

# NEW Durst PROLA Lensadapter. w/ built inn alignment correction.

**CUT EXPOSURE TIMES - BOOST PRINT QUALITY.**  
Use it with any enlarging lens from 24mm to 480mm, even the huge 360mm EL-Nikkor. Use it on Durst L138, L184, L2000, L1840 and all Durst Horizontal enlargers.

**GUARANTEED THE BEST INVESTMENT YOU'VE EVER MADE IN QUALITY.** Did you know that most modern enlarging lenses produce sharper prints at f8 than they do at f16? **They do, try it.** Stopping down your enlarging lens to f22 or f32 is devastating for print sharpness.

The reason for using small apertures - f16, f22 or even f32 - has been to compensate for mechanical errors in the enlarging process. It has been necessary to compensate for poor alignment between the stages on the enlarger, and to compensate for the natural light fall off produced by the taking lens and the enlarger light source.

New modern "long focal length" camera lenses have little or no light fall off. Negatives and transparencies from film recorders have no light fall off - if the recorder is adjusted correctly and fed a proper digital image.

Durst enlargers are the best built enlargers in the world. They are all adjusted to very tight alignment tolerances. Durst CLS1000, CLS1840, CLS2000 and DL2000 Dichro heads are the most even light sources on the market. With the NEW Durst PROLA lens adapter it is now possible to squeeze the last few drops of mechanical quality from a Durst enlarger. The NEW PROLA allows adjustment of alignment between the negative stage and the lens stage to an accuracy of 1/250 in. (1/100 of 1mm).

With the NEW Durst PROLA lens board you can print top quality - tack sharp to the corners - fast and efficiently at f8.

Exposure time at f 16 - 20 sec  
Exposure time at f 11 - 10 sec  
Exposure time at f 8 - 5 sec



**Price; \$385.00**

w/ 3 pre-cut lens adapters.  
Please specify lens type or size.

Extra lens adapters \$39,-

**QUADRUPLE your print  
production and get the  
added benefit of sharper prints.**



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## What is "alignment"?

If you look up synonymous for alignment, you will see words such as arrangement, position and configuration.

Aligning an enlarger is to obtain parallelism between three planes (negative, lens and baseboard) in a 3-dimensional space.

With other words you want the three planes to be parallel not just along and X-Y axis (Right-left and front-back) but along an infinite number of lines radiating out from the center. **Fig. 2** show three planes being absolute parallel to each other in all planes and also centered correct.

**Figure 3** show one of an infinite number of possible positions where the three planes are out of alignment. It is also possible for two planes to be correctly aligned and the third stage to be out of alignment.

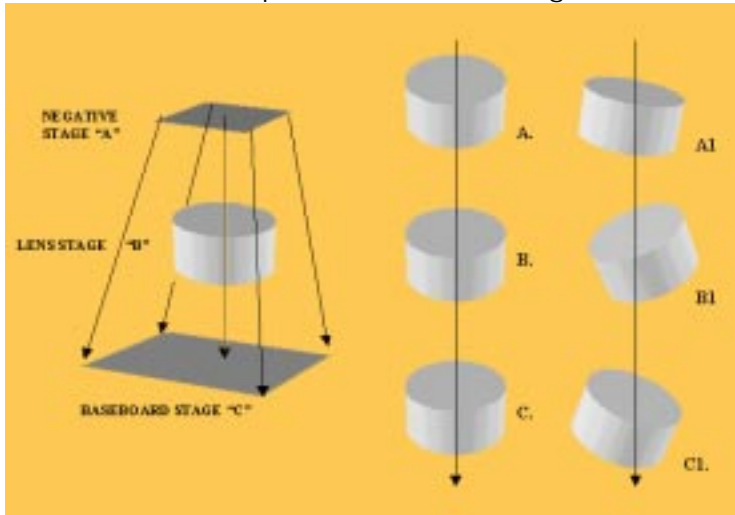
Alignment is also making sure that the center of the lens is correct centered on the negative, see **Fig.1**

## WHY ALIGN the enlarger?

Perfect rendering of shapes are only possible with perfect alignment.

Perfect sharpness from corner to corner is only possible with perfect alignment.

When perfectly aligned the enlarging lens can be used at it's optimum f-stop without being forced to stop down in order to obtain sharpness on the entire negative.



## Alignment of a Durst Vertical L184 enlarger:

As a basic rule we consider the negative stage our "Ground Zero" or starting point.

First make sure that the negative stage is fairly correct positioned in relation to the chassis – this is best done with a regular level.

Secure the negative stage by fastening all bolts and by making sure that the lock knob is in zero position. This is done by:

1. turning knob #47 (pg. 13 in operating instructions) to position "L"
2. turning the entire camera a few degrees, but not 90 degrees
3. while camera is turned slightly turn knob #47 back towards "F" turn camera back to zero position and listen for audible indication that the lock pin is engaged correctly
4. secure knob #47 by turning it entirely towards "F".

## ALIGNMENT PROCEDURE:

Assuming that the camera is in zero position:

1. position your alignment tool in such a manner that you can align the baseboard to the negative stage.
2. Correct alignment either by shimming the baseboard or by using the four preinstalled alignment screws (Alignment screws only appear on units delivered by durst-pro-usa or WORLD IMAGES INC. You will have to remove the lens holder to carry out this operation.

Assuming that the baseboard is correctly aligned to the negative stage the next step will be to align the lens stage to the negative stage.

This sequence is very important.

However, you can also choose to align the lens stage to the base board since some alignment tools are very hard to work with when aligning lens stage to negative stage.

Unfortunately the lens stage on a Durst L184 can only be corrected for alignment in one direction – that is the Left-right direction when standing in front of the enlarger.

Before you adjust this direction make sure that the lens stage is not sagging with the front edge. If sagging make sure that bolt # 53 (Service manual picture 13) is secure as possible and still allowing the lens stage to tilt and engage in zero position.

If further alignment adjustment of the lens stage is necessary we recommend using the professional PROLA lens board which has alignment adjustment possibilities built in.

## CENTERING:

It is also important that the lens is centered correctly under the negative holder.

Prepare a piece of clear film with a ruler from corner to corner. It is recommended to use a piece of film the size of the largest format that the enlarger (Negative holder) will accept.

Position the film in the negative holder with the rulers positioned in such a manner that the cross is exactly in the middle of the negative holder.

Project this piece of film with a lens to short for the format, say a 150mm lens for a 10x10" negative holder, make sure that the lens coverage show the same number on the ruler in all four corners.

