

# **Zone VI Variable Contrast Cold Light Head**

## **Instructions**

Before connecting this unit, please read the instructions carefully.

### **Warning:**

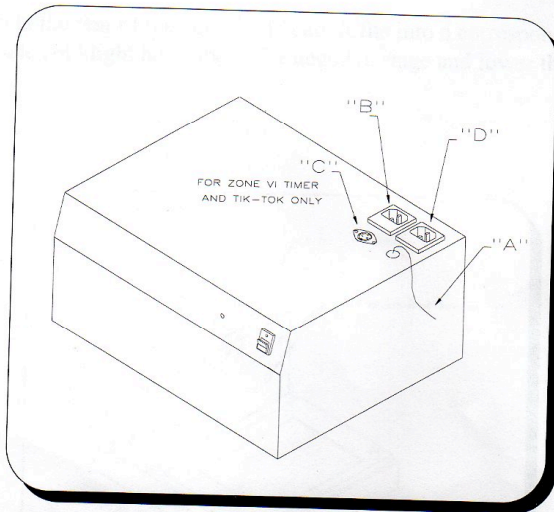
This unit is designed to be used with 110V AC, 50/60 Hz only.  
To prevent electric shocks and fire hazards do not use any other power source.

Never open the cold light or the control box. There are no user-serviceable parts.  
All servicing must be done by Zone VI Studios.

Do not connect the power plug to the wall outlet until all other connections are completed.

## Connections

### Connecting the control box to the head



Cold light head

Plug the "telephone" type cord "A" into the "telephone" type jack at the back of the control box. Make sure it is properly connected. (You should hear a click while pushing the plug into the jack.)

### Connecting the timer to the head

Please be sure that your timer's power switch is turned to "off" position. Plug either power cord into the cold light outlet "B," marked "TIMER." Plug the other end into your timer. Plug it into the receptacle marked "LAMP" or "ENLARGER".

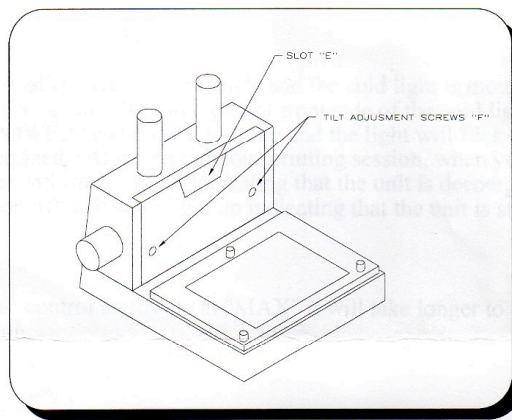
If you are using a Zone VI Compensating Enlarging Timer or a Zone VI Tik-Tok -both have the photocell feature- also connect the 3-pronged plug from the timer or Tik-Tok to socket "C" on top of the cold light.

### Connecting to AC power

After above connections are completed, plug the remaining cord into the "POWER" inlet "D" of the cold light. Plug the other end into an AC household electrical outlet.

## **Mounting the cold light**

There is a flange at the rear of the cold light head. It fits into a corresponding slot "E" on the chassis. Lift the cold light head above the negative stage and lower the flange into the slot.



Negative stage

### **Fine adjustment**

We adjust each chassis for the best light-sealing condition. If lowering-raising the head results in front-to-back misalignment, adjustment can be made by the tilt adjustment screws "F" located on the back panel.

### **Positioning the cords out of the way**

Fit all cords into the cord-holding clips. They are located on the right, back side of the chassis.

## Basic operations with the cold light controls

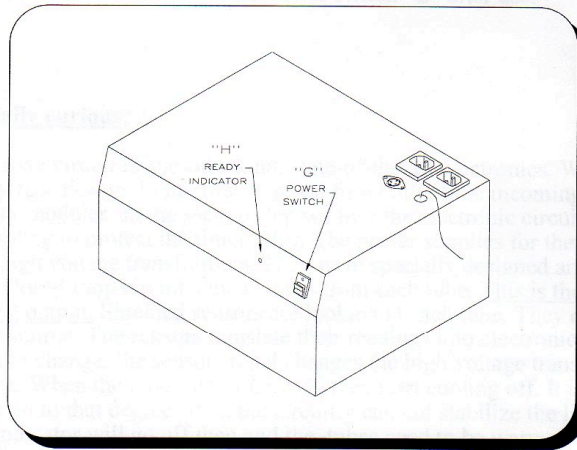
This unit has been equipped with a safety shut off timing circuitry. If the unit is emitting light, either in focus or print mode, continuously over 5 minutes, the unit turns itself into "sleep mode". This prevents the unit from inadvertently being left in a high powered stage. Leaving a unit in a high powered stage, not only results in high electricity bill, but also shortens the life of the light tubes and other electronic components.

This energy efficiency benefit causes no sacrifice in performance of the unit, nor does it add to your cost.

To return to "active mode" you need to turn the unit off with the "POWER" switch for about a minute.

When all the electrical connections are made and the cold light is mounted on the chassis, turn on the "POWER" switch "G" on the right front side of the cold light head. The small red LED on the "POWER" switch will light up and the light will flicker once indicating that the unit is energized. (At the end of your printing session, when you must turn the power off, the light will flicker again indicating that the unit is deenergized.) The green "READY" indicator "H" will soon light up indicating that the unit is stabilized and ready for use.

Note: If the contrast control knobs are at "MAX" it will take longer to achieve a "READY" condition.



Cold light head

Turn on your timer. Leave it in timer mode from now on. (To focus you will use the focus switch on the control box.)

The control box "FOCUS" switch always gives you full light intensity overriding any time or contrast control settings.

Prior to exposing your paper, preset your stabilization by a "blank" or "test" exposure. If the "READY" indicator stays on during the exposure you are ready for a real print. If not, make another "blank" until it comes on during the exposure.

### **Knob positions**

Turn the "BRIGHTNESS" control at the control box to midpoint for normal printing. The "BRIGHTNESS" control is a dimmer, to be used to reduce light intensity, if you find that your exposures are too short.

With a Zone VI Compensating Timer or Tik-Tok, the exposure time will automatically adjust so that a "dimmed" position print will match a full intensity print. With other timers a new exposure time must be ascertained by use of a test strip.

If you are using a Zone VI Compensating Enlarging Timer, the LAMP intensity control on the timer must be in MAX position all the time. The light intensity is adjustable only at the control box.

The contrast control knobs are connected to potentiometers. They control the light intensity of the high and low contrast tubes. For minimum or maximum contrast, turn "off" the light you don't want.

Make sure that you shut off the head at the power switch "G" after use.

### **For the technically curious.**

The electronic driver circuit is one-of-a-kind, state-of-the-art electronics. We use a "two-step" safety fuse design. In the first step, we fuse both of the incoming power lines in the power entry modules. In the second step we fuse the electronic circuit board itself and use opti-coupling to protect the timer relay. The power supplies for the tubes are state-of-the-art high voltage transformers. They were specially designed and fine-tuned for our tubes. A closed-loop circuit gets its input from each tube. This is the only way to ensure stable light output. Shielded sensors are looking at each tube. They constantly monitor the light output. The sensors translate their readings into electronic signals. In case of light output change, the sensor signal changes the high voltage transformer output to the light source. When the tubes are turned off, they start cooling off. It is possible that they will cool down to that degree when the circuitry can not stabilize the light output. The "READY" indicator will go off then and the tubes need to be warmed up, by tuning them on. The tubes must be on for the circuitry to determine if the light output is stable. This is why a "blank" exposure is important to achieve consistent prints.

Summation: If you do not change your timer or control box settings, you will always get 100% consistent contrast and print density.

## Printing with VC paper

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Because VC papers vary, lenses have different contrast characteristics, and various developers or dilutions produce different contrast, the quickest way to gain control is by a simple visual test. If, for example, you would like to arrive at a setting that will give you a result that you equate with a Grade 2, make a print on a graded grade 2 paper and then try different settings of the contrast control knobs until you have duplicated its contrast on a VC paper. We recommend starting at equal knob settings to find your "grade 2" equivalent e.g., F Soft and F Hard. Write down the settings that work : "Grade 3=D Soft, H Hard," for example, and set up a wall chart.

Infinite grades are available within the extremes that the paper can achieve, so in actual work you may want to tweak a grade 2 contrast up or down for a particular negative, by taking the proper knob to the next higher or lower letter setting.

An alternate plan used by many good printers consists of using the hard and soft lights separately. Contrast is controlled by the length of exposure given by each of the two lights. This procedure is generally known as "Split Printing".

There is also a subtractive method that may have appeal because only one knob is used. Start off by setting both lights to maximum and you will get about a grade 2. By cutting back on the soft, you will get a grade 3. (By turning off the soft, you will get a grade 4.) By cutting back on the hard, you will get a grade 1. (By turning off the hard, you will get a grade zero.)

There are so many procedures possible that each printer will have to find the technique that best applies to his work and temperament. There is a danger: The many options available can result in an unstructured approach. As in other aspects of photography, keeping materials, equipment, and procedures simple and consistent will assure the best results. The descriptions of the various techniques are not intended to encourage anyone to use them all. On the contrary, we would urge you to test one or more that seems to have appeal; then adopt and stick with only one.

Most enlarger lenses are sharpest two or three stops from wide open, but those settings may not give you sufficient printing time for good control.

You can lengthen the printing time by reducing the light output by using the "BRIGHTNESS" control on the control box.

For burning use just the hard or soft light alone. The hard to substitute a strong rich black for that distressing dark shade of gray. The soft is used to tone down a "hot" area.

For graded papers, the soft light is very visible, making burning and dodging easy, and it is slow for its brightness. Hard light is less visible and it is fast for its brightness. The contrast of graded papers is not affected by the color of light.