DH Patterns and Fit

ePATTERN – THE 5 MINUTE EXPERT

- Why file conversion?

Photo editing on the computer is different from making a technical drawing or writing a business report. That is why different software programs use different file formats. It is simply a matter of "horses for courses". Just like moving from DHL to E-mail, one has to accept change. Between popular programs, data import and export functions reduce the trouble.

- What is a raster file?

A raster file is a non-intelligent digital image; much like a photocopy or photograph. Raster files are easy to import in a computer system with a scanner or camera. What looks like a line to the eye is nothing but a series of dots on the computer screen. Therefore, editing geometry in a raster file is limited.

- What is a vector file?

A vector file is an intelligent format for drawings. Lines are not a sequence of dots like in a raster file, but objects described by the coordinates of start and endpoint, line style, color, etc. They may carry a description to control their function. Vectors are easy to modify. The radius of an arc can be changed or the endpoint of a line can be moved. Most drawing programs can import data from other programs. Vector files take up little storage space.

- What is digitizing?

Digitizing is a manual method to convert a paper drawing to a digital vector file. The work is labor intensive and error prone. Conversion is done by tracing the lines and arcs on the drawing. Original drawing properties such as color and line thickness or style have to be explicitly selected during the process. Text has to be retyped.

- What is scanning?

Scanning is a mechanical approach to convert paper documents to digital raster files. Scanners work very much the same as photocopiers or Telefaks machines but store the output on a computer. The result can be in black and white, gray tones or full color.

- What is R2V?

The abbreviation stands for Raster-to-Vector. The process requires software that interprets the sequence of raster points and replaces them with a vector. In this context vectors are lines and arcs, polygons and even complex mathematical curves. R2V will convert the raster of text characters to small but readable vector pieces.

- What is OCR?

OCR stands for Optical Character Recognition. Scanning a document returns text in raster format. OCR software is designed to convert the raster to text that can be edited with a word processor. OCR is often used in combination with R2V.

- What is a DXF file?

DXF is the de-facto standard in the digital world of draftsmen; just like XLS for the accountant's spreadsheet or PDF for the digital artwork of publishers. DXF files are vector files. Some are very basic and describe nothing more than simple geometry. Others may include complex curves and commonly used objects of the trade. Advanced pattern design programs often use DXF but attach information to a shape to hold its properties. Doing that, the program can identify a shape as a garment piece and manipulate it as such.

- What are scanners and plotters?

A scanner is an input device. A plotter is an output device.

A scanner is used to copy a paper file to a digital raster. Scanners come in different sizes. Small A4 document scanners are commonly found at homes and small businesses. They scan through a glass plate, much like a photocopier. Most large format scanners have a manual paper feed. The drawing is moved through the machine; the paper width depends on the machine; the length is "endless".

A plotter is an oversized printer. There are basically 3 types of plotters: pen plotters, inkjets and electrostatic plotters. The latter, the flatbed, is the fastest but the most expensive and takes up a lot of spacespace. Pen or inkjet plotters know two fundamental designs: the drum plotter in which the paper moves under the pen or cartridge carrier, and the ones where the paper is fixed on a table and the cart with moves criss-cross over it. The first type, the drum-plotter, which prints from a role of paper, is a technically sound and cost effective solution for patterns and the device takes up little space.

Is scanning accurate?

Modern scanners have a very high accuracy and the user does not have to worry about scale or distortion of the image. BERTL, an independent test organization, rated the scanner model installed at DH among the best in the industry with an accuracy of 0,02% in horizontal and vertical direction. This represents a tolerance of ±0,2mm per meter, which is less that the line thickness.

Can I attach digital files to my E-mail?

All E-mail systems support this function. E-mail is an excellent tool to send drawings across the globe; it is instantaneous, costs nothing and you can keep records of what is communicated. You can attach several small files to a single E-mail. Large files are best send one-by-one or compressed before attaching. When compressed, the recipient has to unpack the file before opening.

How do I keep my files small?

Vector files of patterns are small; the size of an office document. For raster files, it depends on the settings that are used for scanning. DH advices to scan in black and white with a resolution of 300 dots per inch (dpi). Double the resolution will quadruple the file size. The difference in size between color and black and white depends on the image and compression, but the increase in size is similar. A picture scanned in color at a high resolution is easily ten times larger than the black and white copy with a low resolution.