

The Comets' Tale

*The Official
Newsletter of the*



March 2009

President	Mike Ambarian	(805) 646-6084
Vice President	Dale Nash	(805) 532-1433
Secretary	Sandy Brown	(805) 487-2215
Treasurer	Emery Balasa	(805) 642-1401
Field Marshal/Safety	Steve Billings	(805) 487-2215
Park Liaison	Ken Marsh	(805) 646-1962
Webmaster	Don Sorensen	(805) 968-4288

dsorensen@tri-counties.org

Comets' Tale Editor Jerry Deanda (805) 641-3730 deandamid@charter.net

Comets' Website: www.vccomets.com

Board of Directors

Mike Ambarian, Dale Nash, Sandy Brown, Emery Balasa and Steve Billings

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The Comets' Tale is the official newsletter and record of the Ventura County Comets, AMA Chartered Club #173 and is published monthly at the Comets' Tale Plaza, somewhere in Ventura.

Editorial contributions are welcome.

**Next Meeting: Thursday, 19 March, 2009,
7:30 PM at the Oak View Community Center**

Root's Rambling

Another month has gone by so it's time to write about airplanes. To get started I have a couple of pictures of a V-tail Beech Bonanza which Ken Marsh brought out a couple of weeks ago. The model was built by Murray Cooper from a Top Flight kit. Ken installed the equipment and was trying to get it ready to fly. Apparently the model was built for a full size Bonanza owner who wanted a scale model of his airplane. I saw a picture of the full size one and the model sure looks the same. Great job, guys! The owner furnished the kit which is no longer avail-



**Coming
Up!**

21-22 March
SBRCM Float Fly at
Lake Cachuma

18-19 April
Comets' Float Fly at
Lake Casitas

**1st Sunday of Each
Month**
Open House at Santa
Paula Airport



able. It has apparently been discontinued because very few of us are still building as opposed to assembling ARF's. I believe the model has about an 80 inch wingspan and is powered by a .91 cu. in. four cycle engine. It has retracts and flaps and a full interior. It's a great looking model.

Ken ran into an equipment problem which he wasn't able to solve. I think the problem is worth discussing. The V-tail requires a mixer to allow the separately driven left and right elevator/rudder controls to work properly. For elevator control the two servos drive both surfaces up and down. For rudder control the two servos have to go in opposite directions so that one surface goes up while the other goes down. With a V-tail this results in left or right control. This is all easily handled by any modern computer transmitter. The elevator com-



mand is mixed with the rudder command so that each servo is sent the proper signal depending on the command desired. This is all simple until one wants to also command nose wheel steering for ground control. What Ken found was that there was no way he could set up the transmitter that didn't also result in nose wheel movement with elevator control. His demonstration showed the right /left rudder working the nose wheel properly while up elevator command resulted in right nose wheel deflection and down caused left wheel movement. There is no way I would want to try to fly this. The takeoffs and landings would be impossible. Has anyone had any experience with this problem? My solution would be to buy an after-market electronic mixer to install in the airplane to separately drive the tail servos. Then the servo driving the nose wheel could be controlled by the non mixed rudder channel.

My second subject this month is military remotely piloted vehicles. These are now called unmanned air vehicles (UAV's). This subject came about after I received an E-mail about the Global Hawk (picture 3). This is a photo of the Global Hawk UAV that returned from the war zone recently under its own power (Iraq to Ed-

wards AFB). It's had over 250 missions (notice the mission paintings on the fuselage). That's a long way for a remotely-piloted aircraft. Think of the technology needed for the required data link quality. The pilot controlled it from a nice warm control panel at Edwards. It has long legs. It can





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stay up for almost 2 days at altitudes above 60,000 feet. It is controlled via satellite. It can taxi, take off, fly a mission, return, land and taxi on its own. No blackouts, no fatigue, no relief tubes, no ejection seats, and best of all, no dead pilots. Properly impressed?

Picture 4 shows the Predator UAV in tests off the California coast. It is used for both reconnaissance and attack. It can carry 2 Hellfire missiles. I saw an item on the web lately that this vehicle is being used extensively in Iraq, Afghanistan, Pakistan, etc. The flights are controlled by pilots at a base in Nevada. The planes are launched and recovered in Iraq, but the pilots are in Nevada! The troops on the ground have access to the Predator's sensor data



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real time. The vehicle is manufactured by General Atomics in San Diego. The military can't seem to get enough of them and the Air Force has tried to increase its Predator pilot training rate. The training rate has been limited by available instructors.

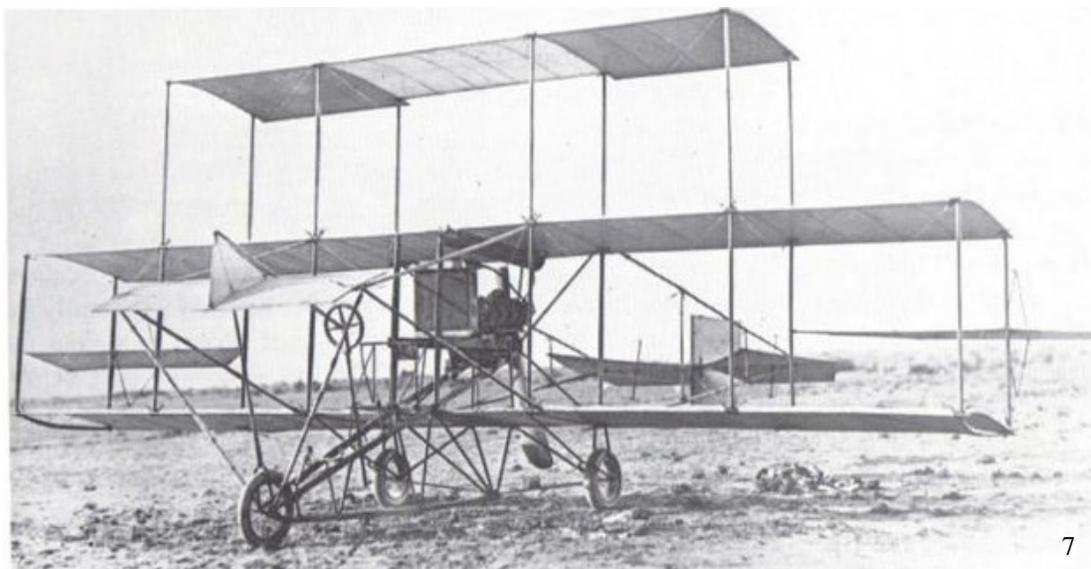
Another UAV that I thought looked neat is the Corax shown in picture 5. About all I know about this one is



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that it is built by BAE Systems. The Army also uses UAV's as shown in picture 6.

This is a Desert Hawk being adjusted by Staff Sgt. James Ellis at the Tallil Air Base in Iraq. Developed by Lockheed Martin, the Desert Hawk is launched into the air using a bungee cord as a slingshot and is designed to circle over air bases and help with security by showing possi-



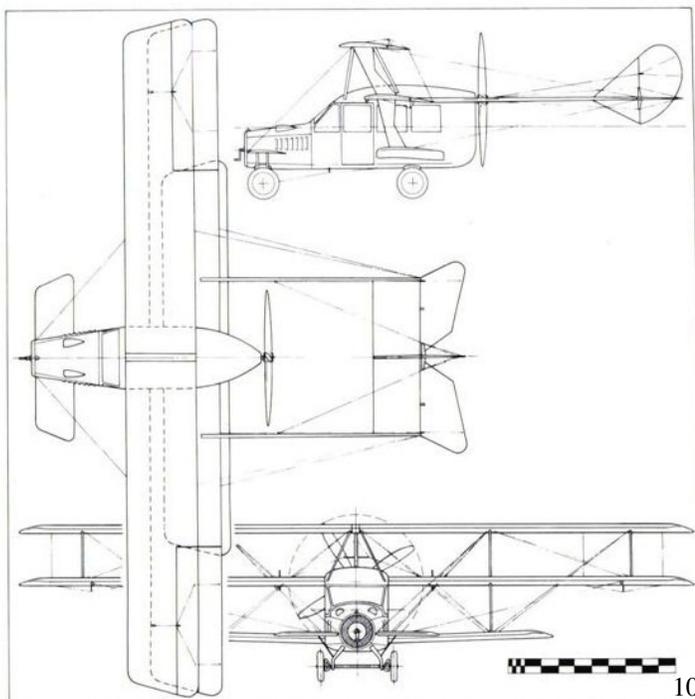
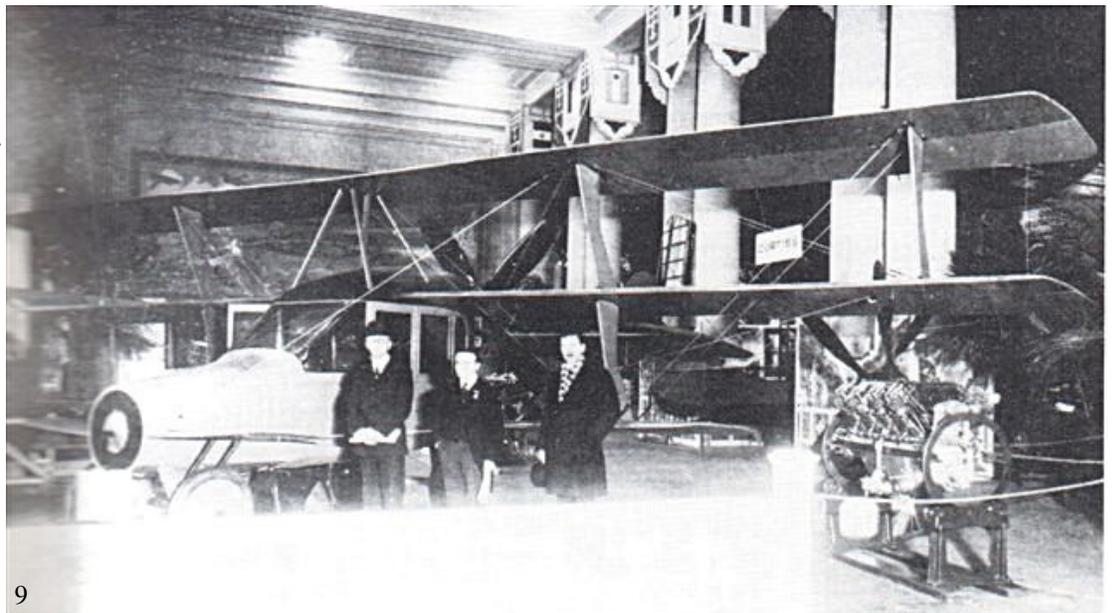
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ble threats up to about 6 miles away. It includes an electric motor, color or infrared cameras, and a GPS receiver.

Going in another direction for variety I have a few pictures of early Curtiss airplanes (you know my interest, so they are triplanes). These are from a great book I borrowed from Don Ashworth called *Curtiss Aircraft 1907-1947* by Peter M Bowers. Picture 7 shows a triplane adaptation of the Curtiss Model E in about 1911 or 1912. Curtiss flew a lot of triplanes because whenever a plane didn't have enough lift he just added another

wing! Picture 8 shows a mid-1911 Curtiss hydro. The addition of the third wing generated 200 lb of additional lift. The Autoplane shown in picture 9 was a unique winged car that Curtiss developed quickly for display at the Pan-American Aeronautic Exposition of February 1917. A three view is shown in picture 10. Basically, the design consisted of a set of



Autoplane (Model 11).

standard Curtiss Model L triplane wings fitted to an aluminum-body three-seater motor car designed and built by Curtiss. A 100 hp Curtiss OXX engine in the standard car position turned a drive shaft to the rear. Belts then turned the pusher propeller mounted on a shaft at the top of the car. The pilot-chauffeur sat in the front seat at conventional Deperdussin controls and two passengers sat side by side in the rear seat. The wings and tail could be removed as a unit to permit the car component to operate as a conventional road vehicle. The vehicle made a few short hops before development was abandoned upon US entry into WW1.

Bob Root

February 2009 Minutes

The Comet meeting was called to order by Vice President Dale Nash on February 19, at 7:30 PM, at the Oak View Community Center.

The January minutes were approved. We had no guests and no new members.

Treasurer's Report: We have 63 members and finances are in good shape. The report was approved.

Field Marshall/Safety Officer: Steve Billings had nothing to report.

Park Liaison: No report for Park Liaison but George Lanquist reported that the lake was up 6 inches.

Old Business: No old business.

New Business: The resurfacing of the runway has been delayed several months due to illness of the man who was going to perform the job.

Ron Golding brought in new electric retracts to show. The retracts take 6 seconds to cycle, you can get a module to delay the timing, they rotate 90 degrees, and one can be purchased for the nosegear. A set of two cost \$189 and takes 8 – 10 weeks to receive. The company is in Oroville.

Dale Nash is once again selling tickets for an engine, donated by Emery Balasa, and a Yak plane. There are 45 tickets going for \$10 each.

Don Sorenson got an email from Rocky McCarter, Product Line Manager and Customer Service Manager of Ace Hobby. Rocky will be camping at Lake Casitas May 2 and 3 and will be flying at the site. Got any questions, comments? Go see him while he is there.

Model of the Month:

We had three Model of the Month entries: Don Sorenson brought a Howard DGA 15E with a 95" wingspan. The model was made from a partial kit and plans, has fiberglass wheel pants and cowl, a Fuji 43 engine and weighed 22.5 pounds.

Berny Hammer brought a Douglas B26C. It was a VQ kit from Vietnam and every piece had to be

modified. It contained 8 servos, had retracts, 5/32 landing gear and weighed 9 pounds.

Tony Porto brought a ducted fan powered model. It had a 40" wingspan, was a 1/2 cut balsa kit, uses 4 cell Ryno battery, Hi-Tec servos and weighs 4 pounds.

Don won the model of the month.



The raffle was held and the meeting was adjourned at 8:10.

Respectfully Submitted,
Sandy Brown

COMPARISON OF 2.4 GHz R/C RADIO SYSTEMS

By: Ron Scott 2-9-2009

The following is a summary of my own experience with 5 different 2.4 GHz radio systems related to flying 42 different model airplanes over the past 2 years. I hope it helps someone out there.

Background: I probably fly more than the average modeler and average 4 to 5 days of flying per week. I belong to 5 RC flying clubs in the southern California region and have over 200 planes. (Obviously I'm not married.) Most of my planes are glow and gas powered from size .10 to large 35% Extra 330 with DA 100 or similar engines. I have 62 Electrics from Zagi-style flying wings to pattern planes and float planes. Also, numerous gliders from hand launch to slope to large 10 foot wing span thermal gliders. I tell you this because the point is I fly a lot and believe that this makes a good test bed for trying out new equipment.

Keep in mind for what it's worth - my write-up is only one man's opinion. Ask 10 people and you'll get 10 different answers.

R/C Radios tested:

- 1) Spectrum DX7 - 7 Channel System
- 2) Futaba T6EX and T7C – 6 and 7 Channel System
- 3) Assan (from Hobby City) XR8 Plug in Module to a Hitec Eclipse 7 (or Optic 6) Transmitter.
- 4) Airtronics RDS 8000 FHSS – 7 Channel System
- 5) EF Helicopters EF 2401 – 4 channel for helicopters (from Hobby People)

Spectrum DX7 : Cost ~ \$300 – 350, I have 12 models (mostly foamies) on this radio system.

Likes: Easy programming & big LCD display showing curves, has 7 channels, model matching, 20 model memory, 1500 mAh battery. Receivers (AR500 and AR6100 and AR7000) cost between \$50-90. More expensive receivers are available.

Dislikes: 1) Charge jack is different from most other manufactures, + is outside and – is the inside connector. (When are they (JR) ever going to convert to match most other manufacturers chargers i.e. + = center pin and – = outside plug ?????)

2) Loss of control – I have had 3 planes lockout (or brownout) for 2-4 seconds and crash. Later found that if I put a 4,700 µfd cap across one of the receivers output channel + and – pins the problem went away. (Horizon sells a 4,700 µfd capacitor that eliminates the lockout potential problem for \$6.00 – called a “Voltage Protector”). What actually was happening was a momentary drop in voltage (+5 to ~3-4 volts) on the ESC power line BEC going into the receiver as a result of a momentary hi current draw on the battery. There are at least 2 other ways around this problem. One is by providing a separate battery (4-5 cell) to power the receiver only. The other way is to install a separate BEC device to supply 5 Volt input to the receiver. A company called “Dimension Engineering” (DimensionEngineering.com on the web) makes a “ParkBEC” and a “Sport BEC” for \$19-\$30 to eliminate or reduce the possibility of a brownout condition.

In all fairness, the ESC's play a major role in the radio's ability to function properly. The receiver may be falsely accused of being the problem source – but in actuality the BEC circuit of the ESC may be limited and not be able to supply a solid + 5 volts to the receiver. So, check out your specs when you put together your next electric plane. Now the question is, why doesn't Spektrum offer a free 4,700 µfd capacitor for every radio receiver they sell?

- 3) “BACKUP ERR” displayed on the display after power up. The transmitter would not recover and had to be sent back to Spectrum and they replaced the transmitter because they could not fix the “Backup Error” problem. ?????
- 4) Binding problem – Had to bind 3 times before one model finally held a bind.
- 5) Fuse blowing problem – If you fast charge the transmitter battery at 2-2.5 amps the internal 3 amp fuse occasionally blows.
- 6) No Throttle Cut or Throttle lock button or switch – to prevent from accidental moving the throttle lever up. (very important from a safety standpoint)
- 7) Switches are not programmable i.e. you can’t make certain switches set for Retracts or Flaps, etc. (like Futaba).

Futaba T6EX & T7C systems: Cost ~ 200 - \$300

Good solid systems – I have had 7 models flying for 6 months with no problem.

T6EX Likes: Easy programming and solid communication – No crashes. Programmable, 6 model memory,

Dislikes: 1) Receivers are \$90-100.
2) Only one dual rate switch for the ailerons, elevator and rudder.

T7C Likes: Easy programming and solid communication – No crashes. Programmable switches, throttle cut, 10 model memory.

Dislikes: 1) Receivers are \$90-100.
2) Chrome plating on the face is starting to crinkle and bubble up in certain areas.

Airtronics RDS 8000 FHSS: Cost ~ \$230

Good System so far – I have had 2 models flying for 2 months with no problems.

Likes: Easy programming, additional receivers are \$70.

Dislikes: Only has 3 letters for model name and there is no dual rate or Exponential for the rudder.

Assan (from Hobby City) XR8 Plug in Module to a Hitec Eclipse 7 (or Optic 6)

or Futaba 72 MHz Transmitters. Cost ~ \$65 - \$75 (There are also plug in modules for JR Transmitters) This module actually takes a 72 MHz transmitter up to 2.4 GHz. Check it out at www.hobycity.com and go to their 2.4 TX/RX Systems and Parts section.

I have 9 models on this System – So far, no problems except as noted below.

Likes: Easy to install and use in my Hitec Eclipse 7 (or Optic 6) or Futaba 9C Transmitters. Very reliable, don’t have to learn a new system, Cost only \$68 for module and receivers are very affordable @ \$24 (Close range 4 channel) – \$75 (for an 8 channel) full range receiver. Also, you can go back to 72 MHz with original module. Receivers come with a 4,700 µf capacitor to prevent potential “Brownouts”.

Dislikes: Nothing, except for one 8 ch. receiver that wouldn’t bind and had to be sent back for replacement (which took 10 weeks – from Hong Kong) ☹.

EF Helicopters: Cost \$120. Model EF 2401 – 4 channel for helicopters (from Hobby People)

Likes: Simple dual rotor easy to fly helicopter – no problems.

Dislikes: None, this is a very simple system and I have only limited experience with Helicopters.

Summary: If I were to recommend a 2.4 GHz system to a fellow modeler I would have to go with the following.

1 Assan – Assuming that you have a Hitec Eclipse 7 (or Optic 6), JR, or Futaba radio that uses a plug in module.

2 Futaba T7C – But be aware of the receiver cost (~ \$100).

3 Spectrum DX7 – But make sure you install a 4,700 µfd capacitor across the + and – terminals of the receiver. (Voltage protector – Horizon Hobbies @ \$6)

4 Airtronics RDS 8000 FHSS

Side Note: The best thing about the 2.4 GHz R/C systems is that to my knowledge, I haven't had a crash due to a fellow modeler being on the same channel (as in the 72 MHz band).

Good luck and "Happy Landings"

Ron Scott,

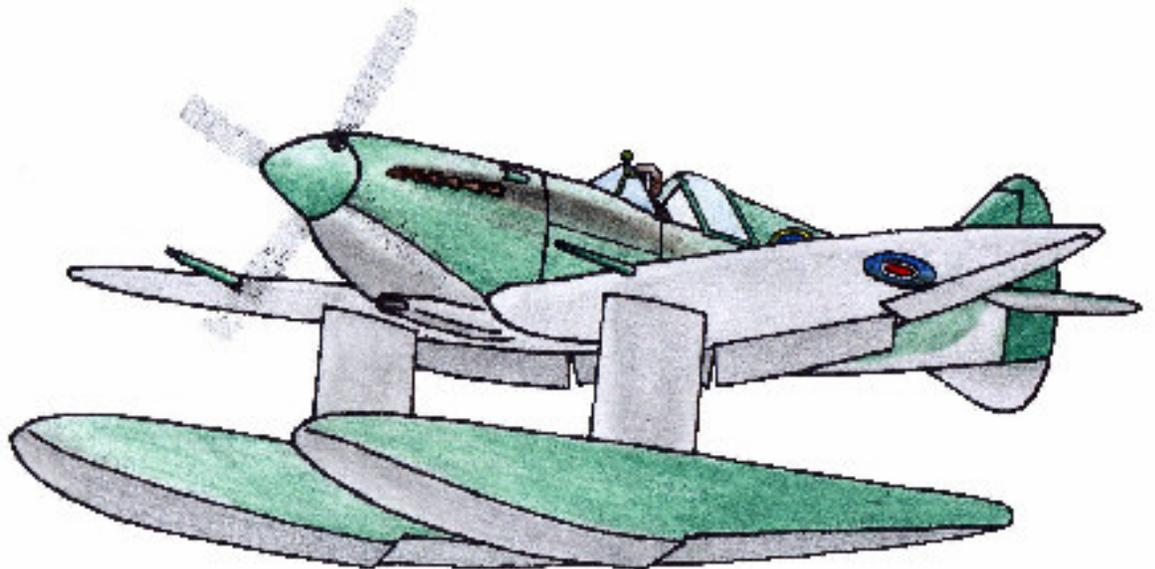
CALL RYAN KRAAI – (805) 388-0043 - rjkraai@verizon.net

I have a couple of radios and receivers for sale:

- 1) Futaba Skysport 6YG on channel 12, includes R127DF receiver & crystal (Excellent condition - less than 10 flights on system) \$80
- 2) Futaba Skysport 6YG on channel 26, includes R127DF receiver & crystal (Excellent condition) \$80
- 3) Futaba Skysport 4VF on channel 48, includes R127DF receiver & crystal (Excellent condition) \$80
- 4) Futaba Skysport 4YF on channel 51, includes R127DF receiver & crystal (all brand new in the box) \$80
- 5) Futaba R127DF receiver with crystal (channel 26) \$35
- 6) Cirrus MRX-4 MkII receiver with crystals (channels 26 & 45) \$20



NO WHEELS



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Entry Fee: \$15.00 (No Pre-registration)

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Need More Info? Call:

Ken Marsh (805) 646-1962 or John Dugan (805) 646-6898

Pg. 1 Bob Root Rambles on three different things
Pg. 5 What Happened at the February Meeting
Pg. 6 Ron Scott Reports on 2.4 Ghz Radios
Pg. 8 Ryan Kraai has Radios for Sale... Great Deals!
Pg. 9 A Float Fly Poster



AMA Club #173

Ventura County Comets
P.O. Box 333
Ojai CA 93024-0333