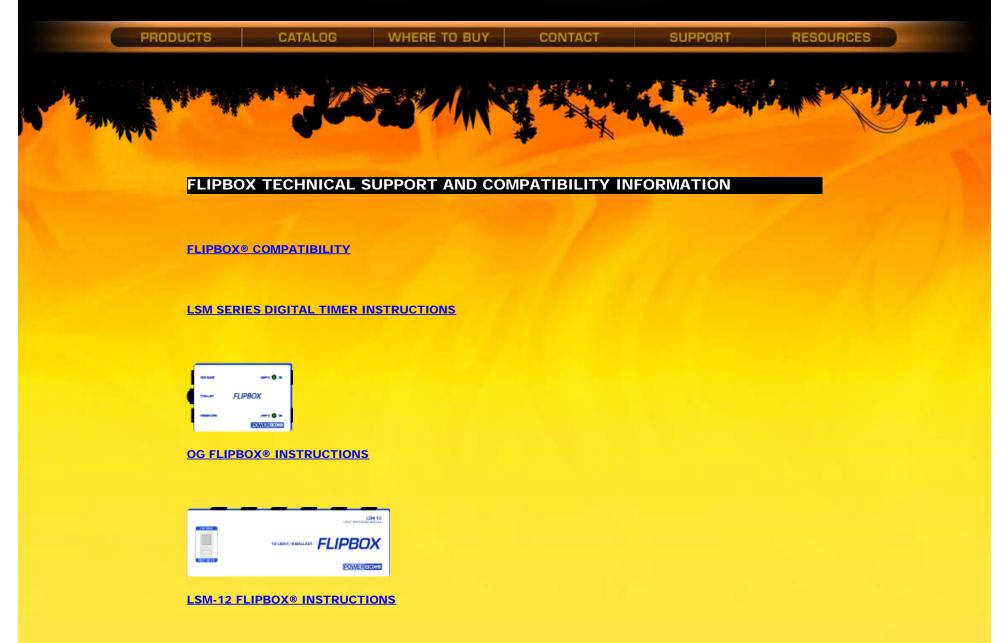


THE POWER TO GROW<sup>™</sup>



SM-20 FLIPBOX® INSTRUCTIONS	

## **OVERVIEW:**

**Powerbox™ Flipboxes**<sup>®</sup> are special devices that allow you to run **2** H.I.D. lights, non-simultaneously, from 1 ballast. A special relay inside the **Flipbox**<sup>®</sup> switches the ballast's output from Lamp A to Lamp B, at an interval you specify with a timer.

Flipboxes<sup>®</sup> can be used for 3 different purposes:

1.) A Flipbox® allows you to double production by completing 2 12-hour cycles in each 24-hour day. This is achieved by running 2 lights for each ballast, in two separate rooms, for 12 hours each. Each ballast runs a light in the first room for 12 hours, and then switches over to the second room for 12 hours, at a time specified by the user.

2.) Flipboxes<sup>®</sup> can be used to increase the lighting coverage over a single garden by hanging two lights for each ballast, and then switching back and forth between lights periodically, so that the garden gets even coverage.

3.) Flipboxes<sup>®</sup> can be used to save money by cutting-in-half the number of ballasts used. Since one ballast, with a Flipbox®, can run two lights, you only need to purchase one ballast per two lights. Compared to the price of a new 1000 Watt digital ballast, a Flipbox® is up to 70% cheaper than of the cost of another ballast.

#### **POWERBOX™ FLIPBOXES**<sup>®</sup> come in 3 different sizes:

 ORIGINAL FLIPBOX®: These are Single-unit modules - you use one per ballast and link as many together as needed. This allows for easy placement in your garden and also protects against downtime if a module needs to be replaced.

• FLIPBOX® LSM-12: A 12 light, 6 ballast configuration with a built-in digital timer to control light switching cycles.

 FLIPBOX® LSM-20: A 20 light, 10 ballast configuration with a built-in digital timer to control light switching cycles.

**IMPORTANT COMPATIBILITY INFORMATION:** POWERBOX™ FLIPBOXES® work with virtually any H.I.D. ballast, be it magnetic or digital/electronic. Some ballasts, however, may require additional steps to function properly. If you are using Lumatek, Nextgen, or Phantom digital ballasts, or if your ballasts are having trouble switching, you must observe the following instructions in **BOLD** lettering.

Some digital/electronic ballasts contain an 'error sensing' circuit that is meant to

detect if there is a bulb failure. In the event of a bulb failure, the ballast will shut itself down and not restart until the user unplugs the ballast to reset it. When running with Flipboxes<sup>®</sup>, ballasts that contain this 'error sensing' circuitry often misinterpret a light switching cycle as a dead bulb, and they shut themselves off. This problem is easy to remedy by following a few simple steps:

1). With your lighting controller, or timer, program so that your ballast(s) turn OFF 5 minutes before you will be initiating the light switching (FLIP) cycle. (For Instance: If your light switching cycle occurs at 12:00PM, then program the ballast(s) to turn off at 11:55AM.)

2). Program the Flipbox<sup>®</sup> timer to initiate the changeover (FLIP) at 12:00PM.

**3).** Program your lighting controller, or timer, to turn the ballast(s) back ON at 12:05PM.

4). Repeat this procedure for the AM cycle (Ballasts OFF at 11:55PM, FLIP at 12:00AM, Ballasts ON at 12:05AM).

When using any of these electronic/digital ballasts with 'error sensing' circuitry, or if your ballast is having trouble igniting a lamp after switchover, you must observe the above instructions to ensure the trouble-free operation of your ballasts with the **Flipbox**<sup>®</sup>.

# Hookup and Installation Diagrams

**ORIGINAL FLIPBOX®** Installation Instructions & Setup Diagram

**Powerbox™ Flipboxes**<sup>®</sup> are easy to install and operate.



1.) Mount Flipbox to a secure location before connecting wires.

2.) Plug cord coming from Flipbox marked "TO BALLAST" into your ballast where the lamp would normally plug in.

3.) Plug two lamps into the right side outlets marked "LAMP A" and "LAMP B."

4.) Plug the included trigger cord into the left side inlet labeled "TRIGGER CORD."

5.) If using multiple Flipboxes together, plug the trigger cord from the first Flipbox into the outlet marked "120V

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#### SLAVE" on the second Flipbox.

Repeat this process with each successive Flipbox (up to 20 in a chain) until you get to the last one. Be sure that all trigger cords are fitted firmly.

6.) Plug the trigger cord (or the last trigger cord in a multiple Flipbox setup) into a simple 120V wall timer (not included). When ballast power is applied, "LAMP A" will ignite by default. When 120V power is applied to the trigger cord (TIMER ON), the Flipbox will switch-over to "LAMP B." Set the TIMER ON time for the time you would like to switch-over to "LAMP B." Set the TIMER OFF time for the time you would like to switch back to "LAMP A."

7.) Plug in your ballast. If timer that the trigger cord is plugged into is currently ON, "LAMP B" will be lit. If timer is currently OFF, "LAMP A" will be lit.

If you experience problems switching from Lamp A to Lamp B, refer to "IMPORTANT COMPATIBILITY INFORMATION" above.

WARNING: NEVER PLUG YOUR BALLAST INTO THE OUTLET MARKED "120V SLAVE." THIS OUTLET IS RESERVED STRICTLY FOR DAISY-CHAINING MULTIPLE FLIPBOX TRIGGER CORDS TOGETHER.

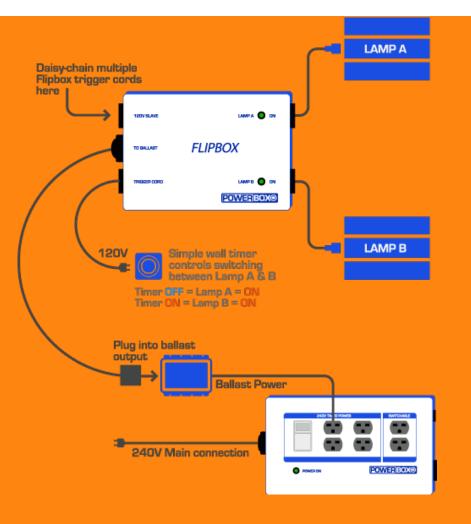
WARNING: MAKE SURE ALL PLUGS ARE FIRMLY FITTED INTO OUTLETS.

WARNING: DO NOT OPERATE UNLESS LAMPS ARE PLUGGED INTO BOTH OUTLETS "LAMP A" AND "LAMP B."

WARNING: DO NOT MISMATCH LAMP WATTAGES & TYPES. IF YOUR BALLAST IS A 1000W HPS, YOU MUST PLUG IN TWO 1000W HPS BULBS INTO THE SOCKETS.

WARNING: WHEN FLIPBOX IS CHANGING BACK-AND-FORTH BETWEEN LIGHTS, SOMETIMES THE BALLAST WILL NOT INGITE THE LAMP ON THE FIRST TRY. THE BALLAST WILL MAKE ADDITIONAL ATTEMPTS TO INGINTE THE LAMP. THIS MAY TAKE ANYWHERE FROM ONE TO TEN MINUTES - BE PATIENT.

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# LSM-12 FLIPBOX® Installation Instructions & Setup Diagram

**Powerbox™ LSM-12 Flipboxes**<sup>®</sup> are easy to install and operate.



1.) Mount the LSM-12 Flipbox to a secure location before connecting wires.

2.) Plug lamp cords coming from Flipbox (6 total) into your individual ballasts where the lamp would normally plug in.

3.) Plug your 6 lamps from Room A into the row of sockets on the LSM-12 marked "BANK A."

4.) Plug your 6 lamps from Room B into the row of sockets on the LSM-12 marked "BANK B."

5.) Plug the included power cord into the left side inlet labeled "120V MAIN POWER."

6.) Refer to <u>Timer Programming Instructions</u> to set the time on the timer, and the time your switching cycles will occur.

7.) When ballast power is applied, "BANK A" lamps will ignite. When the timer comes ON, the Flipbox will switch over to "BANK B." Set the TIMER ON time for the time you would like to switch over to "BANK B." Set the TIMER OFF time for the time you would like to switch back to "BANK A."

8.) Plug in your ballasts. If timer is currently ON, "BANK B" lamps will be lit. If timer is currently OFF, "BANK A" lamps will be lit.

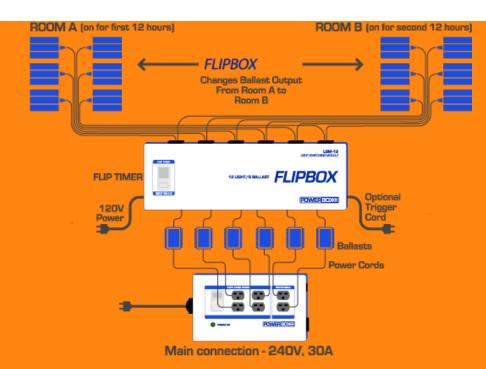
If you experience problems switching from Lamp A to Lamp B, refer to "IMPORTANT COMPATIBILITY INFORMATION" above.

WARNING: MAKE SURE ALL PLUGS ARE FIRMLY FITTED INTO OUTLETS.

WARNING: DO NOT OPERATE UNLESS LAMPS ARE PLUGGED INTO BOTH OUTLETS "BANK A" AND "BANK B."

WARNING: DO NOT MISMATCH LAMP WATTAGES & TYPES. IF YOUR BALLAST IS A 1000W HPS, YOU MUST PLUG IN TWO 1000W HPS BULBS INTO THE SOCKETS.

WARNING: WHEN FLIPBOX IS CHANGING BACK-AND-FORTH BETWEEN LIGHTS, SOMETIMES THE BALLAST WILL NOT INGITE THE LAMP ON THE FIRST TRY. THE BALLAST WILL MAKE ADDITIONAL ATTEMPTS TO INGINTE THE LAMP. THIS MAY TAKE ANYWHERE FROM ONE TO TEN MINUTES - BE PATIENT. Powerbox<sup>™</sup> Technical Support



# LSM-20 FLIPBOX® Installation Instructions & Setup Diagram

**Powerbox™ LSM-20 Flipboxes**<sup>®</sup> are easy to install and operate.



1.) Mount the LSM-20 Flipbox to a secure location before connecting wires. The unit is heavy, so be sure to anchor it securely.

2.) Plug lamp cords coming from Flipbox (10 total) into your individual ballasts where the lamp would normally

## plug in.

3.) Plug your 10 lamps from Room A into the row of sockets on the LSM-20 marked "BANK A."

4.) Plug your 10 lamps from Room B into the row of sockets on the LSM-20 marked "BANK B."

5.) Plug the included power cord into the left side inlet labeled "120V MAIN POWER."

6.) Refer to <u>Timer Programming Instructions</u> to set the time on the timer, and the time your switching cycles will occur.

7.) When ballast power is applied, "BANK A" lamps will ignite. When the timer comes ON, the Flipbox will switch over to "BANK B." Set the TIMER ON time for the time you would like to switch over to "BANK B." Set the TIMER OFF time for the time you would like to switch back to "BANK A."

8.) Plug in your ballasts. If timer is currently ON, "BANK B" lamps will be lit. If timer is currently OFF, "BANK A" lamps will be lit.

If you experience problems switching from Lamp A to Lamp B, refer to "IMPORTANT COMPATIBILITY INFORMATION" above.

WARNING: MAKE SURE ALL PLUGS ARE FIRMLY FITTED INTO OUTLETS.

WARNING: DO NOT OPERATE UNLESS LAMPS ARE PLUGGED INTO BOTH OUTLETS "BANK A" AND "BANK B."

WARNING: DO NOT MISMATCH LAMP WATTAGES & TYPES. IF YOUR BALLAST IS A 1000W HPS, YOU MUST PLUG IN TWO 1000W HPS BULBS INTO THE SOCKETS.

WARNING: WHEN FLIPBOX IS CHANGING BACK-AND-FORTH BETWEEN LIGHTS, SOMETIMES THE BALLAST WILL NOT INGITE THE LAMP ON THE FIRST TRY. THE BALLAST WILL MAKE ADDITIONAL ATTEMPTS TO INGINTE THE LAMP. THIS MAY TAKE ANYWHERE FROM ONE TO TEN MINUTES - BE PATIENT.

