



LIVE SPARK

FLAME EFFECT SYSTEM - SUPPLEMENTAL GUIDE

UPGRADING FLAME EFFECT FIRMWARE

This guide describes the process for upgrading FirePixel or AfterBurner firmware. Each device has a “bootloader,” a piece of software installed on its main board that allows it to receive a new version of its main application firmware via serial data connection from the LiveSpark Controller.





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FirePixel Model 11 Note

FirePixel Model 11 has a small programming port in addition to its two main power/data connectors. This port is only used with a PicKit3 firmware programming device. Model 12 and higher FirePixels, as well as AfterBurners, do not have this programming port. All firmware upgrades may be performed by end-users via the serial connection and Controller webpage as described in this document.

Firmware must be upgraded one device at a time. Use two LiveSpark cables to connect the device being upgraded directly to the Controller's FirePixel ports. The device can be either a FirePixel or an AfterBurner.

Connect Ethernet

To upgrade firmware, access the Controller's Configuration Webpage.

1. Connect your computer to the Controller via Ethernet cable.
2. Set your Network settings obtain an IP address automatically (DHCP). When your ethernet cable is connected the Controller provides an IP address such as: 10.37.13.x.
3. Open your web browser and navigate to: <http://10.37.13.1>
4. You should see the LiveSpark Configuration web page.

LiveSpark Configuration

New password	<input type="password"/>
Confirm password	<input type="password"/>
DMX channel offset	<input type="text" value="0"/>
Time between commands (uSec)	<input type="text" value="0"/>
	Ignition via UDP <input checked="" type="checkbox"/>
<input type="button" value="Ok"/>	
<input type="button" value="Configure Device Parameters"/>	
<input type="button" value="Show Devices Graph"/>	
<input type="button" value="Update Firmware"/>	
<input type="button" value="Shows"/>	

Initialize Device



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1. Open the E-Stop switch cover and flip the switch up.
2. Insert your Controller key and turn the Key Lock to the Unlock position.
3. The Ignite button should illuminate red.

Save Your Device Parameters

1. Click the “Configure Device Parameters” button.
2. In a few moments you should see the device parameters for the single device connected to the Controller.

address	serial no 1	serial no 2	serial no 3	serial no 4	pv min	pv cap	cal thresh	fd thresh	temp offset	Flame Detect Report	Normalize	Timeout	norm setpoint 1	norm setpoint 2	norm setpoint 3	norm setpoint 4	spark rate
1	12	0	0	119	60	130	60	10	125	0	X	0	18	45	60	100	120

3. Record these values, as they may be needed later.

Program Firmware

1. Click your browser’s Back button to go back to the main Configuration page.
2. Click the “Update Firmware” button.
3. You should see the Upgrade Firmware page.

Upgrade firmware

Choose File FP_App2.1_XC1.3free.hex
1: FirePixel (firmware v2.1)

Device info
Type: FirePixel
Address: 1
Serial: 12.0.0.119
Firmware: 2.1

Upgrade

4. Click the “Choose File” button and navigate to the correct firmware file for your device provided by LiveSpark.
 5. Click the Upgrade button to begin the upgrade process.
 6. If you receive an error. Flip the E-Stop switch off, wait 3 seconds, then flip it back on and try again.
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7. You should see a progress bar. The upgrade process takes approximately 20 seconds to complete.

Upgrade firmware

Choose File FP_App2.1_XC1.3free.hex

1: FirePixel (firmware v2.1) 

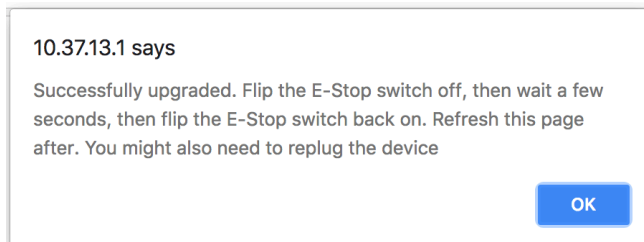
Device info

Type: FirePixel
Address: 1
Serial: 12.0.0.119
Firmware: 2.1

Upgrading



8. When the upgrade is complete you should see a popup message with instructions to reset the device by turning the E-Stop switch off then on again.



9. Flip the E-Stop switch off.
10. Wait 3 seconds.
11. Flip the E-Stop switch on again.
12. Click OK.
13. The Device has been upgraded.

Verify Device Parameters

1. Use the back button on your web browser to go back to the main Configuration page.
 2. Click the “Configure Device Parameters” button
 3. Verify that all device parameters match the values saved from earlier in the process
 4. If a value is not correct, click on the value.
 5. A popup edit dialog should appear.
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6. Enter the new value.
7. Click Save.
8. Repeat for any other values that do not match your saved information.

address	serial no 1	serial no 2	serial no 3	serial no 4	pv min	pv can	cal thresh	fd thresh	temp offset
1	12	0	0	119	<input type="text" value="60"/>	<input type="button" value="Save"/>	<input type="button" value="X"/>		125

Upgrade Additional Devices

Repeat the above procedure for additional devices, one at a time. Be sure to use only FirePixel firmware "hex" files with FirePixels and AfterBurner "hex" files with AfterBurners.

LiveSpark Support

If you have any difficulties, please contact LiveSpark support via our website: www.livesparkfire.com/contact
