

January

# Skywriter

2013



**SKYMASTERS RADIO CONTROL CLUB  
OF MICHIGAN**

AMA Chartered Club #970  
15 Year Gold Leader Club

[www.skymasters.org](http://www.skymasters.org)



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### From the President...



Happy New Year to everyone. If you're reading this then we presumably survived the Mayan Apocalypse. I for one will be happy not to have to hear about it anymore.

As the incoming president of Skymasters, I would like to thank last year's board for their hard work and for the new ideas they brought to the club. Although I had some idea of the work required, I am now becoming fully aware of how much goes on behind the scenes to keep the club running. Looking at the to-do list, it's hard to comprehend how it all gets done.

I would therefore also like to thank the incoming board for volunteering to help me tackle all the necessary tasks. I think we have a good group and I hope to build on the successes of 2012.

There are many of you who may not know me, or know me very well, unless you fly on Sunday mornings or compete in IMAC. So I will give a bit of information about myself. I am 43, married for 19 years to my lovely and patient wife Nancy and am the father of 2 daughters, Hannah age 15 and Danielle who is 13.

As a kid I flew control line planes with friends in my parents' backyard, gluing them back together after each tree encounter. I watched one of these friend's father

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build and destroy several RC planes on their maiden flights and concluded that RC was not in my immediate future, as interesting as it looked.

About 5 years ago I became aware of the advances in simulators, ARFs, electric power and radio gear and decided the time was right to plunge in. I started with a Park Zone T28 and have owned 8 airplanes from a micro 4 Site up to a 33% Sukhoi 26, and 2 micro helis. 2 of the planes are no longer airworthy; the rest have survived the learning process, including the T28.

My intention as president is to continue the good work of past presidents and boards (and the numerous volunteers who have helped them). In particular I want to make us more visible in the community. We are working on plans with Orion Parks & Rec and with Bald Mountain to do some introductory activities. I am hoping these will promote our good name and give opportunities to find new members.

We also have some ideas to improve our field to make it more visible, friendly and informative for visitors. And we want to make some of our events more spectator friendly. I would welcome input on how to do this or on any other topic related to improving the club.

If you're still awake at this point, congratulations on your staying power. I will sign off now by wishing you all happy landings.



Ken and his plane at the Cub Scouts outing this spring

Ken Gutelius  
President, Skymasters  
kennanc@msn.com



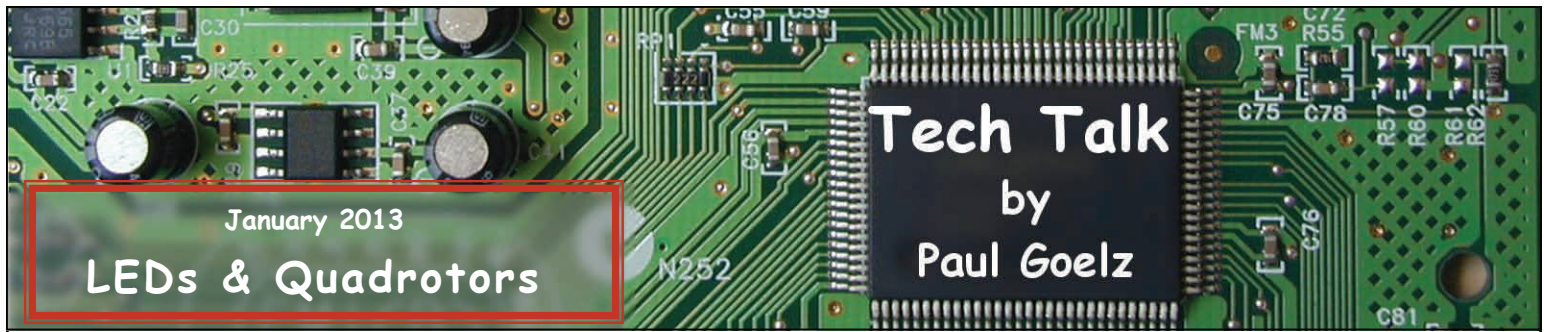
Front Cover:

The indoor flying gang at Ultimate Soccer, 12-18-2012

Paul Goelz photo

Above and left: Fred Engelman taking care of the toy donations and raffle at the indoor session at Ultimate.





January 2013

## LEDs & Quadrotors

# Tech Talk by Paul Goelz



### LED BASICS

Wiring up LEDs is not difficult as long as you have a basic understanding of how they work, and in particular how they differ from ordinary light bulbs.

A standard incandescent light bulb contains a metal filament that gets hot when current is passed through it. When it is hot enough, it emits light. The overall color balance is a function of the temperature of the filament... the cooler the filament, the redder the light. As the voltage across the filament increases, the filament gets hotter and the light gets brighter and whiter until the voltage rating of the bulb is exceeded and the bulb fails. No additional circuitry is required.

An LED is fundamentally different. First of all, an LED is a polarized device. The light is emitted by a semiconductor junction and the junction does not conduct electricity until voltage is applied to it in the correct polarity and equal to its "forward" voltage.... between about 1.5 and 3.2 volts, depending on color. An LED will light when connected in one direction, and it can be damaged when connected in reverse. Unlike a light bulb, if the voltage delivered to an LED is greater than its forward voltage and there is no current limiting component (for example, connected directly to a battery whose voltage exceeds the LED forward voltage), the LED will conduct excessive current and may fail. It may also get very hot. It will definitely waste power.

The added component required to properly operate an LED is typically a current limiting resistor. The resistor value and power rating can be determined by calculation. I have created a [simple Excel spreadsheet](#) that Pete Foss introduced at the Flightline LED seminar. It makes calculating the resistor value simple. Or.... if you are impatient and only using one LiPoly cell, a good all around choice for one LED and a single cell is 100 ohms. If you need more than one LED on a single cell, place a resistor in series with each LED and then wire all LED/resistor pairs in parallel.

Do not run an LED without a resistor. With anything other than red LEDs and a single cell, you might get away

with it, but the LED will draw more current than is necessary and shorten flight times. On more than a single cell, you will destroy the LED. Note that the LED strips commonly used in night flying have resistors included, sized for the specified supply voltage (usually 12V).

### Mini Quadrotor

First of all, I have to say this is not my original idea... I found it on the internet. But it is a really easy project that gives you an inexpensive mini quad-rotor that flies as well or better than the current crop of minis. And best of all, unlike ALL other mini-quads that either require a proprietary transmitter or an AnyLink accessory, it binds to any Spektrum transmitter. All parts can be found easily on Ebay.



To assemble one, you need:

[Eflite mQX control board \(\\$32.69\)](#)

[Eflite mQX frame \(\\$2.95\)](#)

[2X Walkera Ladybird CW motors and booms \(\\$11.99/2\)](#)

[2X Walkera Ladybird CCW motors and booms \(\\$11.99/2\)](#)

[Set of four propellers \(\\$1.95\)](#)

[Battery connector for the Eflite mCPX \(\\$0.99\)](#)

[4X male mCPX motor connector \(optional—\\$5.90\)](#)

Note that I have linked above to internet sources, but some of these parts may also be available locally if price is not a major concern.

Building the quad is VERY simple. If you purchase the optional mCPX motor connectors, the only soldering is changing the mQX JST battery connector to the smaller connector used for the mCPX (the mini quad uses a 300mAH mCPX battery).

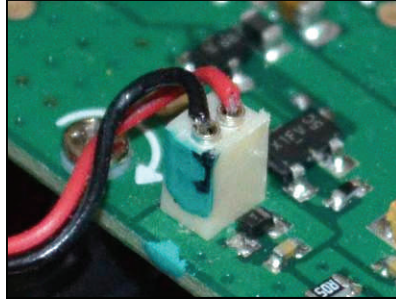
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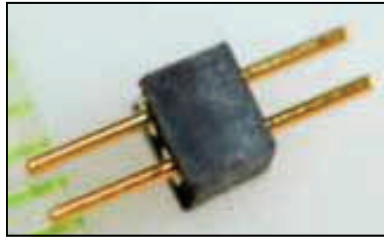
### Assembly

- Assemble the mQX board to the frame.
- Plug the two clockwise motor booms into the frame on the front right and rear left corners.
- Plug the counter clockwise motor booms into the mQX frame on the front left and rear right corners.

- If you did not purchase the male mCPX motor connectors, cut the motor connectors off and strip and tin the wires. Plug the tinned wires into the mQX motor connectors closest to each boom. Observe polarity... the negative (black) motor wire goes in the side of the board connector that has the green mark on it.



- If you did purchase the male mCPX motor connectors, use them as adapters. Plug one into the connector on the end of each motor wire and then plug the motor cables into the mQX board motor connector closest to each boom. Observe polarity... the negative (black) motor wire goes in the side of the board connector that has the green mark on it.



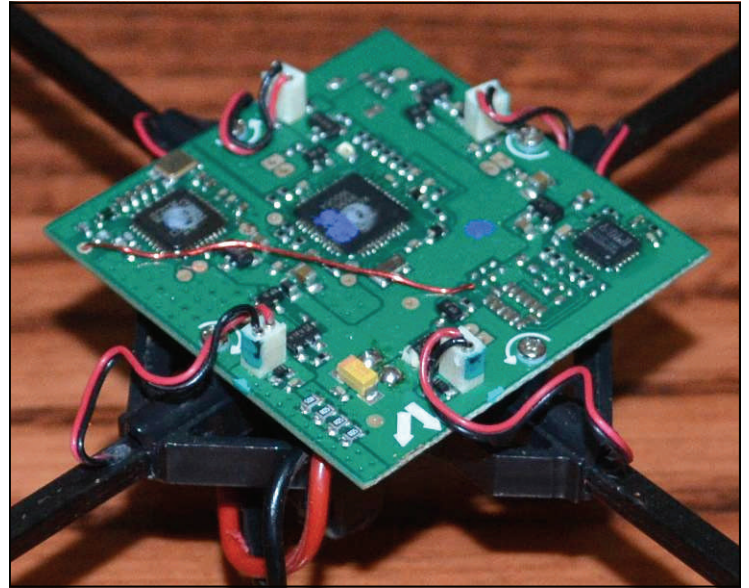
- Install the four propellers. They just push on. There is a clockwise and a counter clockwise prop for each color. The orange clockwise prop goes on the front right. The orange counter clockwise prop goes on the front left. The black clockwise prop goes on the rear left. The black counter clockwise prop goes on the rear right.



- Change the battery connector for an mCPX connector.... Be sure you get the polarity right!!!
- Plug in an mCPX battery (300mAH 1S). Note that high discharge types like the new Nanotech 45C cells work best.



- Bind to your transmitter using a default ACRO model (you do not need heli functions).
- Test the motor directions by slightly advancing the throttle and seeing that they all rotate in the correct directions.



Lift off and try hovering. Because it uses smaller low mass propellers and direct drive, the hybrid mini quad flies even better... smoother and more responsive... than the mQX it was made from. I describe it as driving a Porsche instead of a Chevy. It is fully aerobatic and will flip. It will also handle a surprising amount of wind.



I made my canopy from a small block of styrofoam, to protect the motor wires (I didn't use the adapters). You can also make one from the bottom of a water bottle. Keep it VERY light though.... Every gram counts.

Until next month....

Paul Goelz paul@pgoelz.com





Indoors at Ultimate Soccer







The 2012 Skymasters Christmas Party





2013



# Skymasters Annual Super Swap NEW LOCATION



# R/C Super Swap

Of Lake Orion

## Saturday February 2, 9-1p.m.



Lake Orion Community Schools –CERC  
Community Education Resource Center  
455 East Scripps Rd.—Lake Orion, MI 48360

Take I-75 to exit 81 (Lapeer Rd) go North 4.2 miles, turn right on E Scripps Rd and follow for ¼ mile—  
Destination will be on left



**WWW.SKYMASTERS.ORG**

- \$20/table Pre-registered [\$25/door]—set up 8-9 see website\*
- Includes 1 entry
- Dealers & vendors welcome
- \$5.00 entry fee
- Over 100 tables available
- Food and Refreshments
- All aspects of RC welcome
- Active Military, women and children under 12 free

**CALL : 248-805-1404 or email: superswap@skymasters.org**

\*Visit website for online PayPal Registration, or printable mail in registration form

# ON THE WING

## Skymasters Breakfast!

First and Third Monday  
of each month

9AM

Everyone welcome

Red Olive restaurant  
In the strip mall on  
Walton, across from  
Crittenton Hospital



## Indoor Flying

every Tuesday

11AM to 1PM

At Ultimate Soccer,  
Opdyke and South Blvd  
Pontiac, MI



Put it on your calendar...

The 2013 Skymasters Swap!

Saturday, February 2nd

9AM to 1PM

Lake Orion Community Schools

Community Education Resource Center

455 East Scripps Road

Lake Orion, Michigan 48360

## Skymasters Meeting

Thursday, January 24th

6:45 to 8:45pm

At the Orion Center

1335 Joslyn Road

(just south of Clarkston Road)

Lake Orion, MI

## Other local indoor flying sessions

Thursdays, 9AM to 3PM (6 hours)

51379 Quadrate, Macomb MI

(north off 23 mile, east of Hayes)

Small electric planes and helis

(safe separate heli space)

AMA not required

\$10/session

Information: Steve Durecki 586-246-4203



# January 2013

SUN	MON	TUE	WED	THU	FRI	SAT
		1 No indoor session	2	3 No rubber session	4	5
6 DAM Swap Yankee Air Museum 9AM	7 Skymasters Breakfast at the Red Olive 9AM	8 Indoor flying at Ultimate Soccer 11AM to 1PM	9	10 Indoor rubber power at Ultimate Soccer (Cloudbusters) 1PM to 3PM	11	12
13	14	15 Indoor flying at Ultimate Soccer 11AM to 1PM	16	17 Indoor rubber power at Ultimate Soccer (Cloudbusters) 1PM to 3PM	18	19
20	21 Skymasters Breakfast at the Red Olive 9AM Indoor flying at Ultimate Soccer 11AM to 1PM	22 Indoor flying at Ultimate Soccer 11AM to 1PM	23	24 Indoor rubber power at Ultimate Soccer (Cloudbusters) 1PM to 3PM Skymasters meeting 6:45 Orion Center	25	26
27	28	29 Indoor flying at Ultimate Soccer 11AM to 1PM	30	31 Indoor rubber power at Ultimate Soccer (Cloudbusters) 1PM to 3PM		

**Newsletter Submissions**  
Please send all articles, photos and announcements to the Skywriter editor at:  
[newsletter@skymasters.org](mailto:newsletter@skymasters.org)  
Deadline is the 20th of each month.  
The Skywriter newsletter is published monthly by the Skymasters Radio Control Club of Michigan  
[www.skymasters.org](http://www.skymasters.org)

## 2013 Club Officers & Appointees...

President:	Ken Gutelius	726 Fairledge Ave.	Lake Orion	48362	248-814-1157
Vice Pres.:	Dave Lange	2477 Trinity CT.	Oxford	48371	248-969-3914
Secretary:	Pete Foss	562 Tanview.	Oxford	48371	248-236-0676
Treasurer:	Jim Wynn	975 Penny Lane	Oxford	48371	248-236-9983
Editor:	Paul Goelz	328 Powderhorn Ct.	Roch. Hills	48309	248-375-9461
CFI :	Roger Schmelling	688 Ashburnham	Auburn Hills	48326	248-321-7599
State Park:	Bill Stark	1010 E. Clarkston	Lake Orion	48362	248-693-8639
Membership:	Bob Chapdelaine	160 Manitou Lane 2C	Lake Orion	48362	231-675-8590





# SWAP MEET

**January 19th, 2013 9am - 3pm**

**Whitmore Lake Middle School Gym**

**8877 Main St. Whitmore Lake, Michigan 48189**

## BUY - SELL - TRADE

**Free parking! - Tables Starting at \$10.00!!**

**Admission Tickets \$3.00 at the Door**

**Setup between 7:30a and 9:00a**

**Doors open from 9:00a until 3:00p**

**Complete models, kits, parts, modeling paraphernalia, tools and just about anything you could imagine for RC is here! Start the new flying year with new equipment or clean out your hobby area! Come talk shop with other club members from all over! It's time to gear up for another flying season!!**

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*Register for a table at*

*<http://hamburgflyers.org> or email us at*

*[mike.kontz@hamburgflyers.org](mailto:mike.kontz@hamburgflyers.org)*

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*Visit our website at: <http://hamburgflyersrclub.com>*





# Skymasters R/C Club

## Indoor Electric Flying



**Ultimate Soccer Arenas**  
**867 South Blvd., Pontiac, MI**  
**2 miles south of the Pontiac Silverdome**

In conjunction with the Radio Control Club of Detroit

**Monday, Jan. 21 from 11 AM to 1 PM**  
**Martin Luther King Day**

**2 Hours of Indoor Flying - \$10.00**

\*Special Family Rate With Parent Supervision  
Or 1 Punches on 5 Session Card – Gold Card Event Included

Spectators Free



**Large Enough For Simultaneous  
Sport, 3 D, Micro, and Heli.**  
**See rules for size and weight limits.**

Support your local hobby shops and our sponsors:



**All Pilots must have proof of current AMA Membership**

For more information call Roger Schmelling 248-321-7599

Visit our web site at [www.skymasters.org](http://www.skymasters.org)

\* Single Session Rate for Parents - Family Members Under 12yrs Free at Discretion of Event Director



# GIBRALTAR TRADE CENTER SOUTH

## RC SWAP SHOP

**FEBRUARY 24<sup>TH</sup>**

**GENERAL ADMISSION: FREE !**

THE DOWNRIVER AEROMODELERS, FORMERLY THE DOWNRIVER HELICOPTER ASSOCIATION IS HOLDING ITS FIRST ANNUAL RC HOBBY SWAP SHOP AT THE GIBRALTAR TRADE CENTER SOUTH.

THE TRADE CENTER IS LOCATED AT THE INTERSECTION OF I-75 AND EUREKA ROAD. (EXIT 36) THE EVENT WILL TAKE PLACE ON SUNDAY FEBRUARY 24<sup>TH</sup>. DOORS WILL OPEN TO TABLE HOLDERS AT 8:30 ON THE EAST SIDE OF THE BUILDING ADJASCENT TO THE YELLOW ENTRANCE. THE GENERAL ADMISSION DOORS WILL OPEN AT 10:00AM AND THE EVENT WILL CLOSE AT 3:00PM. PARKING/ENTRANCE \$2.00.

TABLES: \$15.00 ADVANCED  
\$20.00 AT THE DOOR

**GENERAL ADMISSION: FREE !**

ADVANCED RESERVATIONS CALL DAVE GEORGE  
1-734-307-6727 OR EMAIL INDIANCITY5129@YAHOO.COM





**Above:**

At the most recent Skymasters breakfast, Joe Hass presented Fred Engelman with a gift to thank him for his many efforts for the club including organizing the Christmas party.

*Thanks Fred from all of us!*

**Below:**

After regular indoor flying on the 18th of Dec. we conducted several Combat Matches with 6 oz. foamy aircraft. We had 7 competitors: Dave Waldecker, Dan Stolarczyk, Ken Neal, Les Barron, Don Armstrong, Keith Harrison and Terry Leacheur and they fought it out in four exciting matches. The overall Ace was Don Armstrong with Dave Waldecker 2nd and Dan Stolarczyk 3rd. Prizes were awarded to all competitors and a good time was had by all. Great job guys. **Fred Engelman**



## Skymasters Information...

Skymasters field is located in Lake Orion, within Bald Mountain State Park on Scripps Road (see map). A state park Permit is required and can be obtained from the Park Headquarters located on Greenshield Road or at club events. Flying is permitted from 10 AM to 8 PM. The noise limit is 94 dBa at 10 feet. This noise rule is strictly enforced.

**Wednesday evening (through August) is Family Night** with flying and a pot luck buffet. Bring something for the grill & a dish to pass.

**Thursday 3PM to 8PM is Student Night (through August)** but there are usually instructors around all day. Meet the instructors and arrange for more instruction time together on other days. Our Chief Flight Instructor is Roger

Schmelling, 248-321-7599.

From June through August, **Club meetings** are held at the field, on the second Wednesday of the month at 8 PM. A great chance to fly and socialize. **Winter meetings** (September through May) are usually held at the Orion Center, 1335 Joslyn, in Lake Orion. Check the calendar here or on the web site for specifics. Bring a model for Show and Tell, enjoy coffee with donuts and listen to the speaker of the evening.

The Skywriter newsletter is sent to members, local hobby shops, and other R/C clubs in the area and around the country. All contributions are welcome. Please send photos and articles to

[newsletter@skymasters.org](mailto:newsletter@skymasters.org) If you know of anyone who may be interested in R/C Aviation, please give them a copy of this newsletter or a copy of an AMA magazine. It may spark their interest!

