THE FLIGHTLINE

RRCC 56 YEARS

RACINE R/C CLUB, INC. RACINE, WIS.

AMA CLUB 668 SINCE 1968
RACINE RADIO CONTROL CLUB INC SINCE 1968

RRCC April Issue
April 21, 2024 Newsletter

WE ARE ON THE WEB
www.racinercclub.com

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Racine R/C Club Meeting Minutes
March 17, 2024
Time: 1:00 PM
Location: R/C Flying Field

Open Meeting - Jim opened the meeting at 1:00PM. 22 members in attendance.

Welcome - New Members & Guests – Steve Willems of Kenosha came to the meeting and joined as a new member. Steve has flown RC airplanes and is into electric powered models.

Minutes - Last Meeting – There were no changes to the published minutes.

Reports

President- Jim Litwin reported there was good attendance at the club banquet and fun was had by all.

Vice President- Roger Nickolaus was not able to attend.

Secretary/Treasurer-Bob Johnson reported our checkbook balance remains strong and we are well positioned for any planned or unplanned club requirements.

Current membership as of this newsletter.

Senior Members	32
Open Members	10
Junior Members	3
Total	45

Newsletter Editor - Dennis Vollrath was unable to attend.

Field Chairman - Trygve Smalley was unable to attend.

Tractor Chairman - Eric Armantrout had nothing new to report.

Web Master-Ron Hayes had nothing new to report.

Safety Officer-Darrell Hossalla had nothing new to report.
Compost Director- Chuck Roberts reported there are 9 slots left open for the 2024 Compost Duty.
Old Business- Nothing to discuss.
New Business – Hoss reported that as of April 1st the club emails will be sent only to current 2024 members.
New Pilots – None
Show & Tell – Ron Hayes showed his new F14 (with Navy Colors). The model is powered by two ducted fan electric motors with retracts and swept main wing. Ron estimates the plane can reach speeds up to 120 MPH.

Rich Smentek has a Flex Piranha for sale. The plane is a pusher prop design. It's priced at $130.00 including battery and Aura.

Raffle Drawing – No raffle this month.
Close Meeting – Jim closed the meeting with a reminder the next club meeting will be April 21st at 1PM, at the field

Dennys Stuff

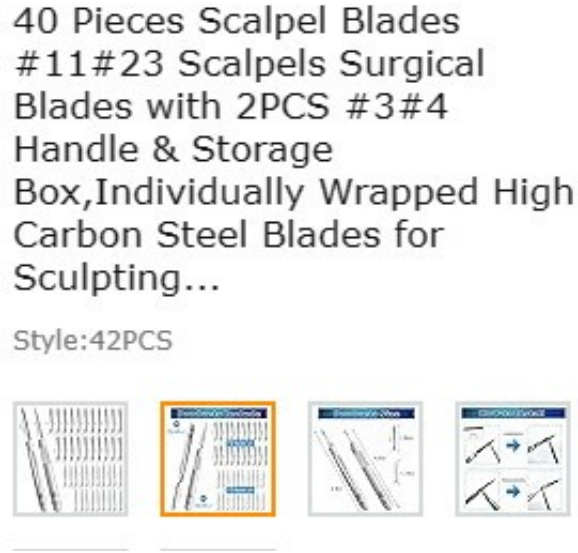
Over the past 60 years of flying models of all sorts, I've got a couple of tools that have become useful during that time period.

First, all of us have worked with those X-Acto knives over the years. And, have had big problems keeping the blade tight in the handle holder. Yeah, a real pain in the butt.

Well, Amazon along with many other places can be your friend with this stuff. Check out Amazon for Scalpels. These units have a handle where the blade locks into place, making it impossible to accidentally slip out of place.

Amazon has a kit of two different size scalpels and holders for only $8.00. This order has a large and a small handle. It comes in a nice plastic box.

While you are at it, pick up a couple of those razor saws from Hobby Lobby. And, add to this, a couple of home made wooden clamps that you can band saw cut to any shape needed. I've had mine for many years, and still find uses for them.



JIM'S CORNER

It appears that spring weather may have arrived. Warmer weather, and the anticipated wind! Some brave souls have gotten some flights in, but a lot of planes remain in the vehicles. That's OK. Calmer conditions are coming, the field will be active again.

As announced several times, the lock codes have been changed, and the new code is on your membership card. For most members it really doesn't matter, because the gate, the porta john, and the shelter are usually open by the early arrivers. It really counts when you need to open up at noon on compost day. Then you will need the code to access the gate & the keys.

As you can imagine, with all the rain, the field is "Damp" and the low areas are still pretty soft. The grass doesn't need cutting yet, and we don't dare roll the field until it's a little bit drier. The tractor will leave ruts and a good chance of getting stuck.

Everyone should be aware of the wildlife hanging around the field. We have two pair of geese in the area. One pair is roosting on top of the dead tree stump in the parking lot turn around area. The other pair seem to be staying in the pond on the east side of the entrance road.

Both pair are feeding on and around our field, but they do seem to leave when people are around. Several turkeys have also been spotted on the field. Don't chase them, we don't need the DNR accusing us of harassing wildlife!

I say it every month, so I'll say it again. Go over your planes and equipment. Check batteries, do they need replacement? Got enough props? Better to check everything at home rather than find a problem at the field, or after a mishap after a poor flight.

We have a club meeting this month on the 21st. Nothing major that I'm aware of. The following month we will be getting the field in shape, and taking down the shelter.
Hope to see you on the 21st.
Fly Safe & Have Fun

Jim Litwin
President

Dennys Stuff (SD memory cards)

More than a few of the RRCC membership has purchased one of those Spektrum nX series of transmitters. The nX10 for example uses what is designated as a "MicroSD" card that will plug directly into the bottom of the nX10 transmitter.

The nX10 uses this memory card when you backup all of your model files to the external SD card.

FYI, Spektrum requires that the memory size of the SD card be 32 GigaBytes or smaller. These smaller SD cards can be a bit difficult to find, but Amazon has them. To update the software on your nX series transmitter, go to SPEKTRUMRC.com, log in, download the update to your PC. Copy that file to your microSD card, insert that card to your nX transmitter, and turn on the transmitter. Wait 4 or 5 minutes. And, its done. To me, much simpler to do than WiFi.
Do note you CAN NOT have an old copy of the update file on your SD card, so if it exists, delete it first.

Note that the microSD card comes with an adapter that allows plugging it into your PC, or into your old DX8 or DX9 transmitters to copy old files.

Dennys Stuff

(I will have much more information on those external USB drives in the next newsletter. They include SD cards, USB thumb drives, disk type hard drives, Solid State drives, and even external DVD drives, all of which plug into your PC's USB port.)

Modern 2.4 Ghz radio systems.

The March issue covered a bit of information on those older 72 MegaHertz RC radio systems. These transmitters (and all radio frequency transmitters) send out a high frequency sinewave radio signal.

But transmitting only a "radio frequency tone" isn't of much use for our radios, or television, cellphones and anything else.

That sinewave radio signal must be modulated with some other signal. In the older 72 Mhz radios, that other signal was a much lower sinewave frequency on the order of audio frequencies. You couldn't do much more due to the limitations of the 72 Mhz frequency itself.

Now to the current days, we have cellphones and many other systems operating on 2.4 GigaHertz (2400 MegaHertz) frequencies. These much higher frequencies allows the radio designer to do much more than was allowed with the older radios before the 2.4 Ghz systems.

Very early on, in fact during the WWII era, Hollywood actress Hedy Lamarr invented an early "Spread Specktrum" frequency hopping type of modulation.

This operated by changing the transmitted frequency by a random number of different frequencies on an endless loop. It never saw much use for several decades due to the limitations of what was available at that time to make it work. That was known as "FHSS" or Frequency Hopping Spread Spectrum.

Today, the early Futaba and other RC radio systems used that narrow band FHSS modulation on their radio systems. It worked fairly well, but there were negatives to how they worked in the real world.

Now, Horizon Hobbies came up with their Spektrum radio series of RC equipment that uses "DSSS" (Direct Sequence Spread Spectrum) modulation of the transmitted radio signal.

This DSSS system is orders of magnitude more complex than the old FHSS systems. And, how it works can easily cover a small book.

That DSSS used by Spektrum and a few other RC manufacturers was not even possible before the age of those inexpensive microcontrollers that we can find in everything from your alarm clock, dishwasher, dryer, automobile, hearing aids, and countless other locations.

(A microcontroller is a single package microcomputer chip that has everything needed to operate inside that single chip. Compared to a microprocessor that requires external memory, addressing and far more components)

The DSSS functions involves high level mathematics to both modulate the transmitter radio signal, and demodulate that radio signal in the receiver.

Basically, the DSSS system modulates the 2.4 Ghz radio signal by a high frequency "Digital Security Binary Code" set up by the software in your Spektrum transmitter. Each transmitter has a different security Binary code.

That high frequency security code causes that 2.4 Ghz radio signal to become “Wide Band” about 1 MegaHertz wide as transmitted by your transmitter.

That 1 Mhz wide band width results in the receiver being completely unaffected by those old narrow band 2.4 Ghz radios years ago.

So, now we have that transmitted signal from your Spektrum transmitter that will be picked up by your Spektrum receiver.

That receiver will pick up every radio signal in the 2.4 Ghz radio band, including all of the WiFi signals and similar stuff.

Again, that Spektrum receiver has a tiny microcontroller that operates the tiny 2.4 Ghz receiver chip inside the Spektrum receiver.

That microcontroller drives the receiver chip, and causes that receiver chip to look for that 2.4 Ghz transmitted signal with the specific Digital Security Code.

Once the receiver’s 2.4 Ghz receiver chip and microcontroller finds that specific “Digital Security Code” it locks on to that signal.

And, the receiver treats every other 2.4 Ghz signal, even from another RC transmitter as “Noise” something that is digitally filtered out.

The original Spektrum DSM2 radios transmitted on two different one MegaHertz wide bands inside of the 2.4 Ghz radio channel.

Spektrum went to their current design which uses both the DSSS AND FHSS radio signals years ago. The current Spektrum transmitter transmits on over a dozen one Mhz wide channels inside that 2.4 Ghz frequency.
The Spektrum computer Engineers decided early on that every version of the Spektrum receiver had to be compatible with every version of the Spektrum transmitters. Do note that this statement is not true with some of the other very well known brands of RC radios.

One of the Spektrum software Engineers sent me a private email some years ago that indicated that Spektrum has a very big team of modelers and technicians that get advance copies of any software updates for analysis. Their job is to find any bugs or errors in their radios before the update (Or new radio system) is released to the public.

I suspect that some of those companies selling low cost radio systems do not do any of that debugging.

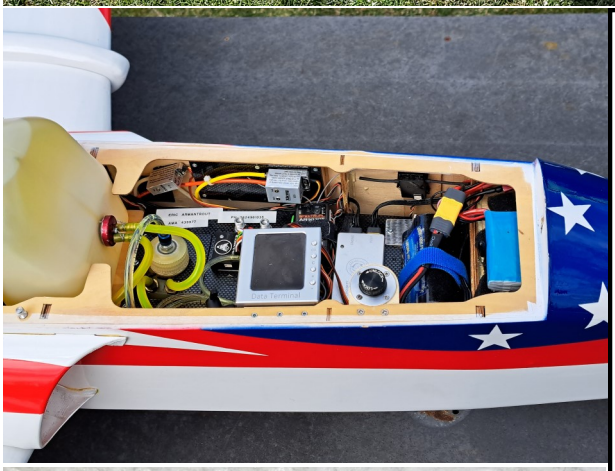
As previously mentioned, the overall background of this DSSS radio system is very complex, as can be found by googling the “Direct Sequence Spread Spectrum” radio systems. I’ve gone through those searches, and can understand maybe one half of it!

And, since our cellphones use similar radio systems, that’s why you never hear anyone else’s cellphone interfering with your cellphone.

Now, you can add to the previous pages, the 2.4 Ghz radios do not transmit any recognizable radio signal as monitored by an oscilloscope. Rather, our 2.4 Ghz radios transmit pages of data, repeating many times per second.
In that data is all of the joy stick information, switch info, telemetry, everything. And with digital signals, it is an easy job for the receiver to detect and ignore any errors in that received signal.

Next issue, those USB drives.

DennyV RRCC editor



Erics new Jet model airplane. Eric flew it earlier this month. It flew well, and it was FAST!! Eric admitted to be a bit nervous after a successful landing of the model.

At left is a 16 Gb micro SD card with the associated adapter to allow fitting it into a Spektrum DX9, your PC or other locations.

These microSD cards are available up to one TeraByte! ($22.00) As a comparison, a single 1 TeraByte thumb nail sized memory device will hold about 1500 CD's of music. That pretty much spelled the end of the Music CD's.

Date+K20l2	Time	Name(1)	Name(2)	Substitute
04/03/24	12-2	Darrel (Hoss) Hossalla		
04/03/24	2-4	Darrel (Hoss) Hossalla		
04/03/24	4-6	Dennis Krzyzanek		
04/10/24	12-2	Roger Nickolaus		
04/10/24	2-4	Roger Nickolaus		
04/10/24	4-6	Dennis Vollrath		
04/17/24	12-2	Roger Nickolaus		
04/17/24	2-4	Darrel (Hoss) Hossalla		
04/17/24	4-6	Dennis Vollrath		
04/24/24	12-2	Trygve Smally		
04/24/24	2-4	Rich Smentek		
04/24/24	4-6	Dennis Vollrath		
05/01/24	12-2	Terry Peterson		
05/01/24	2-4	Rich Smentek		
05/01/24	4-6	Tim Brehm		
05/08/24	12-2	Chuck Roberts	Helmut Schmidtke	
05/08/24	2-4	Chuck Roberts	Helmut Schmidtke	
05/08/24	4-6	Chuck Roberts	Helmut Schmidtke	
05/15/24	12-2	Tim Brehm		
05/15/24	2-4	Rich Smentek		
05/15/24	4-6	Tim Brehm		
05/22/24	12-2	Terry Peterson		
05/22/24	2-4	Jason Fisher		Steve Knackert
05/22/24	4-6	Trygve Smally		
05/29/24	12-2	Trygve Smally		
05/29/24	2-4	Steve Knackert		
05/29/24	4-6	Justin Francisco		
06/05/24	12-2	Mat Holl		
06/05/24	2-4	Steve Knackert		
06/05/24	4-6	Justin Francisco		
06/12/24	12-2	Mat Holl		
06/12/24	2-4	Steve Knackert		
06/12/24	4-6	Justin Francisco		
06/19/24	12-2	Jerry Rose		
06/19/24	2-4	Ray Fisher		
06/19/24	4-6	Ray Fisher		
06/26/24	12-2	Jerry Rose		
06/26/24	2-4	Jerry Rose		
06/26/24	4-6	Dan Pozel		
07/03/24	12-2	Jeff Lee		
07/03/24	2-4	Jeff Lee		
07/03/24	4-6	Jeff Lee		
07/10/24	12-2	1		
07/10/24	2-4	Ray Fisher		
07/10/24	4-6	Ray Fisher		
07/17/24	12-2	Mat Holl		
07/17/24	2-4	Jason Fisher		Steve Knackert
07/17/24	4-6	Dan Pozel		
07/24/24	12-2	Steven Navone		
07/24/24	2-4	John Boldt	Steven Navone	
07/24/24	4-6	Steven Navone		
07/31/24	12-2	2		
07/31/24	2-4	Jason Fisher		Steve Knackert
07/31/24	4-6	John Boldt		

Date	Time	Name(1)	Name(2)	S
08/07/24	12-2	John Boldt		
08/07/24	2-4	Gary Bokowy		
08/07/24	4-6	Ed Jenkins		
08/14/24	12-2	Ed Jenkins		
08/14/24	2-4	Marv Tridle		
08/14/24	4-6	Dan Pozel		
08/21/24	12-2	Terry Peterson		
08/21/24	2-4	3		
08/21/24	4-6	Ed Jenkins		
08/28/24	12-2	4		
08/28/24	2-4	Wayne Greisen		
08/28/24	4-6	Gary Bokowy		
09/04/24	12-2	Bob Johnson		
09/04/24	2-4	Marv Tridle		
09/04/24	4-6	Gary Bokowy		
09/11/24	12-2	Bob Johnson		
09/11/24	2-4	Wayne Greisen	Bob Johnson	
09/11/24	4-6	5		
09/18/24	12-2	6		
09/18/24	2-4	Wayne Greisen		
09/18/24	4-6	Eric Armantrout	Roman Kirykowiez	
09/25/24	12-2	7		
09/25/24	2-4	Marv Tridle	Jim Houtsinger	
09/25/24	4-6	8		
10/02/24	12-2	Jim Litwin		
10/02/24	2-4	Jim Litwin	Jim Houtsinger	
10/02/24	4-6	Jim Litwin	Roman Kirykowiez	
10/09/24	12-2	Rich Stapeton		
10/09/24	2-4	Rich Stapeton	Jim Houtsinger	
10/09/24	4-6	Rich Stapeton		
10/16/24	12-2	Bill Fannery		
10/16/24	2-4	Mike Stein	Carl Bergquist	
10/16/24	4-6	Eric Armantrout	Roman Kirykowiez	
10/23/24	12-2	Buzz Paricka		
10/23/24	2-4	Buzz Paricka		
10/23/24	4-6	Carl Bergquist		
10/30/24	12-2	Buzz Paricka	Ron Hayes	
10/30/24	2-4	Ron Hayes	John Boticki	
10/30/24	4-6	Ron Hayes		
11/06/24	12-2	Mike Stein		
11/06/24	2-4	Mike Stein	John Boticki	
11/06/24	4-6	Eric Armantrout		
11/13/24	12-2	Jim Strelitzer		
11/13/24	2-4	Carl Bergquist	John Boticki	
11/13/24	4-6	Jim Strelitzer		
11/20/24	12-2	Bill Fannery		
11/20/24	2-4	Bill Fannery		
11/20/24	4-6	Jim Strelitzer		
		1		

COMPOST DUTY ROSTER

Date+K20I2	Time	Name(1)	Name(2)	Substitute
04/03/24	12-2	Darrel (Hoss) Hossalla		
04/03/24	2-4	Darrel (Hoss) Hossalla		
04/03/24	4-6	Dennis Krzyzanek		
04/10/24	12-2	Roger Nickolaus		
04/10/24	2-4	Roger Nickolaus		
04/10/24	4-6	Dennis Vollrath		
04/17/24	12-2	Roger Nickolaus		
04/17/24	2-4	Darrel (Hoss) Hossalla		
04/17/24	4-6	Dennis Vollrath		
04/24/24	12-2	Trygve Smally		
04/24/24	2-4	Rich Smentek		
04/24/24	4-6	Dennis Vollrath		
05/01/24	12-2	Terry Peterson		
05/01/24	2-4	Rich Smentek		
05/01/24	4-6	Tim Brehm		
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05/08/24	2-4	Chuck Roberts	Helmut Schmidtke	
05/08/24	4-6	Chuck Roberts	Helmut Schmidtke	
05/15/24	12-2	Tim Brehm		
05/15/24	2-4	Rich Smentek		
05/15/24	4-6	Tim Brehm		
05/22/24	12-2	Terry Peterson		
05/22/24	2-4	Jason Fisher		Steve Knackert
05/22/24	4-6	Trygve Smally		
05/29/24	12-2	Trygve Smally		
05/29/24	2-4	Steve Knackert		
05/29/24	4-6	Justin Francisco		
06/05/24	12-2	Mat Holl		

01/21/24	Sunday	Club Meeting		07/22/24	Mon-Sun	EAA Kid Venture
02/18/24	Sunday	Club Meeting		08/03/24	Saturday	Bong Eagles Free Flight
03/02/24	Saturday	Awards Banquet		08/03/24	Saturday	Marks Float Fly
03/17/24	Sunday	Club Meeting		08/04/24	Sunday	Circle Masters
04/01/24	Monday	Change Lock Codes		08/10/24	Saturday	Electrons Boy Scouts
04/06/24	Saturday	Model Engine Collector		08/15/24	Thur-Sat	Fon Du Lac War Birds
04/14/24	Sunday	Club Meeting		08/18/24	Sunday	Fon Du Lac Fun Fly
05/19/24	Sunday	Club Meeting		08/18/24	Sunday	Club Meeting
06/01/24	Saturday	Shelter Tear Down		08/24/24	Sat-Sun	Circle Masters Demo
06/01/24	Saturday	Circle Masters		08/25/24	Sunday	Open House
06/08/24	Saturday	Fon Du Lac Fun Fly		09/07/24	Saturday	Electrons Fly/Swap
06/09/24	Saturday	Club Meeting		09/08/24	Sunday	Watertown Demo
06/22/24	Saturday	Sky Ranch		09/14/24	Sat-Sun	Electrons Pattern
07/06/24	Saturday	Bong Old Timers		09/22/24	Sunday	Club Meeting
07/06/24	Saturday	Pebble Creek Flyers		10/05/24	Saturday	Shelter Set up
07/07/24	Sunday	Electrons Scale		10/19/24	Sat-Sun	Maker Faire
07/13/24	Saturday	Astrowings Charity		10/20/24	Sunday	Club Meeting
07/20/24	Saturday	Rams Helicopers		11/17/24	Sunday	Club Meeting
07/21/24	Sunday	Electrons Electric fly in		12/15/24	Sunday	Club Meeting
07/21/24	Sunday	Club Picnic – No Meeting				

Tentative 2024 Schedule