



K7EAR



July 2009

EAARS open repeaters. PL is 141.3 unless noted otherwise

Helio 146.860 and 440.700 EAARS Network, 146.900, 447.825 w/ closed remote PL 100.0
or 141.3. Packet 145.010 MT. **Lemmon** 147.160 EAARS Network **Pinal Peak** 145.41
EAARS Network **Guthrie Peak** 147.28 EAARS Network **Jacks Peak, NM** 145.21
EAARS Network
GMRS Repeater on Helio 462.625 PL 123.0

Next Meeting

Tuesday July 21 at Search and Rescue in Thatcher. Eat at 6:30PM, meeting at 7:00 PM

7QP Results

First place - 7th-Area County Expedition Multi-Multi
First place - Arizona
First place - Graham County, Arizona
First place - Greenlee County, Arizona

NanoRadio

Alex Zettl's tiny radios, built from nanotubes, could improve everything from cell phones to medical diagnostics.

By Robert F. Service

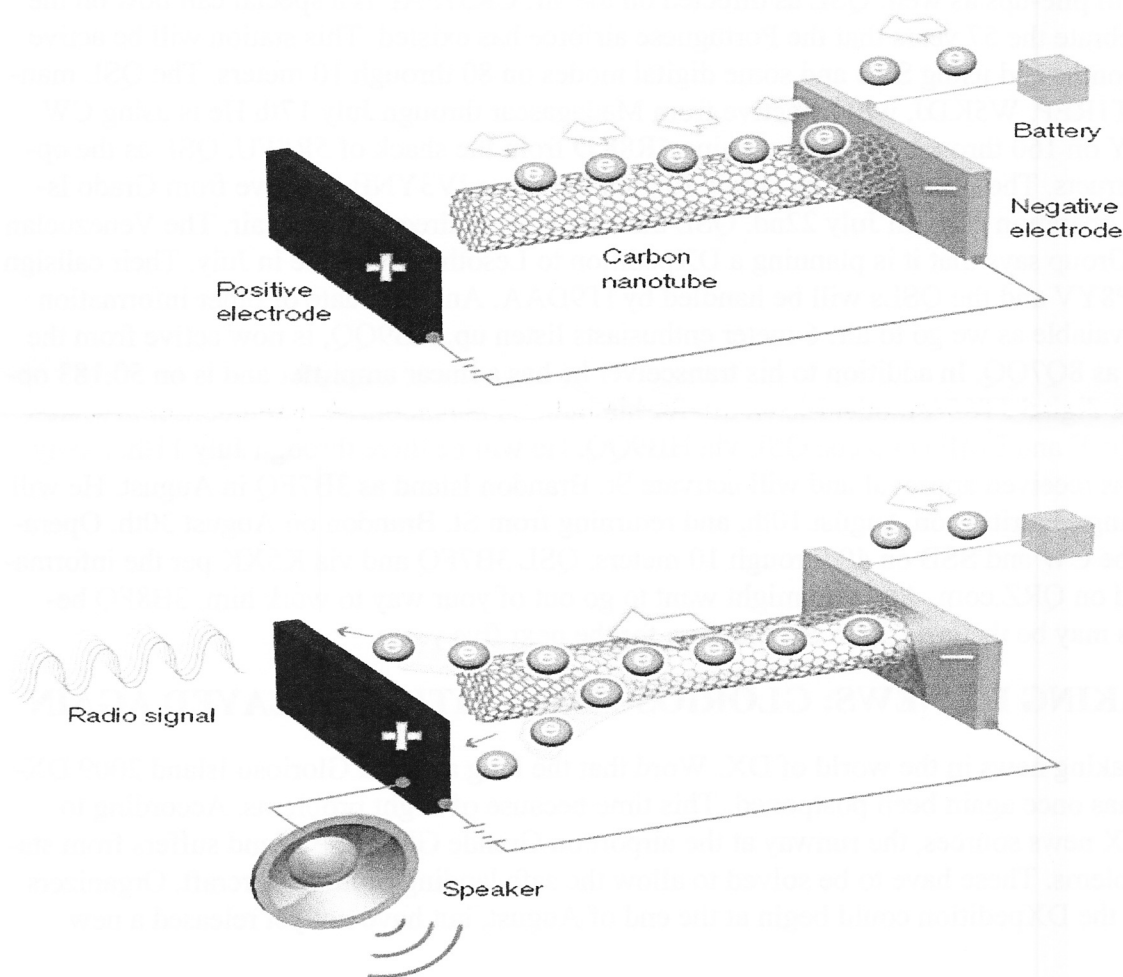
If you own a sleek iPod Nano, you've got nothing on Alex Zettl. The physicist at the University of California, Berkeley, and his colleagues have come up with a nanoscale radio, in which the key circuitry consists of a single carbon nanotube.

Any wireless device, from cell phones to environmental sensors, could benefit from nanoradios. Smaller electronic component-s, such as tuners, would reduce power consumption and extend battery life. Nanoradios could also steer wireless communications into entirely new realms, including tiny devices that navigate the bloodstream to release drugs on command.

Miniaturizing radios has been a goal ever since RCA began marketing its pocket-sized t

addition to receiving it. But Zettl says that won't be hard, since a transmitter is essentially a receiver run in reverse.

Nano transmitters could open the door to other applications as well. For instance, Zettl suggests that nanoradios attached to tiny chemical sensors could be implanted in the blood vessels of patients with diabetes or other diseases. If the sensors detect an abnormal level of insulin or some other target compound, the transmitter could then relay the information to a detector, or perhaps even to an implanted drug reservoir that could release insulin or another therapeutic on cue. In fact, Zettl says that since his paper on the nanotube radio came out in the journal *Nano Letters*, he's received several calls from researchers working on radio-based drug delivery vehicles. "It's not just fantasy," he says. "It's active research going on right now."



Tiny Tunes

A nanoradio is a carbon nanotube anchored to an electrode, with a second electrode just beyond its free end. When a voltage is applied between the electrodes, electrons flow from a battery through the nanotube, jumping off its tip to the positive electrode. A radio wave alternately attracts and repels the nanotube tip, causing it to vibrate in sync. When the tip is farther from the electrode, fewer electrons bridge the gap; the varying electrical signal recovers the audio signal encoded by the radio wave.

Williams Rodeo Grounds, Airport & Rodeo Roads, Williams, AZ
ARCA Annual Meeting - 18 July 2009 at 4:00 PM
Check the July Hamfest page for all the information.

15 - 16 August 2009

ARRL Southwestern Division Convention

Hosted by the Santa Barbara Amateur Radio Club
Earl Warren Showgrounds, Santa Barbara, CA
Talk-In: 146.19/79 (P1 131.8)
Contact Marvin Johnston, KE6HTS at marvin@west.net
Web Site: <http://www.sbarc.org/>

17 October 2009

OPRC Hamfest

Hosted by the Old Pueblo Radio Club & Radio Society of Tucson
Kino Sports Park, Tucson
ARCA Meeting at 11:00 AM

5 December 2009

Superstition Hamfest

Hosted by the Superstition Amateur Radio Club
Mesa Community College, Dobson & Hwy 60, Mesa, AZ
ARCA Meeting at 11:00 AM

19 - 20 February 2010

Yuma Hamfest and Emergency Preparedness Show

Hosted by the Yuma Amateur Radio Hamfest Organization
Yuma County Fairgrounds, 2520 E 32nd Street, Yuma, AZ
Gates open at 4:00 PM Thursday, 2/18, for camping.
Event hours: Friday, Noon - 5:00 PM
Saturday, 8:00 AM - 5:00 PM
Buzzard BBQ & Grand Prize Drawing Saturday night 6:00 - 8:00 PM
Talk In Frequency: 146.840(-) P1 88.5Hz
Contact: Richard Palaszynski, KC2LGR at kc2lgr@gmail.com
Web Site: www.yumahamfest.org