VISUAL DOT

DOT PROOFING INKJET TECHNOLOGY

VALLOY Inc.

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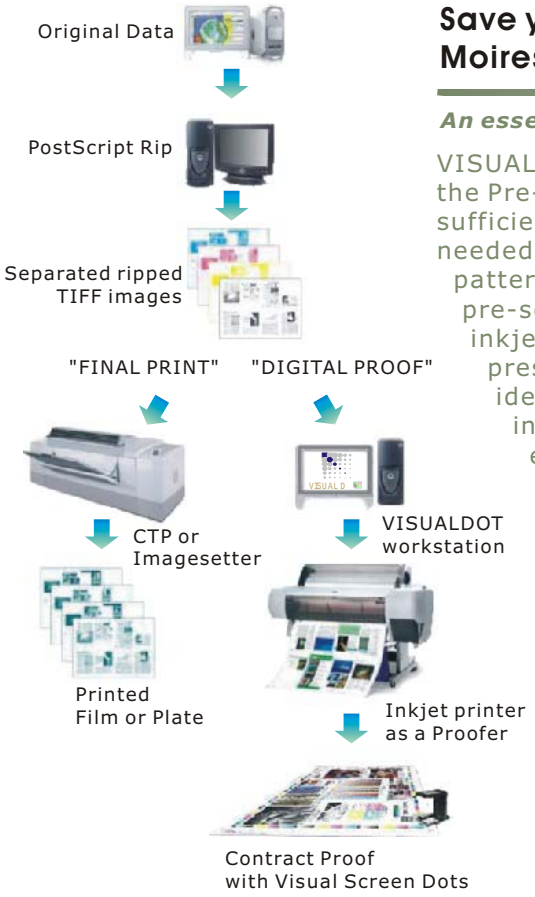
Secure absolute Data integrity of your Halftone Screening in CTP/CTF

Delivering screened inkjet proofs with Contract Quality & Assured Data Integrity

For many years the prepress industry has been looking for a digital proofing solutions to correct errors in pages before final output to film or plate. Most of the digital proofing solutions come with its own PostScript RIP with color management system for small or large format printers. These solutions require the composite PostScript pages to be sent, first to the proofer RIP to produce the digital proof. After a confirmation proof is produced these pages have to be re-sent as a separated PostScript files to a totally different RIP that sends the Hi-Resolution data to a imagesetter or platesetter. This RIPping twice with two different RIPs, generating two totally different results. Both the 'Digital Proof' and the 'Final Print' will definitely not match. Text reflows, font errors, OPI faults, trapping and other PostScript odd problems are common. This dilemma of two different RIPs is simply overcome by VisualDot, which uses Hi-Resolution data to the Final Print itself for Dot-proofing.



Save your Cost and Time by early recognition of Moires and Trapping errors with Dot-for-Dot reproduction

An essential solution in Dot-proofing for the prepress industry

VISUAL DOT digital screen proofing software is a revolution in Dot-Proofing for the Pre-Press Industry. Color-accurate continuous proofs are not always sufficient when a real contract proof is required. In many cases, a proof is needed that not only reproduces color accuracy, but also shows the halftone dot pattern. VisualDot provides the ability to resample high-resolution, pre-separated, screened bitmap plates from the CTP/CTF RIP into a accurate inkjet-printed representation with screen angle, screen ruling and dot shape preserved in their entirety. Halftone proofs are vitally important for identifying problems like Moire artifacts, incorrect trapping settings or interpretation errors in the imagesetter or CTP RIP before plates are exposed or the print process begins. Halftone proofs help users minimize the cost and time losses resulting from prepress errors.

Fast and Economical Solution for All kinds of Digital Printing Industry

The most economic solution for today's demanding proofing needs

Dot-proofing or real dot technology has been introduced to the market for 2 years. Unfortunately, some successful products has secured their brand name in the market, without enough revenue over their investment so far. The problem we found in the market is that people are misunderstanding the dot-proofing technology, mainly due to The misleading of solution providers. Dot-proofing is conceptually one of the simplest solution in prepress industry, so as to let the middle and low end users understand easily and get the most expectable prompt result by trial. However the concept has been mixed with complicated workflow solutions and color matching solutions, with making people feel that the dot-proofing is very difficult technology and must be very expensive.

VisualDot is very specially designed to meet the practical demand of people in real fields.
People can flexibly adopt VisualDot to their existing workflow at minimum additional investment.

Whether you work at design agency, in commercial printing, in the packaging industry or in newspaper production, VisualDot is the solution for all businesses from commercial to package printers to newspaper - that want to proof their 1-bit data. VisualDot is useful especially for printing operations using coarse screening rulings w here the halftone process plays a significant role in the final image appearance.
VisualDot presents various analysis tools for calculating dot size, screen angles, color distribution and saturation and etc. Also preview image can be created either in RGB or CMYK and CMYK merged proofing image with screen correction can be created in various resolutions.

Dot-Softproofing
on the monitor screen

Dot-Hardproofing
on the inkjet output

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Demand of Dot proofing or Screen Proofing

Print the details of the screening structure exactly as it will appear on press.

Most inkjet proofers use error diffused or frequency-modulation technology. The advantage of this is that it produces a smooth, continuous-tone quality. The disadvantage is that this does not replicate halftone screens. Color management systems (CMS) complicate the issue. When remapping the inkjet color gamut, CMS uses additional dots to match the printing press gamut. This is especially true with six-color proofers. While six colors provide a much wider spectrum for matching special colors and different types of presses, it adds colors that are not present in the CMYK rosette.
Luckily, inkjet technology has come a long way. With the right screening technology, and a proofer that can print 1440 x 1440 dpi, dot-for-dot halftone reproduction becomes a reality. It is even possible to achieve dot simulation at 720 dpi, which is sufficient for predicting certain types of moire.
It can also predict two types of moire; color moire, which results from incorrect screen angles, and subject moire, which is the result of a complex pattern such as a checkered print interfering with the halftone screen.
Dot-for-dot halftone proofs print the details of the screening structure exactly as it will appear on press.
The rosette patterns are identical, so all types of moire effect can be accurately predicted. The individual dots on the proof have the same shape, size and color. In addition to a resolution of 1440 dpi to recreate an exact rosette, a proofer must be able to handle multi-density inks and produce ink drops of no more than five picolitres. Furthermore, the RIP must generate the same screen rulings and angles, and interpolate the data in exactly the same way as the platesetter RIP.

Beyond the Continuous Color Proofing

Dot-proofing is the only step above from the continuous color proofing

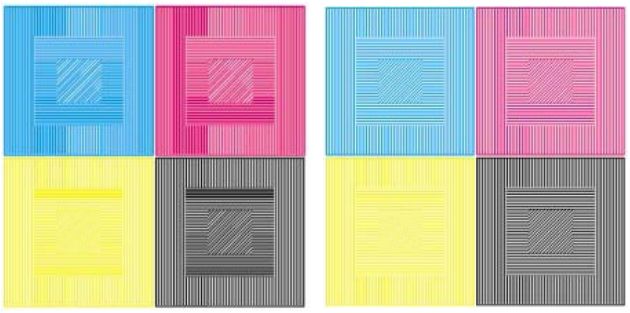
You can save your Cost and Time by early recognition of Moires and Trapping errors with Dot-for-Dot reproduction. VisualDot is an essential solution in Dot-proofing for the prepress industry.
VISUAL DOT digital screen proofing software is a revolution in Dot-Proofing for the Pre-Press Industry.
Color-accurate continuous proofs are not always sufficient when a real contract proof is required.
In many cases, a proof is needed that not only reproduces color accuracy, but also shows the halftone dot pattern. VisualDot provides the ability to resample high-resolution, pre-separated, screened bitmap plates from the CTP/CTF RIP into a accurate inkjet-printed representation with screen angle, screen ruling and dot shape preserved in their entirety. Halftone proofs are vitally important for identifying problems like Moire artifacts, incorrect trapping settings or interpretation errors in the imagesetter or CTP RIP before plates are exposed or the print process begins.
Halftone proofs help users minimize the cost and time losses resulting from prepress errors.

Continuous Color Proof is NOT enough for continuous proofing purpose itself

Screened DOT proof delivers Contract Quality of proof in color and details as well as screen dots

The prepress industry has long time history and software technology, mechanical/chemical printing technology and optical device technology has been tremendously enhanced so far. However, it is physically difficult to produce exact 'press-look' proof with inkjet printers because of different ink system, microscopic details, characteristics of media and etc.
But in most of prepress industry, professionals have developed their own rigid way of continuous color proofing with experienced trials and errors, which cannot be caught up with by any intelligent software technology.
However, even professionals have difficulties in producing toned-down color, high-resolution of small fonts and narrow lines of the press in inkjet color proofing. That's the limitation of color proofing without screen dots.
VisualDot will deliver the most press-look proof by overcoming the limitation of continuous color proofing.
People will get the press-look colors and details in small fonts and narrow lines by simply adding VisualDot to the same continuous color proofing workflow.

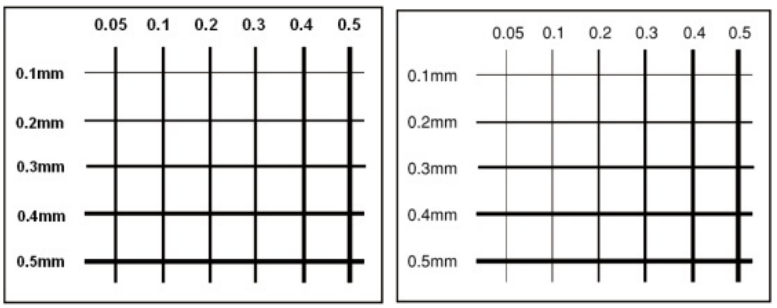
Comparison in pattern details



Inkjet Proofing without VisualDot Inkjet Proofing with VisualDot

Normal inkjet continuous color proof cannot represent pattern details. Lines in contact can be merged and distance between lines cannot be maintained correctly. Final output will look strange.

Comparison in Font and Line details



Inkjet Proofing without VisualDot Inkjet Proofing with VisualDot

Normal inkjet continuous color proof cannot represent details in small fonts and narrow lines. Generally small fonts will look border and narrow lines will look thicker. Screened proof from VisualDot will represent as detail fonts and lines as possible.

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What's Different in VisualDot?

Matching the practical demand of people in the real field

Marketers will find difficulties every time they'd like to create a new market with the new technology.
Just like the initial stage of market creation of other new technologies, dot-proofing technology has also been introduced to high-end market where is always a demand of new and expensive technology.
But the truth is that the market for dot-proofing is not a new market but an existing market.
Some evaluators asked us that VisualDot cannot print to proofers directly so it requires additional Rip software with the additional cost. This can be true in some view point, however, this is a kindly controversy between egg and chicken.
If there's any customers who'd like to adopt dot-proofing technology, in 99% of the cases they have their own existing color proofing rip software. It is a kind of misunderstanding of the real market if you say you're going to propose VisualDot plus new proofing rip software. In very rare cases that customers require VisualDot and new proofing rip software together, our partners can select any kind of Rip solution they feel confident and they can support easily.
Also we have our own TOPAZ Rip software, which can drive Epson variable dot and diluted ink technology perfectly.
Anyway, the closer concept to the real practical field is that VisualDot can be added to any existing Rip rather than VisualDot require additional new Rip. If you understand the right concept of VisualDot, you'll find much widwer market and its easiness as well as flexibility you have with VisualDot to approach the market.

Rip-independent solution : Just keep using your own Rip and Color proofing workflow and only add VisualDot on it for the new challenge of Dot-for-Dot Contract Proofing

You need not change your existing familiar Continuous Color Proofing workflow

It is a burden of you need to change whole proofing workflow for the purpose of new challenge of Dot proofing technology. In many cases, Dot proofing or Screen proofing software come with their own color proofing system, which is not familiar and even may not be better than what you're using already.
Instead of changing your efficient and experienced color proofing workflow and training engineers again costly, you can do Dot-proofing with your own existing and familiar proofer and proofing rip software as you did before.
Just use 'high-resolution 1-bit Tiff files' from the CTP/CTF rip and add VisualDot in a part of proofing workflow.
VisualDot can be a simple and automatic module in your workflow without requiring experienced professionals.

Target Market Segment of VisualDot

With VisualDot, you'll find that Dot-proofing is not a Magic than a practical useful solution

Our competitors are targeting high-end market with their expensive pricing policy and complicated product concept. This may work on the top of pyramid of the market, if a dealer provide a total solution including workflow solution, when the cost of dot-proofing itself is not so sensitive within the huge lump sum cost of total solution including hardware and workflow solutions.

VisualDot can work in this high-end section too, due to its flexible structure and independency.
However, there's much wider expanding market in small and middle repro houses and design houses in offset printing industry. Color proofing solution is essential part for them and they will find no reason to change their existing color proofing solution and small workflow, only for adopting the new dot-proofing technology.
VisualDot can be provided to them as an additional module to be simply combined with their existing solution with acceptable cost and minimum of risk.

This sector of the market looks the place where other 'heavy' dot-proofing solutions cannot approach easily and VisualDot is regarded as the only practical solution to meet the real demand of customers.

Referring to Japanese market, which is regarded as 20~25% of world-wide market

Dot-proofing is very interesting solution in Japanese prepress market too. Currently 2 products are selling in the market now. Approximately 200 copies of the products has been sold for 2.5 years now as a leading product. VisualDot was introduced into the Japanese market with the starting of year 2005. We made many press releases recently and VisualDot is selling more than those currently. Without doubt, it seems to take the leading position very soon. This successful record is secured though only 3 months of promotion.
As far as referring to Japanese market, there're only 2 products including VisualDot which showing meaningful numbers of real sales.

Japanese market is one of the most conservative market in the world.
But Japanese market is one of the most practical market at the same time.
Many dealers who have been treating with other color proofing rips are adopting VisualDot due to its cost-effectiveness and flexibility. They're successfully applying the concept of add-on product in the existing marketing channel and customers in their marketing of VisualDot now.

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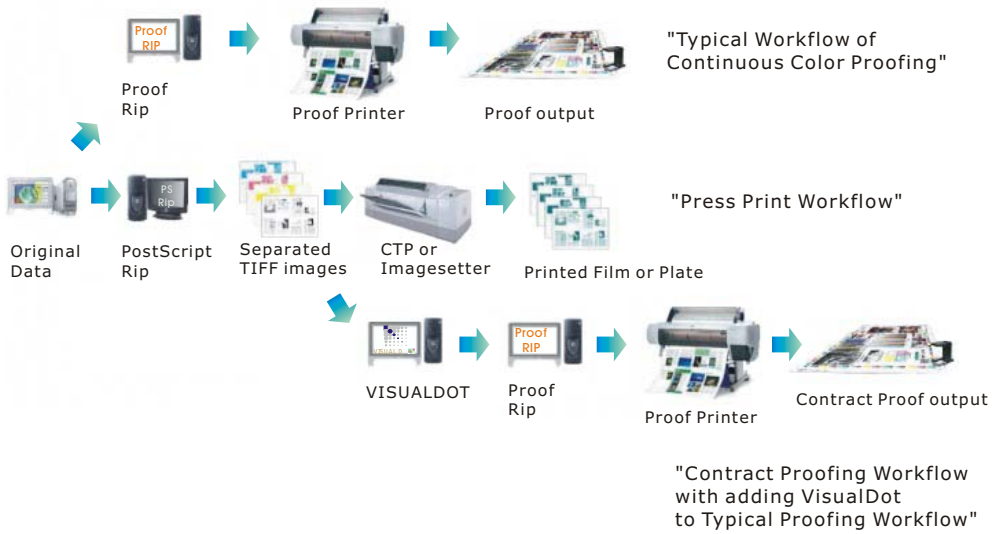
Workflow of Dot Proofing with VisualDot

Just add VisualDot on your soft proofing and hard proofing which is existing

It is not confusing to understand the workflow of Dot-proofing. You can imagine the exactly same workflow of continuous color proofing. For Dot-proofing with VisualDot, the only differences from your familiar continuous color proofing are that you need to add VisualDot in front of your existing color proofing workflow and that you need to import 1 BIT TIFF files instead of original PS files to simulate screen dots on the press. You can keep using your own color proofing workflow with your existing color proofing rip software and profiling system. VisualDot is independent to the Rip software and VisualDot allows you to use any kind of color proofing rip software, with which you feel comfortable and you're experienced. VisualDot does not change any of color information from original data. It just represents as things are in original like colors as well as screen dots. However, maintaining screen dots will actually help color matching too. Dot-proof output can cover the color on the press output which continuous printing output cannot match without screen dots. Different from other Dot Proofing solution, VisualDot can be simply added into user's own existing continuous color proofing workflow as below figure.



Revolutionary Dot-Analysis engine of VisualDot

Delivering Top Quality proofs just as they'll appear on the press

The foundation of VisualDot's powerful capabilities to produce top quality screened proofs is in its proven Dot analytical engine. With its Dot-Analysis engine, VisualDot analyzes the CMYK dot patterns and screen angles of high resolution separations and reproduces these by creating arrangements of hard dots on the proofer - right down to rosettes, fine line art, text at just 1 point, and even defects such as moire patterns. The results on the best quality inkjet printers are stunning and contract-quality proofs of up to 200 lines per inch can be produced. The quality of screened proofs produce by VisualDot is dependent on the resolution and other specifications of the color printer being used.

Additional features in VisualDot

Various analysis tools and Automatic conversion tools as well as dot-proofing features

VisualDot presents various analysis tools for calculating dot size, screen angles, color distribution and saturation, and etc. Also it can create small size preview image for remote proofing.
All this dot-proofing and preview generation process can be processed through our Dot-Batch automatic module, which is provided with standard version without additional cost.

In addition to basic features in VisualDot, it provides various useful functions.
For example, users can easily check 'overprint' problem by comparing C+M+Y value with K value at a certain area. The ratio is important for photo black application as well as pure black in vector images or fonts. VisualDot will help you check the separation images are correct or not with various useful tools before generating Dot-proofing outputs.

VisualDot is provided together with DotBatch, which is automatic server solution, which supports Multi-Queue based hot-folder technology without any limitation in number. Input settings, output locations and other parameters can be adjusted differently for each hot-folders in max. Flexibility.

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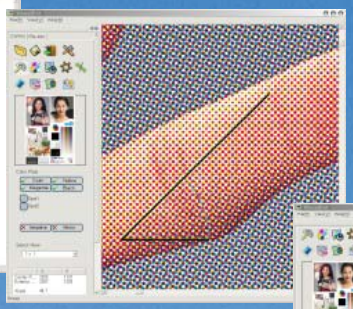
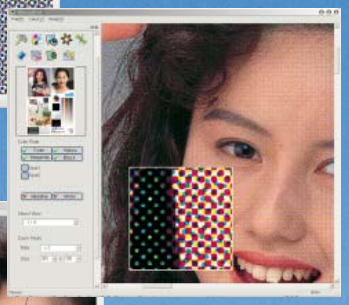
Preview of merged CMYK TIFF



Analysis of screen angle

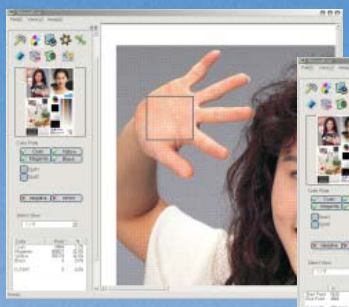
CMYK ink information per column or row

Preview image creation (Tiff, bmp, jpeg, pdf...)



Analysis of Dot pattern by partial zooming in tool

Proof image creation for proofer printing



Analysis of CMYK Color Saturation in a specific area

Distance analysis in pixels and cm

Modify image by rotation, negative conversion, mirroring...

Key Features of VisualDot

Dot-for-Dot SoftProofing
Collection of TIFF Information like size, resolution, compression methods and etc.
Powerful preview of 1 bit TIFF from PS Rip
Merge separate image and Save image (32bit TIFF, JPEG, BMP, PDF) with various compression methods
Rotation, Inversion, Mirroring, Zooming...
Analysis of screen angle for each plates
Save preview images in different format and resolutions (TIFF, JPEG, BMP, PDF)
Checking of CMYK saturation rate for selected area (checking overprint rate)
Checking of CMYK saturation rate for each defined column or row
Checking distance between dots
Checking overprint by analyzing CMY / K value
Spot color library for SoftProofing

Dot-for-Dot inkjet Proof printing
Simulate press screen on inkjet proof printing (screen ruling, angle and dot shape)
Fine image reproduction - including rosettes, moire, fine line work and 1 pt text
Pre-adjust dot geometry and dot gain in flexo printing applications to ensure matching proof and print down to dot level
Adjusting resolution of proof to different printers
Dot-proof output as composite 32 bit or separated 8 bit

Dot-batch
Full automatic processing module for creation of Dot-proof image and Preview image automatically with monitoring the input TIFF images on any specified multiple Hot-Folders, even on the network.

System Requirement

Computer
CPU: Intel Pentium III 1GHz or above
OS: Windows 2000 professional or higher (Recommended)
Memory:512 MB or above
Free H/D:Minimum 1 GB (2GB recommended)

Importable file format
Any 1-BIT TIFF file created from any Rips

Compatible compressions for Input/Output
CCITT G4, CCITT G3,
CCITT Huffman RLE, and Packbits

Supported Printers
Epson Stylus Pro 4000, 7000, 7500, 7600, 9000, 9500, 9600, 10600...
Epson Stylus Photo 2100, 2299...
HP Designjet 10PS, 20PS, 50PS, 120, 1050c, 5000, 5500..., HP 30, 130...
Cannon W2200, BJC-8500...
and many others (Depending on the resolution of printers and Proof Rip software drivers)

Rip for Proof Printing and Color matching
Any Rip importing 32BIT TIFF files.

* Our syster product, TOPAZ Rip v.8.0 is recommended for this purpose

* Input files with Pantone index can be automatically recognized by VisualDot database of color naming rules

* Output file can be either composite CMYK image or separated a bit image for user's preference

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