

Field Test Report

A Comprehensive KeyPoint Intelligence Laboratory Evaluation

Roland DG TrueVIS VG-640

64-Inch Wide Format Printer
Dual-CMYK Eco-Solvent Ink



★★★★☆

Image Quality

◆	Halftone Images	★★★★☆
◆	Color Accuracy	★★★★☆
◆	Color Gamut	★★★★☆
◆	Multi-Panel Wallpaper Consistency	★★★★☆

★★★★☆

Usability

◆	Media Handling	★★★★☆
◆	Device Management and Monitoring	★★★★☆
◆	Maintenance and Ink	★★★★☆

★★★★☆

Speed

OUR TAKE

A versatile selection for print shops requiring quick turnaround of their large format print jobs, the Roland DG TrueVIS VG-640 in its dual-CMYK ink configuration performed admirably during its BLI field evaluation. The most productive print speeds clocked in at better-than-average among its peers, while the highest quality print setting was the fastest recorded – by more than 31 percent over the next fastest device, implying that higher quality output won't result in undue slowdown. The VG-640 was cited for producing bright, well-saturated colors, as well as smooth skin tones with very good highlight details and contrast on several of BLI's test targets, while also delivering an average Delta E00 measurement of 5.07 across 15 corporate PANTONE colors at the high speed setting. The Roland VG-640 also yielded extremely accurate dimensional stability and

color consistency during the multi-panel wallpaper test segment, ensuring repeatability when printing multiple panels for side-by-side display. Notable in the usability category, the complimentary Roland VersaWorks Dual RIP provided intuitive operation for diverse tasks such as job tiling and nesting; job queue and ink consumption monitoring; and the ability to readily modify process and PANTONE colors. Among other noteworthy features, the TrueVIS VG-640 boasts an optional take-up reel for unattended printing; an ink pouch replacement system that reduces overall waste; and remote printer monitoring via iOS and Android devices. The 64-inch wide Roland DG TrueVIS VG-640, which also comes in a 54-inch version, is a solid choice for indoor and outdoor large format print applications.

SEPTEMBER

2018

BENEFITS

Above-average productivity at all quality settings; fastest speeds measured at the highest quality setting

Very good PANTONE color matching capabilities

Straightforward print job submission, job monitoring and color editing via complimentary Roland VersaWorks Dual RIP; easy media management via Media Explorer tool

Environmentally friendly 500-ml. ink pouch replacement system eliminates plastic cartridge disposal and waste

Unattended print runs facilitated by an optional take-up system

LED lights illuminate printing process and turn red when a service call or error occurs

ADVANTAGES

High speed setting yields neutral grays, good shadow details and smooth skin tones earning very good ratings for several images

Exceptional dimensional stability leads to highly accurate multi-panel printing

Remotely access control panel operations and monitoring via Bluetooth enablement on either iOS or Android

Remaining media length counted down; "print memo" length-tracking capability

Integrated automatic cutter

LIMITATIONS

User intervention required to remove media edge clamps before performing auto-cut

Basic control panel design lacks one-touch functionality seen on competing devices; vague remaining ink indication

Lacks roll media lift apparatus to assist with loading

Accounting information unavailable within job log

MAGE QUALITY



Halftone Images	★★★★☆
Color Accuracy	★★★★☆
Color Gamut	★★★★☆
Multi-Panel Wallpaper Consistency	★★★★★

BLI TEST CHART

The BLI Test Chart includes the following components and labels:

- Four corner densities:** Located at the top left corner.
- Color gamut:** A series of overlapping color bars on the left side.
- Fine highlight and shadow details:** A grayscale image of an elephant (labeled **A**).
- Gray neutrality and shadow detail:** A grayscale image of a landscape (labeled **C**).
- PANTONE color accuracy:** A grid of color swatches (labeled **G**).
- Saturation, textures and memory colors:** A grid of various color swatches (labeled **F**).
- Fine details:** Images of jewelry (labeled **D**) and a person's face (labeled **E**).
- Textures and metallic color reproduction:** Images of jewelry (labeled **D**) and a person's face (labeled **E**).
- Skin tone and smoothness:** A grayscale image of a person's face (labeled **E**).
- Pos/Neg Text:** A series of concentric arcs (labeled **J**).
- Pos/Neg Lines:** A series of nested rectangles (labeled **K**).

Other elements include a 'BLI' logo, a 'COMBINE LOGO COLOURS' section, and a 'Fruits and vegetables' image strip.


HALFTONE IMAGES


Images	MPI 3000: Most Productive	MPI 1105: Most Productive	MPI 1105: Highest Quality
A Elephants	Very Good	Good	Good
B Salmon	Good	Good	Good
C Volcano	Good	Good	Good
D Jewelry	Good	Very Good	Good
E Face	Very Good	Very Good	Excellent
F Fruit	Very Good	Very Good	Very Good

Halftone image quality was assessed using BLI's proprietary A0-size wide format test target that comprises six high quality color/black-and-white halftone images. The test target was printed at the most productive speed/quality setting that produced overall quality without visible banding on both Avery Dennison MPI 1105 and MPI 3000 media. For the Roland DG TrueVIS VG-640 dual CMYK device the high speed 4 pass setting was selected for both media, as was the "Sign & Display" Color Management RIP preset. The target was also printed on MPI 1105 media at the high quality 8 pass setting. Each of the six images was cut from the larger target and visually appraised for color accuracy, brightness, sharpness and contrast by two technicians at a distance of ten feet for the MPI 3000 media and at a distance of two feet for the MPI 1105 media.

Test Results

- A** On the Avery Dennison MPI 3000 media, the elephant image appeared neutral gray with good shadow details and average contrast.
- B** The salmon image was light overall and displayed gray neutrality with average contrast and details on both media types.
- C** The volcano image exhibited average contrast and lacked shadow detail on both media types.
- D** The jewelry image displayed above average sharpness and smoothness on the MPI 1105 media.
- E** The facial image consistently displayed smooth skin tones with very good highlight details and contrast under all conditions tested.
- F** The fruit image consistently displayed bright, well-saturated colors with good contrast.

PANTONE CORPORATE COLOR ACCURACY



EVERETT DENNISON MPI 1105: MOST PRODUCTIVE (HIGH SPEED 4 PASS)

PANTONE Color	165 C Home Depot	2685 C Cadbury	285 C Walmart	123 C McDonalds	485 C Coca Cola	321 C Siemens	293 C IKEA	109 C IKEA
ΔE00	6.62	8.04	4.75	4.95	3.85	4.28	4.67	5.38
PANTONE Color	137 C Veuve Cliquot	279 C Microsoft	574 C Harrods	361 C FedEx	476 C UPS	RHOD RED C T-Mobile	294 C Ford	Average ΔE00
ΔE00	5.78	6.85	4.38	4.04	3.16	5.26	3.98	5.07

EVERETT DENNISON MPI 1105: HIGHEST QUALITY (HIGH QUALITY 8 PASS)

PANTONE Color	165 C Home Depot	2685 C Cadbury	285 C Walmart	123 C McDonalds	485 C Coca Cola	321 C Siemens	293 C IKEA	109 C IKEA
ΔE00	6.32	5.46	5.39	5.3	4.72	4.47	3.76	4.79
PANTONE Color	137 C Veuve Cliquot	279 C Microsoft	574 C Harrods	361 C FedEx	476 C UPS	RHOD RED C T-Mobile	294 C Ford	Average ΔE00
ΔE00	5.65	7.29	4.35	4.57	3.23	6.13	3.63	5.00

The VersaWorks Dual RIP color management setting "Sign & Display" was used for PANTONE color accuracy analysis

The average Delta E00 across the 15 corporate colors measured 5.07 when printed at the most productive high speed 4 pass setting. The highest quality 8 pass setting produced an average Delta E00 measurement of 5.00.

Three of the 15 corporate colors printed on the dual CMYK ink Roland VG-640 printer measured less than 4.0 Delta E00 units at both the high speed and high quality settings.

COLOR GAMUT



Media: Setting	Graphic Color Representation	Colour Gamut (CIE) Volume
Avery Dennison MPI 3000: Most Productive	White	424,296
Avery Dennison MPI 1105: Most Productive	Cyan	465,315
Avery Dennison MPI 1105: Highest Quality	Red	332,943

Compared against Adobe RGB(1998) color space (multi-color graph)

The two color gamuts produced by the Roland TrueVIS VG640 at the most productive settings on the Avery Dennison MPI 3000 and 1105 media are considered average among the devices tested. However, the highest quality setting produced a color gamut that is notably smaller than the average for devices tested.

DENSITY

VERY DENNISON MPI3000: MOST PRODUCTIVE (HIGH SPEED 4 PASS)

	Top Left	Top Right	Bottom Left	Bottom Right
Cyan	1.46	1.48	1.47	1.47
Magenta	1.33	1.37	1.30	1.36
Yellow	0.91	0.91	0.91	0.92
Black	1.86	1.82	1.85	1.84

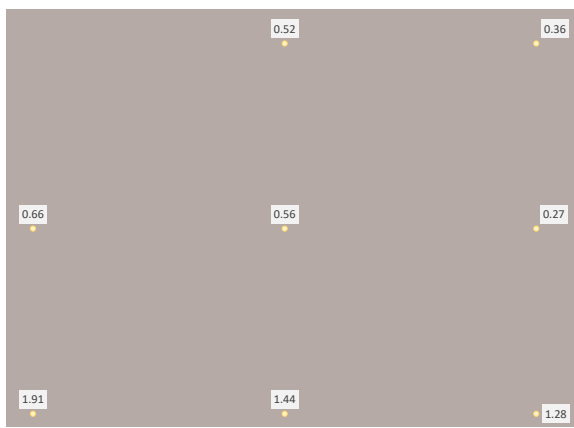
VERY DENNISON MPI1105: MOST PRODUCTIVE (HIGH SPEED 4 PASS)

	Top Left	Top Right	Bottom Left	Bottom Right
Cyan	1.57	1.61	1.60	1.58
Magenta	1.41	1.42	1.42	1.42
Yellow	0.98	0.99	0.99	0.99
Black	1.98	2.09	2.02	2.00

AVERY DENNISON MPI 1105: HIGHEST QUALITY (HIGH QUALITY 8 PASS)

	Top Left	Top Right	Bottom Left	Bottom Right
Cyan	1.35	1.36	1.34	1.38
Magenta	1.30	1.32	1.31	1.31
Yellow	0.94	0.94	0.93	0.93
Black	1.55	1.55	1.53	1.53

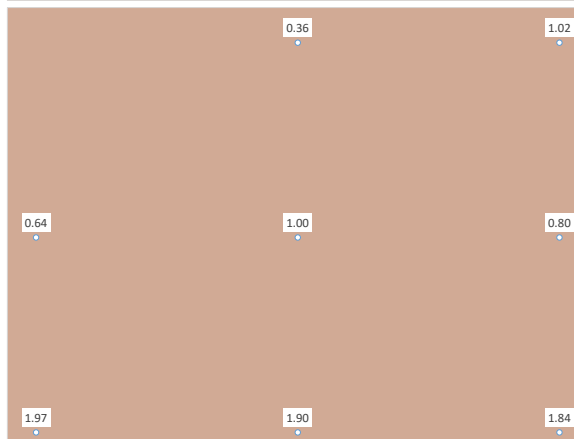
COLOR CONSISTENCY – DELTA E00 ACROSS PAGE



Gray
Average 0.88
Maximum 1.91



Skin Tone 1
Average 0.85
Maximum 1.60



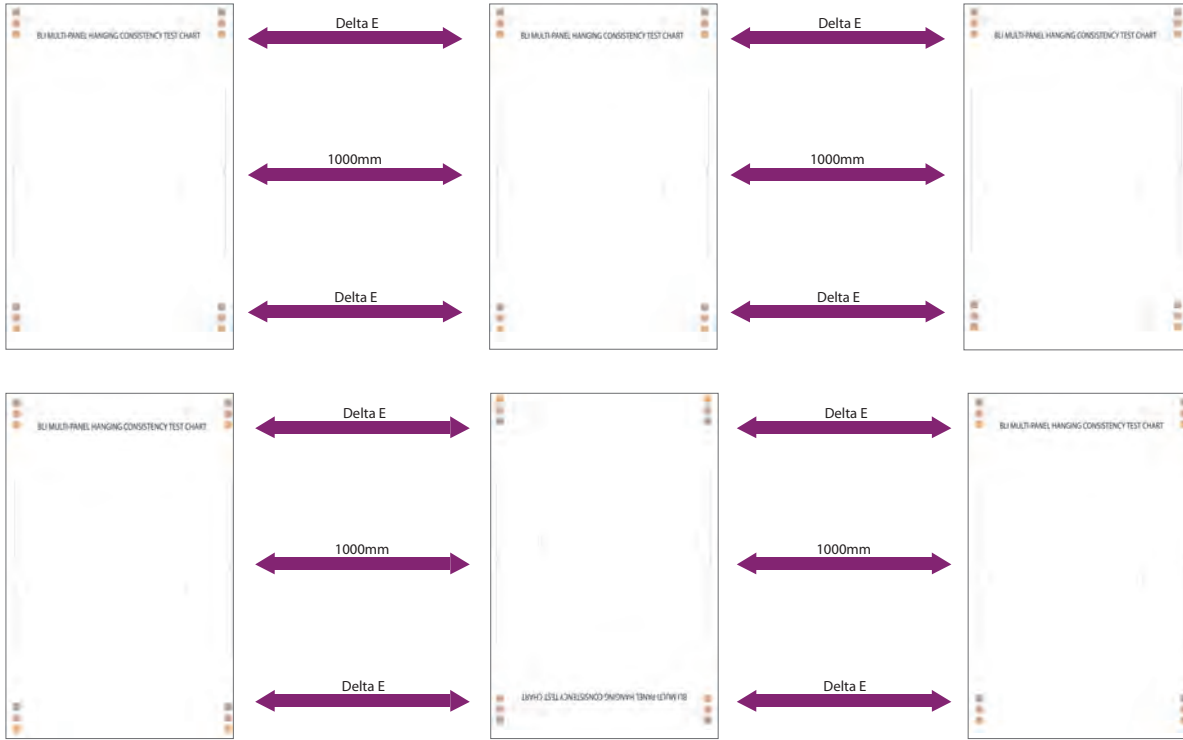
Skin Tone 2
Average 1.19
Maximum 1.97

Color consistency was assessed by comparing the top left corner against eight other locations on three A0-size targets printed on Avery Dennison MPI 1105, each target comprising a different neutral solid color. The Delta E00 was measured using an XRite eXact spectrophotometer.

MULTI-PANEL WALLPAPER CHART: COLOR AND LINE CONSISTENCY



To assess the consistency of color and line output when producing a wall hanging or other multi-panel artwork, BLI printed a series of six targets each 6.5 feet in length. Delta E color differences were measured on the panels' adjoining edges, and the corresponding 1 meter length lines were measured for accuracy with a micrometer. The panels were assessed with and without rotation as seen below.



	Maximum Delta E00 On Panels in Portrait Orientation	Maximum Delta E00 On Panels in 180° Orientation
Neutral Gray Top	0.82	0.77
Neutral Gray Bottom	0.79	0.66
Skin Tone 1 Top	1.37	0.98
Skin Tone 1 Bottom	0.89	1.18
Skin Tone 2 Top	0.75	1.09
Skin Tone 2 Bottom	0.34	0.95
Line Measurement Accuracy - Maximum Difference Between Panels (in mm)	0.18	0.06

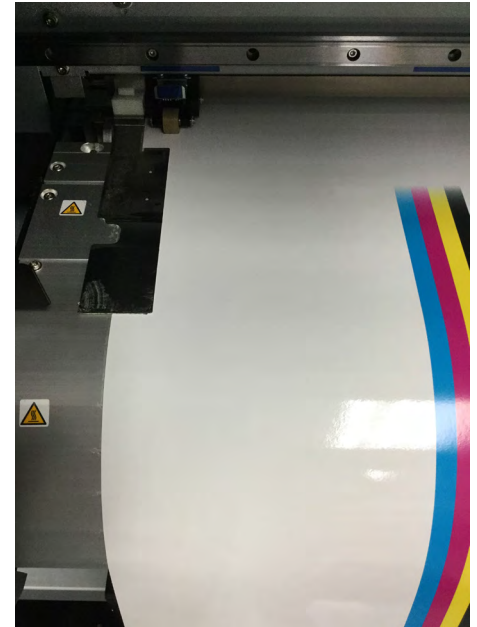
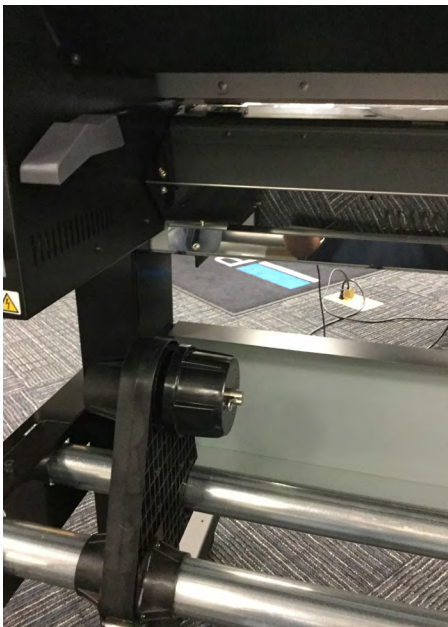
Maximum color variation measured 1.37 Delta E units on non-rotated panels and 1.18 on the rotated panels.

Maximum one meter line variation from panel to panel measured 0.18-mm. for non-rotated panels and 0.06-mm. for rotated panels.

USABILITY



MEDIA HANDLING



Media loading is a straightforward process, with the left side of the core loaded first at the rear of the device followed by sliding and fitting the opposite core holder in place on the right side. There are two metal bars directly beneath the end caps that a roll can be rested on before loading. For added convenience, the VG-640 has media levers located at both the front and rear of the device. The Roland VG-640 has an automatic cutter, which is more convenient than performing a cut manually. However, the two media clamps must be removed before cutting and then reinserted once the cut is made.



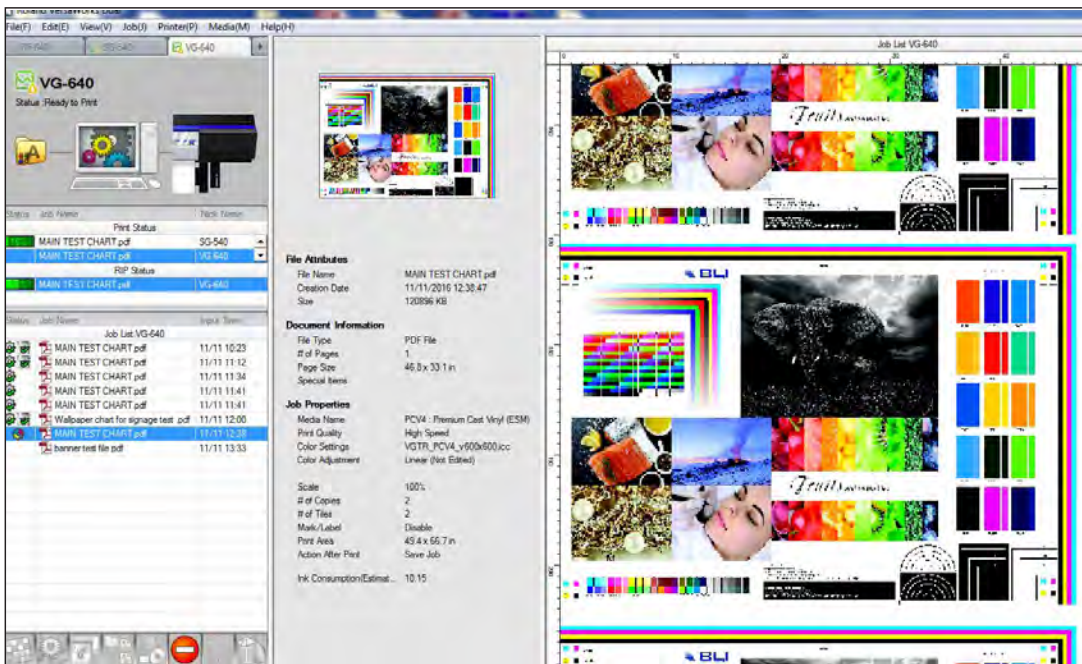
The take-up system, which is optional with the TrueVIS VG-640, enables multiple jobs to be readily collected onto a core facilitating unattended print runs.

The VG-640 enables up to eight user-named presets to be configured at the control panel. Each is media-dependent and contains up to 16 different device settings that optimize print quality, thereby eliminating the need to adjust these each time a roll is loaded.

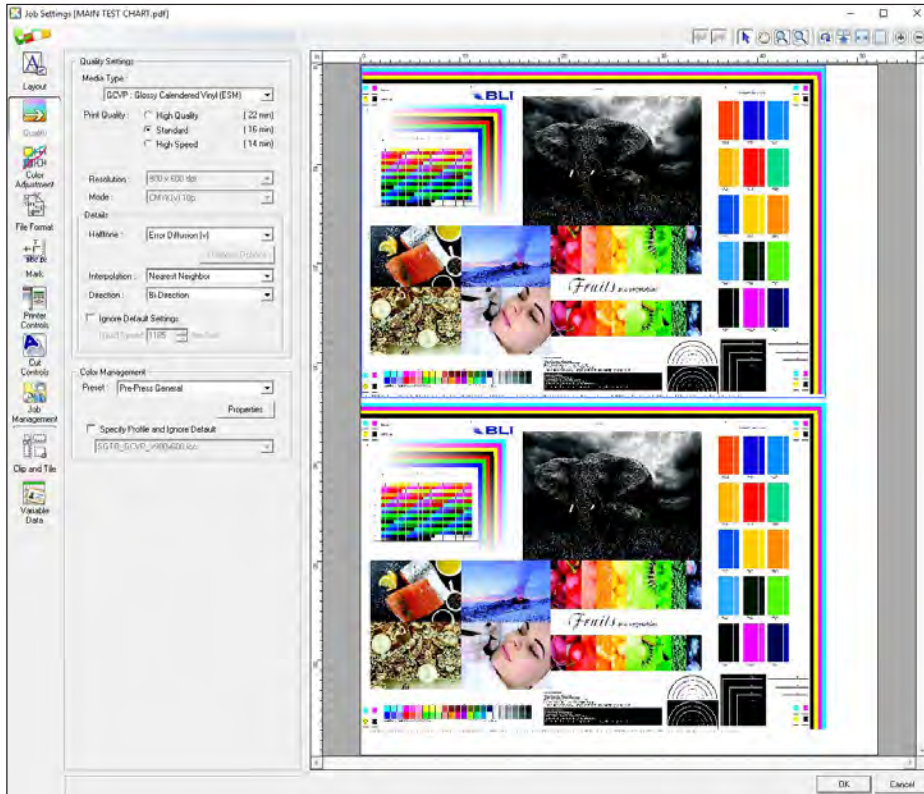
Conveniently, once a roll is loaded, its length can be set in the control panel, thus alerting users as to how much media remains during the print process.

The “print memo” control panel selection, when selected, will print the remaining length on the edge of the roll so that users have an indication of the remaining amount once the roll is removed. This is a handy feature, especially in environments where multiple rolls are being used.

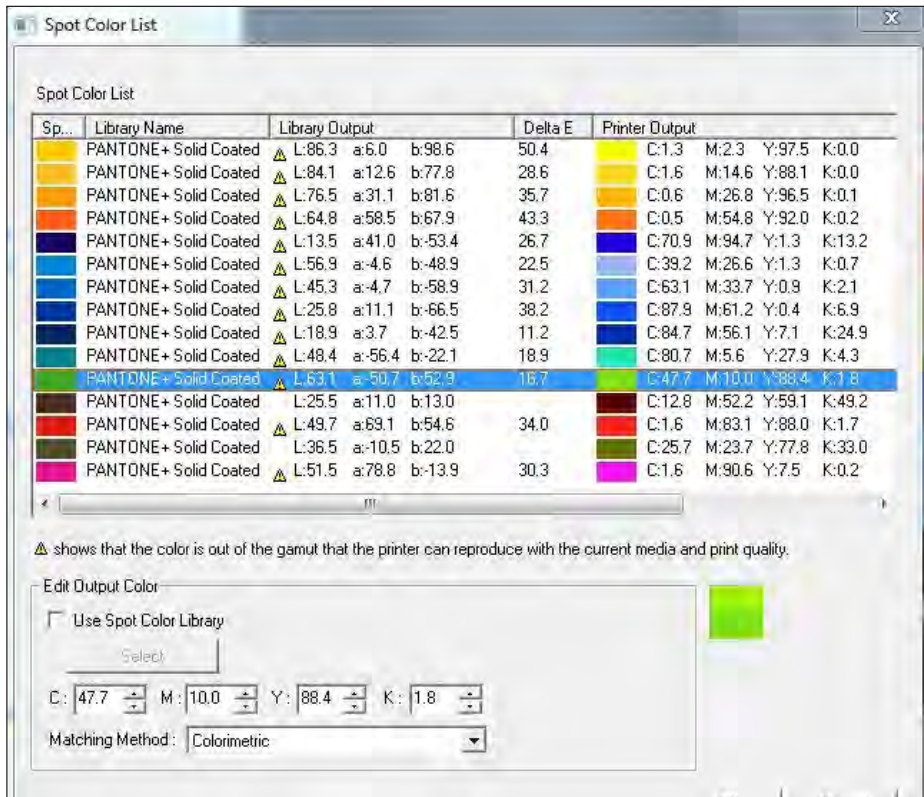
🔍 DEVICE MANAGEMENT AND MONITORING



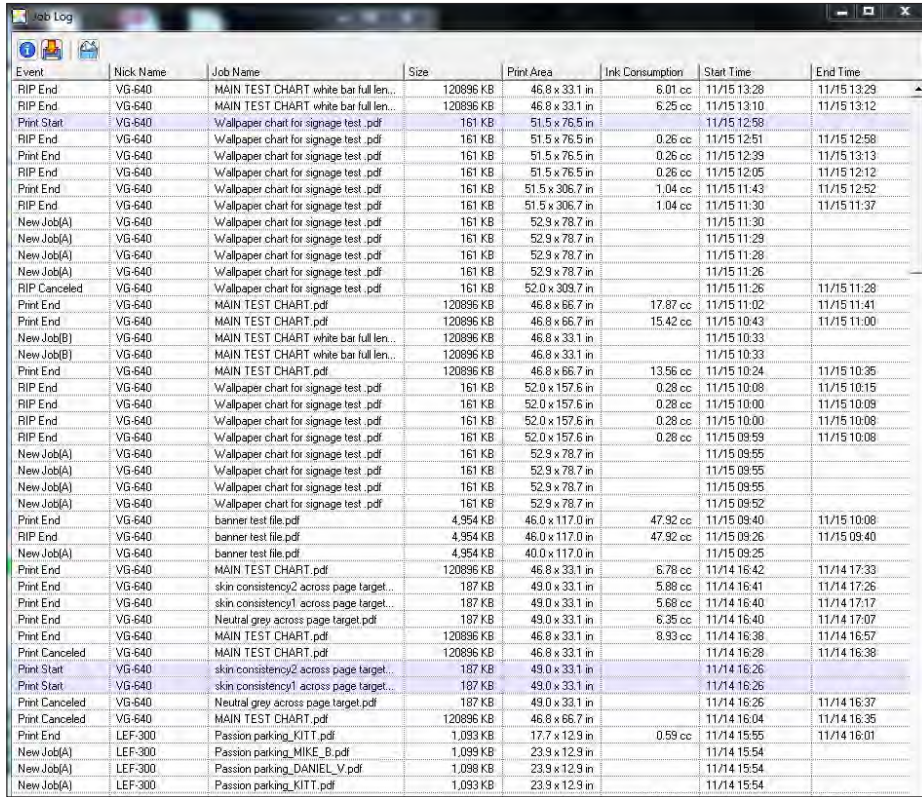
The Roland VersaWorks Dual RIP software comes standard with the VG-640. Precise print, RIP status and job properties are provided for each networked Roland device. BLI found this software intuitive to navigate, and expects it will be readily understood by all operators.



Detailed settings – layout, quality, color adjustment, file format, mark, printer controls, cut controls, job management, clip and tile and variable data – can be applied in the RIP’s clearly labeled tabs by clicking on a specific job in the VersaWorks Job List.

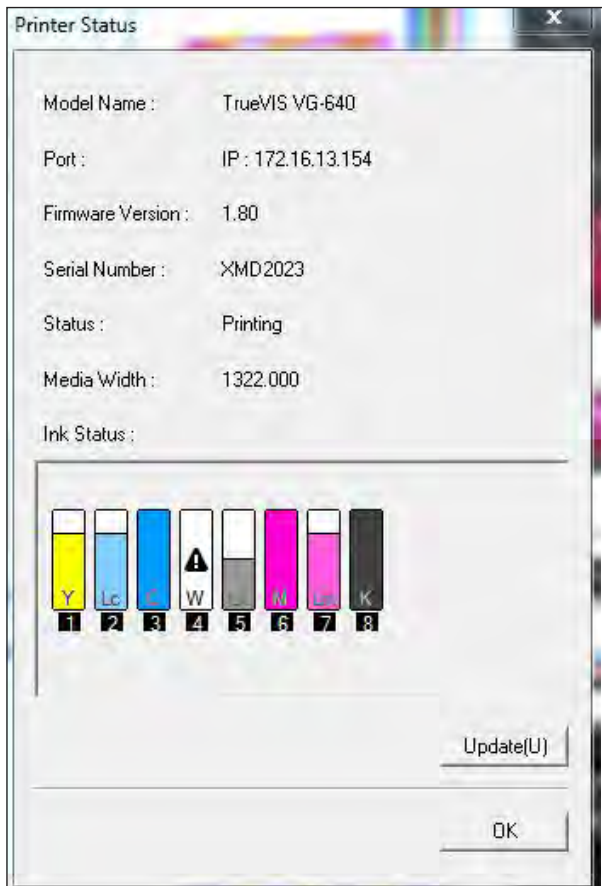


The VersaWorks Dual RIP features built-in PANTONE libraries as well as others from which users can modify specific colors for more accurate matching.



Event	Nick Name	Job Name	Size	Print Area	Ink Consumption	Start Time	End Time
RIP End	VG-640	MAIN TEST CHART white bar full len...	120896 KB	46.8 x 33.1 in	6.01 cc	11/15 13:28	11/15 13:29
RIP End	VG-640	MAIN TEST CHART white bar full len...	120896 KB	46.8 x 33.1 in	6.25 cc	11/15 13:10	11/15 13:12
Print Start	VG-640	Wallpaper chart for signage test. pdf	161 KB	51.5 x 76.5 in		11/15 12:58	
VG-640	VG-640	Wallpaper chart for signage test. pdf	161 KB	51.5 x 76.5 in	0.26 cc	11/15 12:51	11/15 12:58
Print End	VG-640	Wallpaper chart for signage test. pdf	161 KB	51.5 x 76.5 in	0.26 cc	11/15 12:39	11/15 13:13
RIP End	VG-640	Wallpaper chart for signage test. pdf	161 KB	51.5 x 76.5 in	0.26 cc	11/15 12:05	11/15 12:12
Print End	VG-640	Wallpaper chart for signage test. pdf	161 KB	51.5 x 306.7 in	1.04 cc	11/15 11:43	11/15 12:52
RIP End	VG-640	Wallpaper chart for signage test. pdf	161 KB	51.5 x 306.7 in	1.04 cc	11/15 11:30	11/15 11:37
New Job(A)	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 11:30	
VG-640	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 11:29	
New Job(A)	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 11:28	
VG-640	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 11:26	
RIP Canceled	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.0 x 309.7 in		11/15 11:26	11/15 11:28
Print End	VG-640	MAIN TEST CHART. pdf	120896 KB	46.8 x 66.7 in	17.87 cc	11/15 11:02	11/15 11:41
Print End	VG-640	MAIN TEST CHART. pdf	120896 KB	46.8 x 66.7 in	15.42 cc	11/15 10:43	11/15 11:00
New Job(B)	VG-640	MAIN TEST CHART white bar full len...	120896 KB	46.8 x 33.1 in		11/15 10:33	
New Job(B)	VG-640	MAIN TEST CHART white bar full len...	120896 KB	46.8 x 33.1 in		11/15 10:33	
VG-640	VG-640	MAIN TEST CHART. pdf	120896 KB	46.8 x 66.7 in	13.56 cc	11/15 10:24	11/15 10:35
RIP End	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.0 x 157.6 in	0.28 cc	11/15 10:08	11/15 10:15
RIP End	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.0 x 157.6 in	0.28 cc	11/15 10:00	11/15 10:09
RIP End	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.0 x 157.6 in	0.28 cc	11/15 10:00	11/15 10:08
RIP End	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.0 x 157.6 in	0.28 cc	11/15 09:59	11/15 10:08
New Job(A)	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 09:55	
New Job(A)	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 09:55	
New Job(A)	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 09:55	
New Job(A)	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 09:52	
Print End	VG-640	banner test file. pdf	4,954 KB	46.0 x 117.0 in	47.92 cc	11/15 09:40	11/15 10:08
RIP End	VG-640	banner test file. pdf	4,954 KB	46.0 x 117.0 in	47.92 cc	11/15 09:26	11/15 09:40
New Job(A)	VG-640	banner test file. pdf	4,954 KB	40.0 x 117.0 in		11/15 09:25	
Print End	VG-640	MAIN TEST CHART. pdf	120896 KB	46.8 x 33.1 in	6.78 cc	11/14 16:42	11/14 17:33
Print End	VG-640	skin consistency2 across page target...	187 KB	49.0 x 33.1 in	5.88 cc	11/14 16:41	11/14 17:26
Print End	VG-640	skin consistency1 across page target...	187 KB	49.0 x 33.1 in	5.68 cc	11/14 16:40	11/14 17:17
Print End	VG-640	Neutral grey across page target. pdf	187 KB	49.0 x 33.1 in	6.35 cc	11/14 16:40	11/14 17:07
Print End	VG-640	MAIN TEST CHART. pdf	120896 KB	46.8 x 33.1 in	8.93 cc	11/14 16:38	11/14 16:57
Print Canceled	VG-640	MAIN TEST CHART. pdf	120896 KB	46.8 x 33.1 in		11/14 16:28	11/14 16:38
Print Start	VG-640	skin consistency2 across page target...	187 KB	49.0 x 33.1 in		11/14 16:26	
Print Start	VG-640	skin consistency1 across page target...	187 KB	49.0 x 33.1 in		11/14 16:26	
Print Canceled	VG-640	Neutral grey across page target. pdf	187 KB	49.0 x 33.1 in		11/14 16:26	11/14 16:37
Print Canceled	VG-640	MAIN TEST CHART. pdf	120896 KB	46.8 x 66.7 in		11/14 16:04	11/14 16:35
Print End	LEF-300	Passion parking_KITT. pdf	1,093 KB	17.7 x 12.9 in	0.59 cc	11/14 15:55	11/14 16:01
New Job(A)	LEF-300	Passion parking_MIKE_B. pdf	1,099 KB	23.9 x 12.9 in		11/14 15:54	
New Job(A)	LEF-300	Passion parking_DANIEL_V. pdf	1,098 KB	23.9 x 12.9 in		11/14 15:54	
New Job(A)	LEF-300	Passion parking_KITT. pdf	1,093 KB	23.9 x 12.9 in		11/14 15:54	

The VersaWorks Job Log provides comprehensive job information that includes print area, print time and total ink consumed for each print job, though cost information is not included.



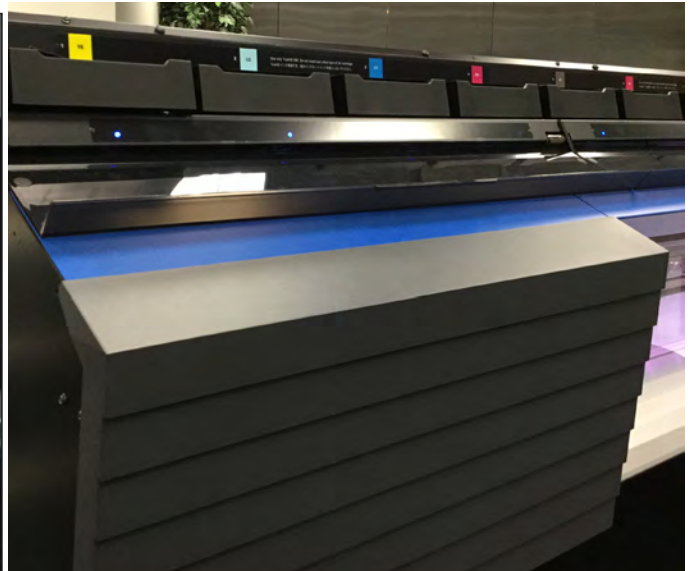
Basic ink, media, and device information is provided in Printer Status.



The unit's control panel is basic and features two lines of text and nine buttons. Common selections for media advance and cut, printhead cleaning, nozzle check, and heater adjustments are located several layers deep in control panel sub-menus. While printing, the panel displays the media width and print status.

The Roland VG-640 is Bluetooth enabled, giving users remote access to perform control panel functions from iOS and Android devices.

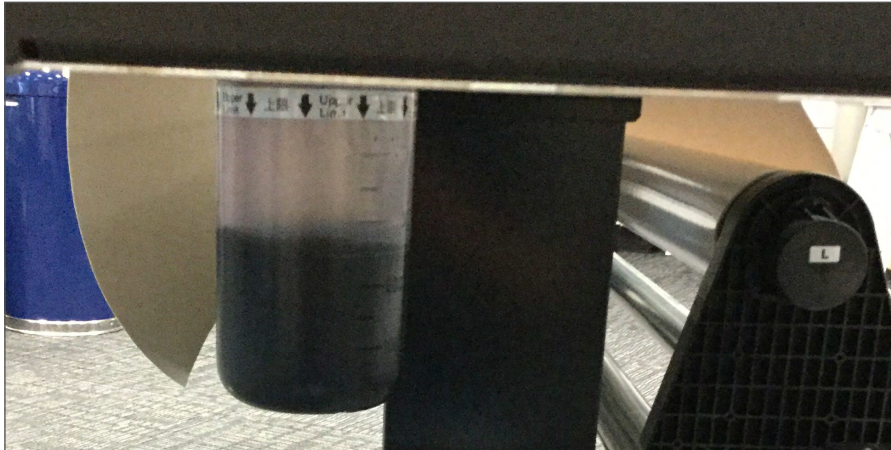
MAINTENANCE AND INK



Rather than replacing actual ink cartridges, the Roland VG-640 has an ink pouch replacement system, which requires a new pouch be loaded into its respective horizontal plastic tray housing once the old pouch is depleted. This is a more environmentally-friendly solution since only the pouch is discarded while the plastic housing is retained; however, it's more time consuming than simply replacing a cartridge. Although the unit can be set to "continue printing when pouch is out," the unit must be paused when a pouch needs replacing, thus not permitting ink "replacement-on-the-fly." Ink pouches come in one size, 500 ml.

For optimal print quality, Roland recommends printing a daily nozzle check pattern that is initiated in the function menu of the control panel. Three levels of printhead cleaning are available – normal, medium and powerful. The company also recommends removing the ink tray and gently shaking it if colors appear uneven on output.

A bidirectional alignment, which is initiated in the control panel menu, is recommended when a new media roll is installed. This simple process, which takes only a few minutes, prints two test patterns after which the operator selects the number of the pattern that's optimally aligned and enters that number at the panel.



The unit's waste ink tank is easily removable, requiring the operator to simply unscrew it from the bottom of the printer, empty and replace. Users will be prompted with an "empty drain bottle" control panel message.

Roland provides a cleaning kit consisting of cleaning swabs and solution for manually cleaning specific areas of the device, namely around the printheads and wiper. Initiated at the control panel or from a mobile device, a manual cleaning is recommended monthly or when quality defects are noted that an automatic cleaning doesn't rectify.

Printhead wipers, the wiper tray pad and the cutter blade are user-replaceable, and their replacement is initiated at the control panel.

Daily internal maintenance is conducted automatically as long as the VG-640 is turned on.

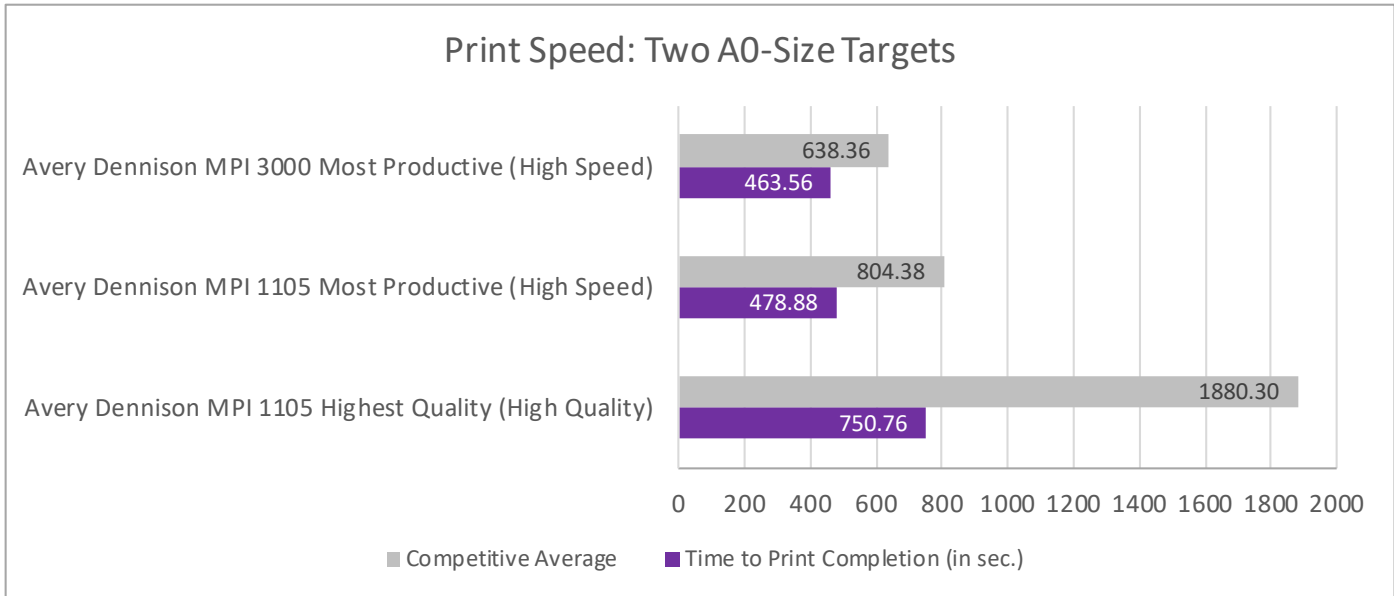


The ink indicator on the control panel displays one or two bars for the remaining ink level and lists numbers for each color instead of the actual color.

SPEED



Devices were timed for two of BLI's A0-size image quality targets printed in succession with data width turned on so that printing began at the far left of the page. The stopwatch began when the printhead started the print process and ended when the second print completed printing and was ready to cut. The speeds listed below were measured at the most productive setting that produced image quality that BLI determined as acceptable (no visible banding) on Avery Dennison MPI 3000 media when viewed at 10 feet and on Avery Dennison MPI 1105 media when viewed at two feet. The third speed measured was for the highest quality setting available to print two targets on Avery Dennison MPI 1105.



All Speed/Quality Settings Tested

Speed/Quality Setting	Avery Dennison MPI 3000	Avery Dennison MPI 1105
High Speed 4 Pass	463.56	478.88
Standard 6 Pass	563.28	563.12
High Quality 8 Pass	748.03	750.76

Time measured (in seconds) for two A0-size targets to be printed

At the most productive high speed 4 pass setting, the dual CMYK Roland TruVIS VG-640 produced two A0-size targets in 7 minutes and 43.56 seconds on the Avery Dennison MPI 3000 media. At the same high speed setting, the VG-640 generated two targets in 7 minutes and 58.88 seconds on MPI 1105 media.

At the highest quality 8 pass setting, the VG-640 produced two targets in 12 minutes and 30.76 seconds on MPI 1105 media.

SUPPORTING TEST DATA

The unit was evaluated at the manufacturer's U.S. facility during an intensive three-day test period. 54-inch rolls of Avery Dennison MPI 1105 – polymeric cast vinyl, MPI 2105 – calendared vinyl film and MPI 3000 – monomeric calendared vinyl media were tested in each device. All test files were submitted using the VersaWorks Dual RIP provided by the manufacturer. A Roland-recommended PCV4 (Premium Cast Vinyl) media profile was used for printing on MPI 1105 and MPI 2105 and a GCVP (Glossy Calendered Vinyl) media profile was used for printing on MPI 3000. The "Sign & Display" color management RIP setting was utilized for all image quality output. Ratings are based on a five-star system where five is the best.

Note: Two BLI analysts independently evaluated the individual sections of BLI's subjective image quality test, each judged on its own merits, with printer identification hidden. Under standard lab lighting conditions, each analyst ranked the print samples into five quality classifications (Excellent, Very Good, Good, Fair, Poor) and once completed, the individual appraisals were combined and a final image quality score was assigned. In the event of differing scores, the sample's quality was debated and a final consensus attained. Print samples on the MPI 3000 (monomeric vinyl) were evaluated at a distance of 10 feet (reflecting a walk- / drive-by viewing experience) and those printed on the MPI 1105 (cast vinyl) were evaluated at a closer distance of 2 feet (reflecting a close-up viewing experience). Although the Roland TrueVIS VG-640 has an integrated cutter, BLI evaluated the printer only.

About Buyers Laboratory: Buyers Laboratory (BLI) is the world's leading independent provider of analytical information and testing services to the document management industry. For over 50 years, buyers have relied on BLI to help them differentiate products' strengths and weaknesses and make the best purchasing decisions, while industry sales, marketing and product professionals have turned to BLI for insightful competitive intelligence and valued guidance on product development, competitive positioning and sales channel and marketing support. BLI also offers private, for-hire testing services that help manufacturers develop and market better products and consumables.

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Field Test Report

A Comprehensive KeyPoint Intelligence Laboratory Evaluation

Roland DG TrueVIS VG-640

64-Inch Wide Format Printer
Seven-Color Plus White Eco-Solvent Ink



★★★★☆

Image Quality

◆	Halftone Images	★★★★☆
◆	Color Accuracy	★★★★☆
◆	Color Gamut	★★★★☆
◆	Multi-Panel Wallpaper Consistency	★★★★☆

★★★★☆

Usability

◆	Media Handling	★★★★☆
◆	Device Management and Monitoring	★★★★☆
◆	Maintenance and Ink	★★★★☆

★★★★☆

Speed

OUR TAKE

Intended for both indoor and outdoor print applications, the Roland DG TrueVIS VG-640 printer, as tested with a white ink option in addition to seven other eco-solvent inks (CMYKLcLmLk), performed very well in BLI's demanding three-day field test. At the high-speed print quality setting, this 64-inch unit excelled at producing bright halftone images with very good details and saturation, as well as neutral grays and smooth skin tones on the Avery Dennison MPI 1105 media tested. Furthermore, the VG-640 delivered the highest color gamut of any device evaluated to date. Pair that with remarkably accurate PANTONE color matching capabilities, as well as above average print speeds, and this large format device will undoubtedly satisfy the strictest quality and color demands of any print shop. The Roland VG-640 also yielded extremely accurate dimensional stability

and color consistency during the multi-panel wallpaper test segment, ensuring repeatability when printing multiple panels for side-by-side display. Notable in the usability category, the complimentary Roland DG VersaWorks Dual RIP provided intuitive operation for diverse tasks such as job tiling and nesting; job queue and ink consumption monitoring; and the ability to readily modify process and PANTONE colors. Among other noteworthy features, the TrueVIS VG-640, which also comes in a 54-inch version, boasts an optional take-up reel for unattended printing; an ink pouch replacement system that reduces overall waste; and remote printer monitoring via iOS and Android devices, all of which make for a robust printer option.

SEPTEMBER

2018

BENEFITS

Above-average productivity notched at the high speed 6 pass print setting for Avery Dennison MPI 1105 media

Precise out-of-box PANTONE color matching

Straightforward print job submission, job monitoring, and color editing via complimentary Roland VersaWorks Dual RIP; easy media management via Media Explorer tool

Environmentally friendly 500-ml. ink pouch replacement system eliminates plastic cartridge disposal

Unattended print runs facilitated by an optional take-up system

LED lights illuminate printing process and turn red when a service call or error occurs

ADVANTAGES

Most productive high-speed setting yields neutral grays, bright colors, good shadow details, and smooth skin tones on MPI 1105 media

Largest color gamut of any device tested for production of a wide range of colors

Exceptional dimensional stability leads to highly accurate multi-panel printing

Remotely access control panel operations and monitoring via Bluetooth enablement on either iOS or Android

Remaining media length counted down; "print memo" length-tracking capability

Integrated automatic cutter

LIMITATIONS

User intervention required to remove media edge clamps before performing auto-cut

Basic control panel design lacks one-touch functionality seen on competing devices; vague remaining ink information

Lacks roll media lift apparatus to assist with loading

Accounting information unavailable within job log

IMAGE QUALITY



Halftone Images	★★★★☆
Color Accuracy	★★★★★
Color Gamut	★★★★★
Multi-Panel Wallpaper Consistency	★★★★★

BLI TEST CHART

The BLI Test Chart includes the following labeled sections:

- A:** Fine highlight and shadow details (Elephant image)
- B:** Fine details (Salmon and jewelry)
- C:** Textures and metallic color reproduction (Volcano and woman)
- D:** Textures and metallic color reproduction (Jewelry)
- E:** Skin tone and smoothness (Woman's face)
- F:** Saturation, textures and memory colors (Fruits and vegetables)
- G:** PANTONE color accuracy (Color bars)
- H:** Color gamut (Color checker chart)
- I:** Four corner densities (Registration marks)
- J:** Pos/Neg Text (Text patterns)
- K:** Pos/Neg Lines (Line patterns)


HALFTONE IMAGES


Images	MPI 3000: Most Productive	MPI 1105: Most Productive	MPI 1105: Highest Quality
A Elephants	Good	Very Good	Good
B Salmon	Good	Very Good	Very Good
C Volcano	Good	Very Good	Good
D Jewelry	Good	Very Good	Very Good
E Face	Excellent	Very Good	Very Good
F Fruit	Very Good	Very Good	Very Good

Halftone image quality was assessed using BLI's proprietary A0-size wide format test target that comprises six high quality color/black and white halftone images. The target was printed at the most productive speed/quality setting that produced acceptable overall quality without visible banding on both Avery Dennison MPI 3000 and MPI 1105 media. For the Roland DG TrueVIS VG-640, the high speed 6 pass setting was selected for both media, as was the "Sign & Display" Color Management RIP preset. The target was also printed on MPI 1105 media at the highest quality setting, which for this device is 13-pass. Each of the six images was cut from the larger target and visually appraised for color accuracy, brightness, sharpness, and contrast by two technicians at a distance of ten feet for the MPI 3000 media and at a distance of two feet for the MPI 1105 media.

Test Results

- A** On the Avery Dennison MPI 1105 media at the most productive setting, the elephant image exhibited a photo-like appearance with above average contrast and very good gray neutrality.
- B** On the MPI 1105 media, the salmon image displayed a bright, crisp appearance with very good contrast.
- C** The volcano image exhibited good contrast and brightness with very good details on MPI 1105 media.
- D** The jewelry image was bright with good contrast and above-average sharpness on MPI 1105 media.
- E** The facial image displayed natural, smooth skin tones with very good details and contrast under all tested conditions.
- F** The fruit image also displayed bright colors with good details and saturation under all tested conditions.

Although continuing to deliver very good image quality overall, the slower 13 pass setting did not produce an improvement in image quality on the MPI 1105 media, indicating that users will not always benefit by using a higher quality (slower) print setting on the Roland VG-640.

PANTONE CORPORATE COLOR ACCURACY



AVERY DENNISON MPI 1105: MOST PRODUCTIVE (HIGH SPEED, 6 PASS)

PANTONE Color	165 C Home Depot	2685 C Cadbury	285 C Walmart	123 C McDonalds	485 C Coca Cola	321 C Siemens	293 C IKEA	109 C IKEA
ΔE00	5.60	4.66	2.24	4.78	3.37	2.99	2.86	3.95
PANTONE Color	137 C Veuve Cliquot	279 C Microsoft	574 C Harrods	361 C FedEx	476 C UPS	RHOD RED C T-Mobile	294 C Ford	Average ΔE00
ΔE00	4.44	3.20	1.12	1.34	2.89	3.94	2.73	3.34

AVERY DENNISON MPI 1105: HIGHEST QUALITY (HIGH QUALITY, 13 PASS)

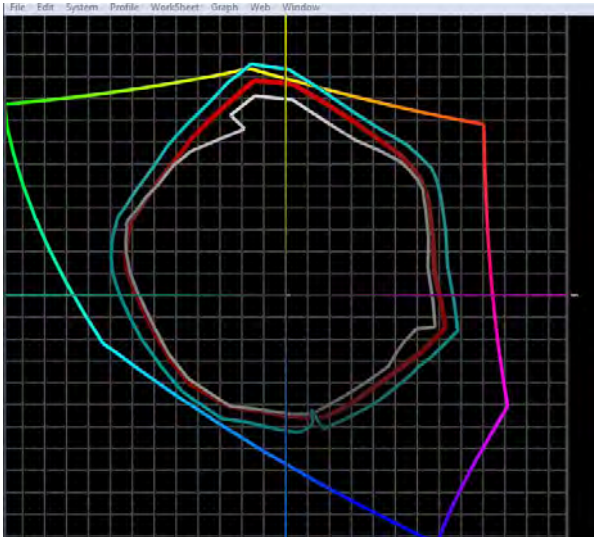
PANTONE Color	165 C Home Depot	2685 C Cadbury	285 C Walmart	123 C McDonalds	485 C Coca Cola	321 C Siemens	293 C IKEA	109 C IKEA
ΔE00	5.90	4.90	3.04	5.09	3.87	1.76	2.68	3.72
PANTONE Color	137 C Veuve Cliquot	279 C Microsoft	574 C Harrods	361 C FedEx	476 C UPS	RHOD RED C T-Mobile	294 C Ford	Average ΔE00
ΔE00	4.58	4.12	1.53	1.95	0.58	5.05	2.16	3.40

The VersaWorks Dual RIP color management setting "Max Density U.S." was used for PANTONE color accuracy analysis

The average Delta E00 across all the 15 corporate colors measured 3.34 when printed at the most productive (high speed) setting, while at the highest quality setting average Delta E00 measured 3.40 for all the colors printed on Avery Dennison MPI 1105 media.

Eleven of the 15 corporate colors printed on the seven-color plus white ink Roland VG-640 measured less than 4.0 Delta E00 units at the high-speed setting, while the high quality setting produced nine colors with a Delta E00 that measured less than 4.0.

COLOR GAMUT



Media: Setting	Graphic Colour Representation	Colour Gamut (CIE) Volume
Avery Dennison MPI 3000: Most Productive	White	499,224
Avery Dennison MPI 1105: Most Productive	Cyan	645,755
Avery Dennison MPI 1105: Highest Quality	Red	528,512

Compared against Adobe RGB(1998) colour space (multi-colour graph)

On MPI 1105 media at the most productive setting, the Roland DG TrueVIS VG640 produced the largest color gamut BLI has measured on devices tested thus far. The remaining two color gamuts are considered above average compared with competitive devices tested.

DENSITY

VERY DENNISON MPI3000: MOST PRODUCTIVE (HIGH SPEED 6 PASS)

	Top Left	Top Right	Bottom Left	Bottom Right
Cyan	1.39	1.58	1.66	1.63
Magenta	1.33	1.40	1.41	1.41
Yellow	1.03	1.06	1.06	1.06
Black	2.17	2.21	2.21	2.22

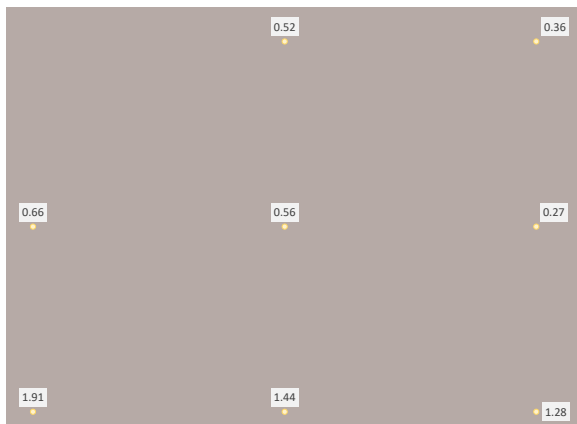
VERY DENNISON MPI1105: MOST PRODUCTIVE (HIGH SPEED 6 PASS)

	Top Left	Top Right	Bottom Left	Bottom Right
Cyan	1.68	1.74	1.60	1.75
Magenta	1.47	1.49	1.47	1.49
Yellow	1.09	1.10	1.10	1.10
Black	2.23	2.26	2.33	2.28

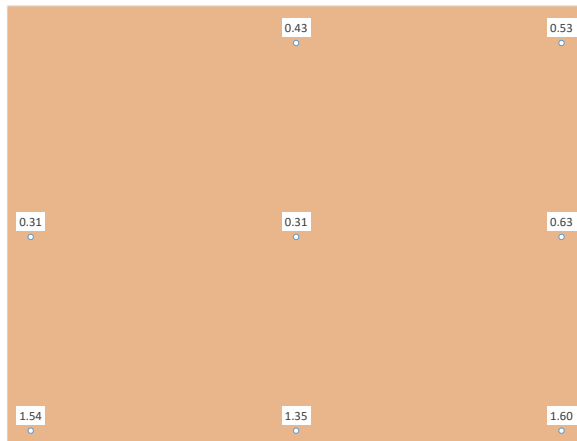
AVERY DENNISON MPI 1105: HIGHEST QUALITY (HIGH QUALITY 13 PASS)

	Top Left	Top Right	Bottom Left	Bottom Right
Cyan	1.68	1.69	1.73	1.69
Magenta	1.54	1.54	1.55	1.52
Yellow	1.15	1.14	1.16	1.14
Black	2.40	2.38	2.35	2.35

COLOR CONSISTENCY – DELTA E00 ACROSS PAGE



Grey
 Average 0.97
 Maximum 1.54



Skin Tone 1
 Average 1.35
 Maximum 1.97



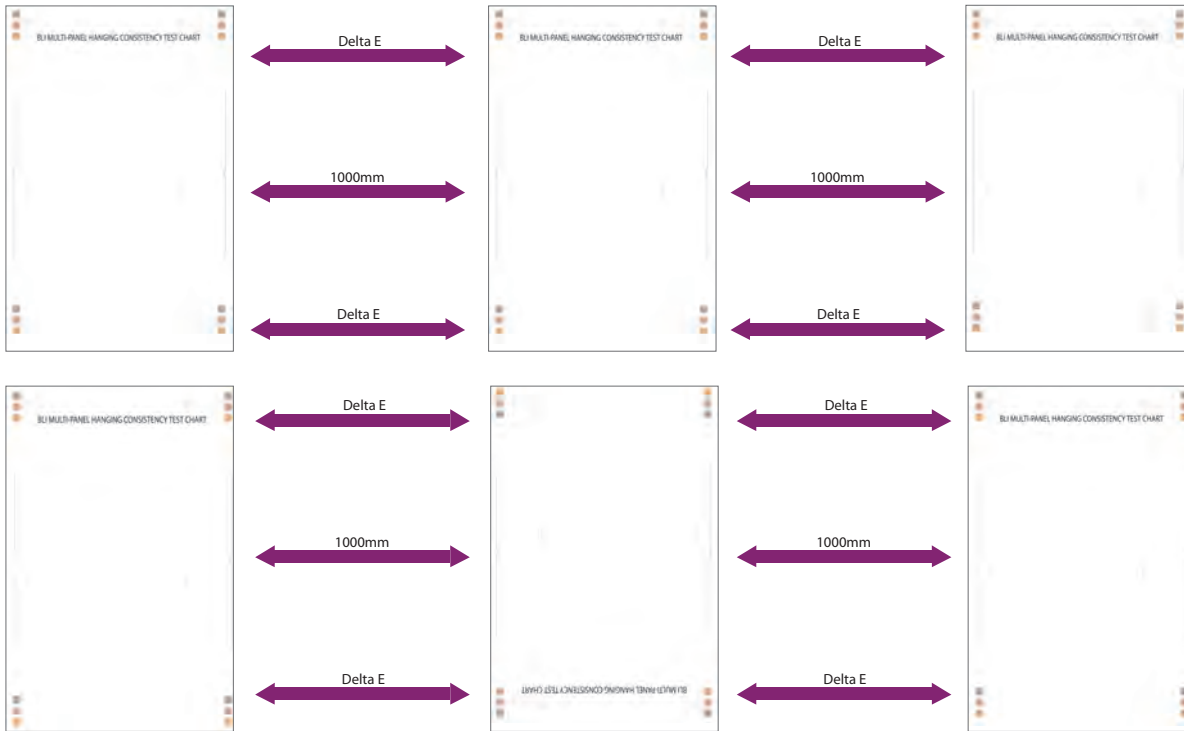
Skin Tone 2
 Average 0.58
 Maximum 0.91

Color consistency was assessed by comparing the top left corner against eight other locations on three A0-size targets printed on Avery Dennison MPI 1105, each target comprising a different neutral solid color. The Delta E00 was measured using an XRite eXact spectrophotometer.

MULTI-PANEL WALLPAPER CHART: COLOR AND LINE CONSISTENCY



To assess the consistency of color and line output when producing a wall hanging or other multi-panel artwork, BLI printed a series of six targets each 6.5 feet in length. Delta E color differences were measured on the panels' adjoining edges, and the corresponding 1 meter length lines were measured for accuracy with a micrometer. The panels were assessed with and without rotation as seen below.



	Maximum Delta E00 On Panels in Portrait Orientation	Maximum Delta E00 On Panels in 180° Orientation
Neutral Gray Top	0.64	1.75
Neutral Gray Bottom	0.48	0.80
Skin Tone 1 Top	0.41	1.31
Skin Tone 1 Bottom	0.37	0.67
Skin Tone 2 Top	0.37	0.26
Skin Tone 2 Bottom	0.46	0.68
Line Measurement Accuracy – Maximum Difference Between Panels (in mm)	0.44	0.83

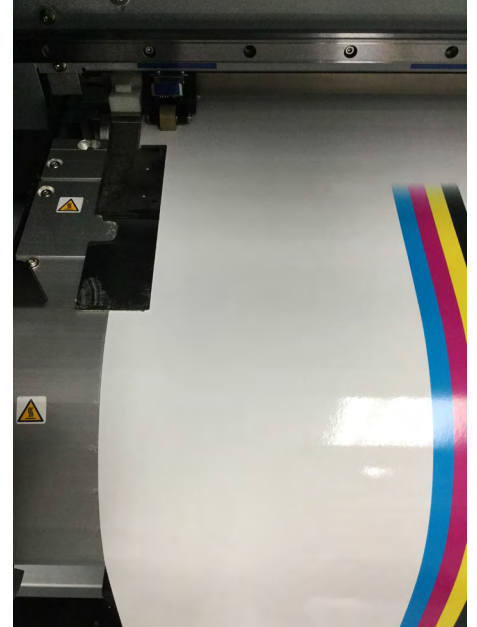
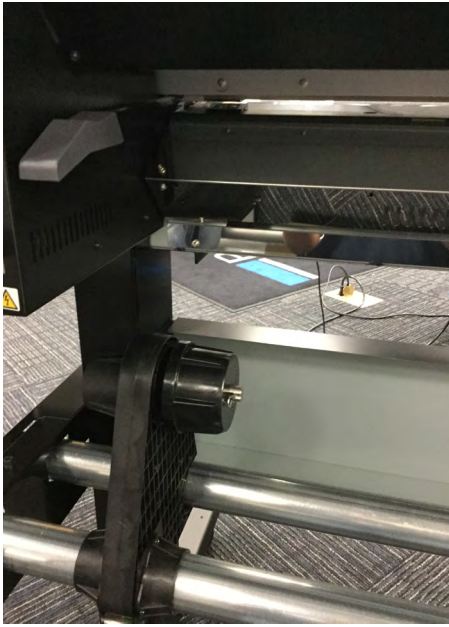
Color variation measured no more than 1.75 Delta E units for the three neutral colors across six wallpaper panels in rotated orientation, while in portrait orientation, the maximum Delta E measured 0.83.

Maximum one-meter line variation from panel to panel measured 0.44-mm. for non-rotated panels and 1.36-mm. for rotated panels.

USABILITY



MEDIA HANDLING



Media loading is a straightforward process, with the left side of the core loaded first at the rear of the device followed by sliding the opposite core holder in place on the right side. There are two metal bars directly beneath the end caps that a roll can be rested on before loading. For added convenience, the VG-640 has media levers located at both the front and rear of the device. The Roland VG-640 has an automatic cutter, which is more convenient than performing a cut manually. However, the media clamps located on the far left and right sides of the roll must be removed before cutting and then reinserted once the cut is made.



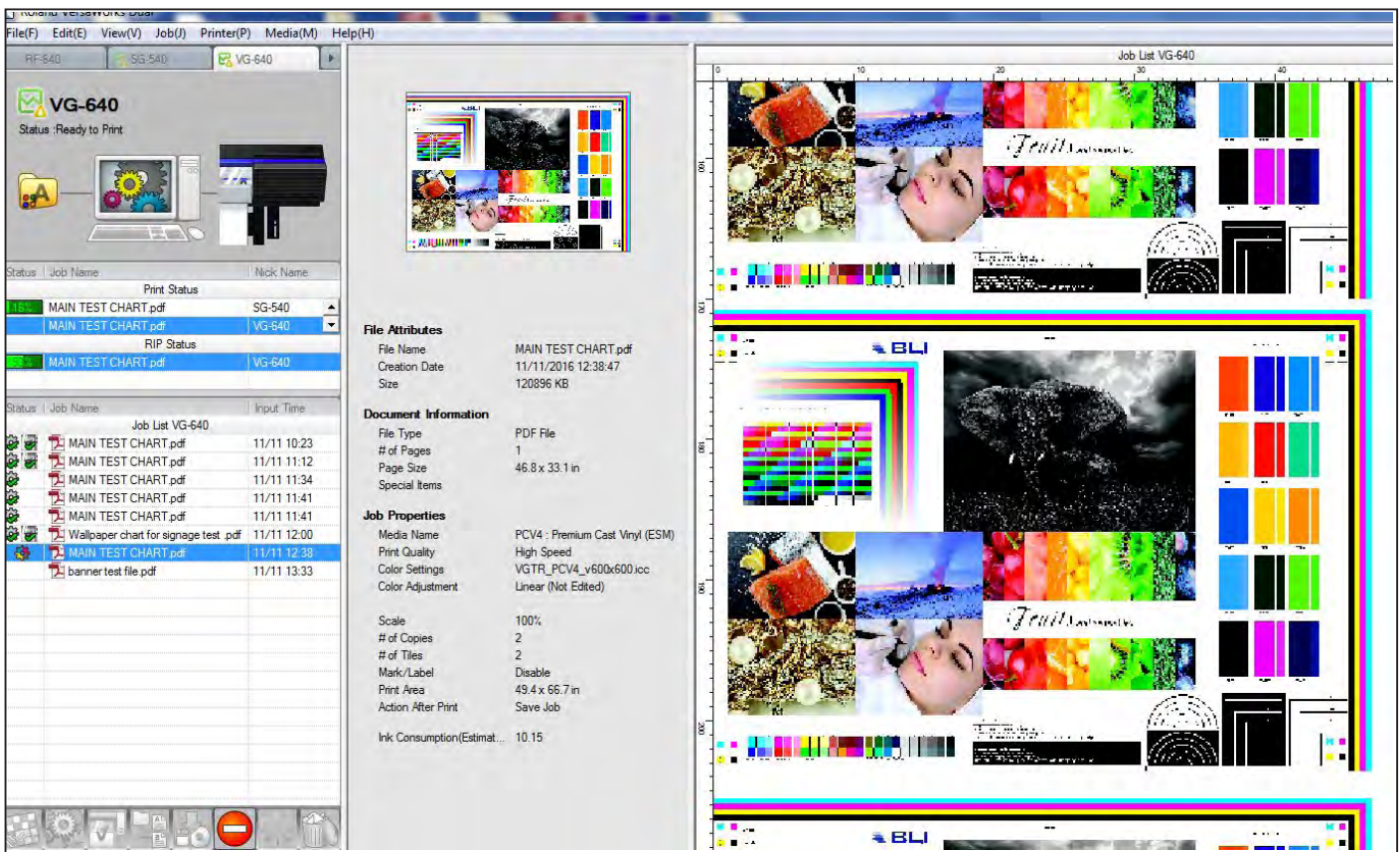
The take-up system, which is optional with the TrueVIS VG-640, enables multiple jobs to be readily collected onto a core facilitating unattended print runs.

The VG-640 enables up to eight user-named presets to be configured at the control panel. Each is media-dependent and contains up to 16 different device settings used to optimize print quality, thereby eliminating the need to adjust these settings each time a roll is loaded.

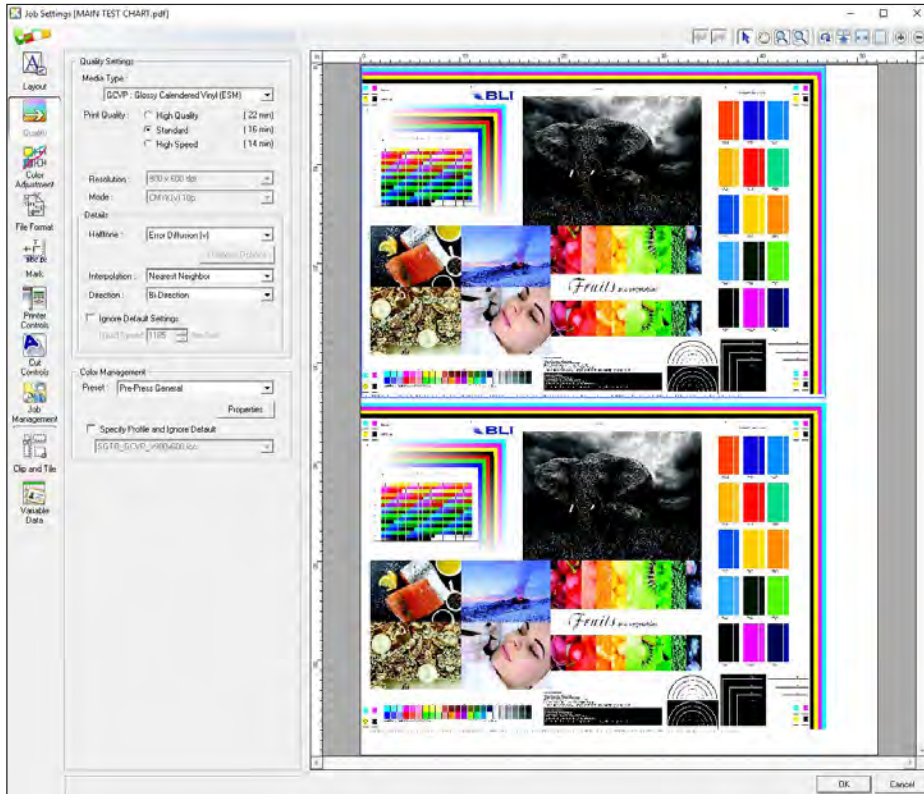
Conveniently, once a roll is loaded, its length can be set in the control panel, thus alerting users as to how much media remains during the print process.

The “print memo” control panel selection, when selected, will print the remaining length on the edge of the roll so that users have an indication of the remaining amount once the roll is removed. This is a handy feature, especially in environments where multiple rolls are being used.

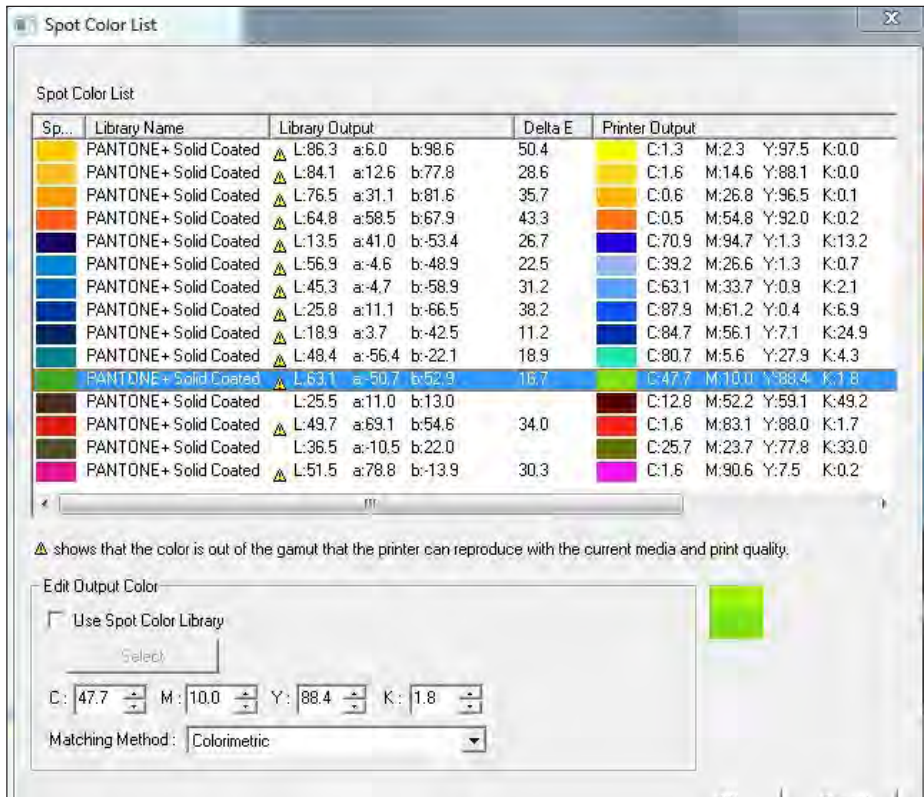
DEVICE MANAGEMENT AND MONITORING



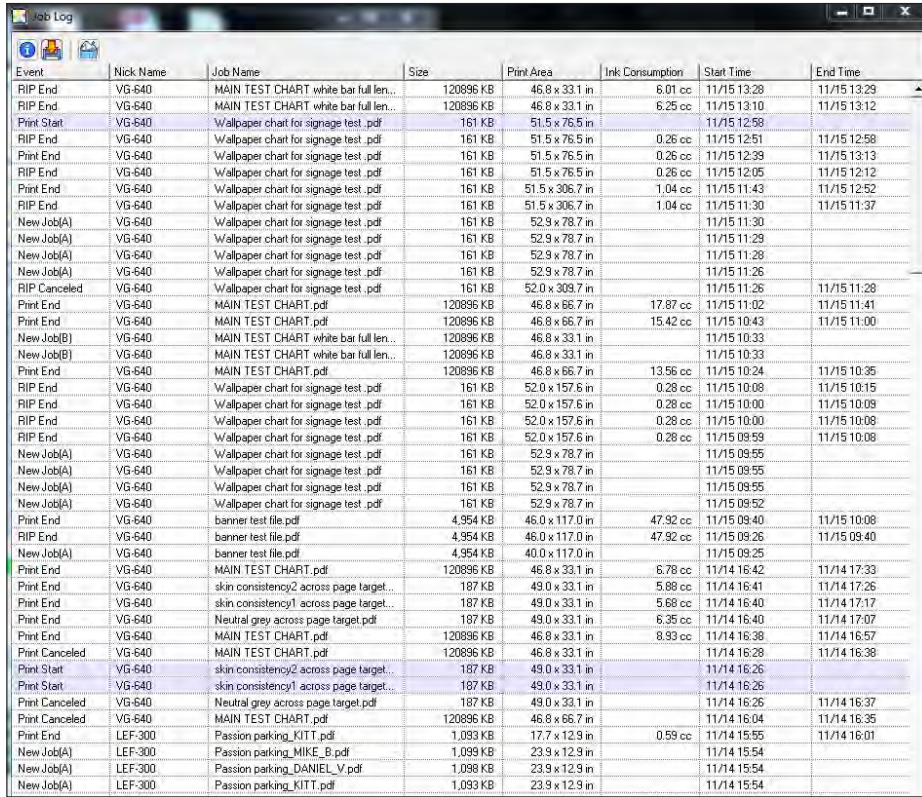
The Roland VersaWorks Dual RIP software comes standard with the VG-640. Precise print, RIP status, and job properties are provided for each networked Roland device. BLI found this software intuitive to navigate, and expects it will be readily understood by all operators.



Detailed settings – layout, quality, color adjustment, file format, mark, printer controls, cut controls, job management, clip and tile, and variable data – can be applied in the clearly labeled tabs by clicking on a specific job in the VersaWorks Job List.

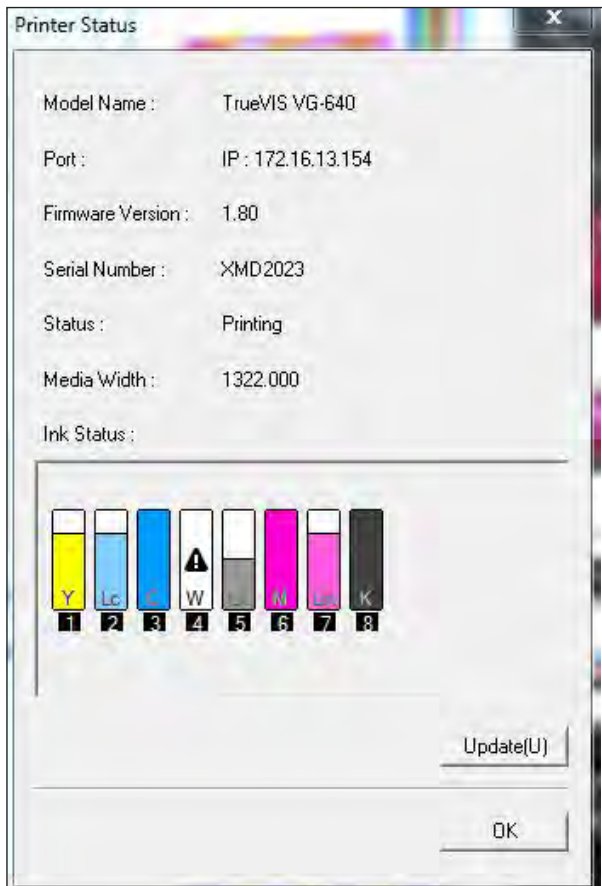


The VersaWorks Dual RIP features built-in PANTONE libraries as well as others from which users can select and modify specific colors for more accurate matching.



Event	Nick Name	Job Name	Size	Print Area	Ink Consumption	Start Time	End Time
RIP End	VG-640	MAIN TEST CHART white bar full len...	120896 KB	46.8 x 33.1 in	6.01 cc	11/15 13:28	11/15 13:29
RIP End	VG-640	MAIN TEST CHART white bar full len...	120896 KB	46.8 x 33.1 in	6.25 cc	11/15 13:10	11/15 13:12
Print Start	VG-640	Wallpaper chart for signage test. pdf	161 KB	51.5 x 76.5 in		11/15 12:58	
VG-640	VG-640	Wallpaper chart for signage test. pdf	161 KB	51.5 x 76.5 in	0.26 cc	11/15 12:51	11/15 12:58
Print End	VG-640	Wallpaper chart for signage test. pdf	161 KB	51.5 x 76.5 in	0.26 cc	11/15 12:39	11/15 13:13
RIP End	VG-640	Wallpaper chart for signage test. pdf	161 KB	51.5 x 76.5 in	0.26 cc	11/15 12:05	11/15 12:12
Print End	VG-640	Wallpaper chart for signage test. pdf	161 KB	51.5 x 306.7 in	1.04 cc	11/15 11:43	11/15 12:52
RIP End	VG-640	Wallpaper chart for signage test. pdf	161 KB	51.5 x 306.7 in	1.04 cc	11/15 11:30	11/15 11:37
New Job(A)	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 11:30	
VG-640	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 11:29	
New Job(A)	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 11:28	
VG-640	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 11:26	
RIP Canceled	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.0 x 309.7 in		11/15 11:26	11/15 11:28
Print End	VG-640	MAIN TEST CHART. pdf	120896 KB	46.8 x 66.7 in	17.87 cc	11/15 11:02	11/15 11:41
Print End	VG-640	MAIN TEST CHART. pdf	120896 KB	46.8 x 66.7 in	15.42 cc	11/15 10:43	11/15 11:00
New Job(B)	VG-640	MAIN TEST CHART white bar full len...	120896 KB	46.8 x 33.1 in		11/15 10:33	
New Job(B)	VG-640	MAIN TEST CHART white bar full len...	120896 KB	46.8 x 33.1 in		11/15 10:33	
VG-640	VG-640	MAIN TEST CHART. pdf	120896 KB	46.8 x 66.7 in	13.56 cc	11/15 10:24	11/15 10:35
RIP End	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.0 x 157.6 in	0.28 cc	11/15 10:08	11/15 10:15
RIP End	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.0 x 157.6 in	0.28 cc	11/15 10:00	11/15 10:09
RIP End	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.0 x 157.6 in	0.28 cc	11/15 10:00	11/15 10:08
RIP End	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.0 x 157.6 in	0.28 cc	11/15 09:59	11/15 10:08
New Job(A)	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 09:55	
New Job(A)	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 09:55	
New Job(A)	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 09:55	
New Job(A)	VG-640	Wallpaper chart for signage test. pdf	161 KB	52.9 x 78.7 in		11/15 09:52	
Print End	VG-640	banner test file. pdf	4,954 KB	46.0 x 117.0 in	47.92 cc	11/15 09:40	11/15 10:08
RIP End	VG-640	banner test file. pdf	4,954 KB	46.0 x 117.0 in	47.92 cc	11/15 09:26	11/15 09:40
New Job(A)	VG-640	banner test file. pdf	4,954 KB	40.0 x 117.0 in		11/15 09:25	
Print End	VG-640	MAIN TEST CHART. pdf	120896 KB	46.8 x 33.1 in	6.78 cc	11/14 16:42	11/14 17:33
Print End	VG-640	skin consistency2 across page target...	187 KB	49.0 x 33.1 in	5.88 cc	11/14 16:41	11/14 17:26
Print End	VG-640	skin consistency1 across page target...	187 KB	49.0 x 33.1 in	5.68 cc	11/14 16:40	11/14 17:17
Print End	VG-640	Neutral grey across page target. pdf	187 KB	49.0 x 33.1 in	6.35 cc	11/14 16:40	11/14 17:07
Print End	VG-640	MAIN TEST CHART. pdf	120896 KB	46.8 x 33.1 in	8.93 cc	11/14 16:38	11/14 16:57
Print Canceled	VG-640	MAIN TEST CHART. pdf	120896 KB	46.8 x 33.1 in		11/14 16:28	11/14 16:38
Print Start	VG-640	skin consistency2 across page target...	187 KB	49.0 x 33.1 in		11/14 16:26	
Print Start	VG-640	skin consistency1 across page target...	187 KB	49.0 x 33.1 in		11/14 16:26	
Print Canceled	VG-640	Neutral grey across page target. pdf	187 KB	49.0 x 33.1 in		11/14 16:26	11/14 16:37
Print Canceled	VG-640	MAIN TEST CHART. pdf	120896 KB	46.8 x 66.7 in		11/14 16:04	11/14 16:35
Print End	LEF-300	Passion parking_KITT. pdf	1,093 KB	17.7 x 12.9 in	0.59 cc	11/14 15:55	11/14 16:01
New Job(A)	LEF-300	Passion parking_MIKE_B. pdf	1,099 KB	23.9 x 12.9 in		11/14 15:54	
New Job(A)	LEF-300	Passion parking_DANIEL_V. pdf	1,098 KB	23.9 x 12.9 in		11/14 15:54	
New Job(A)	LEF-300	Passion parking_KITT. pdf	1,093 KB	23.9 x 12.9 in		11/14 15:54	

The VersaWorks Job Log provides precise information regarding print area, print time, and total ink consumed for each print job, though accounting is not available.



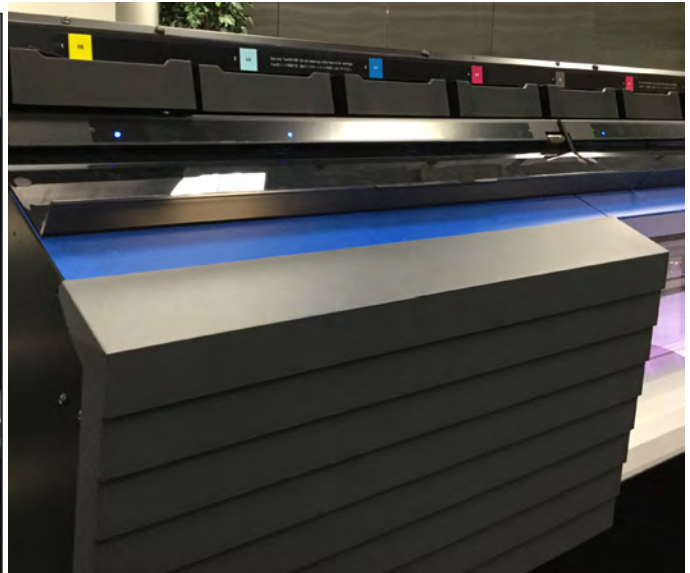
Basic ink, media, and device information is provided in Printer Status.



The unit's control panel is basic and features two lines of text and nine buttons. Common selections for media advance and cut, printhead cleaning, nozzle check, and heater adjustments are located several layers deep in control panel sub-menus. While printing, the panel displays the media width and print status.

The Roland VG-640 is Bluetooth-enabled, giving users remote access to perform control panel functions from iOS and Android devices.

MAINTENANCE AND INK



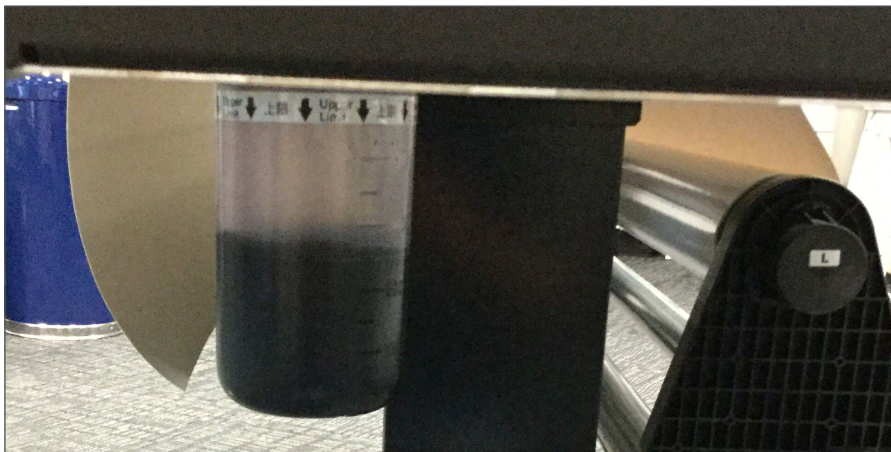
Rather than replacing actual ink cartridges, the Roland VG-640 has an ink pouch replacement system, which requires a new pouch be loaded into its respective horizontal plastic tray housing once the old pouch is depleted. This is a more environmentally-friendly solution since only the pouch is discarded while the plastic housing is retained; however, it's more time consuming than simply replacing a cartridge. Although the unit can be set to "continue printing when pouch is out," the unit must be paused when a pouch needs replacing, thus not permitting ink "replacement-on-the-fly." Ink pouches come in one size, 500 ml.



As with any device containing white ink, the VG-640 conducts automatic ink circulation that takes a few minutes for each occurrence.

For optimal print quality, Roland recommends printing a daily nozzle check pattern that is initiated in the function menu of the control panel. Three levels of printhead cleaning are available – normal, medium, and powerful. The company also recommends removing the ink tray and gently shaking it if colors appear uneven on output.

A bidirectional alignment, which is initiated in the control panel menu, is recommended when a new media roll is installed. This simple process, which takes only a few minutes, prints two test patterns after which the operator selects the number of the pattern that's optimally aligned and enters that number at the panel.



The unit's waste ink tank is easily removable, requiring the operator to simply unscrew it from the bottom of the printer, empty and replace it. Users will be prompted with an "empty drain bottle" control panel message.

Roland provides a cleaning kit consisting of cleaning swabs and solution for manually cleaning specific areas of the device, namely around the printheads and wiper. Initiated at the control panel or from a mobile device, a manual cleaning is recommended monthly or when quality defects are noted that an automatic cleaning doesn't rectify.

Printhead wipers, the wiper tray pad, and the cutter blade are user-replaceable, and their replacement is initiated at the control panel.

Daily internal maintenance is conducted automatically as long as the VG-640 is turned on.

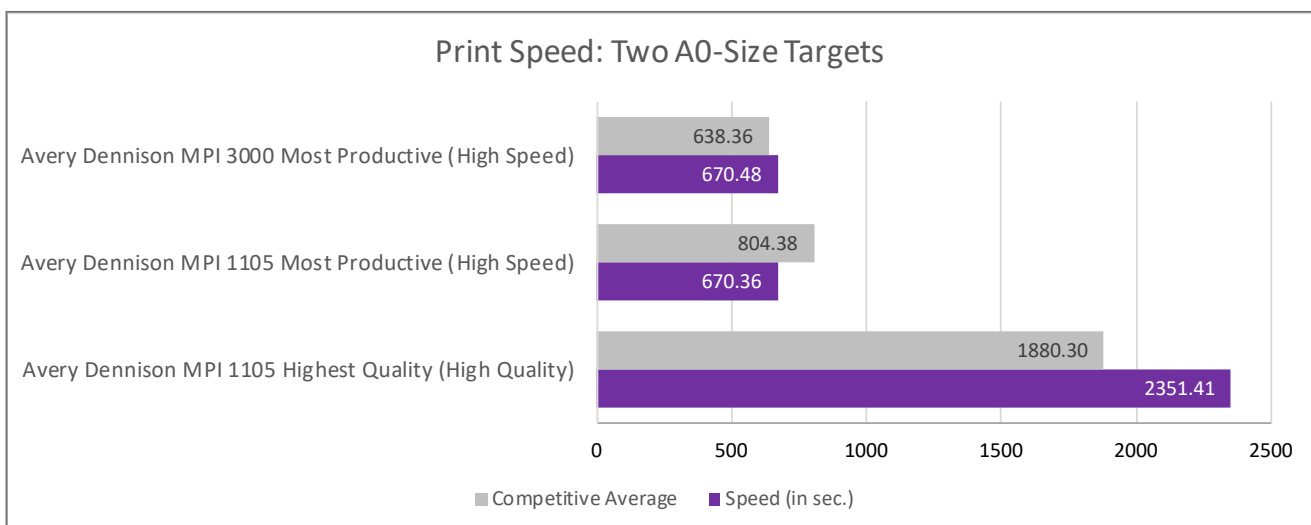


The ink indicator on the control panel displays one or two bars for the remaining ink level and lists numbers for each color instead of the actual color. It is presented in this manner because ink colors can be positioned in different slots on the device, depending on its ink color configuration.

▲ SPEED



Devices were timed for two of BLI's A0-size image quality targets printed in succession with data width turned on so that printing began at the far left of the page. The stopwatch began when the printhead started the print process and ended when the second print completed printing and was ready to cut. The speeds listed below were measured at the most productive setting that produced image quality that BLI determined as acceptable (no visible banding) on Avery Dennison MPI 3000 media when viewed at 10 feet, and on Avery Dennison MPI 1105 media when viewed at two feet. The third speed measured was for the highest quality setting available to print two targets on Avery Dennison MPI 1105. Lastly, for devices that employ white ink, one A0-size image quality target was printed at the manufacturer's recommended quality setting.



All Speed/Quality Settings Tested

Speed/Quality Setting	Avery Dennison MPI 3000	Avery Dennison MPI 1105
High Speed 6 Pass	670.48	670.36
Standard 10 Pass	938.46	938.51
High Quality 13 Pass	2351.36	2351.41

Time measured (in seconds) for two A0-size targets to be printed in seconds

The Roland DG TrueVIS VG-640 with white ink produced two A0-size targets at the most productive high speed 6 pass setting in 11 minutes and 10.48 seconds on the Avery Dennison MPI 3000 media, and in 11 minutes and 10.36 seconds on the MPI 1105 media.

At the highest quality 13 pass setting, the Roland VG-640 with white ink produced the two A0-size targets in 39 minutes and 11.36 seconds, and 39 minutes and 11.41 seconds, respectively, for the Avery Dennison MPI 3000 and MPI 1105 media.

The Roland VG-640 took 34 minutes and 29.09 seconds to print one A0-size test chart on clear vinyl media with white ink using the generic clear vinyl/standard setting.

SUPPORTING TEST DATA

The unit was evaluated at the manufacturer's U.S. facility during an intensive three-day test period. 54-inch rolls of Avery Dennison MPI 1105 – polymeric cast vinyl, MPI 2105 – calendared vinyl film and MPI 3000 – monomeric calendared vinyl media were tested in each device. All test files were submitted using the VersaWorks Dual RIP provided by the manufacturer. A Roland-recommended PCV4 (Premium Cast Vinyl) media profile was used for printing on MPI 1105 and MPI 2105 and a GCVP (Glossy Calendered Vinyl) media profile was used for printing on MPI 3000. The "Sign & Display" color management RIP setting was utilized for all image quality output, except for the PANTONE Color Accuracy section in which the "Max Density U.S." color management setting was utilized. Ratings are based on a five-star system where five is the best.

Note: Two BLI analysts independently evaluated the individual sections of BLI's subjective image quality test, each judged on its own merits, with printer identification hidden. Under standard lab lighting conditions, each analyst ranked the print samples into five quality classifications (Excellent, Very Good, Good, Fair, Poor) and once completed, the individual appraisals were combined and a final image quality score was assigned. In the event of differing scores, the sample's quality was debated and a final consensus attained. Print samples on the MPI 3000 (monomeric vinyl) were evaluated at a distance of 10 feet (reflecting a walk- / drive-by viewing experience) and those printed on the MPI 1105 (cast vinyl) were evaluated at a closer distance of 2 feet (reflecting a close-up viewing experience). Although the Roland DG TrueVIS VG-640 has an integrated cutter, BLI evaluated the printer only.

About Buyers Laboratory: Buyers Laboratory (BLI) is the world's leading independent provider of analytical information and testing services to the document management industry. For over 50 years, buyers have relied on BLI to help them differentiate products' strengths and weaknesses and make the best purchasing decisions, while industry sales, marketing and product professionals have turned to BLI for insightful competitive intelligence and valued guidance on product development, competitive positioning and sales channel and marketing support. BLI also offers private, for-hire testing services that help manufacturers develop and market better products and consumables.

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