

## VISIBLE GAS-ION LASERS FOR LASER DISPLAYS

Lexel ColorPro and BeamPro gas-ion lasers were developed specifically for laser shows and laser displays. The ColorPro series gives the best balance of white light and high power, for full-color laser graphics. The BeamPro series are for tight, powerful coherent laser beams, as well as single- or 2-color laser graphics.

### Applications

Touring and nightclub environments are rough on lasers. That's why rugged ColorPro and BeamPro lasers are designed for long, stable life. They are perfect for:

#### Laser graphic displays (ColorPro)

- Full-color laser vector graphics
- Laser-projected TV/movies
- Applications where color fidelity is important

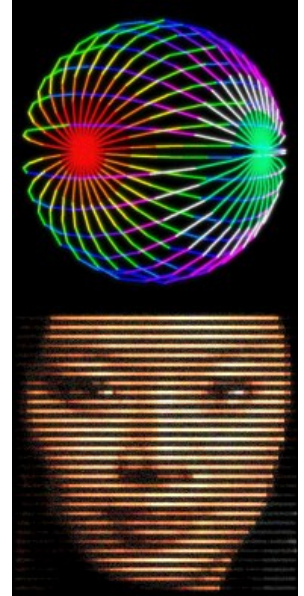
#### Laser beam displays (BeamPro)

- Single-color or 2-color laser vector graphics
- Indoor and outdoor beam displays
- Applications where high power is important

### Specifications

There are five models available; two "white-light", two higher-powered green/blue and one for red-only beams. Additional models are available with optics to give specific combinations of lines and powers.

	Lexel ColorPro III	Lexel ColorPro III-HP	Lexel BeamPro V	Lexel BeamPro X	Lexel BeamPro R
Beam color	"White light" (red/green/blue)	"White light" (red/green/blue)	Green/blue	Green/blue	Red
Lasing medium	Mixed gas (ar/kr)	Mixed gas (ar/kr)	Argon	Argon	Krypton
Output power, MTM	3 W	4 W	5 W	10 W	2 W
Color proportion	62% red 13% green 25% blue  (appears pure white to the eye)	35% red 30% green 25% blue  (appears greenish white to the eye)	60% green 40% blue	60% green 40% blue	100% red
Beam mode	TEM <sub>00</sub>	TEM <sub>00</sub>	TEM <sub>00</sub>	TEM <sub>00</sub>	TEM <sub>00</sub>
Beam diameter at OC	1.7mm at 647nm  1.8mm at 488nm	1.7mm at 647nm  1.8mm at 488nm	1.9mm at 514nm  2.0mm at 488nm	1.9mm at 514nm  2.0mm at 488nm	1.7mm at 647nm
Beam divergence	1.9mrad at 647nm  2.2mrad at 488nm	1.9mrad at 647nm  2.2mrad at 488nm	1.4mrad at 514nm  1.5mrad at 488nm	1.4mrad at 514nm  1.5mrad at 488nm	1.9mrad at 647nm
Input power	40 amps 208V (+/- 10%) three-phase 50/60 Hz	40 amps 208V (+/- 10%) three-phase 50/60 Hz	40 amps 208V (+/- 10%) three-phase 50/60 Hz	50 amps 208V (+/- 10%) three-phase 50/60 Hz	50 amps 208V (+/- 10%) three-phase 50/60 Hz
Water cooling required	>2.0 gal/min cooling water or >12kW water-to-air chiller	>2.0 gal/min cooling water or >12kW water-to-air chiller	>2.0 gal/min cooling water or >12kW water-to-air chiller	>2.2 gal/min cooling water or >14kW water-to-air chiller	>2.2 gal/min cooling water or >14kW water-to-air chiller



ColorPro lasers are specially designed to produce the accurate, rich colors needed in laser graphic displays. (Photos above courtesy [Pangolin Laser Systems](#))



BeamPro lasers give the highest beam power with the best quality

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FDA/CDRH laser safety classification	Class IV	Class IV	Class IV	Class IV	Class IV
Specifications as of 6/2001. Subject to change without notice.					

## Power supply, head and tube

Lexel ColorPro and BeamPro lasers are CDRH-certified with all safety features. They come with a one-year/1,000 hour warranty.

### Power supply

The [power supply](#) front panel contains all controls necessary to operate and fully monitor the laser system.

- Linear low noise power supply
- Current and light regulation
- 0-10V external modulation
- Panel mounted power meter
- Automatic starting
- Remote turn-on capability

### Laser head

Within the [laser head](#), an ultra-stable solid Invar<sup>®</sup> [optical resonator](#) holds the plasma tube and mirrors in precise alignment to create coherent laser light.

- Solid Invar<sup>®</sup> resonator
- Temperature-compensated prism wavelength selector
- Fine tuning capability
- Multiline mirror holder for all lines operation

### Laser tube

A simple and reliable [plasma tube](#) design. Lexel's solid ceramic plasma tube design has been proven since 1972, while other ion laser manufacturers have tried and abandoned several designs in an attempt to match Lexel's stability and performance. In fact, a majority of the more than 18,000 Lexel plasma tubes still operate today, some with 20,000 hours of use.

- Sealed intracavity spaces
- Free-flow gas supply
- High-efficiency solid ceramic plasma tube

## Standard features

### Current and light regulation

The Lexel ColorPro and BeamPro lasers can be operated in current or light control:

- *Current regulation* allows direct control of the current through the plasma tube via an external source.
- *Light regulation* provides the ultimate in laser output stabilization. A small portion of the light is sampled within the laser and compared to a reference signal in a differential circuit that automatically adjust the laser current to maintain a constant output.  
This feature also allows for the light level to be modulated externally with a  $\pm 10$  volt signal.

### Model 502 Multiline Mirror Holder

This assembly holds the high reflector mirror for Multiline operation. This feature may be substituted for the Model 500 wavelength selector.

### Fine tuning

The laser is aligned accurately with the use of fine tuning knobs.

### Remote turn on

This feature permits the laser power supply to be turned on and off and the plasma tube to be started remotely.

### Automatic starting

This circuit automatically starts the plasma tube approximately 20 seconds after the power supply is turned on.

### Panel-mounted power meter

This multirange power meter continuously displays the output power of the laser.

## Optional features

### Model 500 Temperature-Compensated Prism Wavelength Selector

Stable single line operation is achieved by Lexel ion lasers with the Model 500 prism wavelength selector. A full Brewster prism is utilized to achieve good separation of even the most closely spaced lines.

### Initial Installation and Hands-On Training

One-day on-site installation and hands-on training for ColorPro and BeamPro series lasers, within the U.S. and Canada.

## Accessories

### Model 510 Laser Power Meter

The easy-to-use power meter can be used with argon, krypton, mixed-gas and dye laser systems.

### Model 507 Adapter

An adapter threads into the 3/4"-32 optical thread at the output aperture of the laser converting it to a 1-32 female thread for mounting optical accessories with this larger size thread.

### Model 508 Remote Power Monitor

A power monitor operates in conjunction with the panel mounted power meter to allow continuous monitoring of the laser power at locations away from the power supply.

### Model 7504 Rack-Mounted Power Supply

All Lexel 85/95 power supplies can be equipped with a rack mounting panel for mounting in a standard 19"(438mm) equipment cabinet.

## Pricing

For pricing and availability, call Cambridge Lasers.

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