

INSTRUCTIONS

Omega CS-50 Automatic Exposure Control



The Omega CS-50 Auto Exposure Control provides the convenience of fast, fully automatic exposure determination. Once you have programmed your CS-50, you can obtain perfectly exposed color or black and white prints.

You need no longer calculate exposure adjustments that are required when changing film frames, lens aperture, adjusting magnification, or making filtration corrections, and the CS-50 works equally well with virtually any print material.

A flick of the CS-50 "Sample" switch locks the exposure information in its memory for the actual exposure. To start

your exposure, simply press the exposure switch. The CS-50 will automatically switch the enlarger lamp off when the correct amount of light has reached the paper, producing perfect prints every time.

Please take a few minutes to familiarize yourself with these instructions so you can utilize the exciting new CS-50 Auto Exposure Control to its fullest potential.



Operating Controls

Figure A

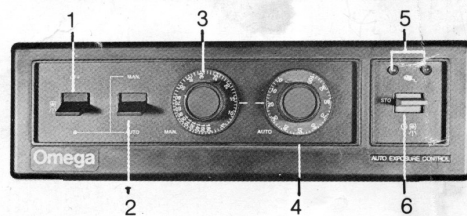


Figure B

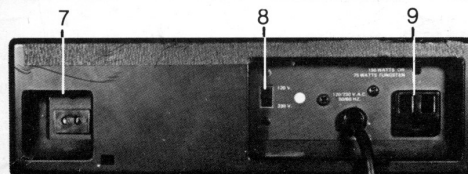


Figure C



1. Off/Focus/Operate [Figure A, #1]

- **Upper position** shuts all power off.
- **Center position** turns enlarger on for composing, focusing, etc.
- **Lower position** allows timing operation in both Manual and Automatic modes.

2. Manual/Automatic Switch [Figure A, #2]

- **Upper position** for manual timing mode.
- **Lower position** for automatic timing mode.

3. Manual Time Dial [Figure A, #3]

- 60 click-stop position for manual mode operation.
- Sets timer from 1-30 seconds in 1 second intervals, 30-60 seconds in 2.5 second intervals, 60-120 seconds in 5 second intervals, 120-180 seconds in 10 second intervals.

4. Automatic Reference Dial [Figure A, #4]

- Programs unit for automatic operation. 0-100 index numbers are reference settings for recording program data for future use.

5. Dual L.E.D.'s [Figure A, #5]

- Indicate when unit is programmed.
- In operation, indicate if next print will receive more or less exposure time than originally programmed print.

6. Sample/Store/Exposure Switch [Figure A, #6]

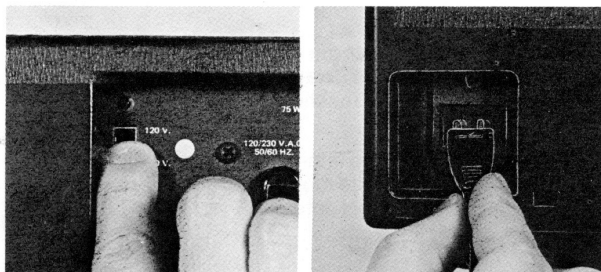
- **Upper position** for programming and reading new image.
- **Center position** holds sample exposure information for 5 minutes.
- **Lower position** provides a momentary contact which activates the enlarger lamp, in either the Manual or Automatic modes.

7. Probe [Figure C]

- Contains the light sensing cell.
- Variable apertures in probe for contrast measurement allow paper grade determination when printing with black and white.

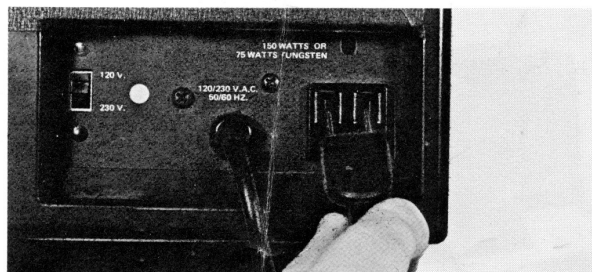
Setting Up

1. Be sure that the voltage selector switch (Figure B, #8) is set to the 120V position (U.S. and Canada).



2. Plug the probe into its receptacle (Figure B, #7) at rear of the control unit.

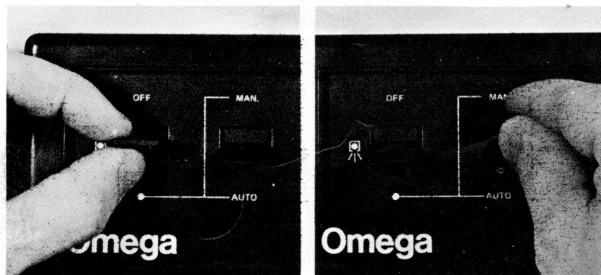
3. Plug the lamphouse or power supply line cord into the receptacle (Figure B, #9) at rear of the control unit.



4. Plug the CS-50 into any 120VAC outlet.

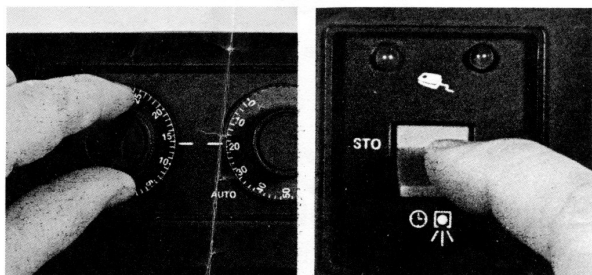
Manual Mode Exposure Time Operation

1. Set the OFF / FOCUS / OPERATE SWITCH to its Focus (center) position. Compose and focus.



2. Set the MANUAL / AUTOMATIC SWITCH to the Manual (upper) position. (Both LED's will light.)

3. Set the desired printing time by turning the Manual Time Dial. Set OFF / FOCUS / OPERATE SWITCH to Operate.



4. Depress the SAMPLE / STORE / EXPOSURE SWITCH to activate the enlarger. After the timed exposure, process and dry the print.

Automatic Exposure Operation

A. PROGRAMMING:

Determine the proper exposure time for your print by making a "test print" in the Manual mode. After the test is completed and you have determined the correct exposure time, do not

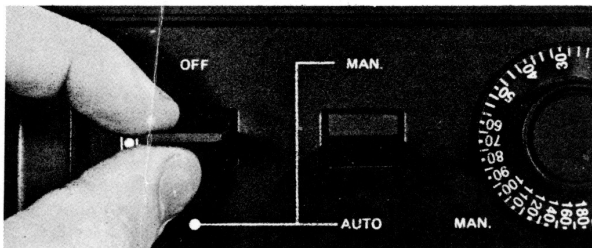
1. The exposure time which produced the correct exposure on the test print MUST be set on the MANUAL TIME DIAL.
2. Set the probe's contrast dial to read 2.0.



3. Set the MANUAL / AUTOMATIC switch to the Automatic (lower) position.

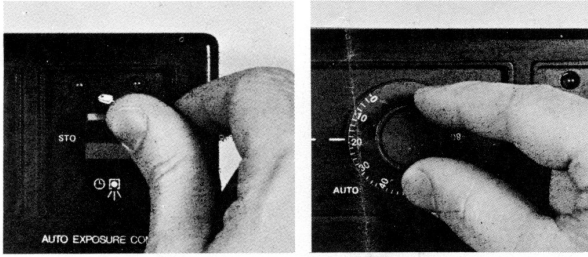
disturb the enlarger settings (magnification, lens aperture, filtration if any) used for the test print.

4. Set the OFF / FOCUS / OPERATE switch to the Focus (center) position.



5. Place the probe on the easel with the sensing cell under the reference spot.

- Set the SAMPLE / STORE / EXPOSURE switch to the Sample (upper) position for a moment, and then return to the Store (center) position.



- Adjust the AUTOMATIC REFERENCE DIAL until the two LED's are of equal brightness.
- Record the Manual Time setting and Automatic Reference setting for future reference. Both dials must be set to obtain proper results when reprogramming.

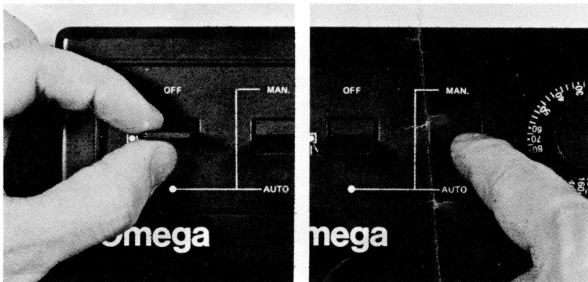
The CS-50 will now accurately and automatically expose for the type of paper programmed, regardless of changes in film density, magnification, lens aperture, or filtration.

Note: Changing to a new type of paper requires a new program. A new program may be required with color paper when changing emulsion batches of the same paper, because of differences in paper sensitivity.

B. READING A NEW IMAGE

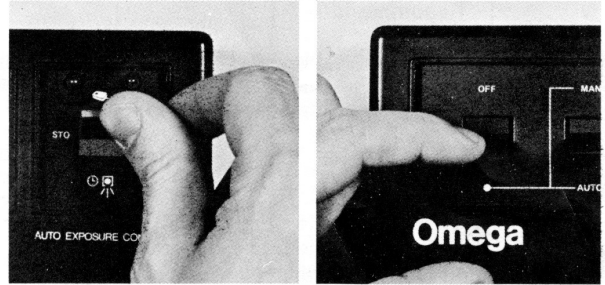
I. Automatic Time Adjustment Method

- Place a new image in the enlarger.
- Set the OFF / FOCUS / OPERATE switch to the Focus (center) position. Compose and focus.

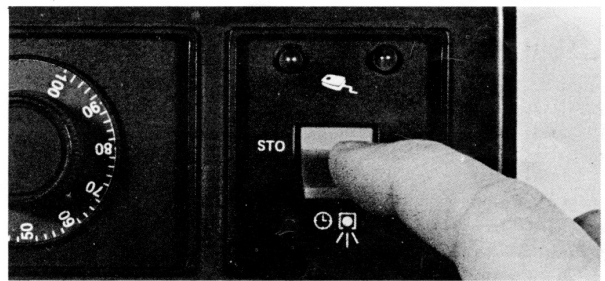


- Make sure the MANUAL / AUTOMATIC switch is in the Automatic (lower) position.
- Place the probe's cell under a reference spot similar to the one originally programmed.

- Flip the SAMPLE / STORE / EXPOSURE switch to the Sample (upper) position momentarily and return to the Store (center) position.



- Remove the probe from the easel.
- Set the OFF / FOCUS / OPERATE switch to the Operate (lower) position.



- Place a fresh sheet of enlarging paper in the easel, and depress the SAMPLE / STORE / EXPOSURE switch. After exposure, process and dry the print.

II. Nulling Method

Should you wish to work at a constant exposure time when printing, proceed as follows:

- Perform Steps 1-4 as outlined above (Automatic Time Adjustment Method).
- Flip the SAMPLE / STORE / EXPOSURE switch to the Sample (upper) position.
- Adjust the enlarging lens aperture until the two L.E.D.'s are of equal brightness.
- Return the SAMPLE / STORE / EXPOSURE switch to the Store (center) position.
- Perform steps 6-8 as outlined above.

Determining Paper Grade for Black and White Printing

- Place any negative in the enlarger. Compose and focus.
- Set the probe to "0".
- Set the SAMPLE / STORE / EXPOSURE switch to the Sample (upper) position.
- Place the probe's sensing cell under a shadow area (light on the easel) of the projected image — and bring the two L.E.D.'s to equal brightness by adjusting the enlarging lens aperture. (If L.E.D.'s will not null by adjusting the lens, note the Automatic Reference Dial setting and adjust until the L.E.D.'s come to equal brightness.)

- Place the probe's sensing cell under a highlight area (dark on the easel) of the projected image — bring the two L.E.D.'s as close as possible to equal brightness by adjusting the contrast range dial on the probe.

- Note:**
- The contrast dial must be at one of its detent positions to be accurate.
 - When selecting a highlight, avoid reading specular highlights — eg. reflections from shiny metal, glass, etc.
- Read the number in the window of the probe and refer to the chart below. Find the corresponding number on the chart and read the required paper grade to print that particular negative.

Paper Grade Chart

CONVENTIONAL PAPER		RESIN COATED PAPER	
Probe Reading	Recommended Paper Grade	Probe Reading	Recommended Paper Grade
.1 to .6	#5	.4 to .5	Ultra Hard
.6 to .8	#4	.6	Extra Hard
.8 to 1.0	#3	.7 to .9	Hard
1.0 to 1.2	#2	1.0 to 1.2	Medium
1.2 to 1.4	#1	1.3 to 1.4	Soft
1.4 to 2.0	#0		

Important: Be sure to return the probe's contrast dial to 2.0 before returning to normal printing operation.

Autoexposure Override

After processing a print you may decide that the overall exposure should be adjusted. In such cases, resetting the MANUAL TIME DIAL will adjust the exposure by the desired percentage. Do not change the Automatic Reference Setting.

Example:

Your MANUAL TIME DIAL is set for a basic 15 second exposure. You decide that the resultant print is too light, and wish to

increase the exposure by 20%. Change the Manual Time Dial to read 18 seconds (120% of 15 seconds) and make the next print. The CS-50 will automatically increase the memorized exposure by 20% on all future prints.

REMEMBER: The Manual Time Dial must be reset to the original time setting before changing to other images if you want to reprogram to your original exposure reference.

Dodging and Burning

Dodging

For dodging use Automatic Operation and simply dodge as required during the exposure.

Burning In

Use the lens nulling method described in "READING NEW IMAGES" so you will be sure that you are using your basic

exposure time as a point of reference for determining the exposure time needed for burning-in. The Autoexposure system will provide you with an accurate exposure measurement, then use the technique outlined in "AUTOEXPOSURE OVERRIDE" to make your secondary exposure.

Glossary of Terms

Reference Spot: For successful exposure determination, the reference area or spot to be evaluated must be basically of the same density in all of your films. A grey card in each scene, a fleshtone, or some other neutral area make good reference spots. It is also important that the reference spot be evenly illuminated. A medium density area is best suited for this purpose.

Contrast Range: Contrast Range is the difference in density between the lightest and darkest portions of the film. Black

and white print materials are available in various contrast grades to match the contrast range of your negatives.

Burning-In: Extra exposure given to selective area of a print, which would otherwise be too light with the basic overall exposure

Dodging: Holding back exposure on selected areas of a print, which would otherwise be too dark with the basic overall exposure.

Specifications subject to change without notice.

Omega Division

BERKEY MARKETING COMPANIES

25-20 Brooklyn-Queens Expwy. West, Woodside, NY 11377 ■ (212) 932-4040
1011 Chestnut Street, Burbank, California 91506 ■ (213) 843-1883

