



The monthly newsletter for the Mount Diablo Amateur Radio Club
Volume LIV Number 10 October 2006

October Meeting

Friday, October 20
7:30 pm

*Our Saviour's Lutheran Church
1035 Carol Lane
Lafayette, CA*

Program: R. Pinkney Foster, **KG6ILA**, the ARRL Section Traffic Manager for the Santa Clara Valley, will speak about the state of the National Traffic System.

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www.mdarc.org

President's QRM

by Marty Heyman, W6MDH

It's been a busy summer with many people to thank for so many services to the club and the community. First, a thanks here in the Carrier to its past editor, Jerry Gardner, K6UV, and to our outgoing membership chairman, Pete Slagle, K6XL, who did such excellent jobs for so long. They are both tough jobs and Jerry and Pete did them very well.

On the public service events front, we're not done with the season yet but it's been as busy as ever. Every time I work an event, I find that participants want to talk about amateur radio. When they talk, they

get a better appreciation for what we can do. The vagaries of cell phone coverage in the hills continue to plague the bike ride organizers and our 2m repeaters do a better job. We had a number of cases where "the radio guys" got through when cell phones weren't working in both the *Berkeley Hills Ride* and the *Bike Against the Odds*. I'm sure many of you have equally good stories. Gratifying and good advertising.

The technical committee has been

busy. The new ATV controller went up the hill and is into its teething stage. Jim Tittle, K6SOE finished the wiring and connected it all up in a work day up there with help from Bob Green, K6GD and Dana Myers, K6JQ. Our repeaters are all running well while we await events on Vollmer Peak where the new owners sort out some issues before we can install our voter (receiver) up there.

Thanks to Bob Green, K6GD and his wife Theresa, KG6IOA for hosting the club picnic again this year. John Baldwin park is a great venue and the food was terrific. We could have used a dozen more kids to enjoy the outstanding weather, food, and games.

The club's biggest event, Pacificon, is coming up. As always, there are new challenges but the committee has been working hard to make it the best show yet. Please, if you're going to be around that

weekend, consider volunteering for a little time working at the Registration desk, helping with security, or any of the other things that need to be done. Contact Paul Dickey, N6JOX or me if you can help.

See you all at Pacificon or one of our upcoming meetings.

"The 'radio guys' got through when cell phones weren't working"

Editor's Exciter

by Jeremiah R. Blasi, K6BQ

Thank you to MDARC for the opportunity to serve as editor of the Carrier. Jerry Gardner, K6UV, has done a great job as editor over the past 3 years, and I wish him well as he continues with his busy life!

My goal for this newsletter is to produce a publication that is of interest to the membership of the club. If you have any ideas, I would love to hear them. If you have something to write about

regarding amateur radio, please send an article to publish. If you have an idea, but aren't comfortable writing, let me know, and I may be able to help.

I am grateful to all who have stepped up to the plate to provide articles for this issue of the *Carrier* in such a timely manner. Their efforts have allowed me to get this edition out on time. There's some good information within these pages, and I hope you'll take the time to read it.

If you have any feedback to offer, I'd welcome it. Send your comments and suggestions to k6bq@comcast.net.

The Bruce Array

Rich Holoch, KY6R
rholoch@comcast.net

How would you like a serious gain antenna for 40 meter DX-ing that only takes up the same amount of space as a G5RV? Enter the Bruce Array.

The Bruce Array has been around since the 1920's and published in ARRL publications starting in 1936. It is documented in the ARRL Antenna Book, 20th edition, on pages 8-42 through 8-46.

Continued on page 4

Mt. Diablo Amateur Radio Club W6CX

P.O. Box 23222
Pleasant Hill, CA 94523
(925) 288-1730



The Carrier is a monthly publication of the Mount Diablo Amateur Radio Club (MDARC). It is the policy of the editor to publish all material submitted by the membership provided such material is in good taste, relevant to amateur radio and of interest to MDARC members, and space is available. All material must be submitted to the editor by the last day of the month prior to publication. Material is accepted on a first-in, first-out basis. Articles and other material may be submitted via Internet email to k6bq@comcast.net or delivered to the editor at the address listed in the club roster. Material will be accepted in plain ASCII or rich text format (RTF). Material may also be submitted as hardcopy.

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paulr33@earthlink.net

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Dick Schulze, AA6DL
rmschulze@earthlink.net

Emergency Coordinator

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k6brr@stay.com

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Robert Green, K6GD
bobgreen@sbcglobal.net

Jay Caldis, KT6Y
jcaldis@astound.net

Trevor Raty, KG6MDW

Membership Chairman

Christina Johnson, KF6UXC
kf6uxc@gmail.com

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k6bq@comcast.net

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MDARC General Meeting Minutes

Sept. 15, 2006

Our Savior's Lutheran Church, 1032 Carol Lane, Lafayette

President Marty Heyman, W6MDH, called the meeting to order at 7:30 pm. There were about 60 members and guests present.

Treasurer Dick Schulze, AA6DL, reported that the treasury total was \$43,776.26. The budget is on schedule. The minutes of the previous meeting were approved as printed in the Carrier.

DEC Jim Brunk, N6BHX, notified the group of the RACES/ARES SET tomorrow, Saturday, September 16; he noted that the new requirements of FEMA included the completion of three FEMA instructional courses: IS 100, IS 200, and IS 700 (NIMS). These courses are on the FEMA website, and may be taken online. One suggestion in taking the courses is to print out the test first so that you might know what to look for.

Marty reported for the Technical Committee that a large thank you is due Jim Tittle, K6SOE, for the installation and completion of the modifications to the ATV controller. Marty also reported that the repeater site on Vollmer Peak was sold, so we are waiting for word when we might get onto the site. If that doesn't work out, we may need to find a different site.

Marty announced a last call for volunteers for PACIFICON.

Membership Chairman Pete Slagle, K6XL, reported there are 2 new members in the Club. VE Dick Brown noted that 5 people took tests this evening and all 5 passed: 1 Gen., 1 Extra, and 3 Tech. The

following newer members introduced themselves to the club:

Rick Reeder, Contra Costa Red Cross
Peter Wemm, KI6FJV
Todd Meeter, AB3P
Christina Johnson, KF6UXC
Garrett Johnson, KI6FNW
Mark Curley, N6MIN

Bob Green, K6GD, reminded members of the club picnic a week away. Required reservations may be called in to Bob.

Lauren Styles, WA6CIE, noted a need for a class for those striving for their General ticket.

Jeremiah Blasi, K6BQ, the new Carrier editor, invited members to communicate with him if they had information for the Carrier, or profile writeups, etc. His email address is on QRZ.

President Marty declared a recess at 7:55p before the main speaker.

Marty reconvened the meeting and introduced the speaker, Ray Gaschk, W6FYA, of ELK Antennas, who spoke on log periodic dipole array (LPDA) antennas. Ray's presentation was interesting and informative.

The drawing for the "living light" was won by Marty, W6MDH, and the FT7800 was won by Tony Dunleavy, KA6OFQ.

Marty adjourned the meeting at 8:55pm.

Respectfully submitted,
Paul Dickey, N6JOX, Secretary

Election Notes

Once again, it's club officer election time! During the October meeting, we will be taking nominations. We will be voting on President, Vice President, Secretary, Treasurer, Emergency Coordinator, and two Board members to replace Jay Caldis and Bob Green, whose terms are up.

If you are interested in running for office, let one of the members of the nominating committee know. They are Marty Heyman, W6MDH; Bob Green, K6GD; and Ron Luttringer, K6XC.

Good luck to all who are running for office. These are not easy jobs, but can be rewarding. If you are not running, be sure to vote for those you feel would do the best job for the responsibility named. Then give our elected officers your full support, so we can have the best club possible!



Pictured clockwise from top left:

- Bob Green, K6GD;
- Pete Harris, KE6ZIW; Ed Ritchie, K6SFD;
- Tom Seabury, KI6O; Frank O'Leary, KF6FRJ;
- John Stuart, KM6QX; Dick Liniger, K6RHL

Public Service 2006

A big "thank you" goes out to all who have participated in the various public service events this year. Your involvement is truly appreciated. Amateur radio has received some fabulous exposure through the quality communications provided by the members of MDARC. To the left are just a few of the folks who helped this year.

There is one more opportunity to be involved in public service this year. It is the *Mt. Diablo Trail Adventure & Summit Challenge*. The event will be held on November 5. If you are interested in helping, please contact John Stuart, KM6QX.

Please continue your service next year, and encourage others to become a part of these exciting activities. They are a great opportunity to let people know that the Amateur Radio Service is still alive and well!

Pacificon 2006

by Joe Cusumano, KF6RGH

Another Pacificon is here and ready to open for the enjoyment of Pacific Coast Radio Amateur. We have received inquiries on our website from every corner of the world even though many cannot travel thousands of miles to attend our Ham convention. We do have Amateurs coming from all over the West and Hawaii to share 3 days of uninterrupted talk of tall tales, circuits gone bad, or antennas that have captured magic from the ionosphere.

That has been the wonder of Ham Radio for over 100 years, and the yearly conventions are the culmination of our desire to communicate, share, and help wherever we can.

What all of you must know is that, to create the magic, a faithful group of dedicated Hams has been working behind the scenes for a year. They started about 2 weeks after Pacificon 2005 closed, and committed many hours each month to put it on.

Like many other facets of Ham Radio, they do it because it is a hobby for anyone to enjoy in the many different ways that are available to us. They enjoy putting on the best show possible with the pride of seeing their fellow Hams walking around, enjoying the seminars, and talking face-to-face with those they only knew previously as a "call sign."

They should be praised, but a lot of work is still to be done over the next 2 weeks, and then the 3 days of the convention. Volunteer workers are still needed to pull off the show, so if you are interested, ask someone from the committee where you can be of help and maybe be involved with something you enjoy.

At the close of PACIFICON 2006, we will gather to discuss

all the things we did right, and maybe criticize the one thing we might have done badly. Then we start planning for PACIFICON 2007. We want to always do better than the last year, but many of our volunteers need to do other chores in life, so once again we need help from club members and amateurs at large.

2007 could be the year that you too go into show business!

73

Joe Cusumano, KF6RGH

PACIFICON 2006 Co-Chairman

www.pacificon.org



AMATEUR RADIO CONVENTION

October 13-15

The Marriott Hotel

2600 Bishop Dr.

San Ramon, CA

The Bruce Array

Continued from page 1

A very good internet link for this antenna is http://rudys.typepad.com/ant/files/antenna_array_80160m.pdf.

The antenna is nothing more than a single wire folded into one or more “squares” (Figure 1):

I used one a few Fall - Spring “DX seasons” ago, and was amazed at its performance and how quiet it was. The element array shown above is a 4 element array, with elements 2, 4, 6, and 8 being $\frac{1}{4}$ wavelength verticals fed in phase. I fed the antenna with 450 ohm ladder line at point number 6, then connected it to a 1:1 current choke, and finally to very low loss coax into the shack. So, for 40 meters, the dimensions are very simple—around 35 feet per element. My antenna was only about 10’ off the ground. Because it was fed as a vertical dipole, it didn’t require radials, and because I had 4 elements, the total width was 105’—the same as a G5RV, but with MUCH better performance.

Here is a plot of the “take off angle,” which shows why it is a great DX antenna (Figure 2):

It has its greatest gain (over 4 db) at a take off angle of 20 degrees, which means it is a superb DX antenna. This also means it has at least 4 db gain over an efficient $\frac{1}{4}$ wavelength

Figure 1

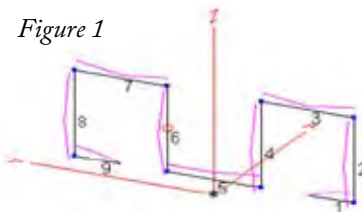
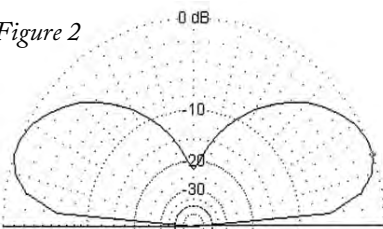


Figure 2



vertical (one with at least 64 buried radials). Of course, depending on your installation, your mileage may vary. (By the way, we are looking at the side of the array with the power extending away from the antenna “broadside.”)

Since we are just about at the bottom of the sunspot cycle, we are lucky to have any DX openings on even 20 meters. But 160 – 30 meters are still quite good during the “dark hours” and during the “grey line” hours (meaning an hour or maybe two before sundown and after sunrise). But remember, this would NOT be a good replacement for your G5RV or 40M dipole or inverted vee if you want to use 40 meters to communicate locally. This is because the take-off angle would be too low for local work.

Its “azimuthal” pattern looks like this (Figure 3):

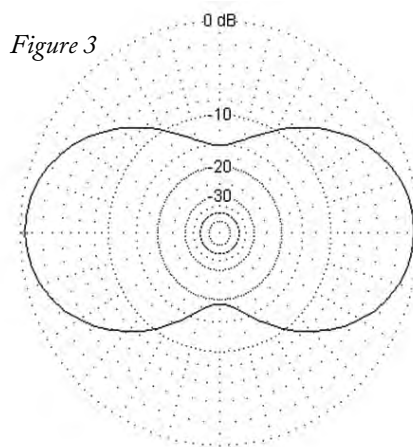
This means the antenna has a “broadside peanut” pattern—the energy radiates broadside with the wire. In this diagram, this means we are looking down on top of the 4 verticals, and they would be running up and down through this peanut.”

Building the antenna was simple. I used 14 gauge black coated wire that I bought at a local hardware store, and used 1/8” black “antenna rope” that I bought at HRO. The nylon weaved rope acted as

a support line. I placed insulators along the line at the points where the wires would bend, and used wire ties and knots to make sure the insulators (plastic egg type also purchased at HRO) stayed in place. I used a plastic egg insulator where the antenna was fed and just soldered the ladder line to the two points where one of the inner “verticals” was broken.

You can read quite a bit more about this antenna just by using Google to find “Bruce Array.” I almost forgot—it is a very quiet antenna because the square “bays” of the antenna take on some properties of a loop antenna.

Figure 3



If you find that you can only support 2 elements (2 verticals), then the 40 meter half square would be a better choice. If you can only support 3 elements, then the Bobtail Curtain would be a better choice. But if you can support 4 elements or more, you will be a very serious DXer on whatever band you might cut this antenna for.

Announcements

Mt. Diablo Trail Adventure & Summit Challenge

1/2 Marathon Run to Summit of Mt. Diablo

November 5 2006

Radio Coordinator: John Stuart

MDARC Holiday Dinner

Friday, December 15

7:30 pm

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Membership Memo

by Christina Johnson, KF6UXC

Hi Everyone!

My name is Christina Johnson, KF6UXC, and I have the wonderful opportunity of being the new membership chair for MDARC. I'm really looking forward to it. Please update your address books to show mdarcmembership@mdarc.org as the email for membership questions and information.

A little about me: I have been licensed since February 1999, and have been married to new ham Garrett, KI6FNW (licensed a couple of weeks ago) for almost a year. Besides MDARC, I am also active in Contra Costa RACES/ARES, SATERN, CERT (in training), Livermore/Pleasanton ARES, ARRL, and YLRL (Young Ladies' Radio League).

73, Christina, KF6UXC

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November Events

October 31

November Carrier Deadline

November 6

7:00 pm

MDARC Board Meeting

Fuddrucker's, N. Main St., Walnut Creek

November 17

7:30 pm

MDARC Meeting

Our Savior's Lutheran Church

Thursdays

7:30 pm

MDARC Club Net

147.06 & 441.325 MHz (100 PL)

The Carrier

Newsletter of the Mt. Diablo Amateur Radio Club

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Change in Service Requested

MDARC Meeting: October 20
