

**BPI®**  
**Dual Computer Cal III™**  
*UV and Luminous Transmittance (Tv) Spectrometer*

**For use only by qualified personnel  
in a laboratory environment.**

**For maximum protection against UVA  
energy, wear UV safety glasses &  
avoid looking directly  
at UV light source.**

## Specifications

The BPI® Dual Computer Cal III™ UV Luminous Transmittance (Tv) Spectrometer is an invaluable aid for quality control of lenses that have received UV light absorption treatment. The instrument will also measure luminous transmittance. The visible portion of the instrument may be used for fashion tint control and for critical density adjustments on therapeutic tints such as BPI® Filter Vision™ 540 and BPI® Filter Vision™ 500.

The BPI® Dual Computer Cal III™ Tv Spectrometer features a microprocessor controller that at a push of a button calibrates the meter for a 100 percent transmission. No matter what happens to the intensity of the UV light, auto calibration is guaranteed because of the meter's new circuitry that contains an automatic gain controller stage that accommodates itself to any possible variations in the AC line voltage, as well as to any gradual decay of the intensity of the UV light bulb over long periods of time.

Variations in density and hardness of CR-39™ lenses typically affect their ability to accept dye. Two lenses that have been in the same dye tank the same amount of time may not come out with equal UV protection. IT IS THE LENS PROCESSOR'S RESPONSIBILITY TO VERIFY UV PROTECTION, and the BPI® Dual Computer Cal III™ offers a quantitative means of verifying this.

The meter's digital display indicates the percentage of UVA (320 to 400 nm) and the percentage of luminous transmission passing through a lens. It is a quick and accurate way to check the transmission characteristics of lenses.

HEIGHT	WIDTH	LENGTH	VOLTAGE	WEIGHT	FUSE	AMPERAGE
5 in.	6.25 in.	6.75 in.	115 or 220 v.	6 lbs	1 amp/250v.	1 amp
12.7 cm	15.87 cm	17.14 cm		2.72 kg	Fast Blow	
LENS CLEARANCE		TEST RANGE	THE SET-UP KIT INCLUDES THE FOLLOWING PRODUCTS:			
0.75 in.	350 nm to 400 nm (UVA) 400 nm to 700 nm (Visible)		• Calibration lens	• Patient brochure stand		
19.05 mm			• Instruction manual	• Power pack		
			• Patient brochures			

As a quick and accurate way to check the UVA transmission characteristics of a lens, the BPI® Dual Computer Cal III™ Tv Spectrometer includes a second display function consisting of three different colored light emitting diodes (LED's). This function makes the instrument a valuable tool for the waiting room or just for instant verification of UV protection.

**FOR MAXIMUM PROTECTION AGAINST UVA ENERGY, WEAR UV SAFETY GLASSES & AVOID LOOKING DIRECTLY AT UV LIGHT SOURCE.**

The meter is for indoor use only at altitudes below 2000 meters. Ambient temperatures must be between 5° C and 40° C. Maximum relative humidity is 80% for temperatures up to 31° C, decreasing linearly to 50% relative humidity at 40° C. Mains supply voltage fluctuations not to exceed ± 10% of the nominal voltage. Transient over-voltages must not exceed those of category II. This meter is designed for pollution degree 2.

## Unpacking

When unpacking your instrument, please check to ensure that no concealed damage occurred in transit. If such is noted, save the shipping carton and immediately notify the shipping company's damage control inspector in your area so a claim may be processed. Failure to do this may void any future claim and replacement. Also, call BPI® Customer Service so arrangements for a replacement may be made.

## Setting Up

To set up your BPI® Dual Computer Cal III™ Tv Spectrometer, just connect the power pack to the unit and plug into a standard electrical outlet convenient to your work area but away from the immediate vicinity of the lens coloring operation since excessive heat and humidity may adversely affect your instrument. Your BPI® Dual Computer Cal III™ Tv Spectrometer arrived with a lens treated with BPI® UV Diamond Dye™ 400 taped on the back panel. This lens is included for demonstration purposes as well as for testing your unit. A reading of 3% or less for UVA transmission should be obtained when using this lens.



## Operation

The BPI® Dual Computer Cal III™ Tv Spectrometer has an ON/OFF switch (located in the back of the unit), and two push buttons labeled CALIBRATE and READ.

**STEP 1:** Turn the unit on (ON/OFF switch is located on the back of the unit).

**STEP 2:** Wait until the UV bulb is properly lit (approx. 5 seconds) and make sure that no lens is in the optical path of the UV light source.

**STEP 3:** Momentarily push the Calibration button. A reading of 100 will appear on the LCD for both the UV and the Visible. The unit is now calibrated. If either channel is unable to calibrate itself, a reading of EH will appear on that channel if the light is too bright. (EL if the light is too dim or off). On initial turn-on, the unit may read too dim on the UV channel due to an attempt to calibrate before the UV lamp comes on. Simply push the Calibrate button after the UV lamp is on.

**STEP 4:** Place the lens to be tested on the rubber mat and slide it under the sensor housing and into the optical path of the UV light. Push the READ button. The transmission readings will appear on the LCD and one of the three LED's will be on. One minute after calibration the unit will shut itself off (display dashes); push the Calibrate button to reset. The display will show the UV and visible readings until the READ or CAL buttons are pressed or until the maximum calibration period elapses. **IMPORTANT:** Remove lens from optical path before recalibrating.

Lenses with moderate to high power may cause cross-talk between the UV and visible channels. This can be minimized by making sure that the optical center of the lens is directly over the light source opening in the black rubber pad.

Should the unit ever fail to function properly, press "Calibrate" to verify calibration. If the unit continues to malfunction, turn the unit off, wait a few seconds, then turn the unit back on.

## LED Display

The LED Display on the BPI® Dual Computer Cal III™ Tv Spectrometer has been calibrated as follows:

- DANGER (Red light) indicates 12% or more of UVA transmission.
- CAUTION (Yellow light) indicates between 4% and 11% UVA transmission
- SAFE (Green light) indicates 3% or less of UVA transmission.

## UVA Emanation

The UVA energy (320 to 400nm) that is emitted by this unit is also emitted by sun and sky light and is, therefore, a natural component of our environment. However, over exposure to UVA energy may produce eye irritations and permanent eye injury.

**FOR MAXIMUM PROTECTION AGAINST UVA ENERGY, WEAR UV SAFETY GLASSES & AVOID LOOKING DIRECTLY AT UV LIGHT SOURCE.**

## Warning!

**ALWAYS UNPLUG THE UNIT WHEN SERVICING.**

If this equipment is used in a manner other than that specified by Brain Power Incorporated, the protection provided by the equipment may be impaired.

To clean the meter, wipe with a damp cloth.

## Replacement Parts

1 AMP/250v. Fast Blow Fuse... BPI#59905

## Questions? Ordering...

If you have any questions about the use of your gradient system or any other BPI product, or would like to order supplies, please give us a toll-free call using the number for your area.

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