

Ampeer

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Ampeer subscriptions are \$10 a year US & Canada and \$17 a year world wide.	The Next Meeting: Date: Thursday, June 3 Time: 7:00 or ASAP Place: South Lyon Flying Field on Rushton Rd.	

What's In This Issue:
Mid-Am PREVIEW – Transmitter Warning – High Wing vs Low Wing – Throttle Setup
Tester – Whatt Meter – Profile Bearcat & Sonic Blast – Someone IS listening – Hammerhead
Soldering Tips – 500ARs? - eBay warning – Gordy Cells

Mid-Am '98

Okay, so here is a blatant promo for the upcoming Mid-Am '99. Doug Ward wrote up this review of the '98 event for Watts Current, Sept. '98. I thought it might be a good time to share it with you all and invite all of you to attend the Mid-America Electric Flies, 1999. Km

Here is this reviewer's view of the superb Mid-America Flies meet which took place over the July 11-12 weekend (1998 Km). The weather was mostly perfect unless you were into slow flyers such as **Phil Smith's** masterpiece of lightness shown in the picture below:

Phil offered me the following data on his electric-powered indoor/outdoor



radio controlled model: Flying weight-10 oz.; Flying speed-seven mph; Wing Area-seven square feet; Wing loading - 1.4 oz per square foot. The picture of the model in the air was taken early Sunday morning in a very light breeze which the designer described as the practical limit for his model's ability to handle moving air. Quite an achievement!



The above photo is of a new twist on an old-time classic, the *Custom Cavalier*, which was kitted in a single-engine version by Berkeley in the 1930s. It was an awe some package which modelers seemed to crave, but I only saw one or two actually fly. This model belongs to **Bob Livin** and he powers it with two geared Astro 15s, sport wind, each turning a 13x8 prop and running on 20 cells. It has a nine-foot wingspan and ready-to-fly weighs nine pounds 12 oz. The wing pos -

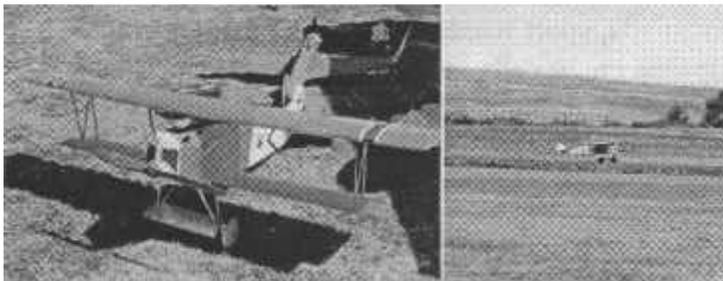
sesses 1016 square inches of floativity. Additionally, **Bob** has equipped it with working ailerons, something not found on the original model. This is a beautiful piece of model work.

Pictured below is **Les Garber** whose expertise as a modeler is known far and wide. He is holding an auto-gyro, one of his recent forays into the difficult. To launch



this thing you gotta run fast across the field to get the rotor to spin rapidly enough to become a wing. It has no power of its own and remains spinning only so long as the model moves through the

air. That's right, it all comes from the motor in the front driving a conventional propeller. He ran, he threw and it flew superbly. Les has never failed to catch my interest after having seen him last year at this same meet with a *Bleriot* which also demonstrated his skill as a modeler/flyer.



If you were at the Toledo show this year, you probably caught a glimpse of **Dave Grife's Fokker D7** which he built from a Proctor kit. It contains 36 cells — Sanyo 2000s—which drive an Astro 60 w/Superbox and weighs in at 24 lbs. The 24x16 prop turns at 4000 rpm and consumes juice at the rate of 40 amps. The controller is an Astro 204. All this provides **Dave** with a four-minute flight time, more or less, depending upon throttle usage.

What a sight to behold in the air or on the ground! Whatever paint he used to finish the model gave it a brilliant red and white against the bright blue Michigan sky. The picture on the right shows the warrior coming in for a landing.

I was lucky enough to get an air shot of **Keith Shaw's Fokker D8**, but for some unknown reason I haven't got anything to show for a picture of it on the ground. The two airborne photos below will give some



sense of what this fine model looks like in flight.

It, too, had a spectacular color scheme of olive drab, red and white and really sparkled in the afternoon sky.

The All Up Last Down event attracted a lot of glider guiders who launched simultaneously but did not come back that way. The three finalists were **Ken Bates** (1st), **John McCullough** (2nd) and a flier with the first name of **Helmut** (3rd).

Since I was timing and observing for **John**, I cannot say exactly how long he stayed aloft but it seemed like nearly a week.



As for the winner (pictured at left), he pushed his sailplane up so high it was less than a quarter inch in wingspan and he just stayed there, taunting the others to come up and join

him if you could see that well. I understand that **Ken** carried about four hours battery capacity, but, then, that could just have been a rumor with the intent to demoralize. It was all over in a little less than two hours.

The meet this year attracted a record 80 registered pilots and the numbers of spectators also seemed to be on the rise. Prize drawings took place on both days and Saturday evening offered a cook-out for all the hungry pilots and family members who stayed on for the feast.

The site for this contest can be reached in five hours from Irwin via the Pennsylvania and Ohio Turnpikes. When you get near Toledo, turn right and go straight north. You'll be O.K. There is always room for more, so try to put this meet on your flight plan for next year (*this year Km*).

Finally, here are a couple of additional pictures from the meet. The airplane is an electric *Sukhoi* built, I believe by **Jack Sowle** whose name I had to read from the



photo. It is powered by a MaxCim brushless motor and I don't have any further information. It was a very impressive airplane.



To **Keith** (left) and **Ken**, we all owe a round of applause. I know I'll be there next year. How about you? (How about joining us this year? Km)

Use of Mobil Telephones in Proximity to Electronically Programmed Transmitters

From: Warren Plohr
email: hwplohr1@worldnet.att.net

For those of you who don't know Warren, he's long been involved with the AMA frequencies and is very knowledgeable in this area.

Source: Journal of British Model Flying Association, <http://www.BMFA.org>

Following our notice in the 9th October, 1998 Club Bulletin concerning the use of mobile telephone in proximity to electronically programmed transmitters, we have had several requests for clarification and further information.

The JRCUC has reported that there may be a problem associated with operating mobile telephones in the close proximity of programmable transmitters causing the memories to be partly or fully erased. This problem has yet to be scientifically substantiated; however, it is generally known that RF radiation can disable or permanently damage some modern electronic devices.

Although the risk may be small, we believe it should be minimised by bringing it to the attention of members and clubs. Pending resolution, we recommend that mobile telephones are not operated in either receive or transmit mode within 10 feet of any programmable

transmitter. This may appear to be overkill, but better safe than sorry! Care should be taken during pre-flight checks to ensure that all controls are operating fully and in their correct sense to ensure that the memory has not been affected by any unknown transmissions since the last flight.

Some programmable transmitters use a lithium battery to maintain the memory when the transmitter is switched off. Should the memory back up battery fail, the memory can be erased but this would be usually accompanied by an audio and/or visual warning. The memory cannot fail whilst the transmitter is switched on as it is then powered by the nicad batteries. In the unlikely even of having problems with your programmable memory, refer to your equipment supplier or handbook for advice.

HIGH WINGS versus LOW WINGS

by Clay Ramskill

Loops and Lies, March 1999

Rich Ida editor

We finally master our high wing trainer, or trash it, whichever comes first. Maybe then we build a shoulder wing plane.

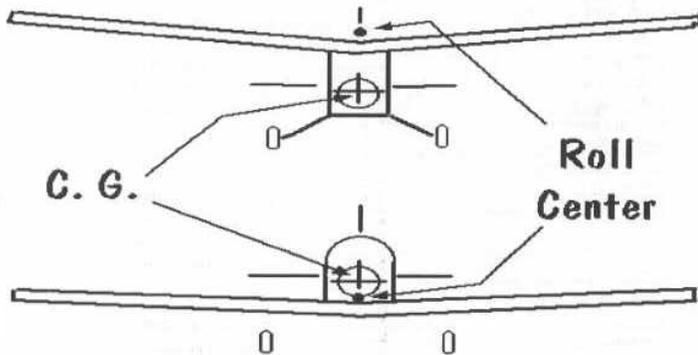
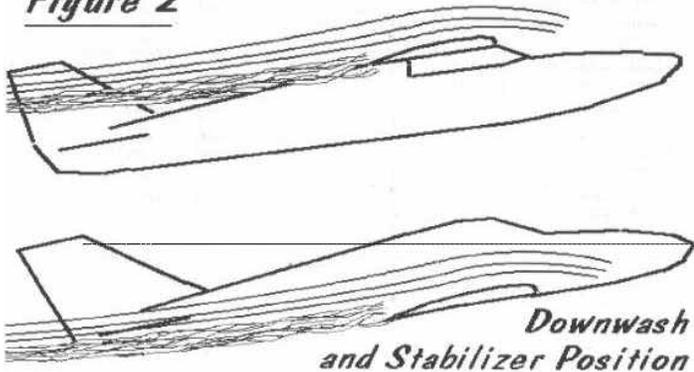
Only after we are somewhat competent at flying do we try flying a low wing plane, and then with white knuckles and shaky knees. WHY? Just what is it about low wingers that make them "tougher" to fly?

Are they faster? No! All other things being equal, there's virtually no difference in drag, or therefore top speed. The illusion comes from designers' choice. They tend to put faster airfoil sections and lower aspect ratios on low wing planes, making them speedier. Low wing planes do have several characteristics, compared to high wingers that make them more suitable for higher performance aircraft.

1. "Nicer" (and quicker) roll response. This comes from the relative placement of the Center of Gravity, being closer to the natural roll center of the wing. The CG will be at, or only slightly above, the roll center of a low wing, but well below that of a high wing. Assuming at least a little dihedral, the roll center of the wing will be slightly above the center of the wing. See figure 1.

During a roll, the wing (providing the "power") wants to roll about its own roll center. The rest of the plane (the "resistance") wants to roll about the CG. The wider the distance between roll center and CG, the funnier looking is the roll (i.e. "non-axial")

2. The low wing lends itself to a less stable stabilizer

Figure 1*Figure 2*

position, leading to more pitch maneuverability.

With a high wing, it's simple, and natural, to have the stabilizer well below the wing. When the nose is pulled up, the stab drops down well below the wing's downwash, and becomes increasingly resistant to further AOA increases. This is great for stability, and makes stalls less likely.

The opposite is true for the low winger. On a pull-up, the higher stab drops into the wing's downwash, making further AOA increases easier, and the plane more maneuverable. The low wing reacts more neutrally to power changes.

Our old high wing trainer, with the thrust line very low, will respond by pitching nose up when power is added, nose down if power is reduced. This contributes to stability, with the nose going the way we want it to one a trainer. On the other hand, the low winger will be more neutrally stable, without much pitch reaction to power changes.

The low winger will also be more wind "resistant" on the ground, a function of wing height above the wheels. The high winger will naturally be more "tipsy," reacting to wind while taxiing and during takeoff and landing. Understand that I'm only talking of tendencies here. There are many other variables that have an impact on the characteristics involved. The designer care juggle these around to get the desired handling, but wing

placement is definitely one of the biggies when it comes to establishing how a plane is going no handle.

Anxiety Eliminator or Throttle Setup Tester

by Rich Simpson

Watts Current - February 1999, edited by James Troxell

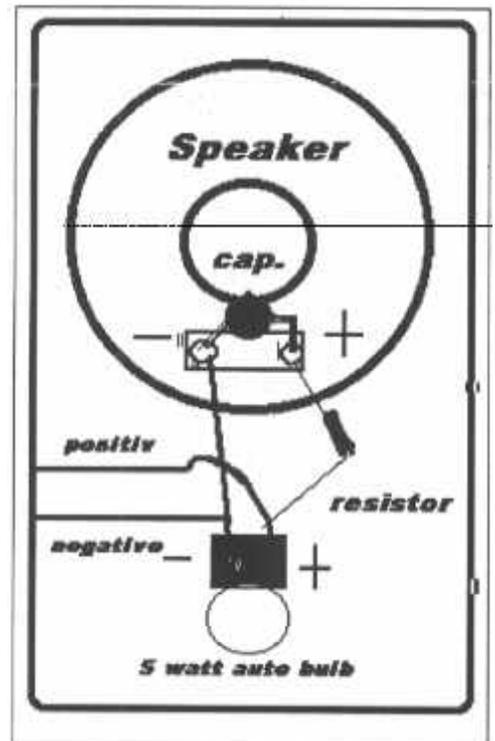
This is a simple tester I made with junk and or Radio Shack parts to aid in setup of any new or modified electric plane.

You plug this box into your electronic throttle instead of the motor when setting up a new plane. The bulb will glow dim to bright IF the throttle (TX) is going the correct way. And the speaker will be silent if the control is off and buzz faster until at full on it will then again be silent. I haven't tested an old frame rate 50 Hz control as I have none and 50 Hz may be below the response of these little speakers. The more common 2 - 5000 Hz should work well with any small speaker, over 8k Hz may require a special speaker.

It is just a 12-volt auto bulb and a small speaker wired in parallel. I assembled it in a RS project box and put connectors on the input wires to match my system.

I put a motor cap across the speak leads.

NOTE speakers usually are marked with positive lead marked or painted. Put a resistor (by guess and by gosh) until you can just hear the sound. I used 180k ohm with a 32 ohm 1-watt speaker, about 2 volts from 7 cell pack to speaker, or you can use a 47 to 100uf capacitor in place of the resistor. RGS



The ASTRO 101 Whatt Meter

By Jim Troxell.

Watts Current - February 1999, edited by James Troxell

I recently bought this meter from Bob Markle and have been charging my flight batteries using my 112PK Astro Flight charger. After changing the Astro Flight connectors to SERMOS, I now have the ability to monitor the charging process reading Amps, Volts Watts, and Capacity, just like the new whiz bang chargers can. This meter must be connected with the source side to the charger and the load side to the battery pack. If it is connected the other way, no current will flow. Bob Markle has an older version of this same meter and we could connect his either way and it would read and pass current.

I've been using it to discharge battery packs using car taillight bulbs as a load, and it is working perfectly. I connect the battery to the SOURCE side and the bulbs to the LOAD side. The meter immediately gives voltage, watts and current readings. As time passes I can see the current flowing measured in mAh.

I use SERMOS connectors on all my propulsion electric wiring, and I can connect the meter between the battery (SOURCE) and the speed controller (LOAD) to observe changes in propeller, cell count, and throttle position. Because the 101 Watt Meter holds the mAh total as long as the source battery voltage is applied, you should be able to use it as a recorder while your aircraft is flying. This spring I intend to fly the meter in my SIG SENIOR and start making tests to determine how many WATTS a typical flight or maneuver consumes. I'll keep you up dated on my experiments. JHT



Bearcat & Sonic Blast

George Heiman email: Catgeo@aol.com

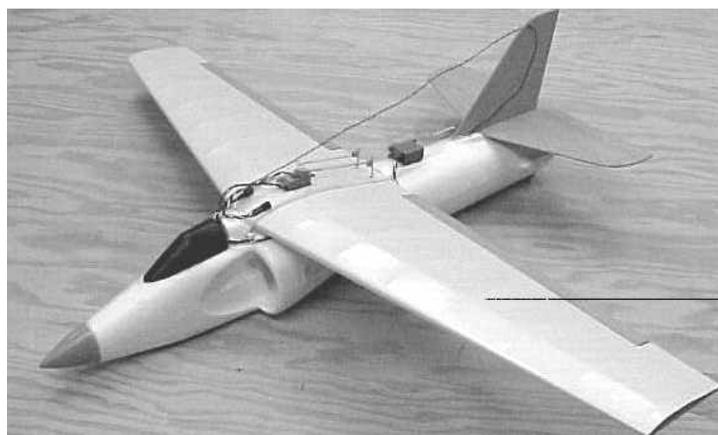
Ken,

I am finally getting around to sending you a thank you for the great time I had at the 1998 Mid-America. You selected my Krumpler for the CD's choice award on Saturday. That plaque is a great source of pride for me.

Another reason that I want to thank you is for you

publication the *Ampeer*. I read it regularly, and advise any one interested in electric planes to read it as a good starting place for information.

I was reading in the April issue of the *Ampeer* that Paul Bradley attended your most recent EFO meeting. He had a construction article published in the Feb. 1999 issue of *Flying Models* for an electric speed 400 profile F8F-2 Bearcat. I contacted Paul via email for help on covering the model, as he had, with computer printed tissue paper. This guy went out of his way to help me. This hobby has some really great people and he is one of them! I'm sending you a photo of the complete d plane.



In another issue of the *Ampeer* you showed a photo of a free flight electric ducted fan plane sold by Great Planes called the Sonic Blast. When I first saw this plane in the hobby shop, the wheels began to turn as to how I could convert it to R/C. I drew up a new wing to replace the foam one that comes with it using CompuFoil. The foam tail feathers were replaced with sheet balsa, and the standard 3 cell 110mAh pack was replaced with 500ARs. I'm using an old two channel Shredder RCD receiver with S-80 servos (aileron & elevator) on 27mhz. It flies about 2 1/2 minutes and weighs 9oz. I'm sending along some photos.

Someone is Listening

Dereck Woodward email: woodwadd@erols.com

This is an answer to any who think big manufacturers aren't interested in electric flight. Sitting on my building board is a Great Planes CAP 232 kit - the 46 powered glow version - for an electric power conversion review. The review, being done with Great Planes' agreement, is for "RC Model World" magazine from England's Traplet Publications, but is too much fun to keep under wraps.

Last year, I met the designer of the CAP, Michael Cross - full time designer and technical writer for Great

Planes, and twice US IMAC Freestyle National Champion. Let's just say that if you can't do a maneuver with the CAP232, and you built it decently, it's probably you and not the model. As well as rolling circles and other aerobatic tricks, Michael demonstrated slow knife edge with the low wingtip around three feet off the grass, a tail down, near vertical descent and even low level hovering as he strolled across the field following the model in the hover with its tail some two feet clear of the ground. That's with a 'cooking' OS 70 four cycle and a four channel radio on four servos - no clever computer tricks, just clever thumbs.

AnnMarie, his wife, is also an IMAC competitor and GP's product support manager! We got to talking and I mentioned I flew electric - then she asked if I thought the CAP could fly as intended on electric power. She'd had some "interesting" advice on electric power - someone told her she needed seven 1000 mA cells for real power, for instance! So, having just started flying the Sig Four Star 40 with the MaxCim13Y on 20 cells, I gave her Tom Cimato's e-mail and told her to go talk to the guru on high e-power systems for sports aerobatics.

Shortly afterwards, I found myself with a CAP232 kit and a reviewer's dream job - change anything I need to get the motor and nicad on board and AnnMarie got herself the twin of my MaxCim! The full review will be in RC Model World later this year, but I plan on making progress reports on this sign that the big guys are paying attention, even if they aren't about to drop the 46 as a prime mover.

The model's features a 60" span tapered wing with a D box LE. I replaced the solid spars with 'cheat' tapered spruce, two layers of 1/4 x 1/8" to half span, one layer to the tips. The ribs are diecut with jig tabs - these were on the hard side and got changed for lighter wood - and the sheeting got sanded an awful lot :-). Hefty torque rods and a standard sized central servo got swapped for a pair of FMA Direct S200's as these proved fine for the Four Star 40.

The fuselage is GP's usual diecut Liteply - it's intended to be built on its one piece top sheet, but I set it up in a fuselage jig and used balsa cross strips instead of the pre-cut ply. A lot of ply stayed in the box! The fuselage is huge, 20 cells fit with ample room and I'm looking at a battery in 7 - 6 - 7 formation with cells set vertically rather than the 2 x 10 end-to-end packs from the Four Star. The motor is mounted on a tubular ply extension as it is much shorter than the typical glow engine - this was devised by AnnMarie.

The alloy LG looks fine for the weight and its mounting is pretty hefty. Landing at/on "Mt Trashmore

(MD)" is more of a problem than the nicad battery here!

The kit has the elevator servo mounted in the bottom ply sheeting, with its output outside of the model. Whatever the large model gang do, I think having the radio on the inside is much nicer - do serious full sized aircraft have the control actuators on the outside? So the elevator and rudder servos are now at the back of the wing aperture. The elevator halves each have their own pushrod - I used "Goldenrods" instead of the thick wire in plastic tube supplied - every fraction of an ounce counts - and I'll use kevlar thread for closed loop rudder control.

So far, so good. The kit, plans and instructions are first class, everything fits and has been well thought out. Initial balancing looks like the nicad will sit right over the major UC structure. Calculations? Well, I built the model, assembled the big bits and stuck the pack into the frame to see how it felt! One has a reputation to maintain :-).

As the top deck is short, with little space between the back of the cowl and the huge canopy, I will access the nicad through the wing aperture and operate her with a permanently fitted pack.

I'll be using lightweight covering and the airframe is pretty light already, so that is going well. The power plant - well, the MaxCim NeoMax 13Y is strolling along at 700 watts on a 13 x 8 in the Four Star, so should suffice. I can always go to a 3.5:1 ratio, instead of 3:1, and use a really big prop for verticals, if needed - the CAP series were never that fast in reality.

Realistically, 100 - 105 ounces is a good ball park weight, as the Four Star is but 92 oz.

An interesting finale to this progress report. I thought AnnMarie was doing a CAP232 for her MaxCim 13Y - she's been sending me photos of bits of it, anyway. It turned out that what she was doing was building a pre-release example of Great Planes' new "Giles 202" for electric power and used this model as part of her presentation launch of the new kit on her monthly "RCOnline" live chat night.

Seems someone does know we're around! I hope to have mine flying at the "Spring Sizzle" in Rockville, MD on May 30th, how much she gets around after that depends on the house-moving game. Hopefully, we'll be done by September - a little bird tells me that Great Planes are going to KRC and not just to look around, either.

SPECIAL NOTE: After Dereck's email arrived, things have changed. There will be no 1999 KRC. The times, they are a changin'. Check the events calendar for other local meets. Lots more of them this year!

Where To Get the Hammerhead Soldering Tips

To build good packs, you need the right tools. This information has been given before, but was asked for recently on the eflight list. Here is Charlie's reply about his tips:

"I machine a 'hammer head' soldering iron tip from copper that is essentially two tips, horizontally opposed mounted on a shank with sufficient mass that soldering batteries is quite simple and very easy.

I sell these tips for \$5 plus \$1 for S&H for a total of \$6.

I cannot accept credit cards, only cash or check - -

Charlie White
4420 Ladera St.,
San Diego CA 92107-4232
charliew@adnc.com

Bye Bye 500ARs ?

The following is from a post to the eflight list by Greg Kamysz, Specialized Model Supply, P.O. Box 1336, Crystal Lake, IL 60039-1336

<http://www.sm-supply.com>

"At Toledo, I saw nobody that had 500AR cells. Some people were saying they are still making them, this is not true. Good luck finding any 500AR's.

Good news is I still have some, including matched cells which should last you longer. Also, I have 700AR cells. 700AR's weigh 0.96oz each and are same diameter as 500AR's but are 1.65 in. long. The ones I have are in a plain red wrapper with no markings at all. I have tested some and they are the real thing. 740-770mAh at 14A discharge. They are more expensive but a good cell.

I also have a new Sanyo cell, 950AAU Weight: .71 oz.

Also, I do have a part that I came up with available now. It is a shaft extender for Astro gearboxes. It is a nut which you use in place of the original nut and washer. You bore the prop to .375" and tighten it down. It can be used with a minimum thickness of what the OEM nut will hold plus up to a half inch more in thickness allowing you to use virtually any spinner/prop combo. 6.00 USD shipped within US or 5.00 with an order.

1700 SCR battery packs on eBay

From: Jim Jager email: jimjager@prodigy.net

Ken,

A number of R/C people, including myself, have become addicted to an online auction site known as eBay.

I have bought and sold a number of R/C related items through this site, and what I am about to tell you should **in no way reflect my feelings about eBay.** (or the Ampeer, or Ken Myers) I have had very good experiences with it, getting some really good buys (including the TopFlite Elder kit) and getting fair prices on the items sold, and making new acquaintances with fellow modelers. In general, I highly recommend eBay to anyone looking for unique, and/or out of production, as well as new R/C items.

Enough said about eBay, I would like to warn any readers who do visit this site to be aware that there are battery packs being auctioned off, with claims from the seller(s) of them being 6 cell Sanyo 1700 SCR, and that are not what the seller claims. I purchased 4 such packs, and tested them on my Hobbico Accu-Cycle, and the readings I get vary between about 1250 to 1475 mAh, even after repeated cycling. I have an older 1700 SCRC pack which gives readings of over 1750 mAh on the same tester.

At a little over \$10 per pack, they are still a bargain, but they do not appear to be 1700 SCR as claimed by the seller(s). I personally have no use for such packs, and I know a lot of other e-flyers would feel the same way. I would rather spend the more money and get the good packs, so I just want to get a warning out to others who may be contemplating bidding on those packs.

Buyer Beware! km

Gordy has Gordy Cells!!

From: Gordy Stahl email: GordySoar@aol.com

How about letting the guys on your list and Ampeer subscribers know that I have some 1700's and a few 1000's (which are probably 1250's but I have never checked them).

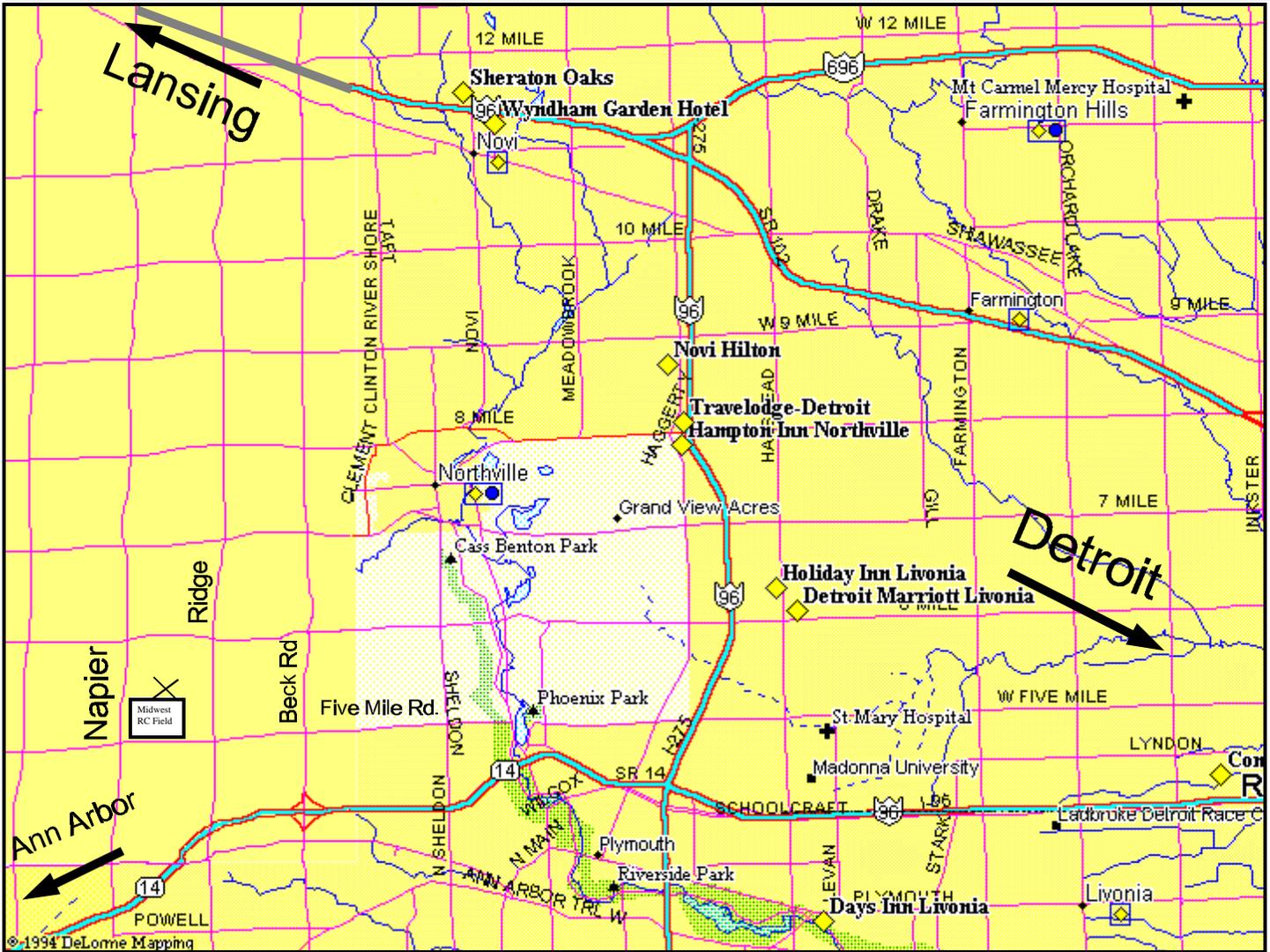
It is the usual deal \$2 each, 50 cell minimum order, \$8 shipping.

As always, it is on a first come first served basis. I have a couple hundred of the 17's and about 50 of the 1000's

Thanks! - Gordy Stahl Phone: 502-491-5001
money order or check

If you are interested, post Gordy a note with your address and phone. He will contact you when you least expect it, as he keeps a waiting list.





**Mid-America Flies
Hotel List - 1999
(note: prices NOT
updated for 1999)**

Rates were believed to be per night on the weekend for 2, and were the best information I could get on 11/10/96. Please call for current rates

Novi Hilton 21111 Haggerty Rd. 236 rooms 800-445-8667 248-349-4000 \$79	Sheraton Oaks 27000 Sheraton Dr. 206 rooms 248-348-5000 \$75 - \$85	Wyndham Garden Hotel 42100 Crescent Blvd. 152 rooms 800-222-4200 248-344-8800 \$64 - \$74	Hampton Inn Northville 20600 Haggerty Rd. 125 rooms 800-426-7866 313-462-1119 \$76
Travelodge Detroit 21100 Haggerty Rd. 124 rooms 800-578-7878 248-349-7400 \$55	Days Inn Livonia 36655 Plymouth Rd. 72 rooms 800-325-2525 313-427-1300 \$41	Holiday Inn Livonia 17123 Laural Park Dr. N. 225 rooms 800-465-4329 313-464-1300 \$85	Hotel Baronette 27790 Novi Rd. 149 rooms 248-349-7800 \$79
		Comfort Inn Livonia 29235 Buckingham Ave. 112 rooms 800-221-2222 313-458-7111 \$65 - \$95	Detroit Marriott Livonia 17100 Laural Park Dr. N. 227 rooms 800-228-9290 313-462-3100 \$72 - \$79

To locate the Midwest R/C Society flying field, site of the 1999 Mid-America Electric Flies, look on the far left side of the map, where X marks the spot near Five Mile Road and Napier. The field entrance is off of Five Mile Road. M-14 can be entered and exited via Beck Road.

Mid-America Electric Flies

AMA Sanctioned

Saturday, July 10 & Sunday, July 11 , 1999

Hosted by the:

Ann Arbor Falcons and Electric Flyers Only

Site Provided by the:

Midwest R/C Society

your Contest Directors are:

Ken Myers phone (248) 669-8124 or

KMyersEFO@aol.com

Keith Shaw (734) 973-6309

Flying both days is at the Midwest R/C Society Flying Field - 5 Mile Rd., Northville Twp., MI
(see map)

Registration: 9 A.M. both days

Flying from 10 A.M. to 5 P.M.

Gold Stickered Transmitters are REQUIRED!

All 50 frequencies will be used

Saturday's Events

All Up - Last Down
Longest Timed Flight
Best Scale
Most Beautiful
Best Multi-motor
Best Sport Plane
CD's Choice

Sunday's Events

All Up - Last Down S400 only
Longest Timed Flight S400 only
Best Scale
Most Beautiful
Best Mini-Electric
Best Ducted Fan
CD's Choice

All Planes Must Fly To Be Considered for Any Award

Night Flying Possible, Weather Permitting, Friday & Saturday Nights

Refreshments will be available at the field both days.

There will be a pot-luck picnic at the field on Saturday evening.

Come and join us for two days of fun and relaxed electric flying.

Even though this is called a contest, the purpose is fun and the enjoyment of sharing the electric experience.

Come, Look, Listen, Learn - Fly Electric - Fly the Future!

Saturday's & Sunday's Awards:

Plaques for 1st in each category

Merchandise drawing for ALL entrants

Upcoming Events

May 28-31 Chilliwack E fly (British Columbia)

Ron Dodd Rondodd@aol.com

May 30 Spring E-Fly, Rockville, MD the field will be open on the 29th. Dereck Woodward

weekendpilot@juno.com.

June 12 & 13 River Valley Electric Meet II, Wisconsin Rapids, WI. Primitive camping available on site. \$5.00 per day or \$8.00 for both days. More details, Rich Ida 1 - 800-358-7019 or email: inspector@tznnet.com

June 12 & 13 3rd ANNUAL LAND OF LINCOLN ELECTRIC FLY-IN information web.inw.net/~il_tpm/knights.html. or Tim McDonough tim@mcdonough.net

June 12 & 13 Annual Lehigh Valley Electric Fly - CD Michael A Stewart email: mike@mikes-universe.com; near Easton, PA, USA, www.mikes-universe.com/rceflyer/lvrcs11.htm

June 26 Northern Connecticut Radio Control Club's 12th annual Electric Fly Event - contact: Jerry Chase gerard.chase@snet.net at the club field in Ellington, Connecticut. www.ncrcc.org/about.htm#Directions

June 26 & 27 The 5th Annual Kingston Electric Fun - Fly - contact Martin Irvine mirvine@limestone.kosone.com

June 25, 26 & 27 MARCEE98, 3M field near Minneapolis, MN - contact Mike Roerig, 612-426-5018 mlroerig@mmm.com

June 26 & 27 - 17th Annual Puget Sound Electric Model Flyers Electric Fly-In - south of Auburn, WA, NEW SITE this year - the Radio Aeromodellers of Seattle Field, Bernard Cawley, 29838 48th Avenue South, Auburn, Washington. 253-839-9157 or e-mail at ab_cawley@compuserve.com

July 10 Location: Castaic, CA USA - ELECTRIC FUN FLY - CASTAIC MODEL AIR PARK www.canyoncrosswinds.com

CONTEST DIRECTOR: STEVE CIAMBRONE 661 - 294-9547

July 17 & 18 - *Voltaires Funfly* suburb of Syracuse N. Y. Map and further details will be posted later on the *Voltaires* web site.

August 1, 2, 3, 4, & 5, 1999 - Electric Nats, Muncie, IN at AMA Headquarters



The Ampeer
Ken Myers
1911 Bradshaw Ct.
Walled Lake, MI 48390

**Next Meeting: June 3, 7:00 or ASAP
Rushton Road Field, South Lyon
Rain or Shine or Wind!!!**