

Questions about your CAMf5j USA?

If you have any questions about the installation or use of your CAMf5j USA altimeter, please contact us at soaringcircuits@gmail.com and we will be happy to assist you.

Soaring Circuits

Electronics for the R/C Soaring Enthusiast

Soaring Circuits

CAM F5J

USA Version

**Competition Altimeter for Models
for F5J USA class competition**

User's Manual

for firmware version UF2.2

Specs

Size: 1-1/8" long x 3/4" wide x 1/4" thick (29mm x 21mm x 6.5mm)

Weight: 0.35 ounce (9.5 grams)

Leads: 11 inches total length (280mm), 22AWG

Power Supply: 3.2 to 8 volts

Current Draw: approximately 25mA

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

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Safety



Soaring Circuits and their resellers are not responsible for the use of this product or any damage or injury which may result from its use.



This device is for use by adults only.



An electric motor system which is connected to a battery may start unexpectedly at any time. Always assume that the motor may start and stay clear of the propeller and properly restrain the model at all times when not being flown.



When working on the model with the battery connected it is suggested that you remove the propeller.



Always observe all local laws regarding the operation of radio controlled aircraft.

Introduction

The CAMf5j USA is a simple to operate device that fully complies with F5J USA Tour rules. The CAMf5j USA functions identically to the standard CAMf5j FAI version except that it adds the ability to restart your motor in case you need to save your sailplane. The CAMf5j USA is fully self contained meaning that no computer or programming of any kind is required to use it. You simply install the CAMf5j USA and fly.

Installing your CAMf5j USA

To install the CAMf5j USA, simply insert it between your receiver and ESC. If you have your receiver running from a separate battery, the CAM should be powered from the receiver. In other words, the power line should be broken between the CAM and ESC, not between the receiver and the CAM. If you have a different power configuration or you have any questions about your installation, please contact us for assistance.

Do **not** install the CAMf5j USA in an airtight portion of the airframe. Do **not** try to seal the CAMf5j USA in any type of waterproof bag or bladder. The CAMf5j USA needs to be able to sense atmospheric pressure in order to function properly.

Using your CAMf5j USA

The CAMf5j USA is very straightforward to operate. With your model sitting on the ground, turn on your transmitter and then power up your model. The CAMf5j USA will display the current firmware version for approximately 5 seconds and then the display will change to the last recorded start height (or dashes - see below). The firmware version will start with a "U" to signify that it is the USA version. Once the display changes from the firmware version to start height, the CAMf5j USA is ready to fly. Note that you must leave the model on the ground while the firmware version is being displayed since the zero height reference is being determined during this time.

Once the CAMf5j USA is ready to fly, you may launch whenever you're ready. Once you launch, you can manually turn the motor off when you reach your desired launch height, or let the CAM's 30 second timer turn the motor off automatically. After your flight is complete, the CAMf5j USA will display your start height until it is powered down. If you ever forget what your start height was, you can always power up your model again and the CAMf5j will display your previous start height. In fact, the CAMf5j USA will continue to save your last start height until another motor run is initiated.

The CAMf5j USA functions just like the regular FAI version from power up through the launch and the 10 second zoom window. The difference is that after your launch, you have the ability to restart your motor by switching the motor control off and then back on again. If your motor turns off due to the 30 second timeout and your motor control is left on, the motor will NOT restart on its own. The CAMf5j USA must see a motor off command followed by a motor on command to restart. If you have motor off set up as a failsafe, it is recommended that you switch your motor control off after your launch is complete. That way, a random signal loss and resulting failsafe won't inadvertently restart the motor.

You'll need at least half throttle or more to restart your motor. This is to protect against accidental restarts due to bumping the stick or slider for those that use an analog control. Once the motor restarts, you'll have full high to low motor control. Any motor restart, no matter how brief, will set the display to "---.-" to designate that a restart has occurred.

What do the dashes (---.-) mean?

FAI rules state that a valid F5J flight consists of a motor on command, a motor off command and then further sampling of start height for a 10 second period after motor off. If the CAMf5j USA is powered down any time before this process is complete, or the motor is restarted, the next time it is powered up it will display a series of dashes indicating that the a valid start height was not recorded for the previous flight. This can happen if you test run your motor on the ground, for example, but it is very unlikely to occur during an actual flight.

Radio compatibility

As specified by the FAI rules, the CAMf5j USA is designed to work with receiver pulses that range from 1.00ms wide for the low throttle to 2.00ms wide for high throttle. Slight deviations from these pulse widths are fine but you should try to get close to these values with your radio system. Since manufacturers use different pulse width standards, the following table shows the recommended throttle channel limits for various popular radio brands.

Radio Brand	Minimum Throttle	Maximum Throttle
Airtronics	-125%	+125%
FrSky	-98%	+98%
Futaba	-121%	+112%
Hitec	-130%	+120%
Jeti	-100%	+100%
JR/Spektrum	-125%	+125%