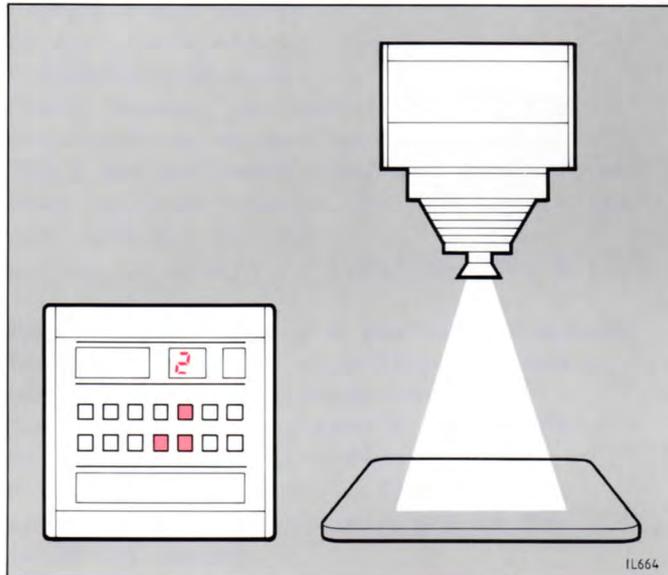


PRINT MAKING USING THE EXPOSURE PROBE



- 1 With the probe calibrated (see leaflet supplied with the probe) and a negative in the enlarger, select 'focus'. Focus and compose the required image. Select the contrast required.

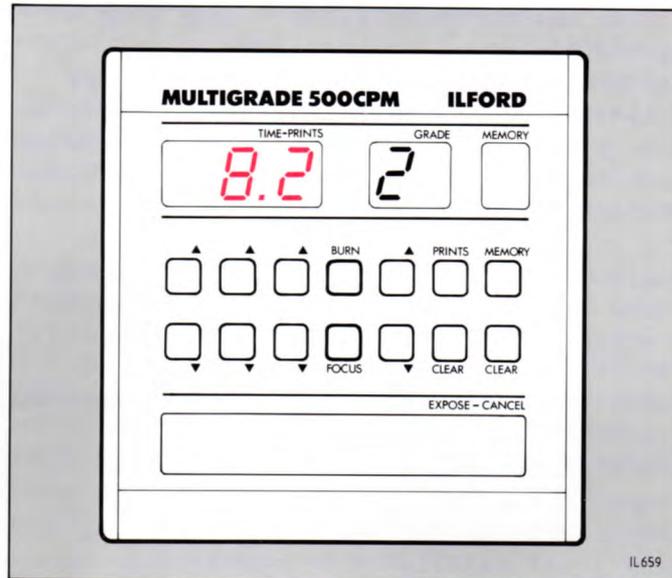


- 2 Check the probe LED is switched on. Position the probe photocell in a shadow area where you wish to retain detail on the final print. For accurate measurements, position the photocell towards the centre of the projected image (see section 10.1).



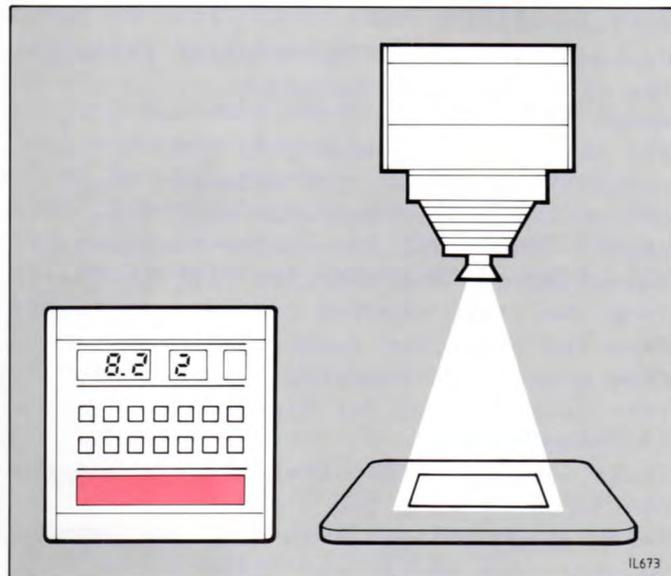
- 3 Press and release the probe switch to start the measurement period. Observe the guide lines detailed in section 10.1.

- 4 The calculated exposure time is displayed after approximately 5 seconds and the enlarger lamps are switched off automatically, cancelling 'focus'. Print making can now begin.



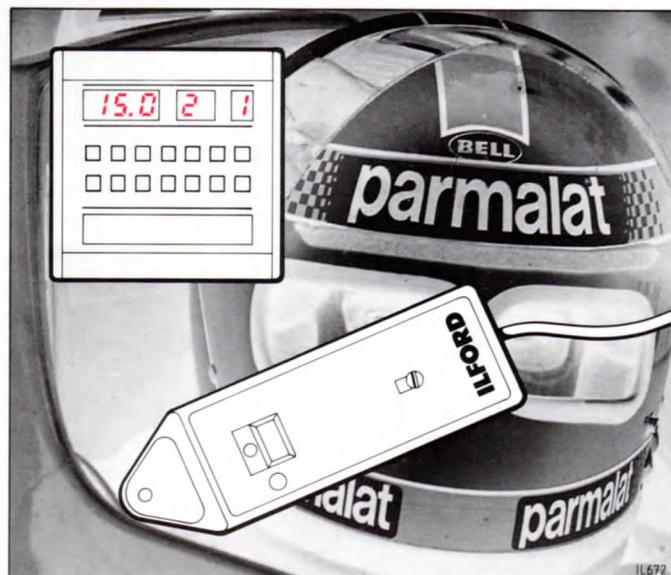
IL659

- 5 Position a sheet of paper on the enlarger baseboard. Press 'expose-cancel'. The sheet is exposed for the calculated time. Process and assess the final print (see leaflet supplied with the probe).



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- 6 The exposure probe can be used if the control unit has stored memories (see sections 7, 8 and 9). In this case, measurements are taken as described above, memory '1' is automatically selected and changed. Memories 2 to 9 remain unchanged.



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10.1 Using the exposure probe - some simple guide lines

If used correctly, the MULTIGRADE 500P exposure probe can be of great benefit to the black and white printer. Listed below are some simple rules to observe in order to maximise the probe accuracy.

- 1 Darkroom safelights must be no brighter than that recommended when using ILFORD variable contrast paper, and must not be positioned close to the equipment. If safelights are too bright, the background illumination will swamp the light intensity readings of the projected image, resulting in incorrect calculations. For best results, control any local safelights by connecting them to the MULTIGRADE 500 equipment (see section 4.3c).
- 2 During the 5 second calculation period, the probe must not be moved.

Note

For the last two seconds of the calculation period, the enlarger lamps are automatically switched off. This enables the probe to measure background illumination, and subtract this reading from the first reading of light intensity from the projected image. The display then gives a recommended exposure time that is corrected for background illumination.

- 3 It is important that the operator remains stationary during the 5 second calculation period. Even when the probe is measuring background illumination (see 2 above), it is essential that the operator and the probe remain stationary to avoid light reflections from clothing and/or shadows falling across the probe photocell.
- 4 For accurate results, always position the probe as close to the centre of the projected image as possible.
- 5 The MULTIGRADE 500 system is programmed to calculate the correct exposure time for a wide range of negatives. Inevitably, there will be some negatives (showing extremes of exposure or development, or not having a suitable spot from which to take readings) that may produce inaccurate results. If difficulty is found in obtaining a high percentage of correctly exposed prints, re-calibrate the probe (see leaflet supplied with the probe).

AUTOMATIC ROLL EASELS

The MULTIGRADE 500 system can be connected to most automatic roll easels by using an ILFORD roll easel converter. The converters are supplied as optional extras complete with fitting instructions. Please quote the correct part number (listed below) when ordering.

Part number 6082-P-003 for 220/240V.

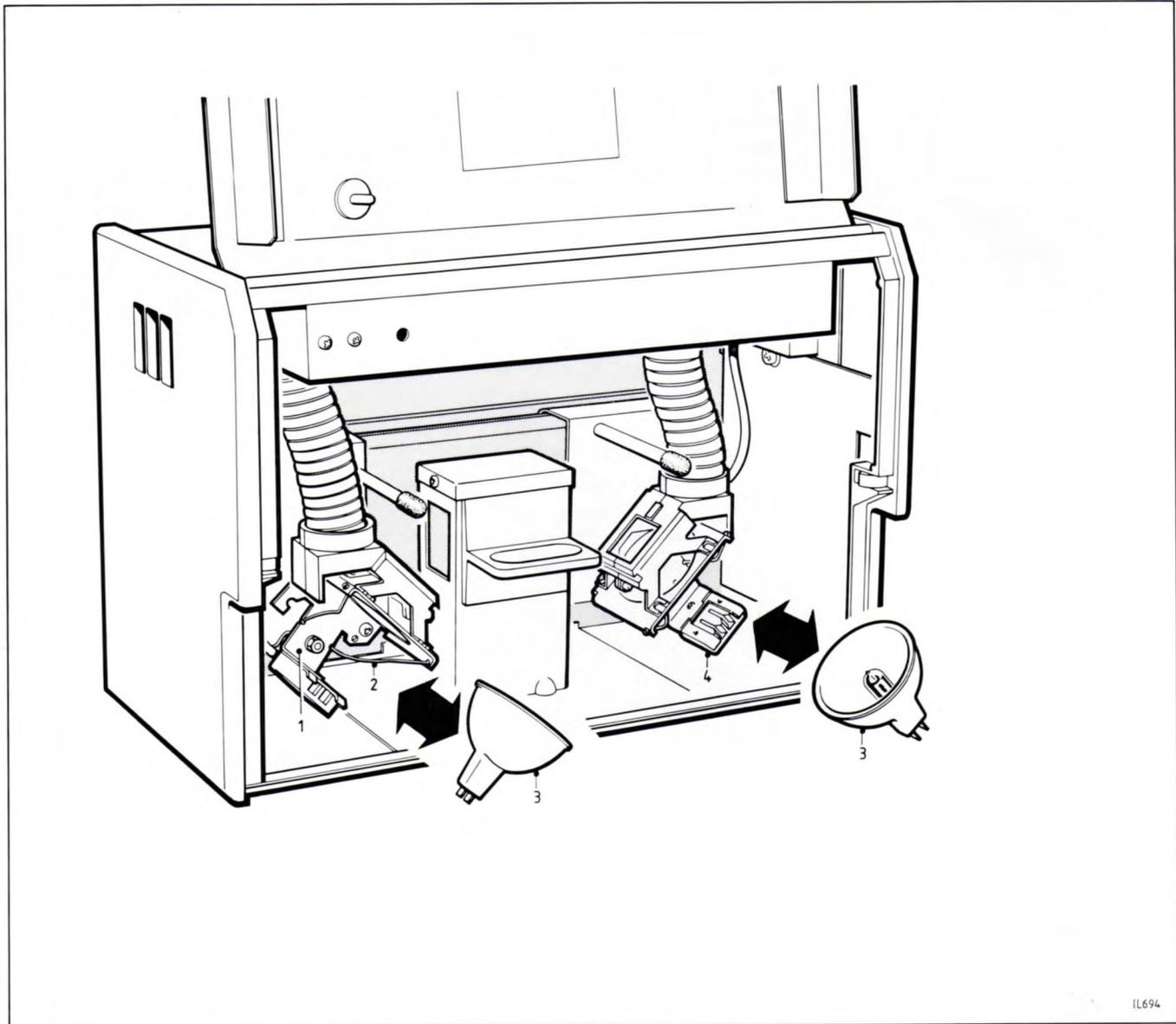
Part number 6082-P-004 for 120V.

The converter is an interface unit and is very easy to install. There are just two connections to make, one to the control unit 'footswitch' socket (via a 4-pin DIN plug) and one to the roll easel power output (via a 2-pin plug).

Note

Prior to use, ensure that memories 2 to 9 are clear (see section 9.6).

In use, the MULTIGRADE 500CPM control unit exposure time display is set to '0.0' by the operator, and the exposure time is controlled by the roll easel. In all other respects, the MULTIGRADE 500 system operates as described in this manual.



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Lamp removal and replacement

Figure 12.1

Figure 12.1

- 1 Lampholder
- 2 Lamp retaining spring
- 3 Lamp
- 4 Electrical connector

12.1 Cleaning

Cleaning is the only routine maintenance required on the MULTIGRADE 500 equipment. Carry out the following operations at regular intervals:

- 1 Remove dust and debris from the light mixing box(es) with a soft brush. Take care not to leave finger prints on the diffuser and internal plastic mirrors.
- 2 The control unit switch panel should be cleaned periodically using a damp, lint free cloth.

12.2 Replacing a lamp

See figure 12.1.

WARNING

Switch the system off and allow the lamps to cool before handling them.

To replace a lamp, proceed as follows:

- 1 Open the enlarger head door.
- 2 If necessary, slide the lampholders away from the light mixing box.
- 3 Support the lampholder and carefully pull the lamp forwards away from the electrical connector and retaining spring. It is not necessary to remove or unclip the spring.
- 4 Fit the replacement lamp with the pins either way round, ensuring the pins are entering squarely into the connector before pushing the lamp into position.
- 5 When using the two smaller format mixing boxes, slide the lampholders back into position.
- 6 Close the door.
- 7 **Important.** Carry out the setting up procedure detailed in section 4.6.

12.3 Projection lamps - preventive maintenance

The projection lamps used in the MULTIGRADE 500H enlarger head are precision made items. To ensure maximum lamp life and to obtain the best results from the lamps, always keep the following points in mind.

- 1 Avoid excessive vibration and mechanical shock, particularly when the lamps are switched on.
- 2 Ensure the lamps are the correct type (see section 14 MULTIGRADE 500H enlarger head).

- 3 Ensure the power supply is always operated at the correct voltage. Unusually high voltages will reduce lamp performance leading to premature lamp failure.
- 4 Ensure the cooling fan operates correctly, and that the air vents are not obstructed.
- 5 Do not touch the inner reflective surface of the lamp, and especially the bulb.

12.4 Replacing the mains input fuse

- 1 Remove the fuseholder cap, complete with fuse, by turning the cap anti-clockwise until it is released by spring action.
- 2 Fit the correct fuse (see section 14 **MULTIGRADE 500S power supply**).
- 3 Refit the fuseholder and secure it by turning the cap clockwise.

Note

Use the same procedure described above to replace the safelight socket fuse.

