

## VersaUV LEC-300 Wide Format UV Inkjet Printer/Cutter

### Frequently Asked Questions

#### **Release & Pricing:**

#### Q. What is the list price of the new VersaUV LEC-300 and ECO-UV inks?

A. The list price for the new VersaUV LEC-300 printer is \$49,995. The LEC-300 features the new ECO-UV inks and is available with a unique 6-color ink configuration which includes CMYK, White and Clear. The ECO-UV inks are available in 220 ml cartridges and are priced at \$79.99 per cartridge.

#### Q. When will the new LEC-300 be available?

A. The VersaUV LEC-300 printer is being announced on September 8, 2008 and will begin shipping October 15, 2008.

#### Q. What is the key sales message for the LEC-300?

A. Roland VersaUV LEC-300 is the world's first UV inkjet printer/cutter and incorporates the latest advancements in UV curing and ink technology. Featuring two state-of-art UV LED lamps and energy efficient design, the LEC-300 realizes a power consumption that is approximately 90% lower than conventional UV printers. The newly developed ECO-UV ink adheres to a wide range of coated and uncoated substrates and delivers high color density and wide color gamut. The combination of Roland's award-winning print and cut technology with unique 6-color ink configuration which includes CMYK, White and Clear enables new applications and remarkably rich special effects with a hands-free automated workflow. The LEC-300 brings Roland innovation to the UV printing market for unmatched capability, print quality and ease-of-use.

#### Q. What are some of the key features and benefits of the LEC-300?

A. The new LEC-300 offers several major new features designed for safety and to maximize image quality, productivity and versatility for short-run label production, decals, packaging comps, POPs, personalization products, 3-dimensional textures and much more.

1. *Designed for the Environment.* The LEC-300 is the world's first Energy Star certified wide format UV inkjet printer and uses energy efficient UV LED lamps, requiring only a tenth of the power used by conventional UV printers.
2. *Safe.* The UV LED lamp in the LEC-300 generates no ozone and emits light in the Near-UV range which is much safer than conventional UV lamps. The LED lamp also generates very little heat, which virtually eliminates any risk of fire, damages to the substrate and head crashes caused by the deformation of media.

3. *Advanced UV Curing System.* The UV LED lamps on the LEC-300 last up to ten times longer than conventional UV lamps eliminating the need to replace the lamps every 1,000 hours. The LED lamp can also be turned on and off instantly for true on-demand operation, requiring no warm up time or complex shutter system.
4. *New Advanced ECO-UV ink.* Newly developed ECO-UV ink delivers high color density and wide color gamut. Flexible and scratch-resistant, prints produced with ECO-UV ink can be stretched and applied on curved surfaces without cracking. ECO-UV ink adheres to a wide range of coated and uncoated media, including paper, foils, clear material and vinyl. ECO-UV ink is VOC-free and safe after it is cured.
5. *Unique Ink Configuration.* The combination of 6-color CMYK + White + Clear ink configuration with print and cut technology enable unique applications never achieved with conventional inkjet printing. Custom shaped labels and decals with gloss area highlighter, high color density images on clear media, 3-dimensional textures and Braille are just few examples of prints that can be produced with the LEC-300.
6. *Roland Intelligent Pass Control™.* This technology was originally developed by Roland engineers for the SOLJET PRO III Series. Now optimized and fully implemented in the LEC-300, Roland Intelligent Pass Control is based on a 3-dimensional system for dot placement and creates masked patterns that ensures accuracy in filling in the smallest gaps between passes. The result is consistently smooth gradations and solid color fills with virtually no signs of banding across a wide range of media in every print mode.
7. *New Roland VersaWorks™ 3.0 RIP software.* This powerful software-based RIP includes the latest Adobe CPSI technology for faster processing and can control multiple Roland printers at the same time. VersaWorks also features the Roland Color System for spot color matching, Variable Data Printing for customized job output, new optimized print modes for the LEC-300, and the Max Impact preset for richer color contrast, outstanding image quality and maximum productivity.
8. *Best image quality in its class.* The printer precisely controls the dot placement to provide up to 720x1440 dpi resolution. Variable droplet technology uses three drop sizes to allow for the right amount of ink to be deposited on the media, delivering breathtaking output with stunning details and accurate colors.
9. *Standard Take-Up unit.* Handles rolls up to 44 lbs (20 kg) enabling consistent unattended roll-to-roll printing for longer print jobs.
10. *Adjustable head height levels.* Two levels are available – High 3.2 mm and Low 2.2 mm.
11. *The maximum media width.* The maximum media width: 30” roll, printing/cutting width: 29”.

## General Information:

### Q. What type of printer is the VersaUV LEC-300 and how is it different from other Roland inkjet printers?

A. The VersaUV LEC-300 printer is the world's first wide format UV inkjet printer/cutter and incorporates the latest technology in UV curing and ink technology. Using the same proven piezoelectric head and print and cut technology that thousands of Roland users depend on every day to run their business, the new ECO-UV ink expands the printer capabilities to new levels, enabling new applications never achieved with conventional inkjet printers. Premium labels and decals with gloss area highlighter, 3-dimensional textures and Braille are just few examples of unique applications that can be quickly produced with LEC-300 with an automated workflow.

### Q. Is the ECO-UV ink safe to use?

A. The ECO-UV ink is VOC-free and safe after it is cured. However, as with any UV ink, direct skin contact with uncured ink should be avoided as it may cause irritation.

Unlike many UV printers that require wearing personal protective equipment even for basic operations such as ink refilling, the LEC-300 employs the same proven sealed cartridge system used in thousands of Roland printers, reducing the risk of any direct contact with the inks during normal operation.

The printer should be used in a well ventilated area and an air filtration system rated at 64 CFM or more is recommended as the uncured ink has a distinctive smell. The LEC-300 is ventilation-ready featuring a front mounted ventilation hood with a 1.5" (38 mm) diameter connector for easy connection with an air filtration system.



### Q. Are there any other costs associated with purchasing one of these machines?

A. Since the LEC-300 ships complete with Roland VersaWorks™, a custom-designed RIP software, and includes a 2-year warranty, a ventilation system and a design software are the only requirements to get started.

Users can use any design package that meets their needs including CorelDraw, Adobe Illustrator, Adobe Photoshop, SAI FlexiSIGN or Cadlink SignLab.

Q. What are the terms of warranty included with the purchase of a Roland VersaUV LEC-300 printer?

A. As proof of unmatched reliability, the LEC-300 is backed by Roland's Two-Year Trouble-Free Warranty. The Two-Year Trouble-Free Warranty Program consists of two parts:

1. Roland DGA Standard Limited Warranty – 1 year
2. Free additional year of Limited Warranty coverage, provided two conditions are met:
  - a. End-user customer registers the printer within 60 days of purchase
  - b. Exclusive use of Roland ECO-UV ink throughout the entire two-year warranty period.

When any of those two conditions are not met, the printer is only eligible for the 1-year Roland DGA Standard Limited Warranty. Except in cases where non-Roland inks are used, even during the first year of Standard Limited Warranty, repairs made necessary by the use of non-Roland ink are excluded from coverage.

Q. What is unique about the custom-designed Roland VersaWorks™ RIP software that ships with these units?

A. The VersaWorks™ RIP software was designed and developed by Roland specifically to optimize performance of our printers and printer/cutters. This full-featured RIP is extremely easy-to-use and supports a variety of file formats.

VersaWorks standard software features include several outstanding productivity tools including Roland Color, Variable Data Printing and print modes specifically developed to unlock the LEC-300's full potential.

Roland Color allows users to quickly and easily color match vector graphics by offering pre-defined color palettes that are easily loaded into Corel or Illustrator. Graphics designed using these palettes are automatically color-matched in VersaWorks, offering 100% color accuracy every time without the use of any additional tools or software.

The Variable Data Printing option is a very easy-to-use workflow to quickly customize and serialize jobs by combining Excel data with Illustrator or Corel images right in VersaWorks. The user can then also make font changes to the data before printing.

VersaWorks provides three printing modes for white ink support, which are optimized workflows for printing full color images on top or under a white flood and a mode for printing white only. For clear coat, two finishing options and a special effect mode are available – matte, gloss and emboss. The emboss option creates a raised surface by overprinting several layers of clear coat for realistic textures.

These features are unique and a real benefit to users as they provide easy access to powerful time saving features.

Q. What ink type and colors does the LEC-300 support?

A. The LEC-300 printer supports the new UV curable inks in 6-color CMYK+White and Clear configuration. ECO-UV ink was specifically developed for the LEC-300 and is completely VOC-free and safe after it is cured.

The 6 colors of ink are available in 220 ml cartridges.

Q. What types of substrates are compatible with the new LEC-300 printer?

A. The LEC-300 can print on a wide range of coated and uncoated media. Because these printer/cutters use the latest generation of UV inks, the printer is not limited to any particular type of substrate.

Although testing is recommended prior to running any new media, the following types of media were tested with excellent print results: paper products (coated, uncoated, foil and offset printing paper), synthetic paper, PET films, PE films, metalized polyester, polypropylene, BOPP, PVC vinyl and artificial leather.

Roland VersaWorks™ RIP software includes a generic profile that works exceptionally well with most substrates.

Q. What is the cost-per-square-foot of the output?

A. Since the LEC-300 can print on a wide variety of media ranging from inexpensive label stock costing just pennies to expensive specialty media, the total cost of output is completely dependent on the media cost. The average ink cost for different color modes are summarized below.

Color Mode	Cost-per-sqft
CMYK color only	\$.23
White ink only	\$.26 to .51
Clear coat only	\$.48 to 1.12
CMYK plus White	\$.75
CMYK plus Clear coat	\$.72 to 1.35



Reference image for running cost calculation: ISO N5A.TIF

Q. What types of applications can I use white and clear ink for?

A. White and Clear ECO-UV inks can be used for a wide range of applications. The white ink is ideal for packaging comps, window films, labels, decals and point of purchase displays. However, white ink applications are not limited to transparent media and can be used to print white floods on metallic or opaque pigmented substrates and create stunning graphics.

Clear ink can be used as a high-gloss area highlighter for premium labels and packaging applications or simply to provide glossy finish to the entire image. VersaWorks also provides an easy-to-use special effects print mode for printing multiple layers of clear coat for realistic textured effects and specialty applications such as crocodile skin, doming and even Braille.



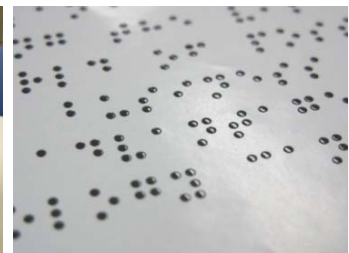
Custom label with gloss area highlighter



Crocodile skin



Custom skin



Braille



Q. How long will prints produced with ECO-UV ink last?

A. The ECO-UV ink lasts up to a year outdoor when a clear coat is applied as a last finishing process and up to 6 months without the clear coat. ECO-UV ink delivers superior scratch and chemical resistance on a wide variety of substrates being ideal for indoor applications such as POPs, labels and specialty applications. The clear coat also enhances scratch and chemical resistance of images by as much as 30%.

Q. Do prints require any additional finishing?

A. Although the LEC-300 offers automated clear coat finishing option that improves the durability of prints, high-quality pressure-sensitive overlamine film offers the best protection for high abrasion applications. Roland definitely recommends overlamination for graphics in highly abusive environments such as floor graphics.

Q. What type of maintenance does the LEC-300 printer require?

A. As with all Roland printers and printer/cutters, the LEC-300 is very low-maintenance and designed to be run continually as a production machine.

However, due to the unique characteristics of white ink, additional care is required. White ink has a tendency to settle in the cartridge, making it necessary to agitate the cartridge before installing it in the printer and again before each use. It is necessary to perform routine ink system maintenance to ensure ink lines remain free of sediment.

The LEC-300 includes two firmware-controlled maintenance reminders to ensure proper operation. Every 12 hours, the LEC-300 will prompt for maintenance by displaying **[INK REFRESHING: NORMAL]** on the control panel. If the printer has been idle for one week, it will display the maintenance prompt **[INK REFRESHING: FULL]**. In addition, the prompt for **[INK REFRESHING: FULL]** will be displayed after 2 weeks regardless of printer usage.

Roland recommends following these prompts and allowing the cleaning process to take place. A normal cleaning cycle will utilize roughly 22 ml of white ink and 18 ml of clear coat. A full cleaning cycle requires the use of a cleaning cartridge (SL-CL) and will use approximately 44 ml of white ink, 37 ml of clear coat and 72 ml of cleaning liquid.

Q. Is there any special requirement for storing the ECO-UV inks?

A. Since UV ink cures when exposed to UV light or excessive heat, it may slowly cure even when still in the cartridge if it is not stored properly.

1. Do not store the ink under direct sunshine.
2. Do not remove the original packaging material as the packaging is designed to block the light.
3. Store the ink in a cool place between 41°F to 95°F (5°C to 35°C).
4. Do not expose the ink to high temperatures (95°F to 104°F - 35°C to 40°C) for more than a month.



Q. What are the user-changeable parts and how much do they cost?

A. The following parts are the only consumable spare parts that require replacement, depending on print volume and machine use.

Wipers	\$12.00	Cutter protection strip	\$ 10.00
Wiper scraper	\$ 6.00	Blade	starts from \$ 19.00
Wiper tray pad	\$ 3.00	Blade holder	starts from \$ 50.00

**LEC-300 Specifications:**

Q. How many print heads are used in the LEC-300?

A. The LEC-300 utilizes 3 Piezo print heads consisting of one head per two-ink colors.

Q. How fast does the LEC-300 print?

A. The print modes available in VersaWorks are optimized for print quality and deliver a maximum print speed of 29.3 square feet per hour (2.7 m<sup>2</sup>/h) in high speed uni-direction mode. Bi-direction mode is available as an option and virtually doubles the print speed.

The chart below lists all available modes, print speeds with resolution and number of passes.

CMYK only or White only	Resolution (DPI)	Number of Passes	Print Speed	
			Bi-Dir	Uni-Dir
High Speed	360 X 720	9	58 sf/h (5.4 m <sup>2</sup> /h)	29 sf/h (2.7 m <sup>2</sup> /h)
Standard	720 X 720	17	30 sf/h (2.8 m <sup>2</sup> /h)	15 sf/h (1.4 m <sup>2</sup> /h)
High Quality	720 X 1440	17	25 sf/h (2.3 m <sup>2</sup> /h)	14 sf/h (1.3 m <sup>2</sup> /h)
<b>Single Pass (White + CMYK)</b>				
Standard	720 X 720	17	15 sf/h (1.4 m <sup>2</sup> /h)	7.5 sf/h (0.7 m <sup>2</sup> /h)
High Quality	720 X 1440	17	12 sf/h (1.1 m <sup>2</sup> /h)	6.5 sf/h (0.6 m <sup>2</sup> /h)
<b>Clear Coat only</b>				
Standard	360x720	9	58 sf/h (5.4 m <sup>2</sup> /h)	29 sf/h (2.7 m <sup>2</sup> /h)
High Quality	720x1440	17	24 sf/h (2.2 m <sup>2</sup> /h)	14 sf/h (1.3 m <sup>2</sup> /h)

Q. What is the print resolution of the LEC-300?

A. Maximum print resolution is 1440 dpi (720dpi x 1440dpi). There are also 5 other print modes as referenced in the chart above. These modes offer vivid solid color printing for the best color output per resolution. Roland Intelligent Pass Control optimizes the image quality in all print modes.

Q. What is the maximum media width that the LEC-300 units can accommodate as well as print?

A. The LEC-300 accommodates 30-inch wide media and can print and cut up to 29 inches wide.

Q. What is the maximum media thickness that the LEC-300 supports?

A. The maximum media thickness that the LEC-300 accommodates is 39 mil (.039 inches or 1.0 mm). To prevent potential head strikes when using thicker substrates, the LEC-300 features two head height positions. The clearance between the print heads and the platen is 0.12 inches (3.2 mm) in the high position and 0.08 inches (2.2 mm) in the low position.

Q. What is the maximum media roll weight the LEC-300 supports?

A. The LEC-300 accommodates 44 pound (20 kg) rolls.

Q. How do I connect the LEC-300 to my computer?

A. The LEC-300 includes Ethernet connectivity. You can connect them directly to a PC with a crossover cable or to an existing network using a standard network patch cable.

Q. Which version of VersaWorks is needed to run the LEC-300?

The LEC-300 will ship with VersaWorks 3.0. For current Roland owners, the software will drive multiple Roland printers, printer/cutters and GX series cutters. The latest version will be available through online updates.