

Servo Chatter

March 2005 - Issue # 109

Official newsletter of the SCCMAS "Tomcats"

AMA club charter #110

Editor: Chris Luvara

<http://www.sccmas.org>



Next Meeting: Wenesday, March 23rd, 2005 @ 7:30pm

Location: Hayes Elementary School, Poston Drive in San Jose. See page 3 for map.

Future Meeting dates:

Meeting Program: Raffle prizes will include the usual - a radio, an engine, a kit, glues, and lots of other neat stuff! Bring your latest creation for show and tell and recieve a free raffle ticket. Coffee and Donuts during the break.

Cover Photo: Bob Zuk's 1/4 Scale, Quadra Powered Spad (Photo by Jim Patrick)

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From the Editor

by Chris Luvara



Once again, this month is a pretty full issue with lots of important stuff! (haven't you heard that before?) I'm trying to fulfill some requests from the surveys and plugging in more tips and tricks. We have a large club with a lot of experience in the hobby, so it would be nice if some of the advanced modelers in the club would share their tips with others. I am going to start digging through the archives and find some relevant tips and tricks from older issues for the benefit of newer members. So please, if you have something to share, send it in!

I went through all 144 surveys that were received, compiled the data will be presented at the next meeting. The statistics of the frequency usage is already published for you in this issue. This should help when purchasing a new radio. Thanks to everyone that took the time to respond, THEY ARE READ, and the board just met to see what you - the members - want.

On a side note, Sean D. Tucker will be performing his aerobatic routine in his full-scale airplane at the Wavemaster's pattern contest on April 17th. This is a great chance to see him up close and personal

Till next time, fly safe! Chris



Rich Groen's Piper Super Cub (photo by Chris Luvara)

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Servo Chatter

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Flyin Fast - VP News

by Michael Luvara



Coming this weekend is our annual Inter-Club fun fly, where local clubs are pitted against each other in a fun fly event. If you have never flown in a fun fly, you ought to consider it. For those pilots who are soloed and feel confident with their airplane, the event is a perfect outing. We'll throw all kinds of events at you from musical planes, to spot landing, and even possibly an egg drop (watch your plane, not the egg!) Typically an old trainer is the best plane for the event. The SCCMAS resurrected the "inter-club" event in 1999 and won it in 1999 and 2001. The bragging rights have been shared between Fresno R/C and Bayside R/C for the past few years. Bayside threw the gauntlet down in their recent newsletter, saying that they want to win this year. I say the SCCMAS should come back and take the top honors... What do you say???

I owe a belated thanks to Tim Jones and his family for stuffing all of the renewal packages for 2005. Tim and Richard Groen also helped out laminating and mailing the first batch of 200+ renewals. Thanks guys!

At the next meeting on Wednesday, March 23rd, Los Gatos High School students will be present to give a presentation based on some aerial imagery work done at and around the SCCMAS as part of the NASA-Jason project. Working with the Santa Clara County Parks and Recreation Department, the Santa Clara Valley Water District, and the SCCMAS, a NASA model aircraft was used to take aerial imagery (photos, video, and infrared) around the SCCMAS in December of last year. Several members were involved, including myself, Bob Parks, and Tim Jones. The aircraft used to take the images was sent around the US to a limited number of schools and this was certainly an exciting project for the students to work on. It bridged many real-life aspects of education, including engineering, science, math and geography. Come on out to see the results of the students' work.

We will be hosting a work party on Saturday, May 7th. We need the membership's help in order to give the field a good once over at the end of the rainy season. On order for the day is, painting, shack floor repair, painting, field cleanup, etc. We will be spreading some gravel in the parking lot and need a helping hand to spread it out. More details at the next

(continued on page 10)

Training Vouchers

Contact
Mike French
for more
information



From the Secretary's Building Board



by Rich Luvara

Club Meeting Notes- December 3rd, 2004
Members Present: 45

New Members:

Dick Zorker

New Solos :

Dick Zorker
Alan Anderson

Show and Tell

Don Loughridge - Brought an airplane to remind us to never throw away a crashed airplane. This "New" airplane has been crashed on 8 occasions since 1978 - in 79,80,82, 83 (2 times), 91 and 92. Has a total of 639 flights on it.

Ron Bodewell - E-hawk electric glider. Has a V-tail, weighs 1.3 oz without a receiver. Uses two HS-55 servos, 30A speed control powers the speed 380, which runs on 7 sub-c cells.

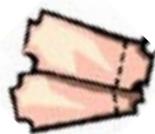
Mike Mussard - Brought a Pica Waco kit bought in 1984. Still in the wood framing. Came with a FS-120 4-stroke which he is going to replace with a 91 2-stroke that will fit within the cowl.



Dumb Thumb

Winner:
Scott Stroh

According to Tim Jones, Scott strained his T-34 through the trees pretty good. Perhaps Scott's new nickname will be "Strainer"?

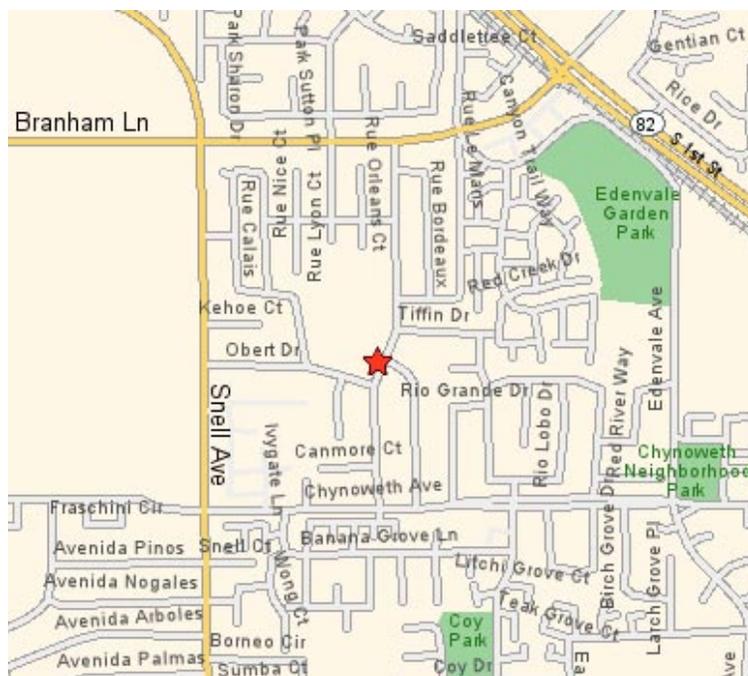


Raffle

Paul Groen	Because we forgot him last time!
Sam Elardo	Radio
Jim Shadwick	Charger
Sky Claussen	Motor
Lynsel Miller	Electric Kit
Ron Marrier	work bench organizer
George Zbrudski	Fuel
Kevin Walsh	Fuel

This month, we have to thank Sheldon's AeroMicro and RCAT Systems for their help with our raffle. Without contributions from sources like this, our raffle would in no way be possible. Please support all of our local hobby shops that are listed on the back cover of the newsletter. Remember, the local shops are the ones that donate to our club. The mailorder ones do not.

Meeting Location Map



Hayes Elementary School, 5035 Poston Drive, San Jose, 95136

Annual Helpers Raffle

Thanks to everyone for your help throughout the year!

Jack Patterson	Radio
Steve Smith	Kit
Dan Petroff	Dremel

Tom Uhlendorf	Charger
Paul Hasselbach	Dremel tools
George Zbrudski	
Carl May	
Steve Culp	Slot Machine
Bob Rich	Z-bend pliers

Treasurer's Report



by Jim Patrick



SCCMAS Profit & Loss 1/9/05-3/9/05

Income

Donations	410.00
Food Sales	39.00
Membership Dues	16,666.00
Raffle	10.00
Student Vouchers	75.00
Vending Machine	339.69
Total Income	\$17,539.69

Expenses

Bay Alarm	135.00
Contributions	58.00
Garbage Service	333.70
Insurance	140.00
Licenses and Permits	45.00
Postage and Delivery	689.46
Printing and Reproduction	194.85
Raffle Supplies	843.63
Janitorial Exp	50.00
Sanitation Service	371.68
Supplies	343.23
Telephone	240.08
Gas and Electric	96.13

Total Expenses **\$3,540.76**

Net Ordinary Income **\$13,998.93**

Net Income **\$13,998.93**

Contest Corner

by Rich Groen



Well things are in full swing now.... By the time you read this, 2 events will have passed already this year. The Flea market March 12th, and the Fun-Fly March 19th. I am so glad to have some "new" help, like Don Coulter helping me CD the Fun-Fly. I say "new" only because he hasn't been at the field for about five years... but actually he is one of our founding members that helped construct everything you see at the field. Thanks Don for bringing some good old fun back to the Fun-Fly. I hope you were able to attend one of these events. If not, there are plenty to come.

Speaking of new volunteers, at the last meeting 15 people volunteered to help at various events. Some names were new, and many are the familiar ones I can always count on. The only unfortunate thing, is I don't think those people all want to work 5 or 6 events this year... or I hope I don't call them that much. A longer list would sure help, you can e-mail me Richdutch@sbcglobal.net or call 408-281-7288 ... either way all I need is a name, phone number, particular event or my favorite reply "any", and contest help only, shack help only... or again my favorite "any".

As far as upcoming events we will need pilots again for the Watsonville air show, please contact Mike Luvara if you would like to help or fly. April 9th is the Sccmas Wardbird Race, and May 21st Bauman Dara will CD the annual Electric Fly-In. Event flyers will be posted at the field soon for contacts on the event CD's. I see some are already practicing for the T-34 race on June 11th.

Also one other note I overlooked.....

Wanted ! Food Shack Manager !



Rich Spicer's Pilatus Porter (photo by Jim Patrick)

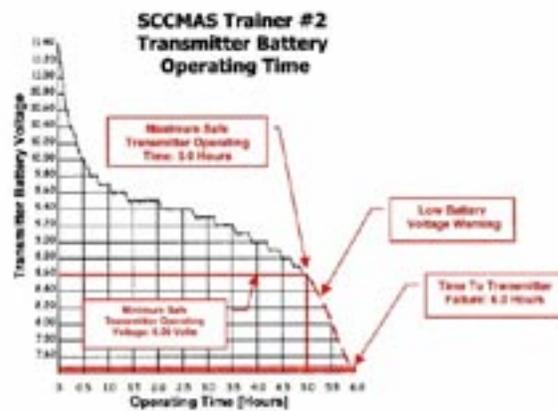
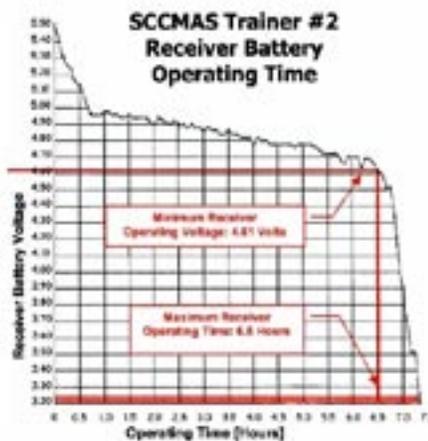


How Long Can You Fly? How Do You Know?

As R/C enthusiasts we take a lot on faith. Those of us who are not aeronautical engineers presume Bernoulli's Principles regarding airflow over a surface are correct. We also presume [to our peril] that there is enough charge in the batteries of our transmitter and receiver to last as long as we want to fly. But to answer the first question precisely without the benefit of faith requires that we carefully measure both transmitter AND receiver discharge voltage rates as a matched pair. I measured the operating voltages with time to failure on our club trainer and realized that I made an erroneous estimate in my last article about the trainer's predicted flight time with its 650 mAH battery. It turns out that the receiver battery is ideally selected for its matched transmitter. I logged the reactions of the servos in an effort to determine if there are other quick ways of finding how close to peril we are if I decide to fly the plane more than five hours from recharge. I took data every five minutes for more than seven hours. I recorded each servo characteristic to see if I could characterize its response degradation with declining supply voltage. If we look at the resultant graph [to be found printed on the club trainer's horizontal stabilizer], we can formulate a plan to estimate flying time based upon visual servo response. But let's look at the overall receiver and Futaba FP-T7UAP PCM1024 Programmable Transmitter characteristics of our club's trainer first.

The transmitter and receiver batteries are a pair. The transmitter battery must fail before the receiver's battery and the transmitter itself must scream at you that failure is eminent while the receiver is in no jeopardy. Reversing this order would be catastrophic. Our transmitter will safely operate for about 5 HOURS. Our receiver will last safely for 6.5 HOURS. If you carefully turn the transmitter and receiver off after each flight, one could fly a day's worth with five hours in the air. There is yet much here to be concerned about. We know that the torque generated by each servo varies from one to the next. The loads place upon each servo is far from equal. It would be expected that as the battery voltage decayed, the response time of the servos would slow unevenly. By looking at the differential servo behavior shown in the four charts to the left of the receiver graph, a visual picture of how each servo behaves with declining voltage is represented. From left to right the major columns are aileron, elevator, throttle and nose gear/rudder servo response listed in categories of Fast, Normal, Slow, Very slow and Dead.

After approximately 15 minutes be being fully charged, the nose gear/rudder servo and throttle servo begin to slow. The rudder is particularly less responsive. After 30 minutes, the elevator has slowed but is still responsive. After 40 minutes the rudder becomes slower still. It certainly is flyable but sluggish. One



would want to be more careful in lining up the plane before takeoff as the nose gear control won't be moving as fast. At 45 minutes the ailerons are noticeably slower but the plane is still responsive. This behavior would hold constant for the remainder of the safe receiver time of 6.5 HOURS [We are presuming that the 5 Hr limited transmitter has been recharged].

But after 6.5 hours, things begin to deteriorate quickly. Most noticeably, the rudder/nose gear will become almost unacceptably slow. This would be your best indication that it is time to quit although everything else is still hanging in there. At about 7.0 hours, the elevator and throttle servos start slowing down. It would be flyable but barely so. You're asking for it if you are still airborne under these conditions. At little after 7 hours, the nose gear ceases to respond. You've lost steering. At 7 hours 15 minutes the ailerons get sluggish. A few minutes later you'll loose elevator and throttle. At 7 hours 30 minutes, the ailerons are dead and it's all over.

You have to give credit to the designers of the digital transmitters. Our club trainer's transmitter complains in every way it knows how to tell you that it is about to fail. You have to be stone deaf and blind for at least a half hour from the time that the warnings and alarms start to the time the transmitter actually fails. If you have a transmitter that doesn't have these warnings, then it is even more important that you take the data that I did on your plane's electronics to know just how long your complete system lasts and what warning signs you have to determine if you are in peril. Happy flying!

Safety

by Tim Jones



I've recently received a couple of documents from Mike, provided by the AMA, describing my responsibilities and duties as the club safety coordinator. Let me start by saying, I'm no where close yet, but I'm working on it. Bear with me. I'm reviewing several documents and collecting information that I believe will help in continuing to provide a safe and enjoyable environment at our field.

Over the past few months, I have had several conversations on matters of concern at the field. One of the concerns brought up is the use of tethers to secure an airplane in the startup area. Some live by their use, others are absolutely against their use. However, all agree that when properly used, they are acceptable. The most common concern is the practice of applying the tie rope to the tail of the plane and proceeding with the startup while the rope has considerable slack in it. This slack will allow the plane to leap forward when the operator has assumed that the plane will not move forward with the tether applied. With larger craft, there is the possibility of the flexing of the fence, allowing the plane to move forward on startup. The biggest problem with this unexpected forward movement is the fact that the person starting the engine is typically the first obstruction in this forward movement. Whether for or against the practice of tying a plane to the startup fence, an offer to hold a model for someone is virtually always welcomed and is certainly the safest practice.

The question of flying small electric "Foamies" in the helicopter hover area continues to be a topic of discussion. A couple of suggestions have been made. As this is being written before the board meeting, I can only say that the topic is expected to get considerable board meeting attention. Expect to hear something soon, probably by E-mail or forum posting as it may not have made the newsletter.

Now, as I have just completed, successfully I'd like to add, my first physical exam in over 25 years, I'd like to relay a couple of "suggestions" from the medical community. Doctors have a way of making their suggestions come across as a bit of a warning. These suggestions were offered by both the eye and medical doctors I've had the pleasure of spending time with over the past two weeks, while chatting about what we do for fun. From the eye doctor, wear eye protection, both physical and UV protection. He actually asked if I wear safety glasses, and proceeded to calmly and politely lecture me on the merits of doing so. We've all seen safety glasses worn in what appear to be obvious eye injury risk areas, such as construction jobs and working with the weed whacker. But keep in mind, at the field we're around moving equipment quite often. So, with that in mind, watch for and pick-up any loose debris or material at the field. Developing the practice of wearing eye protection can only have a good result. Secondly, looking out the window I see lots of wonderful sunshine. This brings up the concern for UV protection for both the eyes and the skin.

So, if not official safety glasses, then a pair of good UV protection sunglasses, a hat and a tube of sunblocker skin lotion for the exposed skin areas. Wendy has been after me for years about this. And as I'm sure she will read this, I'm in for it now. So, if you're at the field and you discover that you've forgotten your sunblocker again, hit me up. I'm sure Wendy will have made sure I have some with me. She successfully got me to the doctor, so I figure she will think this is easy.

Sunshine, the one greatest of all of the good things about living here in the Santa Clara Valley, is here! LET'S GO OUTSIDE AND PLAY!!!

Washout: advantages and disadvantages

"Every airplane needs washout, even a biplane," said Claude McCoullough, the famous designer for Sig.

I'm not sure that every airplane needs washout, but most do, especially the scale airplanes that Claude designed. Washout is a twist in the wing from root to tip. This twist is usually three degrees but in rare cases can be more. Washout forces the wing near the fuselage to meet the air at a more positive angle than the tip. As the model pulls its nose up and increases the overall angle at which the wing meets the air, it will eventually achieve the stall angle at which lift ceases.

With washout, the inner wing will stall first and gradually progress towards the tips. This is desirable because the loss of lift at the center will lower the nose and prevent further stalling. Meanwhile, aileron control is maintained even though the wing is partially stalled.

But there's much more. Consider the typical World War II fighter. A fighter will have a wing incidence at the root of about 2-degrees and a washout of about one and a 1/2-degree. At top speed, the incidence angle of the tip is 0-degrees. Drag at the tip is minimized and there is very little loss of lift by air creeping around the wing-tip—very efficient for maximum speed. In addition, the up-going aileron causes the same drag as the down-going aileron, so that roll causes no yaw. Yawing with the rudder does not change the lift at the tips, so yaw does not induce roll. This is just what the fighter pilot needs for gun aiming, and what the modeler needs for precise scale flight. Washout is a must in airplanes with long, thin, or pointy wings. Some can't fly without it. Next time you are at the airport, notice the washout of the airliners there. It's huge for safety and fuel efficiency.

Most biplanes don't need washout because one wing is typically set at a higher incidence angle, and one wing will stall before the other. Ailerons must therefore be on the wing with the lower incidence angle.

Washout has a dark side; it can interfere with aerobatic performance. In inverted flight, washout becomes washin and all the bad things that washout prevents in upright flight become worse in inverted flight. Snap rolls and spins, which require the wing to stall on command, can be difficult to start and control. Adverse yaw varies with airspeed. Scale models of fighters are only mildly aerobatic. Fully aerobatic airplanes generally do not include washout.

Summary: Washout improves aileron response at all airspeeds, reduces adverse yaw and softens the stall, but only in upright flight.

from Flare-out
Twin City Radio Controllers
Jim Cook, editor,
Minneapolis NM

Computer transmitter programming

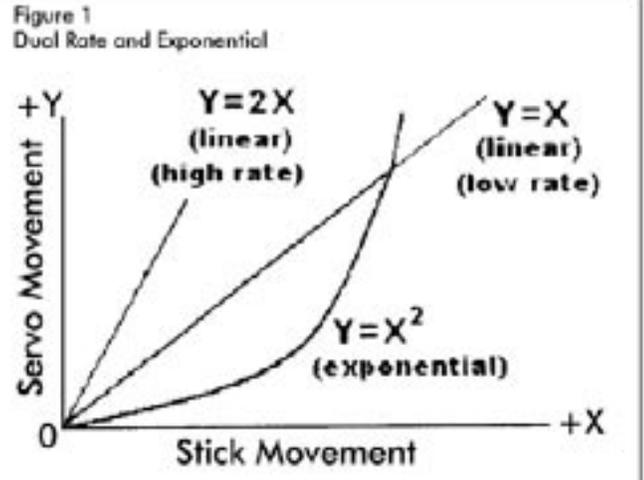
by Oscar Weingart

In order to achieve the desired flight characteristics in an RC aircraft, you may need to adjust, fine-tune, or dial-in the responses of your servos and control surfaces to your commands (stick or switch positions) at the transmitter.

With the early plain vanilla radios, most of adjustments could be achieved by mechanically changing the servo linkages, but the response of the servos themselves could not be changed. Add-on electronic and mechanical gadgets could provide functions like servo reversing, flaperons, v-tail, and elevons. In many modern basic radios, the non-computer transmitters have switches and potentiometers for adjusting things like servo reversing, servo travel limits, and dual rates.

Computer transmitters have made life simple for us, because most of the required responses can be achieved simply by programming. Sophisticated mixing of control responses, like v-tail, elevons, or flaperons are easily programmed; where Rube Goldberg mechanical devices were used in the past. Unsatisfactory flight characteristics can be adjusted out with simple programming functions like exponential and differential aileron. I would like to discuss some of these programmable functions in this column.

I have five programmable transmitters, an Airtronics Infinity 660, a JR 8103, a Futaba 9CAP, and two Futaba 9VAPs. The Infinity is a 6-channel, the JR is an 8-channel, and the Futabas are 9-channel. All, except the 9VAPs, are programmed differently—I mean so differently that knowing one is little help in programming another. But all five have the basic programmable functions we use the most. So perhaps the best way to discuss programmable transmitters is to talk about the features and functions they have in common, rather than the specific buttons pushed and keystrokes for programming any particular transmitter. High and Low Rates In figure 1, I have plotted three types of servo response (Y) to stick position (X). In linear response, the servo moves proportionally to the stick position. So we can say $Y = k(X)$, where k is some constant, like 1 or 2. If the servo moves exactly the same angle as the stick moves, then $Y = X$. If $Y = 2X$, the servo's angular movement is always twice the stick movement. The graph of such movement is a straight line, such as the lines $Y = X$ and $Y = 2X$ in figure 1. The line $Y = 2X$ is said to have a greater (more vertical) slope than the line $Y = X$. The servo therefore moves at a higher rate, (higher sensitivity), but still proportionally to the stick movement.



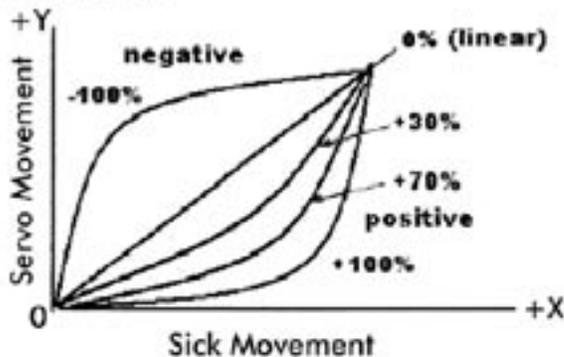
In most computer transmitters, we can program two different rates such as these and assign them to a switch. This allows us to switch between high and low rate response of ailerons, elevator and sometimes rudder, for landing and aerobatics. Some transmitters even have three rate positions instead of two, and some allow all three controls to change rates with one common switch. The down side to all this is that finding these switches and placing them in the proper position during flight, is confusing and may mean taking your hands off the sticks and looking away from the airplane during critical times such as the landing approach.

Exponential

What should you do if you don't want to find and reposition switches but you want the servo to move in a non-linear way so you effectively have different rates at different stick positions? For landing or straight and level flight, where precision control is needed, we might want the ailerons and elevators to move only a little when the stick moves a small angle off center, (low rate). For aerobatic maneuvers, you may want large control deflections for small stick movements near the extremes of stick travel (high rate). What if you want less sensitive control near center and more sensitive control near the ends of the stick movement? This type of non-linear response is called exponential. There seems to be a lot of misinformation about exponential. Even the word exponential is often mispronounced.

If $Y = X^2$, (the same as saying $Y = X \times X$), the superscript, "2", is the exponent, hence the name exponential. In figure 1, the plotted movement of $Y = X^2$ forms a curve, so it is a non-linear, or exponential response. Note that the slope of the curve is low near $X=0$ and high near the end of stick movement.

Figure 2
Exponential Responses



The representation of exponential in some transmitters is not always in accordance with the above discussion, but you can easily learn your own transmitter's peculiarities. For example, what I think of as positive exponential, as graphed in figure 2, must be programmed as negative exponential in some transmitters.

(continued on page 8)

Most programmable transmitters offer a range of exponential between 100% and +100%. The greater the percent exponential, the more curved the response graph is, hence the greater the difference in rates along the curve. Note in figure 2 that you get linear movement with 0% exponential. Positive exponential produces the effect usually desired, with less sensitivity near stick center and more at the extremes of stick movement.

I find myself usually needing what I call +30% to +50% exponential on elevators and ailerons. But in some of my units this must be programmed as -30 to -50%. What I call negative exponential causes more control sensitivity near the center of stick movement and less at the extremes. This is generally not a desirable condition, but if your airplane or flying style need it, go for it! Note that the total movement of the stick, X, and servo, Y, is the same in all cases shown in figure 2, but exponential determines the path of how you get there. If you want the total servo movement or sensitivity to increase/decrease over the full stick movement, while still retaining our desired exponential or linear response, you can use dual rates with servo travel limits.

A tip on using exponential:

The throttle response on many RC airplanes is nonlinear. On several of my models, all the power change seems to happen in the first half of stick movement, from idle to mid-position. From mid-position to full throttle, power seems to change very little. So the throttle response curve seems to look like the negative exponential curve in figure 2. The throttle is over-sensitive near idle and not sensitive enough near full throttle. This effect is due to the geometry of the throttle linkage and also to the design of the throttle itself. To straighten out the throttle response curve for more linear results, you can program positive exponential into the throttle channel. This positive curvature will counteract the existing negative curvature in the throttle response curve, and give you a more desirable linear throttle feel.

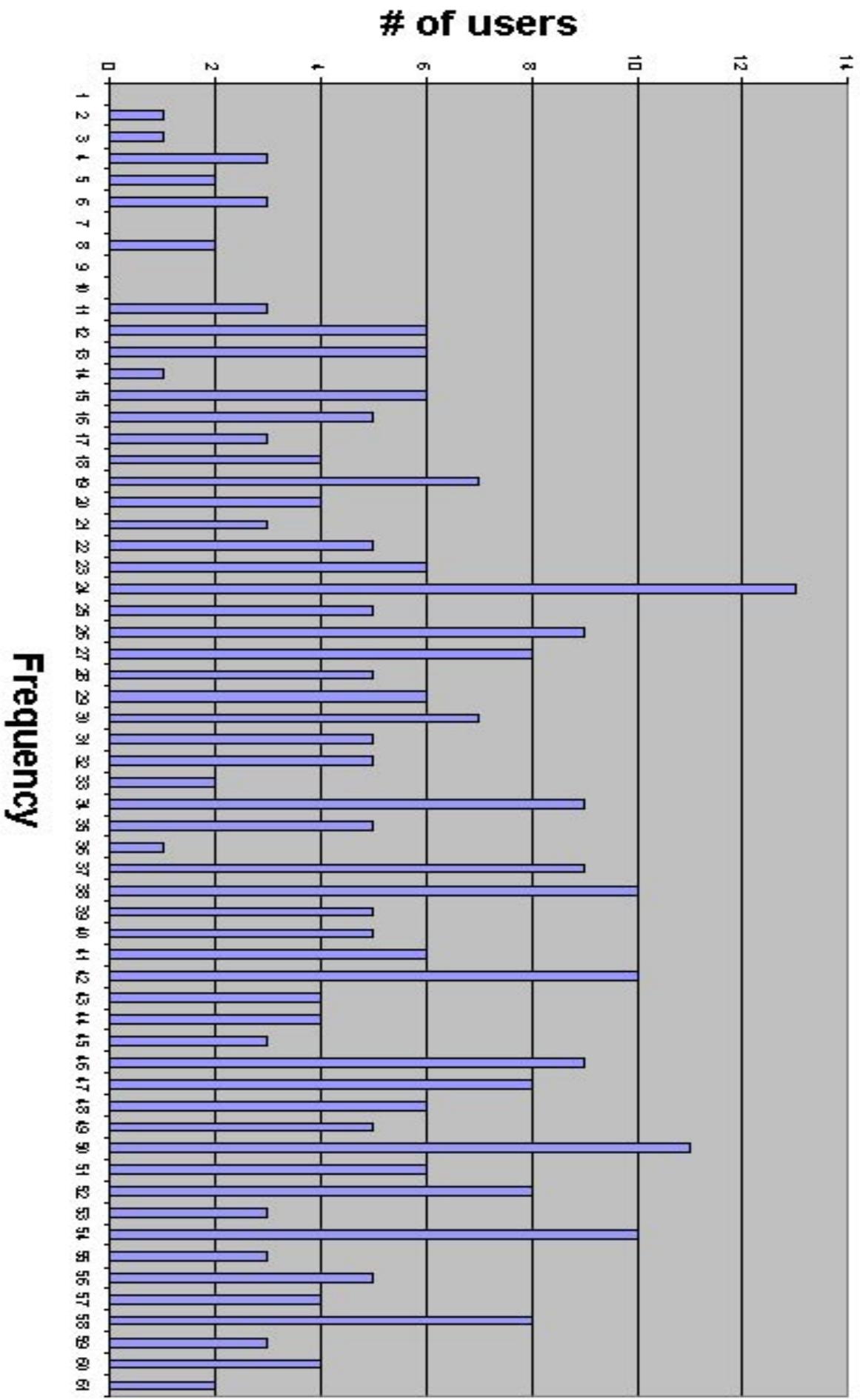
From Prop Talk
Riverside Radio Control Club
Jim Bronowski, editor
Riverside CA

2005 Contest and Fly-In Schedule

NCRCS - Northern California R/C Society

	19	Interclub Fun-Fly @ SCCMAS, Morgan Hill, CA.
	19	Swap Meet @ RC Fliers Unlimited, Oakdale, CA.
	19	Open B Combat – Battle of Britain @ EBRC, Livermore, CA.
	19-20	IMAC @ Las Vegas RC, Las Vegas, NV.
	20	Combat – F-27's Only @ Woodland-Davis, Davis, CA.
April	2	T-34 Triangle Series @ FRM, Fresno, CA.
	3	Warbird Races @ SAM, Sacramento, CA.
	9	Warbird Races @ SCCMAS, Morgan Hill, CA.
	16	Fun Fly @ LFE, Livermore, CA.
	16-17	IMAC @ Wavemasters, Hollister, CA.
	16-17	Q-500/ QM-40 @ Sepulveda Basin, CA.
	16-17	Open House and Float Fly @ Woodland-Davis, Davis, CA.
	22-23-24	Bob Francis Memorial Fly-In @ Salinas Area Modelers, Salinas, CA.
	23	Electric Invitational Fly-In @ SACRC, Union City, CA.
	23-24	IMAC @ Tucson, AZ.
	24	Combat – F-27's Only @ Vaca-Valley R/C, Vacaville, CA.
	29-30-1	Vertical Challenge Helicopter Fly-In @ FRM, Fresno, CA.
	30-1	Pattern @ BARCS, Richmond, CA.
May	7	49er Scale Masters Qualifier @ Woodland-Davis, Davis, CA.
	12-13-14-15	Circum-Generation International Helicopter Contest @ Bayside R/C, Fremont, CA.
	14	IMAA Giant Scale Fly-In @ FRM, Fresno, CA.
	14-15	IMAC @ Riverside, CA.
	15	Electric Fun-Fly @ SAM, Sacramento, CA.
	21	Fly-In @ LFE, Livermore, CA.
	21	Electric Fly-In @ SCCMAS, Morgan Hill, CA.
	21	T-34 Triangle Series @ Madera, CA.
	21-22	Pattern @ Wavemasters, Hollister, CA.
	21-22	Pattern @ Las Vegas, NV.
	22	5 th Annual Memorial Fun Fly @ Delta Valley Modelers, Stockton, CA.
	27-28-29-30	IMAA West Coast Festival @ Castle Airport, Atwater, CA.

SCCMAS Frequency Distribution



Unintended Usage

By Chris Luvara

With the advent of "park flyer" technology, I no longer have to drive to the flying field to get my fix. Almost every evening I can be found at the local park with my GWS Spitfire or my Dad's GWS Beaver. The simplicity and amazing battery life allows me a quick 30 minute escape after dinner while the sun begins to set below the horizon.

It just so happens that our dog doesn't have a thirty minute battery life and often needs constant attention and exercise. No, she's not special, it's just a trait of the Vizsla breed. While the family dog has made her fair share of visits to the flying field, she never once showed interest in the airplanes, nor did the noise bother her.

That was until she visited the local park on day while I was out flying the Beaver. As the motor spooled up and the servo's chirped, Brandy began to whine, bark, and get extremely excited. As the airplane ascended, so did her hyperactivity.

My dad finally got tired of having his arm almost being pulled off, took off her collar and let her go- the race was on! Brandy was immediately out in the lead as I flew the Beaver in a nice, gentle, oval course. Occasionally she would look over her shoulder to make sure she was ahead, or look up to see how far behind she was.

Fifteen minutes later, with Brandy still going full speed (until you've seen her you can't even imagine what full speed is), I landed the airplane. She was panting but still waiting for another go round. It seems we found a perfect exercise for the dog.

She has tried to jump at the airplane when I get a little too low, and did put a little tooth mark in my Spit after I landed it; but it's a small price to pay for not having to wear myself out by running the dog!



(continued from page 2)

meeting. Speaking of meetings, it was recommended by some that we start earlier, say 7:00. What are your thoughts? Let me know.

Time for a new project... The SCCMAS's transmitter impound is filled with history, but it is time for a makeover. Coming from a previous field, the transmitter impound is 20+ years old. It was designed for the older, thinner transmitters of the day, of which existing radios have a difficult time fitting into. We've retrofitted a couple of rows, but it is time for the next generation of impounds for the SCCMAS. This is where we need your help. We would like your input on what features you would like to see in the new impound. Two items already suggested are (obviously) larger slots for transmitters, and running the impound all the way to the ground, leaving shelves at the bottom for transmitter cases. This will also close off the empty space that we often find young children crawling under. So, if you have ideas or would like to head the construction project, please email me at mike@sccmas.org.

In February, we received a call from the Watsonville Fly-in inquiring if we would like put on an aerial demonstration at this year's airshow and have a static display for the SCCMAS. Last year, we were able to put on a 20 minute demonstration of R/C models and it was well received by all. This time around, there may be more time for flying at the airshow and we need your help. Members interested in manning the booth, aircraft for static display, and performers are needed. If you feel like you can help, or feel comfortable flying in front of a large crowd, please contact myself or Richard Groen.

Lastly, I want to thank everyone who submitted their survey with this year's renewals. We had a record return and are busy going over the results. The SCCMAS board met at the time of this writing to look over each one of the surveys to look for areas of improvement within the SCCMAS. The surveys are a rudder for the club and we believe that if we can try to move in the direction of what the majority wants, we are on the right track. At the next meeting, we will be presenting the results of the 2004 survey for all to view. We'll put a summary in the next issue of Servo Chatter and on the SCCMAS website in the coming weeks. For now, it appears that the grass condition is the number one gripe on the surveys.

Until next time,
Michael

Food Shack Mgr. for a day ?

Manage the food shack for a day and receive 1/2 off next years Sccmas dues. 2 Events equals a free membership.

Manage the shack for day means...

1. Arrange helpers and BBQ people for the event.
2. Show up 1 hour before the event, set-up, and stay to coordinate clean-up after the event.

FAQ'S

What event ? Any event you want, first choice.. first rights.

Who gets Food ? I will stock the events before you get there.

Training ? We will review over a phone call or I will meet you at the event to get you going.

What if I manage 2 events ? Next year your dues are free !

Interested ???

Contact Richard Groen

Hm.(408) 281-7288... Mbl. (408) 832-7432

Richdutch@sbcglobal.net

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NOTE: D&J and Hobby World both give 10% discounts if club members show their club card.



John Mota's 1/5 scale P-51 (Photo by Chris Luvara)

The Servo Chatter is published bi-monthly by the SCCMAS "Tomcats" radio control club located in Morgan Hill, CA. For info E-mail: servochatter@sccmas.org. Views expressed in the Servo Chatter are those of the writers. They do not necessarily represent the views of the club, its members, or officers. The SCCMAS is a non profit organization. The Servo Chatter welcomes all letters and comments. Permission is granted to reproduce anything printed in Servo Chatter as long as the source and author are credited.



Servo Chatter c/o SCCMAS
1365 Buchanan Dr.
Santa Clara, CA 95051-3950



*Next meeting: Wednesday, March 23rd @ 7:30pm
Location: Hayes Elementary
(see page 3 for a map)*