

# NEWSLETTER OF THE CHARLES RIVER RADIO CONTROLLERS, INC



## CRRC FLIGHT-LOG

<http://www.charlesriverrc.org/>

**AMA CHARTER 339**

**March 2002**

**VOLUME 39 NUMBER 3**

### 2002 CRRC OFFICERS

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**781 235-7344**

[tbauer@wellesley.edu](mailto:tbauer@wellesley.edu)

**WEBMASTER**

**Joel Foner**

**508 653-3560**

[jfoner@fonerassoc.com](mailto:jfoner@fonerassoc.com)

**GENERAL  
MEETING**  
**Wednesday March**  
**20 7:30 PM**  
**VERIZON**  
**LABORATORIES**  
**SEE MAP ON COVER**

**WINTER  
PROJECTS  
NIGHT!**  
**Bring what you've**  
**been working on over**  
**the winter whether**  
**you've shown it**  
**already or not!**

### **MARCH RAFFLE**

#### **1st Prize**

Multiplex Field Box IDEAL FOR  
BOTH POWER AND  
SAILPLANE!!!

16" x 8.5" x 12"

5 Swivel drawers, tool holders, and  
combination lock.

#### **2nd Prize Choice of:**

Gallon of 10% Premium Nitro  
fuel

GloBee Intellitach™- Digital  
Tachometer

Herr Engineering Piper J-3 Cub  
18" Laser Cut Scale Free Flight  
Kit

#### **3rd Prize Choice of a Cool Tool:**

11" Easy Sander Bar, Razor  
Plane, Razor Saw Set, Pocket  
Thermometer, Swivel Head Pin  
Vice, 6 Minute Epoxy, 100 #11  
Knife Blades, or a Peck  
Polymers ROG FF-Kit

One prize awarded from each  
category.

Show and tell prize will be  
selection from Cool Tools.

*Tom Bauer Raffle Chairman*

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## TREASURER'S REPORT

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Report Date 2/28/02

### Starting Balance 1/31/02

|                        |                   |
|------------------------|-------------------|
| Checking (after #1231) | \$2,320.50        |
| Savings                | 4,525.65          |
| Cash                   | 25.00             |
| <b>Total Starting</b>  | <b>\$6,871.15</b> |

### Income

|                     |                   |
|---------------------|-------------------|
| Dues                | \$935.00          |
| Raffle              | 134.00            |
| <b>Total Income</b> | <b>\$1,069.00</b> |

### Expenses

|                                     |                 |
|-------------------------------------|-----------------|
| Fred Bray Dues Refund #1232         | \$5.00          |
| Dick Williamson Flyer, stamps, etc. |                 |
| #1233                               | 83.35           |
| Ronald Rosenthal Dues               |                 |
| Refund #1234                        | 5.00            |
| Frank Parsons –                     |                 |
| Dues Refund #1235                   | 5.00            |
| Peter Young –                       |                 |
| Trainer Cord #1236                  | 22.00           |
| Fritz Bien – Newsletters/club cards |                 |
| #1237                               | 178.79          |
| Tom Donovan - Dues Refund           |                 |
| #1238                               | 5.00            |
| Tom Bauer - Raffle Prizes           |                 |
| #1239                               | 288.91          |
| Bank Fee (January, February)        | 18.00           |
| <b>Total Expenses</b>               | <b>\$611.05</b> |

### Ending Balance

|                        |            |
|------------------------|------------|
| Checking (after #1239) | \$2,778.45 |
| Savings                | 4,525.65   |
| Cash                   | 25.00      |

**Total Ending 2/28/02**      **\$7,329.10**

Signed:

*Miner Crany*

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## PRESIDENT'S COLUMN

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*Jon Leehey*

As I write this, the wind is howling and I wonder if anybody went slope soaring today. Yesterday was another beautiful flying day in this very strange winter. 70 degrees, sunny, low wind and still March. Early March! Today is not as nice but 50 degrees ain't bad either. Sometimes I wonder if Mother Nature is going to pay us back with spring floods to block the Medfield access road.

I want to take this opportunity to put out a call for some new blood in the instructor program. Ruane Crummett, who has volunteered to take over my position as chief instructor, could sure use some help. While we have a long list of instructors, this list has gone unchanged for the last few years and many people on the power and helicopter list are not regularly at the field.

So why don't you consider becoming an instructor? It's easy, it's fun and it's very rewarding. You don't have to be an expert flyer to instruct. Take me for instance. All that's required is the ability to fly safely and the patience to teach somebody else to do likewise. We are in need of power instructors and in desperate need for somebody to help Joel teach helicopters. Please contact Ruane if you can help out.

I promised to update everybody on the status of the Bill Martin flying field in Medfield. Fortunately, the big push is by anti-development groups who want to see the Medfield Hospital land transferred to the State

Department of Environmental Management for parkland. This is to keep it from being used for housing developments and other "high impact" uses that would make flying there impossible. Ned Watts had graciously volunteered to be our point man on this issue. He has already made a number of important contacts and is conveniently already on the board of the CRWA (Charles River Watershed Association). He will keep us apprised on any upcoming meetings or discussions relating to this issue. Thanks Ned!

Don't forget that the annual field cleanup and funfly at the Bill Martin field is scheduled for Saturday, April 6<sup>th</sup> (weather permitting). Hope to see a good crowd for our traditional start to the (power) flying season.

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## TREE CLIMBERS

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***Tony Morais***

A1 Tree Services-  
Framingham, MA  
508-626-0088  
800-657-7788

***Brian Pikarski***

Burlington, MA  
617-797-2136  
recently rejoined CRRC,  
building a glider, might find him  
at Davis soon.

***Kenny Greeno***

Office Phone: 617-661-8591  
Cell Phone: 617-839-1814

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## FEBRUARY MEETING NOTES

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Laurie Hurwitz

Jon Leehey opened the meeting at 7:40 PM.

Secretary's Report approved as written in newsletter.

Treasurer's Report approved as written in newsletter.

The attendance book was passed around the meeting. We ask that newcomers say something more than his/her name.

### Field coordinator's report:

- Davis: Has been icy. The winch has been out. (Ken A. brought his drill.)
- Medfield: Road is muddy but remains passable. Please try to drive on top of the ruts to keep the road even. Sound carries a lot during the winter when the leaves are down so be careful with gas planes.

### Old Business:

Membership:

- Fritz has placed a reminder on newsletter labels of people who have yet to renew.
- Some versions of the application do not have the snail/e-mail version. If you filled out a form without this info, please contact Dick with your preference.
- 114 members so far this year. 10 are new to the club.

### New Business:

- Special notice list is up and running.
- Volunteer to attend the BOD meeting for the next two months: Peter Lofgren.
- Cape Ann RC is having an auction Sunday March 3.
- Library is here tonight.
- Looking to keep informed about the Medfield site and any land transfers.

**New pilots:** Jeremy Harkin

### New members or guests:

Pietro Parraucini  
Brian Pikarski – Helis, trainers sport planes  
James Cullen – gliders and power  
Randy Woessner  
Chris Baker

### Indoor flying:

- Friday 22nd February – Lincoln/Sudbury high school 6-10 PM
- Field house in Northborough for March 9<sup>th</sup> from 9 to 12 PM. \$40. If enough people are interested, he will reserve it. Please respond to Bruce.

Jon Leehey closed the meeting at 8:25.

### Raffle:

- Dynaflight Fly Baby: Paul Murphy
- Zona knife : Mark Drela
- Rubber Band Plane: Doug Smith

### Show and Tell:

Ruane Crummett brought in his Balsa USA Cub. It has a YS 120 4 cycle engine and weight in at about 10 lbs.

Joel Foner brought his Vectron indoor electric "rotary helicopter".

Mark Drela brought his new three meter Bubble Dancer RES. It weighs in at 31 oz. and has the same basic dimensions and airfoils as the Allegro.

Steve Young brought the frame of his rubber powered Stinson Reliant SR-10. His father owned the full scale plane and it was the first plane in which he ever flew.

Warren Chafe shared another antique engine with the club. The GHQ engine had a gasoline spark ignition. Apparently, this particular engine was an example of poor workmanship and was known for "ruining people for flying gas".

Jeremy Harkin shared his Great Planes PT-40 with an OS-56FX

engine and weighing in at around 5 lbs. This is the plane that he made his first solo flight with! Congrats, Jeremy!

Fritz Bien finally built his Clou Glider which he won at the CRRC's 1972 Soar In.

Steve Swartz brought his home built "Miss Stik" which had a Speed 280 and weighed in at between 10 and 11 ounces.

### Show and tell prize:

Warren Chafe – Ball Drivers

### Guest Speakers

Mitch and Jack Buckley gave a blow by blow description on what is involved to fly in a scale contest.

They brought in some of their scale projects over the years, including pieces of a French Neuport 28, a new "Pappy Boyington Corsair, and a Cessna.

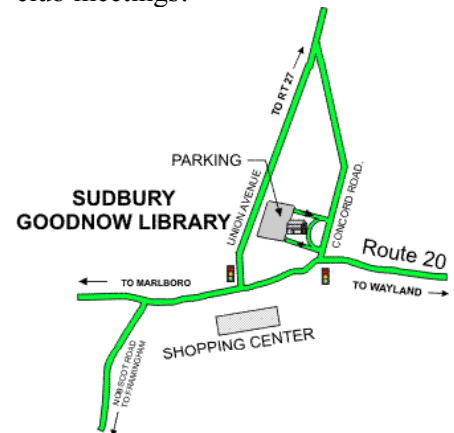
They also demonstrated some of the scale techniques such as making rivet lines.

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## MARCH DIRECTORS MEETING

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The next directors meeting will be at the Sudbury Goodnow Library, Tuesday, March 26<sup>th</sup>, at 7:30 PM. come and help decide what you want to hear at future club meetings!



## CRRC BUILDING AND FLIGHT INSTRUCTORS:

Below is our list of qualified and willing instructors. Power planes are flown only at the Bill Martin Flying Field in Medfield. Sailplanes and Electrics can be flown at the Davis Farm Field on Rte. 117 in Sudbury as well as Callahan State Park in Framingham.

See <http://www.charlesriverc.org> for directions to the flying fields. If you have any questions about the construction of your airplane, or want to have an experienced pilot pre-flight check your airplane before heading to the flying field, then call any of the building instructors.

| INSTRUCTOR | TOWN | TELEPHONE |
|------------|------|-----------|
|------------|------|-----------|

### POWER

|                        |            |              |
|------------------------|------------|--------------|
| Ruane Crummett (Chief) | Wayland    | 508-655-2234 |
| Bob Scott              | Roslindale | 617 323 6600 |
| Pete Young             | Belmont    | 617-484-0648 |
| Larry Copeland         | E. Walpole | 508-668-0448 |
| Ken Antonellis         | Natick     | 508-653-4513 |
| Jon Leehey             | Wayland    | 508 358 5721 |
| Dave Walter            | Hudson     | 508-562-5400 |
| Fritz Bien             | Concord    | 978-369-1720 |
| Neil Kaufman           | Sudbury    | 508-443-9647 |

### SOARING

|                 |         |              |
|-----------------|---------|--------------|
| Dick Williamson | Sudbury | 978 443-8549 |
| Dave Walter     | Hudson  | 978-562-5400 |
| Bruce Schneider | Hudson  | 978-562-9900 |
| Fritz Bien      | Concord | 978-369-1720 |
| John Nilsson    | Clinton | 508-368-7136 |
| Peter Young     | Belmont | 617 484 0640 |
| Lincoln Ross    | Waltham | 781-891-0332 |

### ELECTRICS

|                 |         |              |
|-----------------|---------|--------------|
| Bruce Schneider | Hudson  | 978-562-9900 |
| Fritz Bien      | Concord | 978-369-1720 |
| Dave Walter     | Hudson  | 978-562-5400 |
| Derrick Veliz   | Acton   | 978-266-1739 |
| Peter Young     | Belmont | 617 484 0640 |
| Lincoln Ross    | Waltham | 781-891-0332 |

### HELICOPTERS

|            |        |              |
|------------|--------|--------------|
| Joel Foner | Natick | 508-653-3560 |
|------------|--------|--------------|

### BUILDING

|                |         |              |
|----------------|---------|--------------|
| Ruane Crummett | Wayland | 508-655-2234 |
| Fritz Bien     | Concord | 978-369-1720 |
| Joel Foner     | Natick  | 508-653-3560 |
| John Weigel    | Natick  | 508-653-3560 |
| Peter Young    | Belmont | 617 484 0640 |
| Derrick Veliz  | Acton   | 978-266-1739 |

## HEARD AND SEEN AT THE FIELD

Whatever happened to winter? As of March 2, I was still waiting. The rain on the 3<sup>rd</sup> would be classified as spring.

Sunday February 24th was another "nice winter day". We were able to test out our new airplanes show-and-told at the February Meeting. Mark Drela was able to speck out his "Bubble Dancer" unlimited ship from a hand-launch. Yours truly was able to speck out his Clou even when a piece of trim Mica-film came loose and made a racket like a machine gun.

Bruce Schneider rebuilt his Sig Seniorita with an electric car motor and demonstrated its stellar performance.

Dave Walter was out with his Spectrum 2-m. Les Gerhardt even had his Gentle Lady with him.

Saturday March 2 was another fine day. The morning started calm with the wind building up from the East. The usual crowd was out, testing out and breaking in the new brushes of Fritz's winch. There were several accidents this day, as the early season caught several people unprepared. These included a couple of launch accidents and a free-flight fly-away. At least they didn't happen during the contest season!

Saturday March 9, we again had prediction of bad weather for Sunday, so we got to the field early on Saturday. I got there at about 9:00 am with Bruce already there and Miner having already left! The field was fogged in somewhat, so we had to fly electrics until the ceiling lifted a little. The lift was tricky, but

strong. Dick Williamson showed that in spite of the gusts, the modified Spirit worked just fine, as he chased a thermal all around the field.

-Fritz

Saturday night we had a very good turnout at the Teamworks sports facility in Northborough. Thanks to Wayne Nelson who found the spot and the excellent staff at Teamworks we had a pleasant late night of indoor flying.

Gordon Johnson brought out a 10" span micro-plane that he was able to fly.

Seen indoors was Jim Tyrie's Beautiful Quadracille 4-winger. Reports were that there was radio interference which caused some damage to the bottom of the plane.

This was a test run to see how everyone likes the spot. The general consensus was positive, but we had our eyes on field #3 which is a SLIGHT bit smaller, but does have a higher flat roof. Field #2 that we flew on had a pitched ceiling and an air vent on one side that did cause some down drafts. Once we figure this out the flying was easier. Field #3 does not have that vent and Wayne Nelson said he will talk to the owners and see if we could get it on a regular basis starting in November and then running monthly until March. The owners saw no problem.

NOW THE BIG QUESTION ---

- If we start at 9:00 in the evening I need a straw count of who would prefer Friday or Sat. night?

This looks like a great regular site without having to beg for gym use or armory use. These people are here to rent the space for a living and are very accommodating.

-Bruce

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## DYING CANOPIES

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From  
day\_trippr@REMOVEyahoo.c  
om Fri Oct 26 18:16:52  
2001  
On Fri, 26 Oct 2001 16:02:09 -0500,  
"Ron Weisskopf"  
<sunshine@pcpartner.net>

wrote:

>I have a new Hangar 9 PIZAZZ  
and I would like to use dye to make  
the canopy very dark green. Can  
anyone steer me along on how to do  
this?

Depending on what type of plastic  
was used to make the canopy, you  
can easily dye it permanently using  
Rit. Any of the butyls will work  
well. Polycarbonates, however,  
totally suck for dying, and you'd do  
better to buy a spray can of the same  
tinting paint that the R/C car guys  
use and spray the inside of the  
canopy...

So save the trimmings removed  
from the canopy! You'll need those  
to test the dye bath. If you can  
successfully dye the scrap piece  
without deforming it, you're in  
business.

First: Buy the SO a movie ticket and  
send her off (you won't want her  
around when you liberate the largest  
stainless steel pot she has ;-)

Next, fill the pot with enough hot  
tap water to submerge the entire  
canopy without bending it. But don't  
overfill the pot: besides raising the  
"Ooops!"

Factor, excess water weakens the  
dye. Get your thermometer ready (a  
meat thermometer will work fine in  
a pinch), put the pot on the stove and  
turn the heat on low. You'll be  
aiming for around 150F to start.

While that's heating up, wash your  
hands with dishwashing soap a  
couple of times to get all the oils out

of your skin. Then wash the  
canopy to within an inch of its life  
- you have to remove any  
remaining parting agents, oils,  
waxes, fingerprints, whatever, lest  
you end up with permanent  
reminders of same. Wash a couple  
of the scrap pieces while you're at  
it.

Once the dye bath hits 150F,  
pour in the Rit and stir carefully  
with something that can be  
sacrificed to the cause. Then stir  
in a half-cup of vinegar per quart  
of water: whatever alchemy is at  
play, the vinegar will help the  
plastic take the dye better. I  
suspect the acid acts as a mild  
etching agent.

Whatever, it works.

Keeping an eye on the bath  
temperature, submerge one of the  
scrap pieces.

Remove the piece after 15  
seconds, rinse it off in clean  
water, and examine to see if the  
dye is taking at all, and to see if  
the piece is deforming at this  
temperature.

If the piece isn't deforming, and  
it's taking up dye, and you want it  
darker, just keep repeating the  
process until your happy with the  
result. You'll then know how long  
to keep the canopy in the dye bath  
to get the same effect.

If the scrap piece is deforming  
due to excessive temperature,  
you'll have to lower the bath  
temperature by 5F and test it  
again.

Eventually you'll find a safe  
temperature to work with; the  
lower this temperature, the longer  
the piece has to sit in the bath to  
get the same deepness of color.

The last canopies I dyed  
worked safe and well at 160F,  
fwiw.

/daytripper

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## CRRC LIBRARY

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The club keeps a library of videos  
and books. They are made available  
at club meetings.

### Videos:

1996 World Masters Aerobatic  
Championships  
AMA – The Pioneers (25 min)  
Byron – New Generation of  
Modeling Products (17 min)  
Byron – R/C Wars  
Combat Models – Fighter town  
Demo (8 min)  
Coming of Jets & History of the  
DC3  
Dynamic Soaring  
Elmira '97  
Endless Lift  
Hot Stuff Video (60 min)  
Local Flying (Medfield)  
Military Aircraft  
Monokote 1 & 2  
Old Buzzard Goes Flying  
R/C Helicopters  
R/C Info and Tips  
R/C Ornithopter Research Project  
R/C Soaring from the Ground Up  
R/C Video Magazine, Vol. 1-13  
Scale Aircraft Documentation  
The Light Stuff (Daedalus Project)  
Wring It Out, Vol. 2

### Books:

1993 Don Edberg Complete Source  
Book  
AMA – Sound and Model  
Aeronautics  
Aviation Heritage Magazine – B2  
Flying Wing  
Completely Cars – Harry Higley  
Trainers (R/C Magazine)

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## CALENDAR OF EVENTS

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The calendar of events for the year was determined in the January Board of Director's meeting. If you have a favorite event you want included on the 2002 Calendar, please come to the Board Meeting and bring it up. For a up-to-date list of area events check [http://www.charlesriverrc.org/calendar\\_events.htm](http://www.charlesriverrc.org/calendar_events.htm).

| DATE             | EVENT                                    | WHERE                        | CONTACT                      | EMAIL                   |
|------------------|------------------------------------------|------------------------------|------------------------------|-------------------------|
| Apr 6 2002       | CRRRC Medfield Fun-Fly and Field Cleanup | Bill Martin Field (Medfield) | Jon Leehey or Ruane Crummett | jon.leehey@alum.mit.edu |
| Jun 1 2002       | CRRRC Family Fun-Fly                     | Bill Martin Field (Medfield) | Tracy Clark                  | tclark@magnemotion.com  |
| July 13, 14 2002 | CRRRC 2002 RES soaring contest           | Davis Farm Field (Sudbury)   | Miner Crary Ruane Crummett   | minerc@aol.com          |
| Aug 10-11 2002   | CRRRC 2002 Open Class soaring contest    | Davis Farm Field (Sudbury)   | Dave Walter Anker Berg-Sonne | anker@ultranet.com      |
| Oct 19 2002      | CRRRC Electric Fun-Fly                   | Bill Martin Field (Medfield) | Tom Bauer                    | tbauer@wellesley.edu    |
| Nov 17 2002      | CRRRC RC Auction                         | probably Natick VFW (Natick) |                              |                         |
| Jan 1 2003       | CRRRC Frozen Finger Fun Fly              | Bill Martin Field (Medfield) |                              | fritz@spectral.com      |



Stuart Strong demonstrates his new launching rail. Stuart has been trying various methods for launching his very heavy electric in spite of his old tired shoulder, and has come up with a modified rail used by R/C combat guys.

Picture was taken in Florida, where retired snowbirds roost.



The Old... Fritz's Graupner "HS-91 Clou" built from a 1965 vintage kit for 6 channel reed radio. This plane was a prize at the first annual CRRC Soar-In held in 1972. Plane displayed in February Show and Tell.

Picture by Jan Kansky



The new... Mark Drela's beautiful "Bubble Dancer", also shown at the February Meeting, represents how far Rudder/elevator designs have progressed. This design is new for 2002. It specked out on its third hand-toss!

Picture by Jan Kansky



Mark is launching his Bubble Dancer into the heavens. Dick is looking as if he's flying it, Don looking at the launch, and Bruce looking at Don. This launch showed just how well trimmed the plane was in free-flight. **Picture by Jan Kansky**



Jim Tyrie is getting ready to fly at the Cambridge Armory showing off his monoplane on January 18. Picture by Allan Wright of the New Hampshire Flying Misfits.

Check <http://pease1.sr.unh.edu/aew/rc/events/> for more pictures



# THE CHARLES RIVER RADIO CONTROLLERS, INC

AMA Charter 339

## 2002 MEMBERSHIP APPLICATION

Name \_\_\_\_\_ AMA No. \_\_\_\_\_

Street \_\_\_\_\_ Birth Date (AMA reqmnt) \_\_\_\_\_

Town \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Tel. ( ) \_\_\_\_\_ - \_\_\_\_\_

e-mail \_\_\_\_\_

### I PREFER TO RECEIVE MY NEWSLETTER

☐ ELECTRONICALLY ☐ Via the US Mail

To receive membership card and field pass, bring this application to a club meeting, or mail **with a copy of your Year 2002 AMA LICENSE**, appropriate dues, and a **SELF ADDRESSED STAMPED ENVELOPE** to:

**Dick Williamson /Secretary  
CRRC  
P.O. Box 398  
Lincoln, MA 01773  
Telephone 978 443-8549  
E-mail: [williamson@ll.mit.edu](mailto:williamson@ll.mit.edu)**

☐ I DO NOT want my address to appear in the club phone book

|                                             | New Members | Renewals |
|---------------------------------------------|-------------|----------|
| OPEN Member                                 | \$30.00     | \$35.00  |
| member, (under 19 before 7-1) \$15.00       | \$15.00     | \$20.00  |
| SENIOR member, (if age 60 before 7-1)       | \$20.00     | \$25.00  |
| full time STUDENT                           | \$15.00     | \$20.00  |
| Family member additional to OPEN membership | \$15.00     | \$20.00  |

### I'M INTERESTED IN THE FOLLOWING:

- |                                                     |                                      |                                             |
|-----------------------------------------------------|--------------------------------------|---------------------------------------------|
| <input type="checkbox"/> TRAINERS/SPORT PLANES      | <input type="checkbox"/> ELECTRICS   | <input type="checkbox"/> HELICOPTERS        |
| <input type="checkbox"/> GLIDERS                    | <input type="checkbox"/> PATTERN     | <input type="checkbox"/> RACING             |
| <input type="checkbox"/> SCALE/SEMI-SCALE/QTR SCALE | <input type="checkbox"/> DUCTED FANS | <input type="checkbox"/> INDOOR/PARK FLYERS |
| <input type="checkbox"/> OTHER (specify) _____      |                                      |                                             |

## FREQUENCY DATABASE

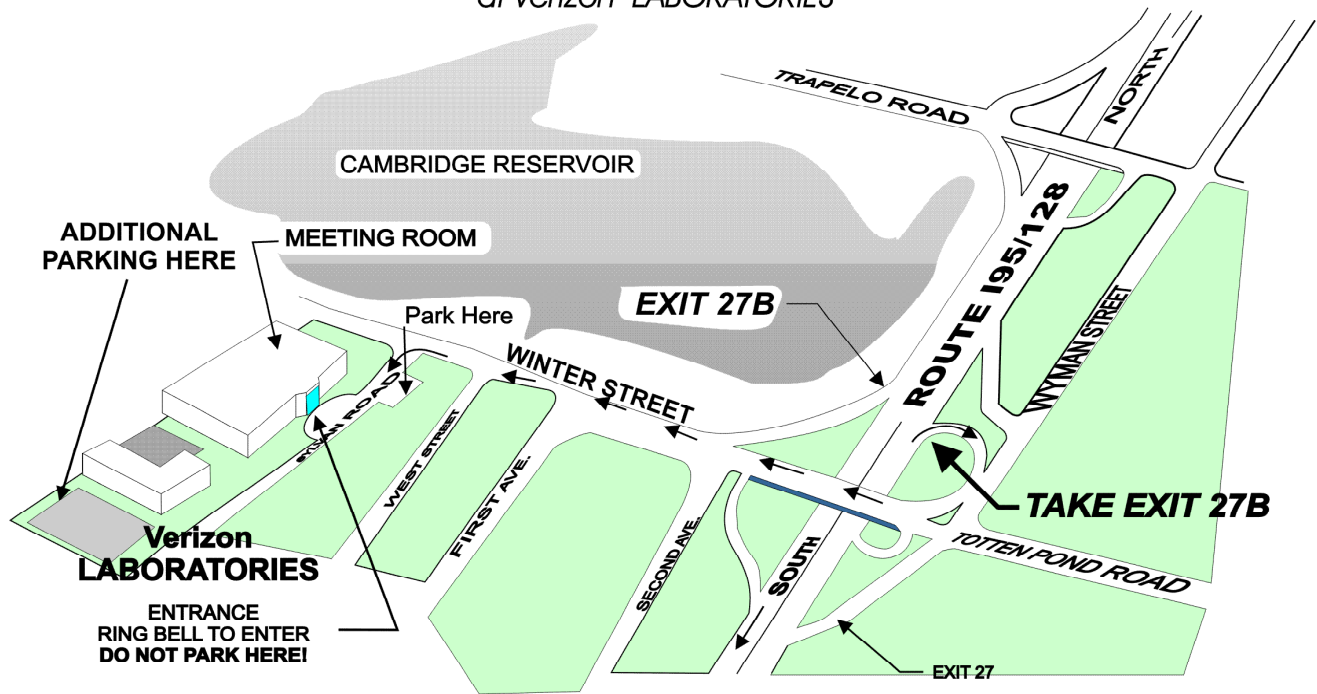
This database is made to help you select future radios that have the fewest conflicts with ones used by others at the flying field. Put the number of transmitters that you own for each frequency. **Add D if it is your primary frequency at Davis farm and M if it is your primary at Medfield.**

11 \_\_\_\_\_ 16 \_\_\_\_\_ 21 \_\_\_\_\_ 26 \_\_\_\_\_ 31 \_\_\_\_\_ 36 \_\_\_\_\_ 41 \_\_\_\_\_ 46 \_\_\_\_\_ 51 \_\_\_\_\_ 56 \_\_\_\_\_  
 12 \_\_\_\_\_ 17 \_\_\_\_\_ 22 \_\_\_\_\_ 27 \_\_\_\_\_ 32 \_\_\_\_\_ 37 \_\_\_\_\_ 42 \_\_\_\_\_ 47 \_\_\_\_\_ 52 \_\_\_\_\_ 57 \_\_\_\_\_  
 13 \_\_\_\_\_ 18 \_\_\_\_\_ 23 \_\_\_\_\_ 28 \_\_\_\_\_ 33 \_\_\_\_\_ 38 \_\_\_\_\_ 43 \_\_\_\_\_ 48 \_\_\_\_\_ 53 \_\_\_\_\_ 58 \_\_\_\_\_  
 14 \_\_\_\_\_ 19 \_\_\_\_\_ 24 \_\_\_\_\_ 29 \_\_\_\_\_ 34 \_\_\_\_\_ 39 \_\_\_\_\_ 44 \_\_\_\_\_ 49 \_\_\_\_\_ 54 \_\_\_\_\_ 59 \_\_\_\_\_  
 15 \_\_\_\_\_ 20 \_\_\_\_\_ 25 \_\_\_\_\_ 30 \_\_\_\_\_ 35 \_\_\_\_\_ 40 \_\_\_\_\_ 45 \_\_\_\_\_ 50 \_\_\_\_\_ 55 \_\_\_\_\_ 60 \_\_\_\_\_

### HAM LICENSE CHANNELS: license may be checked at the field!

01 \_\_\_\_\_ 02 \_\_\_\_\_ 03 \_\_\_\_\_ 04 \_\_\_\_\_ 05 \_\_\_\_\_ 06 \_\_\_\_\_ 07 \_\_\_\_\_ 08 \_\_\_\_\_ 09 \_\_\_\_\_  
 53.1 \_\_\_\_\_ 53.2 \_\_\_\_\_ 53.3 \_\_\_\_\_ 53.4 \_\_\_\_\_ 53.5 \_\_\_\_\_ 53.6 \_\_\_\_\_ 53.7 \_\_\_\_\_ 53.8 \_\_\_\_\_

LOCATION OF MONTHLY MEETING  
FOR THE CHARLES RIVER RADIO CONTROLLERS  
at Verizon LABORATORIES



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