



SJ-500

New Product Information



 **Roland**

April 2002

Overview

Announcing the newest edition to the SOLJET Family, the SOLJET SJ-500 printer. The new 54 inch SJ-500 is the most affordable printer in the SOLJET family and joins the 64" SJ-600 printer and the 54" SC-500 printer/cutter. Similar in printing specifications to the SC-500, the SJ-500 is based on the HI-FI JET PRO chassis. This SOLJET produces graphics in 6-color hi-fidelity output that last up to three years outdoors against fading without lamination. The SOLJET family's 1440 dpi resolution and CMYKLCm inkset provide photo realistic output that outshines any other printer. This new addition to Roland's inkjet printer family offers a new dimension in creativity and flexibility.

Revolutionary SOL INK is environmentally friendly and provides basic water- and UV- resistance on SOLJET Certified Media (SCM). Due to its low volatility nature, SOL INK does not require any special ventilation or heating elements. SOL INK is also very user friendly and requires much less machine maintenance than higher volatility solvent ink machines. The specially prepared SCM (SOLJET Certified Media) line of materials provide the best, most durable performance with SOL INK for a variety of applications. The SCM line is currently under development and will include pressure-sensitive vinyls, window film, banner substrates and more. Part numbers and pricing for SCM media are listed on the media chart included in this document

The SOLJET can produce stunning photo-realistic prints. Unlike other solutions in the outdoor market, the SOLJET combines 1440 dpi resolution and hi-fidelity printing to produce subtle gradations and vivid colors. No other outdoor printer in its class can match its output quality.

Roland ColorChoice® RIP software is included with each printer. This Adobe® PostScript® 3 multi-platform solution provides printers with total control over the printing process. With Roland certified media and inks, ColorChoice ensures beautiful, consistent results.

The SOLJET delivers versatility, quality and durability to any signmaker producing outdoor banners, POP displays, vinyl graphics, outdoor signage and more. The revolutionary SOLJET is set at a revolutionary price of \$19,995, which includes a set of CMYKLCm inks and one year of onsite maintenance. Maintenance contracts for ensuing years are available for an additional fee.

SOLJET features

- Revolutionary SOL INK provides basic water-resistant and UV-resistant outdoor durability up to 3 years without lamination.
- Print up to 53.563" wide, media widths from 8.313"-53.563".
- SOLJET's CMYKLCm hi-fidelity printing system produces stunning, photo realistic color prints at 1440 dpi resolution using piezo inkjet technology.
- Low-volatility SOL INK requires no special ventilation.
- Roland ColorChoice RIP included for professional quality printing including precision color management for your favorite Windows® and Macintosh® applications.
- Onsite warranty includes two preventative maintenance visits in the first year.

SOL INK

As a six-color solvent inkjet printer allows printmakers to produce water- and UV-resistant banners, POP displays, vinyl graphics, package prototypes and more. For most outdoor applications, SOLJET prints require no lamination. For prints that will be exposed to abrasion or chemical degradation, lamination with a high-quality outdoor durable overlamine film is recommended.

Roland's new line of media - SOLJET Certified Media (SCM) – is currently under development to provide printmakers with a completely integrated solution for creating indoor and outdoor signage. SCM

media include specialized products for a variety of applications. The SOLJET can also print on select products from Roland's PCM, PQM and PGM media lines.

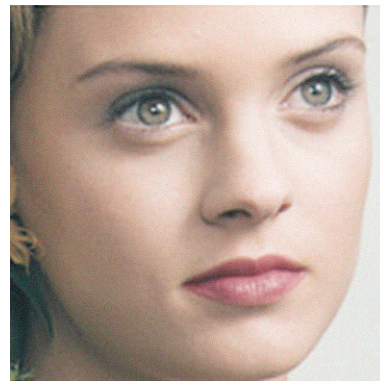
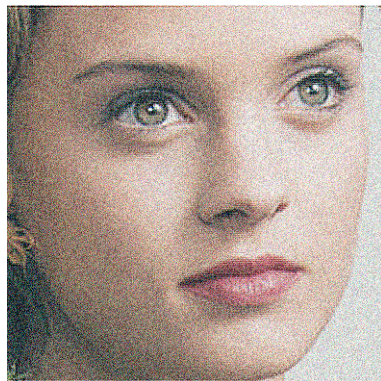
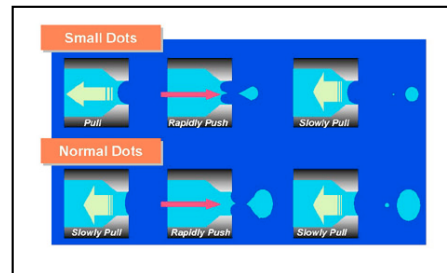
Using low-volatility Roland SOL INK, the SOLJET provides print makers with a safe working environment that requires no special ventilation. This state-of-the-art solvent device turns out ready-to-use, photo-realistic graphics with up to three years outdoor durability.

Ink Running COST (per sq. ft.)			
Resolution	Low Saturation	High Saturation	Average Cost
720 dpi	\$0.34/sq.ft	\$0.70/sq.ft	\$0.52
540 dpi	\$0.50/sq.ft	\$1.02/sq.ft	\$0.76
360 dpi	\$0.28/sq.ft	\$0.56/sq.ft	\$0.42

Ink costs only. Media costs vary with media type. SCM media cost ranges from \$.53 to \$1.63 per square foot.

Piezo Print Technology

The SOLJET achieves true 1440 x 720 dpi printing with 64 nozzle piezo print heads. The advantage of the SOLJET over other wide-format, hi-fidelity printer on the market is due, not only to the smaller dot size used, but also the accurate dot placement and the media feed precision resulting from Roland's superior hardware engineering. This stunning 1440 dpi resolution realistically reproduces the metallic shine and soft, subtle gradations of skin tones ideal for photographic or fine art reproductions. In addition, the SOLJET's superior dot size and placement enhances text definition of even the smallest font sizes commonly used in printing.



Sample Prints of 4-color vs. 6-color (Scanned)

Low vs. High Resolution

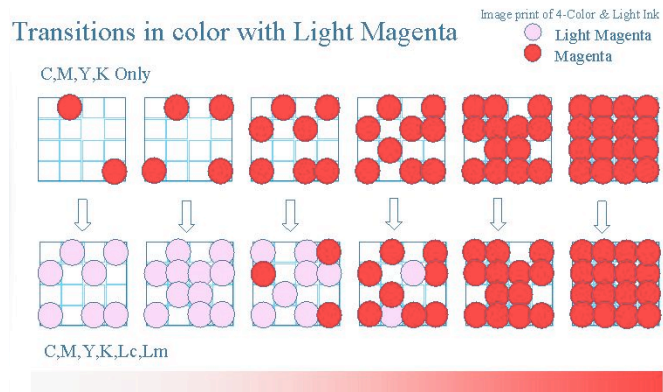
While the numbers of colors used to compose an image are important to image quality, nothing is more important than dots per inch (*dpi*). The SOLJET's microdot achieves continuous tone color. The key to maintaining such high resolution is to control the ink dot with micron precision motor technology as the Roland media feeding system does. The mechanical structure, motor quality and calibration of the SOLJET all contribute to ensure hi-resolution print quality with 1.76 micron in media feed control.



Sample Prints of 360 dpi vs. 720 dpi (Scanned)

SOLJET 6-color Printing

Traditional inkjets use 4 colors: Cyan, Magenta, Yellow and Black (CMYK). The SOLJET expands the printing gamut by using 6-color process printing, CMYK_{LcLm}, for better gradient, skin tones and color transitions. This chart demonstrates how combining colors on the media creates improved transitions.



Speed

The SOLJET is targeted for hi-quality output where color fidelity is paramount. However, the device has several different print modes, offering users a wide range of speeds and print quality modes. The chart below illustrates the various print modes, resolution settings and the resulting production capacity in square feet per hour.

Print Speeds				
Mode	Direction	Passes	Resolution	Square feet per hour
Draft	bi	1	180 dpi	81
	uni	1	180 dpi	54
Fast	bi	2	360 dpi	43
	uni	2	360 dpi	29
Normal	bi	4	360 dpi	22
	uni	4	360 dpi	15
Fine2	bi	6	540 dpi	21
	uni	6	540 dpi	13
Fine	bi	4	720 dpi	22
	uni	4	720 dpi	15
Super	bi	8	720 dpi	13
	uni	8	720 dpi	9
Photo	bi	16	1440 dpi	7
	uni	16	1440 dpi	4

Compatible Media

Listed below is a variety of media compatible with the SOLJET including the specially formulated SCM (SOLJET Certified Media). These media are optimized for durability and performance when used with SOL INK. These specially treated materials offer functionality and versatility for very reasonable cost-per-square-foot.

Part Number	Media Description	Size	Notes	List Price
SCM-ECVP-75-54	Economy Calendered Vinyl, Permanent Adhesive	54"x75' Roll	Avail March	\$ 179.95
SCM-LCVR-75-54	Luster Calendered Vinyl, Removable Adhesive	54"x75' Roll	Avail March	\$ 269.95
SCM-LCVP-75-54	Luster Calendered Vinyl, Permanent Adhesive	54"x75' Roll	Avail March	\$ 299.95
SCM-PGVP-75-54	Premium Cast Vinyl, Permanent Adhesive	54"x75' Roll	Avail March	\$ 419.95
SCM-SPVCB-66-50	Solvent Glossy Scrim Banner	50"x66' Roll	Available	\$ 449.95
SCM-SPVCG-66-50	Solvent Glossy Adhesive Vinyl	50"x66' Roll	Available	\$ 349.95
PGM-PMWV-50-52/42	Premium Matte Warranted Vinyl*	52"x50' Roll	Available	\$ 269.95
		42"x50' Roll	Available	\$ 219.95
PGM-TWF-75-52/42	Translucent White Film	52"x75' Roll	Available	\$ 359.95
		42"x75' Roll	Available	\$ 289.95
PCM-DSMP-100-50/42	Double-Sided Matte Paper	52"x100' Roll	Available	\$ 119.95
		42"x100' Roll	Available	\$ 99.95
PCM-PMP2-100-50/42	150 gram Heavy Matte Paper	50"x100' Roll	Available	\$ 159.95
		42"x100' Roll	Available	\$ 134.95
PCM-WBF2-100-50/42	Water-Fast Backlit Film	50"x100' Roll	Available	\$ 349.95
		42"x100' Roll	Available	\$ 299.95
PCM-IDBM-50-50/42	Indoor Wet-Strength Banner Material	50"x50' Roll	Available	\$ 174.95
		42"x50' Roll	Available	\$ 159.95
PCM-WTBM-50-50/42	Banner Material Tyvek [□]	50"x50' Roll	Available	\$ 299.95
		42"x50' Roll	Available	\$ 269.95
PCM-PVCB-50-50/42	Outdoor PVC Scrim Banner	50"x50' Roll	Available	\$ 399.95
		42"x50' Roll	Available	\$ 339.95
PCM-SFC-50-50/36	Polysilk Soft Cloth with Liner	50"x35' Roll	Available	\$ 519.95

		36"x35' Roll	Available	\$	369.95
PCM-FRBC-40-53/43	Flame Retardant Banner Cloth	53"x40' Roll	Available	\$	579.95
		43"x40' Roll	Available	\$	469.95
PCM-WMWV-40-50/42	Water-Fast Matte Vinyl	50"x40' Roll	Available	\$	249.95
		42"x40' Roll	Available	\$	224.95
PQM-CRNW-33-50/42	Concorde Rag Fine Art Paper, Natural White	50"x33' Roll	Available	\$	264.95
		42"x33' Roll	Available	\$	224.95
PQM-CRBW-33-50/42/24	Concorde Rag Fine Art Paper, Bright White	50"x33' Roll	Available	\$	264.95
		42"x33' Roll	Available	\$	224.95
		24"x33' Roll	Available	\$	129.95
PQM-PRSW-40-47/36	Provence Rag Fine Art Paper, Soft White	47"x40' Roll	Available	\$	249.95
		36"x40' Roll	Available	\$	179.95
SOL INK		Quantity	List Price		
SL-CY	Solvent Cyan	220ml		\$	119.95
SL -MG	Solvent Magenta	220ml		\$	119.95
SL-YE	Solvent Yellow	220ml		\$	119.95
SL-BK	Solvent Black	220ml		\$	119.95
SL-LC	Solvent Light Cyan	220ml		\$	119.95
SL-LM	Solvent Light Magenta	220ml		\$	119.95

*Standard Roland/Avery inkjet warranty does not apply to Sol Inks

Specifications

Product	SOLJET Large Format Printer/Cutter	SOLJET Large Format Printer
Model no.	SC-500	SJ-500
Print/Cut Technology	6-color, Piezo Inkjet/Digital servo media movement method with swivel drag cutting blade	6-color, Piezo Inkjet
Print Resolution*	1440 dpi, 720 dpi, 540 dpi, 360 dpi, 180 dpi selectable	1440 dpi, 720 dpi, 540 dpi, 360 dpi, 180 dpi selectable
Printing Width (Max.)	51.969" (1320 mm)	53.563" (1361 mm)
Cutting Area	53" x 984-1/8" (1346.2 mm x 24998 mm)	N/A
Cutting Speed/Force/Offset	10 – 600 mm/s / 30 – 200 gf / 0.000 – 1.500 mm	N/A
Feed Distance accuracy	Uncorrected: ±0.3 mm or ±0.3 % of printed length (whichever larger) With distance correction: ±0.1 mm or ±0.2 % of printed length (whichever larger)	Uncorrected: ±0.3 mm or ±0.3 % of printed length (whichever larger) With distance correction: ±0.1 mm or ±0.2 % of printed length (whichever larger)
Repetition accuracy (when cutting)	0.1mm or less (excluding stretching/contraction of material) Range for assured repetition accuracy For materials with a width exceeding 24 in. (610 mm): Length 157 7/16 in. (4,000 mm) For materials with a width of 24 in. (610 mm): Length 315 15/16 in. (8,000 mm)	N/A
Repetition between printing and cutting	+/- 0.0197 in. (0.5 mm) max. at 77 degrees Fahrenheit (25 degrees Celsius)	N/A
Software Resolution (When Cutting)	0.00984 in./step (0.025 mm/step)	N/A
Conditions for Usable Materials	Cuttable material thickness: 0.00315 to 0.00866 in. (0.08 to 0.22 mm) depending on material composition Maximum cuttable material thickness including base paper (backing paper): 0.0157 in. (0.4 mm) Maximum printable material thickness including backing paper: 0.039 in. (1.0 mm) Maximum diameter for roll material: 7-1/16 in. (180 mm) Core inner diameter for roll material: 2 in. or 3 in. (50.8mm or 76.2 mm) Maximum weight for roll material: 44.1 lb. (20 kg)	Maximum printable material thickness including backing paper: 0.039 in. (1.0 mm) Maximum diameter for roll material: 7-1/16 in. (180 mm) Core inner diameter for roll material: 2 in. or 3 in. (50.8mm or 76.2 mm) Maximum weight for roll material: 44.1 lb. (20 kg)
Media Width	8.268" (210 mm) to 54" (1350 mm) wide	8.268" (210 mm) to 54" (1350 mm)
Ink Types	SOLINK: CMYK + Light cyan (Lc), Light magenta (Lm)	SOLINK: CMYK + Light cyan (Lc), Light magenta (Lm)
Ink Cartridge	220 ml ± 5 ml per color	220 ml ± 5 ml per color
Ink Monitoring	Ink level indicator for each color, Ink low warning system with programmable auto pause	Ink level indicator for each color, Ink low warning system with programmable auto pause
Print Margin	Front edge: 0.394", Rear edge : 2.024", Left and Right: 0" - 0.394" variable (default: 0.394") Margin between pages: 0" - 3.937" (variable), default: 0.394"	Front edge: 2-13/16" (70 mm), Rear edge: 4-1/4" (107 mm), Left and Right: 0" - 0.394" (0 mm to 10 mm) variable (default: 0.394") Margin between pages: 0" – 7-7/8" (0 mm to 200 mm) variable, default: 0.394"

Print Color Quality	Photorealistic using High Fidelity 6-color implementation	Photorealistic using High Fidelity 6-color implementation
Roland ColorChoice™	Adobe® PostScript® 3, Multi platform RIP driver (Windows 98/NT/2000/XP, MacOS 9)	Adobe® PostScript® 3, Multi platform RIP driver (Windows 98/NT/2000/XP, MacOS 9)
Media Types	SOLJET Certified – Economy Vinyl, Calendered Vinyl, Cast Vinyl and Glossy Banner, Glossy Adhesive Vinyl PCM Media – Matte Paper, Backlit Film, Tyvek Banner, Scrim Banner, Matte Vinyl, and Synthetic Paper	SOLJET Certified – Economy Vinyl, Calendered Vinyl, Premium Cast Vinyl and Glossy Banner, Glossy Adhesive Vinyl PCM Media – Matte Paper, Backlit Film, Tyvek Banner, Scrim Banner, Matte Vinyl, and Synthetic Paper
Media Feed	Roll & sheet (no less than A4 size or 8.268" (210 mm) wide	Roll & sheet (no less than A4 size or 8.268" (210 mm) wide
Media Handling	Auto roll feed mechanism, auto sheet cutter, media take-up system (optional)	Auto roll feed mechanism, auto sheet cutter, media take-up system (optional)
Media Sensor	Sides/ Front edge and rear edge	Sides/ Front edge and rear edge
Head Height	3 step adjustable, 0.047"(1.2 mm), 0.063"(1.65 mm) and 0.083"(2.1 mm)	3 step adjustable, 0.047"(1.2 mm), 0.063"(1.65 mm) and 0.083"(2.1 mm)
Head Cleaning	Automatic and Manual built-in cleaning system	Automatic and Manual built-in cleaning system
Safety Cover	Safety interlock with auto shut down	Safety interlock with auto shut down
Interface, Std.	Bi-direction Parallel (IEEE1284 / nibble mode)	Bi-direction Parallel (IEEE1284 / nibble mode)
Languages	RD-GLIII (Cutting), RD-RTL (Printing), RD-PJL	RD-RTL (Printing), RD-PJL
Power-saving function	Auto-sleep	Auto-sleep
Power supply	100V - 240V ± 10% 50/60Hz	100V - 240V ± 10% 50/60Hz
Power consumption	Printing mode : Max. 1.0A/100V - 240V / Standby mode : 0.4A/100V - 240V	Printing mode : Max. 1.3A/100V - 240V / Standby mode : 0.4A/100V - 240V
Acoustic noise level	Printing/Cutting mode : 64db or less/ Standby mode : 40db or less (ISO7779)	Printing mode : 60db or less/ Standby mode : 40db or less (ISO7779)
Environmental requirements	59 - 95 degree Fahrenheit (15 - 35 degree Celsius), 35-80 % Relative Humidity (non-condensing)	59 - 95 degree Fahrenheit (15 - 35 degree Celsius), 35-80 % Relative Humidity (non-condensing)
Storage conditions	41 - 80 degree Fahrenheit (5 - 40 degree Celsius), 35-80 % Relative Humidity (non-condensing)	41 - 80 degree Fahrenheit (5 - 40 degree Celsius), 35-80 % Relative Humidity (non-condensing)
Dimensions with stand	92.535" (2325 mm) x 28.976" (736 mm) x 50.669" (1287 mm)	88.438" (2246 mm) x 29.875" (758 mm) x 48.875" (1241 mm)
Weight with stand	231.5 lb (105 kg)	253.5 lbs. (115 kg)
Accessories	Power cord / Drain bottle / Drain bottle cap / Blade / Blade Holder / Replacement blade for separating knife / Cleaning kit / Roland ColorChoice™ RIP driver / User's manual	Power cord / Drain bottle / Drain bottle cap / Blade / Blade Holder / Replacement blade for separating knife / Cleaning kit / Roland ColorChoice™ RIP driver / User's manual
Specifications subject to change without notice. *1440 dpi is only available in media feed axis.		



Frequently Asked Questions

1. What is the difference between the three SOLJET models?

There are three models available in the SOLJET product family. The SC-500 was introduced first and is a 53" printer and contour cutter. The SJ-600 is a 63" print only machine and the SJ-500 is a 53" print only machine. Other than differences in width and cutting capability, SOLJET models exhibit the same print quality, use the same SOL INK and are compatible with the same media.

2. Which software applications will work with the SOLJET?

The SOLJET ships with Roland ColorChoice® and is compatible with many desktop publishing applications such as Photoshop®, Illustrator® and CorelDraw!®. For contour cutting on the SC-500, an application that supports vector-based lines is required. Additional sign-based applications will also support the SOLJET.

3. How do I assign a cut line for the SC-500?

Within your graphic application, you need to create a spot color named "CutContour" and assign this spot color to the vector outline(s) you wish cut. More detailed instructions for specific applications can be found in the user's manual.

4. What is the availability on the new SCM media?

SOLJET Certified Media (SCM) types currently available are Glossy Banner, Glossy Adhesive Vinyl, Economy Calendered Vinyl, Luster Vinyl and Cast Vinyl.

5. How much does the SCM media cost?

The cost of the new SCM media will be significantly less than traditional aqueous inkjet coated materials, but slightly higher than uncoated substrates (such as traditional cast and calendered vinyl). For example, the SCM pressure-sensitive economy calendared product is \$.53 per sq. ft. and SCM premium cast vinyl is \$1.25 per sq. ft., which is about 30% higher than uncoated films but is about 60% less than aqueous inkjet coated materials.

6. What is the ink running cost of the SOLJET?

The ink cost for the SOLJET will range from \$0.28 per sq. ft. at 360 dpi on a low saturation image, up to \$1.02 per sq. ft. at 540 dpi on a highly saturated image. Based on internal testing, our average cost per square foot is: \$0.52 at 360 dpi, \$0.76 at 540 dpi, and \$0.42 at 720 dpi. Keep in mind that ink costs will vary based on image composition, color balance, saturation, and media type.

7. What are my connectivity options?

The SOLJET has a built-in parallel port that handles ECP parallel connectivity. If you wish to use a USB connection, you can purchase a USB to parallel cable. The cable must be a bi-directional cable. For the Mac, there are two options: a PCI card or a USB-PIA cable. Contact our Sales Support Department for these specific options.

If you wish to network the SOLJET, there are 3rd party solutions available. Contact our Technical Support Department for more information. (800) 542-2307 x300

8. How can I get the latest firmware for the SOLJET?

The latest firmware for the SOLJET is always available in the Roland Technical Support section of the Roland website. Download the DOS utility file found in the SOLJET category of the Tech Support section and install it on your PC computer. The file has a "README TEXT DOC" with step-by-step instructions.

9. What is hi-fidelity printing?

Hi-fidelity printing means printing with CMYK and any additional number of colors. The result is superior visual appearance of color compared to conventional 4-color process printing. For example, printing with CMYK, Light Cyan and Light Magenta provides smoother gradations than 4-color process printing and also offers a slightly expanded color gamut.

10. How much memory does the SOLJET have? Is it expandable?

The SOLJET has 16MB of RAM. The amount of memory is not expandable, nor does it need to be. It is more effective to expand the memory in the computer. The printer requires only a small amount of memory to keep the print head moving at full speed.

11. Does the SOLJET require monthly maintenance like other solvent printers?

The revolutionary SOL INK is specially formulated to work will with Roland printer components, minimizing maintenance needs. The SOLJET does not require heavy maintenance like other higher volatility solvent printers. In fact, the purchase of a SOLJET includes a one year maintenance contract. Maintenance contracts for ensuing years are available for an additional fee.

12. Why doesn't SOL INK require additional ventilation like other solvent inks?

The SOLJET uses low-volatility Roland SOL INK to provide signmakers with a working environment that requires no additional ventilation.

13. What kind of warranty is offered for the SOLJET?

The SOLJET is backed with a one-year, onsite hardware warranty. During this first year, the Roland Service and Technical Support departments are available to help customers diagnose problems and determine if the printer requires service. If you are having trouble with your SOLJET, please call 800 542-2307 and ask for Technical Support.