

# OWNERS MANUAL



## **FireFly FF-511**

Lightning years ahead of the competition.

### **Lights Alive**

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# PLEASE READ BEFORE CONNECTING FIREFLY!

Congratulations on your purchase of FireFly, the world's most sophisticated lightning simulator. For safe operation of your equipment, please pay careful attention to the following caution statements.

- Do not operate or store in wet locations. Operation in wet locations is hazardous and water damage is not covered by your warranty.
- Use only with properly grounded 15 or 20 amp, 120 volt outlets. Never use a ground adapter to avoid grounding this unit. As with most electronic devices, if using outdoors, a GFCI (ground fault circuit interrupter) outlet or breaker must be used for your safety.
- FireFly is equipped with an extra long power cord for your convenience. Avoid using an extension cord if possible. If you must use an extension cord, it should be a heavy-duty appliance type cord.
- Always use an adequate size grounded cord for connecting your lights sources. If in doubt about the appropriate size, contact a licensed electrician.
- While connecting FireFly's power cord to a surge suppressor can protect your investment from damage due to transient spikes or actual lightning damage, you must NEVER connect surge protectors to FireFly's outlets as serious damage to the unit could occur.
- Replace fuse only with the type and size specified in the manual or on the pack panel of device. Oversized fuses may damage unit and/or create a fire hazard.
- Do not block air vents on the side (FF-501/511) or rear (FF-201/101) of FireFly.
- Use only with approved light sources. Never exceed the maximum rating per channel or the total rating of the system. Compact fluorescent lamps are approved only for use on the dimmer channel. Using strobes other than those recommended and sold by Lights Alive is at your own risk. Lights Alive will assume no liability for damage caused by the use of unapproved strobes.
- FireFly is designed to be connected to line-level or earphone audio jacks. Do not connect directly to speaker terminals without the use of an approved attenuating adapter, available from Lights Alive.

# CONNECTING AND OPERATING FIREFLY FF-511

Before using your FireFly lightning simulator, you should test the system by inserting the power cord in a properly grounded outlet and connecting your light fixture(s) to FireFly's outlet(s). A green indicator should light in the handle of the power switch when in the ON position. If not, check your outlet.

**Internal test** - First, set both threshold controls, set and depth all fully clockwise - press test button for approximately 2 seconds. Channels 1, 2, 3 and 4 will light in succession, then all 4 channels will come in simultaneously for a couple seconds. The dimming channel will then ramp up to full brightness. This tests the internal workings of the 511 as well as all connected lights.

**Alternate timing mode** - Holding the test button while powering up the 511 enacts a second set of timings for a varied effect. The heartbeat/test light will blink 4 times to acknowledge the alternate setting. The system will remember this setting. To revert back, simply turn off FireFly, then hold the test button while powering up again. The heartbeat/test light will blink 3 times. If your lights fixtures don't light when the TEST button is pressed, you have faulty bulbs or light fixtures. If the blue ACTIVITY indicator(s) do not light, replace FireFly's FUSE.

**Heartbeat light** - As long as it's blinking, the microprocessor is operating properly. In the unlikely event that it is not blinking when the unit is powered on, it should be turned off for a few seconds, then powered on again. Of course the fuse must be checked to insure power to the system. Keep in mind that the light in the switch will light, even if the fuse is out. If the fuse is good and the heartbeat still isn't flashing, the unit needs to be returned for repairs.

## SELECTING LIGHTS

LED lights give the best simulation of lightning. If using incandescent, use GE Reveal or equivalent. More light is better, but more lower wattage bulbs are preferable, as opposed to a few high wattage. This insures that the filaments will react quickly. The blue case of the Reveal bulbs gives a whiter lightning effect. 60 or 75 watt recommended. 100 watt okay, but 2x 60 is better than 1x 100, again because of the reaction time of the smaller filament.

Incandescent bulbs are best for the dimming channel.

If using mixed lights, put incandescent on one side (i.e., 1&2 OR 3&4). LEDs would be connected to the other side. The reason is different threshold settings are needed.

## LIGHTNING SIMULATION

1. Start with the LEVEL control(s) in the center (12 o'clock) position and the THRESHOLD control fully counter-clockwise.
2. Connect your stereo sound source (CD player, MP3 player, laptop computer, etc) to the AUDIO IN 3.5mm (1/8") jack on the front panel. Any line level or headphone jack source will supply the appropriate levels needed. DO NOT connect FireFly directly to speaker terminal without an approved attenuating adapter. Serious damage WILL occur.
3. Connect amplified speakers or a separate amplifier and speakers to the AUDIO OUT jack on the front panel of FireFly.
4. With the POWER switch in the ON (up) position and lights connected, slowly rotate the THRESHOLD control until the light(s) start to glow, then turn the control back slightly until the light just goes out.
5. Start playing your included Thunder CD through your audio equipment. If using an earphone output jack on your audio equipment, set the volume at about  $\frac{1}{2}$  to  $\frac{3}{4}$  of the full level.
6. Now, adjust the LEVEL control on FireFly for the desired effect. Avoid turning the LEVEL control

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### ACTIVITY INDICATORS

The activity indicators light to show activity on each of the four lightning channels and the dimming channel.

### THRESHOLD

This control sets a minimum amount of voltage to be present at the outlets at all times. Generally speaking, start with the control in the fully counterclockwise position, then rotate it until your connected light just starts to glow, then turn it back just enough that the lights cease to glow.

### MODE

Six positions, 4 mono and 2 stereo, give a variety of effects. **Mono 1:** All channels on. Acts like a single-channel device. **Mono 2:** Two channels. 1-2 is one and 3-4 is the other. **Mono 3:** Three channels. 1-2 is one, 3 is the second, and 4 is the third. **Mono 4:** Four channels. **Stereo x1:** Left pair (1-2) is one channel; right pair (3-4) is another. (Looks like Mono 2, but each side has its own audio.) **Stereo x2:** Left pair is two channels with random combinations of 1, 2, or both; right pair is two channels with random combinations of 3, 4, or both.

The test button can give alternate timing to all six modes.

### FILTER

The out (Low) position activates a 2-stage filter system designed to prevent FireFly from reacting to sounds other than thunder. Use this position when using sound tracks with other sound effects in addition to thunder. The in (High) position changes the filtration so that FireFly will react to all audible sounds. This position is appropriate when using a thunder only sound track or when wanting FireFly to flash lights to music.

### POWER SWITCH

Flip switch up to the on position to power the system. A green light on the switch indicates the system is receiving power.

### AUDIO IN and OUT

Connect your favorite sound source such as a CD player or portable MP3 player to the AUDIO IN jack. This may be line level sources or it could be from an earphone output. DO NOT connect speaker terminals to this jack without the use of a proper attenuator or serious damage WILL occur. The audio out jack is for connecting your amplified speakers or other output system.

### DIMMING

The set control adjust the threshold setting for the dedicated dimming channel on the back. Depth adjusts how much your lights dim when triggered.

### POWER OUTLET(S)

Connect approved light sources to the power outlet(s). Be sure not to exceed the recommended ratings (see instructions or specifications). NEVER connect anything with a surge suppressor to this outlet as serious damage WILL occur.

### HEARTBEAT INDICATOR

The heartbeat blinks regularly to show the internal microprocessor is operating properly.

### LEVEL

The level control adjusts FireFly's sensitivity to the connected sound source. Start with the control in the center position, then adjust as necessary for the effect you desire.

### TEST BUTTON

Press and hold this button to test the entire system, including your connected lights. Both activity lights should glow, as should the connected lights.

### FUSE

Always replace the fuse with the exact type specified in the instructions and/or on the specification sheet. NEVER bypass the fuse by any means.



### BACK VIEW



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too high as the lights will simply stay on during intense “lightning” as opposed to properly flashing, amplitude of the thunder.

7. The FILTER switch will normally be in the “out” or LOW position for lightning simulation. This assures that the advanced filters screen all but the frequencies typically associated with thunder. If you are using a thunder-only CD, you could experiment with putting the FILTER switch in the “high” position. FireFly will now respond to all audible sounds.

**MODE SWITCH**

Mono 1: All channels on. Acts like a single-channel device. No combinations, but gains higher power.

Mono 2: Two channels. 1-2 is one and 3-4 is the other. Three possible combinations.

Mono 3: Three channels. 1-2 is one, 3 is the second, and 4 is the third. Six possible combinations.

Mono 4: Four channels. Fifteen possible combinations.

Stereo x1: Left pair (1-2) is one channel; right pair (3-4) is another. (Looks like Mono 2, but each side has its own audio.) No combinations.

Stereo x2: Left pair is two channels with random combinations of 1, 2, or both; right pair is two channels with random combinations of 3, 4, or both. Three combinations per side for a total of 9 possible combinations.

**DIMMING OR LIGHTNING WITH DIMMING**

1. Follow all above instructions.
2. The FF-511 features a dedicated dimming channel. Use the center outlet on the back of your FF-511 to simulate dimming of house lights during a lightning strike.
- 3) The dimming channel appears more normal with incandescent or halogen bulbs. You can connect lamps in front of windows, wire your porch light to FireFly or connect any light visible to the outside to this channel. In the DIMMING channel, those lights will be at full brightness, but during hard “lightning strikes”, lights on the DIMMING channel will flicker and/or dim to simulate a potential power outage.

**To Set Dimming:** 1. Start with both SET and DEPTH in the 12-o’clock position.

2. Adjust LEVEL so that the thunder peaks give full brilliance on any lightning channel. (This is most easily done in the Mono 1 mode.)
3. Adjust SET counterclockwise until you begin to get an effect.
4. Adjust DEPTH clockwise to raise the light level.
5. Continue alternating between 3 and 4 until you get an effect you like.
6. Increasing the LEVEL control makes the bright lightning peaks longer but also increases the dimming effect.
7. Operating the FILTER on HIGH gives a much more pronounced effect.

**ALL SOUND TO LIGHT**

With the filter in the high (in) position, FireFly will react to all sounds. This creates a unique and entertaining experience when FireFly “hears” music rather than thunder. It is especially effective with Rock or Country music. This is a great party effect. Don’t forget, this sound to light effect is stereo, so make sure you have lights connected to all outlets if you are using a FF-511.

# SPECIFICATIONS

## CHANNELS

FF-101 has a single channel that can be used for lightning or dimming. FF-201 offers two channels, one of which can be either lightning or dimming. FF-511 has four channels of lightning, plus a dedicated dimming channel.

## MAXIMUM RATING

FF-101 handles 1500 watts per channel for lightning or 750 watts for dimming. FF-201 supports up to 3000 watts (1500 watts per channel) for lightning or 1500 watts of lightning plus 750 watts dimming. FF-511 handles up to 3000 watts (including up to 750 watts dimming.)

## MODES

Four mono modes, plus two stereo modes offer six lightning effects. An alternate timing mode can be activated via the Test button, giving an additional six modes of operation.

## FILTER

Low filter causes FireFly to ignore all but the frequencies associated with thunder. In the high position, all audible sounds cause lights to respond. This creates a unique and highly entertaining effect with music.

## ELECTRICAL ISOLATION

Inductive and optical isolation.

## INTERNAL TEST

Test button checks most internal components as well as connected lights.

## LIGHTS SUPPORTED

Optimized for compatible LED bulbs and fixtures (recommended) Supports incandescent and Halogen (recommended for dimmer channel). Compact fluorescent (CFL) supported for dimmer channel. Supports many common strobes.

## THRESHOLD

Supplies adjustable amount of voltage to outlets via the threshold control

## NOISE SUPPRESSION

Passive LC Network

## CONTROL METHOD

Pulse-width phase cutting

## UPGRADE PATH

Check with Lights Alive for current details. There will always be an upgrade path. FF-511 microprocessor firmware is upgradable.

## AUDIO CONNECTION

3.5mm (1/8") Stereo audio jacks. Internal switching provided. Audio is passed through to your amplifier or amplified speakers. Connect to line-level or ear-phone source only. DO NOT connect directly to speaker terminals without approved attenuator as serious damage WILL occur.

## OVERLOAD PROTECTION

25-amp fast acting fuse

## **FIREFLY LIMITED FIVE (5) YEAR WARRANTY**

FireFly lightning simulators are conditionally warranted to the original purchaser against defective materials and/or workmanship for a period of five (5) years from the date of purchase. Lights-Alive will provide free telephone and/or email technical support for the life of the product.

Lights Alive, at it's sole option, will repair or replace, without charge, any FireFly product found to contain defective materials and/or workmanship within the five-year warranty period. The product must be returned, prepaid, to Lights Alive for service.

This warranty does not apply to normal wear and tear or physical damage caused by unreasonable use by the consumer. Consult your manual and/or the Lights Alive website for details on the proper usage and care of FireFly.

FireFly contains no user serviceable parts or adjustments. Opening the case will expose the user to dangerous and potentially lethal voltages. Opening the case will immediately void your warranty.

Great care is taken in the design and construction of FireFly and related components. However, by using this equipment, you understand and agree that you are doing so at your own risk. Lights Alive will not be liable for any personal injury, property damage or consequential damages of any kind due to the use, misuse, abuse or failure of the product, even if due to our negligence. No other warranty is expressed or implied.

# FireFly FF-501 Upgrade to FF-511

- **800% faster microprocessor**

Results in instant on operation, additional and improved features

- **More sophisticated randomizing algorithms**

Better randomization and additional timings

- **User selectable switching speed**

Toggle between normal and fast channel randomization

- **Additional test/setup routines**

The test routine is now instantaneous. In addition, you may leave any (or all) lights on for testing as well as positioning.

- **Brownout reset**

The FF-511 will now reset itself in the event of a brownout or power failure, thus preventing a system lockup.

## **Please follow all FF-501 instructions in addition to the following.**

Your FF-511 is shipped in the standard timing mode. This mode is confirmed if the heartbeat/test light is blinking once per second. If you prefer faster switching between channels (faster moving lightning), hold in the test button when powering on the unit. The heartbeat/test light will now blink twice per second. To toggle back to normal, power down the unit, then power it back up while holding the test button.

Pressing and holding the test button while running the test mode will freeze that operation. For instance if light channel number #3 is now lit and you hold the test button, channel 3 will remain on until you release the test button. It will then resume and complete the test routine.

Pressing and holding the test button until the heartbeat/test light goes out (about 2 seconds) will allow you to keep any light (or all 4 lights) on for an extended amount of time for troubleshooting or positioning lights. This feature is available anytime, except when running the test routine. Once the heartbeat/test light goes off, release the test button. The heartbeat/test light is now on solid. Pressing the test button will cycle through each of the four channels, then turn all four on simultaneously.

The FF-511 does include a safety feature to prevent overheating of the system by leaving lights on continuously. This lockout timer is activated between three and six minutes after entering this mode. If the lockout is active, the heartbeat/test light will be blinking quite rapidly... roughly six flashes per second. To reset, simply power down the unit, then power it back up. The lockout timer will be reset and you're back in operation.

**A WORD OF CAUTION...** The lockout timer is designed to prevent your FF-511 from overheating. If you have a large load attached and it is hot to the touch, allow it to cool for a few minutes after powering down before you power it up again.