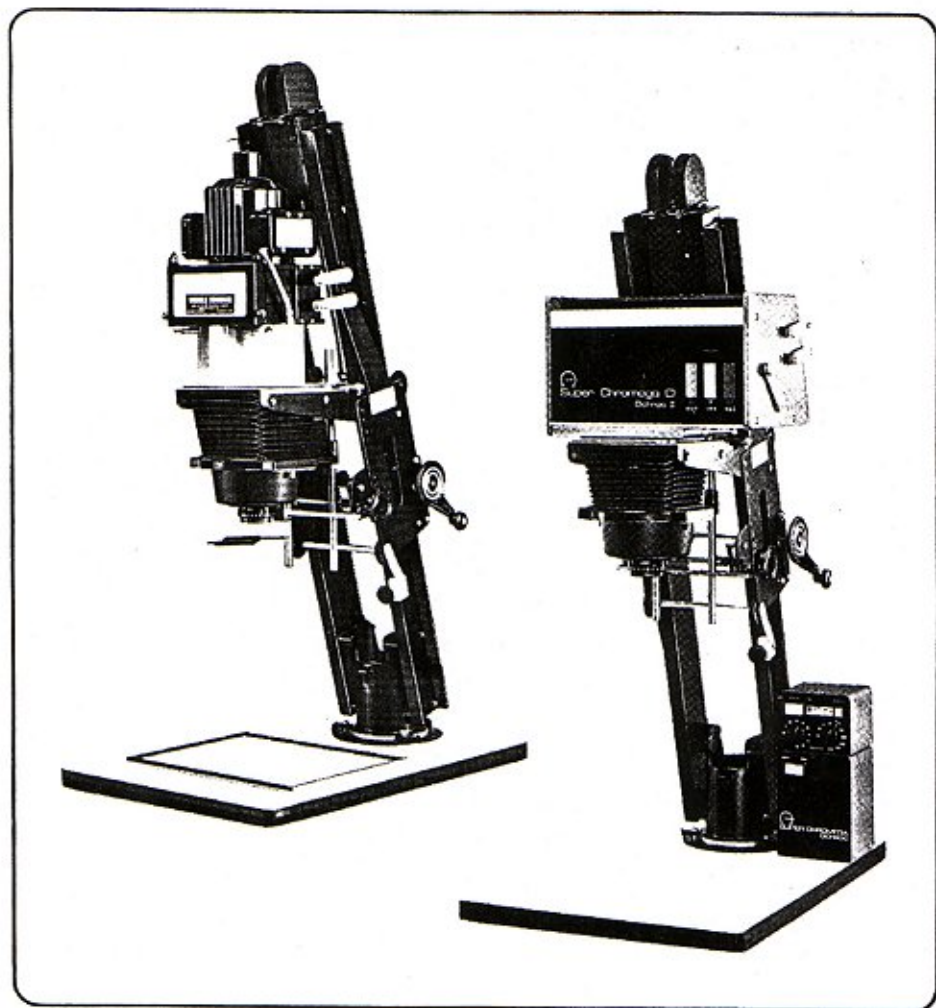


# OMEGA & SUPER CHROMEGA D2 ENLARGERS

## INSTRUCTION MANUAL



## OPERATING PARTS AND CONTROLS

Parts and identification numbers appearing in this manual refer to the following list and illustrations.

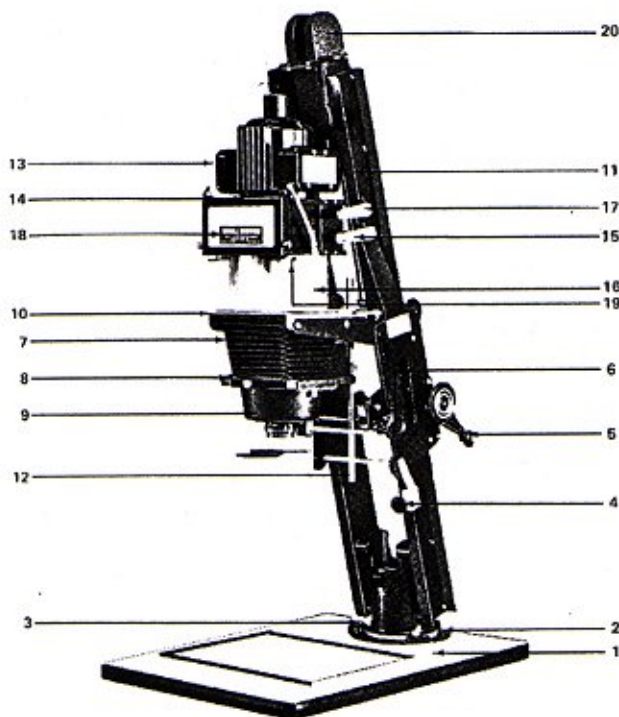


Figure 1

### IMPORTANT

**Please Note:** We have reprinted this instruction manual for your convenience. It may contain accessories that are no longer available. We are not deleting the numbers for negative carriers, and lens mounts as they can be used for reference and there is the possibility that some items may still be found in dealer stock.

### SUPER CHROMEGA D-2 DICHOIC II ENLARGER

21. Dichroic Lamphouse
22. Light Mode Selector Lever
23. Light Multiplier Access Panel
24. Lamp Access Cover
25. Filter Thumbwheels (not visible)
26. Filtration Readouts
27. Panel Support
28. Panel Support Thumbscrews
29. Light Mode Indicator
30. Power Supply
31. Solid State Electronic Timer II (accessory)

### OMEGA D2V ENLARGER

1. Baseboard
2. Baseboard Mounting Flange
3. Base Clamps
4. Carriage Lock
5. Elevation Crank
6. Focusing Knob
7. Bellows
8. Lens Stage
9. Lensmount (Accessory)
10. Film Stage
11. Girders
12. Focusing Rods
13. Upper Lamphouse
14. Lamphouse Locking Screw
15. Lamphouse Mounting Screws
16. Condenser Carrier
17. Lifting Levers
18. Variable Condenser Access Door
19. Condenser Carrier Screws
20. Counterbalance Springs

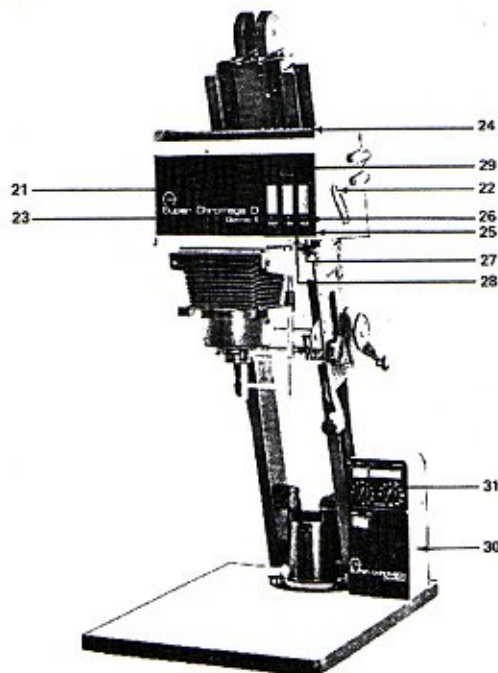


Figure 2

## ASSEMBLY

### Unpacking

Carefully open shipping carton(s) and check all items against the packing slip. Certain accessories may be packed within cardboard carton supports. Therefore, do not discard any packing materials until you have accounted for every part. We suggest that you retain cartons and inserts in case an occasion for reshipment arises.

### Enlargers Are Packed As Follows:

D-2V Condenser Enlarger — lamphouse, chassis and baseboard in one carton.

Dichroic Enlarger — Lamphouse in separate carton.

### MOUNTING CHASSIS TO BASEBOARD

**Caution:** Before handling chassis, make sure that the carriage lock (Figure 1, Number 4) is tight.

1. Place baseboard on the table top at a convenient working height. Mount the baseplate (packed separately with the chassis) to the baseboard using the Phillips head screw provided, positioning the holes in the baseplate with the holes in the baseboard.

2. Assemble two of the three bolts, clamps (Figure 1, Number 3) and spacers as illustrated in packing diagram supplied with baseplate.

3. Place chassis in position so that base casting is centered on the baseplate (Figure 1, Number 2) with the flange under the clamp assembly. Secure the 3rd bolt and clamp and spacer assembly.

Align the chassis with the center of baseboard and tighten bolts securely with the wrench provided or with a 7/16" box wrench.

**NOTE:** If bench mounting the enlarger, use the baseplate as a template and drill the required holes in the bench surface. Follow the instructions above, substituting the longer bolts and nuts included. Instructions for wall mounting or use of enlarger floor stand are included with wall mount or stand.

### CONDENSER LAMPHOUSE ASSEMBLY

Carefully unpack the lamphouse and condensers from the shipping carton. Separate the condenser housing from the lamphouse by loosening the two knurled screws (Figure 1, Number 19) and turning the aluminum spinning (Figure 1, Number 16) counter-clockwise. Remove the corrugated aluminum spacer found inside the spinning. Proceed as follows:

a) The fine optical glass condenser lenses are packed in a separate box. Unwrap the lens carefully, handling by the edges **ONLY**. If necessary, clean with lens tissue or a soft

clean towel. Remove any labels on the glass with soap and water, dry, then install a condenser in the condenser housing flat side down.

- b) Replace the corrugated aluminum spacer around the inner surface of the condenser housing, as tight as possible without forcing.
- c) Unpack and clean the second condenser and install it in the condenser housing, curved side down. When properly installed, the condensers will be as illustrated below:
- d) Re-install spinning with condensers under upper lamphouse assembly — tighten knurled retaining screws (Figure 1, Number 19).

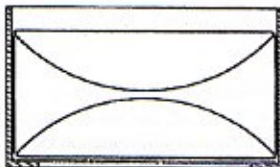


Figure 3:  
Assembly of 6 1/2"  
Condensers.

- e) Unpack the variable mounted condenser and clean as above. Lift the condenser access panel (Figure 1, Number 18) and slide the variable condenser into one of the three positions (see chart inside access panel).



Figure 4. DV Condenser Lamphouse showing variable condenser placement.

### MOUNTING

Place the entire lamphouse and condenser assembly on the film stage (Figure 1, Number 10) of the enlarger and attach it to the lifting levers (Figure 1, Number 17) by means of the knurled lamphouse mounting screws (Figure 1, Number 15). Run the lamphouse line cord over the top of the enlarger girder (Figure 1, Number 11) between the counter balance springs (Figure 1, Number 20).

### DICHROIC LAMPHOUSE

#### Attaching Lamphouse Levers

Dichroic models have lifting levers preassembled and packaged separately within the enlarger carton. These lamp-



house levers slip into the slots at the top of the enlarger carriage, and are secured by metal retainers held in place by sheet metal screws attached to the side frame.

To prevent the carriage from shifting during shipping, a retaining dowel is inserted in one set of cutout slots. Remove this dowel, then install the levers. There are two sets of levers per assembly. One of these sets incorporates the long lifting lever and handle. This handle is to be installed in the upper slots.

Install the lifting lever assembly **WITHOUT** the long lifting lever and handle in the **LOWER** set of cutout slots, making sure to position the aluminum bushing and spacer outside of the right side frame.

**NOTE:** It is easiest to install the assembly if you have someone press in on the carriage side plates while you snap in the levers.

Remove the Phillips head sheet metal screws on each side frame, which are used to secure the metal lever retainers attached to the upper lever assembly. Position the long lifting lever assembly into the upper set of cutouts, making certain that the aluminum bushing and spacer are outside the right side frame.

Secure the metal retainers to the side frames using the Phillips head sheet metal screws previously removed. Be sure to position the metal retainers as illustrated below (Figure 5), and tighten the screws securely, or lamphouse alignment will be difficult.



Figure 5.

### Mounting Lamphouse

Loosen the four knurled lamphouse mounting screws and set the lamphouse on the negative stage. Hook the lifting levers under the screws. Tighten the screws, and check to insure that the shoulders of the screws fully engage the holes in the levers so that the knurled heads tighten flush against the levers.

A line cord retainer has been provided on the right side frame of the carriage. Pull the thumb tab to release the strap, then install the line cord through the clamp and secure. Run the line cord behind the handwheel assembly.

## ALIGNMENT CHECKS

Raise and lower lamphouse from film stage by means of the lifting lever and check that lamphouse comes down squarely and remains parallel to film stage when lifted. If lamphouse "tilts" either front-to-back or to one side, adjust as follows:

### FILM APERTURE ALIGNMENT

With the lamphouse resting on the film stage and a carrier in place, remove the light multiplier (see page 12 of THIS book). Check that the bottom cutout of the lamphouse is centered over the film stage aperture. If adjustments are necessary, loosen the four recessed Phillips head screws at the sides of the lamphouse directly in front of the lifting lever screws. Slide the lamphouse to front or rear, as required, and tighten adjusting screws. Replace multiplier and access panel.

### FRONT-TO-BACK ALIGNMENT

If the front of the lamphouse contacts the film stage first (lamphouse tilts down), place the film carrier on the front edge of the film stage and lower the lamphouse. Note that this will force the front of the lamphouse up while you make the adjustment. To do so, loosen the recessed Phillips head screws directly in front of the lifting levers at the side of the lamphouse. The lamphouse will "settle". Tighten the screws, and check alignment. Repeat, if necessary, until lamphouse is parallel with the film stage.



Figure 6.

### SIDE-TO-SIDE ALIGNMENT

If lamphouse tilts so that right or left side contact negative stage first, align as follows:

Again, use the film carrier as a "shim" and place it on the edge of the film stage on the side where the lamphouse contacts first (low side). Lower lamphouse and note that this will push up the low side of the lamphouse while you make the adjustment.

Using the Number 10 Allen wrench supplied, loosen the lower right hand lifting lever arm where it is fastened to the cross rod. The top right lifting arm can be loosened with the allen wrench supplied. The top lever adjustment will critically align the lamphouse to the film stage. Loosen this screw carefully and stop as soon as the lamphouse is square with the film stage. Tighten all set screws securely.

## DICHROIC POWER SUPPLY CONNECTIONS

The power supply provides low voltage to the quartz-halogen lamp and full line voltage to the cooling fan and panel lamp.

The power supply is factory set for 120VAC, 50/60 Hz. operation, standard in the United States. If the enlarger is to be operated from 100-volt or 110-volt AC lines, adjust the unit by removing the wrap-around cover and transferring BLUE wire marked "TAP" to the "100" or "110" terminal, as appropriate. (Be sure to disconnect from wall outlet first!).

Connect lamphouse to power supply by plugging in the six-bladed polarized connector at rear of power supply.

### "POWER TOWER"

The use of a voltage stabilizer is urged because even small fluctuations in line voltage can seriously affect print color balance during enlarging.



Figure 7: Front and Rear views of optional electronic timer and voltage stabilizer on power supply, to form convenient "power tower".

A special solid state, noiseless, plug-in electronic voltage stabilizer is available from Omega and is part of the "Power Tower", which ends the usual clutter of connecting cables. The Omega solid state electronic timer with footswitch completes the "Power Tower" and conveniently groups all controls within handsread.

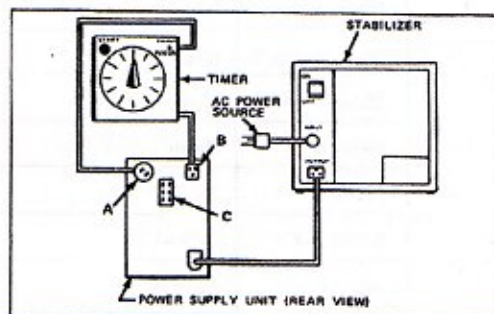


Figure 8: Interconnecting Timer and Stabilizer when other than "Power Tower" components are used.

If you are using a stabilizer and timer other than Omega "Power Tower" components, connect them with the power supply, as shown above (Figure 8).

Connect the female plug of the extension cable to the recessed male receptacle of the power supply (A). The other end of this cable connects to the TIMED OUTPUT of your timer.

The timer line cord plugs into the standard three-pin female receptacle of the power supply.

The power supply line cord connects to your stabilizer which must have a capacity of at least 250 watts.

### ON/OFF SWITCH

Power Supply ON/OFF switch controls current to timer, blower and panel lamp. Whenever switch is on, the cooling blower will operate and the panel lamp will be lit. The enlarger lamp is, of course, controlled by the timer.

## LENSES AND LENSEMOUNTS

The size of the negative dictates focal length selection, as per the chart on page 7. Any lens will enlarge negatives smaller than the maximum size listed for the focal length, but the largest magnification ratio obtainable would be smaller.

### D2 LENSEMOUNTS

As indicated on the chart, lenses must be matched to the correct lensmount to ensure the necessary film to lens spacing. In addition, you must order the appropriate Lens Disc corresponding to the lens brand type you have selected. The disc is a metal plate with a bored hole corresponding to the lens mount diameter of the particular lens. The lens is secured to the disc by means of a lens retaining ring or flange supplied with all Omega lenses (Omegaron,



## ON-BASEBOARD MAGNIFICATIONS AND LENSEMOUNT SELECTION

LENS	MAXIMUM FILM COVERAGE	Magnification		LENSEMOUNT	
		MIN.	MAX.	HEIGHT	CATALOG NO.
25mm (1")	Minox	13.8	37.2	Recessed for Omegaron	421-025
28mm (1-3/16")	Minox	12.8	34.8	Recessed for Componon	421-027
35mm (1-3/8")	35mm Half Frame	10.2	29.5	Recessed for Omegaron	421-026
50mm (2")	35mm	5.2	17.7	FLAT	421-100
75mm (3")	2 1/4" x 2 1/4"	2.0	11.5	FLAT	421-100
80mm (3.2")	2 1/4" x 2 1/4"	2.0	10.2	FLAT	421-100
90mm (3 1/2")	2 1/4" x 2 1/4"	1.8	9.0	FLAT	421-100
105mm (4-1/8")	2 1/4" x 3 1/4"	1.5	7.2	FLAT	421-100
135mm (5-3/8")	4" x 5"	1.5	5.2	2 1/4"	421-101
150mm (6")	4" x 5"	1.5	4.4	4 1/2"	421-102

NOTE: Magnifications larger than those indicated are available through floor projection, wall mounting of enlarger, horizontal projection, or use of floor stand.

Rodagon, Omicron-EL). The majority of other lenses are also supplied with such flanges. Once the lens is secured to the disc, the disc is attached to the mount by two small screws for a permanent, Lens, Disc and Mount assembly which is easily installed and removed on the enlargers lens stage.

If you are using a number of lenses in the 50 to 105mm focal range, all with standard Leica-type threads (such as the Omegaron, Rodagon, and Omicron-EL) you can buy a universal threaded flat mount (Cat. No. 421-021) and simply switch lenses by unscrewing them from the mount.

### INTERCHANGING LENSEMOUNTS

The lensmounts have a circular flange with two flat sides. To insert the lensmount, hold it so that the flat sides are front-to-back, parallel with the sides of the baseboard. Lift

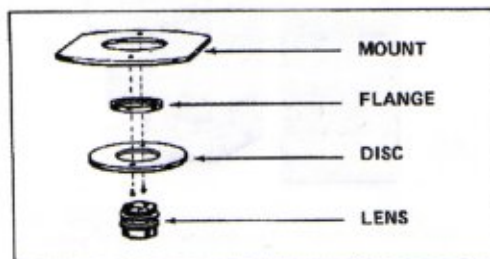


Figure 8.

the mount up into the recess of the lens stage and give the mount a quarter twist. Secure it by tightening the two small locking screws at the bottom of the lens stage. Do not overtighten.

### FILM CARRIERS

Omega D series enlargers accept all D-type film carriers. The wide variety of available types are detailed in our current price list, and are available through your local Omega Dealer. These carriers are designed to optimize the light output of the enlarger with a highly reflective white surface on the top, which reflects light falling outside of the aperture back into the lamphouse, where it can be redirected back at the film.

Glassless carriers are usually ideal for most applications, as the thick film base used in sheet and roll films will generally be flat. However, when using high wattage lamps, glass negative carriers will prevent film buckling due to absorption of light energy (as heat). When using glass carriers, keep the glass clean and dust free.

## INSERTING FILM CARRIERS

Place the film, emulsion side down, in the carrier. Lift the lamphouse away from the film stage by pulling the lamphouse lifting lever forward and insert the carrier. With Rapid Shift carriers, it is not necessary to remove the film carrier when printing succeeding roll film frames: merely lift the lamphouse and slide the film to the next exposure. Once the film carrier is in place, lower the lamphouse gently by releasing the lifting lever.

## OPERATION

### CONDENSER ENLARGER

Omega D2 enlargers are fitted with two 6-1/2" (152mm) fixed condensers and one 4-11/16" (118mm) variable condenser, which is adjustable for all enlarging lenses from 25mm to 150mm in focal length.

The fixed condensers are placed in an aluminum spinning, constructed to provide precise clearance between the negative and lower condenser to prevent the possibility of Newton Rings.

The variable condenser is accessible by lifting the access door. The diagram below indicates the proper position for the various focal length lenses.

POSITION VARIABLE CONDENSER AS INDICATED

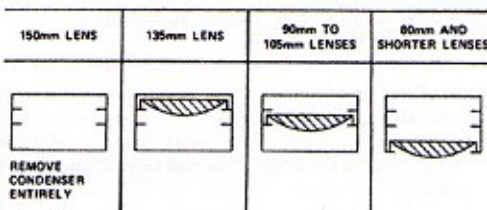


Figure 10. Positioning Variable Condenser.

### LAMPHOUSE ACCESSORIES

The DV lamphouse accepts a metal filter holder for 5" square color printing or variable contrast filters, Catalog Number 429-052.

The lamphouse also provides for insertion of rectangular heat absorbing glass, opal glass or ground glass. All these are available as accessories.

### GENERAL OPERATING INSTRUCTIONS FOR ALL D-2 ENLARGERS

1. Install and correct lens mounted on the proper lens mount. This lens must be of suitable focal length to cover the negative size.
2. Place film in carrier: film is inserted emulsion (dull) side down.

3. Place carrier on film stage: Simply raise the lamphouse by the lifting lever and position carrier squarely on the film stage.
4. Position the Variable Condenser: Refer to the chart on the preceding page and inside the lamphouse cover door for the correct position for the focal length lens you are using.
5. Adjust size and composition: With enlarger "ON" and carriage lock loosened, raise or lower the enlarger to compose and size the image to your preference.
6. Focus: With enlarging lens set to maximum opening for brightest image, focus the image by turning the focusing knob, and if necessary, adjust carriage height and refocus until the image is exactly as you want it on the easel.
7. Stop-down the lens: After satisfactory sharpness and composition have been achieved, the lens is stopped-down. (No lens performs as well at full opening as at a smaller f/stop).
8. Turn off enlarger: Set your timer, insert a piece of sensitized paper and make your exposure (no definite exposure time values can be given, as they depend on many factors, including film density, magnification f/stop and paper sensitivity).

## DICHROIC LAMPHOUSE OPERATION

### DIALING FILTRATION

Filtration is set by merely turning the filter thumb wheel (Figure 2, Number 25) at the bottom of the lamphouse until the desired filtration is indicated on the illuminated color coded digital readouts: (Figure 2, Number 26). These readouts indicate filtration to 0.01. The thumbwheels have been positioned at the bottom of the lamphouse for convenient operation even when the lamphouse is fully elevated, at maximum magnification.

### PROGRAM MATCHING ADJUSTABLE DIGITAL READOUTS

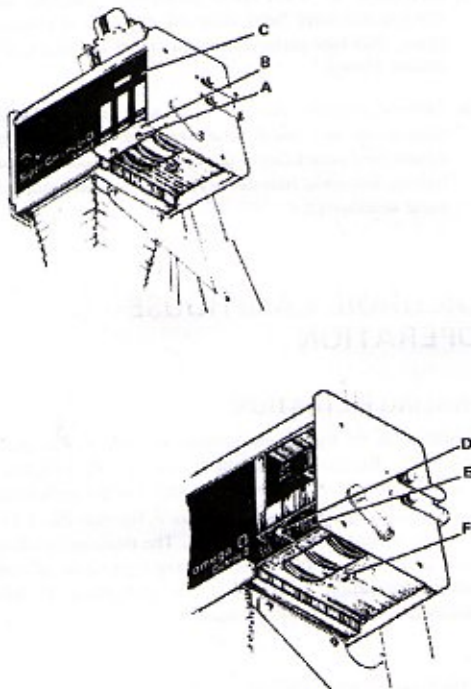
In commercial laboratories using off-easel analyzing and multiple enlarging stations, it is highly desirable to be able to "fine tune" or calibrate the enlarger filters to a standard reference after changing lamps, or to compensate for variations in emulsions in different paper lots. This can easily be done with the Model II lamphouse, which avoids the need to re-analyze numerous negatives. Proceed as follows:

- a) You have previously programmed your analyzer by making a good print from a master negative and re-



cording the filter pack used to make that print. For an example, assume that the correct filtration was 50 magenta and 100 yellow.

- b) You have now replaced the enlarger lamp or perhaps encountered a significant change in the paper emulsion, thus voiding the above filter information.
- c) Make a new test print from the same master negative, and when you again have an acceptable print, note the settings on the filtration readout. Assume they now read 70 magenta, 90 yellow. You can now re-set the readouts to read 50M, 100Y which will permit you to continue printing using the filter information noted on your pre-analyzed negatives. Re-setting the readouts is described in the following:



- (A) Knurled Screws holding ledge (2)  
(B) Removable aluminum ledge  
(C) Removable Cover Panel  
(D) L-Shaped Rod for declutching counter  
(E) Re-settable Counter Wheels  
(F) Panel Lamp Switch

Figure 11. Lamphouse Operating Controls.

## RESETTING READOUTS

(From the previous example, readouts indicate 70M, 90Y, which you wish to reset to 50M, 100Y.)

1. While holding the aluminum ledge at the bottom of the lamphouse below, the readout windows, slowly remove the two knurled thumb screws in front of the filter control wheels and remove the ledge and the front access plate, exposing the readout assemblies.
2. Pull out the L-shaped counter release rod fully, and apply a slight downward pressure on the rod to disengage the digital wheels from their transmission gears. While maintaining the downward pressure on the rod to disengage the digital wheels from their transmission gears, adjust the right digital wheel of the three-wheel counter assemblies until the desired filtration is indicated. (For example, advance the Yellow readout 10 digits from 90 to 100, and back off the Magenta readout - 20 points from 70M to 50M. Do not move the filter controls at underside of lamphouse.)
3. Remove finger pressure from the release rod and permit it to re-engage the counters with their transmission gears. Push the rod back into place and replace the front cover, ledge, and knurled retaining screws.
4. The lamphouse has now been recalibrated to the settings used to program the analyzer. Note that you have not changed the actual position of the Dichroics (which are at 70M, 90Y), but have merely "tuned" the readouts to compensate for the change.
5. When you wish to return the filter system to the original zero settings, turn the filter controls downward to their lowest settings (pure white light), and, as described above, remove the access cover and reset all counters to "000".

## LIGHT MODE SELECTOR

The lever at the side of the lamphouse selects desired operating mode: HIGH, LOW or WHITE LIGHT. Selected mode is shown on illuminated indicator on front panel.

Use HIGH position for normal printing.

The LOW position reduces light output by about two f/stops without significantly large color shifts. Use this mode when making small enlargements when exposure times would otherwise be so short as to risk reciprocity failure.

For focusing, scaling, and composition, or black and white printing, switch to WHITE LIGHT. This retracts the filters from the light path for bright and accurate focusing. Switching the lever back to either HIGH or LOW position restores the previously dial filtration settings.



## PANEL ILLUMINATION

The panel lamp illuminates the light mode indicator, filtration readouts, and readout color identification strips. A white slide switch at the underside of the lamphouse permits you to turn off this lamp. While our tests have shown that panel illumination to be darkroom safe for most work, some technicians prefer total darkness.

## STRAY LIGHT SHIELD

A small light baffle is clipped onto the panel lamp assembly to provide extraneous light shielding for the enlarging lamp. This baffle is easily removed for replacement of the panel lamp.

## INTERCHANGEABLE LIGHT MULTIPLIERS

Your Super Chromega Dichroic Lamphouse is factory equipped with a scientifically designed light multiplier chamber incorporating many features that provide the finest in response from your enlarger. These features include:

A specifically calibrated diffuser that has been designed for the light multiplier to provide light distribution computed to approach zero fall-off. (Fall-off is the difference in light intensity between the center of the light as it is projected on the easel).

All light multipliers are factory supplied with an infrared filter light intake port. In addition, the opal diffuser incorporates a special ultraviolet absorbing filter.

The extended range filtration capacity of your enlarger should be capable of handling any printing requirements. Should supplementary filters be required, however, the mixing chamber has a slot under its diffuser to accept 5"x5" CC or CP filters.

The standard "DD" light multiplier can be used for all negative sizes. However, when printing 2 1/4"x2 1/4" or smaller format films, a substantial increase in light output can be obtained by replacing the "DD" multiplier with an accessory "DB" multiplier, available through your Omega dealer (Catalog Number 429-177).

To interchange multipliers, remove the front access panel by lifting the bottom trim strip up and out (notice that a curved spring is attached to the panel, which insures proper positioning of the multiplier against the rear of the lamphouse). Slide out the standard multiplier and replace the access panel.

## COLOR PRINTING

### USING COLOR ANALYZER

Although for some users trial-and-error color printing may be acceptable because of modest color printing require-

ments commercial and industrial color printers should use a color analyzer. The use of a precision analyzer drastically cuts printing time, greatly reduces waste of paper and chemicals, permits the use of less experienced personnel, and generally improves both the quality and quantity of print output.

The CHROMEGATRON PRO-LAB solid state color/exposure analyzer, available through your dealer, makes your enlarger a complete color printing system. This analyzer is extremely sensitive and precise, yet has simple operating controls. If you are not yet using an analyzer, we urge you to let your dealer demonstrate how simple and efficient color printing can be.

## EASTMAN KODAK COLOR PRINTING MATERIALS

Since the vast majority of all color prints are made on Eastman Kodak papers, most of the following information is concerned with this material. We have generally followed the procedure of the Eastman "cook book" method of color printing and merely made such modifications as were necessitated by the elimination of manually assembled filter packs.

## COLOR PAPERS OTHER THAN EASTMAN KODAK

The Super Chromega II D Enlargers can, of course, be used to expose other color papers. The color balance of these papers, of course, may be quite different, but, since the Super Chromega II D is equipped with filters in all three "minus" colors, this should not offer any difficulties. When using Ektacolor paper or Ektacolor or Kodacolor negatives, the cyan filter is almost always kept at "Zero". This may not be the case with other papers and one of the two other filters may have to take its place. Otherwise, the procedure will be very much the same as that outlined in the following paragraphs:

## SETTING FILTRATION

The Super Chromega II D Lamphouse is equipped with three color filters, so that within wide limits color papers of any character can be handled, but it must always be kept in mind that only two filters should be used for any given negative. The simultaneous use of all three filters accomplishes nothing, and merely introduces a certain amount of gray, thereby prolonging exposure times unnecessarily.

When printing Ektacolor Paper, the cyan filter (with rare exceptions) should always be kept at "Zero".

## EXPOSURE LIMITATIONS

Color papers have 3 emulsions for 3 different colors. These emulsions exhibit the so-called "reciprocity failure"; i.e.,



they have different apparent sensitivities for short and for long exposure times. Unfortunately, this phenomenon does not occur at precisely the same exposure times for all 3 emulsions, and as a consequence color shifts are observed for very short and (to a lesser degree) for very long exposure times. It is therefore recommended that exposure times shorter than 5 seconds and, if at all possible, longer than 40 seconds, be avoided. It is generally advisable to rely more on changes of f/stops when adjusting exposures and change exposure times as little as possible.

## EXPOSURE COMPENSATION

More exposure is needed when more filters are used, and vice versa. The necessary adjustments, however, are not the same for different colors. An increase of the yellow filter by 10 points (for example, from 50 to 60) necessitates an increase of exposure time of approximately 2% only, but the same increase of magenta prolongs the exposure time by approximately 10%.

A simultaneous increase of both the yellow and the magenta filter by 10 points each causes an extension of approximately 10% of the original exposure time. (In practice, this means that the effect of any change in yellow filtration alone is usually negligible!) If — as is preferable — the diaphragm is to be changed rather than the exposure time, a good approximation is to open the diaphragm by half a stop when the magenta filter is increased 45 points (for example, from 50 to 95).

When both yellow and magenta filters are increased simultaneously, an approximate change of 35 points will equal 1/2 f/stop of the diaphragm.

## REVERSAL TYPE PRINTS FROM TRANSPARENCIES, DUPLICATE TRANSPARENCIES FROM COLOR NEGATIVE

In addition to making Color Prints from color negatives, the Super Chroma II D Dichroic Lamphouse is suitable for use with all types of color printing as follows:

1. Reversal type prints direct from any size transparency (35mm to 4x5) using Reversal Type Papers (Type "R").
2. Duplicate transparencies direct from original (35mm to 4x5) using Duplicate Films (such as Kodak Ektachrome Duplicating Film).
3. Transparencies direct from Color Negative using Print Films (such as Kodak Ektachrome Print Films).

## BLACK AND WHITE PRINTING WITH DICHROIC LAMPHOUSE

A black and white negative consists of minute silver particles embedded in a layer of gelatin. Light falling upon such

a negative will not merely absorb in varying degrees, but will also be "scattered" (somewhat like light in a very dense fog). Without going into details, the result is that the contrast of a projected image of such a negative depends on the degree of diffusion of the light with which the negative is illuminated. The contrast obtainable with completely diffused light, as used in the Super Chroma II D lamphouse, is less than with the D2V Condenser Lamphouse. In most instances this is very desirable, and portrait photographers in particular have always preferred the softer gradation of diffused systems. As an approximate measure the difference may be said to equal one-half to three-quarters of the difference between two grades of paper. However, this difference varies for papers of different makes.

Contrast should not be confused with sharpness. Using the same negative and enlarging lens, the resulting print sharpness is the same irrespective of whether a condenser or diffusion type enlarger was employed.

We emphasize that this situation exists only for black and white negatives, but not for color negatives, where all silver grains have been removed and replaced by dyes that absorb a certain amount of light but do not scatter it. The contrast of color prints is therefore the same, whether the enlarger has condensers or not. It is therefore recommended that users of Omega condenser enlargers use the next more contrasty grade of paper when printing existing black and white negatives with a Super Chroma II Dichroic Lamphouse. New negatives may be treated, of course, the same way, but it is also very easy to develop them to a slightly higher degree of contrast by leaving them in the developer a little longer, in order to compensate for the lower contrast of the enlarger.

## VARIABLE CONTRAST PAPERS

Variable contrast papers may be used with either filters recommended by the manufacturers of these papers (holders are available to place these filters in front of the lens) or with the color filters that are part of the Super Chroma Dichroic Lamphouse.

The following approximate recommendations may be of assistance:

POLYCONTRAST FILTERS	EQUIVALENT OF DICHROIC COLOR HEAD
No. 1	35M — 24Y
No. 1½	42M — 20Y
No. 2	50M — 16Y
No. 2½	100M — 8Y
No. 3	150M — 0Y



## SPECIAL OPERATIONS

### VERY LARGE MAGNIFICATIONS

Several techniques can be used when you have to make very large magnifications.

1. Projections on the floor. Fasten the Baseboard of the enlarger to the table on which it rests by means of a "C" clamp or the like. Loosen base clamp bolts. The entire enlarger can now be rotated and placed in a position in which the image is projected on the floor, instead of on the baseboard. Depending upon the height of the table, this will give enlarging ratios of approximately twice as large or larger than baseboard magnifications (Page No. 8 "On-Baseboard Magnifications").
2. Use of Horizontal Projection Attachment: Very large prints may also be made with the aid of our horizontal projection attachment which is available as a separate accessory. It consists of a front surface mirror arranged at a 45° angle in front of the lens. The image is projected horizontally on the wall opposite the enlarger, and depending upon the distance between wall and enlarger, very large murals may be made.
3. Using Short Focal Length Lenses: Using a shorter-than-normal focal length lens allows greater magnification of center portions of large negatives. For example, when using a 4" lens you can obtain an 11x magnification with the D-2. With a 2" lens the maximum magnification would be 23.5x.
4. Use of the Omega Accessory Floor Stand: This is a heavy duty floor stand with an adjustable, 3-position composing board for enlargements up to 30"x40". Rigid construction features heavy, reinforced steel frame with high pressure laminated side panels. The Reversible composing board has a white finish on one side and black on the other, both easy-to-clean high pressure laminates. Enlarger bolts directly to massive backbone assembly. Stand is easily assembled with screwdriver and wrench. Stand dimensions are 43"Wx38"Dx30"H.

## LAMP REPLACEMENT

### Condenser Lamphouse

The Omega Variable Condenser Lamphouse is supplied with a 75 watt No. 211 lamp. For increased light output, 150 watt No. 212 or 250 watt No. 213 lamps are available through your Omega dealer. When using these high wattage lamps, the use of heat absorbing glass is essential, and the Omega exhaust blower is recommended.

To gain access to the lamp, loosen the thumb screw holding

the lamphouse casting to the variable condenser section, then lift off the top. The inside of the lamphouse is then accessible, and the lamp can be replaced.

### DICHROIC LAMPHOUSE

The Quartz-Halogen Lamp has an average operating life of 50 hours, when used with the Omega plug-in voltage stabilizer. To replace lamp, DISCONNECT POWER, and lift top access panel to lamphouse. Pull lamp, socket assembly from spring-loaded lamp holder and remove lamp from socket.

Handle lamp assembly by the edge of the reflector or filament envelope since moisture from your fingers may etch the lamp and lead to premature failure.

Insert new lamp in socket and replace the lamp holder making sure that socket wires are straight up and away from cooling fan.

Replacement lamps are available through your dealer under Catalog Number 471-029.



Figure 12:

### PANEL LAMP

**CAUTION:** Panel lamp operates at 110 volts. Be sure enlarger is disconnected before servicing. To replace panel lamp, lift access panel, pull off light shield and remove lamp from bayonet socket. This lamp has an operating life of well over 1000 hours. A replacement can be ordered through your dealer under Catalog Number 471-031.

## ROUTINE MAINTENANCE

### LUBRICATION

Your enlarger has been factory lubricated during manufacture. Occasionally, rub a little Vaseline on the counterbalance springs after lowering the carriage to its lowest position. Before applying, clean springs with a soft cloth. Also apply Vaseline to the focusing rods. No further lubrication is necessary.

## CLEANING

Keep the enlarger clean and free of dust. Protect the enlarger when not in use by covering with an Omega Dust Cover. The Dichroic lamphouse cooling blower should be checked periodically for dust accumulation which should be removed with a vacuum cleaner or blown out with compressed air.

## OTHER MAINTENANCE

Make a regular check of baseboard bolts for tightness, as loose bolts can cause vibration and result in poor print quality.

Keep enlarging lenses and condensers free of dirt and finger prints.

## VERY SMALL MAGNIFICATIONS AND REDUCTIONS

The extension of the enlarger is usually long enough to permit small enlargements. Actual reductions from 4"x5" negatives can be made by using a lens of 90mm focal length, attached to a 4-1/2" high cone lensmount. Under certain circumstances, the limiting feature is not the bellows extension but the fact that the lowest position of the enlarger may not be close enough to the easel for these

very small magnifications. In this case, it will be necessary to raise the easel a few inches by means of a suitable support such as a square piece of wood.

For very small magnifications or reductions using other lenses, the use of an AUXILIARY FOCUSING ATTACHMENT (Catalog Number 429-085) is necessary. If the use of such an attachment is desired, take the lensmount off the enlarger, remove the lens by loosening the two small screws and fasten it to the front of the auxiliary focusing attachment, then place the entire auxiliary focusing attachment on the enlarger in place of the standard lensmount.

For small enlargements, and particularly for reductions, the distance between paper and lens becomes quite short. The correct distance can easily be found by holding a piece of white paper at varying distances below the lens.

Whenever the auxiliary focusing attachment is used, a piece of opal glass (Cat. No. 473-004) should be placed on top of the 6 1/2" condenser. This is especially important when the bellows of the auxiliary focusing attachment is greatly extended for making extreme reductions. For D2V, Catalog Number 473-001 opal rectangular glass is placed in position 3 (most likely the auxiliary condenser can be removed for all focal length lenses when rectangular opal glass is in use).

## ELECTRICAL AND MECHANICAL SPECIFICATIONS

ELECTRICAL SPECIFICATIONS For "D2" Dichroic Enlarger	
Power Requirements:	120 VAC 50/60Hz. Power Supply fitted with integral transformer taps for conversion to 100-volt or 110-volt operation.
Enlarger Lamp:	Dubitz-Hagen lamp with integral dichroic reflector, 250 watts, 24 volts. Cat. No. 471-028. Lamp Life Approximately 50 hours.
Panel Lamp:	Bayonet base type E96 UC 6 watts, 120 VAC. Cat. No. 471-031.
Cooling:	Internal airtight-type, dependence-protected blower. Lifetime maintenance-free.









ELECTRICAL SPECIFICATIONS For D-2V Condenser Enlarger	
Power Requirements:	120 VAC 50/60Hz. 3-wire Line Cord and grounded-type plug.
Enlarger Lamp:	No. 211 Type 75W, 120VAC 50/60Hz. Cat. No. 471-002, or 212 Type 150W, 120VAC 50/60Hz. Cat. No. 471-003.

## WEIGHTS AND DIMENSIONS

MODEL	GRINDER LENGTH	MAXIMUM HEIGHT	BASEBOARD	SHIPPING WEIGHT
D2V	45"	57"	18"x26"	84 lb.
Power Enlarger D2	45"	51"	18"x26"	102 lb.

\* Shipped in 2 cartons

## AVAILABLE FILM CARRIERS

D-SERIES FILM CARRIERS			
Type	Available Sizes	Type	Available Sizes
 SANDWICH TYPE, Glassless	Min to 4"x5"	 MOUNTED TRANSPARENCY CARRIER	35mm
 SANDWICH TYPE, Glass	4"x5"	 UNMOUNTED TRANSPARENCY CARRIER w/Gray Scale Slot	35mm
 SPRING HINGED RAPID SHIFT, Glass	35mm to 4"x5"	 100' SPOOL CARRIER, RAPID SHIFT, Glassless	up to 70mm
 SPRING HINGED RAPID SHIFT, Glassless	35mm Half Frame to 2 1/2"x3 1/2"	 PIN REGISTRATION TYPE COLOR 4x5" SEPARATION CARRIER	