

# Spectrum LED

Exposure Unit

## OWNER'S MANUAL



For Customer Service, Call **1-800-835-0606** or  
Visit [www.hixcorp.com](http://www.hixcorp.com)

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**BEFORE warranty repair you MUST get Prior Authorization:**

# INSTALLATION & SETUP

**NOTE:** The Spectrum LED is not compatible with the M&R Trilok pin registration system.”

**CAUTION:** Before installing or operating the unit be sure to read these instructions thoroughly. Disconnect all electric power before performing maintenance on the unit. **Never** operate this equipment with the power supply cover removed. If you find that this should be necessary, contact a licensed electrician. Make sure the circuit for this unit is well grounded.

**WARNING:** ULTRA VIOLET LIGHT CAN CAUSE SKIN AND EYE IRRITATION OR BLINDNESS. TO PREVENT DAMAGE TO YOUR EYES AND SKIN, AVOID DIRECT EXPOSURE TO THE LAMP WHILE IT IS ON.

## INSTALLATION

1. Carefully unbox (requires two people) and set on work table (or on sawhorses if a leg kit is being installed).



2. Push the vacuum line onto the tube on the back side of the vacuum frame.



**WARNING:** When using an extension cord, use 14 ga. -3 conductor. Maximum length, 25' (7.62m).

# INSTALLATION & SETUP

3. Remove the vacuum pump from the box, remove the Black filler cap and **ADD OIL** so that it shows half way up the sight glass!



Check unit over for any transportation damage and make sure all foreign objects, such as packing material, have been removed. Clean top side of glass to remove any dust.

4. Remove the protection tape over the vacuum pump electrical receptacle, plug in the electrical cord, make sure the voltage selector switch is set to the proper voltage (115V or 230V) and turn switch "ON".

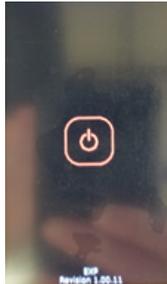


# OPERATION INSTRUCTIONS

1. Plug the vacuum pump electrical cord into the back of the Spectrum Exposure unit, remove the top cap on the vacuum pump and screw on the vacuum hose fitting as shown below. Tighten the vacuum fitting securely.



1. Plug unit into 120V power.
2. Screen will come on as shown below.

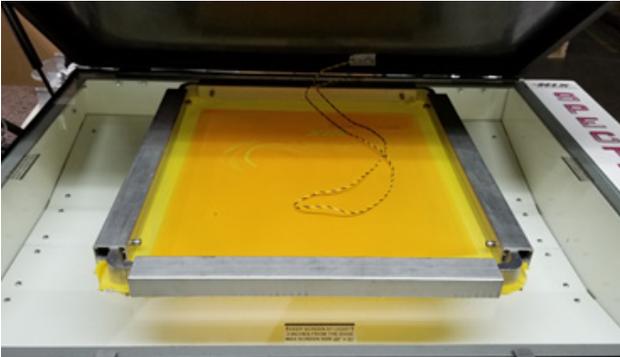


3. Press the Red Icon in the center of the screen to turn the unit "ON". Once you do, you will see the screen below:



# OPERATION INSTRUCTIONS

4. Open the lid of the exposure unit and place a screen centered onto the glass. Note, maximum screen size is 23" x 31" O.D.  
Put screen in center of glass. Keep at least 2" from any edge of the glass to prevent damage to the vacuum blanket rubber.



Drrape the vacuum/anti static cord across the screen frame as shown. When using wood frames with tape and staples, be sure to tape over tape and staples to prevent damage to glass.

5. Close the lid and secure both latches as shown:



# OPERATION INSTRUCTIONS

6. The display will show “LID CLOSED” as shown below:



7. Enter the amount exposure time desired on the “Exposure Timer” by pressing the “ - ” or “ + ” buttons. Typical exposure times are shown below for a starting point. Brand of emulsion, screen mesh count, and thickness of emulsion applied will all effect exposure times, so some trial and error testing will be required. Start with exposure times in the middle of those shown below and adjust from there as required.
- Pure Photopolymer Emulsion (e.g. ChromaBlue) 6-8 seconds
  - Dual Cure Emulsion (e.g. Magna/Cure) 9 - 10 seconds
  - Pure Diazo Emulsion (e.g. CP Tex) 11-14 seconds

# OPERATION INSTRUCTIONS

- With the lid closed and desired exposure time set, press the "START" button. The vacuum will come on for 10 seconds to pull the vacuum blanket down against the screen mesh. You will hear the vacuum pump running and the screen will show "VACUUM ON". At the end of 10 seconds the exposure will start, the screen will say "\*\*EXPOSING\*\*", and the timer will start counting down.



**NOTE: The START button, timer, vacuum and UV LED, WILL NOT FUNCTION until the lid is "Closed and latched" to ensure safety of the operator from the UV light source.**

- At the end of set exposure time, the timer will "BEEP", the UV LED will extinguish, the vacuum will turn off and begin exhausting the vacuum blanket. Unlatch the two lid latches and raise the lid. Note: It will take 3-4 seconds for the vacuum to release sufficiently to be able to open the lid.
- At any point in time during the exposure, you can press the "STOP" button to interrupt the exposure and release the vacuum so that the lid can be opened.

To turn the unit off, simply press the Green Icon  and the unit will turn off and revert to the start screen.

# SCREEN EXPOSURE

## DETERMINING YOUR OPTIMUM EXPOSURE TIME

**NOTE:** This procedure should be followed for each new emulsion type, new mesh count or mesh type (i.e. yellow, orange, white). This procedure should also be followed periodically since the bulb intensity will lessen with age.

### Exposure Calculator (Preferred Method)

See your emulsion supplier for an exposure calculator and follow their instructions.

### By Step Trial Method

**Expose dried coated screen in 2 second intervals as follows:**

1. Place cardboard sheet between positive and glass leaving approximately 2" of positive exposed, and expose for 2 seconds. Move cardboard approximately 2" more and expose for 2 more seconds. Then move cardboard a 3rd time approximately 2" expose once again for 2 more seconds. Repeat at least to 8 seconds. Now you have 4 exposed areas of 2,4,6, and 8 seconds.
2. Inspect your newly exposed screen for proper exposure.

**Underexposed:** results in weak stencil with poor emulsion adhesion and reduced resistance to printing inks and wash up solvents. **Overexposed:** results in loss of fine detail.

3. Once you have determined the proper exposure for your emulsion type, fill in the chart provided at end of this manual as a ready reference. This will save you time in the future.

**NOTE:** This procedure should be followed for each new emulsion type, new mesh count or mesh type (i.e. yellow, orange, white.)

# EXPOSURE TIMES

Use and copy this chart for recording your shop's popular emulsions and exposure times.

## OPTIMUM EXPOSING TIME CHART

DATE	MESH COUNT	EMULSION COLOR	EMULSION BRAND	COATING METHOD	EXPOSURE TIME

# EXPOSURE TIMES

Use and copy this chart for recording your shop's popular emulsions and exposure times.

## OPTIMUM EXPOSING TIME CHART

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# MAINTENANCE

## **GLASS CLEANING**

In order to maintain short exposure times, keep the unit's exposure glass clean. Dusting is usually sufficient. If more cleaning is required use a soft cloth moistened with alcohol. A dusty environment will require more cleaning.

When you notice your exposure times getting longer or if the lamp fails to operate, check the Troubleshooting Chart.

## **VACUUM PUMP MAINTENANCE**

It is recommended to change the vacuum pump oil after 50 hours of usage. The purity of the oil will determine the final vacuum level achieved. Always use the CPS recommended vacuum pump oil (VPOQ/VPOP/VPOG). The oil provided with the pump has been specially blended to maintain maximum viscosity at normal running temperatures as well as cold weather starts.

## **OIL CHANGE PROCEDURES:**

1. Be sure the pump oil is warmed up. If not warm, turn vacuum pump "ON" for 10 minutes.
2. Make sure vacuum pump is not plugged in.
3. Remove the oil drain cap and drain the contaminated oil into a suitable container. Tilt the vacuum pump toward the oil drain port.
4. Once all the oil has been drained, re-secure the oil drain cap back onto the oil drain port.
5. Remove the exhaust/oil fill cap and add oil until it is seen in the middle of the oil sight glass. Re-secure exhaust/oil fill cap.

# REPAIRS

## LID REALIGNMENT

**NOTE:** The vacuum is sealed under the lid by means of rubber gasket under the lid frame. This rubber gasket may compress over time. If the vacuum does not occur, the rubber gasket may be compressed. These problems can be alleviated by lowering the hinges.

**CAUTION:** It is important to do this operation with the lid up, failing to do so could cause injury due to the sudden release of pressure on the gas spring!

1. Fully open the lid.
2. Using a pencil, tape, or other suitable indicator, place a mark on the frame of the unit corresponding with a mark on the lower leaf of the hinges.
3. Using a 9/16" wrench, loosen the four bolts fastening the lower leaf of the hinges.
4. Let each hinge drop approximately 1/16" using the indicator placed on the hinge in step 2.
5. Tighten all four bolts securely and test unit. If this does not work repeat this process and drop the hinges another 1/16"

**Warning:** Lowering the hinges too much can place excess pressure on the glass and frame of the unit and should be avoided. If the lid is difficult to close or does not stay closed under its own weight, the hinges should be raised.

**NOTE:** If the blanket fails to pull a vacuum, check the Troubleshooting Chart for possible causes. If you determine that your blanket has begun to leak, it needs to be replaced. New blanket material can be ordered from HIX Corporation.

## **BLANKET REPLACEMENT:**

**NOTE:** Mark from which side the aluminum strips were located so that they can be replaced in the same location.

1. Begin with the lid in the open position. Remove the plastic cap from the lid end of one of the gas springs. While holding the lid, pull the end of the gas spring straight out and off of the ball connector as you continue to manually hold the lid up.

**CAUTION:** It is important to do this operation with the lid up, failing to do so could cause injury due to the sudden release of pressure on the gas spring!

2. Remove the vacuum hose from the lid.
3. Gently lay lid back down onto glass. Using two 9/16" wrenches, remove the 4 nuts and bolts holding the lid to the hinges.
4. Remove the entire lid assembly from the frame and lay upside down on a flat surface.
5. Mark from which side of the aluminum strips were located so that they can be replaced in the same location.
6. Remove all screws from the aluminum strips.
7. Remove the blanket material and any adhesive still attached to the lid frame.
8. Lay new blanket material across the lid in the proper orientation allowing the material to sag down to your working surface.
9. Seal the rubber to the blanket frame with the included adhesive.
10. Replace the aluminum strips on the same side that they were removed. Tighten all screws securely. Caution: over tightening screws may strip the threads in the lid frame.
11. Trim any excess blanket material by running a sharp utility knife along the outside of the aluminum frame.

# TROUBLESHOOTING

## **PROBLEM :**

Touch screen does not come on

## **POSSIBLE CAUSE:**

No Line Power  
Breaker Tripped  
Outlet is defective

## **REMEDY:**

Check power source  
Reset circuit breaker  
Replace outlet

## **PROBLEM :**

Vacuum won't come on or timer won't count down when "START" button is pressed.

## **POSSIBLE CAUSE:**

With lid closed, look at display to see if "LID CLOSED" is displayed, if not then see remedy below.

## **REMEDY:**

Magnetic lid closed providing switch not working properly - contact HIX Technical Service.

## **PROBLEM :**

Vacuum comes on but exposure LED is not coming on

## **POSSIBLE CAUSE:**

Bad solid state relay or LED driver

## **REMEDY:**

Contact HIX Technical Service

## **PROBLEM :**

Blanket won't "pull" a vacuum

## **POSSIBLE CAUSE:**

Vacuum leak in hose, blanket or lid seal

## **REMEDY:**

Inspect hose connections from lid to vacuum pump  
Inspect and repair or replace lid to glass seal  
Inspect and repair or replace vacuum blanket  
Realign lid  
Check Vacuum Pump

# WARRANTY

**(Effective 3/1/2020)**

HIX will automatically register the equipment on the date it was shipped to you or your distributor. If the equipment was not purchased directly from HIX, but through a distributor (either domestic or foreign), please keep a copy of their sales invoice showing the serial number and date it was sold/shipped to you with this warranty. In this case, we will use the distributor's invoice date as the beginning warranty date. **STAPLE A COPY OF YOUR PROOF OF PURCHASE TO THIS WARRANTY** and keep in a safe place to provide verification of your warranty should a problem occur. Thank you.

Please fill in the following information and attach a copy of your receipt for your records.

Date Purchased: \_\_\_\_\_ From: \_\_\_\_\_  
Model #: \_\_\_\_\_ Serial #: \_\_\_\_\_

This warranty applies to equipment manufactured by the HIX Corporation (HIX), Pittsburg, Kansas, U.S.A. HIX warrants to the original purchaser, its Ovens and Dryers, Heat Transfer Machines, Textile Printers, Spot Heaters, and Exposure Units against defects in workmanship and material, except for wear and tear for a period of "One Year" from the date of purchase. HIX warrants Accessories for a period of 90 days from the date of purchase. doughXpress products are covered under separate warranty.

In the event of a defect, HIX, at its option, will repair, replace or substitute the defective item at no cost during this warranty period subject to the limitations of insurance and shipping costs stated below (excludes labor).

In the case of heat transfer presses (except the Hobby Lite and Large Format presses), HIX warrants the heat casting for the "Life" of the machine for the original purchaser. If a part becomes obsolete at the time for repair, and/or cannot be reasonably substituted for, HIX will credit, at half the then current list price or last recorded price, only that part toward a new machine or any product HIX offers. This credit offer shall be the sole responsibility of the HIX Corporation in the event of an obsolete part.

This warranty does not cover belts, rail tape, pads, mug wraps, canvas, rubber blankets, bulbs, glass. Warranty does not cover damages due to accident, misuse/abuse, alterations or damage due to neglect, shipping or lack of proper lubrication or maintenance. HIX shall not be responsible for repairs or alterations made by any person without the prior written authorization by HIX. This warranty is the sole and exclusive warranty of HIX and no person, agent, distributor, or dealer of HIX is authorized to change, amend or modify the terms set forth herein, in whole or in part.

In the case of a problem with the equipment identified herein, HIX Corporation should be contacted during regular business hours to discuss the problem and verify an existing warranty. HIX personnel will assist the customer to correct any problems which can be corrected through operation or maintenance instructions, simple mechanical adjustments, or replacement of parts. In the event the problem cannot be corrected by phone, and upon the issuance of a return authorization by HIX, the equipment shall be returned to HIX or an authorized service representative. All insurance, packaging and shipment/freight costs are solely the responsibility of the customer, and not that of HIX, and HIX shall not be responsible for improper packaging, handling or damage in transit. Contact HIX customer service for complete return authorization information. Correct shipping boxes are available from HIX.

This expressed warranty is given in lieu of any and all other warranties, whether expressed or implied, including but not limited to those of merchantability and fitness for a particular purpose, and constitutes the only warranty made by HIX Corporation.

In no event shall HIX's liability for breach of warranty extend beyond the obligation to repair or replace the nonconforming goods. HIX shall not be liable for any other damages, either incidental or consequential, or the action as brought in contract, negligence or otherwise.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.



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