, Arizona.

Nets, Nets and Nets

On Monday at 8 pm on 144.33 MHz simplex is the Beginners Net. Besides useful tips, they provide simple code practice. Also on 446.350 MHz repeater.

Inland Empire Amateur Radio Club

The IEARC can be reached at P.O. Box 1433 Ontario, CA 91762 or during the Thursday 8 p.m. net on the W6RSD 146.985 MHz (-) Keller Peak Repeater Assoc. machine.

Alphabet Soup

SSB	Single Side Band
F2E	FM data
F3E	FM Voice
J3E	Voice with SSB
CW	Continuous Wave (morse code transmission)
YL	CW abbreviation for Young Lady
XYL	CW abbreviation for Wife
CUL	CW abbreviation for See You Later
CJS	Cactus Inertie System
BARC	Baldwin Hills Amateur Radio Club
BEARS	Burbank Emergency Amateur Radio Service

Six Meter Club

The Southern California Six Meter Club, P.O. Box 104541, Fullerton, CA 92635 holds its general meeting every third month beginning in January at the Butcher Block Bar-B-que in Lawndale at 15020 Hawthorne Blvd. at 11:30 AM after the TRW Swap meet where they have a table set up. Thursday at 8 pm night is the clubs FM net on the Sylmar repeater 52.86 (-). Tuesday at 8 pm is their 50.150 Mhz USB Net. Net control has vertical antenna polarity. The club can give you information on the purchase or modification of 6 Meter gear and antennas. They also have a newsletter called "The Sixpack" published 8 to 12 times a year. If you are about to get an HF rig, consider one with 6 Meter all mode capabilities which will allow you use the new KPARN 6 Meter FM repeater. Brad, KB7FQR has a new open 6 Meter repeater at 51.72 MHz (-), repeater (CS, possibly with a PL of 97.4) located at 10,000 feet near the Lake Tahoe. Offset for six meter repeaters is down (-) 500 KHz.

Still Out of this WORLD

As part of the Space Amateur Radio Experiment (SAREX), three Space Shuttle missions are scheduled early this year to carry 2 meter voice and packet Amateur Radio. They are Flight STS-55 *Columbia*, Flight STS-56 *Discovery* and Flight STS-57 *Endeavor*. To hear them direct, the downlink frequency is 145.550 MHz. Uplink frequencies are 144.91, 144.93, 144.95, 144.97 or 144.99 MHz. Many local repeaters periodically relay routine Shuttle-Mission Control transmissions. Check out 220.040, 224.680 145.320, 145.460, 146.985, 448.50, and 169.400 MHz and JPL in Pasadena on HF 3.840 LSB & 21.280 MHz USB.

Become a GENERAL

Not an Army General. A licensed Amateur Radio GENERAL! Only a couple of dozen questions and 13 words per minute of Morse code stands between you and your upgrade to a GENERAL license. Sunday nights from 9-10 on the 446.350 MHz repeater GENERAL theory and code are presented. If there is any interest, we can form study groups to help each other. The current exam questions for the GENERAL exam will be used up until June 30, 1994. The NOVICE/TECHNICIAN exam has been revised and the new questions will be used starting July 1, 1993. If you have an old book and want to use it, start studying now!

ARRL Events

The National Convention will be in Huntsville, Alabama on August 14-15 1993. HamVenture '93, the Southwest Division Convention is on September 17-19, 1993 at the Ventura Fair Grounds in Ventura. Talk in frequencies are 146.67 (-), 224.18 (-), & 446.75 MHz (-) all with a PL of 141.3. On site registration is \$15. Pre-registration until July 31 is \$12. Contact Radio Room for registration forms. Maybe we can carpool?

Don't Speak on the Radio, BARC

The Baldwin Hills Amateur Radio Club (BARC) operates open wide area repeater systems on 10M; 6M, 2M, 220 and 1.2 GHz bands. Club members also have access to a 440 MHz repeater. Every Tuesday at 7:30 PM they have their weekly net on 146.925, 224.680 and 1282.150 MHz. For membership information write to BARC, POB 43639, Los Angeles, CA 43639. ☐ (213) 292-6423.

San Fernando ARC

The San Fernando Valley Amateur Radio Club can be reached at P.O. Box 3151, Van Nuys, CA 91407. Meetings are held the third Friday of the month at 7:30 at the Van Nuys Red Cross Building 14717 Sherman Way just east of the San Diego freeway and west of Van Nuys Blvd. Ten Meter Net is 8 p.m. Wednesday on 28.310 Mhz USB (± QRM). Two Meter Net is 8 p.m. Thursday on 147.735 Mhz (-) Magic Mountain or 147.24 Mhz (+) Duck Mountain if Magic Mtn. is unavailable.

The CLARA Repeater

The Clairemont Repeater Association owns and operates the CLARA repeater which is open to all radio amateurs. Full members have autopatch privileges. Located at 5700 feet on Santiago Peak in Orange County, the N6SLD repeater frequency is 145.22 Mhz (-) with a PL of 103.5. There is a weekly net at 7 pm on Tuesday and breakfast get togethers the third Saturday of every odd month. They also provide Morse code practice at 8 pm every Sunday and Thursday.

The BEARS are all over Burbank

Not the Chicago BEARS, the Burbank Emergency Amateur Radio Service, a volunteer group providing emergency communications for the City of Burbank. Open to licensed amateurs 18 or older who are registered with the City of Burbank or the LA County Sheriffs Dept. Meetings are on the second Wednesday of the month from 7 to 9 pm at the Fire Training Center, 1845 N. Ontario Street.

CQ CQ CQ CALL For Articles

Sunset Circuitry will be issued when we have enough articles which means that you the reader need to contribute! WordPerfect 5.1 IBM PC (MS-DOS) compatible floppy disks (either size) preferred. Call Alan KD6NIS at (213) 667-8128 regarding other formats. Printed articles are OK as they can be scanned. Short articles can be retyped if hand written. Articles or ideas can be submitted to: *Sunset Circuitry*, RADIO ROOM, c/o Hospital Administration, 5th Fl., 4747 Sunset Blvd., Los Angeles, CA 90027.