Gerber Scientific Products Inc.

The Definitive GERBER EDGE® and GERBER EDGE 2 FAQ

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Summary: This document provides answers to most any question you could ask about the GERBER EDGE printing system.

Q. What is the GERBER EDGE?

A. The GERBER EDGE is a thermal transfer printer that was designed specifically for the sign and screen print markets. It is one part of the Gerber Matched Technology System®.

Q. Which GERBER EDGE models are available?

A. GSP offers the GERBER EDGE and the GERBER EDGE 2. The GERBER EDGE offers print speed of 20 inches per minute per color, while the GERBER EDGE 2 offers print speeds of up to 60 inches per minute per color. The GERBER EDGE 2 also offers an overall improved print quality, and a user-selectable 600 x 300 dpi print mode for certain materials.

References to the "GERBER EDGE" in this document generally pertain to both the GERBER EDGE and GERBER EDGE 2.

Q. What is the GERBER Matched Technology System?

A. The GERBER EDGE Production System includes the GERBER EDGE, GRAPHIX ADVANTAGE® PREMIER™ Software, any GSP® 15" GRAPHIX ADVANTAGE-compatible plotter, and the variety of EDGE READY™ materials and GerberColor™ Foil Cartridges.

Q. Can I use my Signmaker® or GSP SPRINT™-series lettering system as the plotter?

A. Of course you can. The Signmaker must be at least a Signmaker IV, and the SPRINT can be any SPRINT or SuperSPRINT. In either case, you will need a High Performance Lettering Machine Kit option to interface the lettering system to the GRAPHIX ADVANTAGE.

Q. Can you give a quick overview of the whole GERBER EDGE Production Process?

A. Sure!

1. A job is created on Gerber's state-of-the-art, Microsoft® Windows™-based design and production system called the GRAPHIX ADVANTAGE® PREMIER™.

2. Once designed, the job is electronically sent to the GERBER EDGE for printing. The GERBER EDGE prints continuous-length spot and process colors onto adhesive-backed vinyl, and a wide range of other EDGE READY™ materials. The GERBER EDGE prints one color at a time. Once a color is finished, the GERBER EDGE rewinds and re-registers, and prompts the user for the next color.

3. The first image the GERBER EDGE prints is a small registration mark. Once all colors are printed on the vinyl, the same piece of material is moved from the GERBER EDGE to any 15" GRAPHIX ADVANTAGE-compatible plotter. A small eyepiece is placed in the barrel of the plotter, and the user uses a plotter "slow-slew" mode to manually align the printing to the cutting. This process takes about 15 seconds.

Depending on the desired final product, the user can cut simple contours around the printing, or cut every piece of a job.

The final results are indoor/outdoor durable, electronically-printed, spot and process color, custom-cut graphics.

Q. What is the DPI of the GERBER EDGE?

A. The GERBER EDGE is a 300 DPI device. The GERBER EDGE 2 offers a user selectable 600 x 300 dpi mode for certain materials.

Q. How many colors do you offer?

A. As of August, 1999, the following Foil families are available for the GERBER EDGE:

- 4 GCP GerberColor Process colors for indoor and outdoor use
- 42 GCS GerberColor Spot colors, for indoor and outdoor use
- 2 shiny GCM GerberColor Medal-Series colors (Gold and Silver) for indoor use only
- 11 GCT GerberColor Transparent spot colors used for reflective and backlit applications where the colors need to be viewed when lit from the front and the back.
- 3 GCX GerberColor Effects Fluorescent colors for indoor use
- Printable Abrasion Guard for additional graphic protection
- GCF GerberColor Finishing Series Matte Clear for creating a matte finish
- 7 GCLT GerberColor LT-series colors for t-shirt transfers (4 process, red, green blue spot)

Gerber ColorSet™ CST foils have also been introduced, allowing for the creation of intermediate use (up to one year outdoor durability and intermediate cost (about 30% less expensive) graphics from the GERBER EDGE.

- 4 CSP ColorSet Process colors
- 5 CSS ColorSet Spot colors

Q. What is the difference between spot and process color?

A. Spot color is probably more widely used in the sign and screen printing markets, even though you might not be familiar with the term "spot color."

The actual book definition for spot color is hard to pinpoint, so some examples will be provided. Some examples of spot colors include a navy blue vinyl color, a bright pink paint color, a daisy yellow screen printing ink, any of the Pantone Matching System® colors, or a Kelly Green GerberColor Cartridge. From this definition, perhaps we can arrive at our own definition of spot color where the color is pre-manufactured at some point other than at the digital printing device.

Process color means that the four colors of cyan, magenta, yellow and black are mixed together by the printing device in different percentages of dots to achieve a full spectrum of colors. Full color magazines and brochures are usually printed using process color. Inkjet printers, as well as the GERBER EDGE also produce process color images.

Q. What is so good about printing with spot color?

A. There are several reasons:

- Since the sign and screen print industries are rooted in spot color jobs, the GERBER EDGE offers an easy transition into digital imaging by offering similar spot color output capabilities.
- Spot color can also save output time and material costs by printing a single color onto a colored vinyl. Process color only machines often have to mix all four colors to achieve what the GERBER EDGE can do with a single spot color.
- Spot color also offers a solid color that often cannot be achieved with process color, which must mix a series of dots. Depending on the viewing distance, the dots can sometimes be objectionable.

- Process color cannot create all colors, especially in the greens and oranges. Spot colors can be used to bolster the areas where process color is weak.

- Finally, spot color from the GERBER EDGE offers elegant, shiny metallic finishes that simply cannot be achieved with process color.

Q. And what is so good about process color?

A. Process color creates hundreds of thousands of colors by simply mixing cyan, magenta, yellow and black. This allows for realistic reproductions of photos, or matching of colors that might not be available in spot color, or creation of new colors.

Process color gets much of the industry hype, but NO GERBER EDGE owner would want the EDGE without both spot and process color printing capabilities!

Q. How many colors does the GERBER EDGE print at once?

A. The GERBER EDGE prints one color at a time. Once a color is printed, the EDGE automatically rewinds and re-registers at the beginning of the job. The small screen on the GERBER EDGE prompts the user for the next color. Colors are snapped in and out in a matter of seconds.

Q. The GERBER EDGE looks pretty small. How big can the EDGE print in a single pass, and can I create larger graphics than the 15 inch vinyl width?

A. Looks can be deceiving! The GERBER EDGE print head is actually 11.8 inches wide. In terms of length, the EDGE can print a job as long as a roll of vinyl!

Because of this continuous length capability, the GERBER EDGE Production System also automatically panels graphics that are wider than the print head. Conceptually, think of the application of wallpaper for the application of these panels. Plus, the panels are automatically trimmed with the vinyl cutter portion of the process.

Q. Is there any particular order in which the colors print?

A. Process color always prints yellow, magenta, cyan, black. Spot color prints in any order that the user specifies in the GRAPHIX ADVANTAGE software. Some overprint considerations sometimes dictate that one spot color follow another.

Q. Does the GERBER EDGE print and cut in one machine?

A. The GERBER EDGE only prints the image. The GSP 15" GRAPHIX ADVANTAGE-compatible plotter mentioned above acts as the cutter.

Q. Why can't the EDGE both print and cut?

A. This is not a technical issue, but a practical issue. When the GERBER EDGE was introduced, tens of thousands of 15 inch GSP cutters were already installed in the field. GSP chose to allow those existing users to add the GERBER EDGE to their existing operations, instead of duplicating functionality with another cutter.

Additionally, having a printer and cutter in the same unit is less productive than having separate units. Some printers are available with cutters. What does the user do if they wish to cut a job while the printer/cutter is printing. They wait. Conversely, what does the user do if they wish to print a job while the printer/cutter is cutting. They wait. With the GERBER EDGE Production System, the GERBER EDGE can print while the cutter is cutting. Productivity is doubled!

Q. How does the printing get aligned to the cutting?

A. The first thing the GERBER EDGE prints is a little registration mark at the beginning of a job. Once the whole image is printed, the graphic is moved from the GERBER EDGE to the GSP 15" GRAPHIX ADVANTAGE-

compatible plotter. Once the graphic is loaded into the plotter, a small sighting tool is used to align the printing to the cutting. This technique is very simple, but very fast, effective and inexpensive.

Some automatic positioning systems on the market cost as much as $1,000 for the same functionality!

Q. Why does a printed graphic need to be cut, anyway?

A. Virtually all small, medium and large format digital or traditional graphics are cut in some way.

If you think about the small and medium-format graphics produced today, most of them have some shape other than a square or rectangle. Whether it be lettering on the side of a truck, or a company logo, or a die-cut decal, most graphics have a special shape that adds to the appeal and legibility of a design. With many of the digital printing systems on the market today, this crucial finishing step of cutting the graphic is either left to hand-cutting, or requires some home-grown system of aligning printing to cutting. The GERBER EDGE Production System assures fixed, reliable results every time.

Large-format graphics are frequently paneled or tiled. The GERBER EDGE Production System automatically trims panels with or without an overlap, assuring smooth, inconspicuous seam lines. And for fitting to vehicle features, you get the precision and reliability of an electronically controlled cutter, not the hit or miss of hand-trimming.

Q.   Why isn't the GERBER EDGE larger? I see these beautiful, large inkjet prints at tradeshows all the time.

A. In terms of why the EDGE accommodates 15 inch materials, GSP had an installed base of more than 20,000 15 inch vinyl cutters in the field when the GERBER EDGE was introduced. We wanted to allow these people to take advantage of their existing cutters, and add the GERBER EDGE to their production system.

In terms of the advantages of a larger printer, there are several interesting issues to consider in answering this question about size. Be sure to consider these issues when considering the size of a digital output device.

- Consider the quality of finished, applied product, not how it was created
- Consider the speed of creating a finished, applied graphic

Consider the quality of final product, not how it was created

The graphics created on a GERBER EDGE – once printed, cut and applied – create as effective a communication piece as graphics created by inkjet, e-stat, screen print, or any other production technique. The way a graphic is created is more of a psychological issue for the graphics producer than for the graphics consumer or the viewing audience. Paneled GERBER EDGE graphics are indistinguishable from non-paneled inkjet graphics, even when displayed side-by-side in the ultra-critical tradeshow arena.

Consider the ease and speed of creating a finished, applied graphic

In terms of producing a finished, applied graphic, the GERBER EDGE Production System is unmatched by any inkjet production system. The production of inkjet graphics usually require color calibration, lamination, and usually some hand-cutting. All of these steps require time, labor, experience, and the lamination requires additional materials. Once again, with GERBER EDGE graphics, you print, cut, apply.

Also, in terms of application of graphics, ask any experienced vinyl applicator if they would rather apply a 4 foot by 8 foot graphic in two huge pieces, or in five manageable pieces. The smaller GERBER EDGE panels are easier and quicker to manage and apply than large panels.

Q. Can the GERBER EDGE print images that look as good as inkjet images.

A. Absolutely! When the data inputs are the same for an inkjet or a GERBER EDGE, the final image quality is very close.

On the other hand, beware of other, deeper issues to consider on this topic.

Be careful of evaluating graphics at a trade show. Inkjet graphics at a tradeshow are usually created from data files that are drum scanned at very high resolution, with file sizes between 40 and 120 megabytes! In most

production scenarios for creating day to day graphics, you will probably use a desktop scanner, and you might be lucky if you get a photo from a magazine flyer.

Also, inkjet prints at tradeshows also have glossy overlaminates that tend to enhance the perception that the graphic itself is of a higher quality. Unfortunately for the inkjet graphics, these laminates are usually necessary to make the graphics waterproof and more UV stable. GERBER EDGE graphics don't usually have these glossy laminates because it is not needed for waterfastness or UV stability

When evaluating the quality of a digital printer, consider how its graphics look at the final point of usage, not at a tradeshow!

Q. Can I laminate GERBER EDGE prints for glossiness or longer durability?

A. Of course! Gerber even offers a 3M laminate called Gerber Guard™, and a Tedlar-based UV Guard laminate that can be hand applied or roll laminated to GERBER EDGE graphics. Gerber Guard enhances abrasion and chemical resistance, and adds a shiny finish. UV Guard extends EDGE graphics for a total performance life of up to five years.

Q. How much does the GERBER EDGE cost?

A. The GERBER EDGE is $15,995. The GRAPHIX ADVANTAGE PREMIER software package, usually $3,995, is available with the GERBER EDGE for a special price of $995. GERBER EDGE compatible GSP 15 inch sprocketed plotters range from $4,745 to $9,555. Complete GERBER EDGE Production Systems start at just over $21,995. All values are Manufacturer's Suggested Retail prices in U.S. Dollars.

Q.. Wow! I thought you could get inkjets for $7,000, or other thermal transfer printers for under $7,000. Why is the EDGE so much?

A. When comparing any two items, be sure you are doing an "apples to apples" comparison. There is simply no other system on the market for under $100,000 that is as potentially productive and profitable as the GERBER EDGE Production System.

When shopping for a digital imaging device, be sure to make a list of everything you want the device to do today, and everything you want it to do tomorrow. Be sure you have all the pieces that are required to make the system work for you. As you start to burrow into the costs of these other systems, you quickly realize that there are many hidden costs for features – or completely missing features – that the GERBER EDGE Production System simply does automatically. For example:

- Dye and pigment based inkjet systems require laminators, RIPs and the cost of labor and materials to laminate graphics. The total cost of these "cheap" inkjet systems quickly become $25,000 to $30,000. Plus, dye and pigmented-based inkjet graphics are outdoor durable for only 12 to 18 months, as compared to the three to five years for GERBER EDGE graphics. And this does not even consider the cost of cutting the printed graphic.

- A small format thermal transfer device claims to have a printer and cutter in one unit. This device has very high process color print costs of more than $5.00 per square foot *without the vinyl*, is very slow to print compared to the GERBER EDGE, includes a relatively slow cutter, and as a distributor claims on the Internet, is best suited for graphics the size of your hand. Plus, it cannot print while cutting, and cannot cut while printing.

There are six features of the GERBER EDGE Production System that makes it the best small, medium and large format device for these industries. We call the features THE BIG 6, and no other digital imaging system can claim all six! Go through and compare any other digital imaging system to the GERBER EDGE Production System. Then add up the costs. The GERBER EDGE wins every time!

1. **Outdoor Durable Without Any Overcoats or Laminates...** GERBER EDGE graphics feature indoor and outdoor durability, without extra lamination, transfers or coatings. Print, cut and apply!

2. **Print Reliably and Directly onto a Wide Variety of Materials...**

From calendared to reflective. From magnetic to Lexan®. No other system comes close!

3. **<u>Print Spot and Process Color</u> ...** 42 easy to use spot colors − plus shiny Gold and Silver Medal − plus seven L.T.-series heat transfer foils − plus all the glory of process color − provide the widest selection of colors from any electronic output device!

4. **<u>Cut the Printed Image</u> ...** Print and cut small and large images. Use a GSP® 15" GRAPHIX ADVANTAGE®-compatible plotter to cut around any GERBER EDGE- printed image, in virtually any shape, without the time, wait, or cost of hand-cutting or die-cutting.

5. **<u>Continuous Length Printing and Cutting</u> ...** With the GERBER EDGE you can create jobs that are small, medium or large − even create paneled images − with continuous length printing and cutting.

6. **<u>Worldwide Installed Base</u> ...** GERBER EDGE owners use this tried and true product in every corner of the globe, every minute of the day. Don't bet your business on new product hype!

Q. Do I have to use sprocketed material with the GERBER EDGE?

A. The GERBER Matched Technology System requires sprocketed material because it is the only way the entire system can work. This method ensures proper registration between colors and allows for precise cutting.

Friction feed output devices have an inherent tracking skew. The GERBER EDGE might have print a job that is 40 feet long, then rewind the full 40 feet and print anther color within thousandths of an inch. Additionally, the same image must be moved to a plotter, and the same jobs must be cut within thousandths of an inch. Friction feed devices simply cannot perform to these specifications.

Q. Do I have to use Gerber sprocketed materials?

A. Your GERBER EDGE will run other sprocketed materials, **but!**

GSP has a line of EDGE READY materials that provide optimum results when used with the GERBER EDGE. The list of EDGE READY materials is impressive in the breadth of the materials, and in the appropriateness of the materials for the sign and screen print industries.

Q. What is the cost of printed GERBER EDGE graphics.

A. There are two components to the cost of GERBER EDGE graphics: the vinyl or base film, and the GerberColor Foil. The vinyls range in price from 45¢ per foot for Gerber Quantum 2000, to $3.88 per foot for 3M ScotchCal 280*i* reflective, and even more for certain EDGE Specialty materials. The most commonly used 3M™ Scotchcal™ 220 vinyls cost about $1.22 per foot.

The GerberColor Foils themselves cost *about* 65¢ to 70¢ per color per foot. For spot color graphics, add the cost of the vinyl to the cost of the foil. If there is more than one foil, then multiply the 70¢ foil cost time the number of foils, and add that to the base vinyl price.

For process color graphics, assume all four process colors are used to come up with a cost of $2.80 per foot for the printed portion of process color graphics. Add the vinyl cost to that for a complete process color graphic cost of between $3.25 for GerberCal, $4.10 for Scotchcal 220, and $6.80 for reflective.

All these values assume US manufacturer's suggested trade pricing, and are in U.S. Dollars.

Be sure to focus less on the cost of the graphics, and more on the opportunities the printed GERBER EDGE graphics offer to your business.

Q. Where do I market graphics from the GERBER EDGE? Do I have to find all new markets?

A. In most cases, there is no need to market GERBER EDGE graphics at all! The GERBER EDGE is unique in that it can help you today as a high production tool. Many GERBER EDGE users find it to be indispensable because it helps them complete tedious and time consuming jobs in a fraction of the time required to cut, weed, and apply using traditional vinyl-cutting methods.

The GERBER EDGE simplifies small text cutting and weeding, cutting and applying multiple layers of vinyl, adding shadows and outlines to jobs, adding simple fades to jobs.

On the other hand, the easiest way to market new GERBER EDGE capabilities is to show your EXISTING customers what the EDGE can do for them! Show your customers a photo reproduction done on the GERBER EDGE. Show your customers a beautiful airbrush-type of fade done on the EDGE. Some GERBER EDGE owners even show two version of a job; one plain and simple, and one with some dazzling GERBER EDGE effects. When jobs are sold this way, the issue of price is lessened, and the value of the graphic becomes the primary pricing factor!

Q. Can I drive the GERBER EDGE with software other than GRAPHIX ADVANTAGE PREMIER?

A. The GERBER EDGE can also be driven by FLEXISIGN-PRO®, INSPIRE-PRO®, and SIGNLAB®. These products drive the GERBER EDGE directly using their native file formats

Consult with those software manufacturers for complete details about which GERBER EDGE output capabilities they support in their programs.

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