



Skyline

Fall 2004 (Volume 43, No. 3)

Capital Hang Gliding & Paragliding Association

*Special Helmet
Wiring Issue!*

*See "Custom Comms"
on page 5*

*2005
CHGPA renewal
forms inside!*

*On Halloween, "The Great Pumpkin"
(Highland Aerosports' new tow plane)
rises out of the field...*

Pre-Flight ~ by Scott Wilkinson

It's raining now as I sit in the Shepherdstown bakery. Not good for flying, but still a sign of cooler autumn weather on the way, which we all look forward to. Autumn is a fantastic time to fly. The air temperature differences that keep us high are greatest, and the landscape glows with endless shades of oranges, yellows, golds, and reds.

Outdoor sports are rewarding for many reasons, but one is variety. If we ever tire of flying (*which I doubt anyone does*), we never tire of flying in different places. Or flying the same place at different times of the year and different times of day. After soaring over the fields of Virginia's tide-water region, flying over the mountains will be an entirely different experience, possibly like flying for the first time again.

As I've progressed in the sport, I've noticed a wide variety in training techniques. Pilots learn by foot launching on hills, getting pulled into the air by scooters and trucks, and flying high with an instructor at your side (*or right above you*). Each method has its own advantages, and it seems to me that new pilots are best advised to take advantage of them all. Still, most people generally stick with one approach or another, which is fine. In an upcoming newsletter we'll feature an article with perspectives on the different training methods. (*Drop me a line if you have any thoughts.*)

The High Rock Fly-In was a success this year. Though many of us either could not (*or chose not*) to fly, the turnout was good and it was obvious that everyone enjoyed themselves. A tree landing provided some drama, but the incident had a happy ending with neither pilot nor glider sus-



taining any significant damage. The close relationship our club has with landowner Emma Jane Carbaugh and her family is remarkable, and is a model of how both

*...every time I look at it
—even in the bag—
I see it with wings spread...*

club and landowner benefit from such a relationship. Many thanks to everyone who helped make the fly-in a success.

Our house now has a new occupant: my Falcon, which is very happy relaxing in the entryway, the front hall, and the kitchen. A few months ago I bought a twenty-foot tube in which to store the glider in the backyard. When I first brought the glider home, rather than haul it back to the tube, I got lazy and carried it into the house instead. It lay there for several days. Gradually, I came to enjoy its presence, even though we all have to keep to one side of the hall as we come and go. Where I once just wheeled the garbage can down the hall to the curb on pickup day, I now have to lift it over the glider. Though I keep telling myself it's time to put the glider in the backyard, I rationalize its home in the hallway as being safer and dryer. The real reason I like it there, though, is because every time I look at it—even in the bag—I see it with wings spread, full of air, high above the earth... and that always puts a smile on my face.

We've devoted a large part of this newsletter to a new-and-improved article by Ralph Sickinger on wiring your glider for radio communications. Ralph has spent a lot of time perfecting his technique, and he's selflessly devoted much of his time helping

(See *PRE-FLIGHT*, on page 15)

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Capital Hang Gliding and Paragliding Association

CHGPA represents hang glider and paraglider pilots from the Washington, DC mid-Atlantic region. We are committed to the safety, growth and solidarity of hang gliding and paragliding.

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The Sky Goddess Sez ~ by Lauren Tjaden

I should have written this yesterday, but I was busy flying. I figured you'd understand. The flight was beautiful; the air felt crisp and looked clean. Sometimes the soybeans rippled into waves far below me, a green ocean, indicating a possible thermal. A tiny spider and web floated by me, riding the wind at a mile high. I soared with a bald eagle, too. I love it when I can see the tips of their wings outstretched like fingers. I figured this one was a baby, since we both circled around each other and fell right out of the lift, one fool following another.

I'm learning to crank my glider onto her side to hook the thermals. My blood pressure always rockets up a couple notches when the thermal spits me out the edge, even though I know I'm safer in a steep bank. I hung on, though, fought back and even won sometimes, my reward the altitude gained, enabling me to continue playing the game a little longer.

After flying, I relaxed on the flight line in bare feet, sprawled under the shade made by the wing of the Dragonfly tow plane. My friends and I shared Doritos and chatted about how big the giant pumpkin had



grown. As the evening air grew tranquil, the newer pilots had a chance to practice. We clapped when they flew well.

Later, New York Ken poured me a glass of Tangeray that he had stored in the freezer,

and showed me what he had bought me – an olive medley! He barbequed steaks for us, and sliced strawberries. We feasted under the moonlight and Tiki torches, our odd little group made up of computer nerds, fly bums, biologists and Mennonite farmers, linked together by our love of the sport and our love of life.

The day represented what hang gliding is about for me. Personal achievement. Awe of nature. Beauty. Adrenalin. Friendship, community, support. Inclusiveness instead of exclusiveness. Like the old song says, everybody welcome, come on in.

I just wanted to say thanks to everyone, to each of you for contributing in your own way: teaching or offering guidance to others, working behind the scenes with computers and our books, maintaining our sites, being there for another pilot when she or he needs you. For breathing life into our group. Fly safe, my friends. I'll see you at the Pulpit party.



CHGPA 2005 Membership Renewal Form

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What Goes Up... ~ by Ralph Sickinger

*Dedicated to everything we do to go up...
and to come back down safely.*

A few weeks ago I got to take my new glider out for a glorious spin at High Rock... it was my first mountain flight with the new wing, and it turned out to be a fabulous day for it! When I took off, the lift was almost bulletproof, and I went right up. Before too long I found myself out over the LZ, at 4,000'MSL! I thought about maybe going X-C somewhere, but the cloud cover was just beginning to over-develop, and I was afraid that the lift would shut down. Sure enough, not five minutes later I was scurrying back towards launch and the security of the ridge lift. Most of the pilots then in the air headed out to the LZ, and soon there were only 3 of us left, having fun and playing around in the air. Eventually, I found myself over in the bowl, and losing lift, but I could see Mark Cavanaugh boating around easily right over the launch itself. I headed over to join him, but with the strong head wind, I could only manage a slow creep. I watched Mark doing a small racetrack pattern over the rock, as he buzzed launch and entertained the spectators. About the time I arrived, I watched as Mark came around underneath me, turning to match my heading. Of course, his glider has a little bit more performance than mine does, so while I was just maintaining altitude, he was actually climbing at a hundred or so feet per minute. As I watched his glider slowing coming up at me, it was obvious that he had no idea that I was there. Fortunately, I had seen Mark hooking up his radio earlier, so I knew that he was on the air. Now, I could have turned around and gotten away from him easily enough, but it likely would have cost me a few hundred feet of altitude, and might have forced me far enough off the ridge to force me out towards the LZ. Instead, I thumbed my PTT switch and calmly mentioned to Mark that he was rising into me, whereupon Mark considerably pulled in and

moved away from me. With his superior performance, he was able to scoot away easily, and was soon a hundred yards away and climbing up. We flew together for another hour, before I decided that I was ready to land, and headed out to the LZ. All in all, it was a beautiful flying day, and one heck of an inaugural flight! Anyway, there is one point that I'd like to make after all this: when I was up in the air, watching Mark's glider coming at



me, it sure was nice to have a means of communicating with him. I know that there are pilots out there who don't like to fly with radios; because the noise is distracting, they like the peace and quiet of not having one, they are too much trouble,

*We flew together for another hour,
before I decided that I was ready to
land, and headed out to the LZ.*

whatever. I urge you to take a look at the article "Custom Comms", also in this issue. This article will not only show you how to wire your helmet for use with a radio, but allows you to mount the radio on the downtubes of your glider, where you can adjust it easily while in flight. This will allow you to turn the radio off if you don't want to listen to it, and turn it on again when you need it. No one should ever fly without a radio - you don't necessarily have to talk on it all the time, but when you *need* to talk to someone, you'll be glad you have it.

Unfortunately, this fabulous flying day was slightly marred by the actions of one pilot who flew too close to the radio towers. Please remember: the sky is not ours to play with at will. We share that airspace with any number of other entities. We also need a fair amount of ground in order to fly: we need both launch space and landing fields, and for the most part, we get that only through the goodwill of others. Many of the places that we fly are made available to us by other people or organizations that allow us to use them, despite the fact that it really does not benefit them in any way to do so. Since it would be so easy for them to decide at any time NOT to allow us to fly, it behooves us to be **really** nice to them! That means showing these people and organizations the utmost respect. Remember, we are *guests* in their space. If they set rules or restrictions, don't just obey them, obey them with plenty of margin. Pushing boundaries, even if we don't cross them, does nothing to make our hosts more comfortable with our presence. This applies not only to respecting airspace boundaries, and landowner site protocols, it also applies to obeying speed limits. The Pulpit Fly-in is coming up. That means there are going to be more pilots than usual, and quickest way to make ourselves unwelcome is to go roaring down back roads at 60-plus miles an hour, kicking up dust and gravel, spooking horses, endangering local children and livestock, and generally being a nuisance. Remember, anyone who sees you out there, knows exactly who you are: hang gliding vehicles are pretty distinctive, especially with gliders on top. When people see us, we *really* don't want them to think of us as "one of those darn hang gliders". Please, let's not give them any reason to think of us that way.

On another subject: at the last club meeting I made a proposal to restructure the Club's Board of Directors a little bit, by renaming two of the positions. Doing this would require a change to the Club's by-laws, which we would have to vote on at the next club meeting. I'd like to explain the proposal, and the rationale behind it.

(See "WHAT GOES UP", page 15)

Custom Comms

~ by Ralph Sickinger

They say that talk is cheap; but when you're up in the air in your hang glider, the ability to talk to someone else can be worth a lot! Or maybe you're on an X-C, and you're losing altitude; it's nice to be able to tell someone exactly where you're landing. Many pilots shun radios, because the noise and chatter intrude on their flying, but I'm not one of them. Having a radio has saved me once or twice, and I try not to fly without one! So the real question then, is how to hook it up...

There are several different ways of mounting a radio, as well as several different ways of hooking up an external speaker and microphone, and I think I've tried most of them at one time or another. I started out with an over-the-ear bud with integrated boom microphone, but this method has its drawbacks: it's hard to keep the ear-bud correctly seated when you put your helmet on, and once you do, the plastic ear clip presses into the side of your head rather uncomfortably.

I learned to wire the speaker and mic right into my helmet, based on an earlier Skyline article written by Mike Chevalier (*"Radio Gizmos"*, Skyline, February 1999). The original article called for a hole in the base of your helmet for a connector to the external wiring. I wasn't really comfortable with the idea of doing anything to my helmet that might compromise its integrity, and I wasn't thrilled about using large 4-pin DIN plugs.

The microphone control issue (VOX vs. PTT) has been debated before too, and the decision here is simple: Don't Use VOX! Wind noise in your helmet will set it off, keeping the channel open, and pretty much annoying everyone else on the same frequency. Besides, I've used both, and I've found that a PTT switch is a lot more reliable, and turns out to be easier to use in the long run. The problem that I have with PTT is that most setups that I've seen are finger-mounted, which require a wire that runs up your arm to connect the switch to the radio. It's inconvenient to hook up, and having a wire running along my arm just isn't all that comfortable. Instead, I prefer to mount my PTT switch

on the basetube. It's a permanent mounting, that includes a small connector at one end of the basetube; the other part of that connector runs up to the radio. This allows me to disconnect the wire when I remove the basetube from the glider.

And, as a result of a discussion on radio mounting locations, I decided to move my radio from the side of my harness to the downtube. Now I've got the radio conveniently off to the side, but where I can see it clearly when I turn my head, in case I need to adjust something in flight. More than once I've had to make adjustments in-flight, in response to changing radio conditions.

Recapping my "ideal" radio set-up: the mic and speaker are integrated into my helmet; the PTT switch is conveniently mounted on the basetube; the radio is mounted on the downtube, where I can see it for easy in-flight radio adjustments, but I also want to be able to use it in the LZ. And to top it all off, I want this whole setup to go together and come apart quickly and easily, so that I can minimize my setup and break-down time. That's a tall order, but it IS possible, and I'm going to show you how...

Like many pilots, I use the Yaesu Vertex-150 handheld radio; it is compact, and relatively inexpensive, making it ideal for mounting on the downtube. Unfortunately, its external speaker/micro-phone jack uses a 4-conductor 3.5mm plug. I had to do some searching on the web, but I WAS able to find the plug that I needed. The end result is well worth it - a single plug on the side of the radio is a lot more convenient than a pair of plugs that go in on top. Including the special-order plug, you'll need about \$80 worth of parts; a lot of them are available at your local Radio Shack, but you'll also need to stop at the hardware store for some silicone adhesive and velcro, and at CVS for some neoprene. The complete parts list is included at the end of this article. In addition, you'll also need the following:

- Soldering iron & solder
- Wire strippers
- Electrical tape
- Hot-melt glue gun
- RJ-11 crimping tool
- X-Acto knife
- A thin piece of closed-cell foam to act as a wind-screen for the microphone.

The RJ-11 crimping tool can be found at Radio Shack for \$10. (*If you don't want to buy one, contact me and I can arrange to let you borrow mine.*)

Let's start with a quick look at the overall design of the system. This setup has 5 major components, as shown in Figure 1:

- (A) The helmet wiring itself;
- (B) The helmet connector coil;
- (C) The main comm line;
- (D) The radio mount; and,
- (E) The basetube mounted PTT switch.

First up is the helmet: the basic idea is to mount the speaker and the microphone inside the helmet, with the wires connected to a short length of 4-conductor phone wire. This gets plugged into an in-line modular phone coupler glued to the side of the helmet, providing a convenient connecting point to the rest of the system. When I put the first

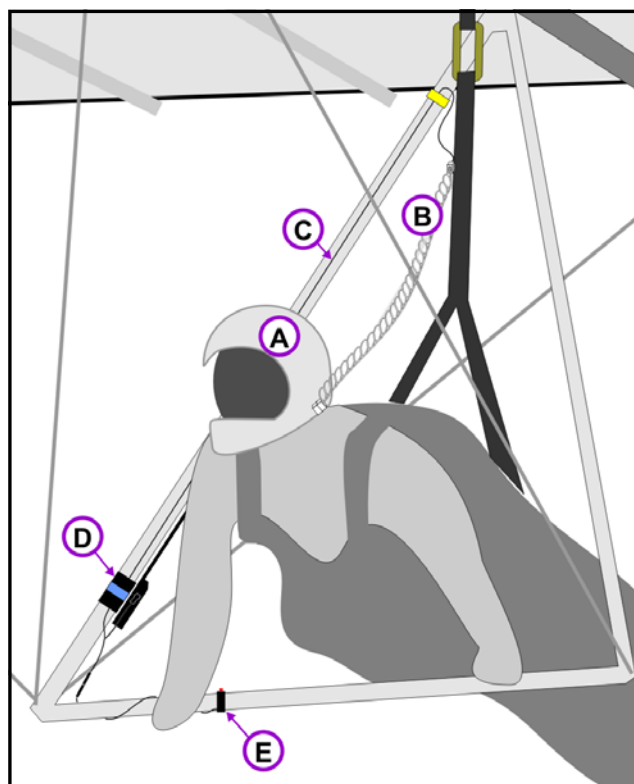


Figure 1: Overview of Radio Setup

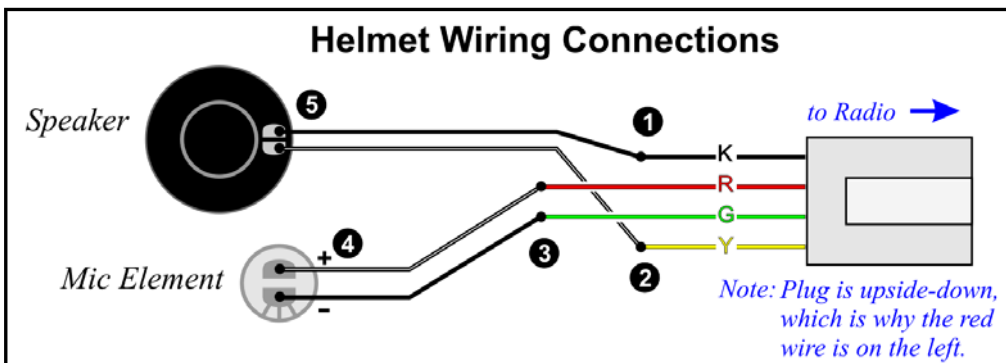


Figure 2: Helmet Wiring Schematic

version of this system together, I soldered the resistors and capacitors together right next to the microphone, inside the helmet. It worked well... until I got a new radio which used a different schematic! I ended up having to rip everything out and re-wire it to support the new radio. This time around I took a different approach: each contact is connected directly to one of the four wires in the modular phone cord; by keeping track of which contact is on which wire, I can connect everything at the plug end, right before it goes into the radio. If I ever have to change it, all I have to do is cut off the existing plug, and wire in a new one. Of course, they say that "the Devil is in the details"... you have to keep track of which wire is connected to what. This is even trickier with modular phone cord, where it is very easy to flip a modular connector when you attach it. To keep things straight, I adopted the following convention: there are four wires in modular phone cord (black, red, green, & yellow); I used the black and yellow pair for the speaker connections (negative and positive, respectively), and the red and green pair for the microphone (positive and negative, respectively). To keep the connections oriented correctly, I use the rule "red, right, radio". That is, for connectors that are going towards the radio, I put the red wire closer to the right side when I insert it into the jack before I crimp it. I reverse the orientation for connectors going in the opposite direction, that is, towards the helmet. The complete schematic for the helmet is shown in Figure 2.

To wire the helmet itself, I begin with one of the in-line modular connectors. Cut a short piece of phone cord. You can cut off one end of the 12' modular phone cord (verify that the plug is oriented correctly - red on the right - if it's not you'll have to cut a section of cord from the middle, and

crimp a jack onto it yourself). Cut a piece that's about 2" long. Cut away all but 1" of the insulation. Next, take the Adaptaplug cord, and cut two 6-8" long segments out of the middle. Make sure that you leave at least 2' of cord attached to each plug for

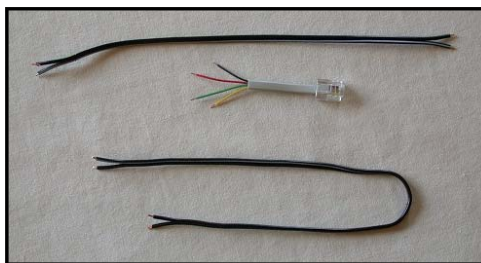


Fig. 3: Modular Plug and Leads

later. Solder one of the Adaptacord wires to the red and green leads, and the other to the yellow and black leads, as shown in Figure 4. (Remember which wire is connected to which lead - by convention, the striped wire is normally positive.) Protect the solder joints by wrapping each one with electrical

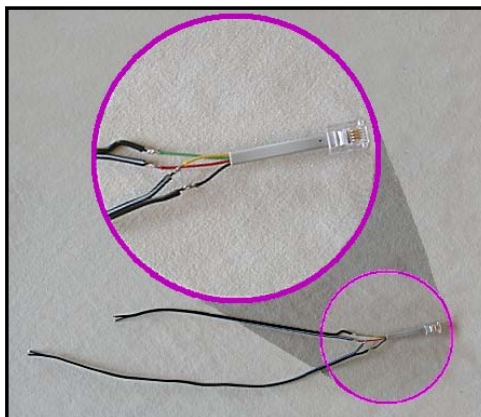


Fig. 4: Mic & speaker leads attached...

tape. Next up is the microphone. We won't be using the leads from the mic element, so you can cut them off. Now decide where you want to mount the microphone. I recommend mounting it in the crease where the chin guard meets the main body of the hel-

Helmet wiring summary:

- (1) Connect black wire from modular plug to longer black lead.
- (2) Connect yellow wire to striped lead of the same Adapta-cord wire.
- (3) Connect red and green wires to other wire (red to striped, green to black).
- (4) Solder leads from red/green wires to mic element (red/striped is positive, green/black is negative).
- (5) Solder leads from yellow/black wires to speaker (yellow/striped is positive).

met (Figure 6). It's close enough to your mouth for good pick-up, and it fits in there nicely, without sticking out where you could get hit by it. Adjust the length of the mic leads so that they'll just reach the microphone in this location. Identify the negative terminal of the mic element (Figure 5), and solder the lead from the green wire of the modular connector to it. Solder the striped lead (connected to the red wire) to the other terminal, as shown in Figure 6.

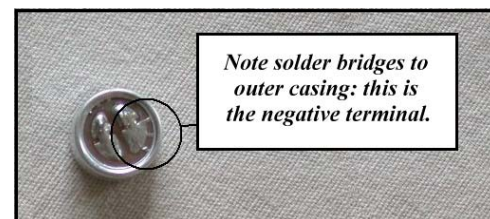


Fig. 5: Negative terminal on mic.

Next, decide where you want to put the speaker; in most helmets there is a gap in the foam padding where the ear hole is, and it (the padding) should lift up enough that you can slide the speaker underneath it. Again, adjust the length of the speaker leads as needed, and then solder the leads to the terminals on the speaker. Now let's mount this in the helmet... Start by cutting an 8" piece of electrical tape, and just stick it down on your work surface. Now take a shorter piece of tape, and stick it on top of the first one; this will allow you to work on this piece of tape, but shortly we're going to peel it off and attach it to the helmet. Begin



Fig. 6: Lead soldered to mic terminals.

by gluing the back of the mic element to the center of the tape. You can use hot melt glue for this if you have it, or the Goop adhesive if you don't. Goop works fine, except that it will take 2 hours to dry. At this point, I like to take two pieces of styrofoam packing material, and shape them to smooth out the area around the microphone. Glue these to the tape, right next to the mic element. (Figure 7). When everything is fixed



Fig. 7: Mic element glued to tape.

in place, peel up tape and attach it to the helmet in the desired location (Fig. 8-1). Now take a thin piece of closed-cell foam (also available at Radio Shack, if you don't happen to have some lying around the house) and lay it over the mic, and secure it with electrical tape (Fig. 8-2,3). The last step is to use the "Goop" adhesive to glue the modular in-line connector to the side of the helmet. Use some electrical tape to hold it in place until the adhesive sets (Fig. 8-4). The adhesive will need at least 24 hours to set completely, then you can remove the tape, and you're done with the helmet!

Now for the other end of the system: the PTT switch and the radio connection. We'll begin with the plug wiring. This is the real heart of this setup; it's also the trickiest

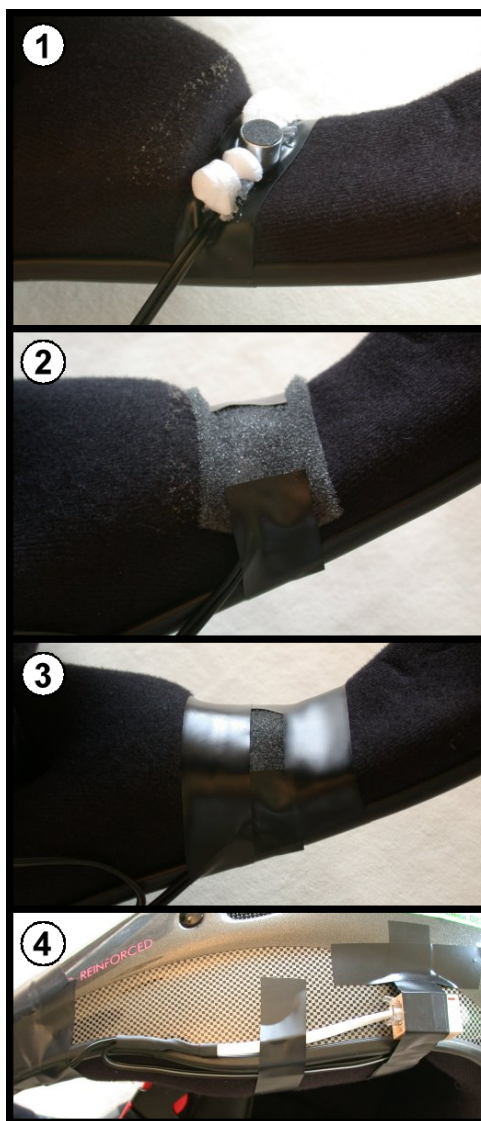


Fig. 8: Attaching electronics to helmet.

Tip: Test everything twice before you cover it up with electrical tape!

part, so you'll want to proceed carefully.

You'll need the other plug from the Adapta-plug cord, with a lead on it long enough to reach from the desired radio mounting location on the downtube to the other plug on the basetube. You also need the rest of the modular phone cord; this cord needs to be long enough to run from the radio up to the apex of the control frame, and back down to the other in-line coupler, which will end up being attached to the harness lines, about a foot down from the carabiner (*more on that later*). Remember the "red, right, returning" rule when wiring in the leads from this cord. You'll also need one of the 2.2K resistors, and your 4-conductor plug. There are two different kinds of plugs that you can use: straight or right-angle. The straight plug is easier to find, but the right-angle plug is so much more convenient in everyday use, that it's worth it to track one down. As it turns out, these plugs are commonly used for hooking up video cameras, so the wires that come out of the plug are bundled as 3 pairs: Red/Copper, White/Copper, and Yellow/Copper. All 3 (bare) copper wires go to the same ring on the plug, so you can hook up to them interchangeably. The yellow wire isn't used at all, so you can reduce a little bit of the bulk by separating that wire-pair all the way down to the plug, and cutting it off there. Then you'll want to make the following connections, as shown in Figure 9:

- (1) Connect the yellow wire from the phone cord (*coming from the helmet*) to the white wire from the radio plug.
- (2) Connect the red phone cord wire to one of the bare copper wires of the radio plug.
- (3) Connect the following 4 wires together: the black and green wires from the phone cord, the red wire from radio plug, and one of the wires from the PTT switch.

Main Comm Cable Wiring Connections

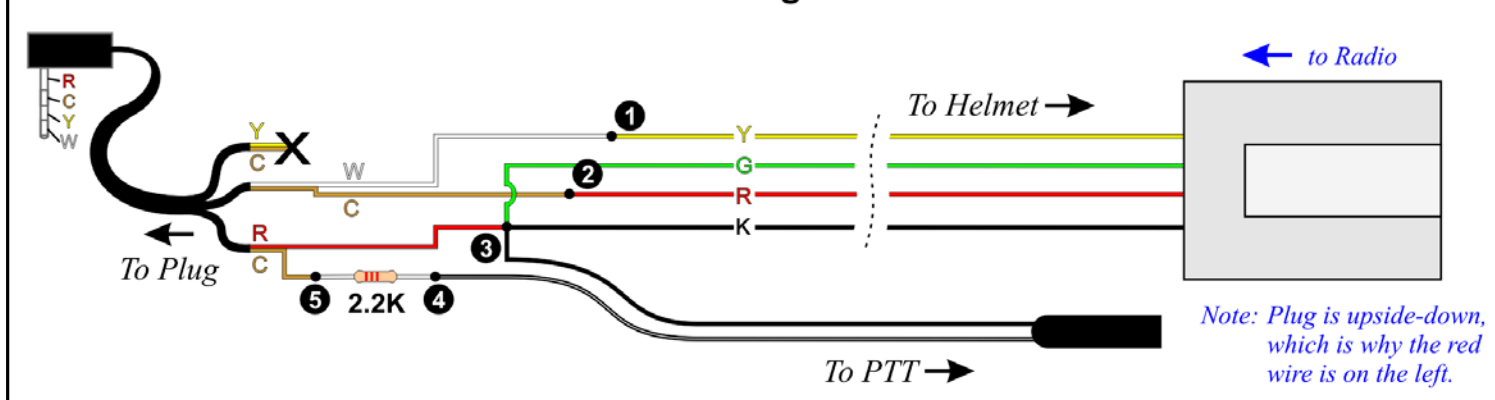


Figure 9: Wiring diagram for main communications cable.

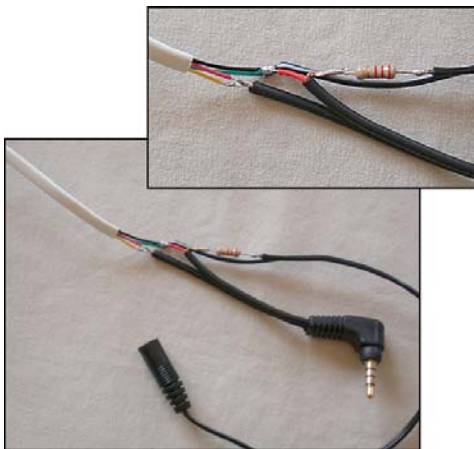


Fig. 10: Completed plug wiring.

(4) Connect the other wire from the PTT switch to one end of the resistor.

(5) Connect the other end of the resistor to one of the bare copper wires from the radio plug. *(Note: this is easier to do if you cut one of the copper wires shorter than all of the other ones.)*

The complete assembly should look something like Figure 10. Once everything is connected and wrapped in electrical tape, you can secure it to the downtubes using a few of the velcro straps.

We still need a connection from the control frame to the helmet. This is accomplished by attaching the second in-line modular connector to one of the harness lines running up to the carabiner. Cut two 3" long strips of electrical tape; then stick the two pieces to each other in a cross pattern. Wrap one of the tape segments around the coupler, and the other segment around the harness straps *(see Figure 11)*. By securing the modular phone cord to the top of the downtube, near the apex, you'll minimize the distance that the coupler moves, as the harness moves around in flight *(either forward/backward or side-to-side)*.

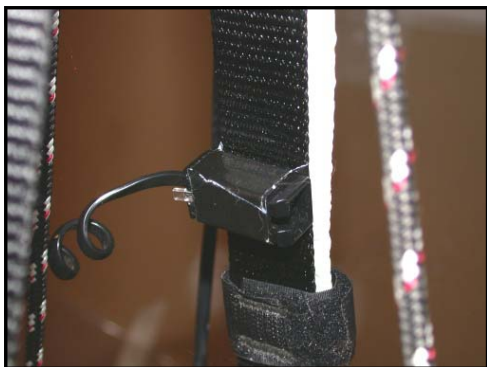


Fig. 11: Modular coupler on harness.

You also need a connection from the coupler to the helmet. For this we'll cut a section from the coiled handset cord. Using a coiled cord allows you to run a short length of wire from the helmet back, so you don't have a lot of slack cord hanging around which could potentially tangle; at the same time, the coiled cord will give, and extend up to 4 times it's coiled length if necessary. The only problem is that the plugs on the handset cord won't fit into the modular couplers! Also, the 12' cord is way too long - you really only need about half of it. So, cut off the existing plugs, then cut the cord in half, and finally, attach modular plugs at both ends of the coil. Remember to pay attention to the wire orientation when you connect the plugs: one of them has to have the red wire on the *right*, and the other plug HAS to have the red wire on the *left*. If you get this wrong, you'll end up reversing the polarity on the microphone, and it won't work. *(Polarity is irrelevant to the speaker though, so it will work either way!)* Repeat for the other half of cord; you can keep the second one in your gear bag as a spare!

Now let's take care of the PTT switch. The switch that I found for this is a low-profile switch designed for circuit boards, but it's perfect for this application. The cap is removable, and there are a variety of caps that you can order for this switch, so you can get the one you like best. The switch has 4 contacts on it that extend downward, and you'll want to bend them up so that they extend out to the sides. To mount the PTT on the basetube, you'll need to decide where you want to position the switch. Typically, you'll want the switch fairly far in, but where you can still reach it easily with your thumb. You can then run the wire in a straight line along the basetube. Once you've established how much wire you need to reach the corner, cut the Adaptacord wire that distance from the end with the male plug. Solder the cut ends to two of the contacts on the bottom of the switch. It doesn't



Fig. 12: Switch glued to electrical tape.

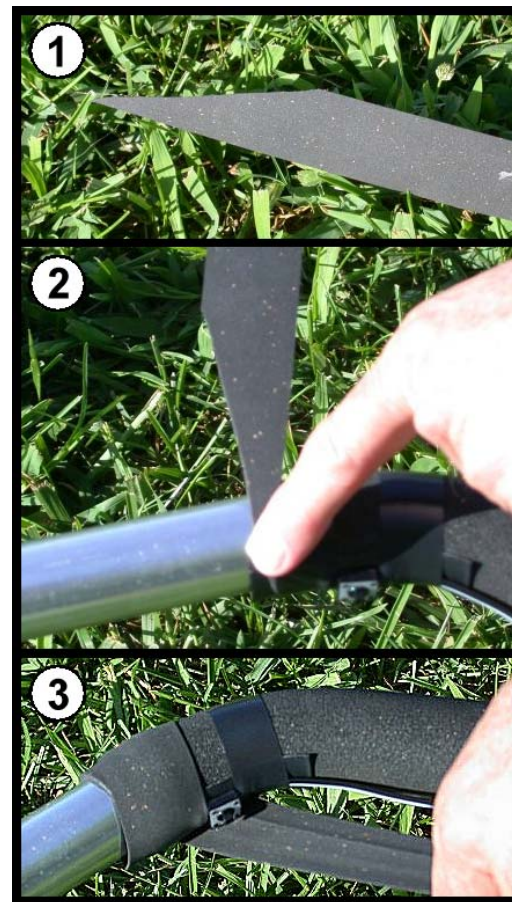


Figure 13: Wrap

matter which pair of contacts you use, as long as they're both on the same side. Last, cut a 6" piece of electrical tape, and fold it over on itself, so you have a 3" piece of vinyl. Glue the switch to the center of this piece, as shown in Figure 12. Again, you can use either hot-melt glue or Goop.

To connect the PTT to the basetube, place the switch in the desired position, and secure it with some additional electrical tape. Then we're going to wrap some bicycle grip tape *(available from any cycling shop)* around the basetube and the wire, just to make the grip more comfortable. *(See Figure 13)* (1) Begin by cutting the end off at an angle; the diagonal should be about 4" long. (2) Angle the grip so that the diagonal is perpendicular to the basetube. After going around the basetube once, the grip should be angled properly to continue wrapping around the basetube, with a little bit of overlap. (3) When you get to the switch, you'll have to use a knife to cut a small square hole in the grip (4). Continue wrapping until you reach the end of the grip, and secure it with electrical tape (5). Figure 13-6 shows the completed basetube, with the



ping the basetube.

cap added to the switch. Don't forget to wrap the other side of the basetube as well. The grip will make the basetube significantly fatter; if it's too big this way, you can remove the foam from the basetube before you start. The bicycle grip has enough

cushioning in it to make for a pretty comfortable basetube.

There's one more piece left: connecting the radio to the downtube. The Vertex 150's small size makes this pretty easy. We'll use the Futuro Sport wrist support for this. It's a relatively rectangular piece of neoprene rubber, that is just a little larger than we need. If you know of a better source for neoprene rubber, I'd love to hear about it; in the meantime, the wrist support works well, and it can be found at either your local CVS or Giant Food Store. The general plan

is to cut a strip of neoprene just wide enough to fit the belt clip on the radio, and long enough to wrap around the downtube, with about 2" of overlap. In addition to this main strip, I also cut two ½" wide strips (see Figure 14). These will be glued to the inside of the main strip, just far enough a part to fit the radio clip in between (Figure 15). Attach the strips using more of the Goop adhesive. For convenience, you can cut two pieces of velcro, about 2" wide by 1¾" long, and glue them on to the main strip. However, if you do this, you should also use a needle and thread to sew the lead-

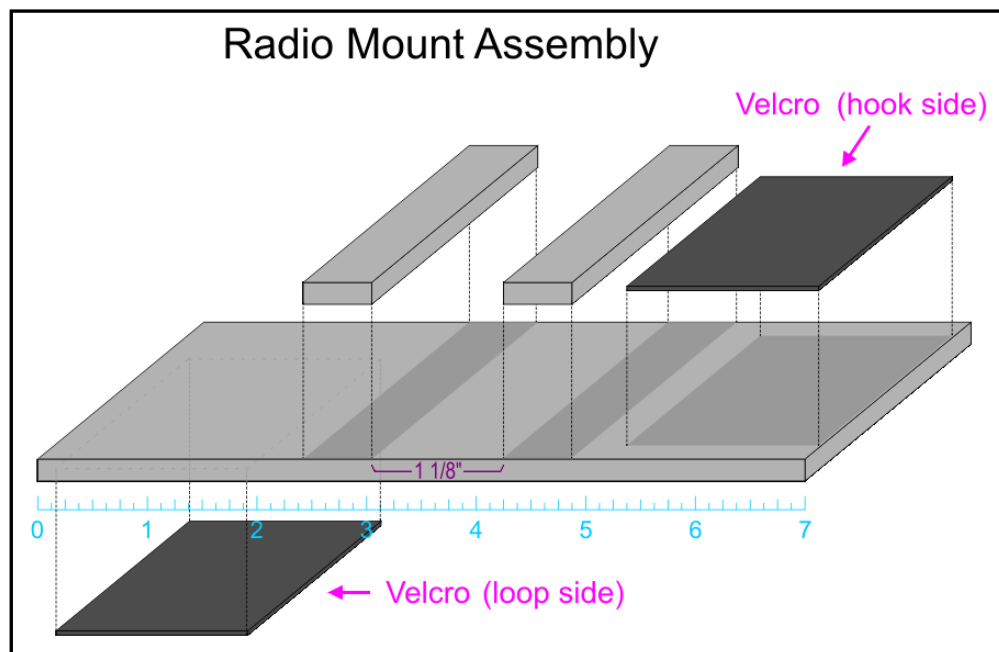


Figure 15: Radio mount assembly diagram.

Cutting Template for Radio Mount (for Vertex 150 on faired downtubes)

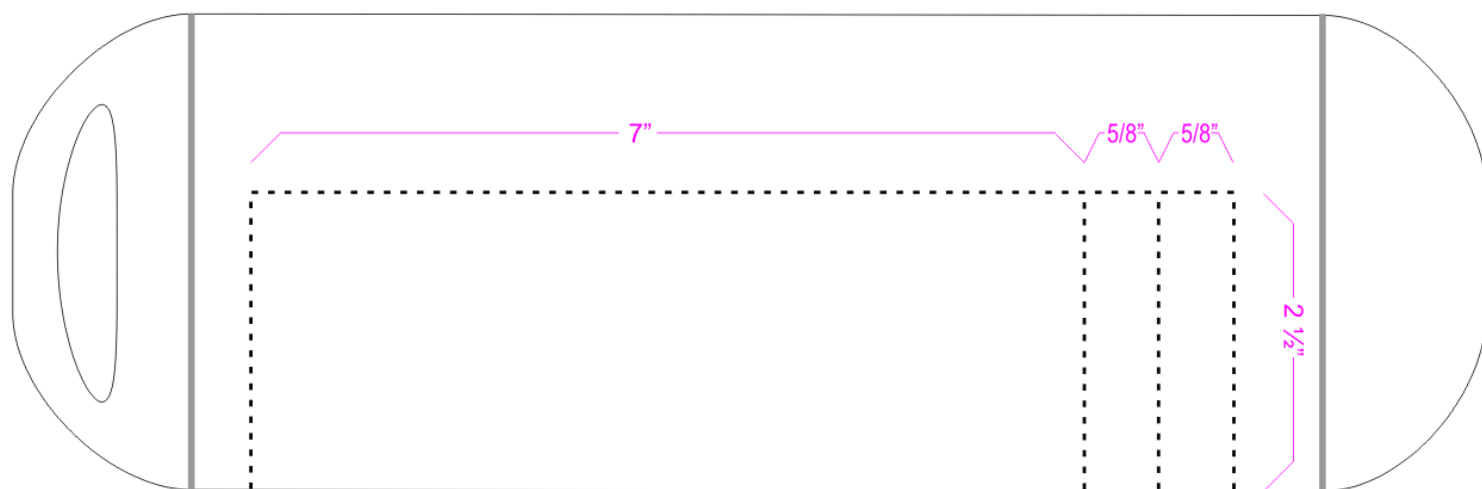


Figure 14: Cutting template for neoprene radio mount.

ing edges of the Velcro to the neoprene, just to keep the Velcro from peeling off when you pull the radio off of the downtubes. Be sure to give the glue plenty of time to dry (*at least 24 hours*) before using the radio mount. Another approach is to just use one or two of the velcro cable ties and wrap them around the outside of the strip. In any case, the last step is to spread a thin layer of Goop on the inner surface of the main strip; this will give the neoprene a little more "grip" on the downtube. (Figure 18)

So now that you've finished all of the construction, how does this all come together on flying day? It's actually pretty easy... Set up the glider as you normally would; when you put the control frame together, connect the plugs from the Adaptaplug wire. Grab your radio (*which I leave permanently clipped to the neoprene radio-mount*), and attach it to the downtube - it just velcros on. Plug the main communica-



Fig. 16: Radio mount, with radio.

tions cable into the radio. When you hook your harness to the glider (*After you close and lock the carabiner!*) plug the main line into the modular coupler (*the modular phone plug just snaps right in*). Last, plug one end of the coiled handset cord into the

same coupler, and plug the other end into the helmet. This may sound complicated, but it actually goes together pretty quickly. (*All 5 steps together only take about 30 seconds; yes - I've timed it.*) When everything is connected, you're ready to fly!

This setup is still evolving, and constantly being improved. If you choose to fly with the same setup, I'd love to hear your comments, or any suggestions you might have for improving it. You can e-mail me at:

radio_wiring@sickinger.net

I wish you good flying!



Note: before you fly with a radio, you must get an FCC license!

Visit <http://ham.sickinger.net> to get the Technician Class Study Guide!

Parts List for Helmet Wiring Project

Source	Description	Code	Qty	Price*	Total*
Radio Shack:	a) 4-Wire In-Line Coupler	2790458	2	3.03	6.07
	b) 4-Pin RJ11/14 Modular Plugs (10 pack)	2790384	1	3.66	2.99
	c) PC Mount Condensor Microphone Element	2700090	1	2.72	2.49
	d) 2.2K Ohm Resistors (5 pack)	2711121	1	1.04	0.99
	e) 6' Adaptaplug [extension] Cord	2731641	1	5.76	3.49
	f) 12' Coiled Telephone Handset Cord	2790306	1	6.60	5.49
	g) 12' 4-Conductor Modular Line Card	2790335	1	7.02	5.79
	h) Hook-and-Loop ["velcro"] Straps (5 pack)	2781676	1	3.14	2.99
	i) 16-Ohm Mini Speaker	2730093	1	2.72	1.97
Digi-Key: <i>www.digikey.com</i>	j) Switch Tact SPST 12mm Mom. N/O	EG1821-ND	1	0.47	0.47
	Switch Cap Red Sq 12mm (4J Red)	EG1078-ND	1	0.22	0.22
	Shipping & Handling				9.10
Minute-Man Elec.: <i>www.minute-man.com</i>	k) 3.5mm 4-conductor Right-Angle Plug	42-3546	1	3.69	3.69
	Shipping & Handling				7.73
Lowes/Home Depot:	l) GOOP - Outdoor		1	5.22	5.22
CVS or Giant:	m) Futura Sport Adjustable Wrist Support		1	6.29	6.29
College Park Bicycles:	n) Pyramid Pro Handle Bar Tape	31172	1	20.99	20.99
				Total:	\$92.43

* Prices/Totals include 5% MD Sales Tax, where applicable.

** If you have difficulty finding any of these parts, please feel free to contact me at: *radio_wiring@sickinger.net*

The image displays a variety of electronic components and accessories, each in its original packaging:

- (a)** Two packages of "4-Wire In-Line Coupler" (Telephone Accessory).
- (b)** A package of "4-Pin RJ11/14 Modular Plugs" (Telephone Plug).
- (c)** A package of "PVC-Insulated Condenser Microphone Element" (Mic Element).
- (d)** A package of "22k-Ohm Resistors" (Resistor).
- (e)** A package of "Adapting Cord" (Extension Cord).
- (f)** A package of "12-Ft Coiled Handset Cord" (Telephone Accessory).
- (g)** A package of "12-Ft Coiled Handset Cord" (Telephone Accessory).
- (h)** A package of "Black-and-Loop Straps" (Tape).
- (i)** A package of "8-ohm Mini Speaker" (Speaker).
- (j)** A small black component and a red component.
- (k)** A coiled black cable with a 3.5mm jack connector.
- (l)** A tube of "GOOP OUTDOOR" adhesive.
- (m)** A box of "FUTURO SPORT ADJUSTABLE WRIST SUPPORT".
- (n)** A box of "PYR & MID HANDLERAP TAPE".

— 11 —

CHGPA Meeting Minutes (29 July, 2004)

Introduction of the Board

Presentation:

Joe Gregor gave a presentation on airspace classes, airspace regulations and how to read a sectional chart.

New Faces:

Julia Lukas - new H1 pilot doing scooter towing at Blue Sky
Tom Ceunen -Paraglider pilot from Belgium
David ?? - Another paraglider pilot from Belgium!!

Flying Stories:

Linda Baskerville recently launched from the top of Oregon Ridge twice. Everyone agreed that if you can fly from there you can fly just about anywhere!

Julia is making rapid progress with her scooter tows and is on her way to a Hang II

Mike Balk received his truck tow recertification and also did some winch tows in an effort to receive every single check off that USHGA has (*except Tandem*). Steve Wendt put him through his paces, making him go way off direction and practice an emergency release. On his next flight he had to do emergency release for real and was glad that he had had the practice. Mike also flew the tandem glider on a light day. The tow was all over the place and he had to push out the entire time. After releasing he found that he couldn't stall the glider. He got into the fullest extension of his body possible, and then the vario started beeping weakly. Mike tried to thermal in this position but soon became very tired.

Carlos had a good day at High Rock July 16th when he soared for several hours.

Joe Gregor found a blue hole at Ridgely and climbed 1200 feet above cloud base all around.

Brian Vant Hull returned to Hyner to retrieve his windsock which he likes to leave at various flying sites. He noted that being the only pilot at Hyner has its benefits. A truck driver noticed his hang glider on the car and offered to drive Brian's car down to the LZ if Brian wanted to fly. Brian had a sled and then went back up top to eat lunch. During lunch a cute ranger stopped by and told him how excited she was to see him hang glide. So off he was on another sled. After flying he went with rangers to pick blueberries but the day dissolved into some misunderstandings regarding the finer points of picking berries and Brian's romantic hopes were dashed again. Brian noted that Hyner is the easiest place to direct drivers to LZ since you can point the entire route out from launch.

At some point in the Flying Stories there was a debate about the benefit of side by side tandems as opposed to top/bottom. While

the top/bottom arrangement makes it much easier for (*especially small*) students to control the glider, the side by side arrangement enables the instructor better access to control and to the parachute if it's use becomes necessary.

Old Business:

The combined boards approved spending up to \$2000 to add fill dirt for a paragliding launch and put up a flag pole at the Pulpit. However there has not been any progress on it yet.

Matthew proposed a work party Saturday July 31st to work on Pulpit paragliding ramp with a goal of building a retraining wall. A company that is rebuilding the pipeline can possibly supply us with free fill dirt. We would want the dirt in place by the Pulpit Fly-in, so if we are unable to get it free we will purchase it within the next couple weeks.

Holly reports no progress on getting logos done by Café Press.

High Rock Fly-In:

The High Rock Party is scheduled for August 21st. Brian is organizing a clean up of High Rock on Aug 14th.

Preregistration for the High Rock party is recommended and will get you extra raffle tickets, but walk up registration will also be available.

A moon bounce has been ordered and it's agreed that late hours will be reserved for adults at which point an intoxicated madam president should provide much entertainment. In addition, Brian will provide a mint julep tasting so bring your favorite bourbon.

New Business:

John Middleton made a proposal for the club buy a walk-behind tractor with a bushhog attachment. He would be willing to house it and to trailer it to sites. Often the training hills are unusable because the grass is too high, and it takes too long to clear them with weed whackers. Waiting for owners to mow is not a good option either (*site owners usually only mow twice a year -mid June and Sept*).

- Discussion ensued regarding whether such as device would work where rocks are embedded like at the Pulpit & Bills. Since it's not good for big areas it would not be a means of clearing an LZ. Apparently the club had bought something similar years back that is now in the possession of Eric Logan. •

A suggestion was made to try renting a similar machine to try it out before purchasing anything. Attempts will be made to rent a tractor for the Pulpit cleanup so that members can gauge its performance.

- The tractor would not be not suitable for huge areas, so paying land owners is still appropriate and a gesture of good will from the club.

(CHGPA Minutes, continued)

Lauren proposed a vote on providing donations to training hill owners for mowing. The vote passed on sending \$100 to \$150 per year to landowners (*such as Taylor's and Kirchners*) on an ongoing basis.

A proposal was made to add Daniels to the list of landowners that receive Christmas gifts since many of our pilots are flying that site. Matthew will get in touch with the Roger Rittenour and the Central VA HG Association to arrange this.

Pulpit Fly-In:

The dates for the Pulpit Fly-in are Sept 18th & 19th. A request has been made to USHGA to post the dates in their calendar in the magazine. Requests have been made for donations for the raffle. This year we are requesting paragliding goodies as well as hang gliding stuff. Daniel still needs volunteers for registration and for manning the grill. Chris McKee offered to get the keg and Mark Cavanaugh will provide firewood.

Everyone agreed that anyone but Brian should do the spot landing contest, so that pilots would have a fighting chance of actually being able to see the spot from the air.

Miscellaneous:

Mark Cavanaugh asked for a show of hands as to who preferred receiving email directly versus going to the web and getting it. The majority chose receiving email directly.

Ralph would like to simplify the email addresses for board. The addresses treasurer@chgpa.org and vp@chgpa.org would be much more meaningful and easier to remember than VP-Treasurer and Director-at-large, etc. Ralph made a proposal to change the board of director's duties so that the treasurer would only be the treasurer and the Director at Large would become the Vice President. Since this involves a change to the bylaws it will be voted on at the next meeting.



Agenda for the October CHGPA Meeting:

- Usual introduction of new faces and flying stories.
- A report will be given on the progress that has been made on building a better paragliding launch at the Pulpit.
- Flight Director will give a report on the progress that has been made on fixing up the left ramp at the Pulpit.
- Vote on whether to amend the Club's bylaws to change the board positions and duties (Treasurer and VP).
- CHGPA 2005 Membership renewals begin.
- Christmas Party

Schools, Dealers and Flight Parks

Blue Sky Flight Park

(Steve Wendt)

540.432.6557 or 804.241.4324

www.blueskyhg.com

e: blueskyhg@yahoo.com

Minutes from Richmond, home of Blue Sky hang gliding school and Manquin AT. Quality instruction, sewing and repairs. Scooter tow, truck tow, aerotow and foot launch lessons. Dealer for Wills Wing, Moyes, US Aeros, Mosquito and Doodlebug powered harnesses. A full line of custom accessories are available. Camp, golf and fly. Paragliding towing also available.

Highland Aerosports Flight Park

(Sunny Venesky & Adam Elchin)

410.634.2700

www.aerosports.net

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Maryland School of Hang Gliding Inc.

(Richard Hays)

410.527.0975

www.mshg.com

e: mshgflyer@hotmail.com

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Silver Wings

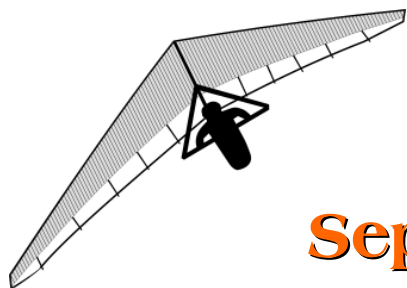
(John Middleton)

www.silverwingshanggliding.com

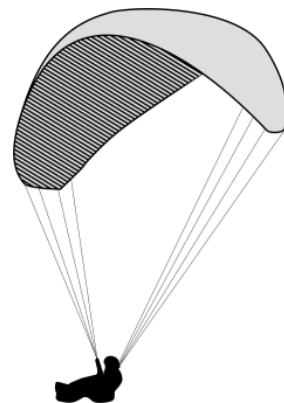
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The Twelfth Annual McConnellsburg *Hang Gliding & Paragliding* Festival



**September 18th & 19th
2004**



**Our festival features a
Just-For-Fun XC Contest with individual
and team trophies, a Pilot's Raffle with great prizes,
and a Cook-Out and Party on Saturday night.**

**Pre-register online at:
<http://www.chgpa.net/hgfest/register.html>**

**Registration includes 10 free raffle tickets
and a commemorative T-shirt.**

*Profits from the festival help benefit the
McConnellsburg Rescue Squad.*

(PRE-FLIGHT, continued from page 2)

other pilots wire up their gliders. I plan to wire mine—as soon as I can find the time to study for the HAM radio license exam (*using another of Ralph's excellent products, his software study guide*). So be sure to save this newsletter (*as if you wouldn't?*) and free yourself from high-altitude radio fumbling!

In traveling news, some of our club pilots—Allen Sparks, Joe Schad, Gary Smith and Bruce Engen—just returned from a spectacularly successful flying trip out West. Given the temperamental nature of weather, they were lucky to be able to fly for twelve consecutive days. It's a sign of the digital times that 'Spark was able to provide the rest of us with near-daily online reports on their adventures, as well as some great photos. We all enjoyed their trip from our computers back home.

This fall, a large group of CHGPA pilots, along with some pilots from Blue Sky Flight Park, will be traveling to Tennessee in hopes of flying Lookout Mountain and Henson's Gap in the Sequatchie Valley. We've rented a large house to share, so it should be a fun trip. There is always room for more people in the house, so contact me if you're interested in coming down with us. The autumn foliage should be nearing its peak, and fingers are crossed for good flying weather!



The new ramp approach at the Pulpit is ready for action!

(WHAT GOES UP, continued from page 4)

Let's start with the proposal itself: First, I'd like to eliminate the dual-role nature of the "VP-Treasurer", and make that board position just "Treasurer", with no additional responsibilities beyond taking care of the Club's finances. This in turn allows the "Director-at-Large" position to then be re-titled as "Vice-President".

Now, the rationale: the simple version, is that I'm just trying to simplify the structure of the board, and make it easier to identify who is responsible for what. (A side benefit is that the e-mail addresses associated with each board position also get easier.) Historically, I don't believe that we have ever asked the "Treasurer" of the club to perform any kind of "Vice-President" duties. Also, simply dealing with the finances of the club is a pretty big job in and of itself. It isn't really fair to add additional duties to that position.

So the next question is, who gets to inherit the VP duties? For that matter, what ARE the VP duties? Actually, the better question is, what is the difference between a Vice-President and a Director-at-Large? I did some searching on the internet, and it turns out that answer is "not much". In fact, the only significant difference is that the vice-president inherits the duties of the president in their absence. This being the case, it seems like it would just make sense to re-title the Director-at-Large position as "Vice-President". This would leave the club with the following board positions and general responsibilities:

President: Leads the club; generally has overall responsibility for the health and welfare of the club.

Vice-President: Generally responsible for public relations; the VP would take charge of any of the club's relationships with outside entities (such as landowner

relations), as well as any activities that promote the club (such as participating in the Smithsonian Kite Festival). Also has oversight of the website.

Treasurer: Responsible for the club's finances. This include member renewals.

Flight-Director: Responsible for the club's flight activities, including flight safety and site maintenance. Also has oversight of the Pulpit fly-in.

Secretary: Responsible for club documentation; includes maintaining meeting minutes, and filing required paperwork with outside entities. Also has oversight of the newsletter.

I believe that this proposal is good for the club; it will simplify our organizational structure, and help to clarify the roles and responsibilities of each member of the board.





**Capital Hang Gliding and
Paragliding Association**

15914B Shady Grove Road #L-197
Gaithersburg, MD 20877-1315

**Next CHGPA meeting will be held:
October 27, 2004
(Meeting starts at 8:00pm)**

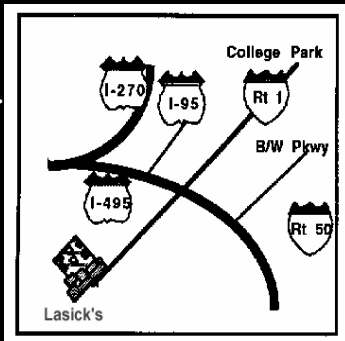
Meetings are held downstairs at: Lasick's Beef House

Directions: 0.8 mile inside the beltway on Route 1 South,
just past the Super 8 Motel (College Park exit off I-495).

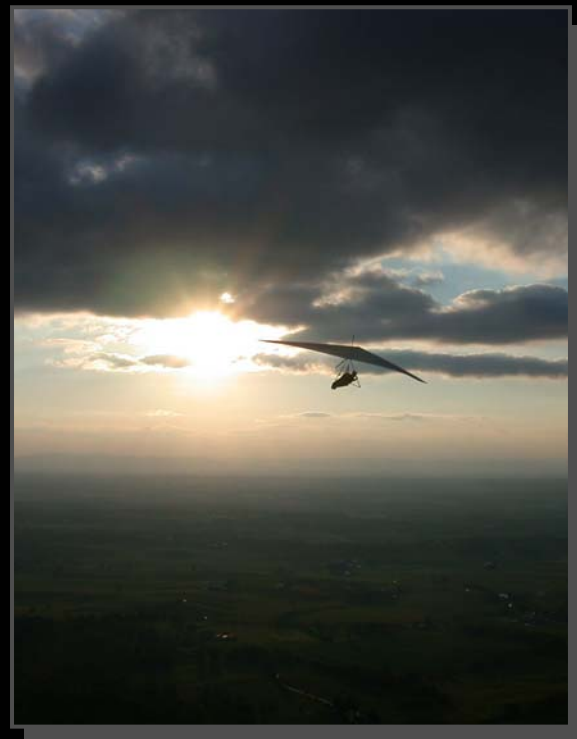
Note: If coming from points north on I-95, at the

Capital Beltway stay right at
the split and then take the
immediate left exit to
Route 1 South, College Park.

Lasick's Beef House
9128 Baltimore Blvd.
College Park MD 20740
(301) 441-2040



FALL ~ 2004



Mark C. enjoys the sunset over High Rock. ~ Photo by Ralph Sickinger