

Computer-To-Plate Tech Bulletin

Things you need to know about printing with laser plates.

HOW LASER PLATES ARE MADE

The plate is manufactured by coating a water-receptive coating onto a polyester film.

HOW LASER PLATES ARE IMAGED

A toner image is put on the water-receptive coating with either a laser printer or copier.

HOW LASER PLATES WORK ON PRESS

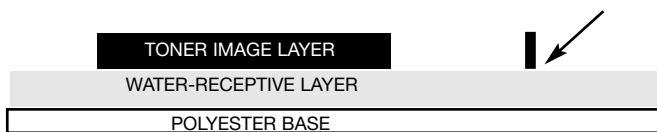
On press, the water-receptive coating attracts the fountain solution and the toner attracts the ink.

The water-receptive coating contains elements that begin to absorb moisture. If you find that you must stop to remove a speck on the plate, be sure the plate is dry before removing the speck to prevent toner remover from penetrating the plate surface.

In the process of imaging, the copier or printer actually melts or fuses the image to the plate surface. It will stay bonded there so long as nothing is applied to it which causes it to either lose its ability to adhere or dissolves it.

Solvent-based blanket washes, when left wet on the blanket, will dissolve the toner image on the plate and cause it to break up.

Since the water-receptive surface absorbs some moisture as fountain solution is applied in the print process, the bond between the image and the surface weakens slightly and areas of toner which are very small or thin with little surface to begin with, can easily be removed by excessive scrubbing. That's part of the reason why the recommended line screen for laser plates is 85 line screen.



See the arrow in the illustration above.

Excessive plate wear and shorter run lengths can also occur if the roller pressures and plate-to-blanket pressures exceed manufacturers specs.

"ETCHES" WERE USED IN THE PAST TO MAKE THE PLATE SURFACE WATER-RECEPTIVE . . . NOT ANY MORE

Early-style polyester plates needed an etch to eliminate toning in the clay-based plates. Modern silica-based plates don't. Water is all that is needed to start laser plates. Adding other chemicals to the plate other than water, diluted fountain solution or 3-Way PlatePrep, which is used to remove toner scatter, may cause problems in the printing process.

THINGS YOU NEED TO KNOW ABOUT INK

As long as the inks are made by a reputable manufacturer and are recommended by the manufacturer for your particular press, any ink should work fine. Tack levels should be around 15.

Most ink manufacturers will tell you their ink is particularly formulated to work on your press right out of the can. We think so, too. If you are a "practicing kitchen chemist" and insist on adding your own concoctions to any ink, you're bound for trouble printing with laser plates. All sorts of things can happen, some right away but most gradually. Things like toning, framing on the blanket, poor color density, poor drying are intensified when you are using laser plates.

Another thing to remember is that the ink needs to slightly emulsify in order for integrated dampening systems like AB Dick and Kompac are used. In order for this to happen, the fountain solution and the concentration of it in your dampening system is critical to good printing. It becomes even more important when you are using laser plates.

THINGS YOU NEED TO KNOW ABOUT FOUNTAIN SOLUTIONS

Most fountain solutions made for use with "black plates" usually will work well with laser plates. Older fountain solutions like "cyo-free" and other E-Stat solutions are incompatible with laser plates. Fountain solutions that contain Glycerine such as Pro3 also are poor choices to use. The reason? Before 1990, the process used to manufacture paper incorporated an acid which, in the finished paper product, gave the paper and "acid base" surface. For this type of paper, glycerine was often used for wetting and it worked because the pH of the dampening system remained at 4.5 or lower. Today, paper is made in a more environmentally-friendly way. The problem for printers is that the paper is now "alkaline-based" which means the paper itself will raise the pH of the dampening solution on press and deposit calcium carbonate into the ink train. To combat this, you need a pH buffered fountain solution and you need to use it sparingly in your fountain. A particularly good choice is Crosslink from Baseline.

THINGS YOU NEED TO KNOW ABOUT WASHING UP YOUR PRESS.

When you wash up your press, you need to remove TWO things. The ink, of course, but the calcium carbonate imbedded in the form rollers as well. Use manufacturer-recommended solvents for ink removal and do a final rinse of your ink train with hot water and a small amount of white vinegar. This will neutralize your system and clear out the calcium carbonate.

Do You have any other problems related to using laser plates?

Call us! We can help! Toll-Free 1-877-670-1100

Computer-To-Plate Tech Bulletin

Subject: Halftones & Screens For Laser Plates

THE PROBLEM . . .

When you use page layout programs such as Quark or PageMaker, you can specify the line screen for output on your HP5000 laser printer.

If you are outputting files from Word, Word Perfect, Publisher and other word processing programs, you can't set the line screen for output. Outputting at ProRes 1200, which is the right res for making plates, the printer will default to 212 line screens which is much too fine for laser plates. Following the simple instructions on this Bulletin will allow you to get great halftones, blends and screen tints in these programs.

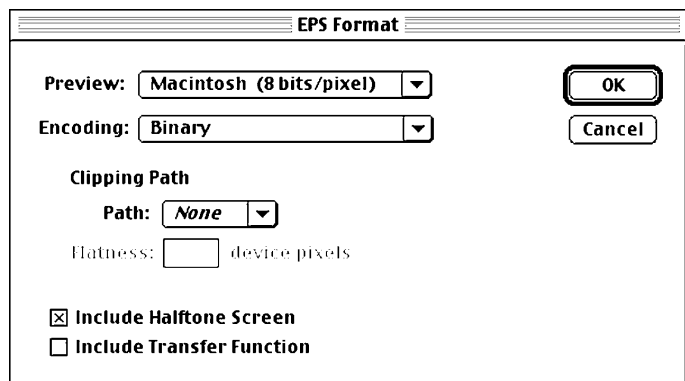
DIGITAL PICTURES, SCANS & BLENDS

RESOLUTION: 200 dpi The rule is, about double the output line screen ruling, ie: 85 X 2=170

Using PhotoShop or PhotoShop LE,

1. Make adjustment to the picture as you see fit.
2. In Page Setup, go to Screens.
3. In Halftone Screens, set Frequency to 85, Angle to 45 and Shape to Round.
4. In Save As, select PhotoShop EPS.
5. Save as EPS and include Halftone Screen as shown in the boxes below,

SAVE LIKE THIS FOR MAC



FAQ:

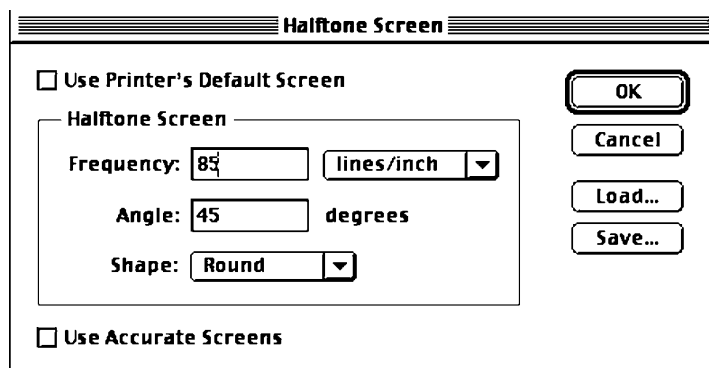
WHAT IS THE BEST LINE SCREEN FOR LASER PLATES?

ANSWER: 85 lines per inch.

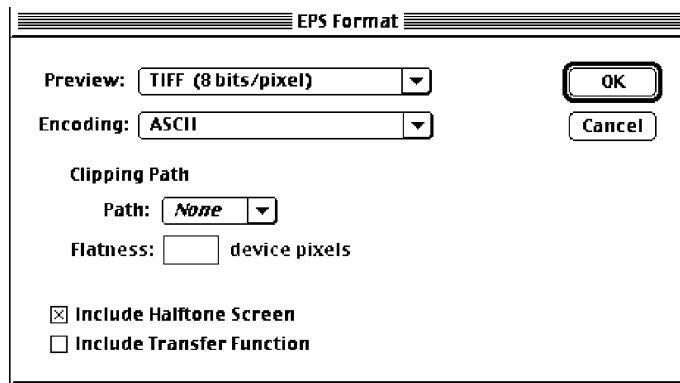
FAQ: WHY 85 LINE SCREEN?

ANSWER: 85 line screen on the HP5000 looks more like 120 line screen. MORE IMPORTANTLY, it has to do with grey levels in the printer. Film Imagesetters have 256 grey levels for output. Laser Printers have much fewer. 85 line screen optimizes the grey level output for halftones and blends and prints smoother than any other line screen output, avoiding "shadestepping" "banding" or "posterization" which normally occur when you try to use higher line screens.

SET HALFTONE SCREENS LIKE THIS



SAVE LIKE THIS FOR PC



With Compliments From

JUST LASERPLATES, INC.

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Computer-To-Plate Tech Bulletin

Subject: Screens & Type Break Down After A Short Run

THE PROBLEM . . .

The program you are using for outputting your job is overriding the settings you have on your printer. AND/OR the line screen you are using for your pictures and screens is too high.

The HP5000 User Guide states: Application settings override menu settings on HP5000 printers.

That means, before outputting a plate, you must go into "Properties" or "Features" or "Options" and set your Output resolution to ProRes 1200 and your Media Type to Rough.

Otherwise, the printer will automatically revert to Printer Default which is the LOWEST fuser temperature and the LOWEST output resolution, causing a quick breakdown of images on the plate.

EVEN WITH THESE SETTINGS, PICTURES AND SCREENS WILL OUTPUT AT 212 LINE SCREEN IN WORD PROCESSING APPLICATIONS!

When using pictures, screens or blends, refer to CTP Tech Bulletin on Halftones and Screens.

Making Plates From PDF's

THE ONLY WAY THAT MAKES SENSE. . . .

You can't control anything when outputting PDF's from Acrobat. The only way that makes sense is to use Quark 5 or PageMaker 7. Both of the programs will let you import the PDF into a page which you can then output to plate as you would normally. But the PDF must be made correctly first. Use only Acrobat Distiller to make PDF's. That way, all of the fonts and hirez pictures will print as you want them.

DEFAULT SETTING IS LIKE THIS

The screenshot shows the 'Print Options' dialog box for version 8.3.1. The 'Cover Page' section has radio buttons for 'None' (selected), 'Before', and 'After Document'. The 'Print' section has a dropdown menu set to 'Color/Grayscale'. The 'PostScript Errors' section has a dropdown menu set to 'No Special Reporting'. The 'Levels of Gray' section has a dropdown menu set to 'Printer's default'. The 'Printer Resolution' section has a dropdown menu set to 'Printer's default'. The 'EconoMode' section has a dropdown menu set to 'Printer's default'. There are buttons for 'OK', 'Cancel', 'Help', and 'Save'.

CHANGE MEDIA TYPE TO ROUGH

The screenshot shows the 'Print Options' dialog box for version 8.3.1. The 'Cover Page' section has radio buttons for 'None' (selected), 'Before', and 'After Document'. The 'Print' section has a dropdown menu set to 'Color/Grayscale'. The 'Printer Profile' section has a dropdown menu set to 'Printer's Default'. The 'PostScript Errors' section has a dropdown menu set to 'No Special Reporting'. The 'Media Type' section has a dropdown menu set to 'Rough'. The 'Resolution Enhancement' section has a dropdown menu set to 'Printer's default'. The 'Levels of Gray' section has a dropdown menu set to 'Printer's default'. There are buttons for 'OK', 'Cancel', 'Help', and 'Save'.

CHANGE PRINTER RES. TO PRORES 1200

The screenshot shows the 'Print Options' dialog box for version 8.3.1. The 'Cover Page' section has radio buttons for 'None' (selected), 'Before', and 'After Document'. The 'Print' section has a dropdown menu set to 'Color/Grayscale'. The 'PostScript Errors' section has a dropdown menu set to 'No Special Reporting'. The 'Levels of Gray' section has a dropdown menu set to 'Printer's default'. The 'Printer Resolution' section has a dropdown menu set to 'ProRes 1200'. The 'EconoMode' section has a dropdown menu set to 'Printer's default'. There are buttons for 'OK', 'Cancel', 'Help', and 'Save'.

MAKING PLATES FROM PUBLISHER OR WORD

Save the files as PDF's with Distiller. Then you can place them in Quark 5 or PageMaker 7 and control the screens.

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