



CROSSTALK

News Bulletin of the TRW Amateur Radio Club



Volume 34 Number 9

September 2000

2000 ARC Banquet

Yep, it's that time again, the 34th Annual Awards Banquet coming in November. The best part is that the price is the same as last year.

This year's Guest Speaker is none other than Dick Rutan, KB6LQS world renowned Aviator.

Don't miss this opportunity to attend a first class event with great food also, and of course door prizes and also that chance to see your fellow ham that you might have not seen in a long time.

Duane Park, WA6EIK Crosstalk Editor

10m Contest results

The results of the 1999 ARRL 10m contest finally appeared in the September QST magazine. It is also available on the ARRL web site. W6TRW got 355,446 points and 813 QSOs, a very respectable score. We had the highest multi-operator score in Southern California, and the fourth highest multi-operator score in California. Thanks again to the operators: KE6PI, N6ED, KS4IS, K0DI, K7UFO. Maybe we can try it again this December!

Jim Harrison
K6OUE
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TRWARC Monthly Calendar of Events

Third Tuesday of each month	5:30 pm	Executive Board Meeting, R4/2041 (All Club Members are invited)
Second Tuesday of each month	5:30pm	Club Meeting Round Table Pizza, (Redondo Bch. & Hawthorne) <i>Subject to change during the summer</i>
Second Tuesday of each month	12:00 noon	Emergency Communications Team Meeting R3 Emergency Operations Center
Last Saturday of each month	7:00 am	TRW/ARC Swap Meet Marine and Aviation (Southeast Corner)

Weekly Events

Every Monday Night (Except the 1st & Holidays)	7:30 pm	Disaster Communication Systems (DCS) Net DCS Members: Check in on 2 Meter Repeater
Every Wednesday	12:00 noon	ECT Net on 2 meter Repeater All Amateurs Welcome
Every Thursday	7:00 pm	Space Hams Net on 2 meter Repeater with N6SHI and W6EKK
Every Mon, Wed, Fri	2:00 pm	TRW Retirees Net 7185 KHz
Every Friday Morning	7:30 am	TRW Amateur Radio Club Breakfast Building S Cafeteria - Everyone is invited Talk-in on 2 Meters

Other Ham Swap meets:

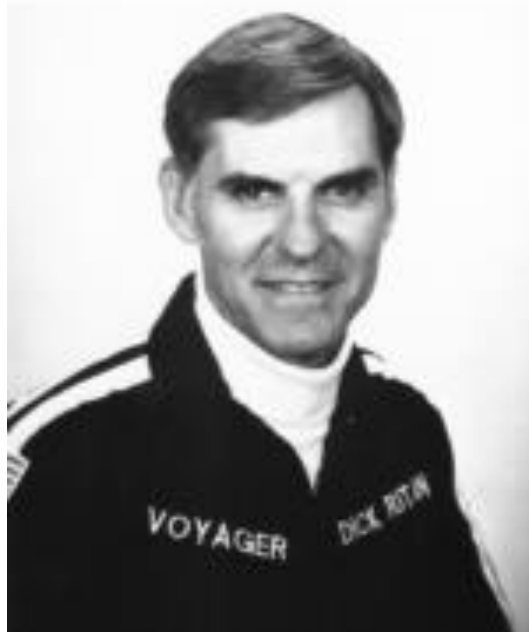
Inland Empire ARC - 2nd Sat. ea. mo. 7:00 to 11:30 AM @ A.B. Miller High School, Walnut & Oleander in **Fontana** Talk-in 145.480 (-600 pl=77.0hz)

El Cajon ARC - 1st Sat. ea. mo. 6:00 AM @ Santee Drive-in Theater, Woodside Ave. @ Hwy 67 in **Santee** Talk-in 146.52

CAL POLY -3rd Sat. ea. mo. 7-11am in lots F8,F9 and F10 @ CAL Poly Pomona at 3801 West Temple. Talk-in TBD (if you know, please email me... ed.)

TRW ARC 34th Annual Awards Banquet

Saturday November 18th, 2000



Featuring Guest Speaker
Dick Rutan, KB6LQS

World-renowned aviator pilot of the non-stop, around the world,
Voyager flight

Buffet style dinner
Awards, Fun, and Prizes

5:30 pm to 10:00 pm
See reverse side for sign up form

TRW AMATEUR RADIO CLUB BANQUET RESERVATION REQUEST

Join us for the 34th Annual TRW/ARC Awards Banquet
Saturday, November 18th, 2000 5:30 PM to 10:00 PM

Buffet Dinner, Awards, Guest Speaker, Door Prizes, and Fun!

The Blue Moon
207 North Harbor Drive
Redondo Beach

An Employee Member may invite up to 2 guests. Non-Employee Members (including Retirees) may invite 1 guest. Due to limited seating, 2nd Guests *may* be bumped to make room for club members.

All reservation requests will be confirmed by mail no later than November 6th. If you do not receive a confirmation, please call Wendy, KQ6CG, at (310) 374-0795 or Duane, WA6EIK, at (310) 813-4219 to insure we received your reservation!

Return this portion of form ASAP! Reservations are First Come - First Served!!!

Club Member's Name: _____ Callsign: _____

1st Guest's Name: _____ Callsign: _____

2nd Guest's Name: _____ Callsign: _____

Address: _____

City: _____ State: _____ Zip: _____

TRW Mail Station: _____ Daytime Phone: (____) _____

Dinner Buffet includes Entrees, Salads, Side Dishes
Enclose \$12 for each TRW/ARC Member dinner.
Enclose \$15 for each Non-Member dinner.

Make checks (**no cash please**) payable to: **TRW Amateur Radio Club**

Send Reservation Requests to: Wendy Crawford
1637 Nelson Ave.
Manhattan Beach, CA 90266

Article Submission from Tom, AC6NL

Most anyone reading this knows that Amateur Radio has enriched his or her life, often in many unexpected ways. Two of W6TRW's club members have learned that in spades!

Mike Worsham, WB6K, and Kerin Terrell, N7VFK, met several years ago while performing Ham Radio service at the Torrance Air Show, and a better match hasn't been seen this side of the ARRL antenna labs! They share a love of Ham Radio, gadgets, animals, camping, and each other, and it was inevitable that they would get together. Everyone who knows them has been asking for the last couple of years, "When are you two gonna get married?"

Now, Mike wouldn't propose in any boring, "normal" manner. No, not Mike. So he decided that the perfect venue would be the 2000 Torrance Air Show, remembering that they met there and have shared many delightful experiences there. And Mike, showman that he is, he just had to be very, VERY public with his proposal!

Mike, with the connivance of the show operators, took Kerin in front of the reviewing stand, and treated her to a proposal that few have ever experienced: A banner towed behind one of the aircraft, saying, "KERIN WILL YOU MARRY ME? LOVE MIKE." The crowd loved it!

Here are the pictures of our Club members as Mike proposed to Kerin. I'm sure you will join us in congratulating them! And as for the rest of us, Mike: IT'S ABOUT TIME!



PHASE 3D LAUNCH CAMPAIGN POISED TO BEGIN (Reprinted from the ARRL Letter Volume 19, Number 33)

The launch campaign for Phase 3D will begin September 11, according to AMSAT-DL Vice President Peter Guelzow, DB2OS. If current schedules hold, the next-generation Amateur Radio satellite is expected to go into space in late October or early November. With the recent hospitalization of Phase 3D Project Manager Karl Meinzer, DJ4ZC, Guelzow has been tapped to serve as mission director and project manager during the launch campaign. He'll be assisted by Chuck Green, N0ADI. The Phase 3D satellite remains at the European Spaceport in Korou, French Guiana, South America. During the launch campaign, some two dozen members of the Phase 3D team will be on site at various times to make final preparations to put the satellite aboard an Ariane 5 rocket for its journey into orbit. Satellite launch contractor Arianespace says the launch campaign for the next Ariane 5 mission--Flight 130, the sixth Ariane flight--now is back on track following a postponement earlier this summer. As a result of the thruster problem, the mission's original July 25 launch date now has been reset to September 14. Arianespace changed out all six Ariane 5 attitude control system thrusters for Flight 130 after a similar thruster failed during bench testing in Europe. Arianespace is expected to publish an updated launch manifest with a specific launch date for the Phase 3D flight once the next Ariane 5 flight has gone into space. For more information about Phase 3D, visit the [AMSAT-NA Web site](#).

The LPVA Antenna for Satellites—It Works! By Tom, AC6NL

Some time ago I developed a desire to work satellites; however, finances dictated that I couldn't buy any "fancy" gear (AM/SSB) for U/VHF. When I heard of AO-27, I got very interested in building a station that would work this bird.

After considering several station/antenna configurations (primarily the Arrow antenna), I started to wonder if there couldn't be an improvement on the handheld, single-antenna design. Buying or making a duplexer for the antenna seemed to be an added expense that I could do without. I started poring through my technical library and found the answer right there in the ARRL Antenna Handbook!

I have been intrigued with the Log Periodic Dipole Antenna for some time, but never got around to building one; the Handbook has an article about how to enhance the 3rd order harmonic operation of an LPDA. THIS was the design I was looking for AND the excuse I needed to build one!

It is common knowledge among hams that a dipole will resonate at odd multiples (harmonics) of the fundamental frequency. The original work was performed by Dr. Paul E. Mayes and Dr. Robert L. Carrel at the University of Illinois; the idea first appeared in QST in an article by Peter D. Rhodes, K4EWG. They found that, for the LPDA, the odd harmonic frequency operation can be enhanced by sweeping the elements forward: in this case, for 3rd harmonic operation, the sweep angle is 45 degrees

The advantages of this design will be evident to anyone who builds one: it is smaller and more compact than most other dual-band handheld gain antennas (the boom is less than 30 inches long); it occupies only 2 dimensions in space (compared to the Arrow antenna), making it much less unwieldy to operate; and it requires NO matching network or duplexer! Best of all, it can be built in an afternoon, using common tools (the most exotic tool I needed was a propane torch). And the cost of materials was less than thirty dollars.

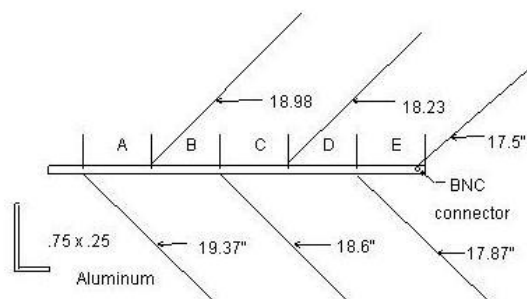
Two terms need clarification here: The LPDA has 2 booms, parallel to each other; these form the 'feeder' for the elements. So 'boom' and 'feeder' are synonyms in this article. 'FeedLINE' refers to coax.

I made the booms of lightweight aluminum stock of $\frac{3}{4} \times \frac{1}{2}$ 'L' cross-section, purchased at a hardware store. The elements were 1/8 inch diameter aluminum tubing, from the same store. I soldered the elements to the boom, and secured the 2 booms with nylon hardware, for insulation. (See the sidebar for some tips about soldering aluminum.)

To one of the booms I attached a 1 x 1 pine slat for a handle; at the front end, right between the shortest elements, I installed the BNC connector for the feedline.

The entire project took perhaps a month of planning, in spare hours, and 2 days to build; the results were surprising! I had NO trouble matching the antenna for both bands; in fact, I was very suspicious of my test equipment, when I obtained a near-perfect

Dimensions & layout for the LPVA: the WUHF Satellite Antenna



Boom material is $\frac{3}{4} \times \frac{1}{2} \times \frac{1}{16}$ Aluminum

Both halves of the antenna are IDENTICAL
--the left half has a 1/16 hole for the center conductor.

CELL DIMENSIONS:

A: 4.18" B: 4.1" C: 4.0" D: 3.9" E: 3.85"

Feed with RG-58 or RG-174 coaxial cable



This illustrates the perfect symmetry of the two halves of the antenna

(The LPVA Antenna for Satellites Cont.)

match on the first try! My results later that evening put an end to my suspicions! I had missed the AO-27 passes for the day, but saw that Oscar 14 was due shortly after 10:00 PM that evening. On my VERY FIRST TRANSMISSION I got a response, from K6CCC! I also got good responses from Arizona and Colorado. All three hams gave me a very good signal report.

Since then I have used the antenna for several other contacts with Oscar 14, and gotten good reports every time. I have also introduced some other hams to Oscar 14, and they got a BIG kick out of using it! This antenna is an inexpensive, fun project that every ham should enjoy.

Some notes on soldering aluminum.

It sounds too good to be true: being able to solder aluminum and get a good joint. Well, it is possible; here are a few tips to help you do it correctly.

First, the aluminum must be CLEAN. Aluminum corrodes at an astonishing rate, so if it's been more than 10 minutes since its last cleaning, it's time to do it again. I wipe the work area with alcohol or brake cleaner fluid; then buff it for a few seconds with a wire wheel.

Second: DO NOT USE any kind of FERROUS material in cleaning your work! Stainless or other steels contaminate the work area on a microscopic level, and prevent you from obtaining a good solder joint. Use a brass or bronze brush, or sandpaper; I have been told that ScotchBrite works well, too.

Third: Aluminum conducts and radiates heat extraordinarily well. You may have used a heat sink to protect electronic components: well, any piece of aluminum that is longer than the area you are directly heating is a heat sink! So I found it useful to wrap the work above and below the heated area with shop towels. (Keep in mind that the towels will scorch, and will likely catch fire from the flame of your torch—use common sense, keep the flame away from the towels, and be prepared to put out a fire!)

I used a regular propane torch to do my work; it is plenty hot for the purpose of heating the lightweight aluminum pieces that I used. HOWEVER, the lightweight tubing will burn if it is heated too long and too hot. I found that passing the tubing in & out of the flame quickly, and touching the work with the soldering rod, was the correct technique. When the work is hot enough, you will be able to “draw” on the heated surface with the soldering rod, almost as if you are drawing with an ink pen.

Finally, the special solder needed for aluminum isn't available everywhere. I had to abandon the “home handyman” stores and find a hardware store that catered to a more professional crowd.



The operator keeps an eye on the signal strength while using the antenna, noting azimuth, elevation and polarity

A THOUSAND MARBLES Submitted by Dave, KD6PRO

The older I get, the more I enjoy Saturday mornings. Perhaps it's the quiet solitude that comes with being the first to rise, or maybe it's the unbounded joy of not having to be at work. Either way, the first few hours of a Saturday morning are most enjoyable.

A few weeks ago, I was shuffling toward the basement shack with a steaming cup of coffee in one hand and the morning paper in the other. What began as a typical Saturday morning, turned into one of those lessons that life seems to hand you from time to time. Let me tell you about it.

I turned the dial up into the phone portion of the band on my ham radio in order to listen to a Saturday morning swap net. Along the way, I came across an older sounding chap, with a tremendous signal and a golden voice. You know

(A THOUSAND MARBLES cont.)

the kind, he sounded like he should be in the broadcasting business. He was telling whoever he was talking with something about "a thousand marbles". I was intrigued and stopped to listen to what he had to say.

"Well, Tom, it sure sounds like you're busy with your job. I'm sure they pay you well but it's a shame you have to be away from home and your family so much. Hard to believe a young fellow should have to work sixty or seventy hours a week to make ends meet. Too bad you missed your daughter's dance recital,"

He continued, "Let me tell you something Tom, something that has helped me keep a good perspective on my own priorities."

And that's when he began to explain his theory of a "thousand marbles".

"You see, I sat down one day and did a little arithmetic. The average person lives about seventy-five years. I know, some live more and some live less, but on average, folks live about seventy-five years. Now then, I multiplied 75 times 52 and I came up with 3900 which is the number of Saturdays that the average person has in their entire lifetime. Now stick with me Tom, I'm getting to the important part. It took me until I was fifty-five years old to think about all this in any detail", he went on, "and by that time I had lived through over twenty-eight hundred Saturdays. I got to thinking that if I lived to be seventy-five, I only had about a thousand of them left to enjoy. So I went to a toy store and bought every single marble they had. I ended up having to visit three toy stores to round-up 1000 marbles. I took them home and put them inside of a large, clear plastic container right here in the shack next to my gear. Every Saturday since then, I have taken one marble out and thrown it away. I found that by watching the marbles diminish, I focused more on the really important things in life. There is nothing like watching your time here on this earth run out to help get your priorities straight. "Now let me tell you one last thing before I sign-off with you and take my lovely wife out for breakfast. This morning, I took the very last marble out of the container. I figure if I make it until next Saturday then I have been given a little extra time. And the one thing we can all use is a little more time.

"It was nice to meet you Tom, I hope you spend more time with your family, and I hope to meet you again here on the band. From a 75-year-old Man, this is K9NZQ, clear and going QRT, good morning!"

You could have heard a pin drop on the band when this fellow signed off. I guess he gave us all a lot to think about. I had planned to work on the antenna that morning, and then I was going to meet up with a few hams to work on the next club newsletter. Instead, I went upstairs and woke my wife up with a kiss. "C'mon honey, I'm taking you and the kids to breakfast."

"What brought this on?" she asked with a smile. "Oh, nothing special, it's just been a long time since we spent a Saturday together with the kids. Hey, can we stop at a toy store while we're out? I need to buy some marbles."

HAVE A GREAT WEEKEND AND MAY ALL SATURDAYS BE SPECIAL!!!!!!!!!!

FIELD DAY 2000

(Pictures provided by Dirk Dewachter KF6OPP)



TRW AMATEUR RADIO CLUB

ELECTED OFFICERS

President	Bob Briggs	KD6WYQ	01 / 2210	(310) 813-2622
Vice President	Stuart Gorsky	KF6QHV	R5 / 1060	(310) 812-0255
Secretary	Craig Gullickson	N6ED	R6 / 2529F	(310) 812-5389
Treasurer	Rod Scott	KE6PI	R7 / 2253E	(310) 813-1493

APPOINTED STAFF

447 Repeater Autopatch	Duane Park	WA6EIK	M2N / 1384b	(310) 813-4219
Activities Chairman	Greg Martens	N6RRY	M1 / 1275	(310) 813-4049
Crosstalk Editor	Duane Park	WA6EIK	O1 / 1070E	(310) 813-4219 NEW
Emer. Comm. Coordinator	Wendell Young	KE6ASC	R5 / 1060B	(310) 813-7691
Librarian				
Membership Chairperson	Dave Nelson	AB6DU	DH4 / 2461	(310) 764-3496
Past President	Elizabeth Kunkee	KS4IS	D1 / 1024	(310) 813-0524
Publicity Chairperson	Dave Nelson	AB6DU	R8 / 2144	(310) 813-9775
QSL Manager	Bryan DeAro	KN6OW	120 / 1020B	(310) 812-4789
S.P. Packet/Internet Sysop	Chris Wachs	WA2KDL	M4 / 2375	(310) 813-1506
SEA Representative	Rod Scott	KE6PI	R7 / 2253E	(310) 813-1493
Swap Meet Manager	Greg Martens	N6RRY	M1 / 1275	(310) 813-4049
Technical Chairperson	John Cheatham	KE6OJM	R9 / 2477	(310) 813-5903
Training Chairperson	Bryan DeAro	KN6OW	120 / 1020B	(310) 812-4789
Trustee of W6TRW License	Elizabeth Kunkee	KS4IS	D1 / 1024	(310) 813-0524

TRW ARC Hotline (Club Answering Machine) (310) 813-8569
W6TRW 2 Meter Repeater (Open Repeater) 145.32 (-600) PL 114.8Hz
W6TRW UHF Repeater (Open Repeater / Closed Autopatch) 447.00 (-5 MHz) PL 100 Hz
W6TRW-3 Packet Radio Internet Gateway and BBS (1200 Baud Port) 146.745 (-600)
W6TRW Internet Home Page <http://www.w6trw.ampr.org/w6trw/>

TRW Amateur Radio Club
S/1156
One Space Park
Redondo Beach, CA 90278

FIRST CLASS

Deliver To:

