



# THE FLIGHTLINE



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

**RRCC July Issue**  
**NEXT MEETING July 19th 2020!**

**WE ARE ON THE WEB**  
**[www.racinerclub.com](http://www.racinerclub.com)**

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Editors Note: I had hand surgery on my right hand on July 6th, so I did most of the newsletter on July 5th. Things might be a bit out of order in the newsletter.

**JIM'S CORNER**

Well, we were complaining about the cold weather a few months ago, and not they are suggestion that members bring frozen pizzas to the field on Sundays, and place them on their car hoods to bake them! Lately it has been really warm and you need to make sure you stay hydrated.

The normal club picnic has been postponed, so there will be a club meeting at the field on Sunday, July 19 at 1:00 PM. Up for discussion is the decision as to whether or not to have a 2020 picnic, and a 2020 Open House event. This all revolves around the Covid19 issues.

The field is in great shape, and flying at 9 AM or early evenings seems to be getting a little more popular with the midday temperatures and humidity being a little uncomfortable.

Other than the weather to complain about, the flying field is in good shape and club issues are minimal.

At our last meeting our club Secretary / Treasurer Ed Witt indicated that he will be stepping down from his position at election time in November.

It is difficult to operate the club without a Secretary / Treasurer, so if you are interested in seeking the position, contact Ed as to what the duties really are, and let me know of your interest.

Members are doing a pretty good job of “social distancing” at the field, and I am unaware of any club member getting sick.

Hope to see you at the next club meeting.  
Fly Safe & Have Fun  
Jim Litwin  
President.

Editors note: Jim reports that Sunday July 5th was a bad day at the field. Three members lost their models, one would not run right, and another nearly lost his model.

Dang, hate to hear that.

DennyV

Time for a little bit of history on our RC flying models. Your editor started flying RC in 1963, with something called a “Galloping Ghost” system. The single servo moved back and forth several times a second, with the average position setting the rudder function.

In between, the elevator also moved up and down, resulting in the model see-sawing through the air. It did work, and was the best available at the time. But, the model was visibly “Galloping” through the air, which is where that term “Galloping Ghost” name of the RC system came from.

This photo shows the receiver that was used on the GG system. It has a single relay as an output. These radios operated on the old Citizens Band frequency, where anyone on a CB radio within a mile or two of your model could shoot you down.

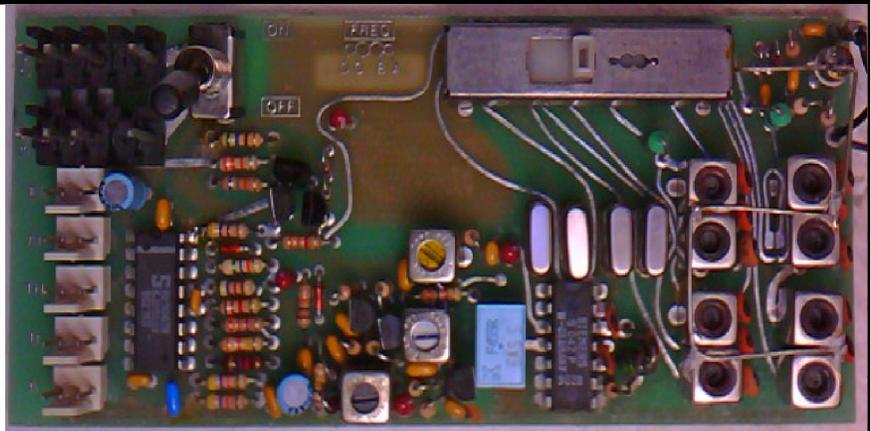
Note that the receivers of this era



used “Stand Up” components that were very vulnerable to vibration breaking off the leads of the electronic components. Failures were common, and for my models, the average mean time between radio failures and crashes was less than 100 flights.

This receiver was designed as a kit, where the modeler had to build up the receiver from instructions for soldering all of the components to the circuit board. And, I built up this one.

Here is an early receiver that was pulled out of an old model airplane that was donated to the RC club awhile back. It seems to be an odd ball. The big slide switch at the top right of the circuit board has four positions.



I checked the receiver crystal frequencies on my 100 Mega Hertz frequency oscilloscope.

The first two positions sets up the receiver

for the Ham radio frequency band. The second two positions sets up the receiver for the Citizens Band radio frequencies. Very odd.

Here is an early Hitec receiver I have that operated on the old 72 MegaHertz frequencies.



We started off with around a dozen frequencies back in the 1960's on what was called the "Wide Band" receiver systems.

After a few years, that expanded to a "Narrow Band" receiver system that allowed somewhere around 40 or 50 channels.

These receivers operated in the area of some of the television frequencies, and there were some issues on interference. They also operated in the radio paging frequencies that added to the problems. But, that was what we had back in that time period.

Note the odd ball connector for the servos. The servo pins were male, with an odd spacing to prevent inserting them backwards. I've still got one or two of those old servos.

Again note that all of these old radios used those "Stand Up" components that were very vulnerable to vibration issues.

Those 5 square devices with the screw driver slot were the radio frequency coils that were used to tune the receiver to its respective transmitter. They had to be fixed in place with wax to prevent them from shifting due to vibration.

Many of our club members are well familiar with interference from someone else turning on his transmitter on your transmitter frequency on those old radios. That usually resulted in the loss of your model airplane.

Shown at the right is a modern day 2.4 Ghz (That's 2.4 GigaHertz or 2,400,000,000 cycles per second) receiver.

Note that ALL of the electronic components of the old receivers, including the tuning circuitry, the servo decoding, everything, is contained in the two black square integrated circuits!

The left square block contains all of the radio circuitry. This integrated circuit is bi-directional, the receiver is also talking to your transmitter.

The smaller square integrated circuit is the MicroController that controls the operation of that larger IC. Also included in the circuit is a crystal at the top left of the circuit board, along with a 3.3 Volt voltage regulator in the middle top of the photo. And, add a half dozen capacitors.

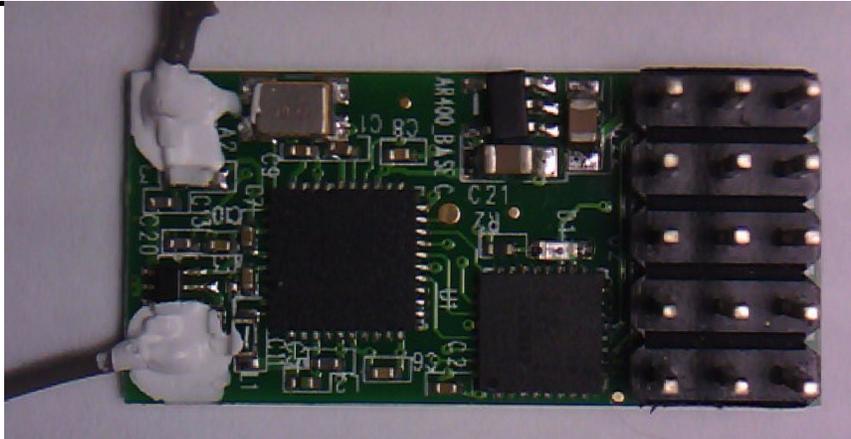
That 3.3 Volt regulator determines the minimum operating voltage of the battery input to the receiver. Go much below 3.3 Volts on the receiver battery input, and the receivers Microcontroller will reboot itself.

Note the two leads on the bottom and top left of the receiver. These are the very short antennas for the receiver.

These are NOT simple pieces of wire, but are actually short pieces of shielded wire that has a very small internal signal wire, and a wire mesh outside conductor.

If one is broken off, a simple piece of wire won't work.

As us old timers are well aware, these new 2.4 Ghz radios are very immune to inter-



ference. Their operating principle is somewhat like how your cellphone works.

The Spektrum radios have been in production for well over 10 years. Early on, Spektrum received a patent on their "Model Match" technology, where if your transmitter chosen model doesn't match the model about to be flown, that model won't move.

That isn't true on some of the other brands of RC radio systems.

The early Spektrum receivers were a bit vulnerable to undervoltage on their battery input due to inadequate receiver power. This issue is a direct result of higher powered servos being powered by those AA sized NiMH receiver battery packs.

Now, our RC club has pretty much gone to those A123 receiver batteries, that has pretty much eliminated any undervoltage issues for the receiver.

Also note that all of the components on these receivers is what is called a "Surface Mounted" technology. They are all soldered on the circuit board completely flat, where vibration has little effect on these surface mounted components.

DennyV

RRCC Editor

## **Racine R/C Club Meeting Minutes**

Sunday: June 14, 2020

Time: 1:00 PM

Location: R/C Flying Field

### **Open Meeting - Welcome - New Members & Guests**

– The club welcomed our new members from the Lake County RC field. Welcome aboard Arland, Richard, Charles, Steve and Terry.

### **Minutes - Last Meeting –Reports**

Due to Covid-19 there was no meetings in April and May. Minutes from March meeting accepted as written.

**President** –Jim opened the meeting by welcoming everyone in attendance for being out and about after a few months' hiatus. He was happy to report that there have been no reports of any members getting sick. He expressed that social distancing helps and thanked everyone who has come to field for doing their part.

Jim went on to highlight a few of the many improvements to the field and equipment that took place over the past few months.

**Vice President** – Roger had nothing to report

**Secretary / Treasurer** – The club membership was reported as following. Regular 16, Senior 36, Junior 3, and non-flyer 3 Total 57

**Safety Officer** – Not present

**Field Chairman** – Hoss thanked Jim, Rich and Tryge for mowing and keeping the field trimmed. In addition, a work party sprayed the field for weeds and Jim replaced mesh wire under shed area with sheet metal to deter the birds from nesting in this area.

**Newsletter Editor** - Denny had nothing to report. He did have copies of the current roster to hand out.

**Tractor Chairman** – Eric highlighted the following equipment improvements done over the past two months.

- Field roller bearings rebuilt by Jerry Rose

- Eric rebuilt a roller hitch assembly

- Roger built a Pintle hitch system for the rollers

- Battery changed in mower

New blades purchased for the mower as approved last fall

**Compost Director** – Jerry reviewed an incident that occurred at the compost site concerning the importance of assuring that the gate is properly latched in the open position when entering. In brief a village compost worker failed to secure gate in open position. A wind gust opened the gate and caused damage to woman's car as she passed by it.

Jerry also emphasized that orange or yellow vests are worn to make us visible while working compost duty. Be Safe!

**Web Master-** Justin had nothing to report

**Old Business-** Nothing

**New Business** – Jim opened a discussion on cancelling the clubs two summer social events (July Picnic & August Open House) due to covid-19 concerns. After discussion both pro and con to cancelling and/ or moving events to latter dates a proposal was made to postpone discus-

sion until the July meeting. This proposal was seconded and passed by a unanimous voice vote.

**New Pilots** – None

**Show & Tell** – Eric had for display a Bang-good North Star foam jet. He expressed that it was a fun foamy to fly and priced right at \$127.

Roman had for sale a JR 9503 transmitter for parts \$25

Denny had on display his prop balancer featured in newsletter.

**Raffle Drawing** – Pete was the winner of \$18 which he donated back to club.

**Close Meeting** – Jim closed the meeting with a reminder that the next meeting will be July 19<sup>th</sup> at 1PM since the picnic has been put hold for the near future.

### **Dennys Stuff**

Some of our RC members have picked up one of my “SwitchIR” meters that can be used to check the quality of your receiver switches along with the integrity of your servo extensions.

I just purchased a dozen more circuit boards for this project, and can build up more of them for club members that would like to have one.

Again, I’m building these devices at cost, and am restricting them to the active model fliers of the members of our RRCC club.

This project, along with many other of my electronic projects is posted in the RCGroups website.

<https://www.rcgroups.com/forums/showthread.php?3590441-Switch-IR-meter-revisited>.

### **Dennys Stuff**

I took my Electric Escapade model out to the field a few weeks ago for the first flights of the year. And, immediately found a big problem with one of the flap servos.

Operating the flap switch caused that flap servo to repeatedly go from full flap to no flap to full flap several times a second.

Unplugging and replugging that servo several times seemed to make it work OK, so I put two flights on it, without activating the flaps. And, all was OK.

At home, I checked that servo extension with my SwitchIR meter. Normally, these extensions measure around 60 MilliOhms. The servo extension in the Escapade measured 254 MilliOhms.

I tried a brand new Hitec 645MG servo in that same servo extension, it was unaf-

ected. Going back to the original Hitec 645MG servo resulted in repeating that wild swinging of the flap control surface.

So, some experimenting was next, to see just how much resistance in the black wire of the servo extension would cause the servo to fail.

The experimenting showed that anything over 150 MilliOhms on that original servo set it off. The brand new servo was not affected with 1000 MilliOhms resistance manually inserted into the same black wire of the servo extension.

Bottom line, if you have an older Hitec 645MG servo that is intermittent on a high resistance servo extension, get rid of that servo. Apparently there was a design change in that servo a few years ago.

DennyV  
RRCC editor

## Milwaukee Association of R/C Clubs 2020 Event Schedule (Reflecting known cancellations at this time)

***(Copied from Marks newsletter, thanks Charlie!)***

Sat Apr 11	Model Engine Collector's Assn)	Collector and Hobby Swap Meet
Sun Jun 7	Circle Masters Flying Club	Control Line Open Fun Fly
Sat Jun 13	Flying Electrons	Club-Only Fun Fly
Sat Jun 13	Fond du Lac Aeromodelers Assn	Open Fun Fly
Sun Jun 28	Flying Electrons	Electric Only Event
Sat Jul 11	Astrowings of Wisconsin	Charity Fun Fly
Sun Jul 12	Flying Electrons	Scale Event
Sat Jul 25	Lakeland RC Club	Fly-In
Sun July 26	Flying Electrons	60th Anniversary Celebration
Sun Aug 2	Circle Masters Flying Club	Annual Control Line Contest
Sat Aug 8	Milwaukee Area Radio Kontrol Society	Float Fun Fly DNR Bong
Sat Aug 8	Rubicon Area Flyers	Fun Fly Thu
Aug 13 - 15	Fond du Lac Aeromodelers Assn.	Warbirds and Classics
Sun Aug 16	Fond du Lac Aeromodelers Assn	Wellnitz Memorial Open Fun Fly
Sat Aug 22	S.E. Wisconsin Area Rotary Modelers	Friend Fly
Sun Aug 23	Racine RC Club	Open House
Sat Aug 29-30	Circle Masters Flying Club	Demo Flying, Sussex Farm Show
Sat Aug 29	Flying Electrons	Air fest, Fly-In Benefit Troop #110
Sat Sept 12	Flying Electrons	Fly-In and Swap Meet
Sun Sept 13	RC Club at Watertown Airport	Open house, breakfast, flying
Sat Sep 19-20	Flying Electrons	Pattern Contest
Sat Sep 26	RAMS and	Joint Club-Only Picnic
Sat Sep 26-27	All clubs are invited to participate	Maker Faire
Sat Oct 10	Model Engine Collectors' Assn)	Collector and Hobby Swap Meet

# COMPOST ROSTER 2020

Date	Time	Worker	Date	Time	Worker	Date	Time	Worker
05/20/20	12-2	Tim Hady	07/15/20	2-4	Justin Francisco	09/16/20	12-2	Craig Manka
05/20/20	2-4	Rich Smentek	07/15/20	4-6	Justin Francisco	09/16/20	2-4	Craig Manka
05/20/20	4-6	Dan Pozel	07/22/20	12-2	Roger E Olsen	09/16/20	4-6	Ron Dixon
05/27/20	12-2	Jim Litwin	07/22/20	2-4	Roger E Olsen	09/16/20	4-6	Eric Armantrout
05/27/20	2-4	Jim Litwin	07/22/20	4-6	Raymond Redlin Sr	09/23/20	12-2	Stephen Knackert
05/27/20	4-6	Jim Litwin	07/29/20	12-2	Dennis Vollrath	09/23/20	2-4	Rich Smentek
06/03/20	12-2	Carl Bergquist	07/29/20	12-2	Steven Daniels	09/23/20	4-6	Donald Parkinson
06/03/20	2-4	Ray Fisher	07/29/20	2-4	Steven Daniels	09/30/20	12-2	Bill Flannery
06/03/20	4-6	Richard Stapleton	07/29/20	2-4	Dennis Vollrath	09/30/20	2-4	Bill Flannery
06/03/20	4-6	Trygve Smalley	07/29/20	2-4	Rich Smentek	09/30/20	4-6	Bill Flannery
06/10/20	12-2	Buzz Paricka	07/29/20	4-6	Trygve Smalley	10/07/20	12-2	Bob Lupia
06/10/20	12-2	Helmut Schmidtke	08/05/20	12-2	William (Oz) Miller	10/07/20	12-2	Ronald Schroeder
06/10/20	2-4	Helmut Schmidtke	08/05/20	12-2	Charles Brzezicki	10/07/20	2-4	Bob Lupia
06/10/20	2-4	Buzz Paricka	08/05/20	2-4	Charlie Reich	10/07/20	4-6	Donald Parkinson
06/10/20	4-6	Roman Kirykowicz	08/05/20	2-4	Charles Brzezicki	10/14/20	12-2	Larry Petricek
06/17/20	12-2	William Wampler	08/05/20	4-6	Daniel Fucile	10/14/20	2-4	Larry Petricek
06/17/20	12-2	Terry Peterson	08/12/20	12-2	Gary Bokowy	10/14/20	4-6	Larry Petricek
06/17/20	2-4	William Wampler	08/12/20	12-2	Arland Matson	10/21/20	12-2	Roger Nickolaus
06/17/20	4-6	Roman Kirykowicz	08/12/20	2-4	Charlie Reich	10/21/20	2-4	Roger Nickolaus
06/24/20	12-2	Carl Bergquist	08/12/20	4-6	Daniel Fucile	10/21/20	4-6	James Martinich
06/24/20	12-2	Terry Peterson	08/19/20	12-2	Gary Bokowy	10/28/20	12-2	Ron Burden
06/24/20	2-4	Ray Fisher	08/19/20	12-2	Arland Matson	10/28/20	12-2	Dennis Krzyzanek
06/24/20	4-6	Ray Fisher	08/19/20	2-4	Charlie Reich	10/28/20	2-4	Ron Burden
06/24/20	4-6	Richard Stapleton	08/19/20	4-6	Daniel Fucile	10/28/20	2-4	Dennis Krzyzanek
07/01/20	12-2	Stephen Knackert	08/26/20	12-2	Wayne Greisen	10/28/20	4-6	James Martinich
07/01/20	12-2	Jerry Rose	08/26/20	2-4	Wayne Greisen	11/04/20	12-2	Douglas Karge
07/01/20	2-4	Jerry Rose	08/26/20	4-6	Wayne Greisen	11/04/20	2-4	Douglas Karge
07/01/20	4-6	Matthew Holl	09/02/20	12-2	Ronald Schroeder	11/04/20	4-6	Peter Redel
07/01/20	4-6	Raymond Redlin Sr	09/02/20	12-2	James Levandoski	11/11/20	12-2	Thomas Dremel
07/08/20	12-2	William (Oz) Miller	09/02/20	2-4	Ronald Schroeder	11/11/20	2-4	Thomas Dremel
07/08/20	12-2	Jim Hiett	09/02/20	2-4	James Levandoski	11/11/20	4-6	Peter Redel
07/08/20	2-4	Tim Hady	09/02/20	4-6	Raymond Redlin Sr	11/25/20	12-2	James Strelitzer
07/08/20	2-4	Jim Hiett	09/09/20	12-2	Edward Witt	11/25/20	2-4	James Strelitzer
07/08/20	4-6	Dan Pozel	09/09/20	12-2	Darrel (Hoss) Hossalla	11/25/20	4-6	James Strelitzer
07/08/20	4-6	Trygve Smalley	09/09/20	2-4	Edward Witt	12/02/20	12-2	Steven Navone
07/15/20	12-2	Matthew Holl	09/09/20	2-4	Darrel (Hoss) Hossalla	12/02/20	2-4	Steven Navone
07/15/20	12-2	Charles Roberts	09/09/20	4-6	Ron Dixon	12/02/20	4-6	Steven Navone
07/15/20	2-4	Charles Roberts	09/09/20	4-6	Eric Armantrout			