

# BPI Micro Gradient™

For use only by qualified personnel in a laboratory environment.

Due to high operating temperature, access should be restricted.

## Specifications

The BPI Micro Gradient™ (BPI#12302 or BPI#212302 when equipped with 220v. power pack) uses microprocessor technology to make precision lens coloring easy. The operator can select from twenty programs to create gradient and solid lenses as well as special effects. The gradient is controlled by the computer to create consistent results never before possible.

The Micro Gradient™ also provides the fastest method available anywhere for producing solid tints. The constant motion of the lens in the dye solution helps keep pigments and/or coating solutions in suspension.

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## Unpacking

When unpacking your gradient system, 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.

HEIGHT	WIDTH	LENGTH	VOLTAGE	WEIGHT	FUSE	AMPERAGE
3.5 in. (Head)	4 in. (Head)	4.25 in. (Head)	115 or 220 v.	2.8 lbs		1 amp
8.89 cm. (Head)	10.16 cm (Head)	10.57 cm (Head)		1.27 kg		
THE SET-UP KIT INCLUDES THE FOLLOWING PRODUCTS:						
• One nylon swivel	• One BPI Lens Holder II™	• One scissor arm and bolts				
• Two thumbscrews	• One L-rod	• Gradient pole. With or without flange				
• One ¼ inch rod	• One gradient tip	• Instruction manual				

## Warning

LIVE PARTS INSIDE. ALWAYS UNPLUG THE UNIT WHEN SERVICING. TO AVOID RISK OF ELECTRIC SHOCK, DISCONNECT EQUIPMENT POWER BEFORE REMOVING ANY CABINET COVER.

## Setting Up

Fit the 12" stand (pole) into the gradient opening on the top of the unit. A mounting flange is provided in cases where there is no gradient opening on the dye system. (Most BPI systems of recent manufacture have a gradient opening). Use the flange to mount the gradient either directly onto the work counter or onto a piece of plywood or similar material which can then be slid underneath the dye system. The weight of the dye system will hold the gradient in place. It is important in all cases that the dye system be LEVEL.

Bolt the lower arm of the scissors to the top of the pole; fasten the other arm to the underside of the gradient. Slide the L-rod through the swivel which is attached to the arm extending from the gradient. The bottom of the L-rod forms a right angle to hold the Lens Holder II in place. The thumbscrew tightens the swivel to secure the L-rod. Be careful not to over-tighten or you may strip the threads of the swivel.

The power cable runs from the power pack and plugs into the Micro Gradient™. It should plug in easily when correctly aligned. The jack is located on the back of the Micro Gradient™.

## Using The Gradient

When the cable is connected, the Micro Gradient™ is on, and the gradient executes a zeroing program to position itself properly. The microcomputer is programmed by pressing the buttons to produce the desired results.

When in the ADJUST mode, the UP and DOWN buttons are used to adjust the starting position of the lens holder so that the bottom edge of the lens is near the surface of the dye. We recommend that you first adjust the L-rod to get the lens into approximate position and then use the UP and DOWN buttons to make fine adjustments in height.

Due to evaporation, the dye level will change somewhat from one operation to another, so it will probably be necessary to make occasional adjustments in the starting height of the arm. It is advisable to add water to the dye from time to time to bring the level back up to a convenient height for the gradient.

Use the MODE button to move to TIME. TIME is programmed by pressing UP or DOWN to raise or lower time value. Enter in minutes the time you want to spend making gradient-tinted lenses. When you move to TIME, the currently selected time will be displayed. You may then change it by entering a new time (up to 19 minutes) or keep it by moving to other functions. 1-9 on the display is 1 to 9 minutes. 0.-9. on the display corresponds to 10 to 19 minutes.

Use the MODE button to move to PROG/SIZE. The program is selected by pressing UP or DOWN to the desired program number (0 through 9.).

Each program has a certain minimum depth associated with it, which is proportional to the size of the lens. If you initially position the lens so that this depth cannot be attained, the computer will display an "E".

The Micro Gradient™ displays how much time remains in the cycle. After the RUN mode is pushed, the display will show total execution time and proceed to count down.

NOTE: The execution time displayed for a given program may not be exactly the requested time, as the internal computer calculates the cycle execution time based upon all of the parameters entered.

In general: The lens holder support swivel should be placed at the end of the rod. The lens should just touch the top of the dye at the start of the cycle. The PROG/SIZE should be selected that will cause the lens to be totally immersed at the end of cycle. The program number is related to the lens size. A "7" program should nearly cover a 70mm lens, but to fully immerse it, use an "8". Experiment with it! Remember that the gradient makes only one full pass down into the dye per gradient cycle (so it doesn't move very fast - especially at first!) You should select a time which would produce a medium density (2 to 3) solid using that tint.

## Countdown

When in RUN mode, pressing either the "Up" or "Down" arrow causes the computer to begin its calculations and initiate execution of the selected program. While the program is running, the timer shows the number of minutes remaining. When it is running a cycle, the RUN LED remains lit. Pressing the mode button while the cycle is running terminates the cycle and the lens will be pulled from the dye tank.

Note: If at any time, power to the unit is interrupted or other 'glitches' occur, the unit self-resets and withdraws lenses from the tank.

## Programs

Program 0 and 0. - Solid. In this program, the operator enters the amount of time for the lens to be immersed in the dye. The computer dips the lens into the solution at high speed and then agitates it up and down by a few millimeters so that the fluid touching the lens is always at full strength. This is the fastest procedure available for dyeing a lens a solid color. There is no minimum cycle time, since the lens bobs up and down until the requested time expires. To stop at the time, press the MODE button.

Program 1-9 - Fashion Pastel Gradient. These are light gradients for use primarily indoors. The gradient makes repeated dips to various depths. The gradient portion will cover only 75% of the lens. These programs produce a lighter gradient with a gradual fade line.

Program 1. - 9. - Solar® Gradient. These are more robust outdoor gradients. This programs makes but a single dip during the set time, so less motion is observed. These programs produce a darker gradient further down on the lens. Again, larger (program) numbers are for use with larger lens sizes.

## Questions? Ordering...

If you have any questions about the use of your computer gradient 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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BPI# 12302 (115v)  
BPI# 212302 (220v)