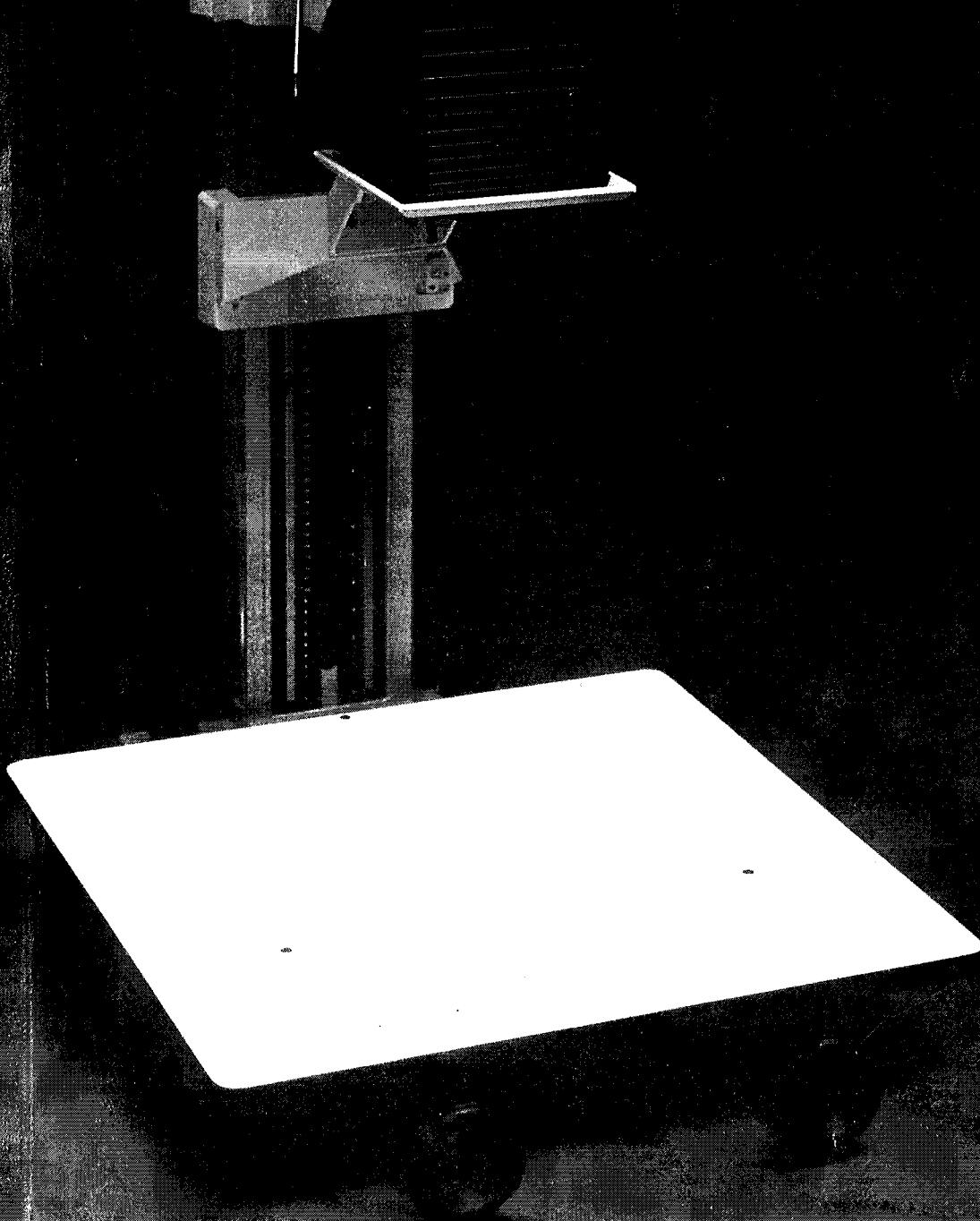


# DE VERE 504



504 ENLARGER MODELS DVB & DVW

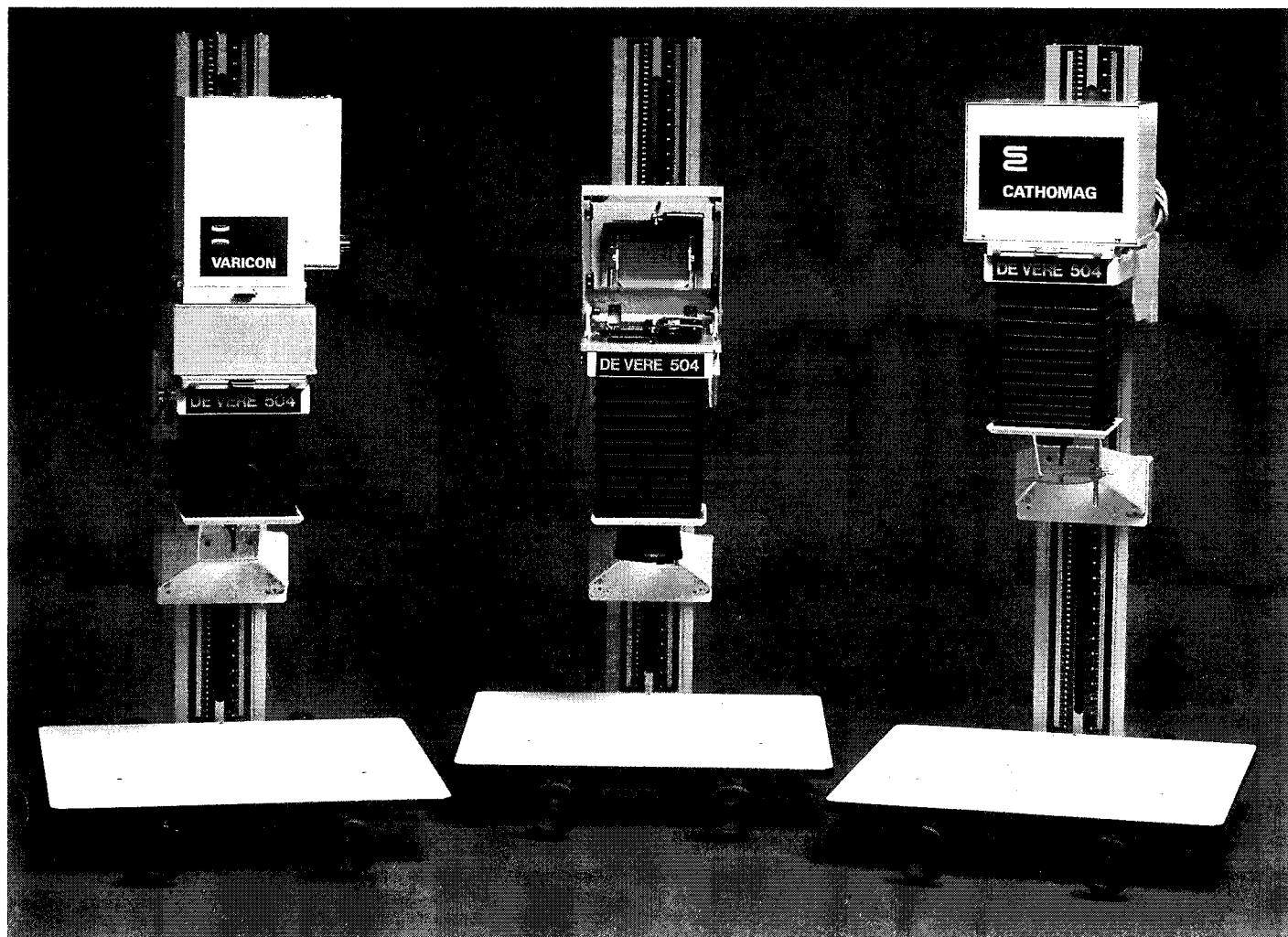
ASSEMBLY, INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS.

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## The 504 system, designed by photographers for photographers

De Vere are the foremost manufacturers in the UK of enlargers for the professional/industrial photographer. The 504 is the latest in a long line of De Vere enlargers which has earned a world-wide reputation for robustness of construction and reliability in operation. Over 27 years of experience has been built into the 504 system to offer you, the professional photographer, an excellent machine incorporating the latest developments in enlarger design.



### VARICON

A quality condenser head fitted with optical condensers manufactured to very precise standards by Rodenstock. Condensers are carefully matched to give optimum coverage and evenness of illumination. Four interchangeable elements make up the system, which are easily exchanged in the drawer immediately above the negative stage.

A 16 cm square filter drawer is located above the condenser housing. Above this drawer provision is made to fit a 14 cm square heat filter, if required.

The position of the 150 watt 240 volt lamp is adjusted by the knob located on the right hand side of the head.

### POINT SOURCE

The Varicon can be converted by removing the top portion of the head and exchanging it with a point source unit which uses a low voltage lamp operated through a separate power supply dimmer control unit.

### COPY BACK

The 504 is equally suited as a copy camera and can be quickly converted for this purpose. A copy back has been designed to fit in place of the standard lightsource. It locates in the negative platen aperture and is secured in this position by two side mounted clips. An adjustable viewing hood is incorporated and the unit is supplied complete with an international 4 x 5 in (9 x 12 cm) camera springback which accepts standard double dark slides. A detachable ruled ground glass screen is provided which can be removed to allow a rollfilm adaptor back to be used for copying. The springback can also be mounted in the adaptor to allow both landscape and portrait formats to be copied.

### CATHOMAG

Designed solely for black and white printing. The Cathomag is a high power diffused lightsource which uses a special cold cathode grid. Being completely diffused it suppresses dust and negative blemishes normally visible on a print made with a condenser lightsource. Printing speeds are compatible and normally one grade harder printing paper will be necessary to obtain a satisfactory quality print. Any focal length of lens can be used with the lightsource without adjustment to the system. Both the Cathomag and Varicon interchange with the Dichromat locating on the rear mounted pair of guide rollers.

## DE VERE enlargers feature FRONT WHEEL DRIVE

Two conveniently located handwheels at the front of the DVB baseboard control the rise

and fall of the lens and head runners to achieve fast accurate focusing.

## 504 ENLARGER.

### IDENTIFICATION OF PARTS.

- 1 Lens runner drive wheel.
- 2 Negative stage runner drive wheel.
- 3 Baseboard securing screws.
- 4 Lens runner locking wheel.
- 5 Negative stage runner locking wheel.
- 6 Base casting.
- 7 Column Inspection Covers on rear face.
- 8 Lens runner.
- 9 Negative stage runner.
- 10 Negative carrier release lever.
- 11 4 nylon adjusting screws in casting rear of negative stage.
- 12 Tension spring retaining lightsource at rear.
- 13 Dichromat Lightsource.
- 14 Exhaust air outlet with fan motor on the inside.
- 15 Filter wheels.
- 16 Lever controlling position of filters.
- 17 Negative carrier 4-way masking.
- 18 Handles for adjusting 4-way masking leaves.
- 19 Spring clips retaining glassless masks or glasses.
- 20 Lens tilt locking lever.
- 21 Negative stage tilt locking lever.
- 22 Transtab Timer Assembly.
- 23 Slots in 4-way carrier for insertion of roll film cups.
- 24 'MAINS' switch.
- 25 'FOCUS' Switch.
- 26 'MANUAL' / 'AUTO' Switch.
- 27 Push Button 'START' Switch.
- 28 Exposure Setting Controls.
- 29 Head Lift Pins.

# 504 ENLARGER MODEL D.V.B.

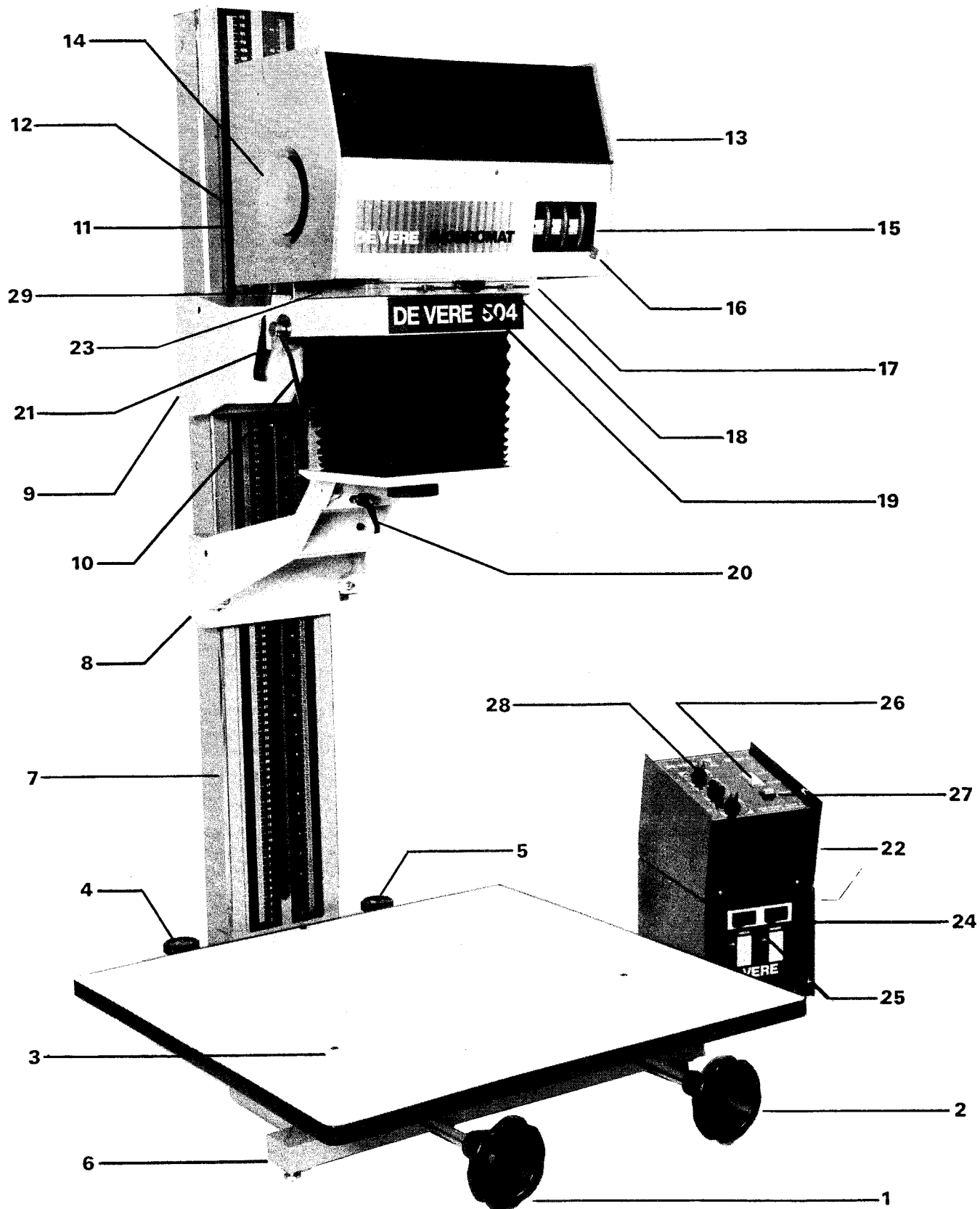


Fig. 1

## 504 ENLARGER MODELS DVB. DVW.

### ASSEMBLY, INSTALLATION, OPERATION and MAINTENANCE INSTRUCTIONS

#### 1. DELIVERY

The enlarger will either be delivered with the chassis assembled or the components packed in a specially designed carton. If unassembled the carton will contain the following basic chassis parts.

- (a) The main column with runners fitted.
- (b) The base casting (not for DVW wall model).
- (c) The baseboard (not for DVW wall model).
- (d) A set of 2 wall mounting brackets (DVW model only).
- (e) A set of 2 handwheel control rods.
- (f) A lightsource and accessories.

#### 2. UNPACKING

- (a) Lay the carton on the floor and open the divided lid.
- (b) Remove the lightsource and accessories from their carton.
- (c) Remove the control rods located in holes in the central vertical partition. Remove the central partition and the partition which supported the control rods.
- (d) Lift the column at the head and raise it to the vertical position. Remove it from the box and lay it on a bench with front face uppermost.
- (e) Remove the base casting from the carton.

N.B. It is important that all components are examined for damage and that they agree with the items listed on the delivery note. Any claim for damage or shortages should be made as soon as possible and in any case within seven days of receipt of the equipment.

#### 3. CHASSIS ASSEMBLY

##### (i) Model DVB (Ref 10-1901)

- (a) Take the base casting and with the column already on the bench, front uppermost, engage the rectangular slot in the base with the spigot at the bottom of the column. (Fig.1-6 & 7)
- (b) Insert the 2 socket headed screws through the clearance holes in the base and by moving the base slightly one way or the other locate the screws in the threaded holes in the column. Tighten the screws fully with the Allen key provided. Raise the assembly to the vertical position.

- (c) Remove the socket headed screws fitted in the ends of the control rods, insert the rods through their support holes at the front of the base and into the tapered holes in the column. Holding the control handwheel with one hand tighten both screws fully with the Allen key provided. This operation locks the control rods into the drive system.
- (d) Place the baseboard on the 3 support screws in the base casting with the countersunk holes uppermost. Line up the front L.H.screw hole in the baseboard with the threaded hole in the head of the support screw. Insert screw and leave loose. Repeat the operation with the R.H.screw. Insert the rear screw and fully tighten all three screws with the Allen key provided. (Fig.1-3).

N.B. A piece of wood will be found wedged between the head runner and the slot in the top of the column. This must not be removed before the lightsource is fitted otherwise damage can result. See para.4 (i)(g) below.

(ii) Model DVW (Ref 10-1902)

The assembly procedure for this Model is the same as for Model DVB above commencing at step (c) and omitting step (d) which does not apply. Short control rods are provided and these fit directly into the base of the column.

(iii) Model DVW (Ref 10-1902)

Installation on Wall

- (a) Affix 2 suitable wood battens horizontally on the wall at 48ins.(122cm) on vertical centres so that they are level and parallel. Ensure that the method used for attachment is suitable to support the chassis weight of 27Kg.(59lbs.) approx.
- (b) Position one of the brackets provided against the top batten using a spirit level to ensure it is level. Mark off the positions of the holes in the bracket on the batten.
- (c) Fit and secure the top and bottom brackets to the enlarger column using the screws provided in the column.
- (d) Position the enlarger against the battens and secure the top bracket to the wood.
- (e) Slacken the screws in the slotted holes in brackets and adjust the position of the enlarger until it is vertical in both directions. Tighten all screws.
- (f) Secure the bottom bracket to the batten and finally adjust the brackets if necessary. DO NOT remove the wood wedge at the top of the column until the lightsource has been fitted.

#### 4. FITTING THE LIGHTSOURCE

##### (i) Models DVB and DVW.

All types of lightsources are interchangeable and the method of mounting on and attachment to the enlarger is common to all 504 Models.

- (a) Ensure that both drive locks, one at each side of the column at the rear, are firmly locked. This is essential to avoid uncontrolled upward movement of the runners and possible damage to the equipment. (Fig.1-4 & 5).
- (b) Release the L.H. drive lock screw and wind the lens stage down to its fullest extent using the L.H. control wheel. (Fig.1-4 & 1).
- (c) Using one hand to prevent rapid upward movement of the runner (Fig.1-9) release the R.H. drive locking wheel (Fig.1-5) and bring the negative stage down to a convenient working height and tighten the locking wheel securely. Remove the wood wedge.
- (d) Remove the tapes securing the lift pins in their working positions and the tension spring at the rear of the negative stage. (Fig.1-29).
- (e) Fit the negative carrier on the negative stage and see that the carrier release lever at the L.H. side is in the up position (lift pins down). (Fig.1-9 & 10).
- (f) Lift the lightsource, position it so that the two rollers on the casting at the rear of the negative stage enter the "L" shaped holes in the rear panel of the light box and lower it into position.
- (g) Connect the tension spring to the rear panel of the light box by placing the hole in the metal tag over the head of the screw provided. This prevents vertical movement of the lightsource and keeps it firmly on the lift pins. Remove the wood wedge from the top of the column.

NOTE: The casting at the rear of the negative stage is fitted with 4 nylon screws with lock nuts which are adjusted to ensure that the lightsource is located normally on the negative stage without lateral movement. (Fig.1-11). They are factory adjusted but should they inadvertently become loose or if an alternative or new lightsource is to be fitted re-adjustment may be necessary. If so proceed from step (4)(e) above as follows:

- (a) Before removing lightsource ensure that both drive lock screws are fully tightened.
- (b) Release the nylon lock nuts and adjust the screws until the ends are flush with the casting. (Fig.1-11)
- (c) Fit the lightsource as before and holding it down with one hand in its normal position adjust the screws until



they just make contact with the rear panel of the lightsource and tighten the lock nuts. Connect the tension spring to the lightsource as before.

#### 5. ELECTRICAL CONNECTIONS.

The following instructions relate specifically to an enlarger having a Dichromat lightsource, a Transformer/Stabilizer (Transtab) unit with Control Box and Timer (Ref.10-1961). They should be read in conjunction with Diagram WD 35 which also provides information when other timers are used.

NOTE: The above units can be supplied in various combinations which are shown below with the relevant reference numbers.

- (a) Ensure the transformer input tapping, normally factory set at 240volts, is suitable for your mains supply. If not, remove the Timer from the Transtab secured with 2 screws, one at each side. Remove the cover of the Transtab unit secured with 4 screws, 2 at the back near the top and 2 at the front near the bottom.
- (b) Affixed to the insulation panel at the top is a terminal block with 3 connecting positions identified 240, 220 and 110 volts. To alter the input tapping release the screw securing the two red wires withdraw them and reconnect into the appropriate voltage position. Ensure the screw is fully tightened but do not disconnect any other wires at the terminal block.
- (c) Insert the 8-pin plug "A" into socket "B" and plug "C" into socket "D". Connect cable to mains supply.

NOTE: When a timer is not being used Shorting Plug "E" as supplied should be inserted in socket "D".

(d) The combinations referred to above are as follows:

- 1. Dichromat, Transtab Control Box and Timer.....Ref.10-1961
- 2. Transtab Control Box only.....Ref.10-1962
- 3. Transformer Control Box only.....Ref.10-1903
- 4. Timer Only.....Ref.10-1949
- 5. 300 Watt Stabilizer.....Ref.10-1937

#### 6. COOLING

The Dichromat 3 lightsource has an inbuilt motor and fan for cooling which is mounted on the inside of the L.H.end panel of the lightsource housing immediately behind the exhaust air outlet. (Fig.1-14).

#### 7. OPERATION.

(i) Modles DVB and DVW Chassis Controls.

To reduce operator fatigue the handwheels controlling movement of the negative and lens stages are located at baseboard level and this obviates neck craning and stretching by the operator when focussing. (Fig.1-1&2).

Movement clockwise or anticlockwise of the hand wheels moves both the negative and lens stages respectively and with practice it will be found possible to change size whilst keeping the image in focus by operating each hand wheel simultaneously.

The drive lock knobs - one on each side of the column - are provided to secure the negative and lens stage runners whilst an exposure print run is being made and so prevent accidental displacement of the focussing: also as stated above to prevent rapid movement of the runners when the lightsource is removed from the enlarger. (Fig.1 1-4 & 5).

(ii) TILTS

Tilts are fitted to both the negative and lens stages for negative correction and click stops are provided for positive return to their "NORMAL" positions. Each has a locking lever (Fig.1-20 & 21). To tilt the stages release the locking lever (rotate anti-clockwise) and re-lock when the desired tilt is achieved. Both levers are keyed to their shafts by splines and if for ease of operation it is required to change their positions, release the lock, pull the lever away from the shaft and re-engage the splines in the required position.

(iii) Dichromat 3 Lightsource Ref.(10-1904)

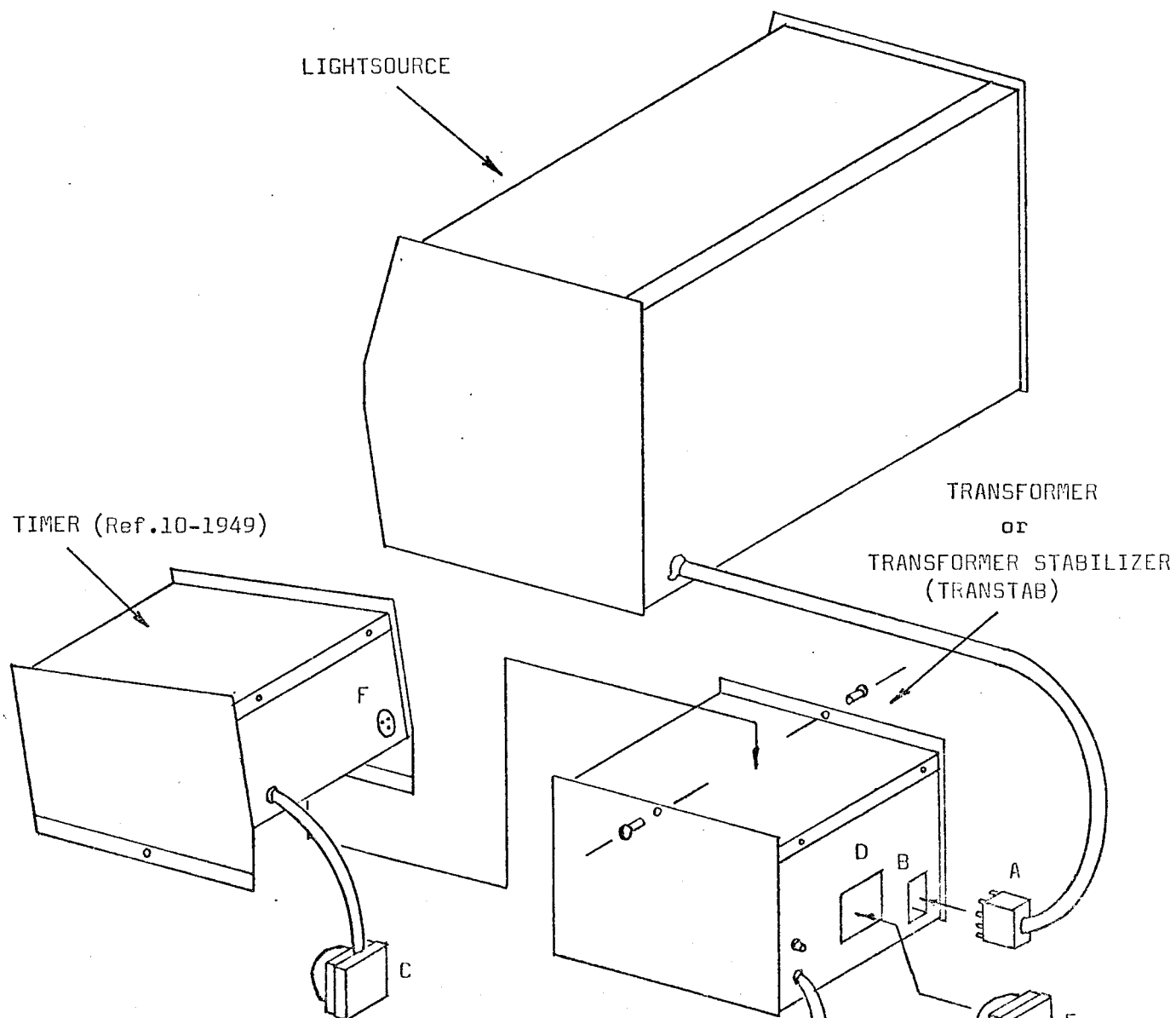
The cyan, magenta and yellow filters in the Dichromat 3 lightsource are controlled by three wheels located at eye level (Fig.1-15). By rotating the wheels any filter value from 0-160 can be selected. A lever (Fig.1-16), is provided at the right of the filter wheels which, when moved to the "DOWN" position removes the set filtration from the lightpath for focussing. The set filtration is returned to the lightpath by placing the lever in the "UP" position.

(iv) Transtab Control Box and Timer Controls.

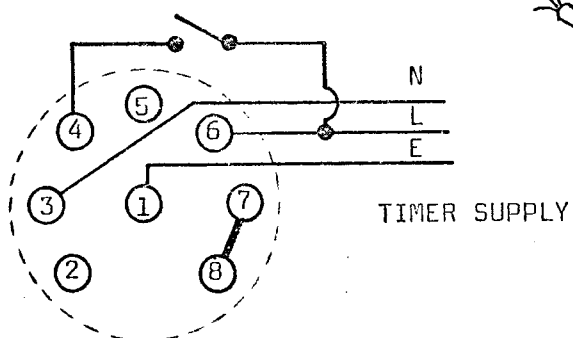
The Control Box has 2 switches marked "MAINS" and "FOCUS" (Fig.1-24 & 25) and the Timer unit a 2-way switch and a press button switch marked "AUTO"/"MANUAL" and "START" respectively (Fig.1 - 26 & 27). The exposure timing controls consist of 3 dials graduated 0-9 in 10sec steps, 0-9 in 1 sec steps and 0-9 in 0.1 sec steps giving a maximum exposure of 99.9 secs. For focussing move the 2-way switch to "MANUAL" positions and the "MAINS" and "FOCUS" switch to the on positions. The enlarger light will come on and remain so. To expose, set the timing controls for the required exposure move the 2-way switch to "AUTO" and press the "START" button. The enlarger light will operate automatically for the time set.

(v) Varicon Lightsource (Ref.10-1906)

This lightsource is not designed for forced draught cooling but louvres are provided for cooling by convection. The 150Watt 240Volt lamp is mounted on a vertical slide and its position is adjusted by turning the knob on the R.H.side of the housing. Immediately below the housing is a 14cm drawer into which can be placed a suitable heat suppression filter or gelatine filters if required. Immediately above the negative stage is the condenser compartment the door of which is retained in the closed position with a magnetic catch.



TIMER CONTACTS



SHORTING PLUG E

Connections for CLOCKWORK timers.

The switch connections should be made between pin No.4 and No.6  
The Earth to pin No.1.

Connections for RAYCO timers.

Supply - Brown to pin No.6  
Blue to pin No.3  
Yellow/Green to pin No.1

Timer output (RH pin outlet socket) to pin No.4  
Neutral and Earth not to be connected.

Connections for HAUCK TU 5 e timer.

Supply - Blue to pin No.6  
Brown to pin No.3  
Yellow/Green to pin No.1

Timer output (RH pin outlet socket) to pin No.4  
LH pin on outlet socket and Earth not to be connected.

## DICHROMAT

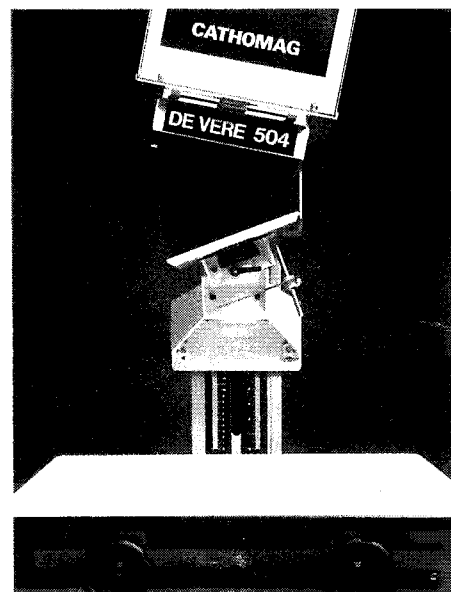
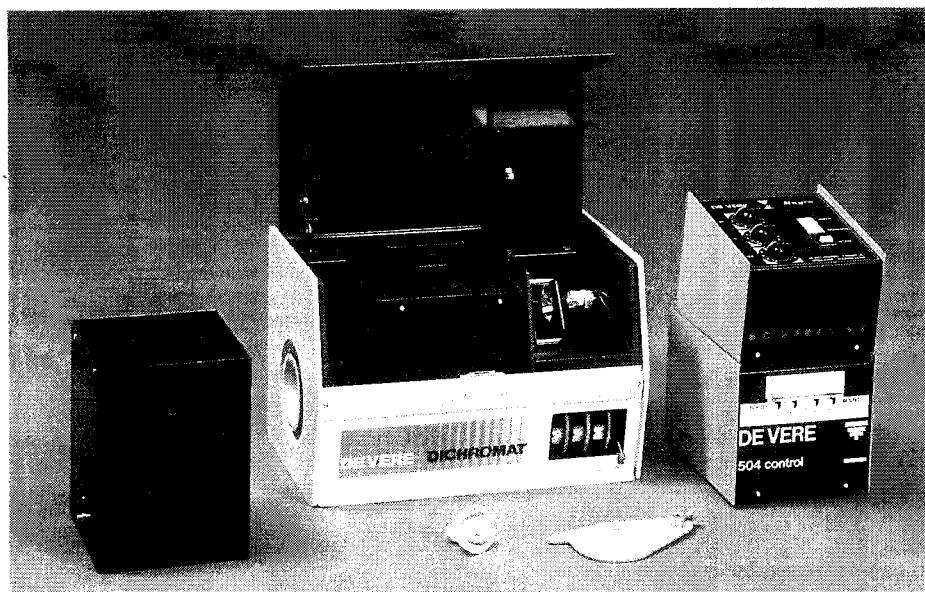
A colour revolution teamed with the 504, it offers a lightsource with infinitely variable fade-free stepless filtration. It uses 250 watts of constant colour temperature tungsten halogen light, giving bright even baseboard illumination (measured at f/11 4x magnification with a Rodagon 150 mm lens, the light fall off – centre to edge – is less than 5%). Printing times are fast and can even be increased by over 100% when enlarging negatives 6 x 7 cm and smaller by using the rollfilm light collecting box. Light boxes are quickly interchanged by raising the lid and lifting the complete light collecting box out of the lightsource housing. Calibrated illuminated filter wheel dials are located on the front right of the lightsource, and incorporated in this assembly is a white light focusing lever. The lever enables any filtration pre-selected on the dial to be instantly removed whilst the negative is focused using full power white light.

The Dichromat is effectively cooled by two integrally mounted vibration-free fans. The Dichromat is supplied without a control box and various units are offered as follows:—  
**TRANSFORMER CONTROL BOX** – This is a basic power supply which delivers the correct unstabilised voltage and incorporates a manual on/off switch and a focusing switch. This works perfectly satisfactorily provided it is attached to a main stabilised power unit. Alternatively:—  
**TRANSTAB** – This comprises the same transformer unit but in addition a stabiliser is incorporated thus making the transformer control a complete self-contained unit. A multi-pin plug is fitted to the back of the transformer and transtab and into this can be plugged a suitable timer. A De Vere timer is available, it is designed to stack on top of the transformer or transtab unit and when connected controls both the focusing of the enlarger and exposure time with a range from 0.1 to 99.9 seconds in tenths of a second.

Full instructions for the linking up of the power supply and timer combinations are given in the enlarger instruction manual. As an alternative to the transtab a 300 watt voltage stabiliser can be used with the transformer control box. It should be connected to the mains input of the transformer unit.

## Optical axis tilts and negative stage

Every attention on the 504 has been given to detail. Ease of access to the negative stage is maintained by a cam-operated lever which raises the lightsource to allow accurate positioning of the negative. Any correction tilts needed in the enlargement can be applied at the negative or lens stage. The tilts are on the optical axis, there is no moving one stage and then re-correcting with the other. A single lever locks each movement which is click centralised.



## ACCESSORIES AVAILABLE

A pair of rollfilm cups which clip into the masking carrier will support long lengths of rollfilm.

Aerial rollfilm attachments for 30 metres (100 ft) 70 mm film.

Three lens panels are available:—

- a) flat to accept lenses 180 mm – 60 mm
- b) sunken to accept lenses 50 mm
- c) extra sunken to accept lenses 35 mm and smaller

The standard bellows extension (480 mm) is adequate in most cases, but for extreme reductions a lens panel extension tube giving an additional 80 mm extension is available.

When using a colour analyser with the Dichromat to assess general colour balance an analyser diffuser disc can be mounted on a post beneath the lens and when swung under the lens integrated baseboard readings are possible.

The unit construction of the 504 makes it a simple matter to change a machine from a bench to wall model or vice versa. The DVB baseboard handwheels and base casting are easily detached. A wall mounting conversion kit is available comprising two short hand controls and a pair of adjustable

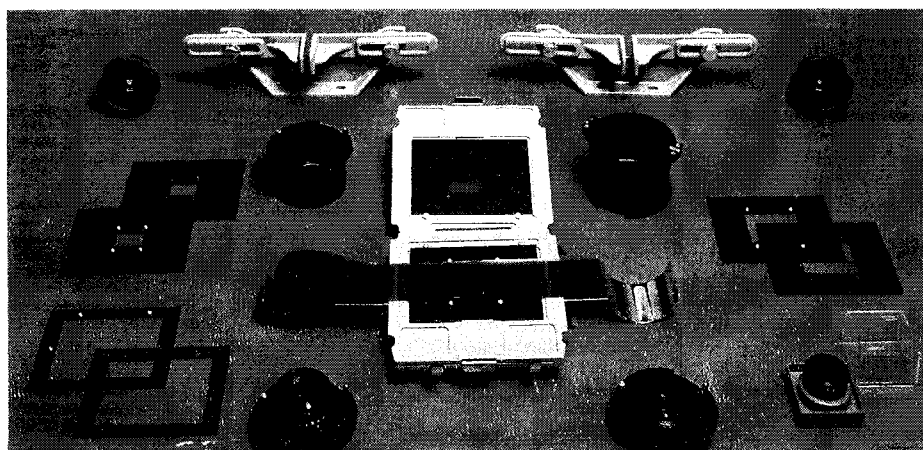
## NEGATIVE CARRIER

The enlarger is provided with a basic hinged carrier system, which opens flat on the work bench. Built into the bottom section is a 4-way independent masking system which is located as close as possible to the negative and eliminates any fringing when colour printing. The carrier accepts a range of glassless interchangeable film masks or a pair of standard glasses. As an alternative to the masking carrier a

simple individual sandwich carrier is available for each size negative. Special length lift pins must be fitted to the enlarger if this latter system is used.

## Lenses

For optimum results from your enlarger we recommend Rodenstock lenses and especially the Rodagon 6-element lenses with illuminated iris and exceptionally flat field.



## MODELS

Two basic chassis models are available. DVB – bench, DVW – wall. The wall model can either be mounted directly to the wall and used above a suitable table or enlarging easel support. Alternatively it can be mounted on to the 504 drop table assembly and then attached to the wall. The assembly provides a simple baseboard runner unit which can be adjusted from table to floor height, enabling prints up to 75 x 100 cm (30 x 40 in) to be made vertically.

## Lathe bed construction

Simple in conception but precision engineered, the cast column of the De Vere 504 is made from high grade aluminium with stainless 'V' guides machined to give years of smooth precise operation for the lens and head runners. Easily read scales in centimetres and inches are attached to the column, which is 114 cm (45 in) long, thus enabling full 50 x 60 cm (20 x 24 in) prints to be made using the appropriate lens.

## Specification

### DVB enlarger overall height :-

– Dichromat fitted	1 524 mm (60 in)
– Varicon fitted	1 727 mm (68 in)
– Cathomag fitted	1 473 mm (58 in)
Enlarger overall width	610 mm (24 in)
Enlarger overall depth	813 mm (32 in)
DVB baseboard	610 x 610 mm (24 x 24 in)

Axial tilts from horizontal	negative 11°
lens	18°

Max distance	
negative/baseboard	1 116 mm (44 in)
One revolution of hand wheel	
moves runner	145 mm (5.7 in)
Chassis weight	27 kg
Estimated total weight,	
all accessories fitted	45 kg

### Extra data DVW:-

Distance lens centre/wall min	610 mm (24 in)
	max 686 mm (27 in)
Centre distance between	
wall brackets	1 219 mm (48 in)

## Maximum magnification and reduction with DVB and standard bellows

Lens	Magnification	Reduction
25 mm	42x	.03x*
28 mm	37.5x	.04x*
35 mm	29.5x	.05x*
50 mm	20x	.07x*
60 mm	16x	.09x*
75 mm	12.5x	.12x*
80 mm	11.5x	.13x*
90 mm	10.25x	.15x*
105 mm	8.25x	.18x*
135 mm	6x	.28x
150 mm	5.1x	.4x

\*These reductions apply provided suitable lens panels and extension tubes are used. The factors may vary slightly according to focal length of lens used.

## Dichromat light output

Negative format	Magnification	Lux
9 x 12 cm (4 x 5 in)	5x	7
	2x	47
6 x 6 cm	10x	6
	5x	20
35 mm	18x	2
	9x	10

Performance data measured with suitable Rodagon lens at f/5.6 and matched to recommended light collecting box.

## Varicon optical data

Lens	Top condenser	Bottom condenser
150 – 105 mm	180 mm	180 mm
105 – 75 mm	180 mm	120 mm
60 – 50 mm	120 mm	100 mm

## Lightsources specification

### Dichromat

1 lamp A1/246 or ELC, 250 watt/24 volt operates on 110v, 220 v, 240 v/50 – 60 Hz. Size 370 x 241 x 245 mm (14.5 x 9.5 x 9.6 in). Weight 11 kg.

### Varicon

1 lamp 150 watt/240 volt ES. 1 point lamp 48 watt/6 volt ES :- control box 350 watt/240 volt 50 – 60 Hz.

### Cathomag

Special c c tube ref 19/25 110 watt/240 volt.

## Machine packed :-

Approx 90 kg gross. Carton size :- 1 420 x 660 x 460 mm (58 x 26 x 15 in).

## ORDER reference Nos

19/01	DVB504 bench enlarger chassis with blank panel and 610 mm (24 in) square baseboard.
19/02	DVW504 wall enlarger chassis with blank panel and wall mounting kit.
19/60	DVF504 free standing chassis with blank panel and 75 x 100 cm (30 x 40 in) baseboard.
19/04	504 Dichromat 3 dial-in colour lightsource without control box. (D3)
19/05	504 Cathomag lightsource.
19/06	504 Varicon condenser head with two 180 mm condensers.
19/07	504 copy back (4 x 5 in).
19/08	Negative carrier with 4-way masking.
19/10	4 x 5 in cut film mask.
19/11	9 x 12 cm-cut film mask.
19/12	6 x 9 cm rollfilm mask.
19/13	6 x 6 cm rollfilm mask.
19/14	35 mm rollfilm mask.
19/15	Pair of glasses.
19/16	Kit converts DVB504 to wall DVW model.
19/18	Pr. rollfilm negative cups.
19/19	6 x 7 cm rollfilm mask.
19/20	504 sunken lens panel. 50 mm L
19/21	504 lens panel. 60 mm-210 mm L
19/22	504 extra sunken lens panel.
19/23	Lens panel extension tube.
19/25	504 replacement cc tube.
19/26	4 x 5 in sandwich glass carrier for film.
19/27	4 x 5 in sandwich cut film carrier.
19/28	6 x 9 cm sandwich rollfilm carrier.
19/29	6 x 7 cm sandwich rollfilm carrier.
19/30	6 x 6 cm sandwich rollfilm carrier.
19/31	35 mm sandwich rollfilm carrier.
19/32	Pr. sandwich carrier lift pins.
19/33	Analyser diffuser disc.
19/34	6 x 6 cm rollfilm light collecting box D3.
19/35	4 x 5 in light collecting box D3.
19/37	300 watt stabilizer.
19/38	504 drop table assembly with 30 x 40 in baseboard wall mounting.
19/39	504 drop table assembly with 75 x 100 cm (30 x 40 in) baseboard. Free standing.
19/40	Special 504 film mask.
19/41	Special 504 plate mask.
19/42	70 mm rollfilm drawer complete with stowage box.
19/43	Special sandwich carrier.
19/44	504 Varicon heat filter 14 cm square.
19/45	Pr. standard carrier lift pins.
19/46	Baseboard copylight system with lamps.
19/47	Baseboard copylight system without lamps.
19/48	Horizontal projection mirror assembly for 504 and 507.
19/49	504 Dichromat 3 timer only.
19/50	Point source conversion for 19/06.
19/51	504 point source Varicon condenser head complete with two 180 mm condensers and control box.
19/61	504 Dichromat 3 timer with Transtab control.
19/62	504 D3 Transtab control box.
19/63	504 swing filter with post.
19/64	180 mm condenser element.
19/65	120 mm condenser element.
19/66	100 mm condenser element.
19/03	504 D3 transformer only.
10/20	Replacement Dichromat lamp with integral mirror.

Your dealer is

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The contents of this leaflet do not constitute an offer, but are general description only. De Vere reserve the right, while maintaining the essential characteristics of the equipment described and illustrated, to amend specification without notice.

- (d) Slots with spring clips are provided in two sides of the carrier into which cups for supporting roll film can be fitted. (Fig.1-23).
- (e) The carrier can be placed in the negative stage in either the landscape or portrait position. If the latter position the roll film cups must be removed.

(ii) Sandwich Carrier.

- (a) A sandwich carrier fits into the enlarger in much the same way as the 4-way masking carrier. It is self contained with a top and bottom plate at the back and can be placed in the enlarger in the landscape or portrait position but no roll film cups can be fitted. Roll film can be accommodated in the landscape position by allowing it to hang at the side.
- (b) When using sandwich carriers the head lift pins must be replaced with shorter ones (see parts list Ref.10-1932).

NOTE: Masks or Sandwich carriers for any film size can be made to special order (see parts price list).

(iii) Lens Panels

- (a) All lenses having focal lengths from 60mm to 150mm can be mounted on standard panels (Ref.10-1921). A sunken panel (Ref.10-1920) is needed for a 50mm focal length lens and a deeper sunken panel (Ref.10-1922) is available for 25mm and 35mm focal length lenses. All panels are attached to the enlarger by bayonet connection and are quickly interchangeable.

(iv) Lens Panel Extension Tube (Ref.10-1923)

- (b) The maximum bellows extension is 19in.(483mm). If special reductions are required an extension tube having bayonet connections at both ends can be used to increase the effective extension of the bellows to 22.25in.(565mm).

(v) R/F Light Collecting Box (Ref.10-1934)

This is an alternative 2.4in. x 2.4in. (6cm x 6cm) light collecting assembly which is interchangeable with the standard 4in.(10cm) x 5in.(12.7cm) unit and gives more light required for smaller negative sizes.

(vi) Copyback (Ref.10-1907)

Designed for copying on to 4in. x 5 in. (101.6mm x 127mm) material it fits in place of the standard lightsource and locates in the negative platen aperture. It is secured with 2 screws, one at either side and a weight is provided for attachment to the negative stage runner to compensate for the difference in weight between the lightsource and the copyback. A reflex hood for focussing is provided. A detachable ruled ground glass screen is incorporated which can be removed to allow a roll film adaptor back to be used for copying. The spring back can also be mounted in the adaptor to allow both landscape and portrait formats to be copied.

The condenser elements locate on slideways at the sides of the compartment and the 4 interchangeable elements which make up the system are easily and quickly exchanged. Place the lower element in the housing first (convex surface uppermost) then the top element (convex surface downwards). The following table shows the condenser element combinations and the focal lengths of the enlarging lenses which can be used with each combination.

#### CONDENSER/ENLARGING LENS COMBINATIONS

<u>Upper Condenser Element</u>	<u>Lower Condenser Element</u>	<u>Enlarging Lens Focal Length</u>
180mm	180mm	150mm - 105mm (6in. - 4.25in.)
180mm	120mm	105mm - 75mm (4.25in. - 3in.)
120mm	100mm	60mm - 50mm (2in.)

(vi) Varicon Point Source Head (Ref.10-1951)

The Varicon Point Source (Ref.10-1951) is supplied as a complete assembly with 2-180mm Condenser lenses, control box and a 48Watt 6Volt lamp. Varicon lightsource (Ref.10-1906) which uses a 150Watt enlarging lamp can however, be converted to Point Source by a conversion kit (Ref.10-1950). The change is effected by removing the top portion of the head (Lamphouse) secured with 4 screws and replacing it with the Point Source unit. A control unit is provided whereby the intensity of the Point Source light can be varied.

(vii) Cathomag Lightsource. (Ref.10-1905)

Like the Varicon the Cathomag does not require forced draught cooling but ventilation is provided. It uses a special cold cathode grid and is only suitable for black and white printing. Any focal length lens can be used without adjustment to the system.

#### 8. ACCESSORIES

(i) 4-Way Negative Masking Carrier. (Ref.10-1908)

- (a) This comprises a composite cast frame with a hinged top plate housing 4 independently adjustable masking leaves. 4 protruding handles with red plastic ends are used to slide the leaves into the required position. (fig.1 - 17)
- (b) It is designed to accept glassless film masks or identical top and bottom glasses which are retained in their positions by means of 2 spring clips at the front of the carrier. Two protruding handles at the front are pulled forward to disengage the spring clips. The glassless film masks locate against guide pins at the back of the bottom plate and are retained by the spring clips at the front. (Fig.1 - 19).
- (c) Both glasses and masks have bevelled edges on two sides for location against the pins and spring clips.

(vii) Voltage Stabilizer (Ref.10-1937)

If the Transtab unit is not being used and it is required to stabilise the mains voltage a 300 watt self-contained unit can be supplied.

(viii) Drop Table Assembly (Ref.10-1938)

Designed for use with wall mounting model DVW it provides an adjustable rise and fall table (baseboard) enabling prints up to 30in. x 40in. (762mm x 1016mm) to be made. Basically it comprises a cast column with a runner similar to the enlarger column, and a square steel tubular framework attached to the runner, supports the table. Counterbalance springs make vertical adjustment of the table assembly easy. The complete assembly fits below the enlarger and means are provided to locate the column in its correct position in relation to the enlarger column. Lugs are provided at the base to secure the unit to the floor. Conveniently located stops are provided whereby the table can be locked at varying heights by means of a central locating plunger. It is supplied with a 30in. x 40in. (762mm x 1016mm) table.

9. MAINTENANCE, REPLACEMENTS and ADJUSTMENTS.

De Vere enlargers are built to give many years of trouble free service but it will depend to a great extent on care in using the equipment and general cleanliness both of which can affect the quality of the end product. However, providing these two aspects are observed the need for replacements and adjustments should be very infrequent.

(i) Lenses

Lenses and glass surfaces should be cleaned with well washed, clean, soft and dry linen cloth and lens cleaner. If the surfaces to be cleaned are heavily coated with dust, clean first with a camel hair brush.

(ii) Lubrication

The ball races which engage in Vee grooves on either side of the column are factory lubricated and should not need attention for a considerable time. They can be inspected by removing the cover plates on the rear of the column and if necessary can be lubricated with a medium machine oil applied sparingly with a small brush. The Vee grooves can occasionally be cleaned and given a very light coating of fine machine oil.

(iii) Lamp Replacement Ref.10-1020

Dichromat 3 Lightsource

The Dichromat MkIII is fitted with one 240Volt tungsten halogen lamp and reflector assembly. Before replacing the assembly SWITCH OFF the electrical supply to the enlarger.

(a) Lower the enlarger head to a convenient working height and tighten both drive lock screws.

(b) Lift the outer casing cover (secured with a magnetic catch).

(c) Lift the cover of the lamp house at the R.H. side (secured with spring catch).



- (d) Remove the lamp assembly by disengaging the reflector from the retaining tension springs and withdraw the connector from the lamp pins.
- (e) Fit and secure new lamp assembly and ensure lamp pins are in the horizontal position for correct illumination. Fit connector to pins.
- (f) Replace lamp housing and outer casing covers.

(iv) Lamp Replacement (Ref.10-1522)

Varicon Lightsource

This is a 150Watt tungsten lamp having an Edison Screw (ES) cap. To replace the lamp SWITCH OFF the electrical supply to the enlarger and proceed as follows:-

- (a) Lower the enlarger head to a convenient height and tighten both drive locking screws.
- (b) Remove 4 knurled headed screws - 2 on each side at the bottom - and lift off the lightsource housing.
- (c) Wind and lamp down to its fullest extent with the adjusting wheel at the R.H.side. Unscrew the lamp from its socket.
- (d) Fit new lamp, replace and secure the housing with the knurled screws.

(v) Lamp Replacement (Ref.101925)

Cathomag Lightsource

This is a high power diffused lightsource having a special cold cathode tube which is attached to a reflector with 4 wires. To replace the tube SWITCH OFF the electrical supply to the enlarger, bring the head down to a convenient height and tighten both drive lock screws.

- (a) The outer casing of the lightsource is secured with 4 screws 2 at the front at the bottom and 2 on the top at the rear. Remove the screws and lift off the casing.
- (b) The tube/reflector assembly is restrained from upward vertical movement by 2 brackets - one at each side - and each is secured by a single screw which is accessible on the outside of the inner casing. Remove the screws and brackets.
- (c) Draw the tube/reflector assembly forward and remove the front wire from the connection on the tube. The connecting loop can be expanded for easy removal by pressing on the free end of the loop. Draw the assembly forward and remove the other wire from the tube in the same manner.
- (d) Release the wires on the underside of the tube securing it to the reflector and take it away.
- (e) Fit the new tube to the reflector and secure with the wires. Re-assemble the lightsource in the reverse order to that stated above.

NOTE: The cold cathode tube is fragile and should be handled with extreme care.

(vi) Adjust Drive Wire Cables.

The negative and lens stage runners are driven by wires which pass around pulleys and are tensioned by counterbalance (Tensator) springs. The wires are adjusted and locked at the factory and it is unlikely they will need attention for some time. If however it should become necessary (indicated by slippage between movement of the drive hand wheels and the runners) proceed as follows:

- (a) It will be necessary to move the DVB model away from the wall and model DVW from the wall.
- (b) Remove the central inspection cover secured with 2 screws on the rear face of the column.(Fig.1-7) and adjust the position of both runners until both adjusting brackets appear in the inspection aperture.
- (c) The arrangement and method of adjustment is the same for both wires. One end of the wire is anchored in the bracket and the other end passes through and is attached to a hollow screw which is secured by two nuts. Slacken the outside (bottom) nut and holding the head of the screw tighten the other nut until the slack is taken up and the wire is reasonably tensioned. Do not overstrain the wires. Tighten the outside nut to lock the screw in the bracket and replace and secure the inspection cover.

(vii) Tilt Adjustment.

As stated at para.7(ii) above both the negative and lens tilt arrangements have click stops for return to their "NORMAL" positions after being tilted. Both tilt mechanisms are the same and consist of spring loaded plungers in the stage castings operating against steel inserts in the runner castings. Each insert has a groove and the "NORMAL" position is determined when the plunger enters the groove. The steel inserts are located in their correct positions by socket headed screws at the top and bottom of the runner castings. They are factory adjusted and it is unlikely they will need attention but should it be necessary proceed as follows:

- (a) With the tilt arrangements in their "NORMAL" positions and using a suitable spirit level check the relative attitudes of the negative and lens stages with the baseboard. All three readings should be the same.
- (b) If not, determine from the readings whether the particular insert needs to be raised or lowered for correction and release the relevant tilt locking lever.
- (c) Adjust the position of the insert by easing either the top or bottom locating screw as necessary and tightening the other in small increments. Repeat adjustment until both negative and lens stages are "NORMAL" with the baseboard. Ensure locating screws are fully tightened after each adjustment to prevent the insert moving and giving a false spirit level reading.

(viii) To Adjust Fit of Lens Panel.

The lens panel which has two diametrically opposed cut-outs is retained in the lens casting by 2 plastic covered bosses which locate on the face of the panel when it is turned to the lock position. The bosses are factory adjusted to ensure that the panel is firmly held and it is unlikely that adjustment will be necessary for some time. Should it become necessary proceed as follows:-

- (a) Remove the lens panel and lower the negative and lens stages to their lowest position so that the bellows are fully compressed. Tighten both the negative and lens stage drive locking wheels securely. (FIG 1 - 4 & 5)
- (b) Disconnect the tension spring at the rear of the lightsource - para.4(i)(g) above - and lift it off.
- (c) It will be seen that each boss passes through a clearance hole in the wall of the casting and is permanently attached to one end of a flat spring formed to approximately  $90^{\circ}$ . The other end is secured to the edge of the casting with a screw.
- (d) To adjust, remove the screw and withdraw the boss and spring from the casting and slightly reduce the angle of the spring by carefully bending it. Replace and secure both bosses and check the fit of the lens panel. Repeat if necessary until both bosses hold the panel firmly in position.
- (e) Replace the lightsource on the enlarger and secure with the tension spring.

(ix) To Adjust the Tension of Lens & Negative Stage Drives

The tensions of both drive systems can be adjusted by means of two nylon screws and lock nuts located at the rear of the machine in line with the locking wheels (4 and 5 - Fig.1). Release the lock nut and adjust the screw in small increments until the desired tension is achieved and tighten the lock nut. In some cases the lock nut is replaced by a spring.

## DE VERE 504 AND ACCESSORIES

A	B	C	PART NO.	£ P	DESCRIPTION	*
X	X		SA 3116		Head tensator Assy	*
X	X		B 416A		Lens Tensator	
X	X		SA 3123/1		Top cable (long) 95 $\frac{1}{2}$	*
X	X		SA 3123/2		Bottom Cable (short) 50 $\frac{1}{2}$ DVB · DVW	*
X	X		SA 4042A		Bottom Cable (short) 51 $\frac{3}{4}$ DVF	*
	X		CP 10		Pully lock screw	
		X	CP 8		504 DVB Baseboard	
	X		SA 3105		V Roller	
	X		D 3100A		V Guide	
		X	B 559		Lock lever (lens)	
		X	B 560		Lock lever (head)	
	X		D 3134A		Cam lift pin long 1 $\frac{3}{4}$ " ✓	
	X		D 3134B		Cam lift pin short 1 9/32"	
X	X		SA 3138		Spring clip Assy (lens panel)	
		X	4057A		DVF 504 Table Tensator Assy	
	X		D 986		Base adjusting screw DVB	
	X		SA 3140		Head roller Assy	*
		X	SA 3124A		DVW hand control	
		X	SA 3124		DVB hand control	
		X	SA 4057		Drop table tensator Assy	
	X		B 10		Nylon screw	*
	X		D 3131		Mask handle	
		X	CP 11		Copy back counter wt. comp (504)	
		X	CP 12		Copy back clamp Assy (504)	
		X	D 3246A		Mirror 8"sq.	
X	X		CP 13		Set Dichroic Filters (203-504)	
X	X		B 593		Fan (240 volt)	
		X	B 593A		Fan (110 volt)	
X	X		B 580		Lamp socket (Atlas A1/246)	
	X		B 159A		504 Transformer c.c. head	
		X	D 3254		Diffuser	
X	X				504 c.c. tube	
	X		B 200		Varicon lamp holder	
	X		CP 21		Pack Assorted screws (504)	
FOR MODIFIED MACHINES						
		X	SA 3123A		504 cable with adjustor 9ft. Pre Jan '74.	
		X	SA 3120		Head tensator for Mk 1 & 11 Dichromat head.	
		X	B 5040		Mk 1 & Mk 11 Dichromat lamp reflector	

CLASSIFICATION A - Recommended to be bought by user where no Agent back up (in Country).  
 B - Recommended to be held by Agent.  
 C - Available if required.  
 \* - Fitting instructions available.