Installing your CAM

To install the CAM, simply insert it between your receiver and throttle servo. It is recommended that you use all, or at least some, of the protective foam wrap that's supplied with the CAM. If needed, the CAM can be velcroed to the inside of the fuselage but as with any piece of electronic equipment, the more protection you can give it, the better. Do ***not*** try to seal the CAM in any type of waterproof bag or bladder. The CAM needs to be able to sense atmospheric pressure in order to function properly.

Using your CAM

When using a CAM, your system should be powered up in the following order. First, turn your transmitter on. Make sure you the motor switch/stick is in the low position. Then turn your model on. At power up the CAM assumes your throttle is in the off position, measures and saves the throttle signal coming from the receiver, and uses this to shut the motor down after the climb.

After power up, the CAM will give one short beep so that you know it has power, pause for approximately 5 seconds, and then give 3 beeps of increasing pitch (D, E and F). Then you will immediately hear 1, 2 or 3 beeps denoting a 100m, 150m or 200m cutoff. This is referred to as the cutoff report. So, the three different cutoffs will sound like:

100m D E F (pause) E
150m D E F (pause) E E
200m D E F (pause) E E E

Once you hear this, the CAM is armed and ready to fly. If you want to throttle up your motor, you can go ahead and do so. You can actually throttle up and down all you want and after the throttle is held back in the low position for 3 seconds, you'll hear the 3 tone beep and cutoff report again which tells you the CAM has re-armed and is ready to fly again.

Remember, once you start playing with the throttle, do not launch until you've brought the throttle back to the low position for 3 seconds and heard the report signifying that the CAM has re-armed.

So, as a recap...

1. Turn transmitter on
2. Make sure throttle is in low position
3. Turn model on
4. Listen for 3 tone beep and cutoff report from the CAM
5. Fly!
6. If you test run your motor, return throttle to low position, wait for 3 tone beep and cutoff report, then fly!

Once you launch, the CAM will cut the throttle when your model reaches the programmed cutoff altitude. Once the motor cuts, if the model is below the cutoff altitude you can regain motor control by returning the throttle to the off position, and throttling back up again. This feature can be handy for two reasons. First, it can be used in an emergency situation where the motor is needed to save the model. Second, it can be used in a practice situation to climb again to cutoff altitude without having to land.

Important note: When using the CAM in a contest situation, you should not make any flights between powering up your model and taking your actual contest flight. If you are allowed to make a test flight and you decide to do so, after your test flight your model should be powered down and back up again before your contest flight.

Programming your CAM

Programming the cutoff altitude is done using your transmitter. Turn your transmitter on, set your throttle to the ***high*** position, and then power up the model. After a short delay, the CAM will immediately start beeping out a fairly annoying two tone warning. This is to make sure that you know the CAM is about to enter the programming mode. This warning will last for 10 seconds.

If you powered up with high throttle accidentally, you can return the throttle to the low position any time during the 10 second warning and the CAM will start up and continue on as if you powered up as usual. This is a user friendly feature so that you don't have to power down your model and power it back up again if you accidentally leave the throttle on.

If you want to continue with programming the cutoff, just let the 10 second beeping time out. When it does, the CAM will now be in programming mode and it will start a continuous cycle of 3 tones (D, E and F again). Each tone will be 2 seconds long and once it finishes the highest tone it will start over with the lowest again, continuously cycling through the three tones. The lowest pitched tone represents 100m, the next one 150m, and the highest pitched tone 200m. All you have to do is lower the throttle during the tone which corresponds to the cutoff you want. It will finish that tone and then delay 5 seconds and continue on like you powered up normally.

After you set the cutoff, there will be a delay and then you'll hear the usual 3 tone beep and cutoff report which means the CAM is armed and ready to fly. You don't have to power down and back up again after setting the cutoff. The cutoff report will also let you verify that you did set the cutoff correctly.

Important note: No signal is passed to your throttle servo while the CAM is in programming mode.

Questions about your CAM?

If you have any questions about the installation or use of your CAM altitude limiter, please contact us at soaringcircuits@epix.net and we will be happy to assist you.

Soaring Circuits

CAM

Competition Altimeter for Models

User's Manual

for firmware v4.0b (F3i/F3q)

Specs

Size: 7/8" long x 3/4" wide x 3/8" thick (22mm x 19mm x 10mm)

Weight: 1/4 ounce (7 grams)

Cutoff Altitudes: 100m, 150m, 200m

Power Supply: 3.2 to 8 volts

Current Draw: approximately 12mA

Operating Temperature: 32F to 140F (0C to 60C)

v4.0.2

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