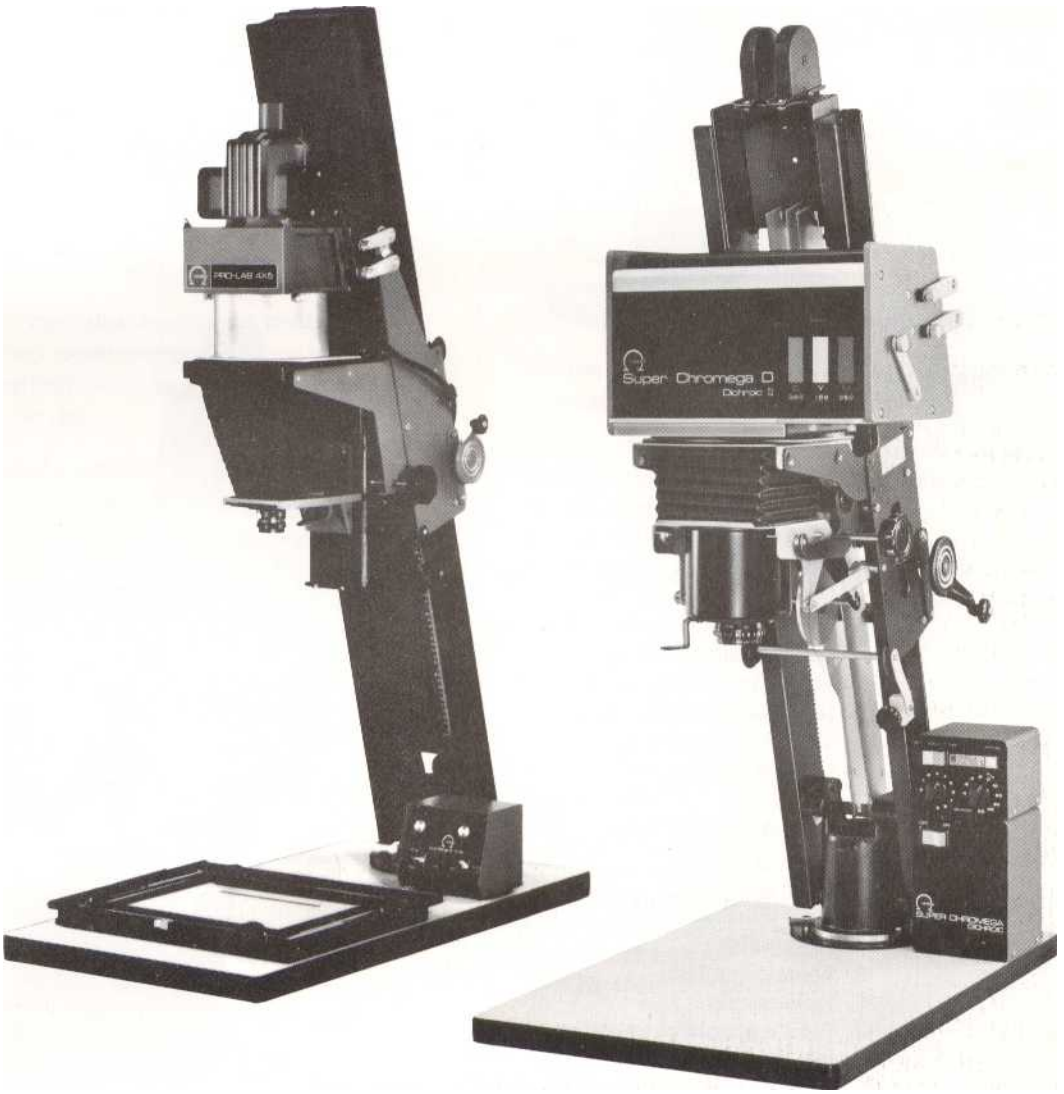
Omega

D-3 Autofocus
D•5 System Enlargers
& Lamphouses

INSTRUCTION MANUAL



Insert the Negative:

Place a negative, emulsion side down, in the carrier and insert carrier into enlarger.

Focus

*Switch to white light mode. Open lens diaphragm to maximum opening. Switch enlarger on.

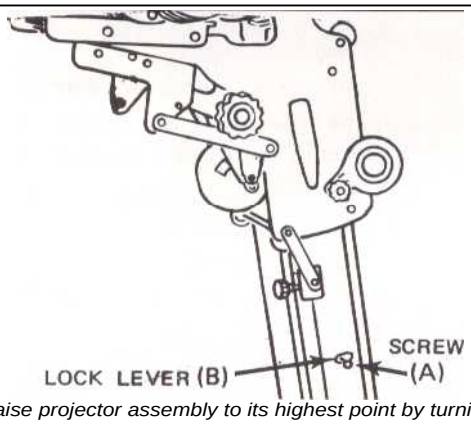
*Raise projector to its highest point by turning the magnification crank.

*Use manual focus knob to focus sharply on white paper placed on 1" high easel. Focusing from now on is automatic, except that minor corrections may be occasionally necessary when glassless carriers are used.

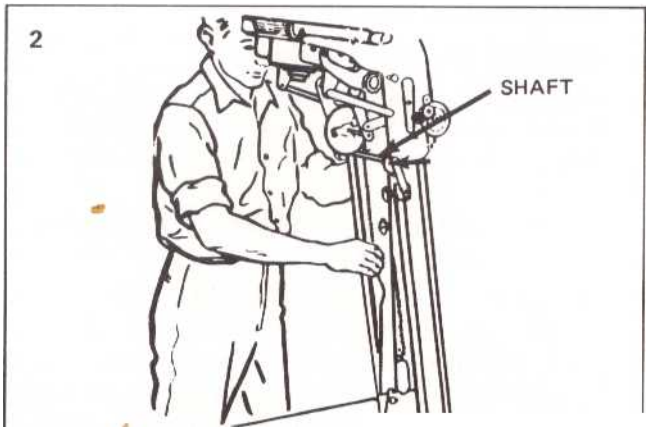
Adjustment Magnification

Loosen projector lock and move projector up or down the girders by turning magnification control crank.

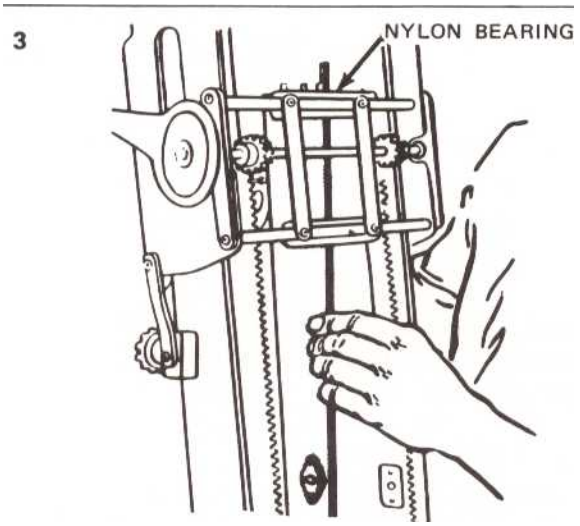
Installing Tracks



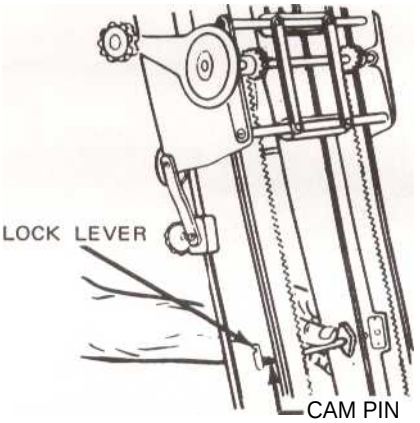
Raise projector assembly to its highest point by turning crank and tighten projector lock. Turn fine focusing knob in a counterclockwise position until lens stage is at its lowest point. Lift up focusing roller and arrest it in this position by turning lock-out lever in a clockwise direction. Loosen knurled screw A, turn lock lever B of cam pin in a clockwise direction and withdraw cam pin.



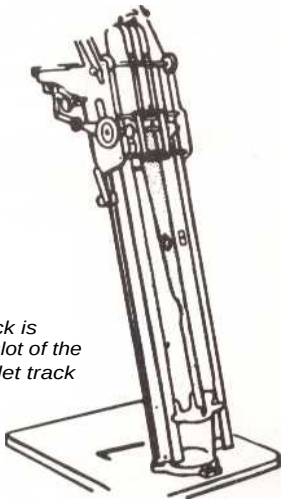
Insert track with wide side on top and curved side in front. Curved side must pass behind shaft of front rollers.



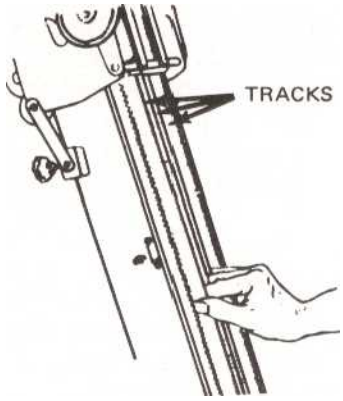
Straight rear edge is inserted in slots of nylon bearings, upper slot of track engages one of the slots in upper cross brace.



Insert cam pin. Flat side must be parallel to slot in track. Lock lever must be vertical after cam pin is completely inserted, be sure that track engages one of its three grooves. Turn lock lever ¼ of a turn in a counter-clockwise direction and tighten knurled acre w.



Push track as high as possible and swing lower end rearwards, (i.e., into the enlarger structure) un til the lower slot of the track is opposite a corresponding slot of the lower track support, then let track drop slightly.



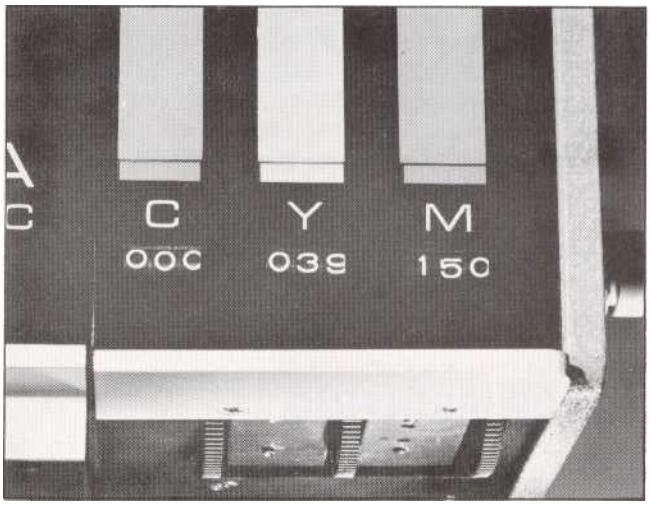
If *the enlarger is equipped with more than one lens, more than one track is inserted in precisely the same manner. In order to cause all tracks to simultaneously engage their respective grooves on the cam pin, they may be held between the fingers* of *the right hand as shown on the cam pin can then be given X* of *a turn and locked by means* of *screw.*

DICHROIC LAMPHOUSE OPERATION

Operating Dichroic enlargers is the same as previously explained for the condenser models. Since a Dichroic Lamphouse does not use condensers, the following explains the use of the Dichroic Lamphouse for both color and black and white printing.

DIALING FILTRATION

Filtration is set by merely turning the filter thumb wheels at the bottom of the lamphouse until the desired filtration is indicated on the illuminated color coded digital readouts. 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.



Less than one revolution of thumbwheel dials full 0-168 filtration range.

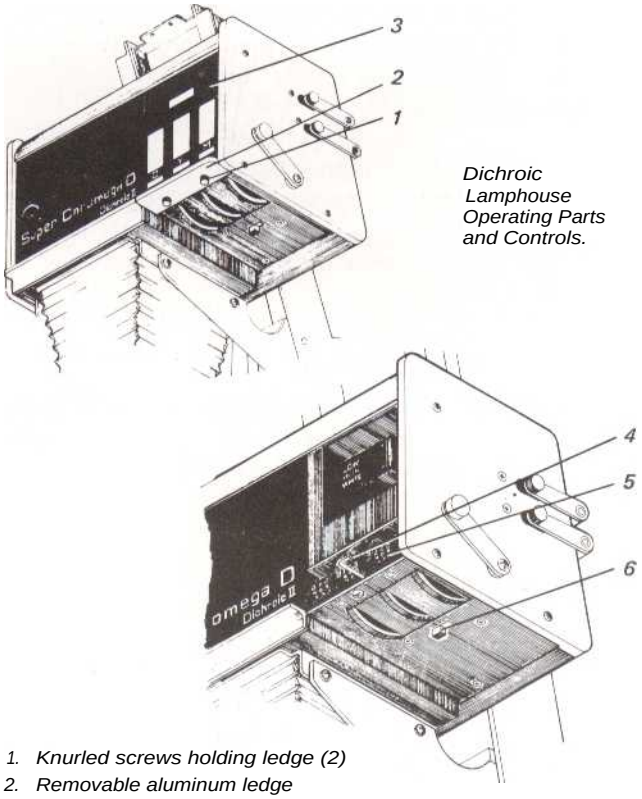
PROGRAM MATCHING ADJUSTABLE DIGITAL READOUTS

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 recording 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:



Dichroic Lamphouse Operating Parts and Controls.

1. *Knurled screws holding ledge (2)*
2. *Removable aluminum ledge*
3. *Removable cover panel*
4. *Lshaped rod for declutching counter*
5. *Alia®ys reset right digital wheel only*
6. *Panel Lamp Switch*

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. While maintaining the downward pressure on the rod, 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 the 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 not 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. (See Figure 2, Item 5).

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 (see drawing, page 11, Number 6).

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 specially 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%x2%" or smaller format films, a substantial increase in light output can be obtained by replacing the "D D" multiplier with an accessory "1313" 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 with the accessory light multiplier, then 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 requirements

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 and Vericolor or Kodacolor I I 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 approximatley 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 % f/stop of the diaphragm.

REVERSAL TYPE PRINTS FROM TRANSPARENCIES, DUPLICATE TRANSPARENCIES FROM COLOR NEGATIVES

In addition to making Color Prints from color negatives, the Super Chromega I I 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 Duplicating 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

Ablack 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 Chromega II D lamphouse, is less than condensers. (For example, our D-5V enlarger). 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 this 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 Chromega I I 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 longercontrast 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 Chromega Dichroic Lamphouse).

The following approximate recommendations may be of assistance:

POLYCONTRAST FILTERS	EQUIVALENT OF DICHROIC COLOR HEAD
No. 1	35M - 24Y
No. 1%s	42M -20Y
No. 2	50M - 16Y
No. 2'%	100M - 8Y
No. 3	150M - OY

SPECIAL OPERATIONS

VERY'LARGE MAGNIFICATIONS(All Models)

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. 7 "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 11 x magnification with the D-5. 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.

NOTE: When making oversized enlargements with D-3 enlargers, lenses longer than 50mm may require shorter than normal lens cones to allow sufficient bellows compression for focusing.

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.

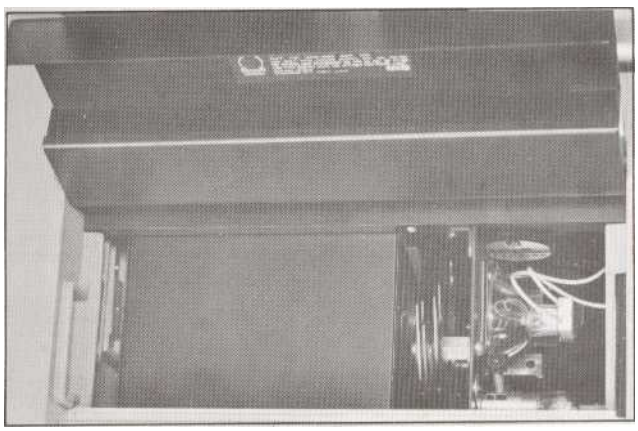
DICHROIC LAMPHOUSE

a) 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 of 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.



Lamp is readily accessible by lifting lamphouse cover. Press spring clip at end of socket base to release lamp assembly.

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 Cat. No. 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. If you have a D-5 enlarger, also apply Vaseline to the focusing track. 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 tightenss, as loose bolts can cause poor print quality.

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

VERY SMALL MAGNIFICATIONS AND REDUCTIONS

Omega D-5

The bellows length of the enlarger is usually sufficient to allow for small enlargements. Actual reductions from 4x5" negatives can be made by using a lens shorter than 135mm. When using these short focal length lenses, vignetting may occur. In such cases, remove the variable condenser from the lamphouse, which should eliminate this condition.

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. In these cases, it will be necessary to raise the easel a few inches by means of a suitable support, such as a square piece of wood. Particularly in the case of reductions, the distance between paper and lens becomes quite short.

D-3 Autofocus

The smallest magnification obtainable with the autofocus mechanism is approximately 1% times for all lenses which have a minimum magnification of 5 times and 2'% times respectively. If a smaller magnification is desired, simply switch to a longer lens.

For still smaller magnifications than 1 ½x (for reductions), the use of an Auxiliary Focusing Attachment is necessary. To use this, take the lensmount off the enlarger, remove the lens by removing the two machine screws that fasten the lens disc to the lens mount and remount to the front of the auxiliary focusing attachment on the enlarger in place of the standard lensmount with the knurled screws supplied.

MASKING ATTACHMENT

Accessory Masking Attachments are available through your Omega dealer for D5 enlargers (Catalog Number 404-864). This allows any area or any negative size to be masked, as the four adjustable blades close completely. The masking device can also be rotated slightly for added convenience in aligning a negative.

To use on D5, position the masking attachment in the same manner as a negative carrier. Be sure that the pins in the lower plate engage the negative stage. The negative carrier is inserted above the masking attachment, as if it were not present. Slide the masking blade control knobs to position the blades as needed.

NOTE: Will not accept glassless rapid shift carriers.

ELECTRICAL AND MECHANICAL SPECIFICATIONS

ELECTRICAL SPECIFICATIONS
For "D" Dichroic Enlargers

Power Requirements: **11'7 VAC 50'60Hz.** Power Supply fitted with internal transformer taps for conversion to 100-volt or 110-volt operation.

Enlarger Lamp: Quartz-Halogen lamp with integral dichroic reflector, 250 watts, 24-volts, Cat. No. 471-029. Lamp Life Approximately 50 hours,

Panel Lamp: Bayonet base type 6S6 'DC 6-watts, 120 VAC. Cat. No. 471-031.

Cooling: I nternal axial-type, impedence-protected blower. Lifetime lubricated.

ELECTRICAL SPECIFICATIONS
For DV Condenser Enlargers

Power Requirements: 117VAC 50i60Hz. 3-wire Line Cord and grounded-type plug.

Enlarger Lamp: No. 211 **Type 75W, 120VAC 50? 60Hz.** Cat. No. **471-002.** or **212** Type 1 **50Wr'' 120VAC 50/60Hz.** Cat. No. 471-003.

WEIGHTS AND DIMENSIONS

Model	Girder Length	Max. Height	Baseboard	Shipping Weight
D3V	45"	57"	18"x26"	73 lbs.
D5V	42"	57"	18"x26"	79 lbs.
D3 Dichroic wi'Std. Power Supply	45"	55"	18"x26"	90 lbs.
D3 Dichroic wiChrornegatrol	45"	55"	18"x26"	1001bs.
D5 Dichroic w?'Std. Power Supply	**42"**	**52"**	**18"x26"**	102 lbs.
D5 Dichroic **wiChromegatrol**	**42"**	**52"**	**18"x26"**	112 lbs.
D5V XL	54"	69"	22''04''	104 lbs.
D5XL Dichroic w/Std. Power Supply	54"	64"	22"x34"	130 lbs.
D5XL Dichroic w?Chromegatrol	**54"**	**64"**	**22"x34"**	1401bs.

I MPORTANT SAFEGUARDS

When using your Omega Photographic products, basic safety precautions should always be taken, including the following:

1. **Read and understand all instructions provided with this product.**
2. **Close supervision is necessary when this product is used by or near children. Do not leave it unattended while it is plugged into an outlet.**
3. **Avoid touching the lamp area of enlargers or other hot parts as it may cause burns.**
4. **Do not operate this product if the power supply cord has been damaged or if the product has been dropped or damaged. Have it checked out and repaired if necessary by qualified service men before using.**
5. **Route the power supply cord away from hot areas. Do not let the cord hang over a counter edge or across an open area where people pass.**
6. **If an extension cord is necessary, use one with a suitable rating. Cords rated for less amperage than the product may overheat. Route the extension cord away from open areas where it may be tripped over or pulled.**
7. **Always unplug the product after use. Grasp the plug and firmly pull from the outlet to disconnect. Never yank the cord from the outlet.**
8. **Allow the product to cool to room temperature before storing. Wrap the power cord loosely around the product.**
9. **Do not immerse this product in water or other liquids.**
10. **To avoid electric shocks, do not attempt to disassemble or repair this product. Always have it serviced by qualified servicemen when necessary.**

I ncorrect reassembly can cause electric shock hazards.

SAVE THESE INSTRUCTIONS

0AF

These safeguards are prescribed by Underwriters Laboratories to be included in this instruction sheet for U.L. **listed products. Some precautions may not apply to this product.**

Specifications Subject To Change Without Notice.

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OPERATING PARTS AND CONTROLS

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

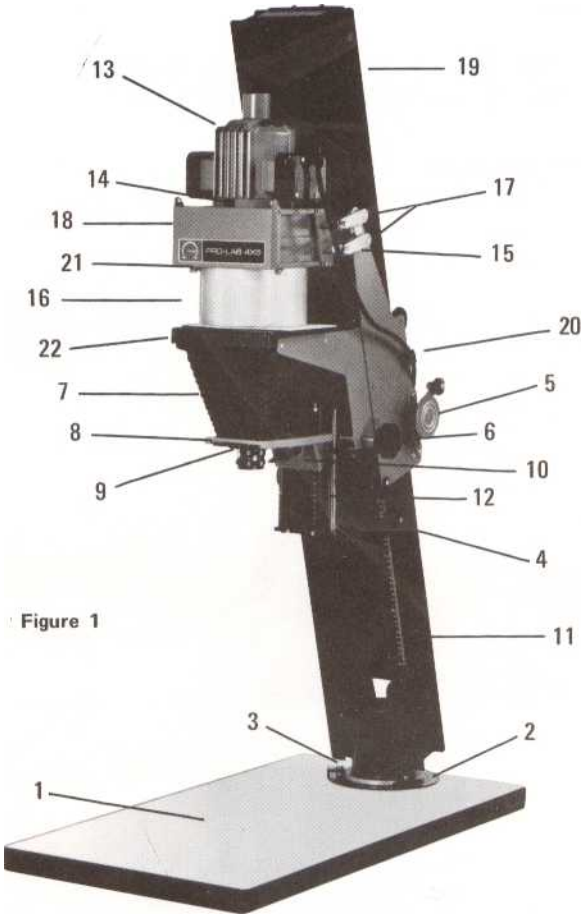

Figure 1

OMEGA D5 ENLARGER

1. Baseboard
2. Baseplate mounting flange
3. Base clamps
4. Carriage lock
5. Elevation Knob
6. Focusing Knob
7. Bellows
8. Lens stage
9. Lensmount and lens plate
10. Bellows locking lever
11. Elevation reference scale (mm)
12. Bellows adjustment reference scale (mm)
13. Upper Part of lamphousing
14. Lamphouse locking screw
15. Lamphouse mounting screws
16. Condenser Holder
17. Lifting levers
18. Condenser Assy. Panel
19. Enlarger Column
20. Cable retaining clip
21. Knurled screws
22. Negative stage

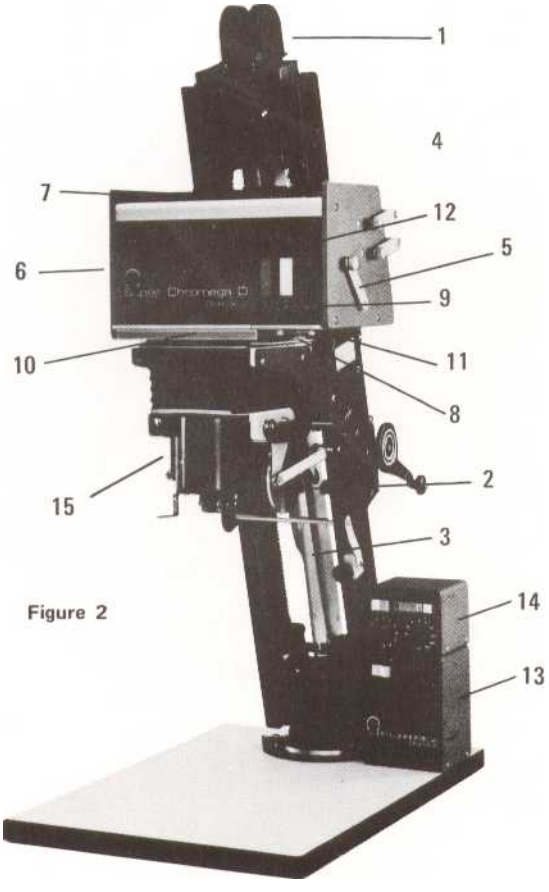

Figure 2

SUPER CHROMEGA D3 DICHROICII ENLARGER

1. Counterbalance springs
2. Cam following wheel
3. Autofocusing track
4. Super Chromega D Dichroic II Lamphouse
5. Light mode selector lever
6. Light multiplier access panel
7. Lamp access cover
8. Filter thumbwheels (not visible)
9. Filtration readouts
10. Panel support
11. Panel support thumbscrews
12. Light mode indicator
13. Power Supply
14. Electronic Timer Model II (accessory)
15. Lens Mount

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PREFACE

Thank you for selecting an Omega enlarger or Super Chromega lamphouse. We are confident that this equipment will serve you long and well.

You may be assured that this equipment continues our tradition of engineering excellence and quality which has made Omega the foremost name in fine darkroom equipment throughout the world.

These instructions include assembly and operating information for all Omega and Super Chromega D enlargers. Whether you have purchased a complete enlarger or the Dichroic lamphouse for use with existing "D" type chassis, we urge you to read these instructions thoroughly so you may familiarize yourself with the correct set up and operating procedure.

Moreover, you are invited to call or write us for technical advice or assistance. Our staff of experts are at your service.

Please be sure to fill out and mail the registration card immediately so that your purchase can be recorded.

Because Omega is dedicated to a policy of continuous product improvement and review, specifications are subject to change without notice.

OMEGA DIVISION
Berkey Marketing Companies

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:

Condenser Enlargers, Standard Chassis - lamphouse, chassis and baseboard in one carton.

Condenser Enlargers, "XL" Chassis -lamphouse, chassis with baseplate and base clamps in one carton, oversize baseboard in second carton.

Dichroic Enlargers - Dichroic lamphouse in separate carton, other components as above, depending on chassis.

MOUNTING CHASSIS TO BASEBOARD

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

1. Place baseboard on a 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 and spacers as illustrated in packing diagram supplied with baseplate.
3. Place chassis in position so that base casting is centered in the baseplate 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: When 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 short bolts supplied with the longer bolts and nuts included. Instructions for wall mounting or use of enlarger floor stand are included with wall mount or stand.

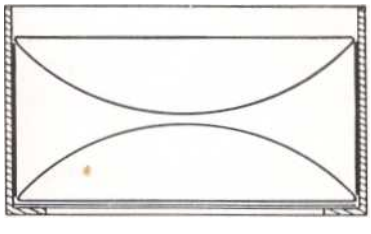
CONDENSER LAMPHOUSE ASSEMBLY

Carefully unpack the lamphouse and condensers from the shipping carton. Separate the condenser housing from the lamphouse by loosening the two knurled screws and turning the aluminum spinning 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 the small label on the glass with soap and water, then install the condenser in the condenser housing flat side down.

b) Replace the corrugated aluminum spacer around the inner edge of the condenser housing, as tight as possible without forcing.

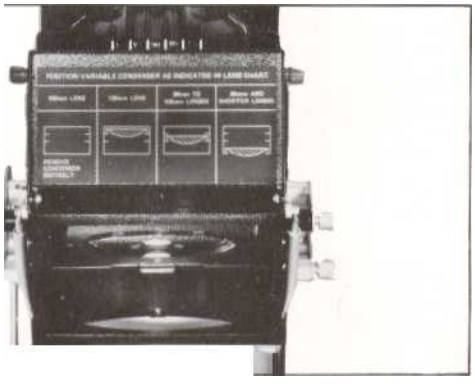
c) Unpack and clean the second condenser and install it in the condenser housing, curved side down. When properly installed, the condensers will be as illustrated below:



Assembly of 6h" Condensers

d) Replace the lamphouse casting on the completed condenser spinning assembly and secure by turning the lamphouse clockwise, then retighten the knurled screws.

e) Unpack and clean the variable mounted condenser and clean as above. Lift the condenser access panel and slide the variable condenser into one of the three positions (see illustration below).



DV Condenser Lamphouseshowing variable condenser placement.

f) Mounting Lamphouse

Place the entire condenser lamphouse assembly on the enlarger film stage and attach it to the lifting lever mechanism by means of the securing knurled screws (Fig. 1, 15). On D-5 enlargers, install the lamphouse line cord in the retainer on the right side frame of the carriage. Then run the line cord behind the handwheel assembly. On D-3 enlargers, run the line cord over the top of the chassis, between the counterbalance springs (Fig. 2, 1).

DICHROIC LAMPHOUSE INSTALLATION

Attaching Lamphouse Levers - D-5, D5XL, and D-3

The D5, D5XL and D3 Autofocus Dichroic models have lifting levers pre-assembled and packaged separately within the enlarger carton. These lamphouse 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.

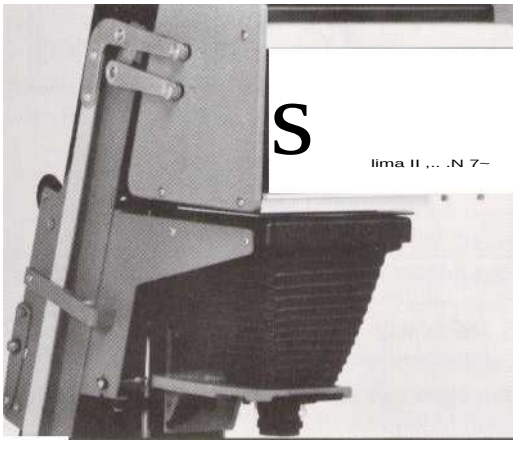
To prevent the carriage from shifting during shipping, a retaining dowel is inserted in one set of cutout slots. Remove this dowel, then install the levers. There are two sets of levers per assembly. One of these sets incorporates the long lifting lever and handle. This handle is on the upper slots for the D-3 and D5 enlargers.

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 will secure the metal lever retainers attached to the upper long lifting assembly.

On the D5, the long lever handle is confined by the lever guard at the left side of the carriage assembly. Before lowering the lever assembly in place, turn the long lever so that the black knob on the lever slides down between the space of the guard and side frame (as illustrated below).

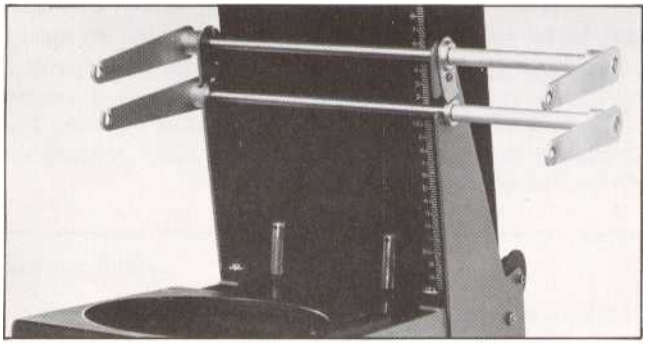


Long lifting lever shown in correct position, under lever guard.

Once the knob is cleared, turn the lever set counterclockwise and install it into the upper cutout slots, making sure that the left retainer and spacer are on the outside of the left side frame, and that the right side retainer, aluminum bushing, and spacer are on the outside right of the side frame.

Then secure the retainer to the side of the frame with the Phillips head screws provided. Make sure to tighten these screws fully, or lamphouse alignment will be difficult.

When properly installed, lever will be shown as below.



Conversion of Existing Chassis

If you have purchased a Dichroic lamphouse only for installation on an Omega D-type chassis you already own, remove the present lamphouse and lifting levers from the chassis.

If you are converting from a Super Chromega acetate filter head, also disconnect the extra booster counterbalance spring mounted on the enlarger carriage. It is not needed with the Dichroic lamphouse because of its lighter weight.

Install the correct lever adapter kit. Full instructions are supplied with each kit.

Mounting Lamphouse

Loosen the four knurled lamphouse mounting screws and rest the lamphouse on the negative stage. Hook the lifting levers under the screws. Tighten the screws, and check that all four screws are fully inserted, so that the knurred heads are flush against the sides of the levers.

Omega D-5

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 (Figure 1, Number 20).

ALIGNMENT CHECKS, DICHROIC LAMPHOUSE

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

NEGATIVE APERTURE ALIGNMENT

With the lamphouse resting on the negative stage and the 4"x5" carrier in place, remove the access panel and light multiplier (see page 2). Check that the bottom cutout of the lamphouse is centered over the filmstage 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 negative stage first (lamphouse tilts down), place the negative carrier on the front edge of the negative 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 negative stage.

SIDE-TO-SIDE ALIGNMENT

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

Again, use the negative carrier as a "shim" and place it on the edge of the negative 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 No. 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 5/32nd 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 negative stage. Tighten all set screws securely.

DICHROIC POWER SUPPLY CONNECTIONS

Chromega Dichroic enlargers and lamphouses require the use of a power supply matched to the voltages of the quartz halogen lamp, cooling fan, and panel lamp. A standard power supply, Catalog No. 412-021 or the Chromegatrol combination power supply/voltage stabilizer/electronic timer, Catalog No. 412-040 (110V, 60 Hz.)/ are available. Full instructions for installation are provided with Chromegatrol.

The standard power supply is factory set for 117VAC, 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" from the "l 17" terminal to the "100" or "110" terminal, as appropriate. (Be sure to disconnect from wall outlet first.)

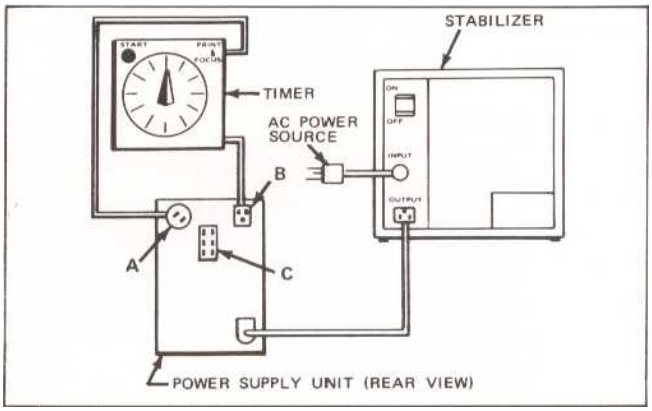
Connect lamphouse to power supply by plugging in the six-bladed polarized connector at rear of power supply.

STABILIZATION

The use-of a voltage stabilizer is urged because even small fluctuations in line voltage can seriously afff~ct mint color balance during enlarging.

A special solid state, noiseless, plug-in electronic voltage stabilizer is available from Omega. It is designed to plug directly into the power supply, eliminaling the usual clulte1 from connecting cables. The unit stabilizes voltage fluctua tions between 95-130V ± 2% to provide constant In tntinrl results.

If you are using a stabilizer and timer other than Omega components, connect them with the power supply as shown below.



Interconnecting Enlarger, Timer and Voltage Stabilizer.

Connect the female plug of the extension cable to the recessed male receptacle of the power supply (A). The other end of thiscable 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.

GHROMEGATROL

The Chromegatrol is a single control console which incorporates a power supply with a Ferro Restorant Stabilizer and a dual range professional electronic timer. The lamphouse simply plugs into the back of the unit matching the requirements of the 250W Chromega lamp and providing stabilization between 95-130V _+2%. It will also accept safelight lamp(s) up to 200W, which automatically turn off during "focus and expose" modes. The timer can be set with a dual range selector switch for 0-9.9 seconds in .1 second increments or 0-99 seconds in 1 second increments. The electronic timer satisfies most critical color printing requirements with an accuracy of +2%.

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 LENSMOLINTS

The size of the negative dictates focal length selection, as per the chart below. Any lens will enlarge negatives smaller than the maximum size listed for the focal length, but the largest magnification ratio obtainable would be smaller. The shortest focal length yields the largest magnification, and is usually preferred. Longer focal length lenses have noticeable advantages only for exceptional critical work.

ON-BASEBOARD MAGNIFICATIONS

LENS	MAXIMUM NEGATIVE COVERAGE	D-5 Min.	D-5 Max.	D-5XL Min.	D-5XL Max.	D-3 Min.	D-3 Max.
25mm (1")	Minox	.11	37.2	.11	49.0	13.8	37.2
28mm (1-3/16")	Minox	.12	34.8	.12	45.0	12.8	34.8
35mm (1-3/8")	35mm Half Frame	.16	29.5	.16	35.0	10.2	29.5
40mm W12")	35mm	.30	23	.30	32.2	7.7	23.7
50mm (2")	35mm	.20	17.7	.20	24.0	5.2	17.7
75mm (3")	21/4"x2/4"	.32	11.5	.32	15.3	2.0	11.5
80mm (3.2")	2/4"x2/4"	.35	10.2	.35	14.2	2.0	10.2
90mm (3'/z")	2/4x2'/4"	.40	9.0	.40	12.4	1.8	9.0
105mm (4-1/8")	2/4x3/4"	.50	7.2	.50	10.3	1.5	7.2
135mm (5-3/8")	4"x5"	.75	5.2	.75	7.3	1.5	5.2
150mm (6")	4"x5"	.85	4.4	.85	6.5	1.5	4.4

NOTES: 35mm and Shorter Lenses not for Autofocus operation on D-3.

Indicated reductions for 50mm and shorter lenses on D-5 require raising easel from baseboard.

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

The Masking Attachment will interfere with the angle of projections when using the 40mm Eurygon wide-angle lens.

Omega D-5

Your new enlarger has a;i extra long bellows, allowing for a full rangeof magnifications and reductions without the need for auxiliary focusing attachments. Lenses are mounted on the appropriate oval lens disc and installed on the standard slide in lens board (for lenses frorn 50rnm to 150mm), or can be mounted on the accessory triple lens turret.

Oval lens discs of the appropriate size and bore are available through your local Omega dealer. A complete listing of catalog numbers and mounts for all lenses will be found in our current price list.

Mount the enlarging lens on the appropriate oval disc with the required jam nut, or screw the lens into the flange required. Then attach the oval disc to the slide-in lens board or turret in the enlarger with the two knurled screws supplied.

NOTE: The standard slide-in lens mount includes a built-in spacer. This assures that lenses in our normal program will have no problem with regard to rear element clearance as you slide the lens mount into place. However, because of the great variety of lenses available, it is adviseable to check each lens when mounting for the first time, to be sure there is sufficient clearance.

For lenses shorter than 50mm, use the special slide-in lens mount, Catalog Number 429-105.

THREE LENS TURRET

An accessory three lens turret (Catalog Number 404-867) is available for your D-5 enlarger. The lens turret permits you to change lenses instantly by merely rotating the turret.

For use on the turret, lenses are mounted to the proper oval lens plate, and the lens plates are fastened to the turret by means of the knurled screws supplied.

To insert the turret, grasp the turret with the metallic grip towards you. Insert it between the lens stage guides and push all the way into the stops.

When changing lenses, merely press turret release lever and rotate turret.

MICROMEGA FOCUSING ATTACHMENT

The Micromega Focusing attachment is a system component which has been designed to provide increased focusing sensitivity by a 3:1 reduction ratio through a belt drive. Easily installed on the right side frame, it can be especially helpful when making large magnifications with short focal length lenses. It is available from your Omega dealer as Catalog Number 429-078.

D-3 AUTOFOCUS ENLARGER

Lenses must be mounted on the correct lensmount for the focal length selected. In addition, the correct Autofocus track is required with D-3 models. Ordering information for all available lenses, lensmounts, and Autofocusing track combinations are listed in the current Omega Price List.

NEGATIVE CARRIERS

Omega D Series enlargers accept all D-type negative carriers. These are listed in our price list. They are available in several styles and all sizes. This carrier has a highly reflective white surface on the top half, and is finished in black on the lower half. The white reflects light falling beyond the negative area and redirects it back into the lamphouse where it is again beamed at the negative area. This results in shorter exposure times compared to those available with anodized carriers. The vinyl coating can be easily cleaned with a damp cloth. Glassless negative carriers are ideal for most applications. The thick film base used in sheet and roll films assures that the negative will lie flat which is especially important for autofocusing with the D-3. If a thin base film is used, it may be necessary at times to adjust the automatic focusing by a slight movement of the focusing knob.

If thin-base films are used frequently with the D-3 model, a glass sandwich type carrier is recommended. Keep the glass clean and dust-free.

INSERTING NEGATIVE CARRIERS

Place the negative, emulsion side down, in the carrier. Lift the lamphouse away from the negative stage by pulling the lamphouse lifting lever forward and insert the carrier. With Rapid Shift carriers, it is necessary to remove the negative carrier when printing succeeding roll film frames: merely lift the lamphouse and slide the film to the next negative. Once the negative carrier is in place, lower the lamphouse gently by releasing the lifting lever.

OPERATION

CONDENSER ENLARGERS

Variable Condenser Lamphouse - Omega D5V, D5V-XL, and D3V enlargers are fitted with the DV condenser lamphouse which utilizes two 6'/z" (152mm) fixed condensers and one **4-11/16" (118mm)** variable condenser, adjustable for all enlarging lenses from 25mm to 150mm.

The fixed condensers are carried in a spinning constructed to provide precise clearance between the negative and lower condenser surface to avoid the possibility of Newton rings.

The Variable condenser is accessible by lifting a magnetized access door. The diagram below indicates the positions of the variable condenser for different focal length lenses.

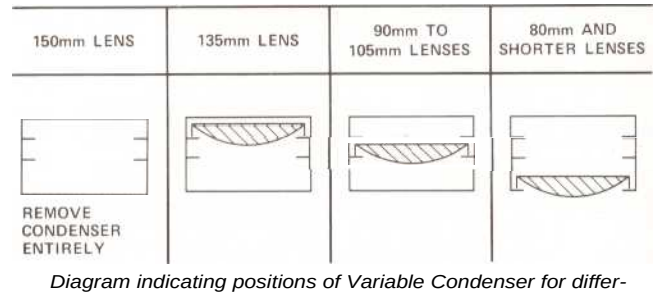


Diagram indicating positions of Variable Condenser for different focal length lenses.

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 OMEGA D-5 ENLARGERS

1. Install correct lens (refer to chart on page 7) for a listing of lenses for different format sizes.

   Before focusing, the bellows should be adjusted to the correct position by sliding the lens stage up or down according to the focal length of the lens being used. This is accomplished by releasing the bellows locking lever by moving it to the right side, and slipping the lens stage along the bellows track on the focusing assembly.

   Short focal lengths will require the bellows positioned in the middle of the adjustable track, around number 15. This feature lessens focusing time, and eliminates the need for lens cones.

   CAUTION: Be sure to lock bellows locking lever each ti me you change positions.

2. Place negative in carrier: Negative is inserted emulsion (dull) side down in carrier.

3. Place carrier on negative stage: Simply raise the lamphouse by the lifting lever and position carrier squarely on the negative stage.

4. Position the Variable Condenser: Refer to the chart on the preceeding 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 brake knob loosened, raise or lower the enlarger to compose and size the photograph 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.

   If your enlarger is equipped with the accessory Micromega focusing attachment, the micro focusing knob can be used for final exact focusing. This should be done while looking at a fine detail area of the picture.

   NOTE: Reference scales, in millimeters, are provided on the D5 girder and focusing track for repeatability of magnification (print size) and bellows setting. For the D-3 reference scales are available as accessories: For 50/75mm lenses (Catalog Number 429-101).

7. Stop-down the lens: After satisfactory sharpness and composition have been achieved, the lens is stopped-down, as 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 upon many factors, including negative density, magnification f/stop and paper sensitivity).

GENERAL OPERATING INSTRUCTIONS FOR D3 AUTOFOCUS ENLARGERS

Autofocusing Tracks

The D-3 Chassis accepts three autofocusing tracks for use with three different lenses. These tracks can quickly and easily be installed and removed by you. If desired, the enlarger can be focused manually with tracks in place.

Autofocusing tracks must be matched exactly to the individual lenses. The focal length engraved on a lens barrel is only approximately correct. The American Standards Association permits tolerance of ± 4%, but autofocusing tracks must be calculated and manufactured to measurements far more precise.

A wide choice of lens, lens mounts, and autofocusing track combinations are available through your Omega dealer. (See our Price List).

All tracks are computed for an easel height of 1 ". It is therefore important for perfect autofocusing that the height of the easel you use be exactly 1 ". Easels less than 1 " high must be raised to the required height by the use of plywood, cardboard, etc. Your dealer has a variety of Saunders Omega autofocusing easels available, which we recommend as companion equipment for our enlargers.

Floating Track Suspension

Focusing tracks are held loosely and are free to move in all directions (by a slight amount) except up and down. This "floating" suspension eliminates a number of inaccuracies to ensure accurate autofocusing operation.

Autofocus Operation

Adjust Enlarger for Desired Negative Size:

1. Position the Variable Condenser into the proper track in the lamphouse to match the focal length of the lens to be used, or install the required light multiplier (dichroic lamphouse).
2. Insert lens (with correct mount) of suitable focal length for desired negative size.
3. Place focusing roller on the proper track for the lens selected: Lift roller away from track on which it happens to rest, pull the sliding lock back and shift roller to proper track. Make sure sliding lock snaps into the groove opposite the correct track. Then place roller gently on the track, making sure that the track runs in the groove of the roller and not on one of its flanges.

SIDE-TO-SIDE ALIGNMENT

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

Again, use the negative carrier as a "shim" and place it on the edge of the negative 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 No. 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 5/32nd 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 negative stage. Tighten all set screws securely.

DICHROIC POWER SUPPLY CONNECTIONS

Chromega Dichroic enlargers and lamphouses require the use of a power supply matched to the voltages of the quartz halogen lamp, cooling fan, and panel lamp. A standard power supply, Catalog No. 412-021 or the Chromegatrol combination power supply/voltage stabilizer/electronic timer, Catalog No. 412-040 (110V, 60 Hz.)/ are available. Full instructions for installation are provided with Chromegatrol.

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

STABILIZATION

The use-of a voltage stabilizer is urged because even small fluctuations in line voltage can seriously afff~ct mint color balance during enlarging.

A special solid state, noiseless, plug-in electronic voltage stabilizer is available from Omega. It is designed to plug directly into the power supply, eliminaling the usual clulte1 from connecting cables. The unit stabilizes voltage fluctua tions between 95-130V ± 2% to provide constant In tntinrl results.

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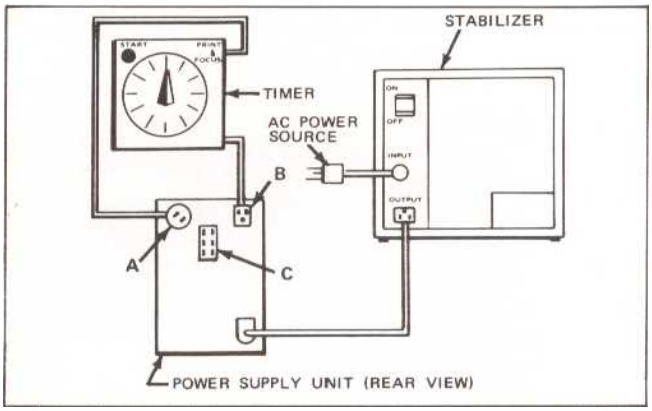

Interconnecting Enlarger, Timer and Voltage Stabilizer.

Connect the female plug of the extension cable to the recessed male receptacle of the power supply (A). The other end of thiscable 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.

GHROMEGATROL

The Chromegatrol is a single control console which incorporates a power supply with a Ferro Restorant Stabilizer and a dual range professional electronic timer. The lamphouse simply plugs into the back of the unit matching the requirements of the 250W Chromega lamp and providing stabilization between 95-130V _+2%. It will also accept safelight lamp(s) up to 200W, which automatically turn off during "focus and expose" modes. The timer can be set with a dual range selector switch for 0-9.9 seconds in .1 second increments or 0-99 seconds in 1 second increments. The electronic timer satisfies most critical color printing requirements with an accuracy of +2%.