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# Counterpoise

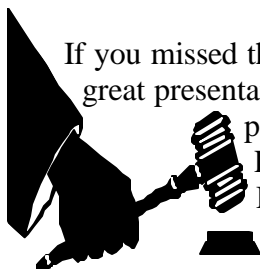
Published Monthly by the Amateur Radio Club of El Cajon

Volume XLI

May 2001

Number 5

## From the President



If you missed the last meeting, you missed a great presentation on the advantages of solar power as demonstrated by Del Radant, N6JZE. Del, former San Diego ARRL Technical Coordinator and also the San Diego Official Observer

Coordinator, took questions after his talk ranging from how much things would cost to set up and even a statement about using compost to help heat your home water. Next month, we will have the pleasure of having Monica Zech talking about traffic safety. You have heard the voice for many years; now is the chance to meet her in person. All you have to do is be at the La Mesa Masonic Lodge, 7 p.m. on Wednesday night, May 9<sup>th</sup>.

Tom, KC6NXZ, your Vice President, is doing a bang-up job getting programs lined up. But, if you have a specific topic you would like to see, give him a call. His phone number is listed elsewhere in this issue.

Volunteers are needed for this year's Del Mar fair. We have been assigned June 15<sup>th</sup> thru the 19<sup>th</sup>. There are openings for six communicators for each day. Normal shifts are from 10 a.m. to 2 p.m., 2 p.m. to 6 p.m., and from 6 p.m. to 10 p.m., or closing. You will receive one free ticket for your shift. However, wait just a second, if you work two shifts, you



*Continued on page 4*

## RADIO TELESCOPES

When you think of it, studying celestial objects by examining radio waves is just as sensible as watching the light waves that come to us from them. Both are forms of electromagnetic radiation, one visible, the other invisible. But, radio study of the heavens entered astronomy by an indirect route.

A Bell Telephone engineer, Karl Jansky, tried in 1931 to find where the interference disrupting the transatlantic radiophone circuits came from. He discovered that the radio noise was not from Earth; it was extraterrestrial. The primary source was the Milky Way, the Galaxy to which our solar system belongs. In 1936, an Illinois radio engineer, Grote Reber, pursued the phenomenon further. He built the first parabolic radio telescope, 9.5 meters in diameter, and made the first radio map of the sky. The strongest signals he found came from the rich star clouds in Sagittarius, toward the center of the Galaxy. And, in 1942, British radar operators and scientists, tracking down suspected radar jamming during World War II, discovered that the interference was radio emission from the Sun.

At first, astronomers did not grasp just how significant Reber's work was — they were preoccupied with their optical equipment. After the war, radio astronomy accelerated as physicists, radio engineers and astronomers joined to build larger and more efficient radio telescopes. Radio astronomy since then has led to startling discoveries: quasars, radio galaxies, pulsars and interstellar molecules.

*Continued on page 5*

**General Membership Meeting**



**Wednesday, May 9th, 7:00 PM**

**La Mesa Masonic Lodge - 4731 Date Avenue, La Mesa**

# 2001 Officers

President	NZ6T	Tuck Miller	475-7333
Vice Pres	KC6NXZ	Tom Caudle	561-6678
Secretary	N6OPH	Mike Maston	286-3140
Treasurer	KD6WUL	Nancy Paine	466-4216
Past Pres	KF6ILA	Duncan Campbell	232-3814

# 2001 Board of Directors

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# 2001 Standing Committee

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Elmers	KD6OKR	Dan Briggs	287-0437
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Field Day	N6YBK	Galen Kelm	448-8696
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Historian	N6WHK	Phil Pedigo	466-0590
Net Manager	N6WKB	Frito Samano	563-0514
Postmistress	N6EVE	Evelyn Miller	475-7333
Prizes	N6WHK	Phil Pedigo	466-0590
Radio Coaches	KE6BJL	Bob Spann	264-2188
SANDARC Delegate	N6EVE	Evelyn Miller	475-7333
Social	KA6RLX	Al Gentz	449-1282
Swap Meet	N6JOJ	Tom Myrick	449-3547
Technical	W6RHV	Bob Boehme	448-4728
WAMO Chairman	W6LKK	Erich Bennett	401-7332

The Counterpoise is a publication of the Amateur Radio Club of El Cajon (ARCEC). It is published once monthly and contributions are accepted from officers of the Club. We also encourage input from other El Cajon Amateur Radio Club Members. Opinions expressed are solely that of the author and do not necessarily reflect the opinions of the Amateur Radio Club of El Cajon (ARCEC). Articles may be submitted either by e-mail or mail to the editor:

**Nancy Paine at:**

**E-mail: [npaine@earthlink.net](mailto:npaine@earthlink.net) OR**

**2990D Fletcher Parkway, El Cajon, CA 92020**

Deadline is the Sunday after the General Meeting. For further information, please call (619) 466-4216.

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What we anticipate seldom occurs; what we least expected generally happens. — Benjamin Disraeli, 1837

# MOVING?

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**Send to Membership Chairman:**

**Johnny L. Hart,**

**10767-60 Jamacha Boulevard, Spring Valley, CA 91978 OR**

**E-mail to: [n6dvj@home.com](mailto:n6dvj@home.com)**

# MINUTES FOR GENERAL MEMBERSHIP MEETING

April 11, 2001

Club president Tuck Miller, NZ6T, called the general membership meeting of the Amateur Radio Club of El Cajon to order at 1900 hrs. Tuck introduced this evening's speaker, Del Radant, N6JZE, who spoke on solar power and solar-powered amateur radio equipment.

SECRETARY'S report had two major corrections. First, in regards Galen, N6YBK's proposal for Field Day purchasing, the item was mischaracterized as to what would occur if insufficient funds were available. Also, Del's call was incorrect. Minutes were approved as corrected.

TREASURER, Nancy, KD6WUL, read her report. It noted that all accounts at *Wells Fargo Bank* have been closed. The report was approved as read and filed for audit.

VICE PRESIDENT's report was given by Tuck, NZ6T. Monica Zek will be the May speaker and Galen, N6YBK, will speak on Field Day plans in June.

SANDARC report was given by Mike, N6OPH. SANDARC has closed nominations for officers and the elections will be held during the April Annual Meeting. Harv, KD6QK, presented his proposal that would establish a scholarship fund under SANDARC and also an equipment donation program. It was moved and seconded that the matter be referred to a committee for further study and report during the June meeting. Don Williams, KD6UVT, of the *Inland Empire Council of Amateur Radio Organizations* presented details of the ARRL SW Division Convention at Riverside during 7-9 September 2001. He also sold some early bird registrations and presented pins from the convention. Applications were left for

distribution to the clubs. TASMA is in the midst of complete reorganization of their bylaws. They will meet in San Diego during August. Final club assignments were provided by Duncan, KF6ILA, for the Del Mar Fair. Tom, KC6NXZ, gave the convention 2002 report. The committee had their first meeting on 12 March. Another is scheduled for 12 April. The SANDARC chairman suggested that an education chairman and public relations committee be appointed for SANDARC. These appointments may be made during the April meeting.

Duncan, KF6ILA, reported that the club days at the Del Mar Fair would be 15-19 June. A sign-up campaign will begin. Those who work two shifts will be entitled to an extra free ticket of admission. Sign ups will be sought during the May club meeting.

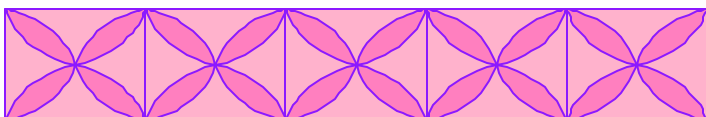
HEALTH & WELFARE chairman, Tuck, NZ6T, reported that Walter Donbushch, NZ6J, is now a silent key.

SOCIAL chairman, Al Gentz, KA6RLX, stated that the club Christmas party will be held on 14 December, which is a Friday evening. Ticket prices will be the same as last year. Al will be present to help cook during Field Day but would like help for the Sunday breakfast.

The last ARES breakfast will be held on 14 April at the Normal Heights Methodist Church. The church will be unable to host any further breakfast meetings do to the inability to recruit volunteers to cook the breakfast. Several suggestions were made for future venues.

There being no further business before the general membership, the meeting was adjourned at 2030 hrs.

Respectfully Submitted,  
Michael P. Maston, N6OPH, Secretary  
Amateur Radio Club of El Cajon



# From the President Continued

*Continued from p. 1 —*

qualify to get three tickets. Chemi, KD6PRV, is in charge of the schedule, so give him a call.

Another public service coming up that you can be a part of is the San Diego Special Olympics Greater Games. It will be held at SDSU and will need at least 15 ops for a full day. John, KF6XY, is taking names, so give him a call.

Not too early to start thinking about Field Day, which is to be held this year on June 23<sup>rd</sup> and 24<sup>th</sup>. Galen, N6YBK, is once again the coordinator and will be arranging all the details.

Thanks folks and have a great month! 73 to all.

Tuck NZ6T



Laziness travels so slowly  
that poverty soon overtakes  
him. — Benjamin Franklin,  
1757

# Welcome to our newest members!!!

**1578** KB0ZBX David McClellan

**1579** KF6ZRT Scott Webber



**Next Meeting 's Speaker —  
Monica Zech on Traffic  
Safety — Come one; come  
all!!!!**

# May Birthdays

0564	N6MTG	Earl	Graham	May	01
0634	KB6MLS	William	Fuller	May	02
0806	KC6LEX	Andrea	Ames	May	03
1202	KE6FJZ	Alice	Hoke	May	04
0017	K6CQ	Dick	Leffler	May	05
0868	KC6SDG	Ron	Kerzner	May	08
		Herbert	Mansfield	May	09
0988	K7OY	Maynard	Skidmore	May	10
1234	KE6HBQ	Greg	Richard	May	11
1000	KB6WQO	Carol	Myrick	May	12
0921	AB6NE	Jeff	Zimmer	May	13
1156	KD6ZNU	Shirley	Boehme	May	14
0729	KA6RLX	Al	Gentz	May	14
1038	KD6KHQ	Linda	Kennedy	May	14
1554	KF6NYD	Lance	Fickas	May	15
0203	W6JPB	Joe	Wilkerson	May	17
0333	WB6DSP	Dave	Johnson	May	19
0560	KA6ZVX	James	Thompson	May	19
		Allen	Guinup	May	20
1330	KF6BOJ	Ed	Bergquist	May	24
1403	KF6DGI	Vince	Daleo	May	24
0530	NV6E	Herald	Sawdy	May	25
0588	W6ULU	Bob	Peasley	May	30
0100	W6CR	Cliff	Richardson	May	30
1501	KF6UJC	Bob	Crouch	May	31



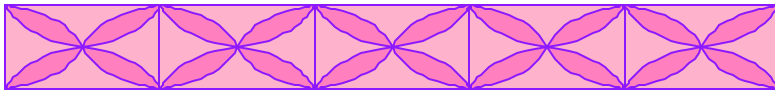
Happy  
Birthday!!!!



*Continued from p. 1*

In radar astronomy, a minor but related field, powerful pulses of radio energy are transmitted from large antennas toward distant objects. Radar astronomers look at the signals reflected back to Earth for distortions, which differ depending on the type of object they encounter. They have received radar echoes from meteors, auroras, the moon and the nearer planets. With this technique, they have mapped the surface of Venus, Mercury, Mars and the Moon and have determined the period of rotation for slowly spinning Venus and Mercury. And radar studies have improved our measurement for the astronomical unit, the mean distance between the Earth and the Sun, with which astronomers gauge the separation of objects in our solar system.

Source: Exploring the Cosmos, Second Edition, Louis Berman/J.C. Evans



### How Long is a Second?

Since 1967, the standard international definition of a second, established by the International System of Units (SI System), has been the radiation frequency of a caesium atom — that is, 9,192,631,770 hertz (cycles per second). This frequency is measured by a caesium clock regulating a quartz clock.

Master atomic clocks at various national laboratories are synchronized through the International Time Bureau in Paris.

Source: How in the World?, The Reader's Digest Association Limited, ©1990



In honor of all fallen soldiers this Memorial Day —

Older men declare war. But it is youth that must fight and die. — Herbert Hoover, speech, Republican National Convention, June 17, 1944

May they rest in peace.

## Did You Know?

To establish the distance of stars that are far away, astronomers use the star's temperature and brightness. They can measure a star's temperature surprisingly easily: a bluish star is hot, around 20,000°C; a white or yellow star has a medium temperature; and orange or red stars are cool — about 3,000°C.

The hotter a star, the brighter it is. A star with a temperature of 10,000°C, for example, is 40 times brighter than the Sun (which has a temperature of 5,500°C). So, if a star of 10,000°C is found which appears very dim, then it must be a long way off in space, its brightness diminished by its great distance. Before astronomers can use this relatively simple method, they need to know the relationship between brightness and temperature, and distance from Earth. After measuring the brightness of those stars, they can then use what they know as a guide to ascertain the relative brightness of more distant stars.

The measurement of star brightness allows astronomers to measure distances to any star in the Milky Way, some lying as much as 100,000 light years away.



*How do astronomers know the size of the Universe?*

How big is the Universe? Many astronomers think it has no end, so its real size cannot be measured. But, it is perfectly possible to calculate the distance between the farthest known objects in all directions — in other words, to measure the diameter of the observable Universe.

The light from the most distant galaxies has travelled 15 to 20 million million light years before it reaches the Earth. So, the diameter of the Universe, as far as we can see, is as much as 40 million million light years, or 240 million million trillion miles.

Source: How in the World?, The Reader's Digest Association Limited, ©1990





# VEC Testing Sites

<b>1st Saturday:</b>	El Cajon	El Cajon Central Fire Station, 160 E. Lexington Avenue (in Rear), El Cajon, 10:00 a.m.
<b>2nd Saturday:</b>	Carlsbad	Carlsbad Safety Center, Orion Way, Carlsbad, 10:00 a.m.
<b>3rd Saturday:</b>	Normal Heights Methodist Church	4650 Mansfield Avenue (just off Adams Avenue), San Diego, 10:00 a.m.
<b>4th Saturday:</b>	Chula Vista	Salvation Army, 643 Third Avenue, Chula Vista, 9:00 a.m.
<b>5th or last Saturday:</b>	Escondido	Escondido Chamber of Commerce, 720 North Broadway, Escondido, 10:00 a.m.

To make advance reservations or to find out more info from the site captain, call 465-EXAM.

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**FRITO, N6WKB**

## WA6BGS NETS

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10 Meters: 28.480

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PL: 107.20

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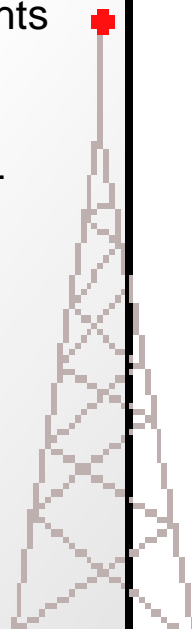
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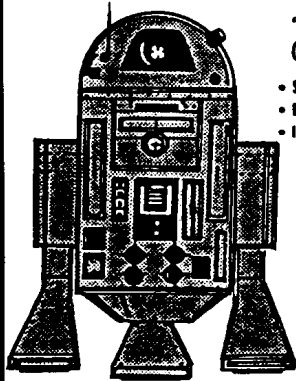
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14. Family Membership with:	14. <b><u>Sponsored by:</u></b>
Return this form with check made payable to the Amateur Radio Club of El Cajon or ARCEC for new or renewal membership. <b>Annual Dues \$12.00 for individual, \$20.00 for family.</b> New members add \$5.00 per member. Mail to Membership Chairman, <b>N6DVJ, Johnny Hart, 10767-60 Jamacha Boulevard, Spring Valley, CA 91978.</b>	
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Fashion your life as a  
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