

**4. When I push the left stick forwards (in airplane mixing mode), the blimp goes straight ahead for a while, then it starts to turn! Is one of the motors defective? I was expecting the saucer to fly in a straight line.**

- This is completely normal. Variations in the air surrounding the airship will alter the intended course, and this requires modulation of the controls by the pilot! It is certainly possible to fly a straight course with the Microblimp, however we cannot always expect the craft to fly as if it were on rails. When flying the saucer, you will have to pretend that you are on board the saucer looking out, and manipulate the joysticks according to how you want the Microblimp to fly. In general pushing the Left stick forwards will result in forward motion of the saucer, but to fly in a perfectly straight line will often require the pilot to make continuous small adjustments of thrust by using the transmitter joysticks.
- If you want to dampen the Microblimp steering a little bit and increase stability in turns, you can add a vertical stabilizer fin (5" x 3" is a good size to start with), by taping a small sheet of styrofoam or even paper.

**5. When I power up my Microblimp gondola, all it does is beep beep.... beep beep forever!**

- There are a few situations which can cause this:
- Check to make sure that your Transmitter is turned ON by pushing the switch all the way to the right - the main LED of the transmitter should be glowing RED. Check to make sure you have good batteries in the Transmitter. Replace them and try again.
- Try powering the transmitter OFF and ON again, and do the same with the receiver. It should sync up -if not call Plantraco.

**6. It seems to be taking forever to charge my Microblimp Lithium Polymer Battery**

- Replace the 4 AA cells in the transmitter - they are probably low and we have to have greater than 4.4 Volts left in the 4 cells in order to charge up the Lithium Polymer Microblimp Bahoma cell. A normal Charge will take about 40 - 60 minutes

**7. My Microblimp seems to be very noisy all of the sudden**

- If the propellers have been bent or damaged, it can sometimes cause a vibration that will make a loud motor sound. You can fix this by trying to straighten out the propeller a little bit. Try to find out which propeller is making the noise and then pull the propeller off and try to make it "true" again. If you cannot straighten it out enough, you can order replacement propellers from your dealer or [www.microblimp.com](http://www.microblimp.com)

**8. My saucer balloon is leaking!**

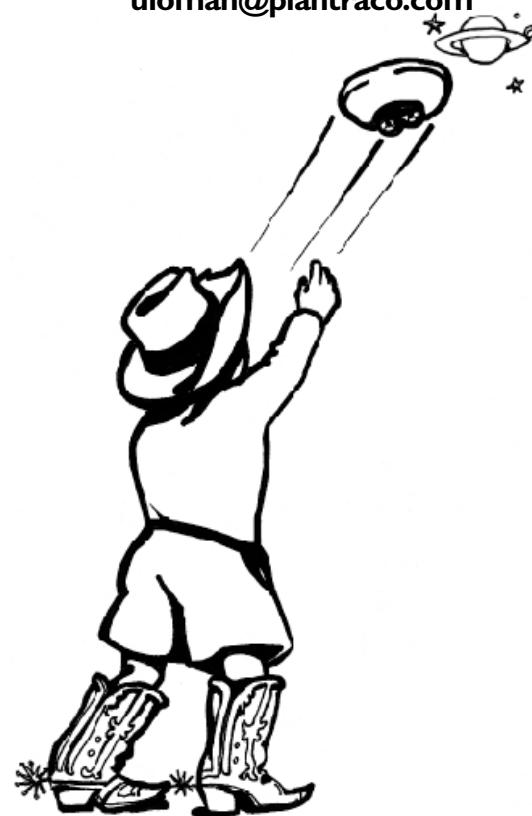
- You can patch a small hole in the balloon with cellophane (scotch) tape.
- If you have a gaping hole in the balloon, you may require a replacement balloon.
- If you have damaged the self sealing valve of the balloon by improperly inflating the balloon, you can roll up the tail end of the balloon and seal it temporarily with cellophane tape.

**To Re-Order Spare Balloons etc. Call your Local Dealer or Plantraco Direct at:**

**1-306-955-1836**

**World Wide Web at:  
[www.plantraco.com](http://www.plantraco.com)  
[www.microblimp.com](http://www.microblimp.com)**

**Email us at:  
[ufoman@plantraco.com](mailto:ufoman@plantraco.com)**



20 Inches Diameter

900 Mhz Proportional R/C

Rechargeable Battery

Challenging and Relaxing



## **QUICK START - FOR THOSE WHO DON'T READ MANUALS**

There are a lot of new concepts that you'll need to learn in order to operate this lighter than air radio controlled blimp. It's pretty easy to set up, once you know what you are doing. Below is a summary of what you will need to do if the kids want you to set up your Microblimp immediately. : )

1. Add 4 Alkaline AA cells to the Transmitter and inflate the included mylar balloon with helium. Make sure you insert the batteries with proper polarity "+" and "-".
2. Switch ON the transmitter, and attach the small rechargeable blimp battery to the Microblimp gondola. You'll hear several tones as the Microblimp sync's with the transmitter, then the propellers will start to spin. You now need to adjust your trim using the trimmer wheels on the transmitter. Adjust the wheels until you have stopped all rotation of the 3 propellers. (note that your default transmitter mixing mode is airplane style blimp mixing). Stop here and read the whole manual if you found it tricky to trim out the propellers.
3. Attach the Microblimp gondola receiver to the center of the balloon using the supplied velcro hooks to the center of the balloon, and the fuzzy part of the velcro to the top of the Microblimp Gondola. The plastic gondola dome can be added later.
4. Add the included ballast weights to achieve neutral buoyancy with the receiver battery installed. The Ballast weights consist of a metal washer or a coin that is taped onto the balloon, then a series of included ballast magnets can be added until the Microblimp neither rises nor falls - it will just float there in mid-air.
5. You are Ready to Fly! Take a short test flight, and recharge your battery. Now you can take your time and read the rest of these instructions.

## **PACKING LIST**

- One metallized nylon balloon (Blimp Shape or Saucer Shape)
- One HFX900 Proportional R/C Transmitter/Charger (900Mhz-USA, 868Mhz-EU)
- One Microblimp Gondola (Circuit Board with 3 motors and propellers)
- One Lightweight plastic gondola cover.
- One small plastic bag with small parts - special sticker "pockets" to attach the gondola plastic dome to the balloon, a metal washer with round sticker to attach to balloon, and several small magnets that will stick to the washer to be used for ballast adjustment.
- One Instruction Manual (you are holding this now!)

## **FINE PRINT**

*Battery discharging, charging, electric motors, spinning propellers, and flying models all have the potential for serious injury to persons and damage to property. In purchasing these products, the user agrees to accept responsibility for all such risks, and not to hold the manufacturer, distributors, or retailers responsible for any accident, injury to persons, or damage to property.*

**PLANTRACO.COM**

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**Web Page [www.plantraco.com](http://www.plantraco.com) [www.microblimp.com](http://www.microblimp.com) Email [ufoman@plantraco.com](mailto:ufoman@plantraco.com) Orderline 306-955-1836 Fax 306-931-0055**

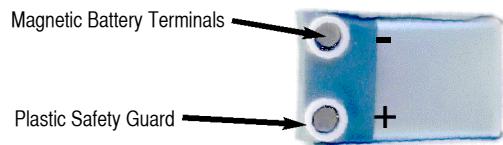


Fig. 1. Bahoma Battery Connector (patent pending)

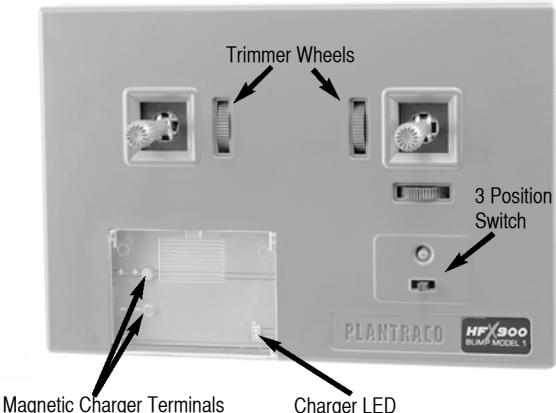


Fig. 2 HFX900 Transmitter with Built-In Charger.

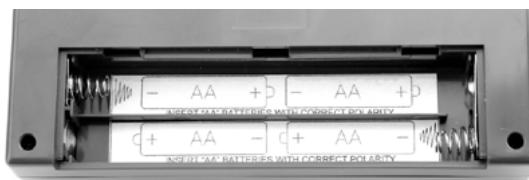


Fig. 2.5 Insert "AA" Batteries with Correct Polarity

## ASSEMBLY

### Add Batteries to Transmitter (See Fig. 2.5)

Remove the rectangular battery cover from the back of the Transmitter. Insert 4 "AA" Alkaline batteries taking note of proper polarity of positive and negative contacts (Negative end of the battery should make contact with the "spring").

### Charge Lithium Polymer Rechargeable "Bahoma" Cell

The included lithium polymer cell features Plantraco's Bahoma (BArye HOlder using MAGnets) connector (patent pending). The Bahoma connector system uses strong plated magnets to hold the battery onto the charger and onto the Microblimp gondola. These magnets are also used as electrical conductors. The terminals of the Bahoma cell are protected from shorting to each other by a plastic safety guard. (See Fig. 1)

On the front of the transmitter, slide the 3 position switch to the middle position to put the transmitter into its "Charge" mode. The LED inside the charger door will be blinking rapidly. Slide the hinged clear polycarbonate plastic charger door

downwards to unlock it, and then lift it open. Attach the Bahoma cell to the corresponding magnetic terminals. The Bahoma cell will "click" into place on the charger by magnetic attraction and with good electrical contact. The LED inside the charger will now glow brightly. Close the clear charger door, and slide it up to shut it with a small click. Your cell is now charging, and when the bright LED goes out, the cell is fully charged and ready for use. Charge time is about 40 - 60 minutes. (See Fig. 2)

### Receiver - Microblimp Gondola

The circuit board with 3 motors and propellers is the Microblimp Gondola. It has a built-in R/C receiver, antenna, microprocessor, power transistors to control the motors, LED indicator light, and Bahoma (patent pending) magnetic battery terminals. The small oval shaped circuit board material is used to attach the Microblimp gondola to the balloon with the included adhesive backed velcro, or you can also use 2 small pieces of cellophane tape to attach it to a balloon if you wish - read on for more details on this.

### BALLOON INFLATION

The metalized nylon balloon can be filled anywhere helium is available. Small helium tanks for home use are also available from many department and variety stores such as Costco, or Toys R Us. To find a source of helium for your saucer or blimp balloon, look in the local telephone directory under Balloons, Florists, Helium, Hobby Shops, and Party Supply Stores. Many retailers will fill your saucer or blimp for a nominal fee using their large helium tank at their location.

Once inflated with helium, the balloon will remain inflated until natural leakage of helium occurs. This balloon will hold helium fill for approximately 1-2 weeks before needing a refill. The helium in the balloon will gradually leak out over time, and the balloon will begin to sag after several days. When the balloon is sagging a bit, the saucer/blimp will look a bit "baggy" but it will still fly very nicely. If you desire, you can add a small amount of helium to the sagging balloon to restore its firmness.

To fill, insert the nozzle of the helium tank into the opening of the balloon's "tail". There is a small circular opening in which you slip the nozzle of the helium tank. Carefully insert the nozzle approximately 1 inch into the circular opening, pinch the balloon tightly around the nozzle, and open the valve of the helium tank. (See Fig. 3) Take care that you do not puncture the balloon. The helium will enter the balloon, but the self sealing valve will prevent the helium from escaping. It will take about 2 minutes to fill the balloon with a small helium tank. When filling with helium, try to fill the balloon so that it is quite firm and full, but don't overfill it - especially if you are going to transport the balloon in a hot automobile - where great temperature changes might cause the helium gas to expand and burst the seams of the balloon. When the

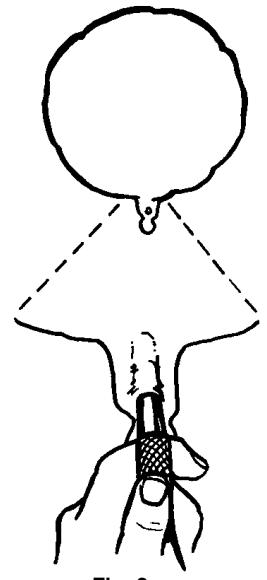


Fig. 3

## CARING FOR YOUR AIRSHIP (SAFETY AND STORAGE)

### Some Cautions to take with your airship

Your Microblimp has been designed to provide you with hours of trouble free enjoyment. The unique characteristics of this "lighter than air" flying machine must be taken into account to assure safe operation and storage of the Microblimp. Please take note of the following Safety Warnings:

- **Do not** fly outdoors, you will only have one flight! The saucer is very sensitive to the slightest breeze and thermal activity. Outdoor flying will allow the saucer to get away. If you must fly outdoors, tether the saucer to the ground with a length of string or lightweight fishing line.
- **Do not** fly near halogen lamps or other heat sources, they are very hot and tend to melt plastic and may start fires.
- **Do not** fly near lit candles or stoves, for obvious fire hazard reasons.
- **Do not** allow small children to play with the Microblimp unattended. Small Parts like propellers are a choking hazard and the supplied rechargeable lithium polymer battery contains lithium which is a toxic substance if ingested. This product is not intended for use by small children under the age of 10 years old.
- The lithium polymer rechargeable battery should not be used if it has become swollen or has been physically damaged, crumpled, or cut. Always use the supplied charger built into the transmitter. The supplied lithium polymer cell will provide you with about 100 Microblimp flights, and then it may require replacement. Replacement cells are available from your dealer or from Plantraco directly at [www.plantraco.com](http://www.plantraco.com). Always dispose of used or damaged batteries appropriately.
- If you need to dispose of a damaged Lithium Polymer cell, you can make a mixture of about 2 cups of water and 1 cup of table salt in a disposable container outdoors. Put the damaged cell in this concentrated salt water solution and leave it outside overnight. The damaged cell may then be disposed of the garbage safely.
- Replacement cells are always available from your dealer or from the plantraco website [www.microblimp.com](http://www.microblimp.com)
- **DO NOT ALLOW THE BALLOON TO FLOAT AROUND THE HOUSE UNATTENDED. ALWAYS TETHER YOUR SAUCER AFTER YOU ARE FINISHED FLYING.**

## TROUBLESHOOTING

If you follow this instruction manual carefully, you should not have problems with your Microblimp, however we have provided this troubleshooting list to help you along with enjoying your airship.

### 1. I have inflated the balloon, attached the microblimp gondola with cellophane tape, but it still wants to rise, and it won't come down!

- Hopefully you are indoors! Add some more ballast weight to achieve neutral buoyancy, check your instructions again regarding Ballast.
- You may also tape a coin to the saucer for weight. Let the saucer go free for a second and observe it. If it is still rising, then grab it before it gets away, and add more weights in small amounts until the saucer achieves neutral buoyancy.

### 2. My airship worked fine for many weeks, I added extra helium to keep it full, but now it doesn't have enough lift to get it off the ground even though the balloon is full.

- this is most likely due to stale air that has entered the balloon. Helium is required for lift, and if you are topping the saucer up from time to time, after many weeks of doing this, the helium inside the balloon may become mixed with regular air. There is a simple solution for this problem:
  - Take a small plastic straw and carefully insert it 6 inches into the balloon through the self sealing valve, and gently squeeze the balloon to slowly deflate the balloon, this should take about 5 minutes. After the balloon has been deflated, it can be folded up for storage, or it can once again be filled with helium for more flying action!

### 3. I took my saucer outside to try it out, and it worked great for a few minutes, but then it got away and I lost it!

- The Remote Controlled flying saucer is intended for INDOOR usage only, you run the risk of losing it if you fly it outside. At least you can take satisfaction in knowing that you have allowed the saucer to return to its "home planet"



leakage of helium from the mylar balloon - This helium leakage is normal, and cannot be prevented. One helium fill will last approximately 1 - 2 weeks, this may vary according to your local atmospheric conditions. When the balloon begins to sag, you may add a "top up" fill of fresh helium and continue flying. If the saucer or blimp balloon does not have enough lift after a few weeks of usage, even after adding a "top up" fill of fresh helium to the balloon, the helium may be contaminated with air. Deflate the balloon (by inserting a drinking straw through the valve) and refill it with fresh helium.

## PILOTTING YOUR MICROBLIMP

Flying the Microblimp can be both easy to learn and challenging to master!

We like to describe piloting the Microblimp as Challenging and Relaxing at the same time. It forces you to concentrate on your controls, and while you are doing this, you won't have any time to worry about any other things - **It is a great escape!**

The best way to learn to fly the saucer is to just get out there and have fun. After a few minutes you will understand how propeller thrust affects your airship, and you will be wanting to fly an obstacle course around your living room.

The **default airplane style mixing** is the best way to start flying.

The **Left Joystick** controls your forward and reverse thrust of both Left and Right motors simultaneously and equally. If you use the Left stick alone, you will cause your blimp to thrust forwards or backwards. Side to side motion of the Left joystick has no function on this model.

The **Right Joystick** is used for steering Left and Right, and also to ascend and descent - Just remember to Pull the Right stick to go UP. PULL-UP - just like the old war movies "you're too low! Pull Up!, Pull Up!" - it is an easy way to remember that when you want the Microblimp to go up, you pull back on the Right stick. Conversely, if you push the Right Joystick forwards, you will descend. Now for steering Left and Right, you should remember to go easy on the sticks - you don't need to move a whole lot to get the Microblimp to turn one way or another - you have precision proportional control, so remember to take it easy - small and slow stick motions will be better for learning. With any R/C aircraft, the biggest challenge for the beginner is when the aircraft is coming back towards you - you will find that your controls will seem reversed when the Microblimp is coming back towards you. Every R/C flyer must master the controls under this situation, and the Microblimp is a good R/C airplane trainer for this purpose.

Try to imagine that you are inside the Microblimp looking out. If you can put yourself in the cockpit, you will be well on your way to becoming a good pilot. Once you have mastered flying the Microblimp you'll be ready to try an R/C airplane or any other R/C aircraft. For the **Blimp/Tank Style Mixing**, the controls are situated so that pushing the two transmitter sticks forward causes the saucer to thrust ahead. Pulling both sticks backwards will cause the saucer to thrust backwards. To turn right or left, you may push one stick forwards by itself and the craft will turn the opposite direction of the stick you are pushing forwards - ie: pushing the right stick forwards will cause the saucer to rotate and turn to the left. Sharper turns can be achieved by

reversing one motor while forward thrusting the other. To gain altitude, push the Right Joystick to the Right, and to descend, push the Right Joystick to the Left. Ballast can also have an effect on rate of climb, so you can fine tune this according to your flying style.

## PILOTTING TIPS

Most new pilots tend to use too much thrusting power when beginning to fly and find that they are crashing into walls and generally losing control of the Microblimp. When learning to control the airship, it is best to use the thrusters conservatively. Don't move the joysticks so much - you have proportional control, so try to use it, small motions will give you better control when you are just starting to learn. If you are using extreme joystick motions when you are just learning to fly, you will always be overcorrecting the course of the saucer. The best method of learning to fly the saucer is to go slow, throttle your power and then observe the Microblimp to see how it reacts to your control. What is most important is what the Microblimp is doing, NOT what position your joysticks are in - you will react to the motion of the Microblimp and modulate your controls to achieve the desired flight path. Envision a NASA Astronaut controlling his jetpack during space walks on shuttle missions - the same methods of control apply to the Microblimp! Try to imagine that you are inside the Microblimp and facing forwards from the saucers viewpoint - this helps to keep track of Right and Left - Especially when you are turning around to come back.

If you like, you can tape a small vertical "fin" to the rear of the balloon to make the balloon more stable, and less reactive to your controls - Experiment with the size of fin until you get the desired level of "damping". This will make the airship less reactive to your controls, but it may help beginner pilots.

Eventually when you are a seasoned pilot, the sky is the limit in what you can do with your RC saucer!

## AERIAL SPORTS AND COMPETITION!

### Aerial Obstacle Course

- Test your skill in maneuvering your saucer by seeing how quickly you can fly a course around objects in your living room! For example, you could have a timed race to a houseplant and back. Use a wristwatch to time each run.

### Aerial Sumo Wrestling - Aero Derby

- Fly two blimps or saucers at once, and have a "Smash Up Derby In The Sky"
- Race two saucers at once on a flight course of 3 laps around a room. Bumping each other out of the way is allowed! The first saucer to complete the course wins the race! This is a lot of fun - especially if you like competition with your friends!
- Put a small hook on your balloon and try to pick up small paper cut out "men" that you can make. Just remember to keep the weight of the paper men to a minimum so the Microblimp will be able to lift it.

### Create Your own Flying Games- The Sky is the Limit!

balloon is full, be sure to hang on to it, it has quite a bit of lift!

This balloon is very durable and can be refilled many times. If you would like to deflate the balloon for storage, you may do so by inserting a small plastic straw into the balloon self sealing valve approximately 6 inches and allowing the gases to escape from the balloon. Insert the straw carefully so as not to puncture the balloon. You can speed the deflation of the balloon by gently squeezing the balloon with the straw inserted into the self sealing valve.

## ATTACHING THE MICROBLIMP GONDOLA TO THE BALLOON

There are a few ways to attach the Microblimp gondola to the balloon. For your first flights, it is recommended that you use method #1 below:

### METHOD 1. Without Gondola Plastic Dome - Easiest Method

Hold down the inflated balloon on the floor or table and place the Microblimp Gondola unit on the center of the balloon - This is marked with a small black circle printed on the balloon. It is a good idea to place the filling valve of the balloon towards the rear for orientation in flight. The Bahoma battery will be at the "rear" side of the microblimp gondola. You can fasten the Microblimp gondola to the balloon by using the supplied Velcro stickers, or you can just as easily use Cellophane (Scotch) tape. This method provides you with the lowest possible flying weight, the highest performance, and the best access to the Bahoma battery (**See Fig. 4**).

With the Microblimp gondola attached to the inflated balloon, you can now skip ahead to the "Ballast" section of the manual and you'll be ready to fly in a few minutes.



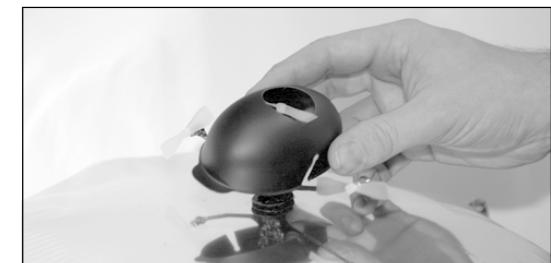
**Fig. 4 - It is pretty simple to attach the Microblimp Gondola to the balloon with the supplied velcro or you can even use cellophane tape**

### METHOD 2. With Gondola Plastic Dome

This method is really just a continuation of what you did in Method 1. Line up the plastic gondola plastics with the Microblimp Gondola that is already attached to the inflated balloon, and slip the plastic dome over top of the middle propeller. If you slide it a bit sideways, you can slip it over the prop without too much difficulty. (**See Fig. 5**)

Now get the self adhesive sticker "pockets" from the plastic bag of small parts. Get one of the stickers ready and then check the alignment of the gondola plastic dome - it should be surrounding the Microblimp Gondola, but not actually touching it. You can move it

around a little bit until you can see that it is clear of both of the "arms" and the central motor mounting area of the Microblimp Gondola. (**See Fig. 6**) Once your alignment looks good, apply the self adhesive sticker pockets around the tabs of the plastic dome. (**See Fig. 7**) You can now see that the gondola plastic dome is attached to the balloon, but it is actually free to be removed - we just have to slide the tabs out of the pockets. Since the plastic is quite flexible, this is a fairly easy thing to do - we just squeeze the ends of the plastic gondola dome a little bit and then slip the hole over the central propeller to remove it. This only takes a second or two.



**Fig. 5 - Slip the plastic dome over the central propeller, and align the slots with the motor arms, getting ready to attach to the balloon.**



**Fig. 6 - Ensure that the plastic dome is not touching the Microblimp Gondola circuit board, and get ready to use the self adhesive sticker "pockets"**



**Fig. 7 - Finish off the gondola plastic dome installation by attaching the stickers over the tabs to make pockets. The gondola is attached, and removable.**

When you want to attach or remove a battery, you only need to squeeze the plastic dome a little bit to slide the tabs out of the pockets, and slip the dome over the central propeller. The gondola plastics have been manufactured as lightweight as possible - due to this specification, the plastics are very "bendable" so this technique works very

well to give your Microblimp a nice appearance, without adding any annoying vibration noise to the operation of the Microblimp.

If your Microblimp came with a Blimp shaped balloon, you will also have a set of styrofoam blimp fins that are attached to the rear of the blimp balloon. The fins are attached by bending the small tabs 90 degrees alternately, and then taping the tabs of the fins to the inflated blimp balloon with cellophane tape.

The Microblimp gondola is so lightweight that it can actually be flown with a regular latex party balloon. Be aware that a latex balloon can very easily pop, and then your Microblimp gondola will fall to the ground and possibly become damaged. It can be a lot of fun to fly with a latex "rubber" balloon like this, but remember, the latex balloon will only hold helium gas for a few hours, and is constantly leaking helium gas.

## Testing Transmitter and Receiver

### Multi-Channel Operation

The 900Mhz R/C System (868Mhz in EU), can be configured for use on one of 3 "channels". You select your channel when you switch on your transmitter. The position of the Left joystick at startup controls what channel you will use. When you startup the Transmitter, you can hold the Left stick to the Left, leave it in the middle (default), or hold it to the Right, to configure operation on Channels 1, 2 and 3 respectively. Default is Channel 2 (left stick is in the middle position). The receiver will measure signal strength to lock on to the desired transmitter, so all you need to do is make sure that when a new Microblimp is starting up, that the appropriate transmitter is closest to the new Microblimp. An audible tone sequence will indicate the Channel the receiver has locked on to. Once you have confirmed that everyone is on a different channel, you are ready to go. Get your friends together with their Microblimps and fly together! The possibilities for aerial racing and other aerial radio controlled sports are endless!

Note that every Microblimp can be used on any one of the three channels - all selected from the transmitter at startup. (See Fig. 8)



Fig. 8 - Configure Transmitter functions by holding stick position while switching transmitter ON

## Establishing Transmitter-Receiver R/C Communications

Turn on your transmitter by pushing the 3 position switch all the way to the far right. The main transmitter LED will glow.

Next, attach the Bahoma cell to the Microblimp Gondola - you will notice a distinctive audible musical arpeggio tone sequence (C-E-G-C-G-E-C notes) that indicates successful microprocessor startup. This arpeggio is usually followed by a two-tone repetitive sequence (C-E,,,C-E,,C-E -- and so on). This repeating two-tone sequence indicates that the receiver is scanning for a transmitter signal - it will continue to repeat until a valid transmitter signal is received. Once a valid transmitter has been found, the Channel number will be indicated by a series of tones (G note). The default transmitter channel is Channel 2, so you should hear two "G" notes to indicate that the receiver is operating on Channel 2. The propellers may start spinning, and you will be able to control the propellers by using the Transmitter Joysticks, but first you will need to adjust the trim by moving the small trimmer wheels located near the transmitter joysticks.

### Adjusting the Trimmers of the Microblimp Transmitter

Rotate the trimmer wheels with your thumb until you have successfully stopped the propellers from spinning. This can be tricky to do the first time - especially if you are not sure which stick controls what on the Microblimp - it helps immensely to know which trimmer wheel needs adjustment. Basically you will want the trimmer wheels to be positioned near the middle of their full range of motion. Make sure you know what mixing mode your transmitter is configured to - (the default is "Airplane Style Mixing"). If you are confused, remove the Bahoma cell from the Microblimp gondola, and read ahead to understand the controls of the Microblimp. Once you understand the joystick controls, you will be ready to adjust the trimmer wheels.

### Controls

The included RFX900 Transmitter allows you to independently control the direction and speed of three propellers of the Microblimp gondola. Two of the propellers are situated on the left and right and one propeller is located in the middle for vertical ascent and descent.

There are 3 user-selectable "Mixing Modes" available on the transmitter. (See Fig. 8) You select your "mixing mode" when you switch on your transmitter and the mixing mode you choose will be saved in memory until you make another selection. The position of the Right joystick at startup controls what mixing mode will be selected. The factory default mixing mode is "Airplane Style Blimp Mixing". When you startup the Transmitter, you can hold the Right joystick to the left to select "blimp/tank-style mixing" that more closely resembles the controls of the Plantraco Tri-Turbofan airships. When you startup the Transmitter, you can hold the Right joystick to the right to select "Airplane Style Blimp Mixing" "Flight Simulator" mixing mode is accessed by pushing the Right stick UP at startup - which will put the transmitter in to a non transmitting state that is used only when we want to connect the transmitter to a personal computer for using the freeware FMS flight simulator software. (The Computer Interface Cable is available separately). Note that the selected mixing function will remain in memory, even if the transmitter is switched OFF - This

can be convenient, but it can also cause confusion if you forget what "mode" you are in. So if you use the non-transmitting FMS function, you'll have to remember to select another mixing mode when you want to fly your Microblimp - if you forget to do this, it might seem like your transmitter is not working - you have to remember what mixing mode you left your transmitter in.

### Airplane Style Mixing - Default (or Right Stick to Right)

This style of mixing closely resembles a 3CH model aircraft, except with a blimp, you can also have "reverse" throttle! The Left stick controls the master throttle rate and direction. The Right stick controls "ailersons" and "elevator". If you pull the Right stick towards you, you will ascend - just like a model R/C aircraft. If you move the Right stick to the Left and Right, the Microblimp will turn to the Left. or Right (See Fig 9)

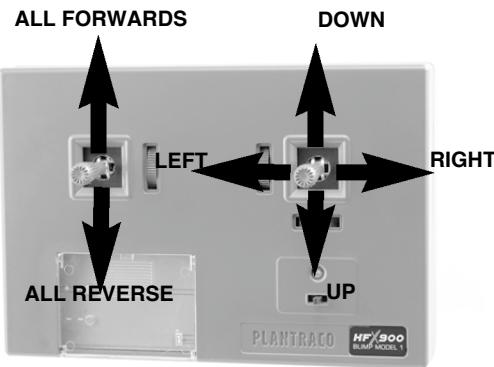


Fig 9. Airplane-Style-Blimp Mixing

### Blimp/Tank Style Mixing - (Right Stick to Left)

This style of mixing closely resembles our Tri-Turbofan Airships, but now we have full-proportional control. The Left joystick controls the Left Motor forward and backwards direction and speed. The Right joystick controls the Right Motor forward and backwards direction and speed. The middle "Up/Down" motor is controlled by the Right Joystick motion from Left to Right. That is - you can move the Right joystick to the Right side to ascend, and to the Left to descend. (See Fig. 10)

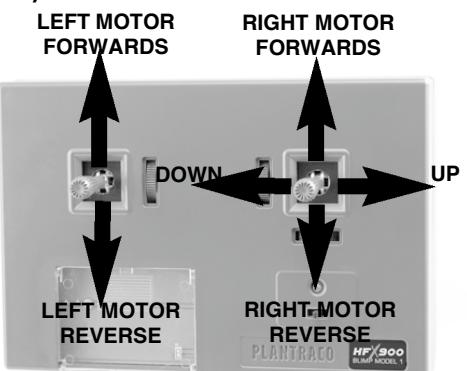


Fig 10. Tank/Blimp Style Mixing

## FMS Mode - Selected at startup (Right Stick pushed UP)

Not a true mixing mode - the FMS mode shuts down the radio functions of the transmitter and instead sends signals through the monophonic audio jack on the left side of the transmitter box. A special cable (available separately - not included) connects the transmitter to a personal computer with the freeware FMS software installed, and you can use the Microblimp transmitter as an R/C Flight Sim input device.

## Low Battery Protection

The Lithium Polymer Bahoma battery should not be discharged lower than about 3 Volts. The Microblimp will ensure that you do not over discharge your lithium polymer battery, and it will warn you when your battery is low and needs to be recharged. The Microblimp measures cell voltage while you are flying, and when the battery voltage gets low, the Microblimp will halt all controls for about 10 seconds and will play a 2 note sequence (E-C---E-C). You can fly for about 30 seconds after the first warning, and then the second audible warning tones will sound. The third warning is the final warning and the Microblimp will then go into a "deep sleep" mode to protect the cell from over discharge. Three Strikes and Your Out! Don't get caught with the Microblimp high in the gymnasium rafters when this happens. Be aware that the LED will stop blinking, controls are halted, and the two audible tones - Come down when you hear the first warning tones. Always remove your Bahoma battery from the Microblimp and recharge it. If you leave the battery on the Microblimp for too long (like overnight) you may over discharge and damage the Bahoma Battery - so be sure to disconnect it and recharge when you are done playing.

## ATTACHING AND ADJUSTING BALLAST WEIGHTS

In the small parts bag you will find one of the round stickers is to be used to attach a small metal washer to the bottom of the balloon. This washer and the magnetic metal weights serve as the ballast adjustment for the Microblimp. A "ballast" is a weight control device that is used to create an equilibrium in the buoyancy of the Microblimp. Neutral Buoyancy is very important for proper operation of the Microblimp.

Stick the metal washer to the inflated balloon several inches behind the Microblimp gondola attachment point. Next, magnets are added to the magnetic washer so that the Microblimp is hovering at a level attitude - neither rising nor falling. If you have added all of the included ballast weights (magnets), and the Microblimp is still rising, then you might need to tape a small coin like a dime to the balloon and start the ballast adjustment all over again. The magnetic weights are mainly for fine adjustment of neutral buoyancy. Depending on your altitude, you might need to add extra weight to achieve neutral buoyancy. Just tape on another coin or paperclip - any small weight works.

Achieving neutral buoyancy should only take a minute or so, and will need to be repeated if you move the saucer to a new location or building. Ballast adjustments are usually made every day due to minute