



### **What is FairStart?**

FairStart is a completely unbiased electronic device for starting fighter kite line touch points. Using FairStart to determine the start of a point eliminates any inadvertent favoritism, advantage or any subjective element compared with that of a 'starting judge' calling the start of a point.

### **Why does a fighter kite line touch match need an electronic starting device?**

When a person is assigned the job of 'starting judge' in a line touch match, **the precise moment of the start of a point is based entirely on the starting judge's understanding and visual awareness of many factors simultaneously; such as**

1. Both flyers' kites position; the starting judge must keep both kites in view at all times.
2. The invisible 'neutral' position for each flyer's kite; the starting judge must ESTIMATE the actual location in the air of the NEUTRAL position for each flyer's kite.
3. Keeping both flyers' kites as close to the NEUTRAL zone as possible through discussion with each flyer prior to the start of the point.
4. Plus completely subjective factors such as their:
  - Eye sight,
  - Visual perception,
  - Personal sense of fairness
  - to mention only a few.

Because of these and other factors, having a person as the 'starting judge' eliminates consistency of fairness from one point to the next. No person assigned the job of 'starting judge' can be expected to be precise and consistent when there are so many variables at work at the start of each point. This is why FairStart is needed.

### **FairStart consists of two electronic random timers.**

When it is activated, FairStart begins to randomly determine two separate things, each independent of the other:

1. The exact time it will 'sound off', no one knows when that time is, it could be from a millisecond to 10 seconds or more.
2. Which of two different sounds it will emit when it does 'sounds off', the sound emitted determines either a top or bottom point.

**And most importantly it's ALWAYS equally fair to both flyers every time it 'sounds off'. It is ALWAYS fair to both flyers because it's unpredictable when it sounds off and it is unpredictable whether it will announce a TOP or BOTTOM point. The moment of FairStart's 'sound off' begins the battle for the point, what sound is emitted determines whether that point will be a TOP or BOTTOM point.**

**FairStart is easy to use.**

It's easy for a person to operate. To activate FairStart, first turn it on with the slide switch on the front. Then push the 'RED' button on the front of FairStart. When the 'RED' button is pressed, it immediately activates a red blinking LED to let the operator know it is actually activated. Pressing the RED button starts FairStart's random timers to begin counting down.

After it is activated, FairStart will emit one of two sounds when it randomly determines the sound off time. Each time it is activated, it begins a fresh random determination of when to 'sound off' and which sound to emit.

FairStart also has two additional buttons. One energizes the sound it emits for TOP points, the other energizes the sound emitted for BOTTOM points. This is so the flyers can become familiar with the sounds that will be emitted.

FairStart is powered by 4-AA batteries, it is small, lightweight and easily portable; it can fit in a pocket.

As a practice or line touch training device for solo flying, there is nothing better than FairStart! If you are working to improve your line touch skills, having a truly random start available to you during your practice is an enormous benefit! Without FairStart, you are imagining a start, but you can't truly surprise yourself with your starting times or whether it's a top or bottom point you are to engage in.

That's why FairStart is such a valuable training tool.....it provides completely random surprise starts for each point during your solo practice. And because you can select a 10 second maximum delay, you can get many practice starts in a given flying session.

By using FairStart in your training, you'll be amazed at how your confidence increases and how much better prepared you will be each time FairStart 'sounds off' during a competition!! With this sort of practice, you won't be surprised by any start during an actual competition! Additionally, you won't wonder what to do when you hear the sound emitted.....you will have practiced your strategies; your actions will be almost automatic. No doubt you will win many more points each time you compete, I know I plan to!

FairStart is available from Bruce Lambert. The cost is the actual cost of the parts and construction. Larry Green hand made each one. The cost is only \$50 plus shipping.

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**On the following pages is the instruction manual for FairStart**



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### Background Information

The FairStart Timer is the result of collaboration between Bruce Lambert and Larry Green. Bruce envisioned an electronic device to make the start of each line-touch fighter kite competition completely fair and neutral to both fliers. The only way to achieve this was to take the starting decision making process away from a person and make it completely random.

Bruce approached Larry (a friend of a friend, kite builder/flier and electronic experimenter) to ask if such an electronic device was feasible. After a lot of research and many hours 'burning the midnight oil' Larry designed both the physical electronic circuit and the software contained within the internal chip. Thanks is given to various 'online' electronics and programming forums for the assistance provided when mental 'stumbling blocks' were encountered.

The result is an electronic device that both parties firmly believe is the **only** way to have a totally fair start to each line-touch fighter kite competition.

The algorithms used in the program ensure the results are truly random. The device has proven to be truly random in more than 500 test operations. Tests of the audio output have shown FairStart's audio tones can be heard more than 50 feet away.

We wish you many 'FairStart's in all your line-touch competitions!

Fair Winds,  
Bruce Lambert & Larry Green

### Introduction

The FairStart Timer is designed to produce a truly fair start to a line-touch fighter kite tangle or battle. FairStart emits one of two sounds truly random time and a random selection of top or bottom point to be flown. There are four maximum delay times available with 30 seconds being the default maximum value. The push buttons are all 'momentary' type and just require a quick 'press and release' to operate.

**Note: Do not** continue to hold down any button once activated as the control system may 're-trigger' on completion of its current task.

### Battery Installation

To install the batteries proceed as follows:

- 1) Remove the four cover screws located in the corners of the box.
- 2) Insert four 'AA' batteries into the battery holder observing the correct polarity as shown.

**Note:** The batteries can be either alkaline, NiCad or NiMH but **not** a mixture of types.

- 3) Replace the cover screws taking care not to over tighten.

### Selecting The Maximum Delay Time

The FairStart Timer has four user selectable maximum delay times. To select your preferred maximum delay time follow the steps below.

#### 10 Second Maximum Delay

Hold down the TOP LEFT black push button and slide the <On/Off> switch to the right. Release the push button as soon as you hear a single beep. The delay time is now set to a maximum of 10 seconds.

#### 20 Second Maximum Delay

Hold down the TOP RIGHT black push button and slide the <On/Off> switch to the right. Release the pushbutton

as soon as you hear a single beep. The delay time is now set to a maximum of 20 seconds.

### **30 Second Maximum Delay**

Slide the <On/Off> switch to the right. This is the default timing and the device will reset to this value on every power up unless one of the push buttons are held down.

### **40 Second Maximum Delay**

Hold down the RED push button and slide the <On/Off> switch to the right. Release the push button as soon as you hear a single beep. The delay time is now set to a maximum of 40 seconds.

### **Operation**

Once the maximum delay time has been selected the unit is ready for operation. The competitors will need to be familiar with the two sounds produced in order to be able to react on hearing them in competition.

Pressing and releasing the <Top Left> push button will play the 'Top' sound (a continuous tone).

Pressing and releasing the <Top Right> push button will play the 'Bottom' sound (a rapid series of beeps).

**Note:** An easy way to remember which sound relates to which discipline is to remember 'Tone = Top' and 'Beep = Bottom'. After the competitors are familiar with the sounds the competition can start. Once the fliers have their kites in the air and signal they are 'ready', the Starter will press the red <Start> push button and FairStart will take care of the rest!

**Note:** The FairStart Timer is designed to be operated when held horizontally, push buttons to the top and with the buzzer pointing between the two fliers so that they receive the equal and maximum volume from the FairStart.

**Note:** Do not forget to turn the device off once the contest is completed in order to conserve battery life.

