



# THE RAMS HORN

Feb 2008

Volume 15 Issue 2

The Official Newsletter of the Rainbow Aero Modeler's Society  
Metro Milwaukee Area Franklin, WI Founded Nov. 6, 1980

## Next Meeting: Wednesday, Feb. 6, 2008

### Wauwatosa Savings Bank

6560 S. 27<sup>th</sup> Street, Oak Creek, 7:00-9:30PM

(East side of 27<sup>th</sup> St.-1/4 mile south of College Av.)

by Russell Knetzger, 2007 President

### January 2<sup>nd</sup> Program was: JETS NIGHT

The January program was very successful, except that Jeff Borowski could not show his all-balsa jet, (featured that issue in his Pilot Profile), because it crashed New Year's Day. Tom Ryan showed an engine and fail-safe controls typical of turbines, Roger Olsen showed his brand new jet, as did Darrell "Hoss" Hossalla. If Jeff has his jet rebuilt in time, he'll show it at the February meeting.

### February 6<sup>th</sup> Program: Club Business

Club officers met January 16<sup>th</sup> and offer membership the suggestions below. All 12 present and nominated officers participated, four by email: (1) Equalize Retired club dues at \$15 per year. The club loses \$3.40/yr. on the newsletter alone for our \$7.50 dues members, mostly being the Retired. A few others are disabled, or under age 18. The Retired ratio is growing in the club. (2) Require proof of home owners insurance. Presently pilots not being AMA members only have to write down a policy number to gain a field license. The suggested proofs: photo- copy the policy coverage page, or an agency certificate of insurance, or a policy card, common for car insurance. (3) Turbine waivers for all turbine powered aircraft (licensed pilot or guest), AMA preferred, or AMA equivalent. (4) Field License to remain \$40. While

the 2008 field budget is \$33 for our 115 pilots, officers felt the rainy-day margin was thin, and suggest staying at \$40. (In 2006 it was \$35.) (5) A Field Budget of \$3,790 is suggested, plus an \$800 reserve margin. The \$3,790 includes pay for all grass cutting, including toward Oakwood Rd., rolling, and for hay around the field perimeter.

(6) Elections This Meeting Two persons are nominated for President, which will require a ballot. All other spots have one nomination each, except Russ Retzack's Assoc. spot is still open. Terms are 1 yr., starting March 1<sup>st</sup>.

OFFICE	INCUMBENT	NOMINATED
PRESIDENT	Russell Knetzger	Russell Knetzger/Tom Ryan
VICE PRES.	Bob Kabella	Jeff Borowski
SECRETARY	Bill Flannery	Craig Manka
TREASURER	Bill Flannery	Craig Manka
DIRECTOR	Ken Huber	Andy Runte, DVM
DIRECTOR	Bill Stilley	Bill Flannery
FIELD LICENSES	Jim Hatzenbeller	Jim Hatzenbeller
SAFETY OFICR.	Floyd Katz	Floyd Katz
ASSN.DELEGATE	Russell Retzack	[ ]
ASSN.DELEGATE	Ken Huber	Ken Huber
NEWS LTR. ED.	Bill Stilley	Bill Stilley
FIELD MNGER.	Mel Stein	Bob Kabella

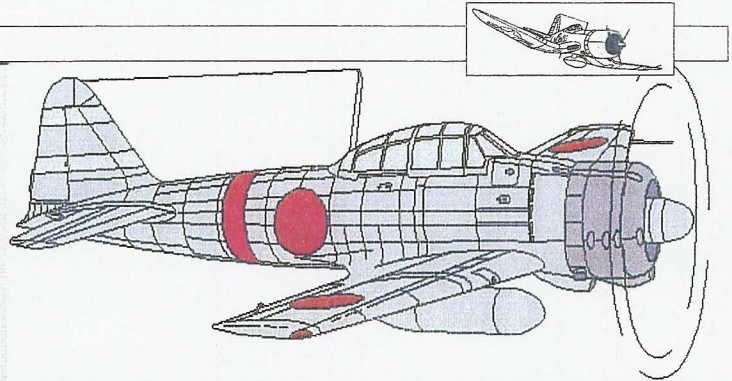
### RAMS Help at January 6 Auction/Swap Meet

Marty Gscheidmeier, Darrell Hossalla, Bob Kabella (recruiter) Russ Retzack, Dave Simonson, Deb Smith with Bill Stilley, each earned \$10 for the RAMS.

### RAMS now at 56 Members (See Roster Inside)

### Pilot Profile Inside: Earl Evans





**PRESIDENT**

**Russell Knetzger** (414) 962-0637  
2625 E. Shorewood Blvd.  
Shorewood, WI 53211

**VICE PRESIDENT**

**Bob Kabella** (414) 282-1145  
4725 So. 35th St  
Greenfield, WI 53221

**SECRETARY**

**Craig Manka** (262) 681-9169  
7025 Lambertson Rd  
Racine, WI 53402

**Dues (submit to Sect.)**  
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**\$7.50 under 18 or retired**

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**EDITOR**

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**MEETINGS**

First Wednesday of every month @ 7:00 PM  
Wauwatosa Savings Bank  
6520 So. 27th

**FLYING SITE**

Milwaukee Co. RC Model Flying Field  
approximately 70th St on Oakwood Rd.

**Editorial Disclaimer and Policy**

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Bill Stilley	(414) 541-4702
Milan Zdrubecky	(414) 282-3997

**Helicopter**

Darrell Hossella	(262) 639-1465
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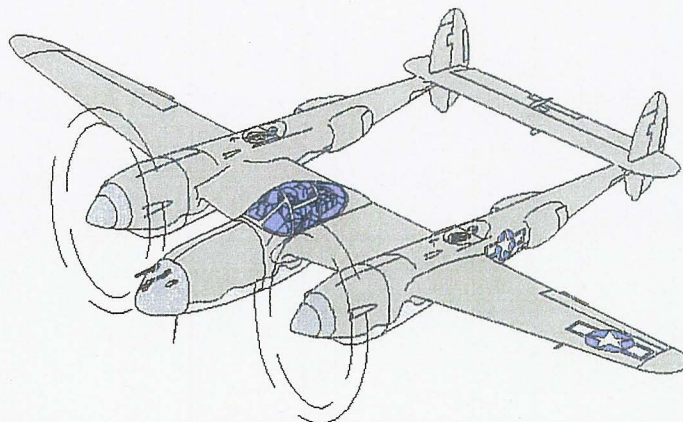
## Meeting Minutes of Jan 2nd

Submitted by **Bill Stilley**

Our President **Russell Knetzger** brought the meeting to order at 7:05 and announced the program for the evening is JETS. **Bill Flannery** turned over the position of Club Treasurer to **Craig Manka**. **Jim Hatzenbeller** gave the field fund report, saying the final count for 2007 was 113 field licenses issued. **Russell** then opened nominations for club officers (see page 1). **Russell** said our club should have the most volunteers for the R/C Association's SwapFest on Sunday, considering they built our field and gave it to us, along with the Ford 8N tractor that we used for many years.

**Tom Ryan** was the first jet program speaker. He said the most expensive part of the models are the engines and they are more reliable than glow engines. They run on Jet A fuel. They are not controlled manually, but by an ECU (Engine Control Unit), which makes operation of the engine very simple. There is also a ground support system that allows changing the ECU program and has a light display that gives system status. The cost of these engines runs from \$2,500 to \$6,000 and provide 12 to 44 pounds of thrust. Butane is used to start the engine and then the ECU switches over to Jet A. These engines run from 33,000 to 150,000 rpm and have very little vibration. The fuel systems have an air trap, as an air bubble in the fuel line will shut down the engine. They run on ceramic bearings and are fabricated from materials such as stainless steel and titanium. These engines can be purchased as a kit and assembled at home, but it is recommended that you spend a little extra and buy a completed engine. AMA requires that you demonstrate that you understand the systems involved and show that you can fly the aircraft safely before issuing a Jet waiver. AMA also requires that jet fliers maintain a flight logbook. Without the waiver your AMA insurance is not valid when flying jets.

**Jeff Borowski** had a jet powered ski plane. It has a P-70 engine that burns 9 ounces of fuel per minute with a 74 ounce fuel tank. He



always tries to land, leaving a  $\frac{1}{4}$  tank of fuel available for go-arounds. He bought the completed plane on the internet and found that the vertical fin was glued on to the monokote covering of the fuselage. He thinks that crashing jets is still cheaper than crashing helicopters and wood airplanes can be repaired, whereas fiberglass airplanes cannot.

**Hoss Hossalla** brought a new Velox composite ARF with a P-80 engine. Weight of the plane is 20 pounds and the engine puts out 21 pounds of thrust. This plane has shock strut landing gear which should be better on a grass field. He said it can use K1 kerosene which costs \$3 a gallon, as opposed to Jet A which costs \$4 a gallon.

**Roger Olsen** brought a Flash (which looks like an F-5 fighter or a larger version of the Bandit). He has been in jets since 1995 and is our club's most experienced jet flier. He said some early engines were actually dangerous. Many of the ARFs are now made in China. He allows no backlash in any of the control surface linkages, to prevent flutter, which would tear a model apart in a few seconds at these speeds. He uses Futaba brushless motor servos, with 4 channels in the wing, 2 for engine control and 2 channels for elevator. He demonstrated the landing gear retract sequence and said that if the fail-safe engages, the landing gear comes down.

Raffle prizes: **Bill Geipel** won a gallon of fuel, **Russ Retzak** won a CG Mini-Tote and a field charger, **Rick Manka** won a glo-starter, **Dave Simonson** won a 4 way wrench and thread lock adhesive, **Craig Manka** won a Hangar 9 Funatana ARF.



# January, 2008 RAMS Roster (56 Members)

Rainbow Aero Modelers Society, Franklin, Wisconsin AMA Club #1264

First name	Last name	Address	City	State	Zip	Phone
Marvin O	Anderson	7511 W Congress Street	Milwaukee	WI	53218	414-535-0764
Dennis	Bartz	S110 W19898 Denoon Road	Muskego	WI	53150	262-895-7572
John J	Basich	5679 Garland Lane	Greendale	WI	53129	414-425-8046
Richard	Bentzler	2419 Oklahoma Ave	Milwaukee	WI	53207	414-482-3094
Marvin	Bishop	3343 So. New York Ave.	Milwaukee	WI	53207	414-744-9216
Jeff	Borowski	3619 E. Munkwitz Ave.	Cudahy	WI	53110	414-483-4377
Kenneth	Ceranski	W.131 S.6680 Kipling Dr.	Muskego	WI	53150	414-425-0090
Dale	Champagne	1402 W. Violet Dr.	Oak Creek	WI	53154	414-762-1925
John	Cseri	305 E. Forest Hill Ave.	Oak Creek	WI	53154	414-762-7931
Alfons	DeRidder	703 Walnut	So. Milwaukee	WI	53172	414-762-5720
Pierre	Deschenes	W194 S8417 Summeridge CT.	Muskego	WI	53150	262-971-9720
Robert	Destrampe	6129 Thorncrest Drive	Greendale	WI	53129	414-421-5124
Richard	Eddy	8141 So. 76th St	Franklin	WI	53132	414-425-4093
Robert	Ehlers	4420 So. Quincy Ave.	Milwaukee	WI	53207	414-482-3759
Earl S	Evans	S68 W12663 Woods Road	Muskego	WI	53150	414-427-0420
Bill	Flannery	6008 W. Glen Ct	Franklin	WI	53132	414-423-0914
Phillip	Flasch	S71 W17104 North Lane	Muskego	WI	53150	262-679-0232
Jonathan	Frey	7233 Enfield Ave.	Greendale	WI	53129	414-421-3521
Bill	Geipel	7601 Drake Ln	Franklin	WI	53132	414-425-5264
Jim	Hatzenbeller	4388 So. Pennsylvania Ave	St Francis	WI	53235	414-483-1246
James	Himsel	711 E Bridlewood Ln	Oak Creek	WI	53154	414-768-8566
Darrel	Hossalla	440 4-1/2 Mile Road	Racine	WI	53402	262-639-1465
Kenneth	Huber	3262 S. Kinnickinnic Ave.	Milwaukee	WI	53207	414-744-8374
Michael	Jankowski	4812 W Madison Ave	Franklin	WI	53132	414-858-9941
Nicholas	Johnson	4366 S. 35th St.	Greenfield	WI	53221	414-281-6926
Robert	Kabella	4725 S. 35th St.	Greenfield	WI	53221	414-282-1145
Floyd	Katz	3248 S. 88th St.	Milwaukee	WI	53227	414-541-7477
Richard	Kegel	3563 So. 76th St apt 1	West Allis	WI	53220	414-327-6803
Casey	Kieliszkowski	1210 W. Lincoln Ave.	Milwaukee	WI	53215	414-672-8008
Russell	Knetzger	2625 E. Shorewood Blvd.	Shorewood	WI	53211	414-962-0637
Craig R	Manka	7025 Lambertson Road	Racine	WI	53402	262-681-9169
Joseph	Marusik	2101 S 105th Street	West Allis	WI	53227	414-545-4614
Mark	Matelski	3757 So. 5th St.	Milwaukee	WI	53207	414-481-2242
Fred	Meinholz	1828 Oak St.	South Milwaukee	WI	53172	414-762-5512
Joseph	Milanowski	6024 Glenway Lane	Greendale	WI	53129	414-425-0427
Greg	Mitchel	2408 S Howell	Milwaukee	WI	53207	414-708-9856
Andrew	Mudrick	6061 Churchwood Circle	Greenfield	wi	53219	414-423-5679
Tom	Nettesheim	W253 S6777 Longview Dr	Waukesha	WI	53189	414-469-8518
William	O'Dell	7345 W. Georgia Ave	Milwaukee	WI	53220	414-543-6518
Roger	Olsen	1116 E. Marquette Ave.	Oak Creek	WI	53154	414-764-3257
Leo	Pachuki	2315 W. Edgerton Ave	Milwaukee	WI	53221	414-282-8569
Russell	Retzack	3028 S. 83rd St.	West Allis	WI	53219	414-321-8460
Andy	Runte, DVM	5400 W. Plainfield Ave.	Milwaukee	WI	53220	414-543-1369
Tom	Ryan	P.O. Box 1111	Milwaukee	WI	53201	414-881-0070
Philip	Schumacher	12139 W. Carpenter Ave	Greenfield	WI	53228	414-425-2963
Mark	Shilobrit	103 Griffith Dr	Waukesha	WI	53188	262-408-2752
David	Simonson	7485 Hill Valley Court	Greendale	WI	53129	414-427-1783
John	Spindler	7448 Carter Circle-N	Franklin	WI	53132	414-425-0857
Bruno	Stanly	2427 S. 96th St.	West Allis	WI	53227	414-545-5264
Melvin	Stein	1744 S. 60th St.	West Allis	WI	53214	414-604-0362
Kent	Struwe	22305 7 Mile Rd.	Franksville	WI	53126	262-895-6269
Rafael	Tavarez	1375 W. Violet Dr	Oak Creek	WI	53154	414-768-9488
Steve	Tomich	4882 S. 19th St.	Milwaukee	WI	53221	414-282-3243
Steve	Ward	8571 So. Chicago Rd Apt 218S	Oak Creek	WI	53154	414-764-0914
Milan	Zdrubucky	1661-L W. Edgerton Ave.	Milwaukee	WI	53221	414-282-3997

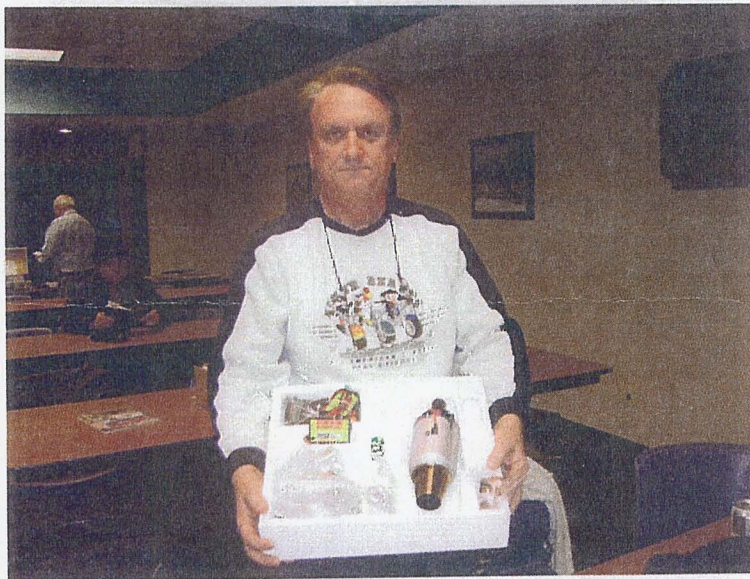




Roger Olsen-Jet Program



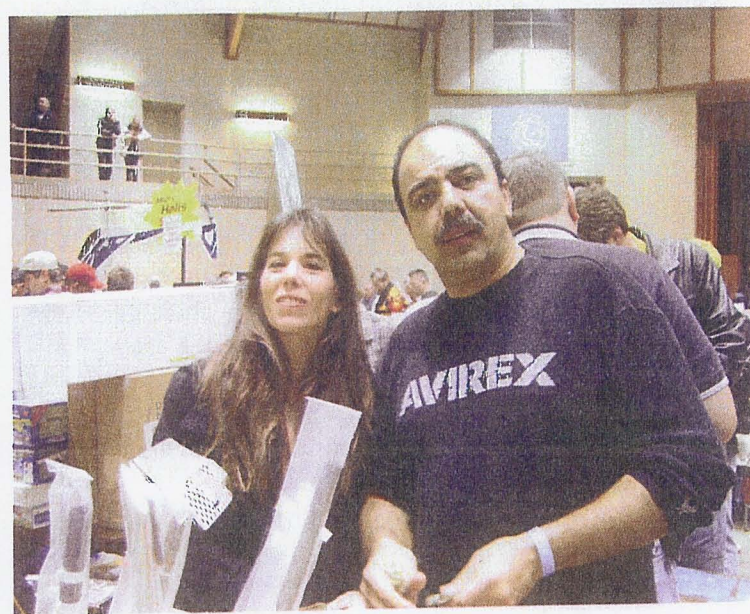
Hoss Hosalla-Jet Program



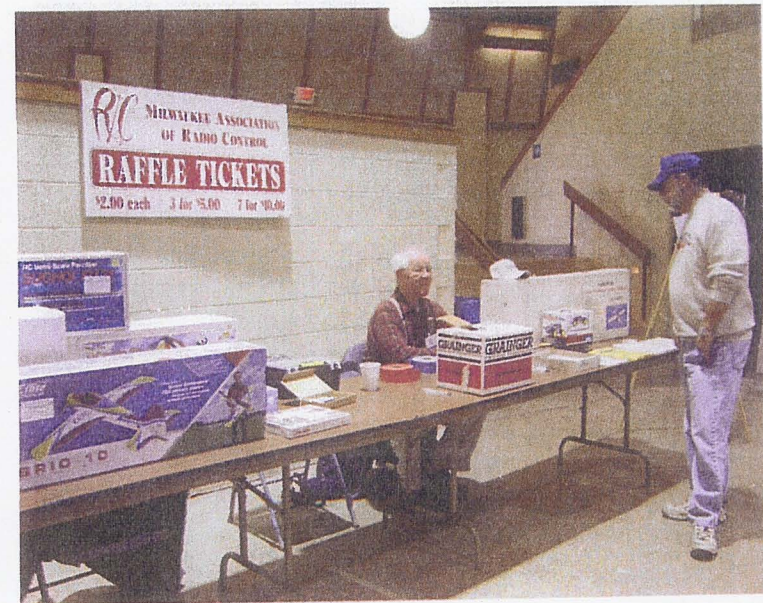
Tom Ryan-Jet Program



Jeff Borowski-Jet Program



Steve and Debbie Piteros-RC Association Swapfest



Bill Stilley-RC Association SwapFest



# How Our Radio Systems Work-VI

by Dennis Vollrath, Editor, "The Flightline,"  
Sept.2007"  
Racine R/C Club, Inc., Racine, Wisconsin – Reprinted  
in  
The RAMS HORN, Bill Stilley, Editor, Franklin, WI

## Just What Are We Transmitting?

In the last column (August, 2007), we discussed modulation on our radio control systems, indicating that we are transmitting "Ones" and "Zeros".

Just what are we transmitting? The same type information is being transmitted, whether we have AM, FM or even PCM transmitters. What we are transmitting is a train of pulses, three pulses for a three channel radio, four pulses for a four channel, 10 pulses for a 10 channel radio. For a three channel radio, we transmit three pulses, wait about 0.05 seconds, and transmit another three pulses, and on, and on, and on.

Take a look at photo #1. This is a photo of one of my Tektronix oscilloscopes. This is a Tek 2236 that can display from Direct Current (Battery) to over 100,000,000 cycles per second (100 Mhz) on its display. (If I crank up the sweep rate on the scope, it will show the radio signal as a sine wave.)

Digital photo #2 shows the radio frequency output of an old three-channel AM radio. Note that the display has three pulses, followed by the "rest" period. Remember the swing set that swings left and right of the highway centerline. Only here, the scope is swinging above and below the "Center line". Note that the signal is swinging back and forth about 100,000 times for each "Pulse", resulting in a solid display. Each pulse corresponds to the Engine, Rudder, Elevator, respectively on this old three channel radio. Note that on AM signals, the radio frequency is actually OFF part of the time. This is the big drawback of AM radios. If any other radio should hit this signal, and fill in the "zeros", you have a condition where all the servos on the model lock over, and you crash.

Note the last pulse on photo #2. Compare this last pulse to the same pulse on photo #3. If you compare these pulse widths to the screen lines, you will find that the pulses vary from 0.001 to 0.002 seconds in width. This translates directly to the position of the servo - 0.001 second or one millisecond corresponds to "Full left", 0.002 seconds corresponds to "Full Right". Each of the three pulses can be varied by the transmitter's various sticks. Note the solid signal to the far right of the screen. This is the "rest period" and is used to

synchronize the receiver for each "Frame" of transmitted signal.

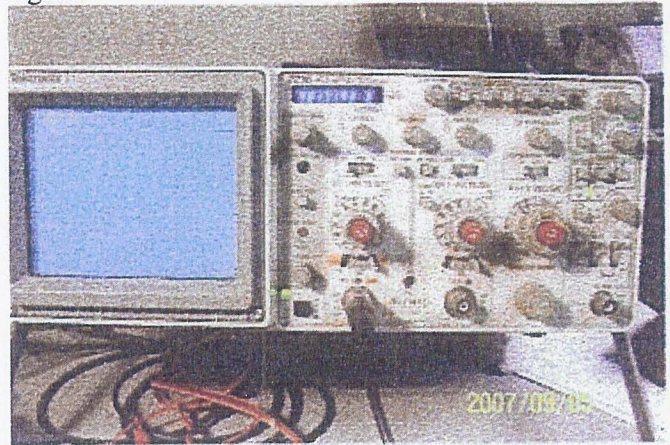


Photo #1

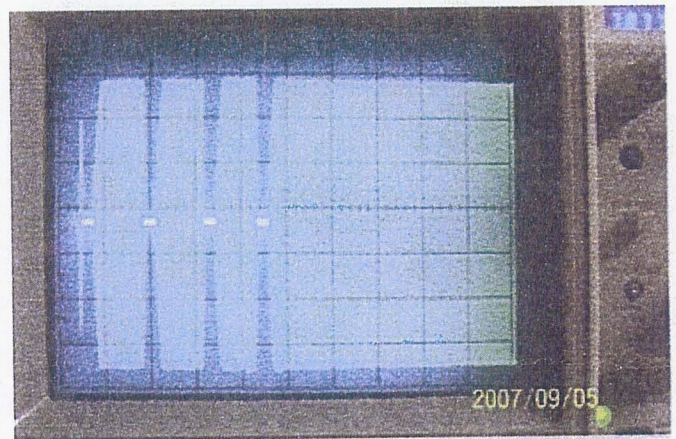


Photo #2

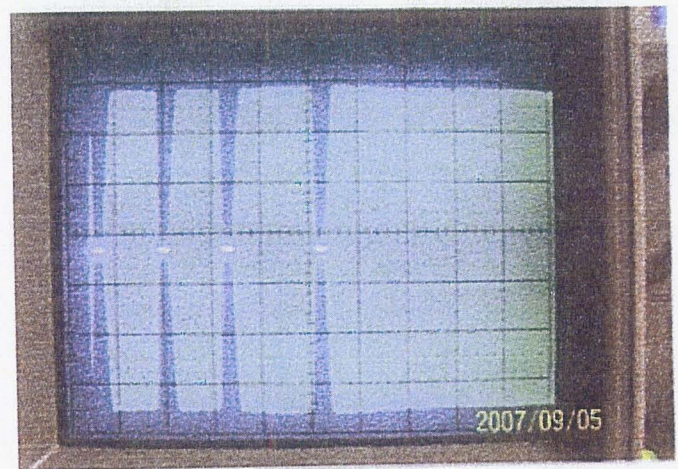


Photo #3

So, the WIDTH of the pulse for each stick position directly corresponds to the POSITION of the associated servo.

Now, for FM, everything operates the same, only instead of the signal doing to zero, it changes FREQUENCY, very slightly. It's the job of the FM receiver to decode it.



So, just what is PCM and other similar products? PCM stands for Pulse Coded Modulation. (That's nice, so just

what is Pulse Coded Modulation and other similar products?)

Up to this point, we've been looking at signals from the transmitter that correspond DIRECTLY to the signals that are applied to the third wire of the servos. We are getting ahead of ourselves, but the receiver splits up the pulse trains from the transmitter, and applies one pulse only to each corresponding servo.

PCM is a different animal. Instead of transmitting pulses over the radio signal, the transmitter essentially transmits digital NUMBERS. This is where the 1024 and 2048 designations comes from. The transmitter transmits numerical numbers from zero to 1024 for the rudder, 0-1024 for the elevator, 0-1024 for the throttle, and so on. The 1024 comes from  $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$ . Yep, this is binary code. We've also got 2048 radios, but I don't know if any servo's are capable of holding this type of resolution,

So what's the advantages? We can put a little microprocessor into the receiver and have it look at these numbers. It's the nature of microprocessors that they really work well handling numbers. And they are excellent in determining if the numbers received from the transmitter are indeed correct, and not wrong in some way, such as getting hit by some noise or near-frequency transmitter.

These little microprocessors (actually micro-controllers) can also be easily be programmed to look at the incoming number stream, and if it looks really bad, the microprocessor can run the models servos to some preset position, such as low engine throttle and the like. For general information, any micro-controller can easily do a million calculations per second. You can buy them for a few dollars. One of these was used in my "RC-HOUR-METER" project a few months ago.

Now, just what is SPEKTRUM?

Well, JR is pretty secretive on what they are doing. They have indicated verbally that interference is pretty much impossible, even if someone should ever wind up on the same frequencies being used on the Spektrum radios.

How can this be? This is speculation on my part. What we do know, is the Spektrum DX7 series is transmitting at 2.4 Ghz, with what they are calling wide band signal,

that apparently is one megahertz wide. The Spektrum transmitter alternates between two different channels in the 2.4 Ghz band.

One problem with modulation of a radio signal, is the modulation itself causes the bandwidth (5000 cycles per second in FM) to become wider. This kind of limits just how much information you can send by FM.

This is not a problem with the 2.4 Ghz radios. You can transient a phenomenal amount of information with a 1,000,000 cycle per second bandwidth.

Before the transmitter/receiver will work together, they must be "bound" together. I'm not certain what they are doing, but I suspect they are doing something similar to what is used in the Internet and also used where I work.

What these internet folks are doing is sending out "Packets" of information at a very rapid rate. (A packet of information consists of a quantity of information. It can be compared to a book, where one packet is one page out of the book.) For our RC radios, each packet of information would contain a portion of the required signals for the rudder, elevator, throttle and so on.

I suspect, similar to the Internet and where I work, each packet of information also contains a digital code that is unique to the transmitter, and its selected model type. Since every 2.4 Ghz transmitter manufactured throughout the world has a different unique number, you can't screw it up.

The receiver's micro-controller looks for this unique number from its "bound" transmitter. If one packet has the wrong unique number, the receiver simply ignores it, and takes the next packet to come along. Also being transmitted with these packets are "error codes" where if the packet is contaminated, the error codes can be used to either ignore the packet, or use it after correcting any errors that exist.

This suggests that the receiver's micro-controller is very busy in examining all of this stuff, splitting it up, and feeding it to the various servos as required.

Until next time.



## Electric Flight News – II & III

by Dennis Vollrath, Editor, "The Flightline," Sep.-Oct. 2007  
Racine R/C Club, Inc., Racine, Wisconsin – Reprinted in the  
RAMS Horn, Bill Stilley, Editor, Franklin, WI

### ELECTRIC FLIGHT II – September, 2007

Some of the club members may have seen my E3D 48 inch, 3.5 pound model from last year that has been retrofitted with a Hacker A40-12S motor, running a 13 by 6.5 prop at 7700 RPM, with four A123 cells. It's the first model I've had that will fly straight up and keep on going.

One of our club members is considering putting electric in a sea plane. The Hacker A40-10L motor, running on six 3700 AmpHr Lipo's will turn a 12/6 (or 11/8) prop at 11,500 RPM. This represents 1.25 Horsepower on a battery- motor system that weighs in at about 33 ounces. That A40-10L motor is rated at 45 amperes continuous, and some 60 Amps for 15 seconds.

### ELECTRIC FLIGHT III – October, 2007

Some of our readers may be aware that I've placed an updated version of the RcHourMeter project into my electric models. (This project records total flying time for the year, total AmpHours pulled for the year, along with a lot of other stuff.)

Status update: The 150% Electrostreak has 10 Hours, 42 Minutes on it, along with 65.5 Amp Hours for this season. The E3D model with the Hacker A40-12S motor has 6 Hours 50 Minutes on it with 33.4 Amp Hours for the last part of this season. The E3D model is running four A123 cells. When cells were new, the A123 with the Hacker A40 turned a 13 by 6.5 prop at 7720 RPM. A retest this past weekend of the A40 plus 13 by 6.5 prop found that the unit still turned the prop at 7720 RPM.

A recent article in the Quiet Flier magazine listed the energy content of various fuels, including diesel fuel, gasoline, alcohol, and various batteries. The article listed energy content by Kilowatt hours per Kilogram of energy source.

Using the weight of the common model airplane Lipo battery as a reference, Diesel fuel has 70 times more energy per ounce, gasoline has 60 times more, methanol has 27.5 times more, as compared to an ounce of Lipo.

This would seem that electric models can't fly. But, one thing must be included, that is the efficiency of the

engine. Playing with numbers it looks like the common glow engine has an efficiency of about 8 or 10 percent.

Compare this to the brushless electric motor, which runs about 88% on the good ones.

So, comparing electric versus glow engines, the glow engines have about 150% more flight time per flight compared to electrics for the same weight, something that looks reasonable watching both of them fly.

Electrics have constant RPM while glow engines have constant torque while changing load on the engine. So, the glow engines have a very noticeable increase in RPM in a dive, where an electric can actually fly faster than the prop speed. When this happens, the prop will make a hard to describe, audible noise. Also, electrics can swing much larger, more efficient props than glow engines. And, electrics put out maximum power when taking off, which is where it is most needed on an average model.

Last, electric motors have ability to turn very slowly, creating drag, and making very smooth landings much easier to accomplish.

However, we've got a big problem putting electric motors into larger 1/4 scale type faster models. The horsepower required to fly a larger model skyrockets with the size of the model.

More on this next time.

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## Pilot Profile: Earl Evans

by Russell Knetzger

Like other older members, the path of Earl Evans' life, which is now 84 years, was greatly affected by World War II, and by his basic interest in aviation.

Born in northern Minnesota at Hibbing, but raised in Lake City MN and Minneapolis, MN, both on the Mississippi River, he graduated from a Minneapolis High School in the fateful year of 1941.

Somewhat in the fashion of the German training model, Earl enrolled in the National Youth Authority, with 6 hours a day classes and practice for aircraft maintenance, and 3 hrs. in the school's woodworking shop earning school tuition.

Graduating in the Spring of 1942, he shifted to war related duties with Northwest Airlines at Holman Field in St. Paul. His team outfitted new B-24 and B-25 bombers. The B-24s were modified to a pink-tan color for desert duty, and given extra oxygen capacity. The B-25s were given glycol windshield deicers for Arctic duty in Alaska. At only age 18, Earl was made crew chief of his team.

Wanting to serve more actively in the war effort, in November, 1942 he enlisted in the Army Air Force. Sent to Salt Lake City, Utah, then to Lowry Field, Denver, he was trained as a Norden Bombsight & Autopilot mechanic. But he and a few others got stuck with a unit near Savannah, GA, that would not release them to a unit that would utilize their skills, which would be an active European bomber air base. In a true "MASH" tactic, they got a friendly base clerk to get their transfer papers signed by mixing them in a stack of other papers.

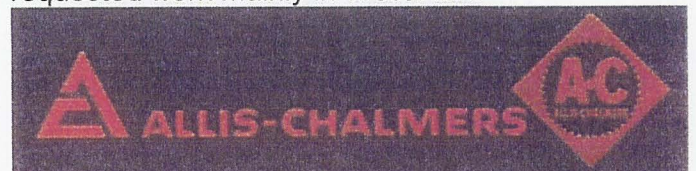
In August, 1943 they zig-zagged to Edinburgh, Scotland on the famed Queen Elizabeth ocean liner, but crammed in with 18,000 other troops, 12 to a state-room, shift sleeping 6 at a time. Also trained in England on the Sperry Triangulation Radio, a month after D-Day an LSI landed them on Utah Beach, France. Stuck in St. Mere Eglise awaiting transport, Earl hitched rides on Patton's Red Ball Express to Cherbourg, France, seeing the terrible devastation of French towns along the way. Once at a Depot Repair shop he got to do his work, first in France, then Liege, Belgium until V-E Day.

During a later 1945 month-furlough home to await Pacific duty, Earl married Delores Behslich. Luckily, new duty point rules earned Earl release from service. Earl took advantage of the G.I. Bill that winter to attend the Univ. of Minnesota, graduating in mechanical engineering in 3 years by utilizing all



*Earl Evans and his "Spad Gnat" combat model made from coro plast plastic sign stock, powered by the usual OS .15 engine, from plans in this newsletter.*

of the summer sessions. His first job was with EBASCO, a power plant construction & operating company. Assigned to Brazil for 2 years, daughter Lark was born there in 1949. In 1952 Earl returned his family to the USA, taking work with the turbine and generator division of Allis-Chalmers, in West Allis, WI. Linda was born in 1952, Stephen in 1956, and David in 1958, while the family lived for 35 years near S.68<sup>th</sup> & W. Rawson Av. The Allis job required world-wide travel to be part of the setup team for steam power turbine generators, until Earl requested work mainly in West Allis.



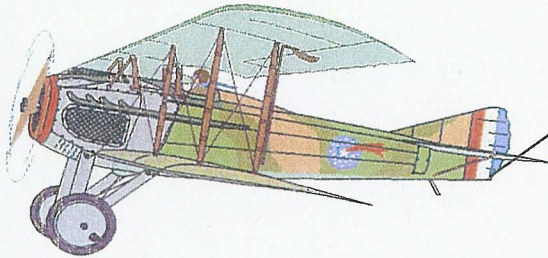
The Three-Mile Island nuclear plant accident created such a moratorium in power plant construction of all types, that Allis-Chalmers was forced out of the turbine generator business, selling to Siemens, a German rival. Unpleased with the condition of the West Allis facilities, Siemens built new in Florida. From 1984 to retirement in 1989, Earl worked at the Florida plant, and watched his first R/C flying. He and Delores moved in 1991 to their present home in eastern Muskego. Upon the death of Delores in Sept., 2006, after 4 years of home care by Earl, he joined the RAMS to take actual R/C flight training.

*RAMS Horn*, February 2008, Bill Stilley, Editor  
Rainbow Aero Modelers Society, Franklin, Wisconsin



# THE RAMS HORN

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## Inside This Issue

Presidents Column  
Club officers  
Minutes from last months meeting

page 1  
page 2  
page 3

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## Upcoming Events

Wednesday, February 6, 2008 RAMS Club Meeting 7PM  
Wauwatosa Savings Bank, 6560 S. 27<sup>th</sup> Street

### MEETING PROGRAM

***BUSINESS NIGHT- Budget, Dues, Fees & Elections***  
***(and maybe JETS NIGHT II)***

### FEBRUARY EVENTS

**Fox Valley Aero Club RC SWAP SHOP – St. Charles. IL**

**SATURDAY, FEBRUARY 23, 2008 9AM-3PM**

EXCEL GYMNASSTICS BLDG., 3N800 Peck Road (Corner of Dean & Peck Roads)

Opens 9AM - Admission \$5.00, Sellers Table Fees – \$12.50 Prepaid, \$15 at the Door

Contact Jim Toth, 1-847-888-8890 (fax.1-847-888-0992) [jimhaydu2@sbcglobal.net](mailto:jimhaydu2@sbcglobal.net)

### LOOKING AHEAD TO MARCH

APPLETON, WI SWAP MEET, Sunday March 2, 2008 “The Wave” Bar & Ballroom  
Take US 41 Freeway to CTH OO Exit (Wisconsin St.) West to Casaloma Dr, then South

Swap Opens 9AM, Auction at Noon, Contact Mike Moen, [mike54106@new.it.com](mailto:mike54106@new.it.com)

Saturday, March 22, 2008 DuPage Co. Fairgrounds, Wheaton, Illinois