

Ryonet X-VACTOR / COMPRESSION LID & OPEN FACE Exposure Units

www.silkscreeningsupplies.com – 800-314-6390

Please Read Instructions Prior To Use



X-VACTOR VACUUM



COMPRESSION LID



OPEN FACE

Set-up of the UV Exposure Unit and Preparation of the Screen Room

A light safe environment consists of a room blocked out from UV Rays; in a light safe room you can set-up your Ryonet UV Exposure Unit. Place on a flat surface about waist high, make sure it's secure and plugged in. If it's available use 4x8" folding table or countertop with room for drying after washout using old newsprint (see Step 4). Keep the washout area away from the unit, use a shower curtain to prevent overspray in tight quarters. A light safe environment can have light safe bulbs such as yellow bug light bulbs. Fluorescent tube covers in yellow or clear will also block UV rays. If you do not have a dedicated darkroom, a bathroom with no windows or a room with dark blinds or rubylith covering the windows will suffice. To find rubylith (red) or amberlith (orange) visit the darkroom supplies page on www.silkscreeningsupplies.com.

Step 1: Prep for exposure

Always clean your glass prior to exposing a screen. *(For Compression Lid & Open Face Units make sure the foam that came with the unit is cut to fit the inside of your frames, trim if needed.)*

For X-VACTOR Vacuum Units: Always clean your glass prior to exposing a screen. For reclaimed frames that may have ink residue use a black muslin cloth to protect the vacuum blanket. Tape the enclosed rope to the glass where the vacuum fitting enters the blanket; place the rope into the frame along the edge and away from your film. This allows the vacuum to pull all the air out resulting in complete contact of film to screen.

**NOTE: When unit arrives unpack and place on level surface, connect vacuum hose to nipple on blanket and tighten clamps. There are 8 exposure bulbs and 2 yellow safe lights; the safe lights go on the FAR ends of the unit, test bulbs before installing glass to ensure proper placement.*

For Compression Lid Units: When closing the compression lid the foam will press the coated screen tightly against the positive. This ensures a clean exposure with crisp edges. Lock lid down, set timer and expose according to tables provided in Figure 1.

For Open Face Units: use a board cut to the size of the foam, place on top of the foam then weigh down evenly using 4 gallon containers or roughly 50-60lbs.) Set timer and expose according to tables provided in Figure 1.

To prevent damage to your film positives, hang a box on the wall or have a basket near for films after exposing the screen. Remove tape used and place film for safe keeping before filing.

Step 2: Film Notes

You must insure that the image on your film is 100% opaque so NO light is allowed through the positive image area. Hold your films up to the light; you should not see ANY light through the image (black) area whatsoever. If light comes through the black area of the film, print another copy and stack them together or go over the films with a film opaque pen. If using a laser printer, you can also apply toner aid to enhance the darkness of the toner on the film. Films that are not 100% opaque may cause difficulties during washout.

Step 3: Exposure Time

Unfiltered black light (HUV) exposure tables expose coated screens by wavelength and strength of UV light. If you're not using one of these light sources please check the advanced exposure guide on the following this sheet and the step-wedge instructions. After exposing you will see the image on the screen prior to washing out. We recommend using a Dual Cure Emulsion with these units.

Exposure Times For 8 Bulb 25x36" Ryonet UV Exposure Units: USING A TEXTILE DUAL CURE EMULSION LIKE: CCI DXP, ULANO RLX, SWR3, WR-6

Mesh Size	38-86	110-196	200-230	240-305
Exposure Time	4-5 Minutes	3:30min -4min	2:45-3:15min	2:30 - 3:00 min

Exposure Times for 8 Bulb 20x24" Open Lid Units: (Using a Dual Cure Emulsion)

Mesh Size	38-86	110-196	200-230	240-305
Exposure Time	5 Minutes	3 Min 45 sec.	3 Min 15 Sec	3 Min

(Fig. 1) These are general times that have consistent results using our emulsions; to ensure proper exposure you can always perform a "Step-Wedge" test OR exposure calculator located on www.silkscreeningsupplies.com. If you're not getting an image or the exposure doesn't wash out your emulsion may be bad. Typically emulsion that is premixed has a shelf life of 3 months. Emulsions you mix will tend to last a month, up to 3 months in a refrigerator. If you haven't coated screens in a month or two it's a good idea to have fresh emulsion.

STANDARD ANALOG TIMER SETUP: Adjust your specific time settings according to the chart below. Be sure not to change the operation mode selector from the "B" setting.

● TIME RANGE Determined by Time Range Selector and Dial Selector

Range \ Dial	0-1	0-3	0-6	0-18
1S	0.1sec - 1sec	0.1sec - 3sec	0.1sec - 6sec	0.2sec - 18sec
10S	0.1sec - 10sec	0.3sec - 30sec	0.6sec - 60sec	1.8sec - 180sec
10M	6sec - 30min	18sec - 30min	36sec - 60min	108sec - 180min
10H	6min - 10hours	18min - 30hours	36min - 60hours	108min - 180hours

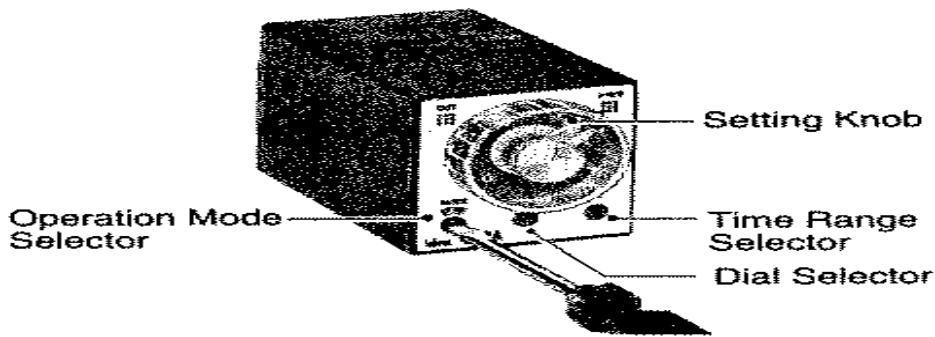
DEFAULT SETTINGS. Highlighted portion above refers to default timer settings as set by the manufacturer for optimal exposure times.

.1 = 1min or .4 = 4min

CUSTOM SETTINGS: For photopolymer emulsions with fast exposing times you can change your Dial Selector to read whole numbers 1,2,3,4,5 (etc.) and change your Time Range Selector to 10S.

1 = 10sec or 6 = 60sec

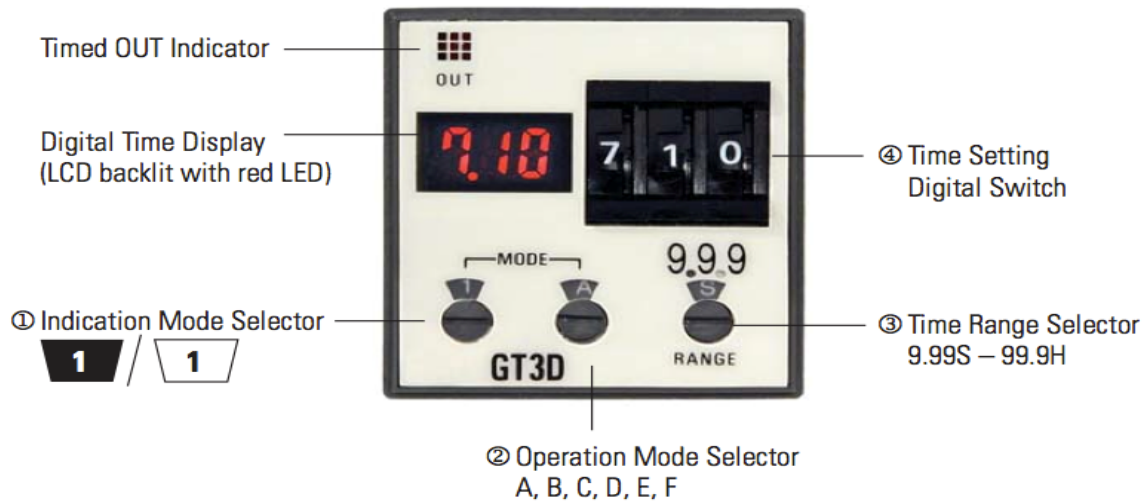
● SWITCH SETTING



- (1) The switches should be securely turned using a flat screwdriver 4mm wide maximum. Note that incomplete setting may cause malfunction. The switches, which do not turn infinitely, should not be turned beyond the limits.
- (2) Since changing the setting during timer operation may cause malfunction, power should be turned off before changing the setting.

DIGITAL UPGRADE TIMER INSTRUCTIONS:

Instructions: Setting GT3D-8 Timers



Step 3	Desired Operation	Selection		Remarks
Select a time range that contains the desired period of time.	Base Time Ranges	③ Time Range Selector		1. The ③ Time Range Selector controls both the decimal point indicator (9.99, 99.9, 999) and the time increment indicators S (seconds), M (minutes), and H (hours). 2. Chose which base time range contains the targeted timer setting. Then use the ③ Time Range Selector to set the decimal point indicator and time increment indicator to its corresponding pair of settings. 3. Since these configurations offer a complete range of settings from 0.01 seconds to 99.9 hours, the setting of 9.99 for minutes and the 9.99 and 999 settings for hours are not listed and should not be used.
		Decimal Point Indicator	Time Increment Indicator	
	0.01 seconds to 9.99 seconds	9.99		
	0.1 seconds to 99.9 seconds	99.9	S	
	1 second to 999 seconds	999		
	0.1 minutes to 99.9 minutes	99.9	M	
	1 minute to 999 minutes	999		
0.1 hours to 99.9 hours	99.9	H		



The X-VACTOR Exposure Unit comes pre-programmed for ease of operation, follow basic exposure guides in Figure 1.

The first two buttons under the LED screen are for Minutes:
(01 minute through 99 minutes)
The Second two buttons are for Seconds:
(1 second through 59 seconds)

For Vacuum Exposure Units: To the left of the Timer are three switches, the first is to activate the exposure time, the second is for the yellow inspection lights. The third and final switch is for the vacuum pump.

EXPOSURE INSTRUCTIONS: After taping your artwork to your screen, clean your glass place the screen onto the glass. Place one end of the rope along the inside of the frame; ensure the end is taped to the glass at the point of the vacuum. Close then lock lid and turn on the vacuum switch. After all the air has been removed and the timer has been set turn on the exposure switch, then switch it off. *(*The switch activates the exposure then resets for the next exposure, to interrupt the exposure you will need to unplug the unit)* When the timer has expired turn off the vacuum switch, unlock the lid and remove screen from the unit. Take the positive off, remove any tape used and store accordingly. Wash out screen according to instructions provided.

Step 4: WASHOUT (Use a light safe area). Wet both sides of the screen with a gentle spray of cold water, liberally soaking back to front, and let sit for 30 seconds. Now spray the shirt side forcefully until the image areas start to clear. Rinse both sides with a gentle spray until no soft/slimy emulsion is left on the squeegee side and drain for a few seconds. Spread old newsprint out on a table, not the gloss inserts. Lay the screen down as if you were printing, lay a single sheet of newspaper inside and BLOT excess water with newsprint quickly. DO NOT rub the inside as it is still soft. If the newspaper sticks simply wet again to remove then repeat the process.

Step 5: PIN HOLE BLOCKOUT AND TOUCHUP. While the screen is still slightly damp but not soaking you can apply emulsion with a plastic applicator to the shirt side. Apply thin to seal the screen edges and possible pinholes, let dry completely before post-hardening (re-exposing for strength).

Option 1: You can also use Red Coat Block out to cover the pin whole or area that needs to be blocked area. Let dry for about 15 minutes or until the block out is completely dry to the touch. This is also an option on press when a breakdown occurs, follow instructions.

Option 2: You can also use scotch tape or screen tape to block out pin holes on the shirt side of the screen *(tape will pick up ink stains after wiping and transfer; Option 1 is preferable).*

Step 6: TAPING THE SCREEN

Apply solvent resistant screen tape on the outside and inside edges of the screen, this will block the ink from getting stuck in the corners of the screen or passing through to the substrate accidentally. Makes clean-up easier if you leave a 2" flap over the corner and tape sequentially inside. When done grab the flap and slowly pull the entire tape from the inside without getting ink on your hands.

With care and maintenance your Ryonet UV Exposure Unit will give you year after year* of consistent exposures.

* Bulbs weaken over time and your exposure time will increase, bulbs must be replaced periodically.

Additional Exposure Guidelines

Exposure Times For 25"x36" Exposure Units: (Using a Pre-sensitized Photopolymer Emulsion, and a 1/1 coat) ie: HiFi, SVP, QTX

Mesh Size	24-38	60-86	110-160	200-230	280-305
Exposure Time	60-70 SEC	45-55 SEC	34-40 SEC	25-35 SEC	15-25 SEC

Exposure Times For 25"x36" Exposure Units: (Using a Diazo Hybrid Emulsion, and a 1/1 coat) ie: WBP

Mesh Size	24-38	60-86	110-160	200-230	280-305
Exposure Time	105-115 SEC	90-100 SEC	80-90 SEC	65-75 SEC	55-65 SEC

Exposure Times for 20"x24" Exposure Units: (Using a Photopolymer Emulsion, and a 1/1 coat)

Mesh Size	24-38	60-86	110-160	200-230	280-305
Exposure Time	100-110 SEC	90-100 SEC	80-90 SEC	55-65 SEC	45-55 SEC

Exposure Times for X-Vector XL Exposure units: (Using a Diazo Hybrid Emulsion, and a 1/1 coat) ie: WBP

Mesh Size	24-38	60-86	110-160	200-230	280-305
Exposure Time	200-220 SEC	160-180 SEC	110-130 SEC	90-110 SEC	75-90 SEC

Exposure Times for X-Vector XL Exposure units: (Using a Pre-sensitized Photopolymer Emulsion, and a 1/1 coat) ie: HiFi, SVP,QTX

Mesh Size	24-38	60-86	110-160	200-230	280-305
Exposure Time	70-80 SEC	60-70 SEC	55-65 SEC	45-55 SEC	25-35 SEC

Note all 24-38 mesh count screens tested with a 2/2 coat technique

Recommended Options.

An emulsion calculator is a low cost easy to use option for dialing in your exposure times. You can find these on the emulsion page of www.silkscreeningsupplies.com



- How to tell if your screen is under exposed. –

If your screen is under exposed you may experience the following problems.

1. Image does not hold and screen blows out. The edges of your image will give away first and then the emulsion will start to peel away.
2. A large amount of slimy residue is noticed on the back of the screen.
3. The emulsion immediately starts to wash out of the screen.

If you experience any of these problems, increase your exposure times. An exposure calculator can help you gauge how much

Meshes and Print Order

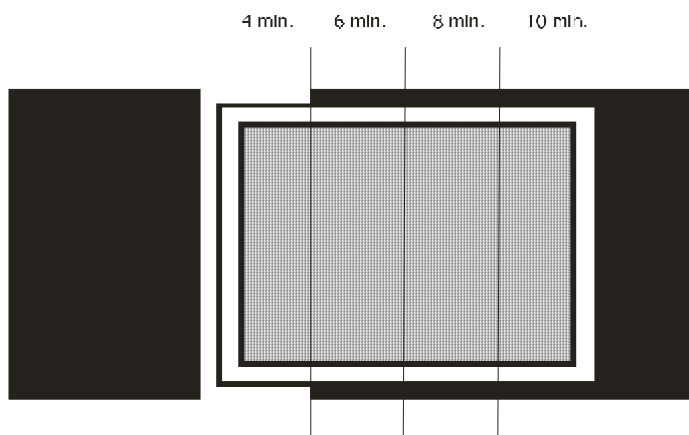
- **24 to a 38** mesh are used for glitters; glitters have visible flakes, also works well for foil adhesives.
- **86 mesh** with multiple emulsion coating is great for High Density, metallic, foil adhesives, gel, transfers and super high puffs
- **110 mesh** can be used for spot, under lays, puff, transfers and some metallic.
- I personally use 156 for under lay because I don't like the bulletproof feel.
- **156, 195** for your other colors and reduce the "feel" with Curable reducer, this thins the ink so it soaks in more then your black is laid over the top with no blurring.
- **200, 230 and 305's** are used for printing 4 color process, simulated process, vinyl's, printing on metal and specialty applications (CD's, DVD's, metals, etc)

Now for print order (what colors in what sequence) place your other screens into the press from light to dark (*dark being the outline 110*). Align your targets or image up to the film on the platen. Now the general rule of thumb in print order goes from smallest area to largest (on *LIGHT* shirts colors on 156 to 195) with the outline being last.

On DARK shirts, the process is darkest color to the lightest, why? *Light colors contain MORE pigment than darker colors and will lead to excessive buildup; you are encouraged to experiment. Again, these are basic, beginning parameters. Test and Record results!!!*

Step-Wedge Test / Exposure Times

Over time light sources weaken, especially HUV (Black light) units and to compensate you increase your exposure time but make sure your positive is OPAQUE!



Mark the screen and at the top of each section write (*example*) 4 minutes, 6, 8 and 10 (*use manufacturer's suggestions*). Produce a piece of art with type, shapes and even some halftones and place it in the 4 minute section, cover the remaining 3 sections with the black paper sheet or ruby; expose for 4 minutes, move art to the next section, covering the section just exposed and increase time on following section, etc. till completed.

IMPORTANT; Always do your final washout from the SHIRT side of the screen as this is the side exposed. To determine the best exposure look for; edge definition and degree of unexposed emulsion on

the squeegee side while washing out. A properly exposed screen will have less slime on the inside as the exposure light has burned 75 to 90% of the emulsion. Be aware on finer detail you may want to cut back time to maintain the details.