

# WELCOME.

DURST-PRO-USA INC. specialize in supporting the CLASSIC PHOTOGRAPHIC ART COMMUNITY, photo-schools, workshops, discriminating Fine Art Photographers and Fine Art Printers demanding extreme print quality, high efficiency and quality of life in their darkroom.

DURST-PRO-USA supply NEW, re-manufactured\* and custom build enlargers for 5x7", 8x10" (10x10"), 11x14" and 12x16" for printing in both BW and Color.

Through our mother company DURST-PRO-USA INC.. – PORTLAND we serve some of the finest commercial labs in the country with good old fashioned customer centered service, and machinery of world standard.

# IMAGINE!



DURST-PRO-USA, INC.  
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503 846 1492

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**durst**

EXCLUSIVE AGENT FOR LARGE FORMAT OPTICAL ENLARGERS

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- ✓ A PAPER ABOUT LENSES AND THEIR USE. (TO FOLLOW)
- ✓ A STUDY OF DIFFERENT MANUFACTURES LIGHT HEADS, THEIR OUTPUT AND EVENNESS: (TO FOLLOW)
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## **DURST-PRO-USA offer several different types of enlargers;**

- 1) **ENLARGERS FOR PRINTING FORMATS UP TO 5X7” IN BW AND COLOR.**
  - A. DURST 138S
  - B. DURST 139G
  - C. DURST 183S
  - D. DURST 1300
  
- 2) **ENLARGERS FOR PRINTING FORMATS UP TO 10x10” IN BW AND COLOR.**

We have a host of possibilities in 8x10” and 10x10”. They are difficult to group in a logic manner because of the many possible combinations of chassis, heads, accessories, functions and formats.

This is a rough grouping:

- A. MANUAL VERTICAL CHASSIS**

DURST L184, NEW AND RE-MANUFACTURED.
- B. MOTORIZED VERTICAL CHASSIS (Incl. Auto focus and Auto size.)**

DURST L1840, RE-MANUFACTURED  
DURST L1800, RE-MANUFACTURED  
DURST L2300, NEW AND REMANUFACTURED  
DURST L2400, REMANUFACTURED  
HK2000  
OTHER BRANDS – USED AND RE-MANUFACTURED
- C. MOTORIZED HORIZONTAL CHASSIS, ( Incl. Auto focus / Auto Size)**

DURST L2500, RE-MANUFACTURED  
DURST L2501 , USED AND RE-MANUFACTURED  
DURST L2506, NEW, USED AND RE-MANUFACTURED.

Common for the groups 1 and 2 are that all models share most accessories, negative holders, lens boards and color heads.

**PLEASE REQUEST OUR ENLARGER SELECTION GUIDE FOR A MORE DETAILED DESCRIPTION OF POSSIBILITIES.**

- 3) **ENLARGERS FOR ENLARGING 11x14” , 12x16” AND 20X24” NEGATIVES AND TRANSPARENCIES IN BW AND COLOR**

We have a limited number possibilities, both HORIZONTAL and VERTICAL in these two formats. These units are most often custom built on request. **Please request special information.**

**ALTHOUGH OUR RE-MANUFACTURED EQUIPMENT LOOK AND WORK LIKE NEW, IT IS BASED ON USED MACHINES. PRICES AND AVAILABILITY THEREFORE TEND TO CHANGE – PLEASE REQUEST A PERSONALIZED QUOTE – WE WANT YOUR BUSINESS AND STRIVE TO STAY COMPETITIVE.**

## **QUALITY OF LIFE – PROFIT ON YOUR ART.**

Whether you are a commercial lab or a fine Art Photographer **YOU** know that **YOUR** time is too valuable to waste on technical issues. Your time is too valuable not to be able to concentrate on the creative process of printing.

Many photographers struggle with old and obsolete equipment. With sheer “mind power” and concentration they manage to produce wonderful prints by overcoming the restrictions of their equipment.

**IMAGINE** what **YOU** could obtain by being able to concentrate solely on your **IMAGE**.

**IMAGINE** what it would free of artistic energy if you were able to produce just two more prints per print session. And then think “Twice as many” and see what that will do to your daily work, and the quality of your life.

**IMAGINE** how much further you could get in a year by using the right tool !.

When you buy an enlarger from DURST-PRO-USA Inc.. / DURST-PRO-USA it is delivered assembled and adjusted with a **5-year WARRANTY** - ready for use – just lift it in to your darkroom and start printing. There will be no need for expensive hidden repairs and no need to scavenge for weeks for missing parts.

And it is efficient; it delivers even light, fast exposure times, easy operation and precise focus and alignment. (Alignment is a largely overseen issue, see a discussion under lenses later in this paper.)

We at DURST-PRO-USA will be no further away than the nearest phone – ready to answer your technical questions – free of charge as long as you desire before AND after the sale.

### **Our 10 steps to Lasting Satisfaction :**

1. Lifetime warranty on chassis
2. 5-year warranty on Color Dichro heads and accessories.
3. 8 days of unrestricted right of return
4. We guarantee - Our machines look and function like new
5. We guarantee - No repairs necessary, all mechanical functions are brought to factory standard and adjusted.
6. We guarantee the possibility to align all stages on the enlarger.
7. We guarantee that no parts will be missing.
8. We guarantee - No cleaning necessary
9. Delivered well packaged and ready to use in plywood crate.
10. FREE telephone support before and after the sale (some restrictions apply.)

**All our equipment is MINT or better. It will look and function like NEW.**

## SERVICE AND SUPPORT

We are **PROUD** to announce that we now have a **Durst trained and authorized technician on staff**. Mr. Svenson has more than 20 years experience with Durst, HK and Devere enlargers. He has installed more Durst enlargers than any other independent technician.

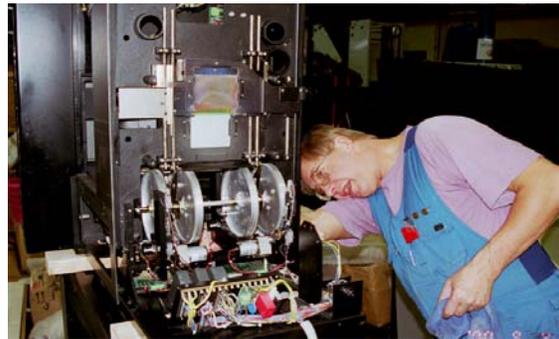
We are committed to optical equipment and plan on make that our business for the next generation – if you want us to!.

Whether you are a professional lab or a fine Art Photographer we know that you will appreciate our service because your time is too valuable to fiddle around with technical issues. You need to concentrate on **YOUR ART** or production.

If you want to get the maximum out of your equipment you need to maintain it – that is true whether it is your car or your enlarger.

A well maintained enlarger works faster than any digital printer and it is capable of producing higher quality – if you use it right.

Ask us for advice – we are here for you.



CALL US at work

Technical Manager S.Svensson      503 846 9861  
Sales Manager Jens J. Jensen      503 846 1492

We are available from 7am to 7pm – 7 days a week. Call us when you need us – don't worry - we know you work at night and in the weekends – be happy – we are if you call US.

# durst

**DURST-PRO-USA is AGENT FOR DURST  
LARGE FORMAT OPTICAL ENLARGERS  
FOR NORTH AMERICA.**

We service and supply all formats 5x7" and larger.

## **EQUIPMENT LEASING**

We offer 24, 36, 48 or 60 month leasing on all equipment.

Consider lease financing for your next equipment acquisition. Rates are often competitive with bank loans and have added tax write-off advantages.

Terms range from 2 to 5 years and can be tailored to your cash flow.

Our leasing partner is a local family owned company. Mr. Becket and his wife are very kind and gentle people, not pushy at all and most importantly – they can be trusted. They both feet on the ground and are willing to work with you until you find a solution that suit you needs.

**GET PRE-APPROVED.** Call Allied Pacific leasing and get pre-approved for the amount you want to spend – even **BEFORE** you decide on the actual equipment. When pre-approved you are able to shop with peace of mind and to negotiate the right price with us.

Multiply the dollar amount you want to invest in the equipment by 0.02697 and you will have a fairly accurate monthly leasing rate for a period of 48months. Or Visit the Allied website for additional information and downloadable forms.

Quotations are always available at no-cost or obligation.

After the leasing period is finished the equipment can be purchased to own for one dollar.

**CALL – ALLIED PACIFIC LEASING TODAY – (toll-free) 1 888 745 9481.**

**EMAIL – ALLIED PACIFIC LEASING – [ken@alliedpacific.net](mailto:ken@alliedpacific.net).**

**[www.alliedpacific.net](http://www.alliedpacific.net)**

## RE-MANUFACTURING PROCESS.

Our re-manufacturing process is the best in the business.

When we re-manufacture an enlarger or a processor we cut right to the bone. And we are not timid about it.

We take the machine completely apart. We clean and sandblast every single piece. We powder coat and re-assemble with all new parts where necessary. Re-assembly is done by expert technicians, who know the machines in and out. Finally they are adjusted to factory tolerances. There are more than 200 man-hours in an enlarger.

All moving parts are replaced, wheels, gears ball bearings etc. are all replaced with new. New bellows are a matter of course. Chromed parts are polished and re-chromed. All pumps are replaced. Electronics are replaced with the latest state of the art electronics.



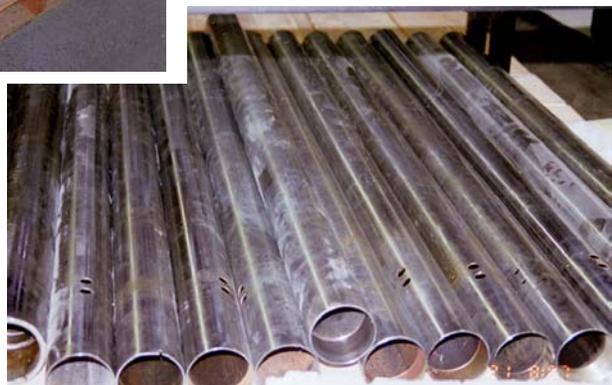
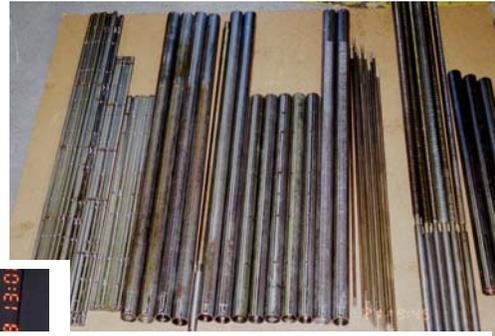
Enlarger camera Parts.

Durst L184 bases Ready for powder Coating.



A load is leaving for powder coating

Chromed parts before stripping, polishing and re-chroming



Finished enlargers:

DURST L139G w/CLS300



DURST 2400 W/ DIGITAL LIGHT 2000



DeVERE CHASSIS w/ DL7000 SUPRA and DURST LENS SYSTEM

THE MOST ADVANCED  
CONDENSER SYSTEM



## A note on printing BW with a Color Dichro Head:

Even if you are printing strictly BW you may consider using a Color Dichro head. When printing on Variable Contrast papers a Color Dichro head can be a great advantage due to the availability of step-less adjustable filtration.

Kodak, Ilford, Agfa, Seagull and others have issued tables that directly translates Magenta and Yellow filtration combinations into their VC paper grades.

If you use a paper-brand with no published filter combination chart you can use the Ilford charts as a starting point for establishing your own chart.

Filter Settings		DUAL FILTER METHOD			
MULTIGRADE Filters	Durst (Max. 130M)	Durst (Max. 170M)	Kodak		
00	120Y 0M	115Y 0M	162Y	0M	
0	88Y 6M	100Y 5M	90Y	0M	
½	78Y 8M	88Y 7M	78Y	5M	
1	64Y 12M	75Y 10M	68Y	10M	
1½	53Y 17M	65Y 15M	49Y	23M	
2	45Y 24M	52Y 20M	41Y	32M	
2½	35Y 31M	42Y 28M	32Y	42M	
3	24Y 42M	34Y 45M	23Y	56M	
3½	17Y 53M	27Y 60M	15Y	75M	
4	10Y 69M	17Y 76M	6Y	102M	
4½	6Y 89M	10Y 105M	0Y	150M	
5	0Y 130M	0Y 170M*	—	—	

SOURCE: ILFORD.COM

Filter Settings		SINGLE FILTER METHOD		
ILFORD MULTIGRADE Filters	Durst (Max. 130M)	Durst (Max. 170M)	Kodak	Exposure Factor For Heads
00	120Y	150Y	199Y	2.5
0	70Y	90Y	90Y	2.3
½	50Y	70Y	70Y	2.1
1	40Y	55Y	50Y	1.7
1½	25Y	30Y	30Y	1.4
2	0	0	0	0
2½	10M	20M	5M	1.2
3	30M	45M	25M	1.3
3½	50M	65M	50M	1.6
4	75M	100M	80M	2.0
4½	120M	140M	140M	2.4
5	130M	170M*	199M	2.6

\*Some enlargers in this group have a maximum magenta setting higher or lower than 170M. For these enlargers, set the highest possible magenta value as an approximate equivalent to filter 5.

With the automatic CLOSED LOOP DIGITAL LIGHT Color Dichro heads the tables are not necessary. DIGITAL LIGHT Color Dichro heads has Pre-programmed BW Variable Contrast grade settings built into the electronics. You can choose any VC setting, between grade 0 and grade 5 in increments of 0.1grade.

Using a Color Dichro head for BW can in many cases be a great benefit.

- ✓ Using a Color Dichro head allow you to change filtration in mid exposure without any mechanical problems, such as opening filter trays, light head doors etc. Unwanted mechanical movement can thus be avoided.
- ✓ Even a manual Color Dichro head allow you to chose your VC filter grades in increments of 0.1, that is you can choose grade 3,5 or 3,6 or 3,7 and so on IF you establish your own chart.
- ✓ If you occasionally have a very hard negative that would require a cold light source – then it is possible to dial inn the cold light equivalent setting and you are ready to print.
- ✓ Most Color Dichro heads have more light, and a more even light, than any existing Cold light or Collimated light systems.
- ✓ A Closed Loop Color Dichro head or SEMI closed loop will automatically calculate the difference in light output associated with the different filter grades – this makes “split filtration” very easy to manage.

## What is Closed Loop and SEMI Closed loop light systems?

**CLOSED LOOP** is an advanced color (light) metering process. The electronics controlling a Closed Loop Light Head record the actual color of the light in the mixing box. It automatically maintain the requested light level and color by compensating for any fluctuations in line power, lamp, filters etc. Compensation is obtained by adjusting filter position and voltage feed to the lamp(s) in the Light-head. A Closed Loop Light head also compensate for all changes DURING an actual exposure. What does this mean in practice? 1) It enables the operator to accurate repeat a given filter pack. Let us assume that you printed a negative last week with a “filter pack” of 20M and 70Y at an exposure time of 10 sec. When you want to print the same negative again, a week later, a month later or a year later and therefore you ask for that particular “filter pack” (you may even have it stored in a print channel) you are guaranteed that the paper will receive the exact same amount of light with the exact same Colour quality as it did last time you asked for that particular “filter pack”

Also, if you print large series of prints at one time you are always guaranteed that each print receives the exact same exposure each time you push the expose button.

With a manual head, where you set the filtration on mechanical dials, you very rarely are able to set the dials precisely the same from time to time, and even if you are able to repeat a given setting the quality/quantity of light may still differ due to the lamp getting older, variations in power etc.

Closed loop heads are keyboard controlled. They do not have mechanical dials. Instead of the operator physically operating a mechanical dial, motors react to keyboard instructions.

A DIGITAL LIGHT heads react to changes within 1/1000 of a second. Durst and DIGITAL LIGHT CLOSED LOOP heads have a minimum accuracy of +/- 0.1 f-stop in Density and of +/- 1 CC color.

CLOSED LOOP has a host of programmable channels, making it possible to store not only paper values but also individual print information. Closed loop light heads incorporate built-in digital timers.

*In short – a CLOSED LOOP system reports the actual color (filter value) of the light in use and maintain it at all times, when lamps are on, with motor controlled filters and electronically controlled power supply.*

**SEMI CLOSED LOOP** is in all counts the same as described above. The difference between CLOSED LOOP and SEMI CLOSED LOOP; On a SEMI Closed loop system the operator has to dial in the desired filtration on a set of mechanical dials. The computer (Electronic measuring sensor) measures the exact quality of the light in use and report the measured result on a screen. The SEMI CLOSED system will NOT automatically maintain a certain filter setting – HOWEVER – it will display the ACTUAL color of the light and as such make a given setting repeatable with a tolerance of +/- 1 CC. Some

systems will alert you with sound warning if the measured light drifts outside preset tolerances.

You can not store print data in a SEMI CLOSED LOOP System and the timers are not incorporated into the electronics.

**A MANUAL DICHRO HEAD** indicate the amount of filtration via a mechanical scale. There are no correction for fluctuations in power supply, no correction for change in lamp temperature or any other arbitrary. A manual head does NOT show the actual color of the light in use. The scale on a manual head indicates a mechanical position of the color filter in relation to the lamp.

**A manual Color Dichro head is in most cases more than enough for BW printing as hobby or for small print series, and for small printing needs in color.**

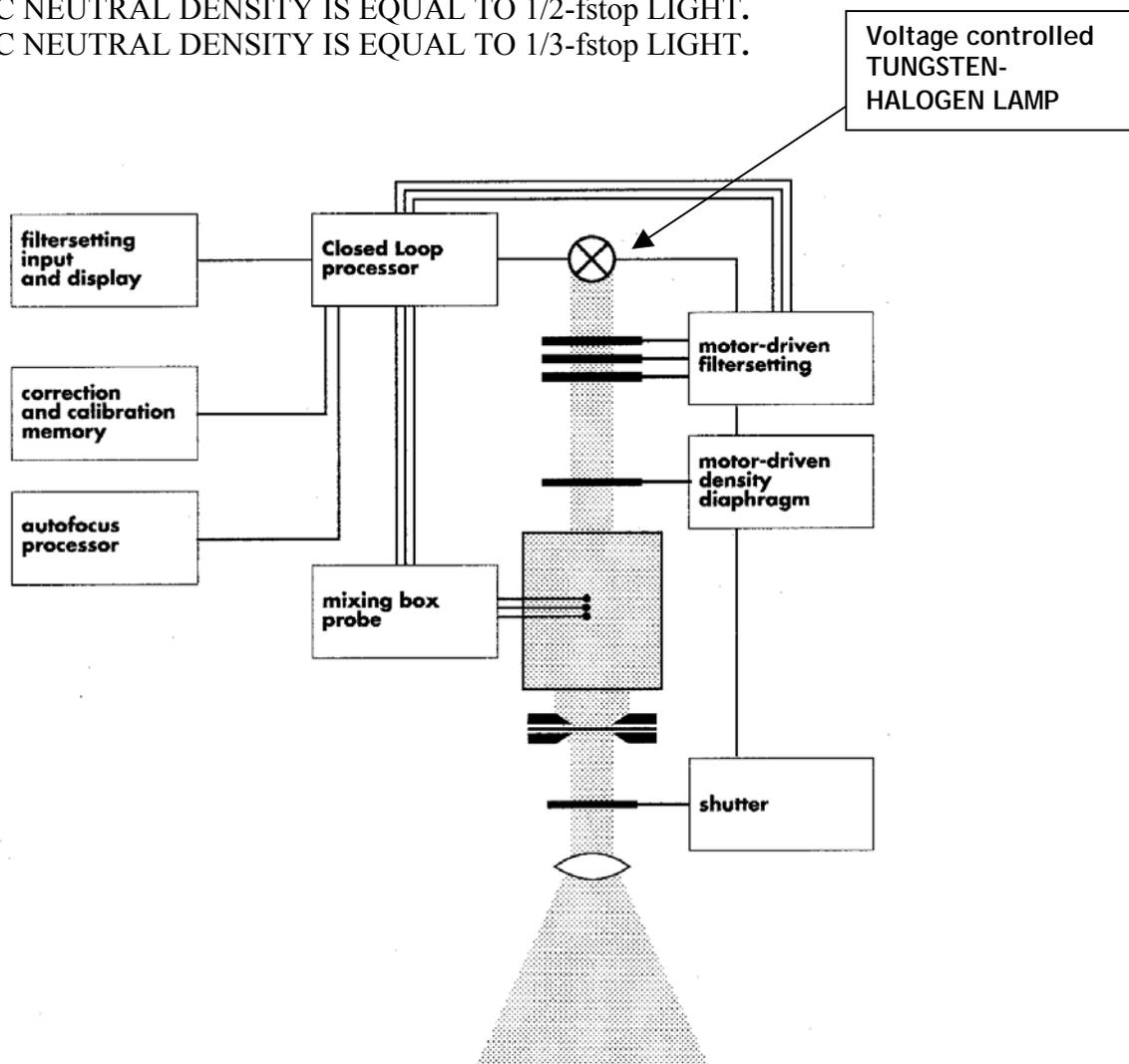
For the demanding Fine Art Printer who produces large series it is rarely efficient enough.

### NEUTRAL DENSITY:

30CC NEUTRAL DENSITY IS EQUAL TO 1-fstop LIGHT.

15CC NEUTRAL DENSITY IS EQUAL TO 1/2-fstop LIGHT.

10CC NEUTRAL DENSITY IS EQUAL TO 1/3-fstop LIGHT.



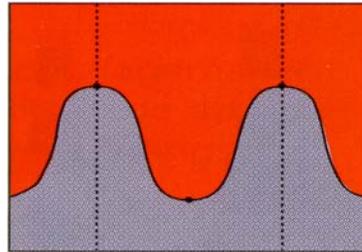
## A note on quality of light:

The light traveling through the negative or transparency in an enlarger, and thus via a lens forming an image, can be delivered to the photographic emulsion (paper) in many different “forms”.

The term “forms” embraces such subjects as the directional quality, the spectral properties and the amount of light.

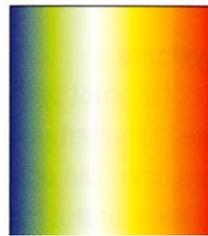
In order to enable our selves to understand how light works, in photography and especially in enlarging, we have to break down the information we have about “light”, into small bits.

Light is a visible electromagnetic ray with a certain wavelength,  $\lambda$ , and frequency,  $V$ . The relation between frequency and wavelength is expressed mathematically as  $C = \lambda \cdot V$ , where “C” is the light speed (in a vacuum it is  $2,998 \cdot 10^8$  m/sec)



Radiation in the visible spectrum is expressed in “nm” (nanometer=  $10^{-9}$  meters)

Of all the wavelengths the human eye can only perceive a narrow band (spectrum) from 380nm to 780nm. The eye is most sensitive in the middle of the spectrum, sensitivity peaks around 500nm.



For wavelengths immediately over and under the human perception we use the terms infrared (IR) and ultraviolet (UV) radiation.

High values of Colour temperature – over 3000K – belong to the blue end of the spectrum and low values belong to the red end of the spectrum. We normally associate the colour blue with “cold”. Oddly enough when talking about light “blue” is warmer (hotter) than the red light – “Red” being the colour we normally associate with warm.

In the same manner as a human being photographic materials are able to perceive different spectrums of light. And they may also have peaks inside the spectrum they are able to perceive.

Films, BW papers, Type C Color papers and Ilfocrome papers are all sensitive to visible light. The specific sensitivity differs from material to material. Some materials are more sensitive to one color than to another which would be the same as saying that; their sensitivity peak at different places within the spectrum they are sensitive to. This is how the manufacturer controls the physical properties of their paper, contrast, color etc.

In addition to being sensitive to visible light most materials are also sensitive to UV and IR radiation. The specific sensitivity to these wavelengths differ from material to

material. Because they are sensitive to the same spectrum as the human eye they must be handled in total darkness, or under safelight designed for the material in question.

Most color papers are fairly sensitive to UV and manufacturers of advanced Color heads use heat filters that restrict both UV and IR light waves in reaching the paper during exposure. IR radiation is also known as “heat rays”.

The sensitivity curve on the right is an example of Kodak of Type C paper sensitivity. From this example it is obvious that this particular paper is sensitive in the visible spectrum, it is sensitive from 390nm to 750nm. It is also clear that it is not equally sensitive throughout the spectrum, it is more sensitive to blue light than to red light.

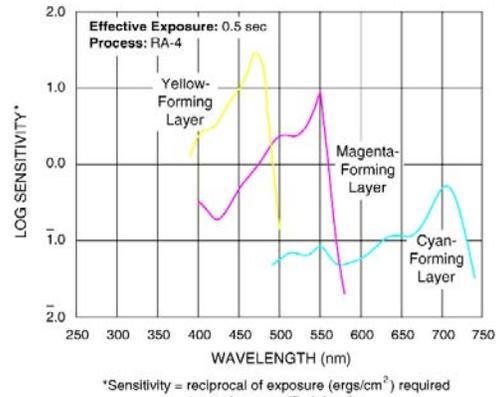
The sensitivity curves below are for Ilford MULTI GRADE fiber-base paper and for ILFOCHROME (CIBACHROME) paper .

IMAGINE the spectral sensitivity curves for a photographic paper super imposed on top of one of the spectral emission curves for lamps, shown below, and you will start to understand why certain lamp types does not work with certain papers (photographic emulsions) and also why certain types of safelight does not harm certain papers.

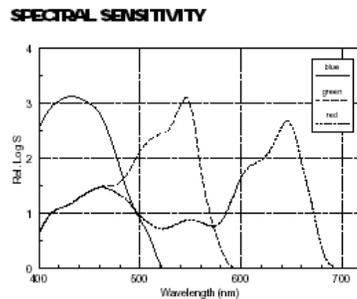
Our eyes and photographic emulsions are sensitive to different spectrums of light. Lamps of different kinds emit energy (light) with different spectrums. Some lamps have peaks in their spectrum.

Daylight and incandescent lamps and tungsten-halogen lamps emit a **continuous spectrum** – the spectral efficiency curve is unbroken = without peaks. Both incandescent lamps and tungsten-halogen lamps produce the major part of their radiation (emission) in the “red” (IR) end of the spectrum. As a matter of fact only 8-9% of the total energy used by a tungsten-halogen lamp is transformed into visible light. More than 80% is turned into heat (IR) and the rest is either lost in the process or emitted as UV. UV emission from an incandescent or tungsten-halogen lamp is normally below 2%.

KODAK PROFESSIONAL SUPRA III Paper Spectral-Sensitivity Curves



Spectral sensitivity curve for Ilford VC Fiberbase paper



Spectral sensitivity curve for Ilford II FOCROME

This explains in particular the necessity for heat filters but also for UV filters in enlarger heads.

Fluorescent lamps and metal-halogen lamps have broken sensitivity curves – that is; they emit some light in the entire visible spectrum but the major of their emission are in narrow bands. See examples on your right.

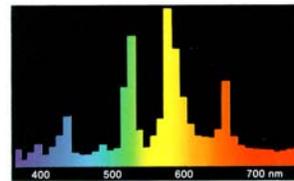
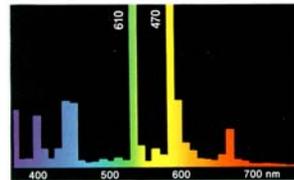
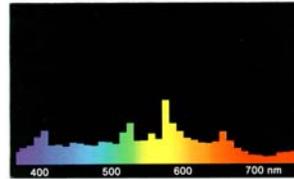
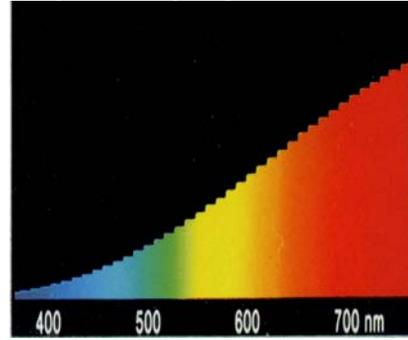
By examining the emission curves for fluorescent lamps and the spectral sensitivity curve for the Ilford Fiber base paper- above – you will find an explanation as to why some printers have run into problems with their “cold-light heads” when using BW-VC paper. Maybe you have tried to photograph on color film under fluorescent “**daylight**” type lamps and have been surprised to find your transparencies with a strong cyan/green color cast. This is caused by the fluorescent lamps having a spectral emission different from what is understood by the film as “daylight”. Which essentially is the exact same problem printers run into with certain types of “coldlight heads”.

The spectral sensitivity for ILFORD Fiber Base paper is very high even below the visible spectrum (380nm) and maintain that sensitivity up to 525nm where it drops of drastically and basically it is not sensitive at all above 550nm. If the neon tube in a given coldlight head had the same spectral sensitivity curve as our tube “B” it would be almost impossible to get an exposure on the paper because tube “B” peaks above right at and above 550nm. And has very little emission, apart from UV, in the spectrum where the paper is sensitive.

As a matter of fact all three tubes would be poor for Ilfords paper which is obviously designed for Tungsten or Tungsten-Halogen light.

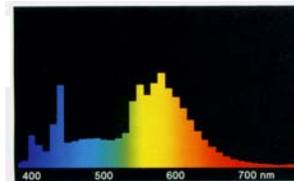
Of the three fluorescent lamps “B” would be the tube best suited for platinum printing and

Tungsten-Halogen spectral emission curve.

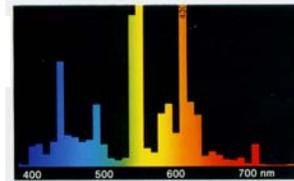


METAL HALOGEN LAMPS use Ne (Neon) inert gas which is the same gas as used in neon tubes.  
3000K  
4500K  
5500K

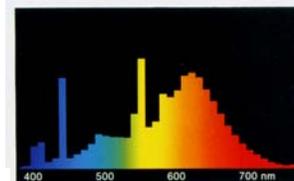
A.



B.



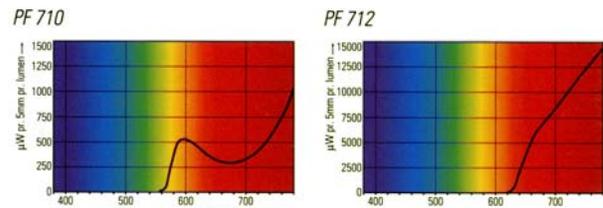
C.



SPECTRAL EMISSION CURVES FOR FLUORESCENT TUBES / NEON TUBES. Although all three will look the same to the eye they certainly differ in emission.  
3200K  
4000K  
2700K

other UV printing due to the very high emission in the UV area.

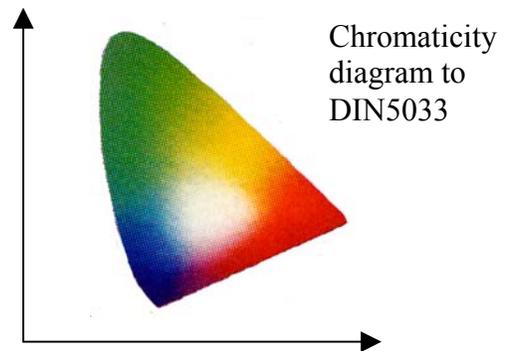
As you will see from the spectral emission curve for a Phillips safelight lamp it's emission has been modified to cover an area above 600nm. An the emission in the 600nm area is at its lowest with most emission in the area around 700nm where (Ilford) photographic paper is least sensitive and the human eye still able to perceive the emission.



Emission curve for Phillips darkroom lamp PF710 and PF712.

The color of light is expressed as “The color temperature” and it is measured in Kelvin (K). Degree Kelvin is an absolute temperature scale contrary to Degree Celsius.  $T_K = T_C + 273$ .

The colour of light = colour temperature can be described very precisely with a set of coordinates (X,Y), in a diagram called a “Chromaticity diagram”. This diagram is internationally recognized and is becoming more popular in photography and repro-photography, scanning etc. as a universal standard.



It is important to understand that two light sources can have the same colour temperature but at the same time completely different spectral effect distribution. This is obvious when comparing the spectral emission curves for Fluorescent lamp, with a colour temperature of 3200K, to a Halogen lamp with the same colour temperature.

Like sound waves, light waves can be manipulated, modified and transformed into forms needed for a given purpose, in this case printing with an enlarger.

We can mix light. The light beam from two light sources – two bulbs - each with different spectral emission characteristics can be mixed to form a third “light source” with a spectral emission curve different from the two “source” lamps.

We can also modify a light source by filtering. **IMAGINE** a sheet of green fabric as a crude filter. If this “filter” is inserted into a beam of light, the light on the “beam side” of the fabric will have different characteristics (colour) than the light that penetrated the fabric/filter.

One thing we cannot do – we cannot add to a light source where nothing exists to be added. We cannot add a dye, if we want to obtain light in a colour different from that of a given light source. No such dye exists for practical use. (Light experts will argue that the

light emitted from neon tubes are dependent on powder (dye) that can be mixed to create different spectral emission curves for a given tube.)

The only way we can change the “colour” of an existing light source, **by adding** to this given light source, would be to **add** emission from a lamp emitting the spectrum/colour that we would be trying to obtain. And even then we would still end up with a “colour” different from the “colour” of both our “source” lamps because our new light source would be a mix of the two source lamps. To predict a certain outcome from combining two light sources would be a very time consuming and highly theoretical calculation.

The only practical way to change the colour of an existing light source, in a predictable manner, is to manipulate the light with a filter. A “filter” is whatever will give you the result that you are trying to obtain. It can be anything from a coloured fabric, to a very advanced piece of glass with properties that can alter the light in question.

Most light sources are considered “white-light-sources”. A “white-light” light source is a light source emitting a spectrum (mixture of) light that the eye perceives as balanced – neutral. White light consists of a mixture of red, green and blue light waves. We have to remove a section of the total spectrum in order to create the colour-spectrum we want, if only one light source is available for the purpose.

If we manipulate our light beam by introducing Red, Green and Blue **cut-off** filters in the light beam we would be using the so called **Additive filter System**.

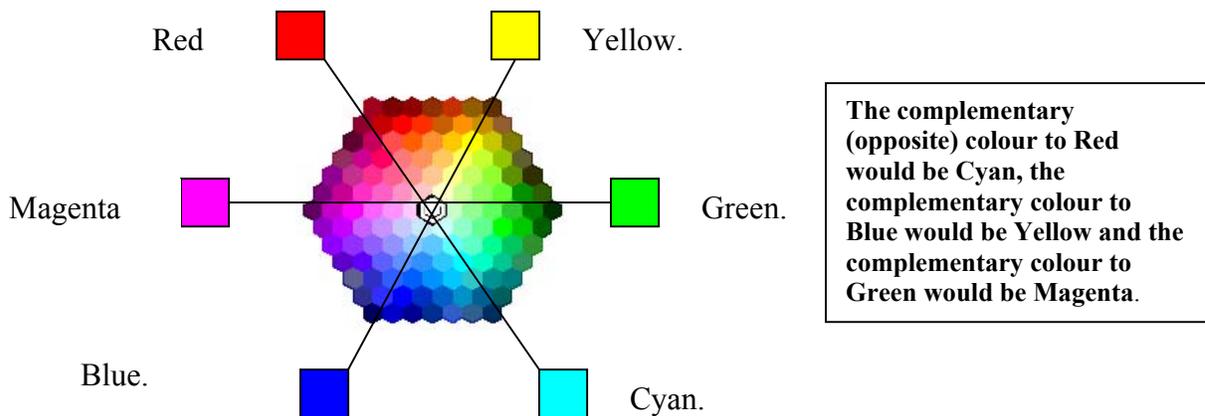


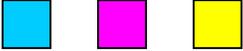
If we remove the yellow portion of a “white light” beam, by introducing a blue additive filter in the light beam, the resulting colour left would be Blue = Magenta + Cyan.

If we remove the magenta portion of the “white light”, by introducing a Green additive cut-off filter in the light beam we are left with Green = Yellow + Cyan.

If we remove the Cyan portion of the “white light”, by introducing a Red additive cut-off filter in the light beam, we are left with Red = Magenta + Yellow.

If we stack a Red, a Green and a Blue additive cut-off filter on top of each other we would in theory block out all light. (In reality some light still leaks through.)



If we manipulate a light beam by introducing Cyan, Magenta or Yellow **cut-off** filters in the light beam we would be using the **Subtractive filter System**. 

If we remove the Red portion of a “white light” beam, by introducing a Cyan Dichroic Filter in the light beam, the resulting colour left would be Cyan = Green + Blue. .

If we remove the Green portion of the “white light”, by introducing a Magenta Dichroic Filter in the light beam, we are left with Magenta = Red + Blue.

If we remove the Blue portion of the “white light”, by introducing a Yellow Dichroic Filter in the light beam, we are left with Yellow = Red + Green.

Contrary to common belief we also block out light if we stack a Cyan, a Magenta and a Yellow cut-off filter on top of each other. If we introduce equal amounts of Cyan, Magenta and Yellow we block off light in an amount equal to the numerical value of one of the three colours. Ex. If we introduce 30cc Cyan, 30cc Magenta and 30cc Yellow into a light beam we will block out 50% of the available light, because 30cc of each of the three colours together make up 30cc ND – which in photographic terms are equal to one f-stop.

#### **NEUTRAL DENSITY:**

60cc NEUTRAL DENSITY IS EQUAL TO 2-fstop' LIGHT.

30cc NEUTRAL DENSITY IS EQUAL TO 1-fstop LIGHT.

15cc NEUTRAL DENSITY IS EQUAL TO 1/2-fstop LIGHT.

10cc NEUTRAL DENSITY IS EQUAL TO 1/3-fstop LIGHT.

All of the above basic knowledge for all colour printers.

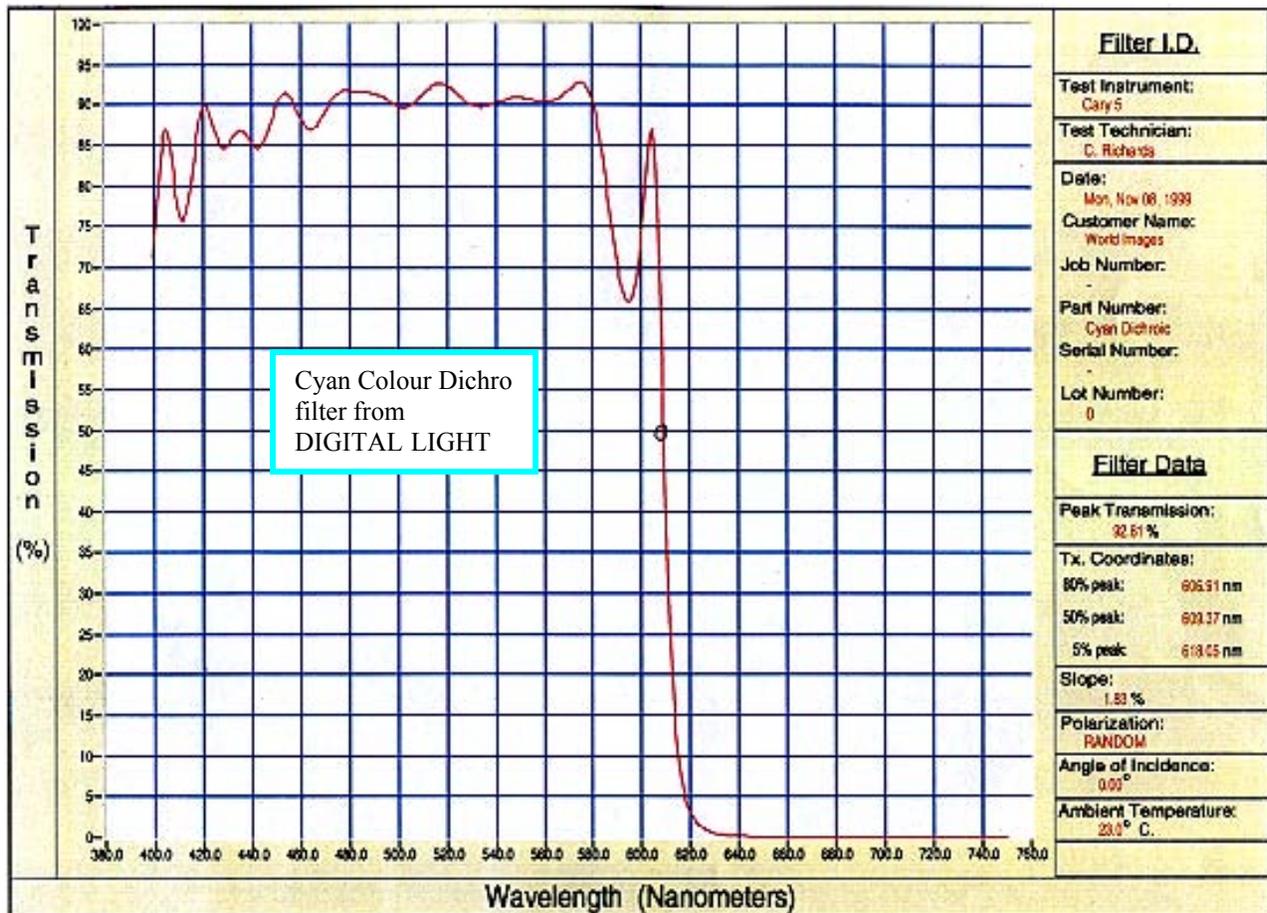
After having been through the study of Spectral sensitivity Curves and lamp spectral emission curves we will immediately understand the transmission curves on the next page.

Those are the **actual transmission curves** for the three Subtractive filters (Cyan, Magenta and Yellow) from a DURST- DIGITAL LIGHT Colour Dichro head.

Take a look at the curve for the Cyan filter. It blocks light above 620nm, which is the red spectrum and thus it creates a Cyan light source.

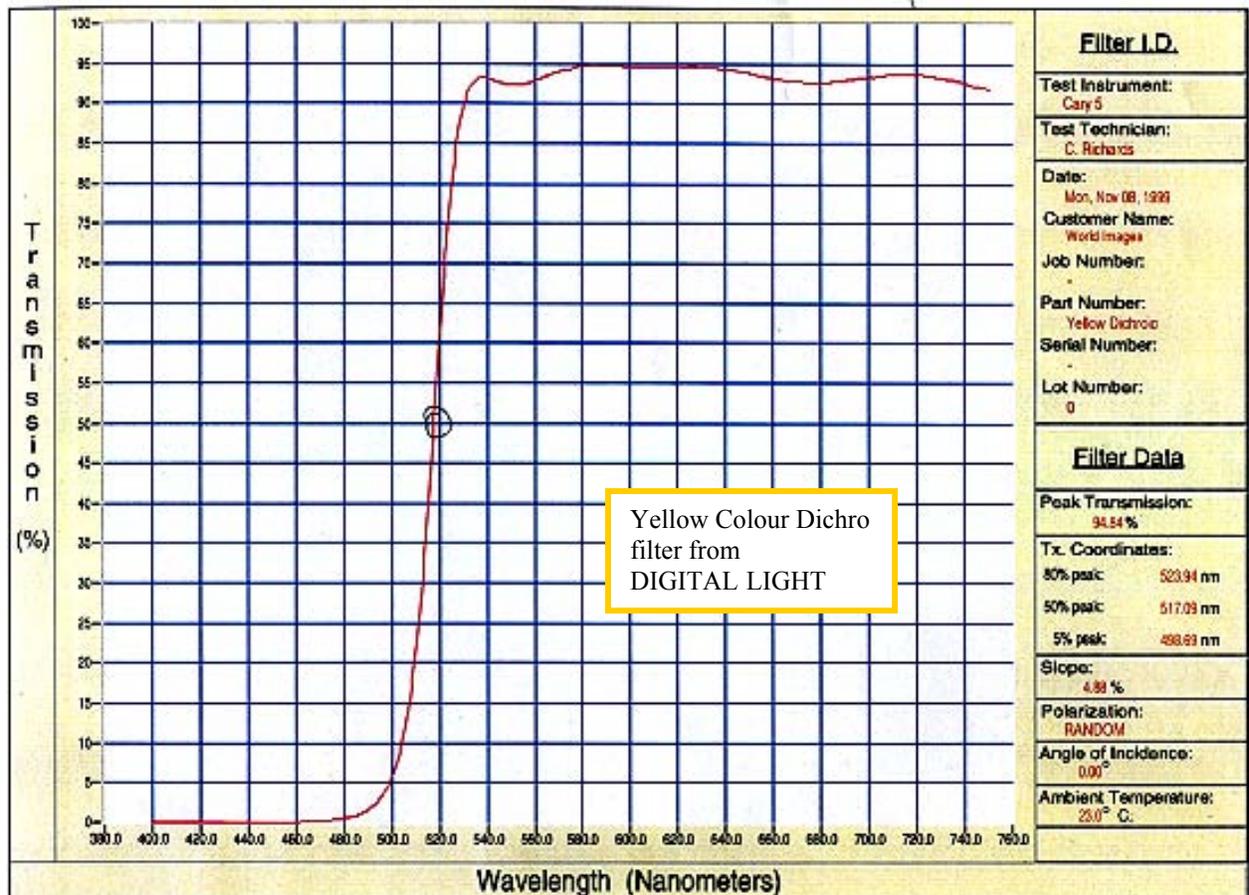
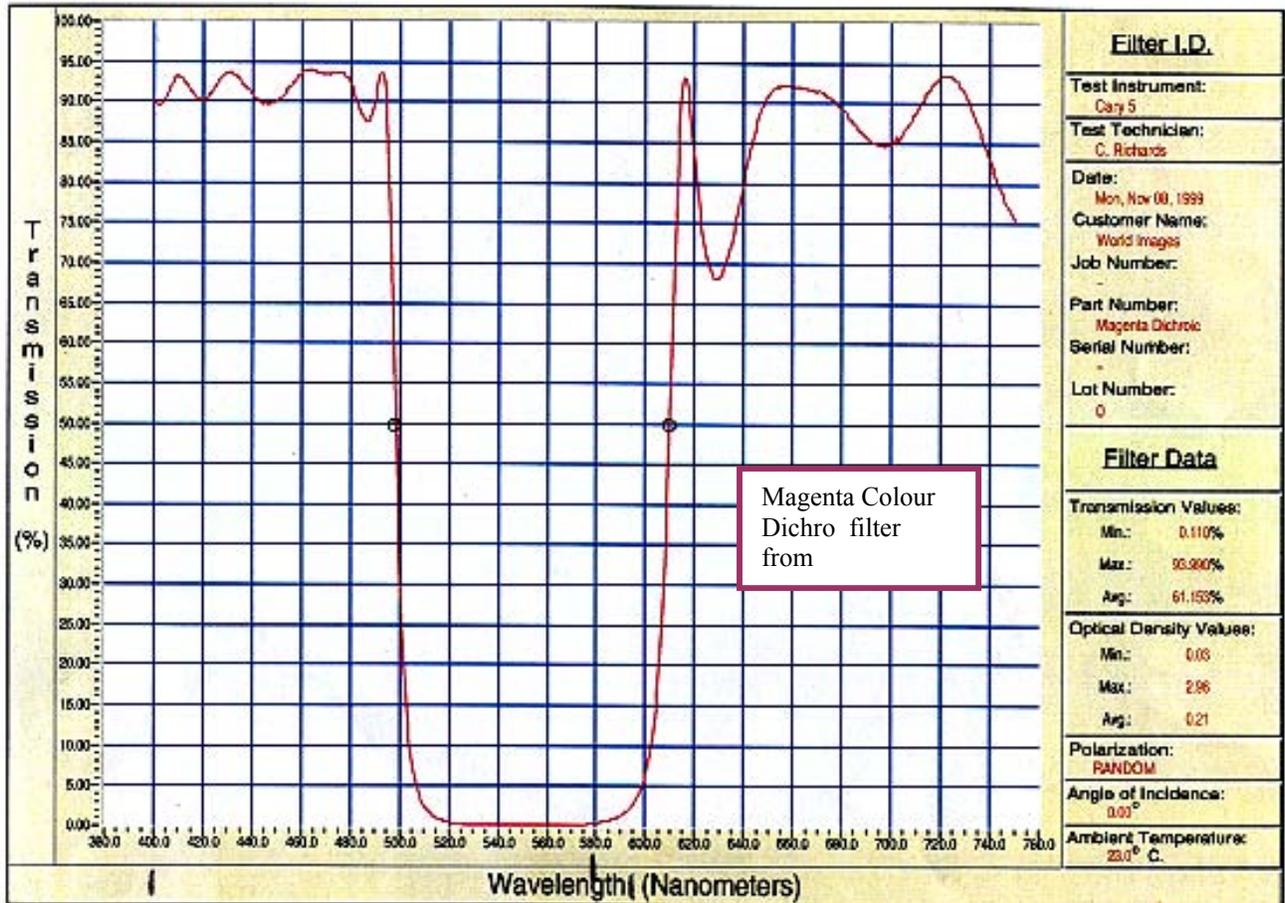
The Magenta and Yellow cut-off Dichroic filters work in the same manner. The Magenta Dichro filter blocks the spectrum from approx. 400nm to approx 620nm. And in that manner it creates a Magenta “light source” by transmitting the red and the blue portion of the spectrum. The Yellow Dichro filter blocks everything below 520nm which is the blue end of the spectrum and creates a Yellow light source.

Just as we could remove one of the three primary colours, Red, Green and Blue we could also have removed one of the three secondary colours, Cyan, Magenta and Yellow by us inserting a combination of two of the subtractive filters simultaneously. If we insert equal amounts of Magenta and Yellow Dichro filters into a light beam we will create a red light because we block out everything above the red spectrum.



A more detailed study of the spectral properties of Dichro Filters show that, by using a “Color Dichro Head”, with a set of Subtractive filters, we are in fact able to create a light source with a characteristics that will suit almost any photographic emulsion. Due to the low UV emission a Modern Color Dichro Light-head is obviously not well suited for those emulsions sensitive mainly to UV radiation.

It can also be argued that a “Color Dichro Head” is not able to imitate a neon tube (“Cold-light-head”). That is of course true when talking about the high UV radiation emitted by most neon tubes, but it is in fact possible to create a “filterpack”, with a Color Dichro head, that will create a light source with an emissions VERY similar to the emission of the type of neon tubes / fluorescent tubes used in so called “Cold-light-heads”.



After having examined the physical properties of light – colour and spectral emission – we can finalize this study by examining the quantitative properties of light.

Most people naturally understand that we can concentrate and focus light in a beam – and they use it daily without thinking about it, placing a lamp shade on a regular household lamp is in fact a manipulation of light rays. The light ray emitted from the lamp bulb is concentrated, diffused and filtered all at once by placing a lampshade over it. Concentrating a light source can be very power full. Just think of the experiment we all made in school with a magnifying glass, the sun and a piece of paper.

We can also bend light rays. With a mirror we can make light rays bend around a corner. When you see your self in the mirror it is in fact proof that light rays can bend by using a shiny (reflective – mirror) surface. The light rays reflected off you face hits the mirror and is reflected back to your eyes.

Both concentration and reflection is used heavily in modern light sources for enlargers. The light is bounced off mirrors and reflectors with different properties creating a light source that is either concentrated or spread out. How this works exactly is explained in detail in a chapter under DURST & DIGITAL LIGHT Color Dichro Heads.

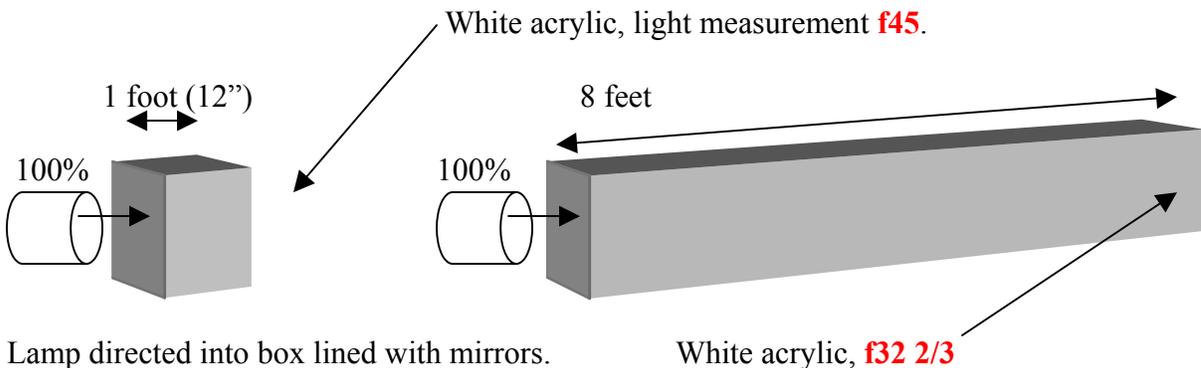
One little detail needs to be discussed here. If you have ever worked with artificial light in a studio situation, you know that the brightness / intensity of a lamp drops drastically when the distance from the light source to the object is increased. As a matter of fact if the distance is doubled the intensity is reduced to 25% of the value it was at the closer distance.

With other words – if you measure **f45** on an object lit by a lamp standing one foot away from the object you would measure only **f32** if the lamp was placed 2 feet away.

If the lamp was placed 8 feet from the subject you would read only **f8** equal to 3%, - the light would be **reduced with 5 f-stops**.

We pointed a lamp into a “mixing box” 12 inches (1 foot) deep, and read **f45** off a piece of white acrylic that we had placed in the opposing end of the mixing box. A mixing box is a box lined with a reflective surface, or in this case a mirror, and having a piece of white acrylic (type 0.6) covering two opposing sides (ends). We the repeated the experiment with a mixing box 8 feet long. This time the lightmeter read **f32 2/3** . **This is a reduction of only 1/3 f-stop.**

This information is based upon a practical experiment made in our test-lab.



Our experiment proved that we can in fact direct, concentrate, bend and manipulate light rays.

In addition to concentrating light with the use of mirrors and reflective surfaces we can also concentrate or spread light with the use of a lens.

Finally we can “break” the light. By introducing either a physical obstruction or a “Multi-reflective” (broken) surface we can break a heavily concentrated light beam into a myriad of light-rays. This is called diffusion.

A crude diffuser could be a very fine mesh of either cloth, plastic or metal. Imagine the sun shining through the screen door.

We can also diffuse the light with a lens. If we shine a light beam through a magnifying glass we can move the magnifying glass forth and back and manually focus the light in a very concentrated beam. But we can also diffuse the light by intentionally moving the magnifying glass to an “out of focus position”. We can bring the light beam so far out of focus that the light beam will be reduced to a large circle of flare.

We can further increase diffusion through a lens by making the focal length infinitively small and by reducing clarity from the glass used in the lens.

A piece of 1/4” thick Plexiglas is a “lens” with a very very small focal length. By adding a “milky white” coloring to the Plexiglas we have in fact created the perfect diffuser for light.

Finally we can restrict the amount of light emitted from a light source. We can of course do it mechanically by introducing an aperture, a metal diffuser or metal grid or by introducing a filter with ND (neutral density) coating.

But we can also do it electronically or electrically by restricting the amount of current supplied to the lamp. (this particular subject is covered under the digital light subject.)

**Light can be manipulated in thousands of different ways. Light sources can be created in thousands of different ways.**

In photography all “lighthoods” belong to one of two groups. They are either categorized as “SOFTLIGHT HEADS” or as “FOCUSED LIGHT HEADS” (also called Collimated light-heads)

Most all light heads (Cold-light-heads, VC heads and Color Dichro heads) belong to “Soft-light” group.

To my knowledge only one type light source, for optical photography, belong in the second group, “Focused Light heads”, and that is the Condenser head. A condenser head can produce several different degrees of focused light by varying the lamp producing the light

beam, the quality of the condensers, the distance between the condenser-elements etc. A point light lamp will produce a more focused light than an Opal lamp source. A coated condenser will produce a more focused light than an uncoated condenser etc. The different combinations all deliver light of different degrees of collimation.

Of all the different types of Light-heads for optical photography (enlarging) **the condenser head must rank as the most versatile light head available.** This remark is bound to raise an eye brow here and there and possible a “gasp” in some places.

Let me therefore defend that remark right away.

*A condenser head is capable of emulating all other types of light heads available for enlarging.*

- ✓ It of course delivers collimated light of varying degrees.
- ✓ It also is capable of producing soft light of varying degrees.
- ✓ It can be used for Color printing as well as for BW printing. The Condenser head may not be as practical \*<sup>1</sup> for Color printing as a Color Dichro Head, but it can do it.

No other light head is capable of delivering all four features.

Not the Color Dichro Head – it cannot produce Collimated Light.

However, so far, the COLOR DICHRO head must rank as the most advanced light source. It is capable of emulating all types of light sources in it's group. And it is capable of doing so in an efficient and rational manner.

Jens J Jensen, December 2000.

Literature list:

Electric light sources by The Danish Society of Light technique.

Phillips, Holland.

Osram, Germany

Ilford.com

Kodak.com

Andover Corp.

Post Exposure by CTEIN.

Photographic Sensitometry by Todd & Zakia.

**\*1) In the fall of 2001 DURST-PRO-USA will introduce an automatic Color Dichro Condenser head for printing BW or Colour with an automatic closed loop Colour Dichro Condenser head.**

## What is Collimated Light?

(to follow)

What is a condenser head ? – a paper about the use of condensers in printing.

(to follow)



A paper about lenses and their use:

(to follow)

A study of different manufactures light heads, their output and evenness:

(to follow)

A study of acrylic diffusers and their effect on light:

(to follow)

Storage area in warehouse.



## A note on buying used enlargers:

**IMAGINE** your self as someone dependent on a car, for work or pleasure.

Then try to IMAGINE your self in 10-15 year old “clunker”.

That makes no sense – does it?

**DURST-PRO-USA INC.. / DURST-PRO-USA does NOT sell used equipment.**

This does NOT mean that we are not competitive on prices – rather the opposite. And it does NOT mean that we do not want your business.

**We DO want your business – we are willing to fight for it.**

However, based on past experience we have decided not to sell USED or re-furbished equipment. Our experience tells us that it is not possible to satisfy the average users expectations to a used enlarger.

To many suppliers has given the word re-furbished a bad name. Today most buyers understand re-furbished to be equal to “rust with makeup”.

Let us be frank about this issue.

A used enlarger very rarely spent its life in a Fine Art Photographers darkroom. Used enlargers come from commercial photo-labs. A commercial photo-lab rarely sells a machine that function well. They use up the machine – that is good business.

Selling a used and worn down enlarger to a photographer or printer with expectations of being able to use it, without constantly having to “fiddle” with it to make it work, or simple expectations of having joy without spending thousand of dollars additional is simply not possible and the same time maintain ones self respect.

**THAT IS WHY WE DO NOT SELL USED ENLARGERS.**

**We sell re-manufactured machines in NEW condition at a price level very close to that for used machines.**

In the spring of 2001 we decided to test quality of used machines on the market.

We went out and bought four used 10x10” Durst enlargers in our own names, we did not approach the seller as DURST-PRO-USA Inc.. or DURST-PRO-USA.

We purchased two Durst L184, one with a CLS1840 manual Color Dichro Head and one with a condenser head.

We purchased a Durst L183 (Special edition 5x7”) and a Durst L1840 with a CLS1840 Color Dichro head.

We purchased from a large brokerage company, from a dealer and from two lab's, one just getting rid of one enlarger and one closing down.

Our experience – we would rather have been without it, even for our purpose it was a bad experience – **IMAGINE** what it would have been to an end-user with expectations of Joy and High Quality printing.

Let me tell you about the worst case:

We had to pay 100% up front for both the machine and the freight. We were requested to sign off on a waiver, giving up all rights to complain, in other word we were requested to buy “AS IS” UNSEEN – UN-INSPECTED.

The enlarger, a Durst L184 with CLS1840, arrived six weeks after paid and four weeks after promised.

We had to call six times to get the thing shipped off, and send 8 e-mails with answers to questions concerning packing – just to realize that the answers were ignored.

Despite very thorough instructions from us – and promises of the instructions being followed the enlarger was packed – no it was shoveled – in wooden boxes with absolutely no padding of any kind. The negative holder, apart from being broken and completely useless – was packed in a box with lens holders and electronic boxes WITHOUT any padding what so ever. Imagine what heavy electronic boxes, with sharp corners, did to the delicate parts during a truck voyage from the Mid-west to Oregon!!.

The lamp and the reflector in the Color Dichro head has a retail replacement value of approx \$850.00 and was promised removed from the Color Head and packed separately in secure padding for transport.

This was not done. The reflector is of glass and heavy. It had rattled around inside the lamp house, was totally disintegrated – taking the bulb with it and the very expensive heat mirror in front of the lamp.

Had it also ruined the Color Dichro Filters it would not have mattered since they had been overheated and the coating therefore was flaking off.

And, and, and

It took our highly trained technician 5 full working days and parts worth \$3,118.00 wholesale to make the enlarger function. This repair did not include the useless negative holder, it was beyond repair, replacement price \$1250.00. After spending \$4,368.00 and the purchase price we had an enlarger looking like a wreck and possible needing further repairs down the road. Our repairs did not include any hidden problems. The total price ended up being almost the same price as a durst-pro-usa remanufactured enlarger with 5-year and LIFETIME warranty - with no hidden problems GUARANTEED.

Two of the four purchases were not that bad, and one would have been satisfactory to most.

We have invoices, photographs, correspondences and freight bills to document our experiences.

You are welcome to request documentation.

**Let us face it – an enlarger in a commercial photolab is not serving as a “mom-mobile” it is being used like a NEW-YORK-TAXI-CAB.**

**Therefore – if you buy used be sure to inspect the machine prior to purchase.**



# SAMPLE PACKAGES 8X10” –10x10”



DURST-PRO-USA INC..  
1600 NE 25<sup>TH</sup> AVENUE  
HILLSBORO, OR 97124  
**503 846 1492**

## **DURST L184, manual enlarger w/ DIGITAL LIGHT Americana closed loop Color Dichro head.**

**This is the traditional manual chassis. It is different from the 1800 and 1840. It has two vertical columns that are exposed and not encapsulated in a casing as with the 1800 and 2400. The head and baseboard are moved via a hand crank or via optional motors. There is possibility for either a lens turret accepting lenses up to 240mm or single lens boards. Prints up to 40x50" on baseboard.**

We have equipped the Durst 184 with a **Brand New** Digital Dichro Color head w/ CLOSED LOOP. The most advanced 10x10" head on the market. See attached text on our NEW Digital Dichro head.

- 1 pc Durst Laborator 184 enlarger refurbished/used in new/mint condition complete with camera and built in 4-way masking
- 1 pc **DIGITAL LIGHT Americana Dichro head, NEW –unused.**
- 1 pc Keyboard, NEW –unused.
- 1 pc Mixing box adapter LACAP184
- 1 pc Mixing box LACOBX100 for 8x10"
- 1 pc Register negative holder adapter, GRAHALON
- 1 pc register negative holder GRANE
- 1 pc Vacuum board 25x33" , GRAVAPU
- 1 pc Rodenstock Apo Ronar 360mm/f9
- 1 pc Schneider Componon 300mm/f5,6
- 1 pc Rodenstock Apo Ronar 240mm/f9
- 1 pc Componon 150mm/f5,6
- 2 pc Lens board VAPLA (for 300 and 360mm)
- 1 pc Lens board UNIPLA
- 2 pc Lens adapter for UNIPLA (for 240mm and 150mm)

**Price for the above complete package: see enclosed price list.**

Vacuum baseboard can be replaced with 30x40" standard baseboard.

## **DURST L184**, black and white condenser version

- 1 pc Durst Laborator 184 enlarger refurbished/used in new/mint condition complete with camera and built in 4-way masking
- 1 pc Register holder GRAHALON
- 1 pc Register negativeholder, GRANE
- 1 pc GRAGLAS 205, AN
- 1 pc GRAGLAS 205 regular
- 1 pc Condenser head
- 1 pc Filter drawer
- 1 pc Condenser LAUTICO 181
- 2 pc Condenser 380
- 1 pc Baseboard, regular
- 3 pc Lens board, UNIPLA
- 1 pc Componon 300mm
- 1 pc Componon 210mm

**Price for the above complete package: see enclosed price list.**

### **AD MOTORIZED OPERATION:**

The above package FULLY MOTORIZED version, head, focus and baseboard  
**Price CALL**

The above package with motorized focus ONLY     **Price CALL**

## **HVA Vertical 10x10” enlarger. Wall mounted, Motorized head and FOCUS, Semi Closed Loop**

**LABORATOR HVA250** wall mounted enlarger complete with lenses, ready to use no parts needs be purchased.

- 1 pc LABORATOR HVA250 fully motorized chassis with wall brackets.
- 1 pc Control unit for motorized focus and head position – degree of enlargement.
- 1 pc Color Dichro head
- 1 pc Keyboard for controlling Color Head.
- 1 pc 8x10” mixing box
- 1 pc Negative holder 10x10”
- 2 pc Glass for negative holder.
- 4 pc Lens board
- 1 pc Rodagon f5,6 – 300mm lens
- 1 pc Rodagon f5,6 – 150mm lens

**Price for the above complete package: see enclosed price list.**



# SAMPLE PACKAGES

## 5x7”



DURST-PRO-USA INC..  
1600 NE 25<sup>TH</sup> AVENUE  
HILLSBORO, OR 97124  
**503 846 1492**

## **DURST 138S Manual vertical 5x7” enlarger. W/ CLS300 – 2000 watt Color Dichro head.**

**The 138S has the traditional manual chassis with one column. The head and the baseboard are moved via spring tension/spring release. Foot pedal for baseboard movement. The baseboard is 25x33”.**

Our Durst 138S are all equipped with the manual CLS300 2000watt Dichrohead from Durst.

This is a

Mean machine for printing all formats including 5x7” and 2 ¼ x 7”. All our 138S models are delivered

With a full set of masks including the new 2 ¼ x 7” mask (6x17cm).

You can choose between the regular negative holder NEGA138 or the register holder GRAHALON57.

- 1 pc Durst 138S chassis complete with camera w/ 4 way adjustable masking system. Lens turret accepting 3 lenses up to 240mm, regular baseboard with ball head mount.
- 1 pc Dichro head CLS300 2000watt.
- 1 pc Dichro head adapter LACAP138
- 1 pc Mix box 5x7”
- 1 pc Power box EST300
- 1 pc Baseboard
- 1 pc Exhaust blower
- 1 pc Negativ holder NEGA138
- 1 pc Rodenstock Rodagon 210mm
- 1 pc Rodenstock Rodagon 150mm,
- 1 pc Rodenstock Rodagon 105mm,
- 1 pc Lens-turret, accepting lenses up to 240mm but not including 240mm.
- 2 pc TRIPLA lens rings, for 150mm and 105mm



**Price for the above complete package: see enclosed price list.**

**Same enlarger with BW Condenser head CALL**

**Same enlarger with Aristo VC head is CALL**

**Same enlarger with CLS1000 Color Dichro head is CALL**

**Same enlarger with BWL 2000watt Soft light head is CALL**

## **DURST 138S Manual vertical 5x7” enlarger . CLS301 Color Dichro head.**

This is the most sold and most traditional solution. Completely manual machine. Complete and ready for use. No parts needed. Everything is MINT condition.

This is a standard package. It can of course be reduced and or changed/enlarger.

Durst Laborator 138S, see enclosed manual.

Ready for printing both Color and B&W, both graded and variable contrast B&W.

- 1 pc Durst 138S chassis complete with camera w step-less adjustable masks, completely refurbished in mint/new condition
- 1 pc Camera with fixed TRIPLA lens turret
- 1 pc Dichro head Durst CLS301 600 watt.
- 1 pc Dichro head adapter LACAP138
- 1 pc Mix box 5x7”
- 1 pc Powerbox EST/TRA301
- 1 pc Negativeholder NEGA138
- 2 pc 5x7” Glass for negative holder
- 1 pc Rodenstock Rodagon 210mm,
- 1 pc Rodenstock Rodagon 105mm,
- 1 pc Rodenstock Rodagon 50mm,
- 1 pc UNIPLA lensboard
- 3 pc TRIPLA lens rings
- 1 pc Crating

**Price for the above complete package: see enclosed price list.**

## **DURST 139G Manual vertical 5x7” enlarger . 2000 watt Color Dichro head and BW Condenser head.**

This is our most complete package. It is a “sample package” . It can of course be reduced. We sell this package mostly to Fine Art photographers who wants to do masks and have a future possibility to step up to 5x7” if they are not already using this format. Complete and ready for use – no parts needed. We have only one complete package left, and can not guarantee a similar complete package in the future.

The CLS300 is our most power full manual head.

- 1 pc Durst 139G chassis complete with camera w step-less adjustable masks, completely refurbished in mint/new condition
- 1 pc Camera with fixed TRIPLA lens turret
- 1 pc Dichro head Durst CLS300 2000 watt.
- 1 pc Dichro head adapter LACAP138
- 1 pc Mix box 5x7”
- 1 pc Powerbox EST/TRA301
- 1 pc B/W condenser head
- 1 pc set for 5x7” printing
- 1 pc Register negative holder GRAHAL
- 1 pc Insert for register holder, GRANE 138
- 1 pc Film register punch 2x2 up to 16x20”
- 1 pc 5x7” Glass for negative holder
- 1 pc mask for A, 21/4x3
- 1 pc mask for A, 21/4x21/4
- 1 pc mask for A, 4x5”
- 1 pc mask for 6x4,5cm
- 1 pc Mask for 24x36
- 1 pc Durst REPRO lamps with □iffuser
- 1 set Extensions arms for lights
- 1 pc Register Camera back w/ 5x7” ground screen
- 1 pc Film holder 5x7” for camera back
- 1 pc Schneider Componon 2105,6
- 1 pc Schneider Componon 5,6 150mm
- 1 pc Rodenstock R. odagon 80 5,6
- 1 pc Rodenstock Rodagon 2,8 50mm
- 5 pc Lensboards for lenses shown
- 1 pc Crating.

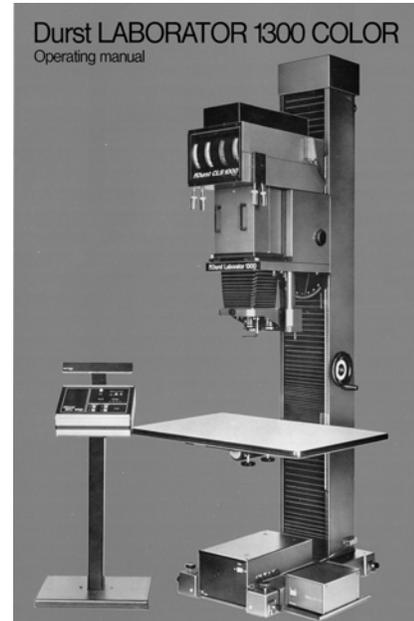


**Price for the above complete package: see enclosed price list.**

## **DURST Laborator 1300 fully motorized vertical 5x7” enlarger . 1000 watt Color Dichro head.**

This is a very unique enlarger. There is less than ten units in the US, we have two used arriving on August 21 – 2000.

- 1 pc Durst L1300 fully motorized chassis complete with camera w/ step-less adjustable masks, in mint/new condition
- 1 pc Professional camera accepting the professional series lens boards
- 1 pc Dichro head Durst CLS 1000 – 1000 watt.
- 1 pc Mix box 5x7”
- 1 pc Mix box 4x5”
- 1 pc Mix box 6x9
- 1 pc Mix box 35
- 1 pc Powerbox EST1000
- 1 pc set glass R/AN for 5x7” printing
- 1 pc TRINEG NEGATIVE holder
- 1 pc mask for A, 21/4x3
- 1 pc mask for A, 21/4x21/4
- 1 pc mask for A, 4x5”
- 1 pc mask for 6x4,5cm
- 1 pc Mask for 24x36
- 1 pc Proff lens board adapter allowing fine correction of alignment
- 1 pc Schneider Componon 2105,6
- 1 pc Schneider Componon 5,6 150mm
- 1 pc Rodenstock R. odagon 80 5,6
- 1 pc Rodenstock Rodagon 2,8 50mm
- 5 pc Lens boards for lenses shown
- 1 pc PCM 1001 Analyser
- 1 pc Crating.



**Price for the above complete package: see enclosed price list.**

# ACCESSORIES



DURST-PRO-USA INC..  
1600 NE 25<sup>TH</sup> AVENUE  
HILLSBORO, OR 97124  
503 846 1492

## The versatile PCM 1001



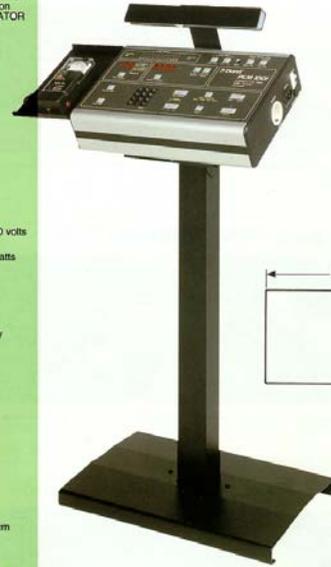
The Durst PCM 1001 multifunction unit (colour analyser, VCNA transator and photometer) is indispensable in any professional darkroom. The enormous memory capacity of the PCM 1001 really comes in to its own with appreciable time and material savings if your printing orders comprise different negative types and subjects have to be printed onto a number of different paper batches.

★ VCNA

## Accessories Technical Data

- DESKIL AC
- Slavey COLIDESK 1
- Adapter cable E1 Sino in order to use the Durst PCM 1001 in conjunction with the Durst enlargers LABORATOR 1940 and LABORATOR 2000.

Mains voltages	: 110, 220, 240 volts 50-60 Hz
Power consumption	: approx. 30 watts
Exposure time (f/8)	: 0.1 to 999
Value range for VCNA	: 0 to 999
Colour balance reproducibility	: ± 0.02 density values
Measuring range in photometer mode	: 0.00 to 3.00 in density
Measuring spot diameter	: 5 mm
Number of channels in colour meter mode	: 0 to 99
Number of channels in VCNA mode	: 0 to 9
Timer switching capacity	: 2000 watts maximum
Dimensions of unit	: Approx. 41 x 28 x 10 cm
Dimensions of probe	: Approx. 15 x 6 x 4 cm
Weight	: Approx. 7 kg



**This is the new PRONEG pin register negative holder for DURST 10x10 enlargers.**

**FACTORY NEW Complete and ready for use w/ 8x10" tray \$685.00**

Full Set of all metal masks for printing 35mm, 2 ¼ x 2 ¼ , 4,5x6, 6x7, 6x9, 6x17, 4x5, and 5x7 **with** glass \$130.00

Extra complete trays - One complete tray for printing either 35mm, 2 ¼ x 2 ¼ , 4,5x6, 6x7, 6x9, 6x17, 4x5, or 5x7 **without** glass \$172.00



## **SHIPPING and receiving:**

We ship an pack like we were to receive the equipment our selves. We ship and pack with care, we make sure that all parts are padded and packed in a manner that will GUARANTEE that it arrives at your door step unharmed in a condition that we can be proud off.

We crate in plywood.

We ship **air freight only** for our enlargers. We ship enough each year to obtain air-freight rates as better than trucking rates.

If a machine is to large to ship air-freight we deliver on our **own truck**.

**WE CARE - THAT IS YOUR GUARANTEE FOR A PERFECT DELIVERY.**

All our shipments are professionally packed in custom designed packing or plywood crates. Small shipments are shipped via UPS in well padded cardboard boxes.

WE CARE.

END.