CR 914 NEWS

Issue 34 APRIL-JULY 2002

2002 Spring Invitational Regatta Report

We're talking big!

By Buttons Padin

[Commodore Buttons works in Manhattan and wrote the report during his commute home to Larchmont, NY. The regatta was held April 13 and 14, 2002, at Larchmont YC. Ed.]

I am sitting on the train as I write this. It's Friday night and just about a week has passed since the canon to start LMYC's sixth annual spring regatta. As I try to think of one word to sum it all up, all I can think of is "big." How about 132 feet of boat (ok, boats), 44 entrants, 34-- yes that was 34 volunteers, sailors representing 7 different model yacht clubs, 80 people for dinner, one barrel of beer, another barrel of grog, a total of 100 people on site during the day, three rounds of eliminations, 36 sets of spare crystals, 40 raffle prizes, 150 hot dogs, 7 dozen donuts, 6 pots of chili, 18 trophies awarded and 120 races completed. In my book, that's a big regatta!

Passing 125th Street, I ask myself, what other word would I pick to describe the event? I choose "great." We had two circles for racing with sailors divided into four divisions. We had 11, yes 11 judges with a minimum of two on each dock at all times. There were protests lodged, but only one request for redress was NOT resolved on the spot by the judges. And nobody lost his or her temper. We had a close run at the winner's position, had subsequent winners in all divisions, overcame all mechanical and structural damage encountered, shared tuning tips, swapped tall tales and figured there was no better legal way to spend two absolutely glorious days in the sun. We even played bocce on the club's front lawn Sunday morning.

Dick Martin Photo

The VERANDA filled with CR 914's waiting to race.

As we highball through Fordham, what comes into my mind was what we did differently this year that made it better? Simple. Before the event, there was much discussion about how to make sure the right people got into the championship division for Sunday morning. In the past, we raced in the same division Saturday afternoon with the top 3 of 12 going to the champs. While that was fair, there was the risk that the 4th place sailor in one division could be better than the 3rd place qualifier in another. To mitigate that, we added a third round of sailing. Starting 3 hours earlier, we sailed a ten race Preliminary Round, we then combined the top and bottom halves on each dock for a second Qualifying Round sailed after lunch. In this way, all one had to do was finish in the top half to get advanced. If you were in the second half, you sailed against skippers closer to your skill were more competitive and had more fun. It required us to switch a pile of frequencies at lunch, but it all came out for the better. After sailing 20 races each, it was clear who should be placed in what division for Sunday's finals.

Just passing Mt. Vernon…what did we do the same that made it better? Well, we had judges, judges and more judges. Instead of four judges working all day, we had seven judges on Saturday and six on Sunday rotating through the fleet. We had launches acting like jitneys taking us to and from the racing docks. The Club let us have the glorious Veranda as a staging area providing cover, convenience and camaraderie. We had the canon for the harbor start, two crash boats running at all times, real-time scoring, a fully staffed (and may I say quite attractive) registration and help desk, water bottles and soda and we had a boat load of sun. Oh, yeah, we had tons of fun

(Continued on page 6)

Inside This Issue

Class Secretary's Report

Radio Problems
Our time and energy has been consumed since the Larchmont Spring Regatta determining how to prevent the excessive radio glitching that occurred there. The effort started with a questionnaire sent to the skippers and continued with research and extensive testing. Like so many things the task became much more time consuming than expected. We wanted to have the info in this NEWS so that owners could have a chance to improve their boats before the 2002 Nationals in October.

Therefore this issue was delayed until we felt confident in giving recommendations that we felt confident will decrease radio glitching.

Registrations
This month there are ~1020 boats registered. About 290 copies of the NEWS will be distributed compared to ~290 last month.

ALWAYS LOOKING FOR GOOD PHOTOS.
1. Send 4x6 color photo prints, or
2. Digital photos with a resolution of 1200 x 800,

Good sailing,

Chuck Winder

REGATTAS

Regatta Coordinator,
Ernest Freeland**,** (410)956 0780
efreeland@bayst.com

2002 NATIONALS

October 25, 26 and 27
At Larchmont YC

Larchmont MYC, Larchmont, NY, will host the 2002 nationals. This promises to be another outstanding regatta produced by Buttons Padin and his staff of volunteers.

The 2002 Nationals is limited to 48 boats, so make your plans, get your entry form and register early.

The **Notice of Regatta**, entry form and Sailing Instructions are available at Dave Ramos' Website: http://www.rcyachts.com

The entry fee may seem high to those who have not attended a regatta of the caliber that Larchmont produces. The fee includes all six meals from the Friday night cookout through lunch on Sunday. The fabulous multi-course dinner on Saturday night is included this time. There are awards for the first three places in all four divisions. Plus beverages are provided on the veranda to keep us hydrated. And don't forget that housing is provided by the gracious hosts.

Channel Assignments
Owners who sail with conventional AM single conversion receivers can borrow from Larchmont's complete set of channel crystals. Those of you who upgrade to dual-conversion AM radios or FM radios should have at least four spare crystals to assure an open channel to sail on.

Contact Commodore Buttons Padin for added info and entry forms.
erpadin@aol.com
212-897-3150) during the work day.

Regional Championship Regattas

REGION 5 REGATTA
SEPTEMBER 28-29, 2002

CR914 Fleet at
Thin Air MYC/Boulder, CO

For entry form and all regatta details:
http://groups.msn.com/TAMYCBoulder/_homepage.msnw?pgmarket=en-us

For questions contact:
Mr. Greg Laliberte
3011 Washington
Boulder, CO 80304
Email: Coupbert@aol.com
(303)786 7488

REGION 6 REGATTA
November 16-17, 2002

CR914 Fleet at San Diego Yacht Club

Regatta Chairman,
Douglas Mc Kerrow.
3284 Talbot Street,
San Diego, California. 92106.
House phone/recorder (619) 223-0840
Bus Phone/Fax (619) 223-5157
e-mail:
dmckerrowsd@worldnet.att.net

OTHER REGATTAS:

CR 914 Regatta Sunday, August 25th
Choptank MYC, Cambridge, MD
Jim Coll plans a CR 914 Regatta in conjunction with weekend activities including the Victoria Region 2 Regatta on Saturday. Jim also sails with the CBMRA in Annapolis.
Jim Coll, coll@shorenet.net
(410)228 6029

NEW OWNERS AND BOATS

	First Name	Last Name	City	State	Sail No.
1	Joseph	Jensen	Palm Desert	CA	524
2	Edward	Cates	Mountain View	CA	872
3	Michael	Fellows	Boulder	CO	904
4	Richard	McCarthy	Larchmont	NY	905
5	Julian	Tamez	Humble	TX	938
6	Beverly	Asher	Humble	TX	947
7	Allan	Fearn	Shrewsbury	MA	910
8	Norm	Dean	Pleasant Valley	NY	906
9	James	Cook	LaGrangeville	NY	907
10	Garret A.	Sayia	Short Hills	NJ	732
11	Basil N.	Cox	Chestertown	MD	908
12	Gene	Creighton	Old Saybrook	CT	649
13	Harcourt	Schutz	Guilford	CT	1000
14	Peter	Brown	Boston	MA	909
15	Geoffrey D.	Becker	Annapolis	MD	1002
16	Geoffrey D.	Becker	Annapolis	MD	1003
17	Laura	Becker	Annapolis	MD	1001
18	Bengt G.	Nelson	Colorado Springs	CO	1004
19	William	Tubbs	Bay Head	NJ	1005
20	Bob	Durso	Bradford	MA	679
21	William K.	Dunbar III	Mantoloking	NJ	1006
22	Michael	King	Palos Verdes	CA	529
23	Lloyd	Crowther	Falls Church	VA	1007
24	Peter	Kellogg	New York	NY	1008
25	Vaughn	Peterson	Old Saybrook	CT	647
26	Larry S.	Newcomb	Longmont	CO	1009
27	Darren	Bolton	Highland Park	IL	1010
28	Edward D.	Woolsoncroft	Dunnellon	FL	1012
29	Frank	Vinciguerra	Old Saybrook	CT	652
30	Edward	Crook	Tulsa	OK	1011
31	John	Skerry	Gloucester	MA	1013
32	Brian	Terry	Amesbury	MA	1014
33	E. Larry	Knight	Elkhart	IN	1015
34	Bob	Sessions	Lakewood	OH	1016
35	Rogelio	Ballelos	San Jose	CA	1017

CR 914 CLASS RULE *INTERPRETATIONS*

Over the years there have been a series of rule interpretations by the Advisory Committee. This is a compilation of them so that an owner does not have search for them in back issues of the NEWS.

CRITERIA for Rule Interpretations

1. An interpretation must be consistent with the letter and/or intent of the class rules.
2. An interpretation must not offer the potential of improved performance.
3. An interpretation that improves boat reliability without improving performance may be considered for approval.

1. Boat Battery Legal Size and Type - Ref. CR 914 NEWS Jan.-Feb.-March 2002 **Interpretation of Rule 12.4**

a. Boat battery cells shall have a minimum diameter of 9/16 inch (AA size) and a maximum diameter of 11/16 inch (A size).

b. Cell length shall be 2 inches maximum (AA length) and 1 11/16 inch minimum (4/5AA length).

c. Battery packs are limited to four or five cells in a flat or square arrangement.

d. *Cell chemistry is limited to non-rechargeable (such as alkaline), NiCd or NiMH.*

2. Boom Fittings - Ref. CR 914 NEWS March-April 1998
The design and location of boom fittings are not controlled by the rules. Rule 9.2 reads, "All mast fittings ….", and therefore does not apply to boom fittings.

3. Correction Weights – Rule 14.3
Correction weights shall be attached to the underside of the deck as specified in Rule 14.3.

4. Cosmetic Deck Fittings (Rule 4.6) - Ref. CR 914 NEWS May-June 2000
Cosmetic Deck Fittings (Rule 4.6) will no longer be waived at sanctioned regattas as in the past. Read the rule to ensure your boat conforms.

5. Drum Type Sail Servos – Ref. CR 914 NEWS Sept.-Oct. 2000
"Only arm type sail servos are permitted in Regional and National regattas."

6. Halyards - Advisory Committee, Feb. 2002.
Halyards or other rigging controls cannot be routed internal to mast or booms.

7. Jib Sheet Routing - Ref. CR 914 NEWS May-June 1997
"The jib sheet shall pass through the deck mounted jib sheet fairlead as shown on the kit drawings."

8. Keel Fillet and Non-removable Keels - Ref. CR 914 NEWS July-August 2001

Interpretation

The CR 914 is designed to have an easily removable keel. If the keel cannot be removed there can be no additional changes that result in differences from a boat with a removable keel.

1. **Intersection of the keel fin with the outside bottom of the hull.** There shall clearly be a gap between the fin and the sides of the keel fin recess molded into the hull bottom. This gap would be present for a removable keel. Obviously, there can be no streamline fillet at this point between the hull and keel fin.

2. **Internal Structure** All the original keel/hull structure required for a removable keel shall remain in place. The steel keel-rod must extend to the deck and have a nut on it as if the keel were removable. The brass tube, or pipe, that normally houses the keel rod shall be properly installed.

3. **Internal Reinforcing of keel molding** The keel molding on the inside of the hull may be reinforced to prevent cracks and leaks. One way to do this is described in the "CR 914 Upgrade Instructions" found in the kit.

9. Keel Installation – Ref. CR 914 NEWS May-June 1997
"The keel fin must be fully inserted into the hull until it bottoms against the hull and the keel rod nut is tight."

10. Mast Material – Advisory Committee April 2002
Only the mast and boom material supplied in the kit are legal. There was a request to permit stronger material.

11. Mast Joiner - Ref. CR 914 NEWS May-June 2000
Steel Mast Joiner is required by class rule 2.1. It cannot be replaced by another design. A magnet is an easy check.

12. Mast Fittings - Ref. CR 914 NEWS March-April 1998
In Rule 9.2, "All mast fittings…" means mast fittings, not fittings on the booms.

13. Rudder Linkage – Ref. CR 914 NEWS May-June 2000
Pull-pull rudder linkage systems, using two wires to connect the servo to the rudder, is not legal. Only the Push-Pull single rod system is legal.

14. Reefing and Storm Sails – Ref. CR 914 NEWS Sept.-Oct. 2000
An owner may choose to reduce sail area as permitted by Class Rule 13. The class rules permit reducing the area of the stock sails for heavy winds. However, that smaller area shall be used for the entire regatta or series of races. Additionally, if a sail is reefed, the same limitation is in effect. The reef shall be used for the entire regatta.

15. Sail Modifications - Ref. CR 914 NEWS March-April 1998
Any alteration to the sails risks making them illegal, such as removing the luff tapes that are installed on the stock sails.

16. Sail Number Location – Ref. CR 914 NEWS May-June 1997
"Location of Sail Numbers and Emblems will be liberally interpreted. The location doesn't effect boat speed."

17. Standing Rigging - Ref. CR 914 NEWS March-April 1998
"The forestay and jib halyard cannot be routed directly to the masthead. They both shall be routed upward through the hole in the forward side of the mast ring portion of the jumper strut assembly and

then to the masthead."

18. Standing Rigging - Ref. CR 914 NEWS Sept.-Oct. 1998
"Standing rigging must be installed as shown in the kit instructions. For example, the intermediate shrouds must run through the hole in the end of the intermediate spreader."

19. Standing Rigging- Ref. CR 914 NEWS Sept.-Oct. 2000
"Shrouds (meaning the lower, middle and upper shrouds) may be connected to any of the three holes in the chain plates." (Chain plates are identified as "Eyelet plate, part 8" in the AG Assembly Instructions.)

20. Topping Lifts – Advisory Committee
Boom topping lifts made of string connected to the aft end of a boom are permitted.

Paul McAskill Photo

This is a TEST—What's wrong with this picture?
Answer on page 10

Pertinent Web Sites

AMYA Web Site,
http://www.amya.org
Add "/cr914.html" to go directly to the CR 914 page.

Chesapeake Performance Model Yachts,
Dave Ramos, Annapolis, MD
http://www.rcyachts.com
(Dave has posted the "Index to NEWS Articles" for owners convenience.)

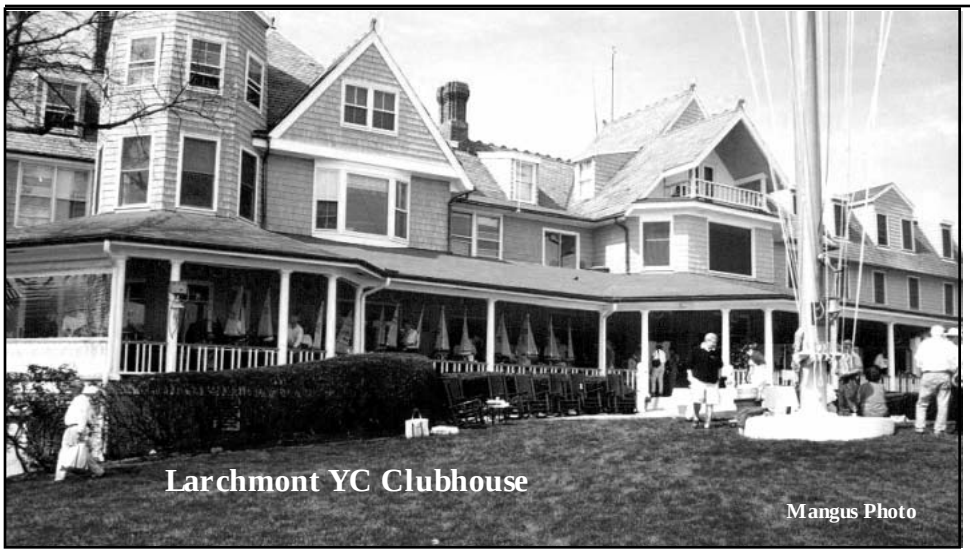
Thin Air Model YC
Steve Lang, Evergreen, CO
Steve@ModelSailingCenter.com
http://sailcr914.com

Worth Marine,
http://www.worthmarine.com

Yahoo CR 914 Club Website
http://clubs.yahoo.com/clubs/cr914class

CR 914 Listserve
Sign-up at:
cr-914-subscribe@topica.com

Mid-Missouri Model Sailing Club
http://www.m3sc.org/


Larchmont YC Clubhouse
Mangus Photo

Larchmont Spring Regatta Report

(Continued from page 1)

hanging around between races with friends both new and old.

Saturday's Preliminary Round was sailed starting at 1030. The winds were shifty from the south and west making the west course pretty tricky to navigate. There were two rounds of five races for each division.

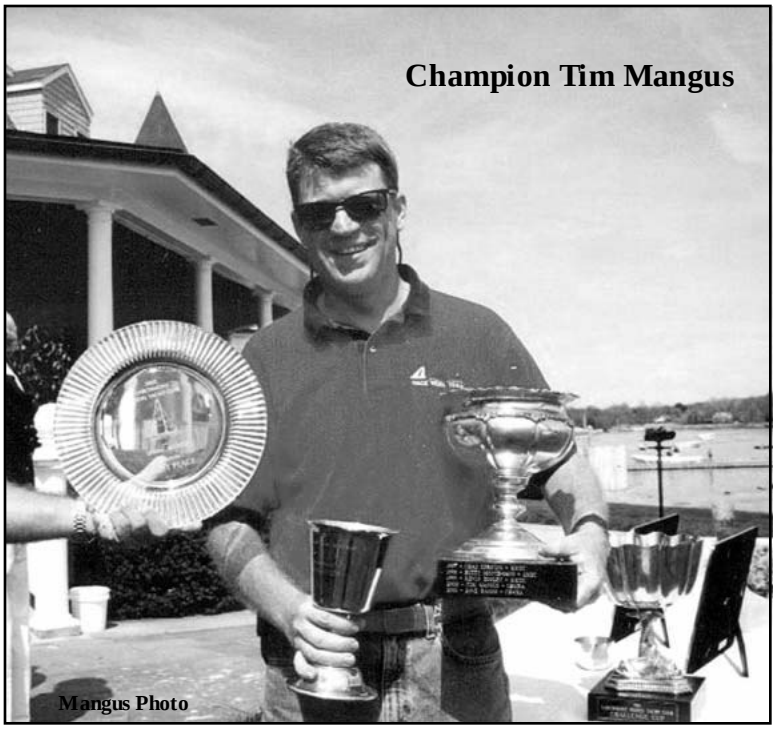
All divisions returned to shore at about 1300 for lunch and assignments for the Qualifying Round. This quick turnaround of divisions and channel assignments proved a challenge but, by and large, it all worked out. Dick Martin (can you believe this guy drove all the way from Missouri!) found that his replacement crystal wouldn't work and that hurt his first series of the afternoon. But some creative channel swapping got him back on the water the last round and he kicked some butt in his division. Admittedly, trying to get in a full second round was optimistic, but by running the B and D division's ten races consecutively, we saved the time it takes for a changeover. That was the good news. The tough part was that if anyone had a boat problem while stuck on the dock for ten races…as this writer did…and it killed your placement for the finals. In the end, after another 10-race set, the Qualifying Round finished as follows:

When arriving on shore after sailing Saturday, the fleet was met by a keg of Saranac Pale Ale, graciously donated by the Matt Brewing Company upon learning that the LMYC flagship has their logo emblazoned across its mainsail. Cocktails followed at 1900 with everyone decked out in their full, formal attire. In addition to the Saranac, Binky Hoffmann and Nick Langone rolled out a brand new LMYC Grog Barrel full to the brim with Monte Sano Coolers. For those not familiar with LYC's signature libation, it is two parts Mt. Gay, two parts Myers and two parts Collins mix. For those who sampled the grog, we'll send you the antidote soon! Thanks to Binky for procuring a great oak and brass grog barrel complete with a crank case pump for a dispenser and high tech clean-out port. Thanks to Nick for making sure there was some left after the mixers "made sure it was just right."

Dinner found 80 ladies and gentlemen seated in the Tap Room with laughs and more sea stories floating across the room. After dinner was done, Dave Ramos oversaw Allie Padin drawing numbers with all participants benefiting from the raffle. In addition to the great Lewmar Hats Chuck Luscomb scored from, (yes Chuck, Lewmar IS the Official Offshore Winch of the LMYC Spring Invitational Regatta) Dave had scored a boat load of hats, shirts and croakies…with the grand prize, a Hi Tech FM electronics set going to Cottage Park's Mike Gahan.

One other event of the evening was recognizing the contribution of Jaye Nashawaty and Sasha Kavs. Together, they have run the scoring for this event and our 1999 Nationals flawlessly. Chuck Luscomb wrote: "Your volunteers did an excellent job taking all the fanfare of big boat racing and applying it to the CR914! Judging was fare and scoring was really fast. It was really a shot to be able to complete a series and moments later have the official results."

Now, it would be one thing if Jaye were a local, but she is from Marblehead…an import as it were. Be it known that Jaye, and yes, Sasha, have a lock on a position in the upcoming Nationals. The "local" members of LYMC announced that Jaye was now officially an Honorary Member.


Champion Tim Mangus
Mangus Photo

Congratulations, Jaye, and thanks for all your time and efforts.

Just an aside here, Dave Ramos gets kudos for his participation at this event. He not only sailed the pants off almost everyone, he fixed people's boats, showed how to clean the potentiometers of transmitters and receivers, and was a huge help to anyone who needed it. He also has the biggest laugh in the class, adding more than his share of the sea stories.

After one, or two, too many Montes, we were all poured into our beds only to arrive back at the Club the next morning at 0800. Jaye and Sasha Kavs had the scoring program tuned-up and the division assignments were set. Dave Lynn again filled a critical role of managing the channel shifts and was critical to the success of the event. Then, it was waiting for the wind to come in.

At about 0915, a light southerly came in with constant oscillations to the southeast. The race committees had their hands full setting good courses but managed to get off ten races for each division to determine the winners. In the end, Tim Mangus won the event. Tim also won the Regatta in 1999 making him the first two-time winner. Chuck Winder, now referred to as "Mike," was in the second position with the Big Dawg Dave Ramos in third. The racing came down to the wire in the championship division…but it did in all of them all weekend long. A quick scan of the results shows that the bullets were distributed across each division proving that the double filtering system put the right people into the right divisions. A Division was not the only close match. In B, Team Lewmar's second boat, skippered by newcomer Harcourt Schutz, won by six points; but only three points separated LMYC's Buttons Padin, Cottage Park's Peter (Geez, I don't believe I missed that mark again!) Brown and Riverside's first timer, John (we found out after the fact he is a dentist) Shinto – who gets the prize for having the most kids playing bocce.

There goes the Pelham Station. The C Division was a real nail bitter as Sasha and Jamie Mangus tied for honors with Sasha taking the tiebreaker. This reporter went back into the scoring program Sasha had written and found a hidden micro formula on tiebreakers…but enough of that. Bucky Buchanan was just off the pace only four points back with Nick Langone on his heels. The D division was populated with some fine sailors who had electrical problems on Saturday and managed to sail fast Sunday. Dick Martin took the division with Carl Olsson, Mike Gahan and Dick McCarthy giving each other a run for the money. In the end, there is no doubt that the extra qualifying round resulted in competitive sailing throughout the fleet, maximizing the competitive nature of all divisions and the overall level of satisfaction received. The final results were:

Division A - , , , , , , , , , , , , Points
1, Mangus, Tim, 5, 1, 3, 6, 6, 2, 5, 1, T9, 1, 30
2, Winder, Chuck, 3, 2, 7, 2.5, 4, 5, 2, 5, 4, T11, 34.5
3, Ramos, Dave, 6, 4, 4, 2.5, 1, T7, 7, 4, 2, 6, 36.5
4, Becker, Geoff, 7, T11, 2, 4, 8, 3, 3, 6, 3, 5, 41
5, Fallon, John, 1, 3, T10, 7, 9, 1, 8, 3, 8, 2, 42
6, Spencer, Ted, T11, 6, 8, 10, 2, 9, 1, 2, 10, 3, 51
7, Luscomb, Charles, 4, 8, 5, 1, 5, 4, T11, 11, 11, 9, 58
8, Watt, Dave, 8, 5, 1, 8, T10, 8, 10, 7, 7, 4, 58
9, Freeland, Ernest, 10, 7, T11, 9, 7, 6, 4, 9, 1, 10, 63
10, Wullschleger, Sears, 9, 4, 6, 5, T11, 10, 6, 10, 5, 8, 63
11, Buchanan, Hank, 2, 10, 9, T11, 3, 11, 9, 8, 6, 7, 65

Division B
1, Schutz, Harcourt, 3, 3, 2, 3, 1, 1, 6, 5, 3, T9, 27
2, Padin, Buttons, 2, 1, 7, 7, 3, 2, T9, 7, 1, 3, 33
3, Brown, Peter, 6, 2, 1, 2, 7, 4, 4, 1, T9, 7, 34
4, Schinto, John, 5, 5, 4, 6, T9, 3, 1, 2, 5, 5, 36
5, Hobart, Aaron, 7, 7, 3, 4, 2, 5, 7, T8, 6, 1, 42
6, Masini, Bob, T12, 4, 12, 5, 4, 8, 3, 3, 2, 2, 43
7, Maiese, Mark, 4, 6, T12, 8, 5, 6, 2, 12, 4, 6, 53
8, Mehlich, Rob, 9, 9, 6, T9, 8, 7, 5, 6, 7, 8, 65
9, Olsson, Eric, 1, 8, 5, 1, 6, 12, 12, 12, 12, T12, 69
10, Beck, Rick, 8, 10, 8, 12, 10, T12, 8, 4, 8, 4, 72

Division C
1, Kavs, Sasha, 1, 4, 2, 1, 3, 4, 5, T6, 6, 1, 27
2, Mangus, Jamie, T7, 6, 4, 5, 2, 2, 2, 1, 1, 4, 27
3, Buchanan, Bucky, 5, 1, 1, 2, T12, 3, 6, 4, 2, 7, 31
4, Langone, Nick, 4, 3, 5, 3, 3, T8, 4, 3, 5, 5, 35
5, Lull, Wendy, 8, 2, T9, 7, 1, 5, 3, 5, 3, 6, 40
6, Hodgson, John, 6, T9, 3, 4, 5, 7, 8, 2, 7, 2, 44
7, Russell, Bill, T9, 8, 6, 6, 4, 1, 1, 7, 4, 8, 45
8, Kerrigan, Brian, 3, 7, 7, 9, 6, 6, 7, T12, 12, 3, 60
9, Lynn, Dave, 2, 5, 8, 8, 12, 12, 12, T12, 12, 12, 83

Division D
1, Martin, Dick, 3, 1, 1, T4, 2, 2, 1, 3, 2, 1, 16
2, Olsson, Carl, 2, 4, 2, 2, T5, 1, 2, 2, 1, 4, 20
3, Gahan, Mike, 1, T5, 3, 1, 3, 3, 3, 5, 4, 2, 25
4, McCarthy, Dick, 4, 3, T8, 7, 1, 4, 4, 1, 3, 7, 34
5, Merrit, Knight, 5, 6, 4, 6, T12, 6, 6, 6, 5, 6, 50
6, Shepard, Bob, 6, 9, 7, 3, T12, 12, 5, 4, 8, 5, 59
7, Konrad, Andrew, 7, 8, 6, 8, 6, T12, 9, 9, 12, 3, 68
8, Clarke, Stephen, 9, 2, 5, 5, 4, T12, 12, 12, 12, 8,69
9, Cika, Bob, 8, 7, 10, 9, T12, 7, 7, 7, 6, 10, 71
10, Dubuc, Paul, 10, 10, 9, 10, T12, 5, 8, 8, 7, 9, 76

Now it's time for the thank-you note. Without this long list of volunteers, the event would not have been close to the success it was. Here's whom we owe our gratitude to:

REGATTA VOLUNTEERS

Major domo	Pat Guerin
Judges	Joe Burbeck Mary Savage Doug Lynn Gary Van Dis Bill Kelly Ted Ferrarone Ned Roseberry Dan Ronan Hans Oean Skip McGuire Rob Dailey
Race Committee	Uncle Marty Zavell Melanie Buenvenue Betty & Anna Guerin Pat O'Donnell Ruth Campanelli Ava Spelman
Registrations	Sara Lynn Joan Watt Dee Dee Luckett Nancy Harrington
Launch Drivers	Binky Hoffmann Ted Spelman Jim Fleming
Crash boat	John Irving Bob Purcell Jake Estabrook Bill Spencer
Photographer	Allie Padin
Beer Procurement Agent	Rick Estabrook
Scoring	Jaye Nashawaty Sasha Kavs
Channels	Dave Lynn

As the train rumbles through New Rochelle on its way to the Larchmont Station, two thoughts now come to mind. First, can we pull this off again October 25, 26, and 27 for the 2002 Nationals? I believe we can. Second, I wonder if the grog barrel is still at the Club and if there's anything still in it? Why don't you meet me there and we'll find out?

It was great hosting old and new friends -- so keep your electronics dry and come back to Larchmont when you can.

Sail fast,

Buttons Padin
Commodore
Larchmont Model Yacht Club

AVOID RADIO PROBLEMS:
RECOMMENDATIONS FOR LARGE REGATTAS

Skippers who choose to ignore these recommendations will have to learn to smile when boat control is lost while racing.

Summary

- Routinely test radio performance using a Tx antenna-down range test
- Move the receiver (Rx) forward, use an external vertical Rx antenna and twist all the wires in the boat
- Consider upgrading with a dual-conversion Rx
- Consider upgrading to an FM dual-conversion radio system

Discussion

Forty-three percent of skippers reported loss of boat control while racing at the 2002 Larchmont Spring Regatta. That's unacceptable. Loss of positions when boat control was lost was frustrating. Some missed many races because of radio problems.

Radio control problems are likely when: a) a large number of boats sail at the same time; b) racecourses take a boat far from its transmitter (Tx); and c) skippers stand close together. Note that few skippers experience radio system problems racing with smaller local fleets.

The recommendations are derived from consultation with an RC radio service company and extensive testing.

1. **Perform a Radio Performance Calibration** (See the Test Protocol next page.) Test radio performance by determining the range at which boat control is lost with the Tx antenna fully retracted. Were the test done with antenna fully extended the boat would be at more than 2000 feet when control was lost. That would make the test inconvenient. ☺

Why do these tests? The distance a boat is from its Tx when control is lost is a direct indication of how well the radio system is performing. The longer the control range is, the higher the effective sensitivity of the radio system. The higher the sensitivity, the more resistant the system is to all the forms of interference it encounters.

If boat control is lost at less than 100 feet, that radio system is unacceptable. Improvement must be made. It is probably unacceptable if the range is less than 200 feet.

A boat using the Futaba Attack SR system with the Rx forward and an internal antenna had no glitching at the Larchmont Spring Regatta. That boat is in complete control at 200 feet with the Tx antenna fully retracted.

Another boat using the same radio and the stock kit arrangement with the Rx under the cockpit was out-of-control at less than 50 feet! When that boat was modified to the recommendation below, antenna-down loss of control was more than 500 feet!

Because of the physics of radio transmissions, a range of 500 feet vs. 50 feet means radio sensitivity was improved by a factor of 100! The original sensitivity must have been extremely poor.

2. Relocate the Rx forward of the main hatch next to the mast and use a vertical external Rx antenna attached to the upper shroud. (Other arrangements may also be effective but only this one was tested.)

Mount the Rx under deck using Velcro. Route the antenna through a hole at the chainplate near the upper shroud. Fasten the antenna to the upper shroud. Seal the antenna hole to prevent a water leak.

Note that the owner's instructions for a Futaba Attack SR say to locate the Rx and Rx antenna as far from the batteries as possible. The Rx and batteries are almost touching in the stock arrangement defined in the kit.

Tightly twisting all wires in the boat has demonstrated reduction of glitching. It is always good practice. See the *Boatyard*.

WHAT RADIO SYSTEM TO USE?
Better radios will give more protection from loss of control than the stock inexpensive AM single-conversion systems.

Inexpensive radios use single-conversion Rx's. A dual-conversion Rx has circuitry that is able to more reliably reject other radio signals so that the intended signal can be cleanly received and delivered to the servos.

Data on the "Stock" Kit Radios
Most CR 914 owners use the older discontinued hitec Ranger II (2s), the newer Ranger IIz or the Futaba Attack SR, which was stock in the kit for a short time. These systems may give acceptable performance with the improved Rx/antenna installation described above, but ***until trial-by-fire at the nationals***, we will not know with certainty.

Use the older Ranger II if you can since it has better performance than the other two. The table compares Tx antenna-down performance of the three radios tested on the water.
The Tx's were tested using the same boat by changing Tx crystals. This eliminated the variable of performance differences between boat installations. The distance at which boat control was lost using the older Ranger II was twice that of the Attack. The Ranger IIz range was only 130 feet.

Tx Antenna-down Test Data

Radio Model	Distance from Tx
hitec Ranger IIz	~130 ft.
Futaba Attack SR	~200 ft.
Hitec Ranger II (2s)	~400 ft.

(The test-boat had the Rx located forward, but used an internal antenna, not the better vertical external antenna.)

The test data in the table agree with:
1) The incidence of problems at Larchmont. Only 29% of the Ranger II's had problems compared to 50% of the Attack's and 60% of the Ranger IIz's.
2) Tx signal strength measurements made with the radio scanner. See the article "RADIO PERFORMANCE ASSESSMENT".

Dual-conversion Rx
The least expensive upgrade using the stock radios is to use a dual-conversion Rx. But before making a decision, read and understand the **Data on the Stock Kit Radios** above. It might be better to com-

bine the better performing Ranger II with a new Rx rather than use the Ranger IIz.

Only one such Rx has been found:
"*Fortress-Micro*" Dual-conversion Rx
from FMA Direct, 800 343 2934,
www.fmadirect.com

- $89.95
- Dual-conversion Rx crystals - $10.95.
- Has full range despite being micro size, weighs 0.6 oz.
- Uses Futaba or Hitec connectors

The Tx still uses conventional AM crystals, but you will need a few dual-conversion Rx crystals to assure getting a clear channel at a regatta.

Total cost is $134 for an Rx, one crystal for the Rx and 3 spare Rx crystals.

FM Radio with single-conversion Rx
The ***Ranger 3*** FM is such a system. It may not perform as well as a stock AM radio using a dual conversion Rx. See more below.

Of the three Ranger 3's with single conversion at Larchmont, two reported control problems.

FM Radio with dual-conversion Rx
The best choice for assuring glitch-free performance. ***Owners of expensive model airplanes use FM radio with a dual-conversion Rx. The same tends to be true for many of the larger model boat classes.***

One such radio is the **Futaba *SKYSPORT 4***. Tower Hobbies cost is $150. It includes: Tx and dual-conversion Rx, NiCd Tx/Rx battery packs, Tx/Rx charger and 3 rudder size servos. Dual-conversion crystal sets are $34 each. Cost with 3 spare crystal sets is $252.

The two SKYSPORT radios at Larchmont had no glitching.

A ***hitec*/RCD *Ranger 3*** FM radio using a *hitec* DCX dual-conversion Rx was tested by Dick Martin. Tx antenna-down range "on land" was more than 500 feet compared to only 75 feet using the Ranger IIz. That is a huge improvement!
The Ranger 3 package includes only two rudder size servos and no batteries or charger!

The Reality

The best radio system in the world is still subject to glitching. External radio interference can happen. Tx and servo potentiometers can get dirty. Batteries, switches and wires can be defective. Rigorous maintenance of electronics is mandatory. No radio system can protect against things like that.

———————————

Radio Performance Test Protocol

Why do these tests? *The distance a boat is from its Tx when control is lost is a direct indication of how well the radio system is performing.*

ON LAND

1. Use fresh batteries in boat and transmitter (Tx).

2. Place the boat on the ground on its starboard side with the mast pointed away from the Tx. Make sure there is no one near the boat or Tx and there are no posts, trees, fences, wires etc. near the boat, the Tx or in the field between the boat and Tx. A large lawn or soccer field works.

3. Walk away on a line that is an extension of the mast until boat control is lost. This is important. Small distances off this line will give different ranges.

4. With the Tx antenna FULLY RETRACTED, hold the Tx against your waist with the Tx antenna pointed at the boat. Very important.

5. Walk toward the boat until control returns. Count the paces back to the boat. Repeat this test to assure the distance is repeatable.

6. Record the distance in paces. Convert to feet after calibrating your pace.

When retesting use the same test area, locate the boat in the same place and walk away from it along the same line.

IN THE WATER

(This is preferred to the test on land.)

1. Have fresh batteries in boat and transmitter. Hold the Tx against your waist with the fully retracted antenna pointed at the boat.

2. Stand in the same location for all tests. Sail away in the same direction to assure repeatability of the range data. Use a fixed feature to sail towards to assure the boat follows the same course within 10-15 feet for all tests. Divergence from the course will cause differences in range data.

3. Frequently sail circles to assure that the boat is in control on all headings. When control is lost record the distance. Extend the Tx antenna if necessary to sail closer to the Tx and repeat the test to assure the distance is repeatable.

4. Control range should be at least 200 feet. Farther is better. If control is lost at less than 100 feet, radio system performance is unacceptable.

5. The prudent skipper will do an antenna-down test adhering to this protocol every time he launches his boat .

Discussion
Testing on water is best. Testing on land can be more convenient. It is specified to lay the boat on the ground because it is easy to do. A boat in its cradle is at risk of blowing over. Do the test with the boat lying on the same side. Having the boat on the same side avoids the possibility of bad data since loss-of-control range is different according to which side is down.

Pointing the Tx antenna at the boat and locating it against the waist controls another variable of the test. It was found that holding the Tx in different orientations and locations gave significantly different control-loss ranges.

DATA TO RECORD

1 Radio model and receiver model
2 Channel or frequency
3 Electronics arrangement in the boat
5 Distance to boat when control lost
6 Anything else you think is useful for you to understand your boat

By Staff Engineers
Dick Martin and
Chuck Winder

RADIO PERFORMANCE ASSESSMENT

of the stock kit radios

Four different radio models have been delivered in the CR 914 kit since 1994. All of them are AM radios with single-conversion receivers. They are ranked in order of decreasing performance:

1. hitec Ranger II (2s) (27 MHz band)
2. hitec Ranger II (2s) (75 MHz band)
3. Futaba Attack SR on (75 MHz band)
4. hitec Ranger IIz on (75 MHz band)

[The Ranger II is a discontinued model.]

Relative radio performance was assessed using four different techniques:

1. Survey of reported radio problems at Larchmont Spring Regatta
2. The range to loss-of-boat-control with Tx antenna fully retracted
3. Measurement of Tx signal strength with antenna fully retracted
4. Measurement of Tx signal strength with antenna fully extended

Survey of Radio Problems

The table is the result of a questionnaire sent to skippers at the Spring Regatta.

Model	Percent with Problems
Ranger II (2s) (27 MHz)	0
Ranger II (2s) (75 MHz)	29
Attack SR (75 MHz)	50
Ranger IIz (75 MHz)	60

Range to Loss of Boat Control with Tx Antenna Retracted

The boat was sailed away from the transmitter until control was lost. At the distance shown the boat was in control on all headings.

Radio Model (75 MHz)	Distance
Hitec Ranger II (2s)	~400 ft.
Futaba Attack SR	~200 ft.
Hitec Ranger IIz	~130 ft.

Relative Tx Signal Strength with Tx Antenna Retracted

Signal strength was measured at 70 feet using the radio scanner. Note: the signal meter is a vertical bar in the LCD scanner display. Full scale is 10.

Radio Model (75 MHz)	Strength
Hitec Ranger II (2s)	7.5
Futaba Attack SR	5
Hitec Ranger IIz	4

Relative Tx Signal Strength with Tx Antenna Extended

The radio scanner was used for these data. Tx's were on the ground with antennas vertical and extended. All radios were on 75 MHz except the last one on 27 MHz. The long distances were required to get the indicated signal bar to show relative strength. A boat would never be sailed at those distances.

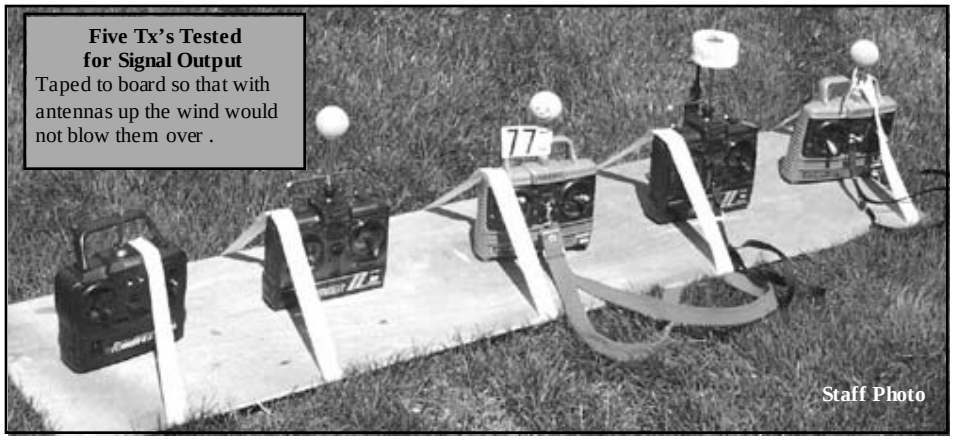
(1) Signal-meter was "pegged" when at 2400 ft.

Radio Model (75 MHz)	Channel	Strength at 2400 ft.	Strength At 4200 ft.
Ranger II (2s)	(27 MHz)	10 (1)	9
Ranger II (2s)	88	5.5	3
Futaba Attack SR	77	4	1 (2)
Futaba Attack SR	84	4	1 (2)
Ranger IIz	71	2	1 (2)

Therefore, the relative signal of that Tx is stronger than indicated.

(2) These signals were probably so low that they did not show relative signal strength on the meter as is shown at 2400 feet.

What is puzzling in the data is the much stronger signal from the older Ranger II on the 27 MHz band. The radios "look" the same. Many skippers claim that 27 MHz radios are more glitch-free. My observations have confirmed this, too. And now here is data that seems to tell us why.



Five Tx's Tested for Signal Output
Taped to board so that with antennas up the wind would not blow them over .

Staff Photo

PANDORA'S BOX was opened

Everyone at the Larchmont Spring Regatta suffered from the excessive radio glitching, even the ones who had no problems. It was unpleasant watching an otherwise competitive boat doing poorly because boat control was lost.

The responses to the questionnaire confirmed the problem was real. But we never imagined all the things that would emerge as the problem was studied.

What Caused the Glitching?
There is no question that there were many different causes based on the symptoms reported. An article in a model airplane magazine had a full page of one-liner glitch causes. They further stated the list was not complete. The "*Recommendations*" article in this NEWS offered the things we believe head the list of what *owners* can do to minimize glitching. There is another list of what race organizers can do that will not be discussed at this time.

RC Radio Technology was not developed to be used the way we use it. It was developed for model aircraft. We often stand in a tight group shoulder-to-shoulder. A minimum of 20 feet of separation between Tx's is recommended for flying model airplanes. This suggests that we have to do all we can to have the best possible radio installation in the boat to tolerate being so close.

Electronic Installation on the boat may turn out to be the most significant contributor to glitching. The surprise was how big an effect it was. The stock arrangement with Rx and battery almost touching was tolerable for years until the newer radios with weaker Tx performance appeared. The theory is that if a boat's radio sensitivity is too low its Rx is more vulnerable to stronger signals from another Tx, even though the other Tx is on a different channel.

An owner who is serious about preventing glitching has no choice but to separate the Rx and batteries.

Tx Signal Strength Variation was the next unexpected finding. Who would have guessed that the newer radios were so much weaker than the older Ranger II. In addition, the little data we have suggests that the FM radios may have much more powerful output signals than any of the AM radios we use. Can that be a problem in itself? Will the more powerful FM radios cause more glitching in the AM radios? There were at least five FM radios operating at the Spring Regatta.

"23 Channel Syndrome" This surprise came from an expert radio engineer, the owner of an RC Radio service company. He explained: If two radios are operating and separated by 23 channels, they produce a 455 KHz signal that may cause glitching on all other radios operating! (This is not a problem for a dual-conversion Rx.) Channel 61 with 84 is an example. A review of channel assignments at the Spring Regatta reveals that every pair of divisions on the water together had a "23 channel syndrome" combination in one, if not both, divisions. There was a lot of glitching, but not all boats were affected.

Dick Martin's Unsolved Problem is a frustration to both of us. He drove from Missouri to Larchmont to race and missed all of Saturday mornings qualification races. He was assigned channel 80 and had complete loss of control on the racecourse. He changed to another 80 crystal (one of them was his own), changed to his backup radio (Tx and Rx) and still had the problem. Switching to 74 late on Saturday and to channel 69 on Sunday, solved the problem. To avoid future disappointment he now owns a Ranger 3 FM radio with dual-conversion.

TESTING - Dick Martin and the CR 914 Engineer did a huge amount of testing. Many times a test yielded inconsistent results, which required redesigning the test and doing it again. It was a slow learning process. Many things were learned that are not reported in this issue. Hopefully we can organize them and publish in future issues.

THE FINAL TEST will be at the nationals.

ROUNDING THE OFFSET MARK
2002 Larchmont Spring Regatta
DickMartin Photo

BOATYARD

RADIO SCANNER WILL HELP SOLVE RADIO PROBLEMS

The class bought a radio scanner recommended by the AMA for model airplane site trouble shooting. It is the Alinco model DJ-X2 T/E (See the photo.) It uses a rechargeable internal Lithium-ion battery or 3 AA cells.

Once programmed it is simple to use. It continuously scans all 36 of the surface channels (thirty 75 MHz channels and the six 27 MHz channels). It takes 3-4 seconds to scan all 36. If there is radio transmission on any channel, the display stops at that channel for about 10 seconds. There is an audio output from the speaker. A vertical bar at the right of the display gives qualitative signal strength. The digital LCD display shows the frequency and channel number.

SOME WAYS TO USE IT

1. Before racing starts or at anytime there is a suspicion of outside interference, all Tx's are turned off and the scanner will tell if there is an interfering signal. That channel shouldn't be used for racing.
2. A single Tx is checked for a clean signal by having all other transmitters off. It should show a signal only at its own channel and no others.
3. The scanner will determine the relative signal strength of different radio models. See the data in the article "RADIO PERFORMANCE ASSESSMENT of the stock kit radios".
4. During racing the scanner can identify any Tx that has a weak output signal.

Staff Photo

This is a TEST **(from page 4)**
Wendy Lull , #753, submitted the puzzle knowing that we all would note that there is no bow wave or wake because the boats are aground. That's the only way a Soling 1M can get ahead of a CR 914.

TWIST WIRES

to Improve Boat Electronic Performance

Twisting wires in electronic devices has long been recommended to improve performance.

ALL wires must be twisted, not just the battery wires

Recently a boat owner demonstrated that it helps. He had experienced glitching in his sail servo when commanding motion in the rudder servo. That stopped when wires were twisted.

An effective way to twist wires is to grip the wire tightly with thumb and forefinger where the wire emerges from a component. With the other thumb/forefinger, grip the wire close to the first fingers and give a firm half-twist. Repeat, moving along the wire in very small steps, until your reach the connector.

Twisting the entire length of wire by twisting at the connector does not work well. Additionally, wires in the connector could be loosened.


BEATING TO THE FINISH **2002 Larchmont Spring Regatta** DickMartin Photo

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AND

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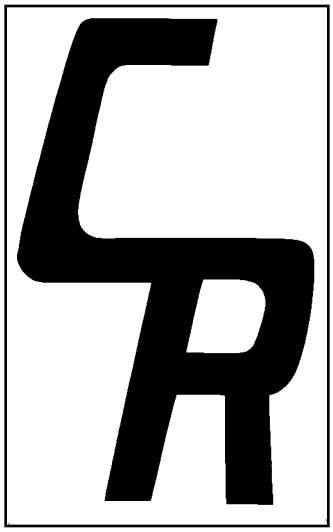
AMYA Number_____ **Club Affiliation**_____

Please provide a list of all boats you own with the sail number for each.

A courtesy of the *CR 914 NEWS*

Chuck Winder
19 Robert Rd.
Marblehead, MA 01945



CR 914 SAIL EMBLEM
Full Scale-Can be traced on to your sail.

START YOUR OWN MODEL YACHT CLUB
There are probably some owners who would like to race but don't have a local club. Start your own by getting three AMYA members together. That's all it takes! *(Though it helps to have a place to sail such as a pond.☺)* Ask me for a "NEW FLEET' package if this interests you.

Articles in the CR 914 NEWS

The following is a list of articles planned for future 914 News. What will actually appear depends on input from you owners in the form of contributed material and requests for particular information.

-Regatta results
-Fleet news
-Battery management - continuing
-Surviving salt water - continuing
-Racing Rules of Sailing topics
-Why do radios "glitch"?
-Class Rules Interpretation - continuing
-Maintenance and repair of radio components
-Building and maintenance - continuing
-Scoring systems
-Boat switches
-Conduct of a model race
-Etc.