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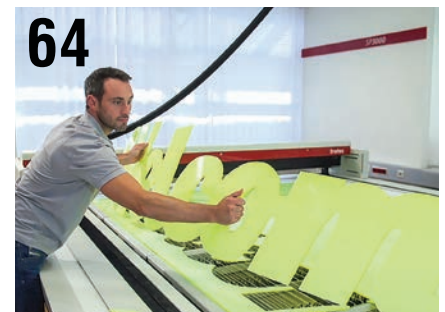
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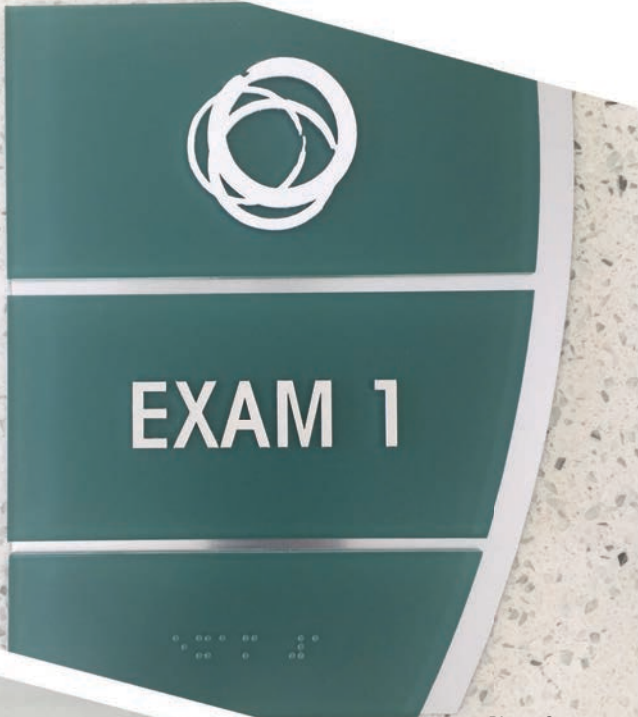
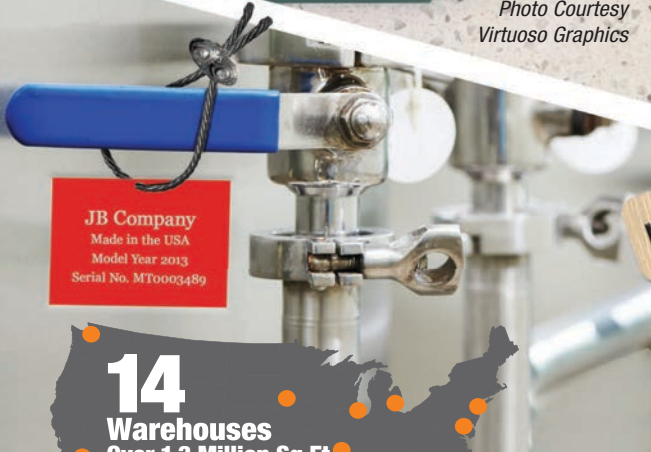


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You may have thought about taking the leap from a smaller laser to a bigger one, but when is it the right time to make that commitment? Find out on [page 64](#). Image courtesy [AP Lazer](#). Inset image courtesy [Laura Sims / Wendy and Wander](#).



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A FACE MADE FOR RADIO

For a few months now, I've been hosting *The GRAPHICS PRO Files*, a podcast that focuses on the graphics industry and the people in it. We're up over 30 episodes now, and you can find all these podcasts at <http://gpro.link/pod> or on SoundCloud, Spotify, and Apple Podcasts.

They are a fantastic way to get honest industry perspectives while on the go.

Of course, getting into the swing of hosting podcasts for me meant learning new skills and getting away from the thing I've become very good at over the years – hiding behind a keyboard. The title of the podcast is catchy, and much better than the more apt description, "Guy Who Sounds Like a Hungover Kermit the Frog Talks About Graphics." The truth is, I do very little talking. I'm like Carl Reiner while Mel Brooks steals the show.

Back in another life when I was in high school, I got a job as a DJ at one of my small town's radio stations on Sunday nights. I remember thinking how glamorous that sounded when I got the gig, and then just a few weeks later realizing that not everything is what it's cracked up to be. They weren't very happy with me because I would read news headlines over the air. Apparently, that was reserved for the big wigs to do at certain times during the day, not the lowly Sunday night filler DJ.

The radio gig only lasted until I moved away to college, but the news bug stuck with me. Usually, when I revisit my high school memories, it's because I'm waking up in a cold sweat over something extremely cringy that I said or something extremely embarrassing that I did. But the memories of broadcasting my voice out over the airwaves for everyone to hear aren't so bad.

And this time, there's nobody telling me that I have to save the good content for somebody else. *The GRAPHICS PRO Files* is a great way to get to know people from all walks of the graphics industry, and I think you'll enjoy my chats with industry figures as we dive into what makes them successful and how others can learn and benefit from their experience.

If you know of someone who is really making a difference in the graphics world and would make for a great interview, be sure to reach out to me at mdixon@nbm.com and let me know. **GP**

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(Image courtesy ShopBot)



WANT TO KNOW MORE? Feel free to give me a call directly at 720-566-7286 or email me at mdixon@nbm.com.

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| SETTING NEW STANDARDS



WHAT'CHA-FRAID-OF?

We are fortunate to have a well-stocked hardware wholesaler a few miles down the highway from the sign shop. They are our source for all our rivets, bolts, drill bits and so forth, and their prices are much better than a hardware store or home center.

The place is owned by an outfit over in Tyler, Texas, but managed locally by two really helpful fellows, Troy and Sam. Troy is no small fry, but Sam could easily be called, "Big Sam" and is the taller of the two and built like a pro football lineman, plus 30 pounds or so.

One winter day, I was the only customer as I walked up to the sales counter. While waiting on Troy to get off the phone, I absent mindedly stuck my hands in the pockets of the jacket I was wearing. I felt something odd in the right pocket and pulled it out.

To my amusement, I realized it was a rather large cockroach, well, a toy one anyway. I had bought it to tease my grandsons with. It looked quite real, had long antennae, six tiny feet and hidden micro sized wheels. If you set it flat on a tabletop and roll it backward a few inches, when you let go it scampers forward at a sprint.

About the time Troy finished his call, I let go. That large roach headed right toward his rather ample torso, and the big fellow jerked back and shrieked. Eyes bulging, he looked hard at the little fiend as it hit the floor and soon lost its energy.

Catching his breath, he hesitated, then smiled good naturedly and said, "I don't like bugs, that's for sure! But Sam, well they scare him to death. You gotta pull that trick on Sam."

Sam was also on the phone, and simply nodded at me when I stepped in his tiny office. I palmed the little critter, then leaned over and placed my hands on his desktop. I eased my right hand back a few inches, raised my hand gently, and out darted that large cockroach straight toward Big Sam.

Mercy! I have never seen a big guy move so fast! Sam leapt from his chair and hurdled his desk in one blinding motion. Too late I realized that I had placed myself between him and the door, and he blocked me like a B-team lineman and disappeared down the hall in a blur!

Troy was laughing hard, but I was in shock. When Sam came back, to my surprise he was still talking to me. But two things are for sure, Sam is *really* afraid of bugs, and I'll *never* do that to him again.

Of course, we're all afraid of something. Snakes and spiders are

near the top of my list. But in life, and in business, there are more significant things to be afraid of, and just like with spiders and snakes, we must manage those fears to survive and prosper.

Being in business well over 40 years, and having been part of several startups, managing the fear of failure is an absolute requirement. And one can't be afraid to borrow money, real money, or not much good happens. Anyone in business probably needs to have a healthy fear of the ever-powerful IRS. But we've found the best way to deal with that is to put all the cards on the table, be completely honest, pay our taxes and sleep better at night.

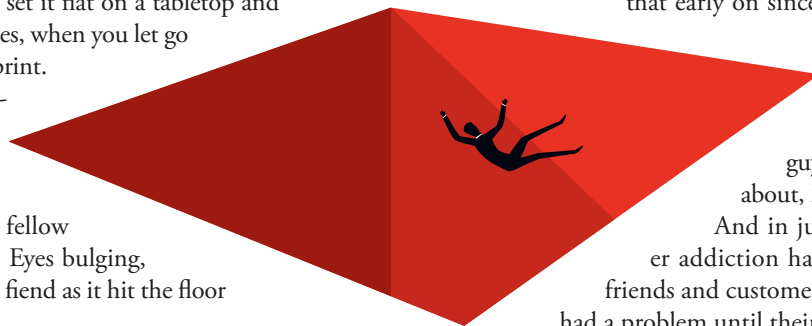
But there is something I am afraid of that I become more paranoid about each year. It has literally taken the lives of good customers of mine, and dear friends as well. I'm not ashamed to admit it that I'm terrified of anything that can control me, hook line and sinker, and that means anything I can become addicted to.

I think it was good that I became truly fearful of anything like that early on since sign guys, especially hand-painting-artist-type sign guys, back in the day, were known to love their alcohol. And some of the guys, even guys I knew and cared about, lost their battle permanently. And in just the last two years another addiction has taken away two more old friends and customers. I was not even aware they had a problem until their weakness for big time gambling ended their stories with one suicide and one organized crime hit job.

So, it's not the bugs, spiders and snakes that keep me wary and on guard. It's the things we all like and start out enjoying that I have a paranoia about, and I think I'll keep it.

And I will keep on working in the sign shop, and being thankful for another good day, good week and good month. I hope you are having a good month too, and neither one of us takes any of them for granted.

Rick



RICK WILLIAMS owns Rick's Sign Company, a commercial sign shop in Longview, Texas. He has been in the sign industry since 1973 and has been a contributing editor to *Sign Business* and *Sign & Digital Graphics* since 1986. Contact Rick via email at ricksignco@aol.com.

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KEY DTG LESSONS for IMPROVED PROFITABILITY

INNOVATION WILL KEEP DTG COMPETITIVE IN THE FACE OF COMPETING PROCESSES

BY SHELLEY WIDHALM



The direct-to-garment (DTG) industry hit the top of the bell curve for companies wanting short-run, one-off, and print-on-demand products, but the market isn't certainly going away.

"The DTG market is going to be flat at best here in the near future if it's not already because direct-to-film (DTF) is exploding," according to Don Copeland, digital products manager for ColDesi Inc. "The direct-to-film market stepped up, eliminating the need to do pretreatment and the concerns for types of materials or fabrics, and it's not that much more expensive than DTG."

Haziel Mitchell, sales and marketing director of RICOH DTG, sees a slightly different story.



Above: The Ri 2000 printer.

Below: A foil application to print T-shirts with the image of a lion. (Images courtesy RICOH DTG)

"DTF has been out for almost a year, and within that year, RICOH has gained market share over the last six months," Mitchell says. "As long as DTG innovates and challenges the technology and continues to improve the technology and has customers in mind, we're not going to go anywhere and will continue to be a leader in garment printing."

INDUSTRY ADJUSTMENTS

Since its launch in 2005, the DTG industry pivoted a few times to produce better quality prints over other options in its sweet spot of customization. Companies selling DTG-printed T-shirts, hoodies, jackets, hats, and other printed garments had to learn how to work with a variety of materials while trying to maximize profits, limit waste, and work around today's supply chain issues.

"The beauty of it is it gives instant results," says Harry Oster, president of Equipment Zone Inc. "DTG appeals to a fast turn-around and multicolors on one garment."



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Top: An employee of Shirt Pickle loads a T-shirt onto a printer for DTG printing. **Above:** Shirt Pickle prints an image onto a T-shirt using the DTG printing process. (Images courtesy Shirt Pickle)

Printing companies are opting for DTG's ability to print multicolored images right onto a material that has a soft feel, unlike the hard plastic surfaces of less expensive printing alternatives. DTG images can be faded or have a smoke or flame effect, especially when they're printed on light-colored materials. But when it comes to something darker, DTG presents a few challenges starting with the need for a layer of white ink to be able to adhere the print.

"The biggest thing we've learned over the last 15 years is how to gracefully and consistently get the white layer to lay down right on the shirt," Copeland adds.

The garment must be pretreated, causing the white ink, which isn't translucent, to set up or gel. The white ink needs to have enough consistency and create enough of a barrier to allow colored inks to sit on top instead of mixing or soaking into the material. The result is brighter prints and increased wash-fastness of the print.

"The chemistry, equipment, and processes are all in place to allow for that. That is the pinnacle of what's changed over the last 15 years in DTG printing," says Copeland.

A pretreat machine is used to automatically apply light or dark garment pretreatment to the shirt. The machine consists of a spray nozzle that traverses across the surface of the material to do the application. This is an improvement over a human operator using a power sprayer who's unlikely able to apply the pretreatment at a consistent speed and distance from the garment.

The technology has been around for nearly 20 years but affordable and reliable in the past five to 10 years. The inks, too, have improved and are more durable once applied to the garment and are less likely to clog in the printer itself. Better and more refined binders/polymers in the inks now cross-link better between white and color layers, giving better, more consistent results.



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A Shirt Pickle employee uses a heat press to cure a DTG print. (Image courtesy Shirt Pickle)

SELECTING MATERIALS

The type of material being pretreated is an important consideration, with cotton, high cotton blends, and natural fibers like hemp and bamboo being best suited for the DTG process. Something of a high quality that doesn't fibrillate when printed (fibrillation is when small fibers of fabric stick up when printed) and that presents a smooth, plain canvas that is preferable for applying the pretreatment and final image.

Ring-spun cotton, for example, has a tight weave from how the material is spun and threaded. "When the ink is printed onto the shirt, it actually will absorb better whereas knit is not as tight," Mitchell explains. "You will see color migration and colors mixing together because it's not as tight."

Materials like polyester and rayon are better suited to DTF. However "one increasingly popular option for polyester garments is to print direct-to-film (DTF) transfers on your DTG printer and heat press them onto the garments. Adheres great, washes well, and is quite durable," says Oster. If not, the printing time will take longer to get the ink to adhere.

"Choose your garments carefully since the quality of the garment affects the print," Oster adds. "If you use very poor-quality fabric, the print does suffer."

Lower-end materials may be suitable for one-time events like a race or charity event where long-term image quality is not paramount.

"We found types and brands that give you the best results both in the look when you deliver it to the customer and the longevity and durability once your customer has it in hand," Copeland says.

UPGRADING PRINTING ADVANTAGES

To accommodate the printing advantages of DTG and DTF, RICOH released DTF printers in December 2021 that are DTG compatible so that the software works for both.

"DTF is great for polyester and rayon. DTG is by far better for tri-blends and cotton," Mitchell asserts. "I would choose

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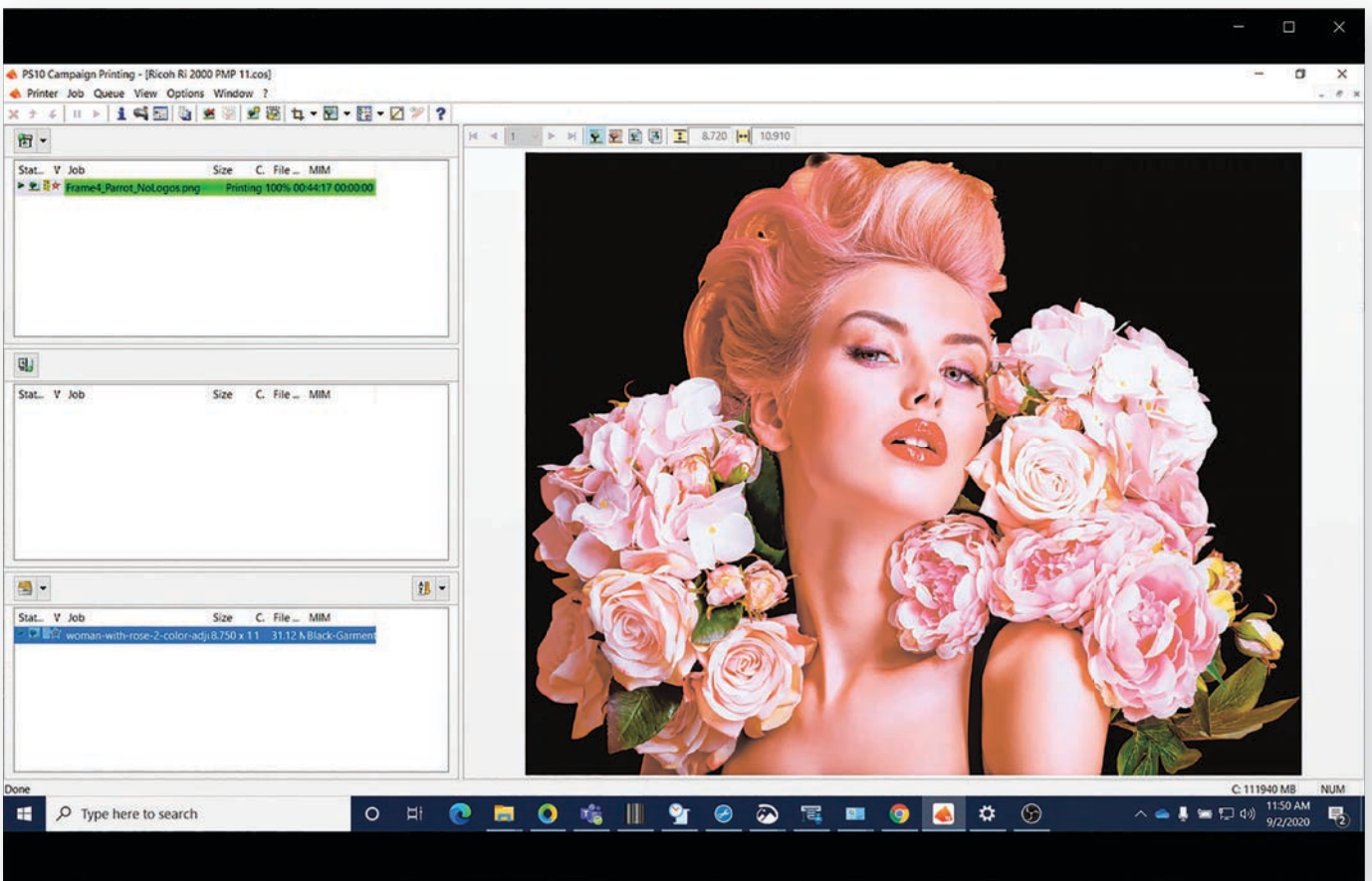
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An employee of Shirt Pickle pretreats a T-shirt to prepare it for a DTG image. (Image courtesy Shirt Pickle)



ColorGATE RIP software. (Image courtesy RICOH DTG)



DTG above DTF as long as I'm not printing on synthetic fibers. The feel is much better, and the washability is much better."

Companies considering an upgrade of their printer to accommodate more orders will want to think about speed and the maintenance requirements of the unit, advises Mitchell. DTG requires a great deal of maintenance, dries up the less frequently it's used, and is hard to start up, leading to a waste of ink and a subsequent increase in cost. DTG printers have an auto-clean feature — Mitchell recommends asking about the amount of wasted ink that will result during the cleaning process.

"The DTG print head clogs if you don't maintain it properly," says Mitchell. "You want to make sure there's some sort of auto-maintenance happening."

Oster also recommends maintaining a proper environment for the printer, including ensuring the humidity level is 40%-50%.

"What a lot of people don't realize is that it has to be 24/7, not just 9-to-5 and shut off everything," Oster adds.

Companies need to have the business demand to justify the investment in equipment and be able to sell DTG-friendly materials to their customers. Copeland says they will want to find a niche, focus on multicolor designs and high levels of customization, and fill small to moderate volume orders to still make a profit after the cost of materials and equipment.

"What I train my salespeople and what I tell my customers who want to start a business is find out the local need," Mitchell

adds. "Who are you going to market to, and what do they need?"

Shirt Pickle in Buffalo, New York, can make a profit on DTG prints up to 72 garments, but larger orders result in diminishing returns, says Tom Pickles, co-founder of the company and co-owner of a screen printing and embroidery company. With screen printing, the number of pieces in the order is irrelevant since the setup is the same for small and large orders, but with DTG, it depends on the size of the printed image and the color of the shirt.

"What DTG does is it allows you to print one shirt without the overhead of screen printing," Pickles says. "It's an industry that certainly has a future in it. It's going to be the nimble and scrappy companies that are going to thrive in it."





Left: Easter bunnies printed onto a baby onesie using the Ri 1000. **Right:** The Ri 1000 printer made by RICOH DTG won the CES Innovation Award. (Images courtesy RICOH DTG)



The tiger and mask images are printed with the Ri 2000. (Image courtesy RICOH DTG)



Companies can be nimble by limiting waste as much as possible, such as by reusing shirts with mistakes in them for trial runs (misspellings, colors not set right, misalignment) and printing multiple orders one after the next to avoid turning machinery on and off.

“You can’t really do anything to limit the amount of ink you use to print an image, but you can make sure you are not ruining good shirts by ‘testing’ your images before going to production,” Copeland adds.

Ink is the largest variable expense for printers and goes up in cost every year, Pickles says, adding that post-pandemic, the supply chain has become unreliable to ship in inks, as well as blanks. Pickles responded by ordering new ink cartridges as soon as the low warning symbol comes on and replacing them when the new cartridges arrive, keeping the partially used ones as backups in case of future delays in ordering.

“Eventually, there is going to be a shortage of ink, or it’s just a tight time of year,” Pickles says. “It’s a time savings, not a dollar savings.”

KEEPING UP WITH INVENTORY

Also important is maintaining enough inventory with backups of popular items, particularly in light of the supply shortages brought on by the pandemic, says Copeland. To do this, have a list of vendors on hand, including a core set and backups, as well as setting expectations with customers about what is available.

Also, keep in mind what’s considered popular, which has remained about the same for the last two to five years. Decorated face masks, however, surged in popularity during the height of the pandemic in mid-2020, but that market has since quieted, Copeland notes.

“Who needs T-shirts? There are a lot of options — businesses, nonprofits, organizations, retail outlets, sports teams — the list is extensive,” Copeland points out, adding that ColDesi markets ideas

to customers of what can be printed on garments to help them think of ways to sell within their own marketplace.

“It’s not all sunshine and roses for DTG, but it’s not going to go away,” Copeland argues. “We are going to see DTG unit sales leveling off, with short-run prints on cotton and high cotton blends being its strength in a market where performance wear, polyester, and other synthetics are becoming more and more in demand. It’s definitely not leading edge anymore.”

Luckily, DTF expands what can be done with DTG, Oster adds. “DTG is and will continue to be the dominant player in the market,” he says. “The machines will get faster and more efficient.”

DTG gained share in the just-in-time printing market, especially in response to

the supply shortages. For instance, large clothing chains that used to ship printed products from overseas are printing blanks in-house using DTG printers, explains Oster, adding that doing so allows for a quicker response to changing customer demands. DTG is also moving toward high-volume orders instead of short runs of up to 100 pieces.

“Instead of the market shrinking, the market has exploded,” Oster states. “If the last two years are any indication, the future for DTG is boundless.” **GP**

SHELLEY WIDHALM is a freelance writer and editor and founder of Shell’s Ink Services, a writing and editing service based in Loveland, Colorado.

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Apparel Customization Adds New Revenue Stream for Wendy and Wander



BY GINNY MUMM

(All images courtesy Laura Sims)

Laura Sims had just gotten married when the company she was working for went through massive layoffs. Sims decided to apply her marketing background to a more family-friendly career, first selling jewelry, then adding apparel sales. In 2011, she founded Wendy and Wander, a mobile boutique and online store headquartered in Orange County, California.

In 2020, Sims added direct-to-garment printing capability, selling her customized apparel products on Etsy. This move both grew her product line and guaranteed her a steady income between her mobile events and pop-up boutiques.

Sims talks about how she decided to add this powerful customization tool, what direct-to-garment printing has done for her brand, and the positive effects of a more diverse product line on her company's bottom line.

Please tell me about your journey to founding Wendy & Wander.

Laura Sims: I had been working as a marketing manager for a printer toner company. Due to the poor economic conditions in 2009, there was a lot of downsizing. Half the staff was cut, and I was laid off.

At that time, I was a newlywed and I wanted to find a career that would work well with a family schedule. I started out by selling jewelry and then added clothing, using a "mobile boutique" concept. I founded my company, Wendy and Wander, (www.wendyandwander.com) in 2011. Now, I do local events and pop-ups around my kids' schedules, and I also sell products online. I let interested clients know about my events in advance through social media.

What led you to producing your own direct-to-garment designs?

LS: I was looking to expand my product line and level out my income stream. My husband and I attended a trade show for vari-



ous manufacturers of garment decorating equipment. I decided that the Roland DG BT-12 direct-to-garment printer made the most sense for my business; the printer is compact, easy to use, and it looked like it would be really fun to print my own stuff.

How has DTG printing worked out for you?

LS: The capabilities of this little machine are incredible! And it's super user-friendly. I have always enjoyed the artistic side of design, and my Photoshop and Illustrator designs transfer seamlessly.

How do you market your customized designs?

LS: Honestly, the marketing is a lot less effort than what I need to do to market my store's pop-up events. I sell my direct-to-garment printed aprons through my Etsy store. I really just set it up and watch orders come in. I've had my printer for two years now, and each year, the sales for these products almost double.

It's really nice to have a steady stream of income from these custom products, especially during times when I don't do as many pop-up events, like during the holiday season.

Has maintenance been easy for you?

LS: In almost two years, I haven't had to replace any ink cartridges or do any maintenance. I hope it continues to be that easy – everything else has been!

What colors do you use most often?

LS: I have mostly printed black lettering so far. The secondary one I use is the leopard print, which always comes out well. What's nice with the BT-12 is that, when you hit print, you get exactly what you see on your screen.

continued on page 94



HYBRID HYSTERIA

CREATING ALBUM-INSPIRED ART

Hysteria is the fourth album by Def Leppard, released in 1987. It is the band's best-selling with over 20 million copies worldwide. The album charted at No. 1. Initially, Hysteria was to be named Animal Instinct. It was changed and thought up by drummer Rick Allen, referring to his 1984 car accident, amputation of his arm, and the ensuing media coverage surrounding it. It is the last album to feature guitarist Steve Clark before his death. The album is the follow-up to the band's 1983 breakthrough Pyromania. Lasting 62 minutes and 32 seconds, the album is the band's longest to date. All rock and roll bands have a story, right?

As great and influential musicians as Beethoven, Mozart and Tchaikovsky were, they never had killer art on an album cover. Cover art was pretty bor-

ing up until the late '30s and early '40s. There seemed to be a kind of Renaissance around the late '60s and became a movement all its own by the '70s. Beautiful paintings decorated cover after cover across the musical spectrum. None more spectacular than rock and roll bands. Rock music has always broken barriers in the sounds that move us in a primal way.

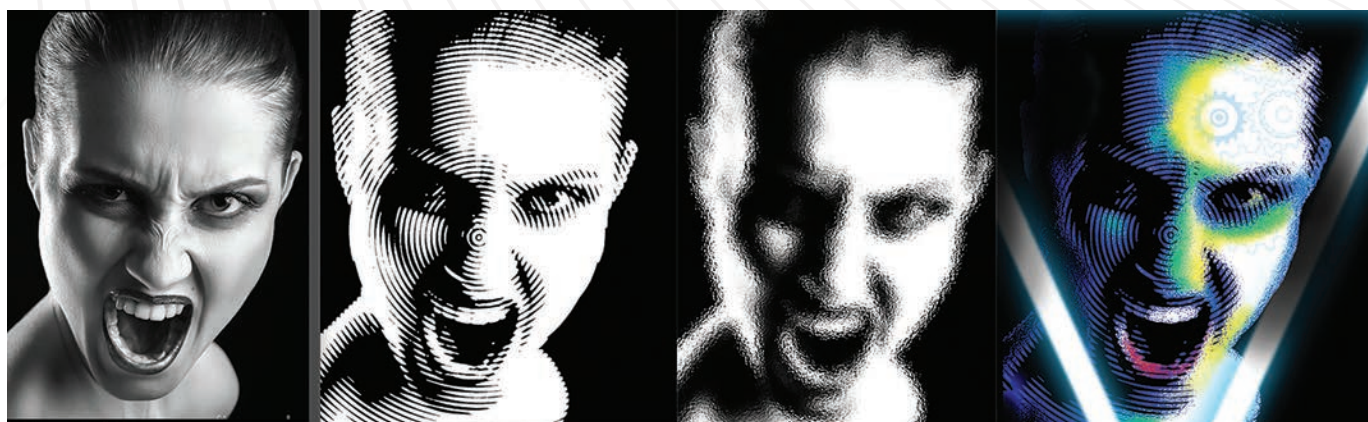
A dealer client/partner asked us to build the art for an upcoming virtual event that would feature hybrid technology. The combination of screen printing and digital on one machine. It would be called Hybrid Hysteria. Cover art was our inspiration. Duh! Too easy. Something a little different this time though. Instead of traditional screen printing, this would be printed using hybrid technology. The white printer or base plates are screen

printed and full color is printed using digital inkjet technology. We do simulated process quite often but for this we got to remove some of the limitations of the number of colors we would typically run on press. This is state of the art technology and allows for hundreds, thousands of colors that would naturally occur in a full color image. That gave us freedom in the coloring process. You know we love coloring! We used a Def Leppard cover for our inspiration and played off the Hysteria theme. The event was called Hybrid Hysteria so it was a natural. This originally had a crazy look with contorted faces and an '80s design style that is so retro now. The bright colors were a great way to put hybrid through its paces and get an attractive image that was both nostalgic and still had great color theory.



Left: Photoshop allowed freeform painting and effects while Illustrator made it easy to move elements around for placement and scaling. (All images courtesy Lon Winters)

Right: We incorporated a series of reactive faces. Since we were titling the design with the word hysteria, we needed some faces that were rather stressed in appearance.



We chose the distort option with glass and moved the levers to our liking with the texture option on frosted. This applied the erratic movement we wanted.

Using both Adobe Illustrator and Photoshop together we set up our layout. We pushed the boundaries of the rendering with some Photoshop tricks. Photoshop allowed freeform painting and effects while Illustrator made it easy to move elements around for placement and scaling. It made it easier to keep track of, by laying all of it up in Illustrator, then moving each part over to Photoshop for all the icing. This was a series of complex vector graphics working together to give the ap-

pearance of a highly technical apparatus with a futuristic flavor with soft hues and transparent gradients.

Next, we incorporated a series of reactive faces. Since we were titling the design with the word hysteria, we needed some faces that were rather stressed in appearance. Screaming expressions would help convey the intensity of the word. Much like the inspiration, the faces blended together to create a menagerie. Using photos of stock imagery, we adjusted the exposure to have a high contrasting

effect to the shadows and incorporated larger and intricate fields of color. The color had disbursement throughout the facial features of each person and a pattern of circular lines radiating from each one. These were all added effects using the Filter Menu. Under the Filter Gallery, we found a variety of effect filters that gave a dramatic flair. We chose the distort option with glass and moved the levers to our liking with the texture option on frosted. This applied the erratic movement we wanted.



We adjusted the exposure to have a high contrasting effect on the shadows and incorporated larger and intricate fields of color.

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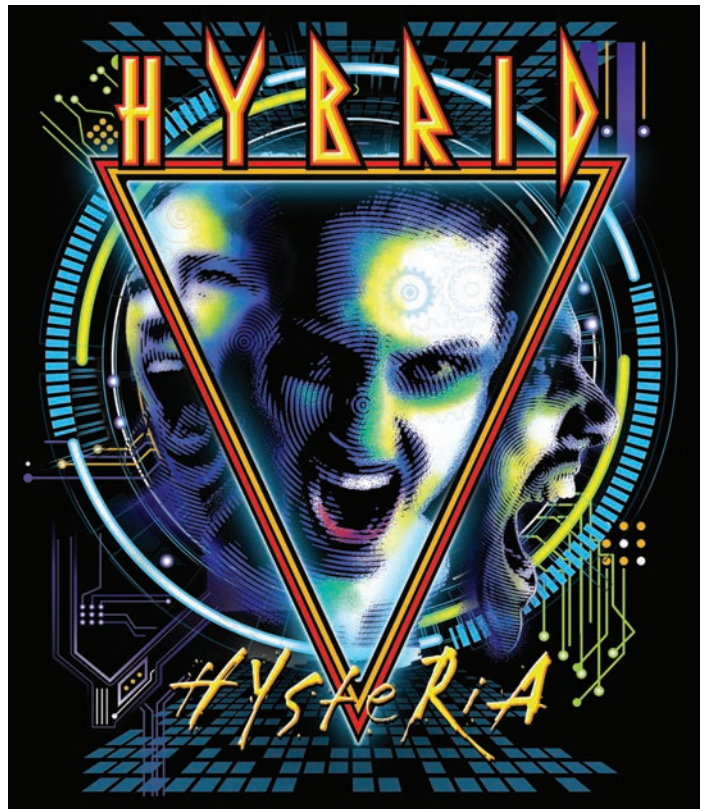
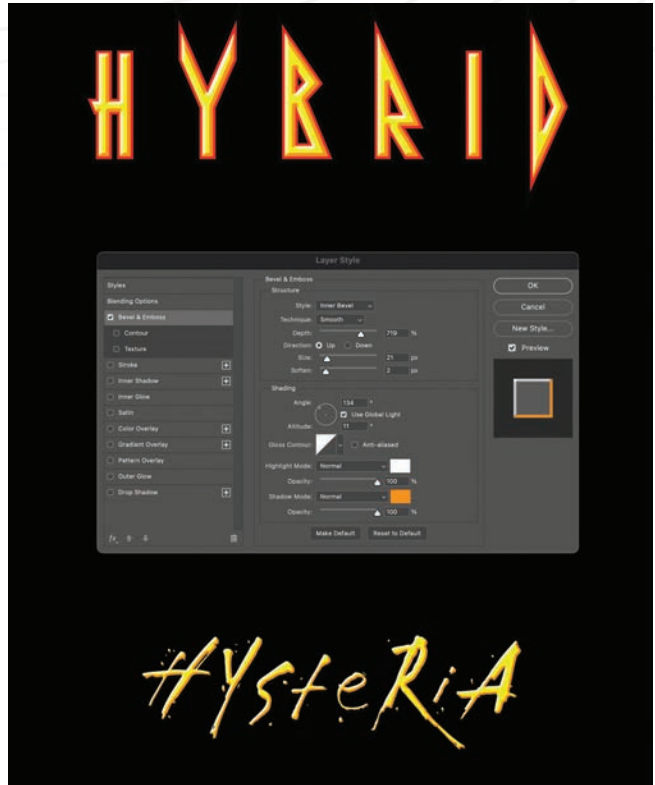


Above: For the classic triangular frame that is so prominent in the center, the bold, clear colors brought over from Illustrator didn't need to change at all.

Top right: Lastly, we added the text. Fortunately, we live in the digital age of thousands of fonts at our disposal. Finding the style from the Hysteria album was pretty easy. **Bottom right:** We outputted the white printer or base, catching layer and topcoat screens on CTS that matched up perfectly with the registration system on press, both screen and digital.

To create the line halftone, we made a duplicate of the original source photo and changed the color mode to grayscale, changed it to bitmap and chose the halftone style as line. After that, we pasted it back into the working render file and created the overlay. We filled in some of the breaks between the faces for a more seamless transition.

For the classic triangular frame that is so prominent in the center, the bold, clear colors brought over from Illustrator didn't need to change at all. To give it some flare, we duplicated the shape and layered it behind the original. Then, we filled it white and applied a Gaussian blur, found in the Filter menu under the blur options. To complete the look, we used Layer Effects and Outer Glow which did exactly what it implies, giving it a radiated brightness and glow.





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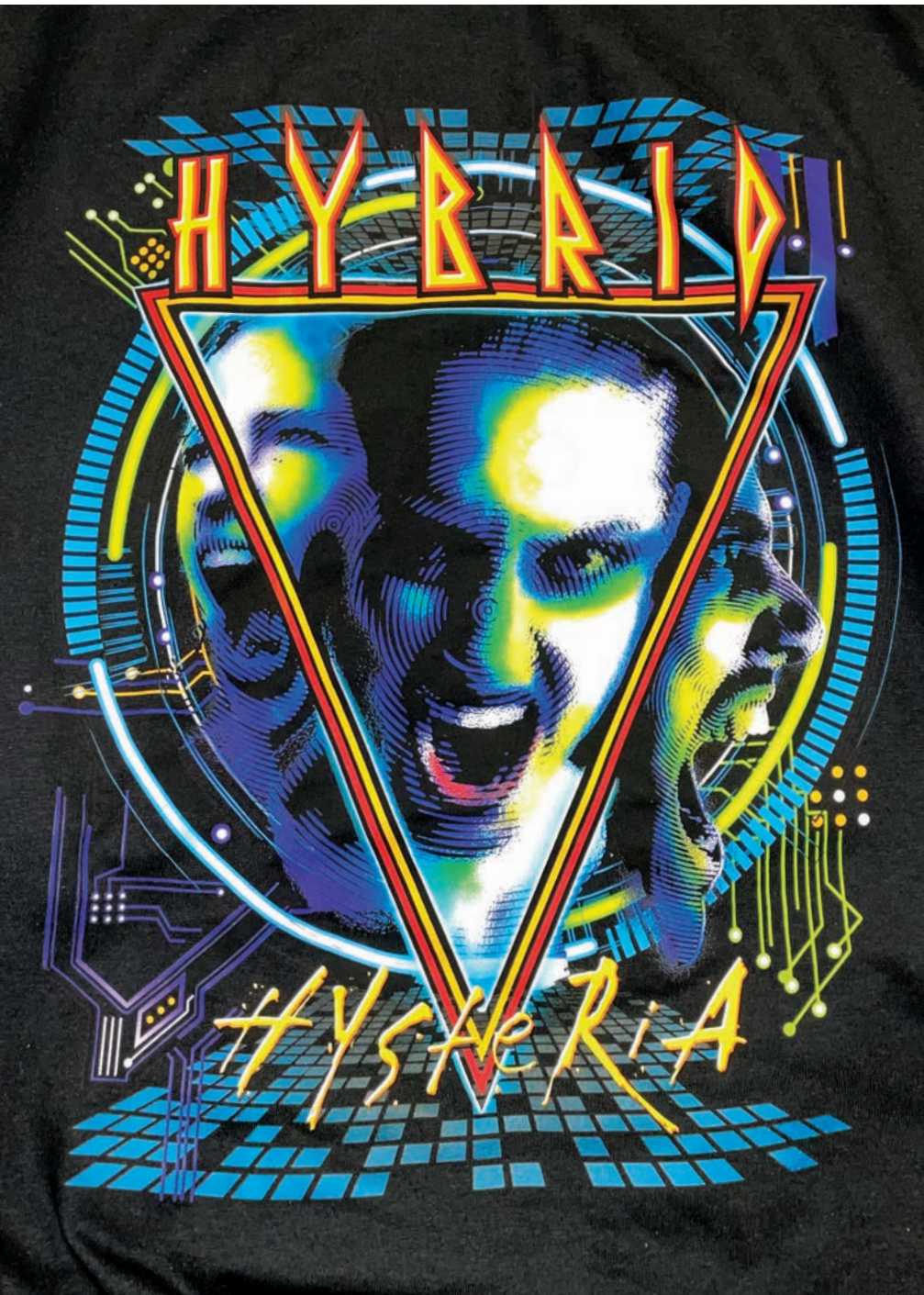
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Lastly, we added the text. Fortunately, we live in the digital age of thousands of fonts at our disposal. Finding the style from the Hysteria album was pretty easy. We added some more layer effects, bevel and emboss to take some of the flatness out of the canned text. This typestyle is very thin, so we kept the depth in proportion to the thickness of the letters. It is just noticeable enough to give it some drama. The highlight and shadow modes were instrumental in achieving the most contrast to the beveling effect.

We outputted the white printer or base, catching layer and topcoat screens on CTS that matched up perfectly with the registration system on press, both screen and digital. Halftone frequency was 55 LPI at a 62-degree angle. Because the shirts were all cotton, we chose to use discharge on a 200 TPI mesh and followed up with a flash. The digital output would go onto the 180 catching layer wet followed by another flash. Finally, for durability the topcoat was a 110. Inks were all water-based and squeegees were 75/90/75 and 65/90/65 triple-ply, dual-durometer with fast double strokes.

What better way to tie up the project than to recreate a “tour” like shirt for the back print. Each of the attendees of the event were given their very own tour shirt as if they had been to the show. **GP**

At 21 years old, **LON WINTERS** was the production manager for Ocean Pacific and started his 30+ year career reclaiming screens. He's the president and founder of Colorado-based Graphic Elephants, an international consulting firm and apparel decoration studio specializing in screen printing technical advances, plant design, layout, troubleshooting, productivity, quality analysis, and complete apparel decorating solutions. Learn more at www.graphicelephants.com.





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Making Moves with Sublimation Production

TRY THIS STEP-BY-STEP PROCESS FOR A SEAMLESS WORKFLOW

BY HOWARD POTTER



With sublimation or any other printing process, you should always create a workflow no matter if you are just starting out or if your company has been around for several years. Tackling this issue will help your company not only gain control but will help you improve your customer

service, control over production, and most importantly help you improve your overall net profit!

PAYMENT

Typically, in most companies in our line of work everything starts with customer service. Our team when meeting with a

customer focuses on making sure the customer understands what they are getting a quote on and the quality of said item from the start. From there, they explain the process and what to expect to follow. Once we have an order signed off on, we require a 50% down payment if the customer does not have a net-30 account set up with us. We give our customer so many payment options from cash, check, and every major credit card option along with PayPal. Offering this many options helps you keep your cash flow stronger out of the gate. Many shops are charging credit card fees. I do not suggest doing this. It can upset the customer from the start and cause them to spend less or just leave.

ORDERING STOCK

After payment is taken care of, customer service turns the order in. From there our team orders the blank product right away to secure the stock. Again, depending on your company size you will have to adjust how or when you do this. Many companies make the mistake of not ordering



until a few days later. Waiting to do this can cost you not having stock but also prices going up without you knowing it after you sold the order, which can cost you profit upfront or the fact that you may have to pull the stock from another warehouse that is further out. And now you must pay to rush the shipping to get it to you in time to produce. So, it is important to order sooner rather than later.

SCHEDULING PRODUCTION

Later that day, after ordering all the product and writing notes on each order letting the team know when and where the product is coming from, we have to schedule the orders into our production lineup. Our production lineup tells our team when the order is to be produced. Every day when shipment comes in, our shipping/receiving team will know what to expect and when by reading the ordering information that was given to them. If it comes in, they inspect and count it all in for the team and if it does not, they know to track it right away, which helps production stay on track.





ARTWORK

Our art team looks at the lineup daily to know which order they need to do next for artwork. Typically, we try to get reorder artwork out first. Why? Usually, it takes less than five to 10 minutes to open the old artwork and simply change the PO# and item or imprint colors. They are quicker to get out to the customers to approve, and your team can take their time focusing on the new artwork that is needed for new customers to ensure they are perfect the first time around, and if they take longer to get approved your reorders are filling the production gaps as needed.

SUPPLIES

In the middle of all of this, you need to order supplies. The supplies your team will need for the process. We used to order a

couple of times a week, but now once a week we order the inks, tape, paper, blank stock, etc. By having a production schedule, our team does not have to guess at what they need. They can simply take 30 minutes to count the supplies needed to produce each order and compare to what we have for internal stock. In our case now, we're not only ordering what we need, but extra in case we land rush orders too. We have created baseline stock numbers as an ordering guide from our team. It is very easy to let ordering get out of control, which can also hurt your cash flow.

PROOFING & PRODUCTION

Every day our production team comes in and reads their daily lineup, so they know which order to run first. Our jobs are in order by due date and by the date the product

should be in by. They not only read the order that customer service typed up, but they also must read the designer's proof. Reading both ensures everything matches. If either the order or artwork proof does not match or is missing something they are to notify the designer, the customer service rep, and the manager to make sure it gets fixed ASAP to keep production moving. If they cannot run it, they simply go to the next order in their lineup for the day and will circle back to that order. As our team is customizing the blank products, they are inspecting it and if they see any issues, they make management aware, and note it on the production lineup. This helps to maintain quality control and keep error rates low and controlled to know where the issues start to help fix them. This also let's management know where we lost time and why to prevent it in the future!



FINISHING

After the team is done customizing the product, they mark it done on their production schedule right away and take the order to the folding and boxing team. The folding and boxing team pulls each order in date order to ensure only the orders that are due first are folded and boxed first. Before they start, they must read the paperwork and artwork proofs just like the production team. This tells them what they should have and what the product should look like from the proof to make sure that not only all product counts match up but that there are no manufacturer or production errors making it to the customer. This is your last quality control check before the customer receives their order. Once the order checks out and is all boxed up. The team turns the paperwork in and moves

the order to either customer service for pick up, delivery, or to the team to ship the order out.

INVOICE

Customer service then reads the paperwork to make sure all steps for the order were completed. Then they invoice the customer and email it to them for payment. This again allows your customer to pay you faster to keep your cash flow moving in the right direction. After that, customer service follows up with a phone call to make the customer aware and set up a delivery if needed.

CONTROL COSTS & NET BETTER PROFITS

Again, by creating a workflow plan you can create better control of not only selling an order, but the production of it. Every

step has a reason and a way to control cost savings, which in the end not only gets the order completed on time and keeps the customer coming back but also helps you control costs to net a better profit margin. As you gain more experience and you grow, your workflow plan will evolve and continue to need finetuning. **GP**

HOWARD POTTER has worked in the promotional industry for 17 years, from designing to building brands and a family-owned business. He is the co-owner and CEO of A&P Master Images LLC with his wife, Amanda. Their company offers graphic design, screen printing, embroidery, sublimation, vinyl graphics, and promotional items. Howard, his family, and the business reside in Utica, New York. For more information, please visit masteryourimage.com.



SOCIAL MEDIA — LOVE IT OR HATE IT, IT'S HERE TO STAY

START USING INSTAGRAM AND FACEBOOK TO THEIR FULL POTENTIAL

So-cial me-di-a /sōSHəl mēdēə/ noun: websites and applications that enable users to create and share content or to participate in social networking — aka something you suspect you should be doing regularly for your business, but you NEVER have the time, and you never know what to post, so you rarely do it.

More than 3.8 billion people use social media every day. That's nearly half of the world's population. With that kind of daily traffic on social channels, it is no surprise that e-commerce has experienced such a massive boom in

the current COVID economy. For apparel decoration professionals, social media presents an incredible opportunity, but only if you have the marketing skills to attract and engage potential customers.

The average person spends around 2.5 hours each day on various social media channels. While that may be hard to imagine and even seem farfetched, pay close attention to your own use of social media and you may be surprised how often and how much time you spend looking through the different channels.

Social media loves visuals, and we work

in a visually delicious industry! The colors, the textures, the processes, the products, the art, this is all excellent fodder to feed to social media. Social media is a great platform to interact and connect with your prospective and existing customers. It's a way to connect with them as a person. Why does that matter? Because people like to do business with people they know, like and trust.

INSTAGRAM & FACEBOOK STORIES

Instagram and Facebook stories allow you to share more than one picture or



"At Martial Arts Embroidery (aka E-Z Stitches Plus, LLC) in Laytonsville, MD, we specialize in English, Korean, Japanese, and Chinese martial arts decorated apparel." (Image courtesy Jim Serritella / E-Z Stitches Plus)

video as a “story” that will disappear 24 hours later. While you may be wondering what the value is in something that is only visible for 24 hours, stories appear at the top of a user’s Facebook and Instagram feed when they open the app.

Stories are great because they let you show what’s currently on your equipment and show a “behind the scenes” look at your decoration processes. People are fascinated with “how it is made” type videos, and you have an endless supply of that kind of visual story. Even if you have nothing on your equipment now, show some products or speak directly to your audience about something new you offer, a new look, design art concept or decoration method you offer.

If you are concerned that these stories need to be slick and professional, fear not. Stories are more casual in nature and allow you to have a conversation with your audience. As a bonus, you can post surveys within a story. You can use this feature when you’re brainstorming new products. Your customers will feel connected with you as you take their suggestions into consideration while developing a product or decoration method. When you are casual and authentic in these stories, your customers and potential customers will relate to you easily.

GO LIVE!

You don’t need fancy production equipment to go live on Instagram and Facebook. Make sure you have good lighting and an appealing visual background, and you’re good to go with just your smartphone. Before you go live, take a selfie photo of where you will be standing as



Post a photo of your machine, or better yet, you with your machine. People are fascinated by the equipment we use. (Image courtesy Kim Coston / OptiMillonDesign4U)



From small orders to large orders, showcase them all on your social media.
 (Image courtesy Krissi Dane / KDdidDesigns, LLC)

you go live, and then check the background for anything that needs to be removed, straightened up or covered.

You can post a heads-up when you plan to go live or do it randomly. You can also send a notification to your followers when you do a live, so they can tune in. Talk about a job you are running during a live video or do a general Q&A. It really works well if you monitor the comments people post while going live so you can see what people are saying and asking. It makes your customers feel great when you acknowledge what they're saying during a live video. Have a second person available to make it easy to keep up with the comments.

Another great thing about going live is that you can then share the video instantly and directly to your Instagram stories. After your live broadcast ends, click "share." It will then be replayed on your stories in its entirety. Your audience can rewind the video, which is great if they missed something you said.

INSTAGRAM REELS

Instagram Reels popped up following the TikTok craze. An Instagram Reel is a short video, around 15-30 seconds long. The Instagram app offers different editing tools to make the video fun and engaging. Use filters, captions, stickers, and even combine multiple video clips. Reels also have their own dedicated tab on someone's Instagram account.

Share Reels to your stories after you upload them and share them to your feed. Unlike stories, Reels don't disappear after 24 hours. They have a dedi-

cated spot on your Instagram profile, and people can interact with them like they would a traditional post.

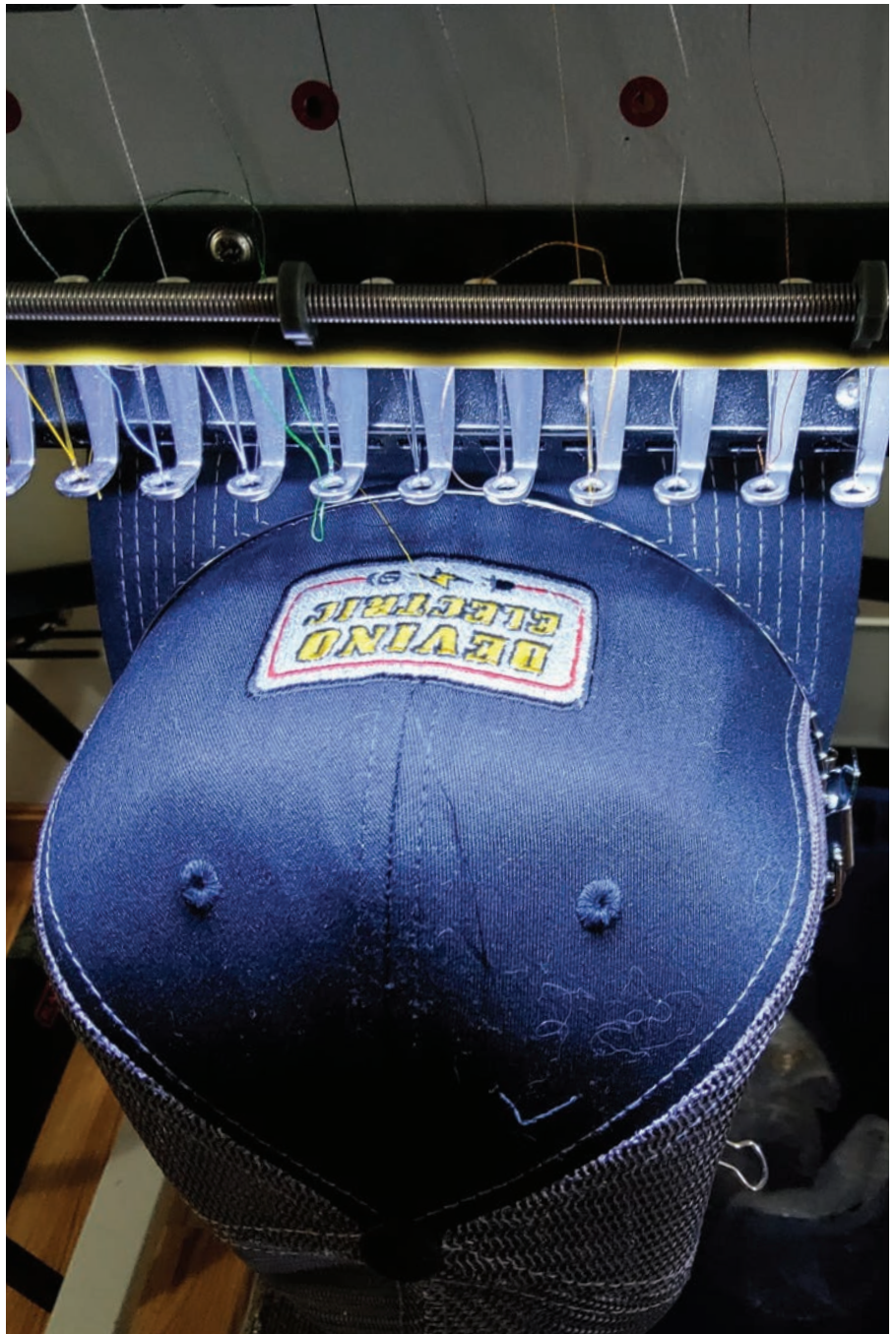
Make Reels to:

- Educate, such as “How we make it” videos
- Behind the scenes information, like “This is how the inventory arrives,” and then unbox goods from your wholesaler
- Showcase new products and highlight the benefits of new sample products
- Promote an upcoming sale
- You can even use Instagram’s green screen filter to showcase your logo in the background while creating your Reel.

HANDLE WITH CARE

When creating social media posts, remember the acronym CARE:

- **Consistent:** Post content consistently to keep your audience engaged. Ideally, post daily to your stories, feed, and/or Reels. For lives, post weekly or every two weeks. If you don’t post consistently, it is hard to get traction. When you post consistently, people tend to watch for your stuff. The more captivated your audience is, the more likely it is that they’ll become customers.
- **Authentic:** You want to create an authentic voice for your business. Post as yourself, not the business. Share selfies occasionally, showcase highlights, and share your unfiltered personality. Videos are one of the best mechanisms for conveying authenticity.



Customers love seeing their company name. They are very likely to comment on a post featuring their logo, and share it, which is great for you! (Image courtesy Desiree DelMonte / Desi’s Threads)



You can provide details in your posts to help customers understand what kinds of services, volume, and products you offer. (Image courtesy Tamara Boyer / Thread Art and Everything Promotional)

- **Relevant:** Feel free to join in the conversation on social media, including weighing in on current events. I follow the guidelines I learned at home: never talk about money, religion or politics. Re-share articles that you like, leave comments on other people posts, participate in current trends, and make pop-culture references in your posts. Your social media platforms aren't just for announcing news about your products or decoration processes. They're for having fun, funny, and even meaningful conversations as well.
- **Engaged:** People comment on your Instagram and Facebook posts in the hope that you will see it and respond to them. When you respond to comments and messages, you're showing your audience that you are present. Commenting on content from other social media accounts builds your list of followers.

GET TO POSTING!

Social media is here to stay. And more importantly, your customers and your potential customers are on social media at least once Every. Single. Day. Most of us pop on several times a day. It has been said many, many times: people buy from people they know and like. Social media is one way to let people get to know you, interact with you, and feel good about you, and then also by extension, feel that way about your business.

The benefits of creating posts that are noticed are cumulative. The more often someone sees, likes, comments,



CHECK OUT 6 STEPS TO GET YOU
CONNECTED WITH YOUR CUSTOMERS
ON INSTAGRAM: gpro.link/insta

or shares your posts, the more likely it is that your posts will be shown to that user by that social media platform. The better your posts are, the higher the chances are that users will engage with it in some way, with likes, comments, or shares.

It is great that Facebook and Instagram are free, beyond the time you put into being on these platforms. The next huge benefit is that your customers and potential customers are already going to these platforms online! Look at the brands and businesses you follow on social media. How do they interact with their customers? Do you like what they're doing? What captures your attention? Think about that as you develop your strategy for using social media for your business. Your posts should not be shouting, "Buy my stuff!" Social media is about helping people get to know you and connecting as people as we navigate this thing called life. Sharing what you offer and what you do is only one aspect of you as a person.

If you struggle with what to post on Facebook or Instagram, email me and I will send you ideas for you to post for at least two weeks! Email me at jennifer@nnep.com, subject: Social Media Ideas. **GP**

JENNIFER COX is one of the founders and serves as president of the National Network of Embroidery Professionals (NNEP), an organization that supports embroidery and apparel decoration professionals with programs and services designed to increase profitability and production. You can contact her at jennifer@nnep.com.



For example, post "We are finishing up this run of 1,600 caps, with designs on the front and the back!" (Image courtesy Tamara Boyer / Thread Art and Everything Promotional)

Router Bit Maintenance and Care

Like most tools, router bits will last longer if people learn how to use them correctly, care for them and maintain them when they are not in use. Heat, the wrong type of bit for the job, cheap bits or an ill-fitting collet on the router can all be the death knell for a router bit. Here are some tips for how to get the most bang for your buck when it comes to router bits.



GETTING THE MOST MILEAGE OUT OF YOUR ROUTER BITS CAN ADD UP TO BIG SAVINGS OVER TIME

BY PAULA AVEN GLADYCH

TYPES OF BITS

If a sign or graphics shop is new to using a router, it is important that they learn about the different types of bits available for the projects they want to complete. There are four types of router bits: steel, high-speed steel, high-speed steel with a carbide tip, and carbide.

“Solid carbide is the best and is going to give you the best quality cut,” says Ryan Patterson, lead mechanical engineer for ShopBot. “The chances of breaking those bits are fairly easy. I tell people starting out to focus on just cutting and learning the machine, learning how to cut, learning what chips are and the sounds of the machine by using a carbide-tipped cutter.”

He points out that a shop may not get the best-quality edge at first using a carbide-tipped cutter but “at least they are not breaking bit after bit after bit. Starting out, carbide-tipped bits will save you money while you are learning.”

Sign shops will typically focus on V bits in a range of angles from 60-120 degrees. If they are creating three-dimensional sig-

nage, they will want ball end mills. Within those two types of bits are a wide variety of cutting tools, including ones that are better designed for edge quality and others designed to give a smoother bottom finish. Bit design and shape are “critical,” he says. Most bit manufacturers specify what type of cutting each bit is designed for.

Conrad Schubert, Cutguru sales/product specialist for North America, says his company carries a few specialty bits that are popular, such as ball nose bits designed for milling contoured surfaces, slotting and pocketing. Cutguru is a subsidiary of Gerber Technology.

“V-groove bits are ideal for sign text, substrates that require folding, fluted columns and other decorative effects. Engraving bits are available in a variety of tip sizes which are used on wood, plastics, and soft aluminum. Corner edge rounding bits can be used for creating a rounded edge on a variety of materials,” he says.

Schubert recommends that shops just getting started in the business carry bits that are used on the most popular signage materials available, including hard and soft PVC plastics, aluminum composite panels, and hard and soft foams.



“Multipurpose bits should also be considered, which are designed for use on a variety of materials, offering more flexibility for the operator. Many shops today specialize in routing only certain materials so the needs may vary. In addition to router bits, many tables use both tangential and oscillating carbide blades to cut material. Additional bits/blades can always be ordered on an as-needed basis and shipped via next day service,” he adds

CHEAP VS. EXPENSIVE BITS

Most routing experts agree that you get what you pay for when it comes to bit quality. Cutguru’s Schubert says that “by utilizing an inexpensive bit on a large project, the operator will experience more frequent downtime as bits will need to be changed more often. Inexpensive bits may not

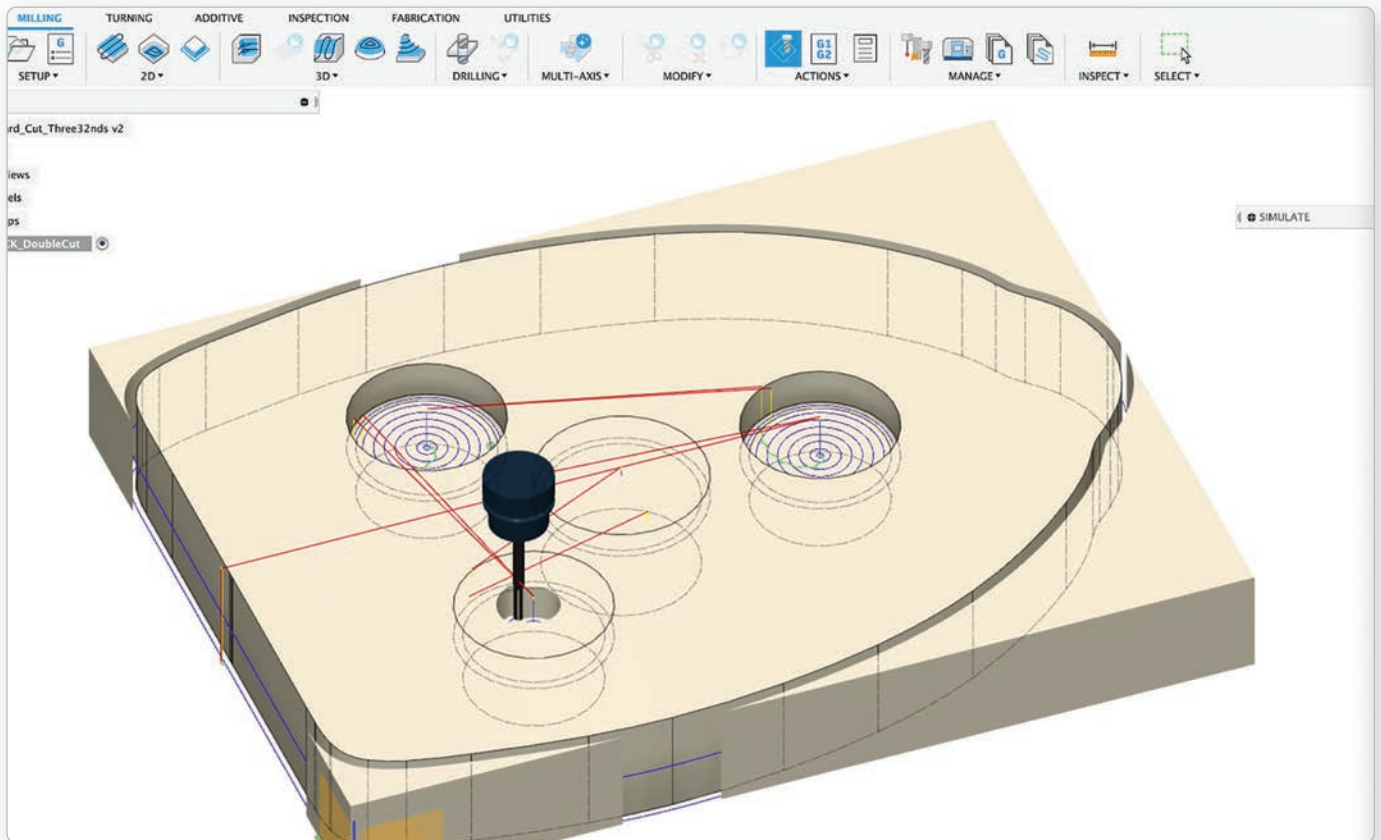


(Image at left courtesy Cutguru. Image below courtesy ShopBot)





(Image courtesy ShopBot)



(Image courtesy ShopBot)



offer the best quality finish as compared to a premium coated bit. Utilizing a higher quality bit, such as a coated carbide bit, offers improved cutting performance and provides the best overall finish. The coating exerts less friction, heat and is able to route faster.”

HOW TO USE BITS PROPERLY

The top way to keep your bits in tip-top shape is to store them correctly. Never just throw them in a drawer with other cutting tools because they are more likely to get damaged. Patterson recommends storing them in a holder that keeps them all separated from each other and ready to use.

Many shops don't realize that the collets on a router spindle are consumable, mean-

ing that they lose their holding force over time. Once a collet gets loose, the inclination is to keep tightening it up, which puts more pressure on the bit shank, which can either break the cutter faster or start the process of breaking the bit.

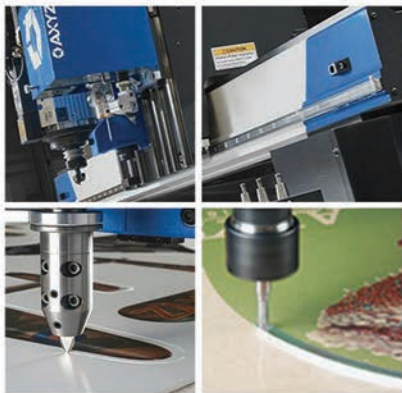
“If the bit ends up breaking when cutting and the shank of the bit broke inside the collet, you will save a lot of money in bits by taking the collet out of the machine and throwing it in the trash can,” Patterson adds. If the bit breaks up inside the collet, there's a good chance the broken bit damaged the inside of the collet, which will put uneven pressure on a brand new bit, increasing your chances of breaking the new bit as well.

Collets are fairly inexpensive, ranging from \$15 to \$40, and are very easy to re-

place. Patterson says that if you buy a collet and you break several bits while using it, it means the brand of collet is no good. Purchase a different brand next time.

“Selecting the most appropriate bit for the material being used, utilizing your machine's cutting/routing software, including the correct operating RPMs and suggested feed rate will result in an optimum finish and longer bit life,” says Schubert. “Due to the wide variety of materials available today, an operator may need to vary the machine settings/RPM via trial and error to achieve the best results possible.”

Routing solid aluminum, aluminum or steel composite panel substrates will reduce the lifespan of a typical router bit, he adds. “We introduced a line of premium coated router bits that can be used on a variety



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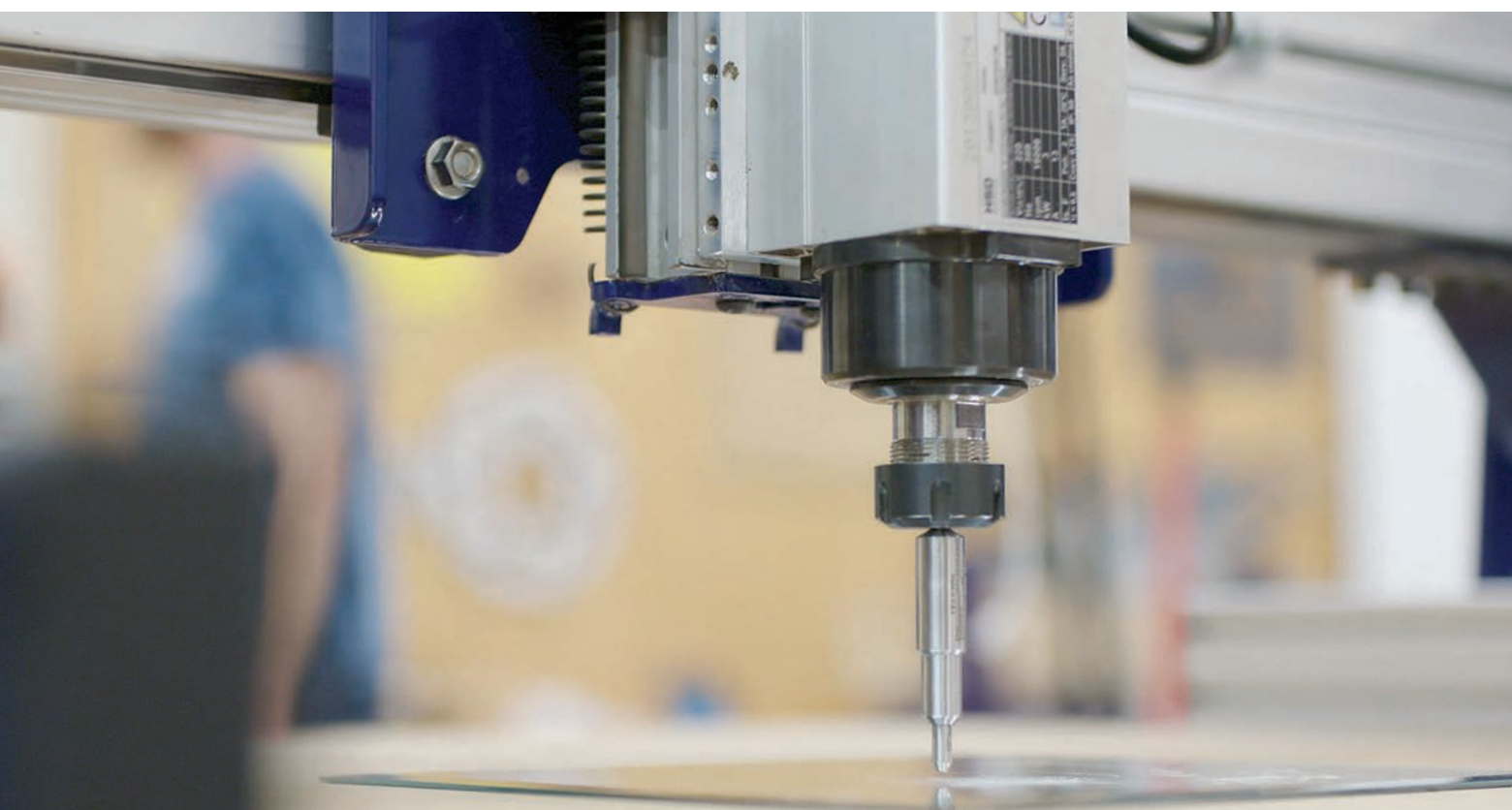


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(Image
courtesy
ShopBot)



of substrates, which reduce friction and heat buildup. Coated bits also allow faster, deeper routing, which offers longer bit life, resulting in shorter job turnaround times,” Schubert says.

Another tip is to keep the bits cool by not allowing friction. You do that by using the right cutter for the right material at the correct feed rate and RPM. If a shop keeps those things in mind, the bit will typically last a long time before the edge quality deteriorates.

David Freeman, a sales representative at Hartlauer Bits, says that if a shop notices that their bits are wearing out prematurely it means they are going too slowly. Many people think that if they go slower, their bits will last longer, but it is the exact opposite, he says.

It is important to pay attention to chip load. If a bit has an 8,000-12,000 chip load or 15,000-24,000 chip load, stay within that range. “If you go less it usually dulls the bit out quicker. If you go more than the chip load, it puts stress on it and can break the bit easier,” says Freeman.

He adds that when using a router bit, the larger chips you have the more heat is taken out.

“In a cut, heat is your enemy. As a bit heats up, it burns out the cobalt binder and the carbide shavings break off,” Freeman says.

HOW TO MAKE BITS LAST LONGER

One thing to keep in mind when trying to extend the life of a bit is to use each one on only one type of material, even

if they are labeled as multipurpose bits, advises Freeman.

“The material you are cutting in sometimes makes a difference,” he says. “If you start in plastic, it is best to use that bit in plastic. Or if you start in aluminum, it is best to keep it for aluminum. If you change back and forth you might not notice it but a little bit of material is left on the tool. As you change materials, start in aluminum, and then do plastic, it won’t cut as nicely.”

When cutting sharp corners, he recommends coming to the corner at full speed and making a loop into the waste material before cutting the sharp edge. Cutting into the waste material at full speed, rather than slowing the machine down to take the corner, keeps the bit from heating up and dulling prematurely.



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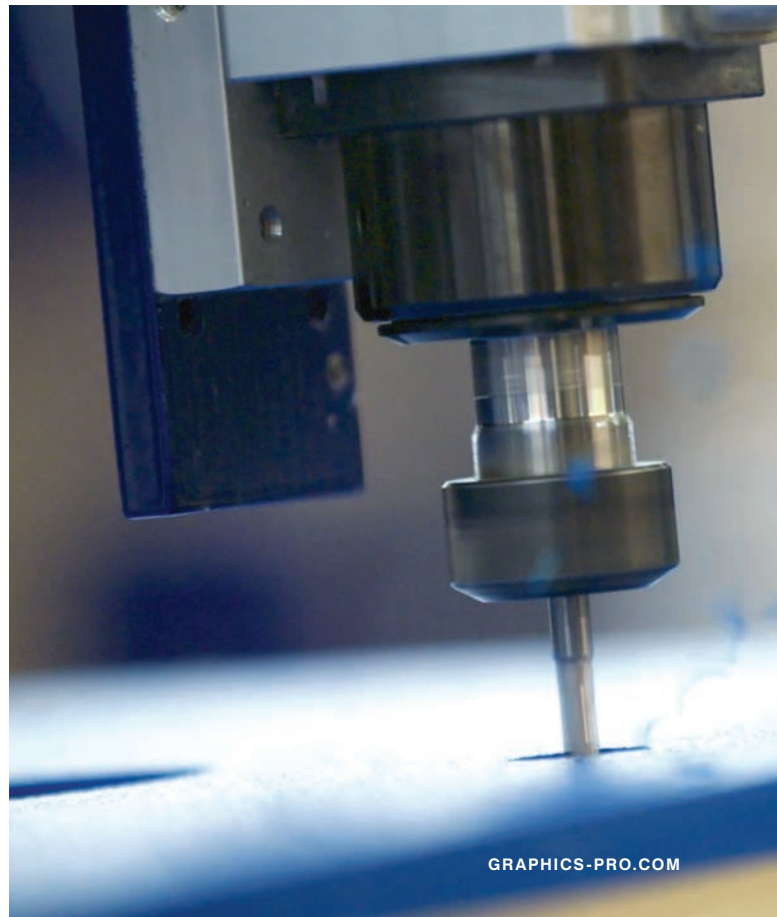
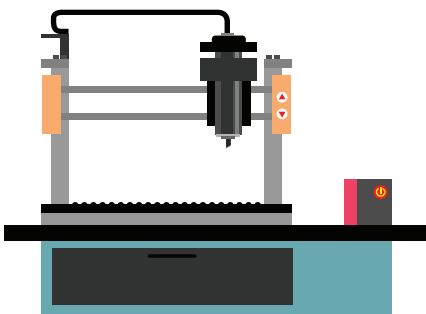
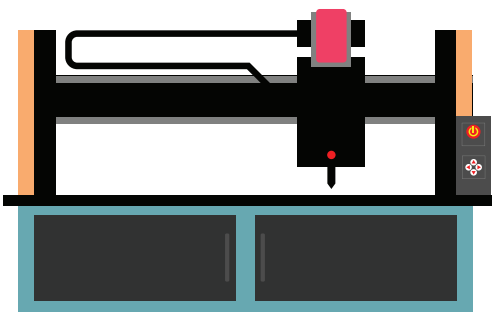
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When cutting thick material, Freeman says shops should use the size tool that fits the cut. If cutting a two-inch piece of material, use a bit that has a 2.25-inch cutting edge. When cutting metals, he suggests using a lubricant to help cool the bit down as it cuts and make it easier for the bit to slide on the metal instead of building up friction. It is also important to use a collet that fits the shank of the tool that is being used. Adapters introduce more air in the way the tool spins, causing the bit to deteriorate faster.

If a shop is new to routing, he suggests getting a spiral bound notebook to keep with the router that lists every job completed on it. List the type of material being cut, the bit used, feed rate and spindle rate. Also list if the results were good, mediocre,

or poor. Keeping track will help the operator improve over time. The notebook also acts as a reference for how to run future projects.

Wood and plastic are the easiest materials to cut. Once a new shop gets comfortable cutting those materials, they then can expand out to metals like aluminum, bronze, brass, and stainless steel.

“All those materials can be cut with a router bit. If you understand what you are doing, you can become proficient at it,” Freeman says. **GP**

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(Image courtesy ShopBot)



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Rigid Substrates for Printing

BY GRAPHICS PRO STAFF

With the rapid growth of UV printing and wide-format flatbed printing, it sometimes feels like any solid object can be considered a canvas for digital printing. Thanks to the development of UV-cure inks, direct-to-film printing, heat transfers and the use of adhesive-backed films, there are few limitations these days to what can be considered a rigid substrate.

Here are some of the more traditional substrates available through most printing and signage supply channels.

ACRYLIC

Acrylic, or plexiglass, is a lightweight and strong rigid material that is incredibly versatile in the signage and laser engraving markets. While acrylic can be used as a substrate for printing, other plastic sheeting tends to work better in terms of acceptance of inks. Usually, you'll want to print to an adhesive-backed film and then apply the film to the acrylic.

ALUMINUM SHEET

Aluminum sheet is great for sublimation and UV printing. Ordering a precoated sheet tends to make the process easier, but it's also possible to coat the sheets yourself. Self-coating aluminum is not an easy process, so if selling printed aluminum sheet for a profit is your plan, you'll want to perfect that process.

CARD STOCK

Card stock is among the easiest substrates to print on and is only limited by how durable you need your graphics to be and how long you want them to last.

COMPOSITE ALUMINUM

Composite aluminum is a strong, lightweight material that is great for creating durable signage. With the proper treating, composite aluminum can be printed to directly. Manufacturers can supply composite aluminum panels to you to meet your exact specifications.

"Aluminum composite panels (ACM) are strong yet lightweight and provide an extremely flat surface for direct printing applications. The different colors, finishes and cores make ACM a highly versatile product for almost any project," says Garrett Thompson, Laminators Incorporated.

CORRUGATED PAPER-BASED DISPLAY BOARD

The packaging production market has propelled corrugated paper-based board into one of the most commonly used substrates for digital printing. Most modern printing processes have eliminated the old concerns of ink bleed and seepage. Corrugated cardboard is accepting of nearly all styles of digital printing inks.



This pylon sign uses an Alupalite composite aluminum face. (Image courtesy Laminators Inc.)



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Digilite Black from Vycom is one of many styles of expanded PVC. This particular option is great for POP displays and signage. (Image courtesy Vycom)

— it's quick and simple to use. Print service providers can present it as a less expensive option for signage without a heavy equipment investment.

Foam board is popular for retail signage and is one of the most common substrates for flatbed printing, but shops can use other printers to print to vinyl by attaching the vinyl to foam board for similar results. Many types of rigid substrates feature a foam core, including aluminum, PVC and paper.



Magnetic materials can be printed to directly, or you can print to a film to then attach to the magnet. (Image courtesy Magnum Magnetics)

EXPANDED PVC

Expanded PVC can come in many formats and thicknesses. It's best used for point of purchase displays (POP), signage, store fixtures, exhibits and kiosks, dimensional letters, display boards, monument signage, wayfinding, and routed signs. It comes in a wide variety of colors and shapes and is lightweight with a smooth finish.

FOAM BOARD

Foam board not only presents a lightweight yet rigid, durable surface for short-term indoor uses — though some of the products can last a decade

HDPE

High density polyethylene is not recommended for digital printing purposes. It can be used for screen printing and offset printing, but ink adhesion issues will need to be resolved with your ink supplier to make sure you get the results you are after. For best results, use a router.

MAGNETIC MATERIALS

Magnetic materials are perfect for digital printing, whether it be printing directly to the material or printing to an adhesive-back media and then applying it to the magnetic material. Magnetic signs continue to grow in popularity as sign shops and their clients find new and creative ways to deploy them. Car magnets, menu

boards and retail wall graphics are just a few of the uses clients are coming up with for magnetic or magnetic-receptive materials.

The use of magnetic graphic systems, like magnetic and magnetic receptive sheeting, is a more recent trend for temporary graphics. Uses include retail POP displays, restaurant menu boards, trade show graphics, wayfinding signage, event graphics, business and hospitality lobbies, wall graphics and much more.



Polycarve from Vycom Plastics is a great material for CNC routing. (Image courtesy Vycom)

MDF/MDO/WOOD

Medium density fiberboard, once mostly an alternative to plywood, is good for sublimation and easily adapted for adhesive-backed films. You'll find it used often for photography printing and other areas where it can be printed and then left alone. Because of its heft, its not recommended for temporary uses such as retail signage. It's easily damaged and easily scratched, so it's not ideal for many commercial settings. There are also a growing number of plywood-core options that have a paper or metallic face.



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POLYCARBONATE

Polycarbonates are a strong substrate that can stand up to high winds, hail and other outdoor elements, which makes it great for outdoor signage.

When creating imagery on polycarbonates, applying decorative vinyl is a popular option, and digital and screen-printing inks work well. While the expected longevity depends on the manufacturer, digital inks are formulated in a way that adheres well to polycarbonate, usually without the need to precoat the substrate.

PVC SHEETING

PVC sheeting is best used for architectural display purposes, with a level of attractiveness that makes it great for display reasons. Adhesive vinyl is an option. It's great for real estate signs, outdoor signage, and durable POP displays. You can laminate it, cut it, route it, and thermoform with it. **GP**

WHO TO CALL

There are hundreds of options within each style of rigid substrate, and most have different capabilities, strengths, and weaknesses. To get a better idea of which substrates are best for your print shop, contact our verified industry suppliers (<https://bit.ly/3uHDCBw>) for the most up-to-date products and specifications, as well as all UL and safety certifications.

- 3A Composites USA
- Advanced Greig Laminators Inc
- All Square Digital Solutions
- Banner Ups by Budnick Bay
- Reprographic & Supply Inc
- CalComp Graphic Solutions
- Catapult Displays & Graphic Supplies
- CODA Inc
- Colex Finishing Inc
- CrystalEdge
- Drytac
- Far From Normal Supply Inc
- Graphic Resource Systems
- Grimco
- GSG
- Hanson Sign Companies
- IEC/Interstate Electric Co
- LexJet Lintec of America
- Midwest Sign & Screen Printing
- Montroy Sign & Graphic Products
- Mosaica Group LLC
- The Noble Printers
- Ordway Sign Supply Inc
- Prepress Supply Inc
- Reece Supply Co
- Sign Outlet Store
- Sonoma Graphic Products
- Tubelite Enterprises LLC
- Yard Sign Ninjas

GP



Celtec ultra white PVC sheeting is suitable for digital and screen printing. (Image courtesy Vycom)

GETTING CREATIVE ON LOGOS

BY MATT CHARBONEAU



WHAT HAPPENS TO YOUR CREATIVE BRAIN WHEN YOU ARE SUDDENLY GIVEN A NEW CHALLENGE, LIKE A LOGO DESIGN FOR A NEW UPSTART COMPANY? YOU MIGHT FOLLOW THESE STEPS!

Let's face it, if you are reading this you most likely are not sitting in an NYC design studio creative room as part of an eight-member design team who works on \$50,000 corporate branding logo packages for multibillion dollar corporations. Then again, perhaps you are.

This article is for the design warriors out there who are disciplined to turn on their creativity at 8 a.m. and off again at 5 p.m. The folks who are leaned upon to spit out award-winning designs like they are a graphic design Pez dispenser in the hands of a 5-year-old.

This is the design market where clients don't have an extra \$50,000 in the budget for their donut shop logo, but they do have an extra \$200, \$300, \$500 or \$1,000 for a simple, easy-to-recognize design that is clever, unique and works well in the space for their sign.

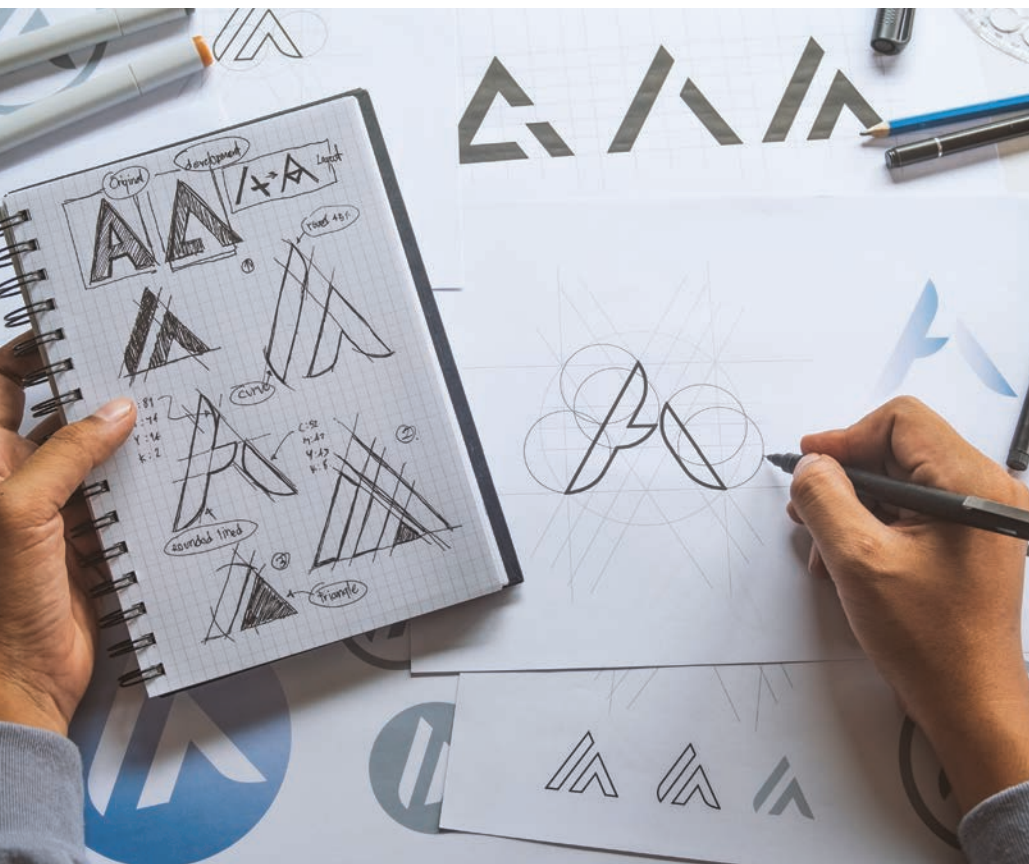
The customers you are working with are typically hands-on owners who most likely mortgaged their home to finance their dream of owning a donut shop. They are invested, they care, and they are involved in every step of the process, and you have won their trust for a logo design.

If this sounds like the customers you work with, then sit down in that chair right there and let me show you how it's done. Well, at least how I do it.

A LITTLE GROUNDWORK...

Chances are, you are a designer with three to 10 years of experience. Perhaps you are formally trained in graphic design, perhaps not.

You are most likely someone who creates marketing pieces, visual products, labels, pen designs, brewery coasters, T-shirt concepts, coffee mug graphics, key chains, trophies, book covers, tire covers, truck wraps, window decals, banners, signs, labels and of course, logos at either a small to medium size design firm, sign company or other marketing agency.





HOW DO YOU APPROACH LOGO DESIGN? WHICH STEPS DO YOU TAKE FIRST AND WHY?

So here you go, you are now facing a challenging opportunity that may push your creative brain right out of your own skull.

You may have lived through this hell a few times in your past, or perhaps this is the first logo project where the perfect graphic solution isn't just popping into your head. I'm talking about the brain squeezer logo design challenges that force you to re-evaluate why you are sitting in that designer's chair and not living the good life as a manager at Taco Bell.

Fun, simple, quick logos are easy, and we all have those gifts of enlightenment where a literal logo vision pops into our head, you create it, show it, and the client loves it. You are then "the logo design hero" for at least a week or so until the next impossible design project is plopped onto your desk, and you must prove your worthiness as a creative designer all over again.

AN OUTLINE OF THE PROCESS

I have used these steps since the dawn of my career nearly 40 years ago. It works very well for me, and perhaps some of the ideas may help you navigate the forks in the road and avoid the speed bumps that can upset the apple cart of your creative process.

1. Get your client to talk to you

Building trust with your client is key to any successful logo design project. I'm not talking about the initial meeting where the overall project was discussed. Set up a time to talk to your client in a "logo interview" where you either provide questions or interview them to find out what they want, what they expect, and what their history or experience is on purchasing logos in the past, for other companies they may have had or worked at.

Here are a few questions to work into your conversation with your client. ►

Do not interrogate them. This is not an FBI interview; it's a relationship-building meeting to hopefully allow your client to be comfortable enough to open up to you and explain what they really want the new logo to look like.

2. Discover your clients likes and dislikes up front

The spin on this option has only been around since Google and Bing images came into existence. In the olden days, we used magazine clippings to do the same thing. I ask the client to search online for certain keywords that will bring up images related to their industry.

I ask them to look at the images and pick out three they like, and three they don't like and send them to me. This process is amazing at narrowing down the

LOGO DESIGN INTERVIEW QUESTIONS

These are questions that your client may not know all the answers to, and that's OK. The real value of the question and answer process is simply getting your client to open up and talk about their business, their hopes, dreams, goals, ambitions and their emotionally or financially driven passions for their new business.

- 1) Have you ever hired someone to design a logo?
- 2) If it went well, why aren't you using that designer again?
- 3) If the process was less than optimal, what happened?
- 4) What lessons did you learn from that experience?
- 5) What is the most unique benefit of your service/product?
- 6) Why is that benefit important for your customer?
- 7) How often does your customer use your service/product?
- 8) What are the reason(s) your customer is your customer?
- 9) What forms of marketing/advertising do you feel work best?
- 10) Which advertising brings in the most sales/customers?
- 11) How much effort is placed on social media advertising?
- 12) Do you have an in-house designer for that?
- 13) Describe your ideal customer - and why?
- 14) What is the economic profile of that customer?
- 15) Is the average customer "all business" or "fun and games"?
- 16) Describe their compliments and or complaints? **GP**



size of the design forest you are navigating through. It allows you to look into the client's head to discover their likes and dislikes without drawing up examples to illustrate the same thing.

3. Identifying the end-viewer expectations

Who is the customer that will be viewing the logo and what design, image or graphic will they respond most favorably to? Is your product unique, rare, or not something used every day? It's critical to be clear and concise in both readability and visual clues to help all of the first-time viewers of the logo (the potential new patrons of the business).

4. Outline the uses of the logo

How will your client be using the logo? If it's for their website, where else will they be using it? What will they use the logo for regarding their products and services they offer? Will they need stickers, labels, pens, hats, uniforms? How about a sign? How about social media uses?

The ways that your client will be using the logo controls how the logo needs to be designed. There is a rule of thumb in logo design that I came up with forever ago that I have yet to find an exception to, and that rule of thumb is this: *Design your logo to be readable on a sign at 100 feet away, and it will remain readable at any size, no matter how small you make it. Design the logo for viewing at arm's length, such as on a smartphone, then it most likely will not be readable at a long viewing distance.*

CASE STUDY 1: BURRATA & BUBBLES

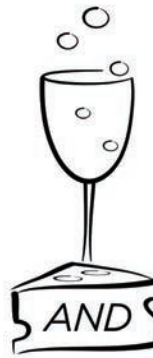
Illustrating point No. 3 is a logo I helped fine-tune to present a "more visually informative graphic" that tells the eye precisely what "Burrata" is in one quick look.

Amanda McGrory-Dixon, the owner of Burrata and Bubbles (<https://burrataandbubbles.com>), had an original logo that was very lively looking — bubbly would be the most appropriate phrase and one of its features was actually hindering its function, and that was the readability of the font.

From a glancing distance, not only was Burrata a fairly uncommon term in most circles, the loops and hoops of the letter style, combined with the unstable italicizing that some fonts have, and it was a less-readable-than-desired approach that simply needed some clarification for the viewer. I didn't want to completely abandon the branding efforts she has successfully attained, so I left the

Burrata & Bubbles

Company-Worthy Recipes Paired With Libations



Burrata AND Bubbles

Company-Worthy Recipes Paired With Libations

(Image courtesy Matt Charboneau)

original B font in place and combined it with a cleaner font. The icing on the cake was the graphic that may not directly describe what Burrata is, but the graphic indicates that it must be cheese, since the "bubbles" aspect is represented by the champagne glass. I played with the cheese and glass a few times before Amanda chose the logo assembly shown here. It was tough because burrata cheese is the shape of a lump of something in cheesecloth. It has very little iconic impact and there was nothing available that even came close to representing it so that anyone seeing it might say: "Oh hey, hot burrata, let's eat!"

"As a foodie, I'm obsessed with burrata and mistakenly thought everyone knew it was a cheese, but over the years, I found that's not quite the case, Amanda says. "To me, this (revised logo) gives the reader an instant idea of what kind of recipes they can expect."

She goes on to say, "I've seen some logos, especially in the food industry, that try to cram in too many elements, and your eyes don't know where to focus. It's also important to keep in mind how it will appear online, particularly on mobile devices."

Pictured is her original logo, and her new one. The graphic elements are all hand-drawn originals I created for Amanda's new logo to capture the quintessential graphic image that says it all about her food blog.



HAMBLEN HATS™

(Image courtesy Matt Charboneau)

CASE STUDY 2: HAMBLEN HATS

The client approached me with the need for a mark for his new custom hat shop in Ault, Colorado. It had to be bold, unique, recognizable, easy to reproduce on any and all surfaces and mediums, and it had to tie-in the name with the product into one, clean, iconic logo mark. Yeah, sure.

If I were to say that this creative process forced me to remove my brain from my head and stomp on it a few times that would be an understatement. Holy smokes, what a brain-strainer.

I encouraged my client to go online and find ideas he liked, but there were none that were going in the right direction. He knew it, and I knew it. I was in a pickle and already had blown through three other concepts and burned up a full week on ideas that were going nowhere.

I knew deep inside I had to organically create the mark as it had to pass the attorney's trademark process. Also, it had to say what the product was without words, in one quick glance.

On top of that, his customer demographic was all over the place. It went from 6-year-old mutton-busters to 90-year-old wranglers. It's also the other custom hat passions that have nothing to do with cowboy hats. Yeah, this was not an easy assignment.

MY SECRET DESIGN TOOL

It was about 9 a.m. on that very exciting morning when I called upon my secret design tool, and it came through like it typically does. It was evident that I was not coming up with anything earth shattering, so I took a minute to step back, prayed about it, and with that I was able to relax my thought process and back off from the direction I had been going. I was overthinking the whole thing, and it's easy for a designer to do.

I grabbed my other pocket-sized go-to design tool and that is my trusty Flair Felt Tip marker and started with what I figured was the core of the logo, and that was a circle.

As my hand drew the circle, I knew it had to be a circle because hats are round, like heads, and so I drew the circle and placed an H inside of it... hmm.

"Now what" I said to myself, looking at this very nondescript boring start. I wasn't impressed yet. I had seen this heavy bold initial in a circle done hundreds of times on corporate marks, but this mark had to scream HATS, but how?

Suddenly it appeared in my mind's eye, like a fog clearing from the valley. I saw it, and I knew it was right, and with one fluid, smooth curved line I created the brim of the hat across the H and the Hamblen Hats logo mark magically appeared.

I nailed it, and I knew it beyond a shadow of a doubt. Additionally, my research had assured me that this approach, this look, for this custom hat company was completely original and most likely markable.

I had to show it to my client immediately, so I took a screen shot and sent it to him on his phone. Yes, those of you who know me realize I do not recommend doing this, ever. I always say, "Take the time to present the logo properly, giving it its proper introduction" and this is something I have stood by firmly with the designers I train in my classes.

This logo was hot, it worked and when my client saw it, he started crying. He too, being of strong faith knew this logo was a blending of my talents and God's will for his business.

This is the emotional paycheck that defines why I have stuck with this industry since 1985. It's most likely why you are in it also — to capture that same type of "thank you" gratitude from a client is priceless,

continued on page 94



COLORIZING IMAGES

TECHNIQUES FOR COLORIZING BLACK AND WHITE IMAGES

You've no doubt seen them on the web; historical pictures that you recognize from their previous incarnation. Black and white studies of famous personalities, architecture, events, or just about anything, but now they've magically changed and portray their subjects in vibrant, full color. What a difference! Colorized images bring the past to life. They encourage an understanding of the past that is more compelling and, in many cases, more detailed.

In my last article, I demonstrated a few tricks to remove the color from an image and convert it into a perfect monochrome. In this article, I'll show you the opposite side of the coin; several techniques that imbue monochromatic pictures with color. These methods enable accurate colorization and tonal adjust-

ment of old photos so that they may be viewed with a more thorough understanding of the times they represent. In addition, the techniques are easy to employ and are part of a non-linear workflow so that the images can be tweaked or recolored at any time.

A SHORT HISTORY

Colorization of black and white images has been around for a long time. Hand-coloring of still photos has been practiced almost since the inception of photography. Years before the invention of color film, it was a common practice to hand tint photos in an attempt to create more realistic images. The first examples of hand-colored daguerreotypes were made by the Swiss painter and printmaker Johann Baptist Isenring who used a mixture of gum arabic and dry pigments. (Fig. 1) The colored powder was fixed on the delicate surface of the daguerreotype by the application of heat. Later, hand-coloring was used with other types of photographs like albumen and gelatin silver prints. Though



Fig. 1 (left): An early example of a hand-colored portrait.

Fig. 2 (above): Hand-coloring became especially popular in Japan in the late 19th and early 20th centuries.

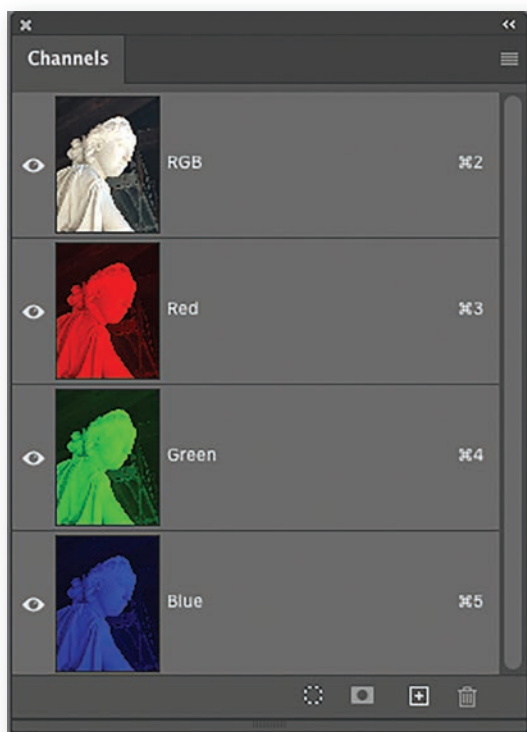


Fig. 3: The color information is contained in three separate color channels - the red, the green, and the blue.

hand-coloring was invented in Europe, the technique gained considerable popularity in Japan where the practice became a respected and refined art form beginning in the 1860s. (Fig. 2)

The arrival of marketable color film by Kodak called Kodachrome in 1935 saw the demise of hand-coloring as a commercial practice.

SOFTWARE

Colorization became much more popular with the introduction of digital photography and the software used to manipulate images. Adobe Photoshop and Corel PaintShop Pro are the two most popular programs used for colorization of photos.

IMAGE CAPTURE

The colorization process begins when the image is scanned. Instead of scanning the black and white image as a grayscale, it's

scanned as an RGB document. Although there is no significant difference in the appearance of the grayscale, RGB color mode supports the addition of color where grayscale does not. If the image has previously been scanned as a grayscale it can be converted in Photoshop by choosing RGB Color from the Image > Mode menu.

ASSIGNING COLOR

With the image now on screen, a brief exploration of its color potential clarifies how the colorization process works. The color information is contained in three separate color channels: the red, the green and the blue. (Fig. 3) In a grayscale image, the numerical RGB values of each pixel are identical. Zero is assigned to black and 255 is assigned to white. All shades of gray exist in a 256-level grayscale. For example, if the color value in each channel for a particular pixel is 128, then the color of the pixel will be medium gray. When the values are equal, they cancel each other out and produce gray. Color is produced by creating a numerical disparity between the RGB values.

HSB

Though color is based on the disparity between RGB values, the Hue Saturation panel (Fig. 4) is used to manipulate color. Hue, saturation, and brightness are the three physical components of color. If an area on an image is selected, its relative values can be manipulated by moving the Hue slider HSB panel. If the area on the image

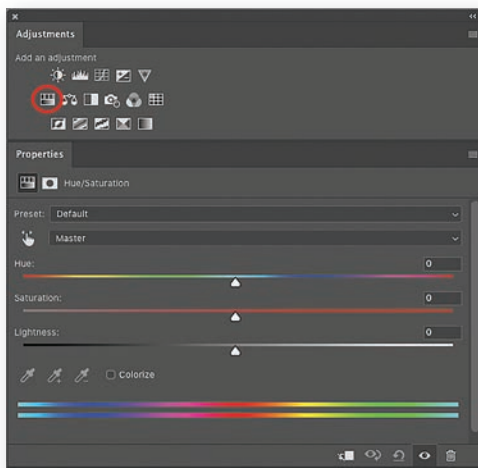


Fig. 4 (left): Though color is based on the disparity between RGB values, the hue/saturation panel is used to apply and manipulate color.

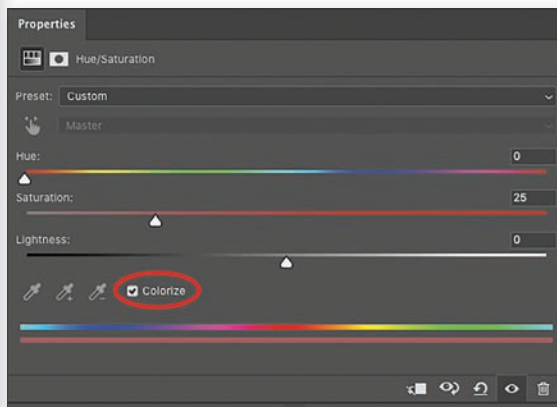


Fig. 5 (right): When the Colorize box is checked, dragging the hue slider applies absolute values instead of relative ones.

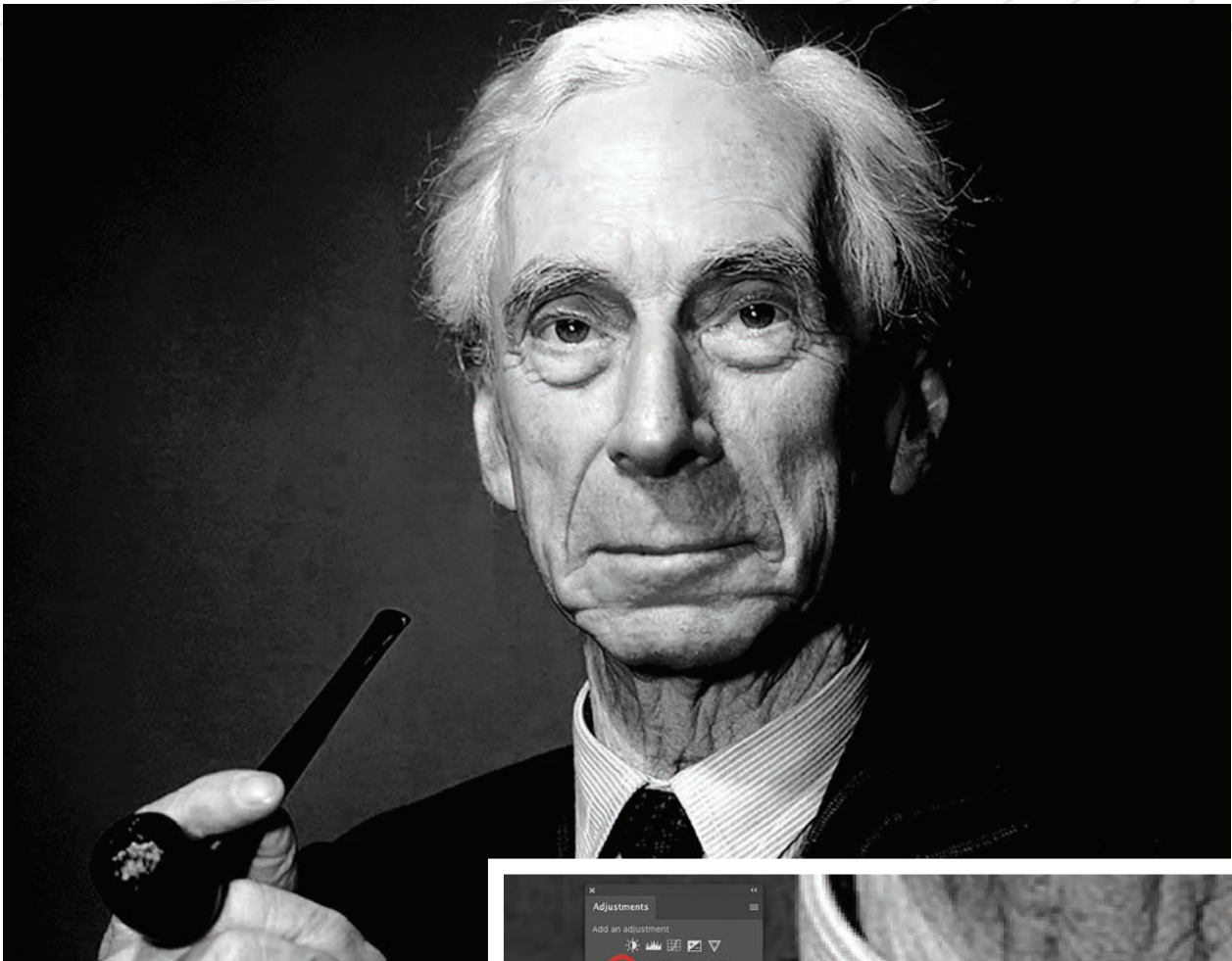


Fig. 6: A black and white portrait of the great British mathematician, Bertrand Russell.

is gray (all pixel values equal) then there will be no change in the appearance of the image, however if the Colorize box is checked, then the area will be assigned the current foreground color and now changes can take place. Dragging the Hue slider from zero (red) to 360 (also red) changes the color of the selected area to its position in degrees on the color wheel (Fig. 5) and applies absolute values instead of relative ones.

ADJUSTMENT LAYERS

It is highly recommended that adjustment layers be part of the colorization workflow. Working with Photoshop's hue/saturation properties on the Adjustments panel assigns the values to an adjustment layer that has several advantages. First, colorizing on

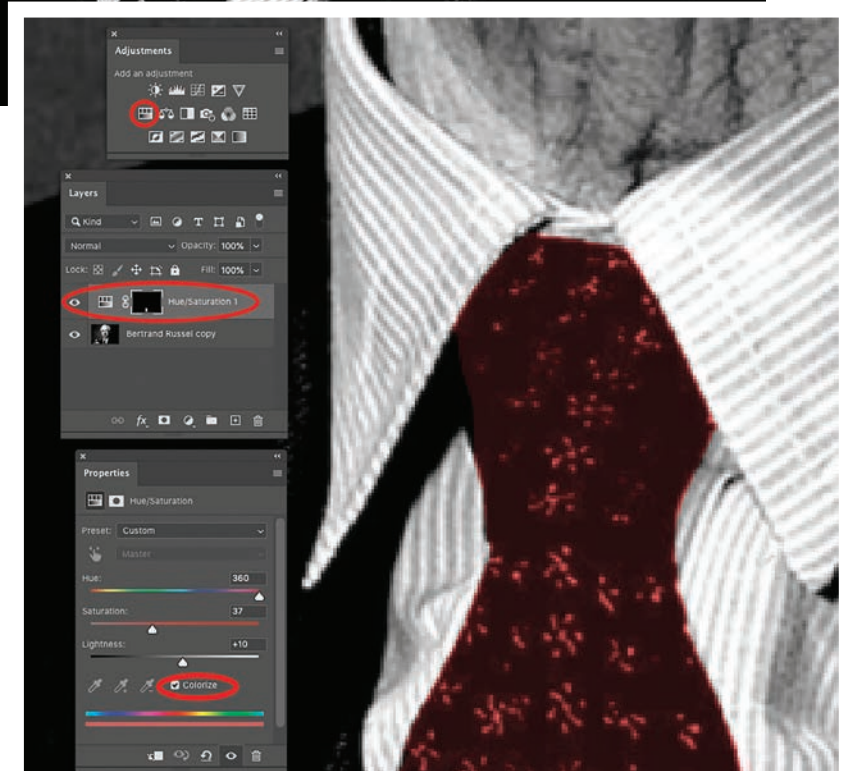


Fig. 7: The hue slider can be dragged to produce any color at all, and the saturation and lightness sliders can be dragged to further tweak the color's intensity or value.

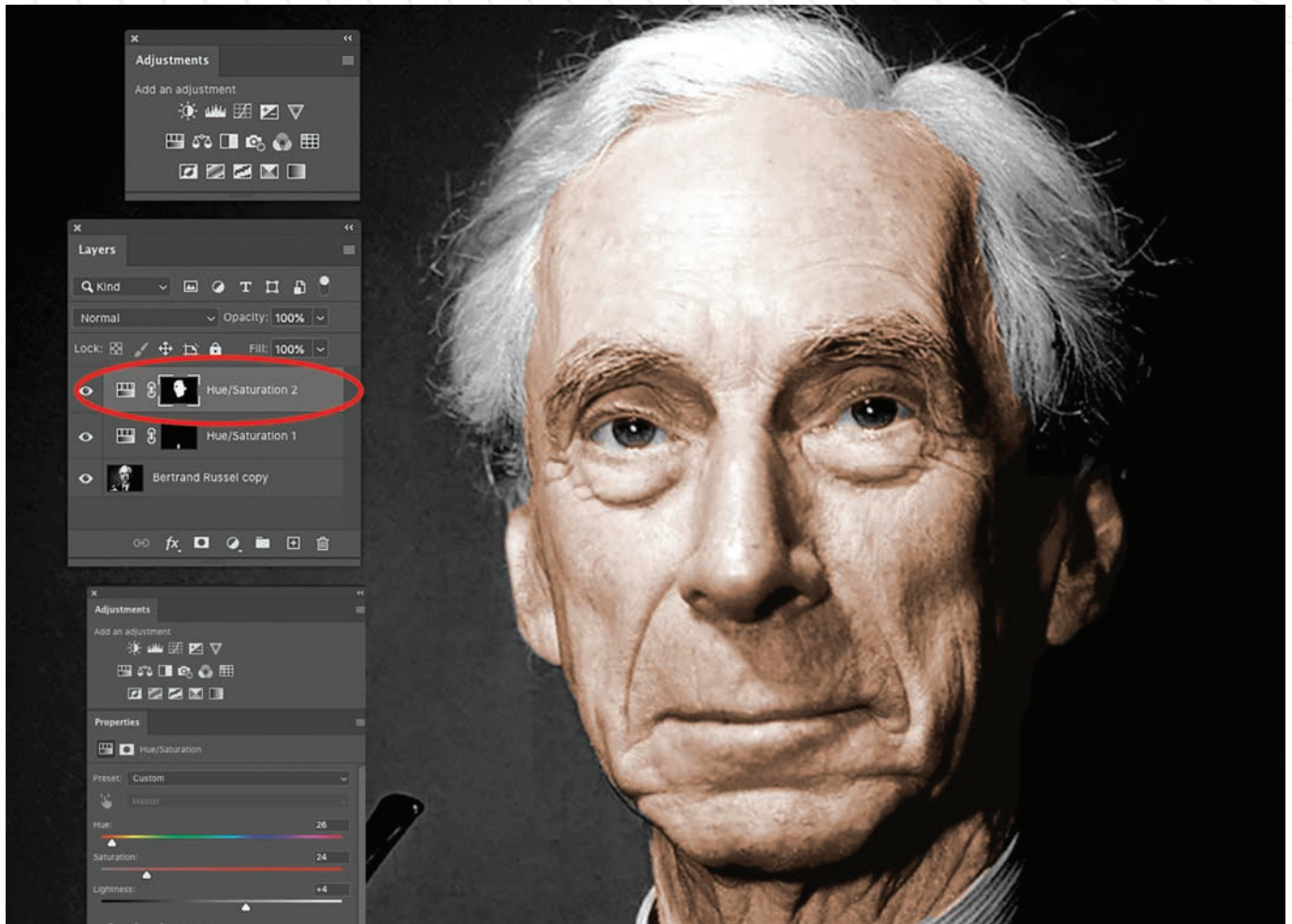


Fig. 8: The hue/saturation icon is clicked and the Colorize button is once again checked. The hue slider is dragged to 26 degrees, the saturation slider to 24% and the lightness slider to +4 to create a base flesh tone.

an adjustment layer enables subsequent editing at any time. Also, a layer mask is automatically created based on the selected area. The white areas of the mask reveal the adjustment and the black areas conceal the adjustment. Gray areas on the mask partially reveal or conceal depending on their brightness. The color can then be isolated to a specific shape and location and modified with the brush tool. Furthermore, all the advantages of layers are available including opacity and blend modes that can mitigate or enhance the layer's color.

WORKFLOW

Let's go through colorization step-by-step so you can get the hang of how it operates.

The process itemized here uses adjustment layers and is the most efficient method of colorization.

1. Open the document to be colorized. In this case, it's a black and white portrait of the great British mathematician, Bertrand Russell. (Fig. 6)
2. Choose Image > Mode > RGB to convert the image into a file that supports color.
3. With the Lasso tool, select an area. In this case, it's Bertrand's tie.
4. On the Adjustments panel, click the hue/saturation icon to display the hue/saturation controls. A new hue/saturation adjustment layer is created.
5. When the Colorize box is checked the

- tie turns red - the current foreground color. (Fig. 7) At this point, the hue slider can be dragged to produce any color at all, and the saturation and lightness sliders can be dragged to further tweak the color's intensity or value. Observe the layers panel. A new adjustment layer has been created with a white area in the shape of the tie that reveals the colorization and a black area surrounding the tie that masks the color.
6. Next, Bertrand's face is selected with the Magnetic Lasso.
 7. Again, the hue/saturation icon is clicked. The colorize button is once again checked, and the hue slider is

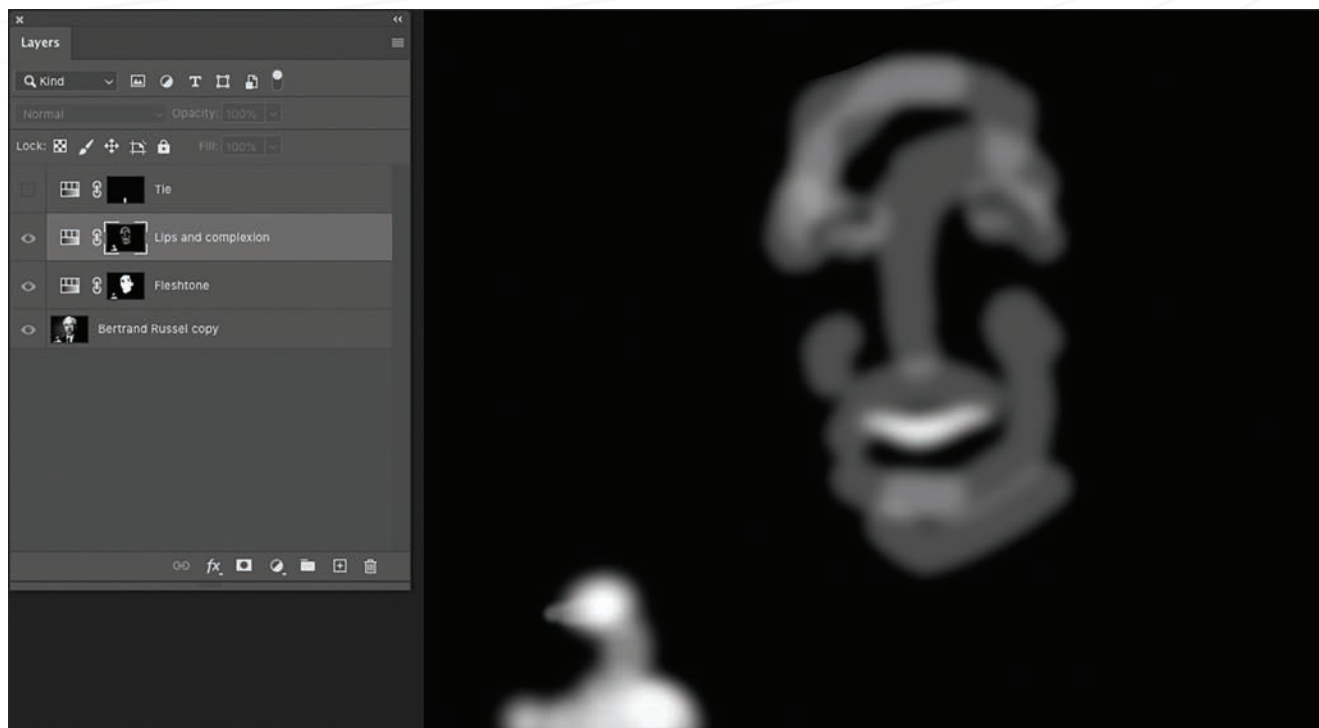


Fig. 9: An image of the layer mask of the red lips and complexion layer after its been painted with a soft, low-opacity brush to add a semi-transparent layer of color that produces much more realistic flesh tones. The results of the combination of the two layers can be seen in Figures 10 and 11.

dragged to 26 degrees, the saturation slider to 24% and the lightness slider to +4 to create a base flesh tone. (Fig. 8)

8. The layer mask thumbnail is selected and the area of the eyes and eyebrows are painted with black to mask the areas back to gray.
9. With the layer mask still targeted, the hand area is painted with white to apply the hue/saturation flesh tone adjustment.
10. The lips are selected. Once again, the hue/saturation icon is clicked to display the controls. The hue slider is dragged to create a reddish color.
11. A larger soft brush with the opacity to 20% is chosen. White is painted on the layer mask to subtly apply a ruddy complexion to the image. The red tone should be applied in multi-

ple passes with a soft brush. (Fig. 9) This layered technique produces far more realistic flesh tones and adds nuance to the colored surface. Furthermore, the opacity of the layer can be controlled to globally affect the strength of the adjustment. It's critical that the lips/complexion layer is located above the flesh tone layer in the stack in order to be visible.

12. The rest of image is colorized in this same manner by selecting each area: the shirt, hair, eyes, and the background and creating a specific hue/saturation adjustment layer for each color.

The finished colorized image is shown in Fig. 10. One major advantage of the adjustment layer technique is the ability

to create multiple versions of the picture easily and quickly. All it takes is duplicating the image (Image > Duplicate) and a clicking on any of the hue/saturation adjustment layers to display the control panel. Dragging the sliders produces different colors for that layer and a new look for the duplicate image (Fig. 11). **GP**

STEPHEN ROMANIELLO is an artist and educator who has taught computer graphics since 1990. He is the founder of the Digital Arts program at Pima Community College in Tucson, Arizona. Stephen is a certified instructor in Adobe Photoshop, Adobe Illustrator and Adobe Premier and the author of numerous books, articles and media on the creative use of digital graphics software. Stephen is the founder and CEO of GlobalEye systems, a company that offers training and consulting in graphics software and creative imaging.

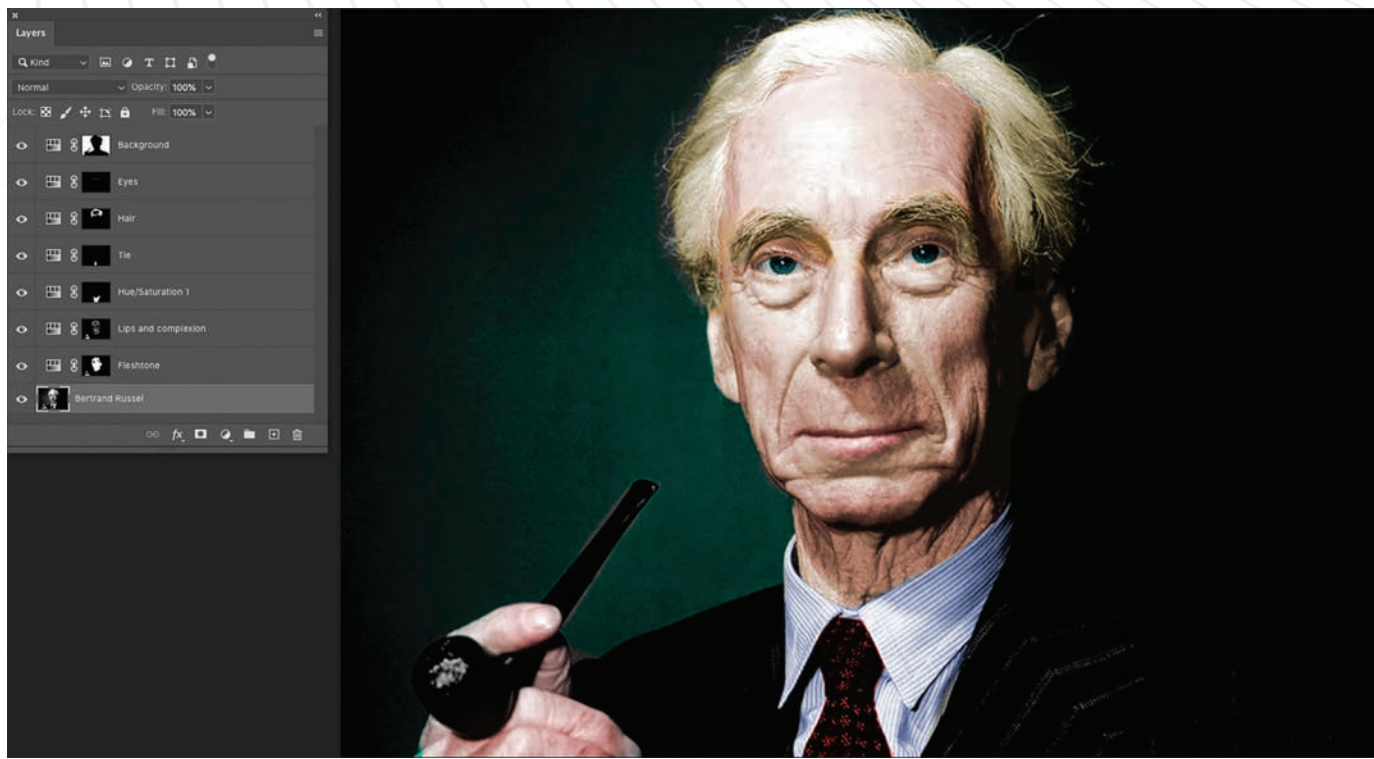


Fig. 10
(above): The finished colorized image.

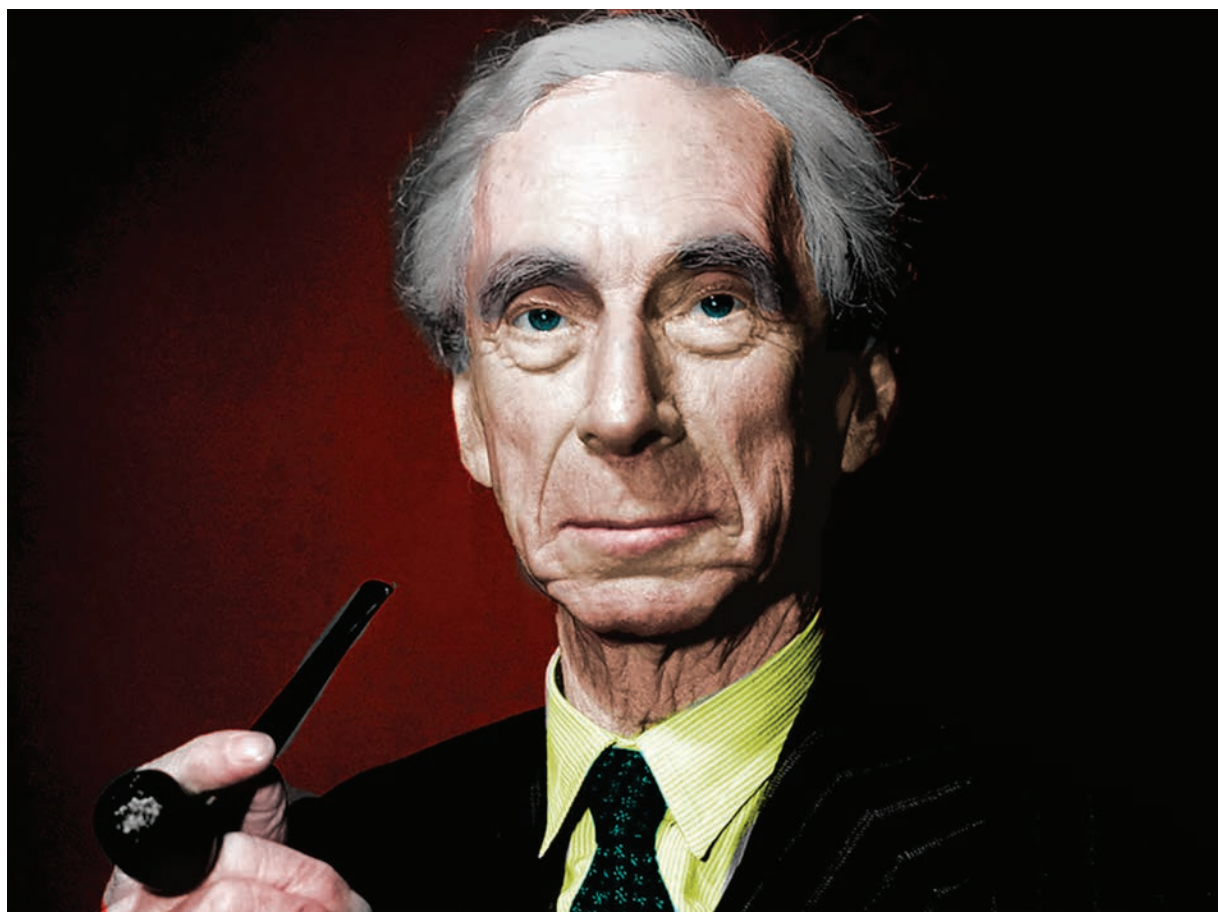


Fig. 11 (left): Dragging the HSB sliders on individual adjustment layers produces different colors and a new look for the duplicate image.

PRODUCTREVIEW

For more on the suppliers featured in this section, please see website and phone information following each product.



AUTOMATIC PRE-TREATER

Lawson Screen & Digital Products announces its redesigned Zoom Pro as the latest addition to its pretreat sprayer line. It features a programmable touchscreen to digitally control all aspects of pretreating and the option to integrate a UPC system/barcode scanner. The color touchscreen holds 40 programmable settings and can automatically change between dark and CMYK pretreatment solutions.

314-382-9300
golawson.com



PAPER ENHANCEMENT TECHNOLOGY

3A Composites USA, in conjunction with **HP**, introduces the FOME-COR SIRIUS and DISPA SIRIUS with ColorPRO paper enhancement technologies. The FOME-COR SIRIUS and DISPA SIRIUS graphic display boards were designed to use the features of the HP PageWide XL Pro printers, which are designed for rigid substrates up to 10mm thick and 40" wide. The ColorPRO technology offers sharp details, rapid ink absorption and drying times, higher black optical density, and a wider color gamut, according to 3A.

800-626-3365
3acompositesusa.com



REUSABLE NAME BADGES

NameBadges International offers reusable name badges with a clear border in three window styles. The company says background colors are unlimited and can be chosen based on RGB, HEX, or Pantone color codes. There are also two metallic background colors available: brushed silver and brushed gold. Single and two-color backgrounds are available, and customers can choose to upload an image for the background. Backings include magnetic or pin, and A4 perforated card insert sheets can run through any inkjet, laser, or wax-based desktop printer.

877-422-0624
namebadgesinternational.us



DTG/SCREEN PRINTING INK DRYER

Vastex International introduces its new Lo-E dryer, which cures DTG-printed inks and pretreatment as well as water-based screen-printed inks and discharge at high rates using 20% less energy than comparable dryers, according to the company. The product cures up to 45 garments/hour printed with digital white ink at 3 minutes dwell time. It has two 24" X 18" high-efficiency infrared heaters that provide 4,600 watts of power.

610-625-2702
vastex.com



VISUAL PRESS CHECK

Alder Color Solutions offers its remote visual press check system, which allows printers to communicate their printing capabilities without needing the client to be physically present. It has D50 lighting, 99 CRI, and color validation results averaging under 1ΔE.

503-226-7598
aldertech.com



SYNTHETIC PAPER

Agfa announces the launch of its SYNAPS Xerographic Matt (XM) synthetic paper, which includes an agent the company says antagonizes the settlement and growth of bacteria and viruses on its surface. This product can be used for labels, signage, and menus.

888-274-8626
agfa.com

GLOSS FINISH ACRYLIC

Rowmark offers its Laser-Gloss Exterior, a laser-friendly gloss finish. The company says the exterior-rated product will keep its finish in outdoor uses and other applications.

800-243-3339
rowmark.com



ROLL-TO-ROLL PRINTER

MUTOH America announces the launch of its latest eco-solvent roll-to-roll printer, the 64" XpertJet 1641SR Pro. The product includes MUTOH's new AccuFine print head, VerteLith RIP software, and i-screen technology.

800-996-8864
mutoh.com



MANUAL HEAT PRESS

Insta Graphic Systems offers its Insta 256 manual heat press, which has a cast-in tubular heating element to heat the upper platen from within. The swing-away machines, with 16" X 20" platens, swing almost a full 180 degrees to the right.

562-404-3000
instagraph.com

PRODUCTREVIEW

For more on the suppliers featured in this section, please see website and phone information following each product.



SPARKLE PRODUCTS

Foxyware offers reverse sequin pillows, fanny packs, cosmetic bags, and tote bags, all of which can be sublimated. New this year are emblazoned rhinestone tumblers. The company offers products in various colors.

877-241-6134

foxyware.com

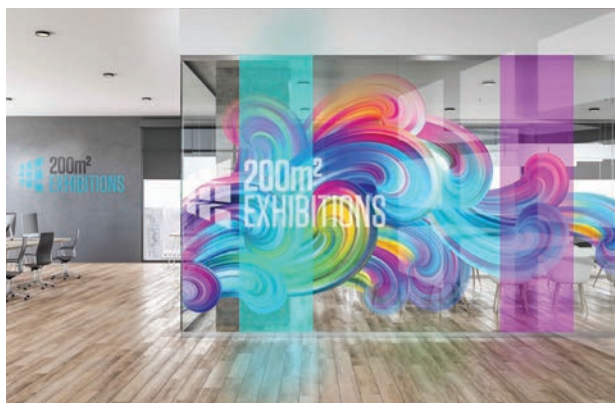


DTG PRINTER

Brother DTG offers its new digital direct-to-garment machine for mass production print shops. The company says the product has been averaging production speeds of 59 shirts per hour for an 11" X 11" design at a resolution of 1200 X 900 DPI. The maximum print space goes up to 24" X 24", and the platen height can be controlled mechanically based on data from barcode automation.

866-750-2543

brotherdtg.com



PRINTABLE MEDIA

Drytac expands its portfolio of printable media solutions with the launch of ViziPrint Deco +, a 2 mil optically clear gloss PET film with a permanent acrylic adhesive. According to Drytac, the product has been upgraded to be compatible with a wider range of printers and offers users flexibility when producing work for various markets.

800-280-6013

drytac.com



SIGN BOARD

Vycom offers Celtec premium sign board. The company says the product is designed to improve throughput in finishing, enabling print service providers to produce display graphics applications.

800-235-8320

vycomplastics.com

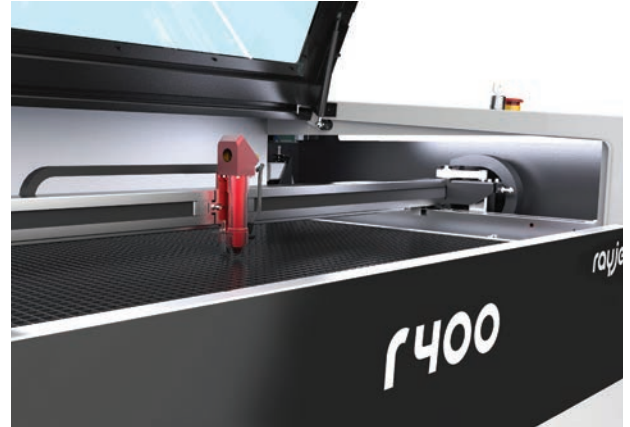


BANNER HOLDERS

JDS Industries Inc. offers Banner Ups by Budnick. The product comes in clear or white and in multiple sizes. It folds over edges and adheres to the sides or corners of banners.

855-661-2388

jdssignsupply.com



LASER CUTTER AND ENGRAVER

Rayjet Laser, a division of **Trotec Laser**, introduces the latest addition to its R Series product line: the R400. It features an ergonomic 40.5" X 24.8" working area, workflow software, and high safety standards, according to the company. It is available for online purchase.

866-226-8505

troteclaser.com



PLUG-N-PLAY ONLINE EDITOR

Design'N'Buy introduces DesignO, its plug-n-play platform meant to help printers to integrate All-In-One design studio with any third-party system using installable extensions or directly using APIs. It has preloaded editable design templates, clipart, and a font library. Store owners can also get integrated photo stock libraries on-demand.

347-647-9799

designnbuy.com



AUTOMATION SOFTWARE

Esko announces the launch of its new Flexo Engine as part of its Esko software 21.11 release. The company says the Flexo Engine comes with automated merging and a host of new tools developed to increase plate room productivity.

800-743-7131

esko.com

GP

Upgrading Your Business with a Large-Format LASER

INDUSTRY EXPERTS SHARE WHAT TO CONSIDER WHEN INVESTING IN A LARGE-FORMAT SYSTEM



BY JULIA SCHROEDER

Large-format lasers allow shops to customize any size and shape of wood, rubber, metal parts and more. You may have thought about taking the leap from a smaller laser to a bigger one, but when is it the right time to make that commitment? There are several components a shop must consider, such as

power requirements, space, the expansion of inventory, and maintenance.

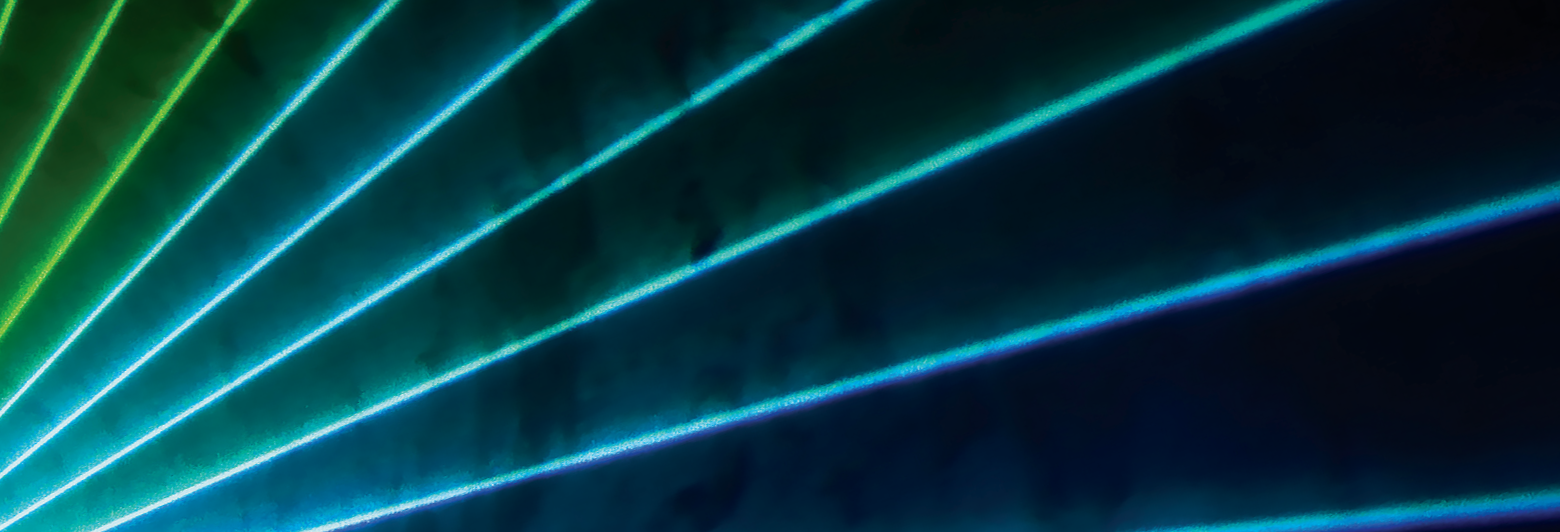
But first, what qualifies as a large-format laser? The main difference between traditional and large-format laser equipment is the size of the system, says David Stevens, Trotec Laser. The larger the system, the larger the application can be.

Kern Laser's Derek Kern refers to equipment as large format when the laser bed is 52" X 50" and larger. In general, these larger table sizes do not come in an enclosed desktop format, as you typically see with smaller systems.

Large-format machines provide accurate, efficient, and broad capabilities like any



Let your community know what you are capable of and get ready to bring their ideas to life. (Image courtesy AP Lazer)



flatbed laser system, according to Stevens. These laser machines are ideal for businesses that work specifically with large-format textile, acrylic, film and foil, and other cutting applications. With expansive working areas and more power, large-format laser systems can provide high-quality results.

QUALITIES OF LARGE-FORMAT LASERS

Large-format machines make it possible to laser engrave and cut industry-standard sheet stock such as plywood, MDE, plastics, and more. According to Stevens,

large-format lasers are also typically offered in higher wattages for thicker material cutting. “More traditional laser systems hold the advantage of faster processing speeds due to the smaller, lighter motion systems when engraving and/or cutting thin materials,” says Stevens. “It is becoming more common for laser manufacturers to offer both types of laser systems to accommodate their broad customer range.”

The end uses and applications of large-format lasers can include large-scale photo engraving, LED edge lighting, headstones,

and furniture. Mandi Smallwood, AP Lazer, says it allows funeral/monument companies to add a special touch while engraving a casket or adding a photo to a monument. It is also beneficial to sign shops and woodworkers, according to Smallwood. Sign shops can fabricate larger outdoor signage, while woodworkers can personalize furniture that would not be able to fit in a box top laser, such as a large live-edge table or a stool.

The main benefit of large-format lasers is not being limited by the size of your laser,



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With large-format systems, you can engrave something as small as a peanut to as large as a 10-foot monument or bigger. (Images courtesy AP Lazer)



According to Derek Kern, large format refers to equipment with a laser bed of 52" X 50" or larger. In general, these larger table sizes do not come in an enclosed desktop format. (Image courtesy Kern Laser)

ACHIEVING MAXIMUM PRODUCTIVITY

Since the materials and/or job sizes are larger, it will take some time to process, which can mean waiting around for your job to finish before you can start on your next job. To keep production moving, some large-format systems feature four-side access and allow for unrestricted unloading and loading even while the machine is cutting. This feature consists of alternating processing zones that frees up the operator and supports error-free operation while ensuring maximum productivity.

— DAVID STEVENS
TROTEC LASER

Smallwood adds. With large-format systems, “You are able to engrave something as small as a peanut to as large as a 10-foot monument or bigger,” says Smallwood.

“Large-format machines utilize many of the same easy to use software’s that other smaller desktop models use,” says Kern. Additionally, Kern says large-format lasers have high yields and low system downtime. “Lasers have a thin cutting kerf which allows parts to be nested tightly together, maximizing the sheet yield,” Kern explains. “The system naturally needs to be touched less often versus a small-format machine. Material loading and unloading is performed less often due to the large sheets the machines can accommodate.”

WHAT TO CONSIDER WHEN UPGRADING

A few factors play a role in upgrading or purchasing a large-format engraver. “One would be if you’re looking to increase production and do more items at one time in a large bed,” Smallwood says. “Another would be having the capabilities to engrave anything you can imagine.”

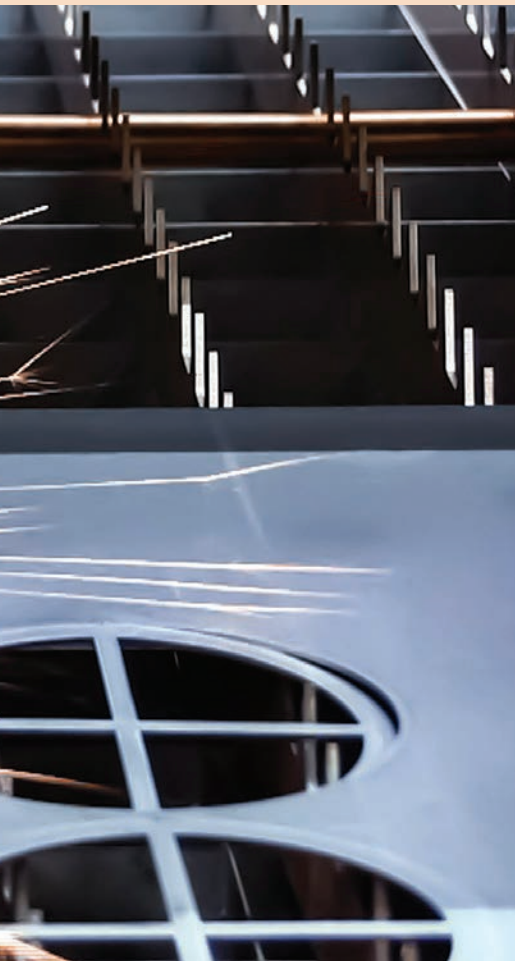
The point at which it is best to upgrade can vary from application to application, Kern says. “It is important to not only look at it from a number-of-parts to produce aspect, but also from a quality side.”

Stevens says to consider the following before investing in a large-format laser:

1. What’s your biggest material size when processing sheet stock?
2. How large are your production runs?
3. How do you want to use your laser, and how much laser power is necessary?

The size of your material determines the size of the laser machine that you will need, but batch size may also be a factor. For example, if you are processing a large order with multiple parts, they can be processed in one job with a larger working area, saving time, and increasing productivity.

“The most important criteria when selecting the power of your laser machine is the primary application you will process most frequently with the laser,” explains Stevens. “If the laser is mostly used for engraving, you will achieve good results with laser powers between 25 and 80 watts



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With a large-format laser, material loading and unloading is performed less often due to the large sheets the machines can accommodate. (Image courtesy Kern Laser)

A NOTE ON LASER POWER

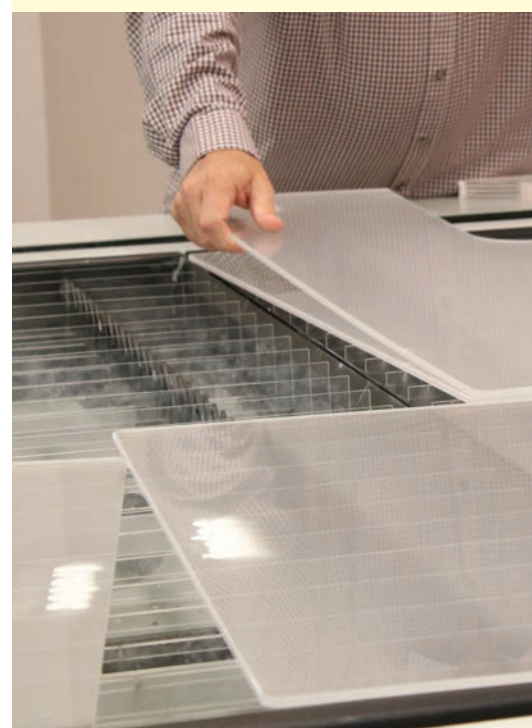
The laser power can be easily regulated by the software, while the maximum power depends on the hardware. Higher laser power offers great flexibility as it allows you to process many different materials and reach higher speeds.

Different materials will produce different results that will vary based on the makeup of that material, as well as the color and surface finish. It is important to use the appropriate laser parameters for each material to achieve the best result and to not overpower the material. There is higher risk associated with increased laser power, so it's important to only use what is necessary. Also, the material needs to be flat when dealing with certain models because of how close the head is to the material when processing.

— DAVID STEVENS
TROTEC LASER



Above: Large-format lasers are typically offered in higher wattages for thicker material cutting. (Image courtesy Trotec) **Right:** Shops can make the most of their large-format investment by taking advantage of the size and capabilities. (Image courtesy Trotec)





and will not require higher power.” For laser cutting or high-speed applications, Stevens recommends a laser power of more than 80 watts.

“Every laser varies between type, model, and manufacturer, so make sure you not only have the space for a large piece of equipment, but also the electrical and ventilation requirements,” says Stevens. With higher wattage options comes higher power requirements. Stevens explains, as a rule of thumb, any CO₂ system over 100W will typically require a 220V supply as compared to a 110V.

Most large-format machines are available in several electrical configurations that are common in more industrial type buildings, including 230V, single-phase, 230V, three-phase and 460V, three-phase, Kern adds. When upgrading to a larger system, Kern suggests asking your salesperson about processing bed variations.

Every material acts differently and the cutting bed, whether it is acrylic slat bed, aluminum honeycomb, or another metal structure, can deliver benefits to your end product. Additionally, make sure to keep enough room around the machine to not only accommodate the operator but to also load/unload and perform the maintenance operations required on the machine.

MAKING THE MOST OF A LARGE-FORMAT LASER

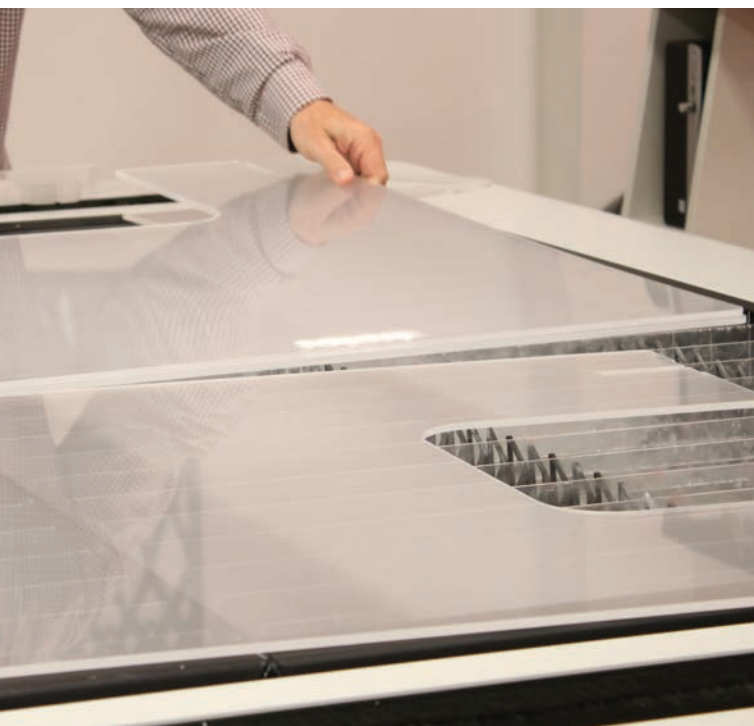
Shops can make the most of their large-format investment by taking advantage of the size and capabilities, says Stevens. “Since laser processing is extremely versatile and allows you to process a wide range of materials, consider expanding your business into new

industries.” For example, if you previously focused on producing B2B signage and finishing for displays and print materials, you can consider incorporating B2C (business-to-consumer) applications such as personalized signs and wall decor.

Additionally, investing in proper training is worth it, according to Kern. “Not only should your operators learn how to use the machine properly, but they should have in-depth application training,” Kern says. You can also refer to your laser company as the sales teams consist of knowledgeable experts in the laser industry.

“You are able to engrave anything you put your mind to, minus a few hazardous materials,” concludes Smallwood. “Get the word out in the community what you are capable of and let the customers bring you their ideas, and you bring them to life.” **GP**

JULIA SCHROEDER is a freelance writer based in Chicago, Illinois. Previously, she held the position of digital content editor for A&E magazine. She can be reached at hello@juliawritesforyou.com.



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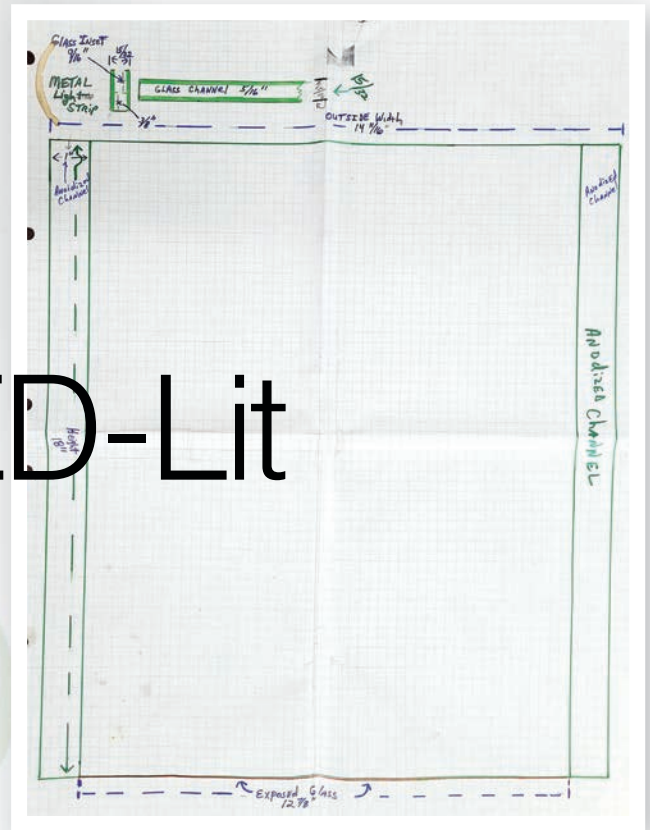
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How to Create an LED-Lit Glass Sign

BY RUTH DOBBINS



Above: The hand drawn plan for the framework for the carpenter, who had to create the grooving for the LEDs as well as cut outs for the wiring. (All images courtesy Pat Michel) **Left:** The carved and shaded panel was covered on both sides with clear plastic wrap to protect it while being handled in the fitting process for the frame.



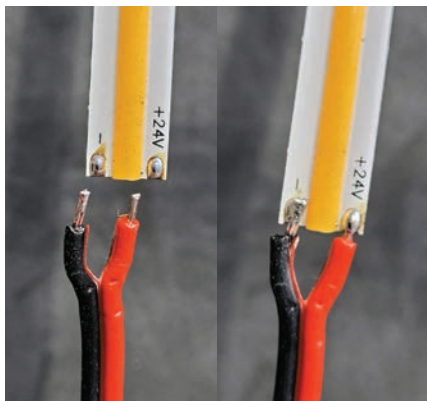
Those of you who have been following my articles for a few years may remember that I occasionally feature the work of some of my students. In the past, I have covered the projects of Pat over several issues as he was working on multiple panels over the years. Pat was and is not primarily a glass etcher but started working with glass several years ago while still being employed in a much different industry. He has spent several days over the years with me in learning how to execute his ideas in glass. After he finished his kitchen project, which consisted of eight panels employing the carving and shading technique, he retired from his everyday job and is now able to devote more time to his glass work.

HOTEL SIGNS

He recently took on the job of creating two signs for a hotel, which he was going to carve and shade. The Starfire glass panels were not very large and measured 14" X 18" X 3/8". For the signs to be readily



In preparation to begin assembling the frame, the LEDs are cut into strips according to the length and width of the frame.



The cable with the red and black leads are soldered onto the strip of lights and heat shrunk at the termination.

visible he planned to install the panels in a wooden frame with LED lighting. He chose poplar wood for the frame to better fit into the decor of the hotel, rather than an aluminum frame.

In the past, we had one manufacturer that offered premade aluminum sign frames that included LED lights, but those are no longer available. So, for a project like this, you cannot go somewhere and buy what you need off the rack, but you must develop a plan for your project: determine all necessary parts and components and, if necessary, have them made to order. This was the case with the wooden frame, as well as the LED components and the materials necessary to create the backing for each panel.

Since the panels were going to be lit by the LEDs, Pat decided that no natural light needed to come through the back of the glass. Each of the panels was going to be completely enclosed by using a black plastic material.

Using LED lighting offers a variety of possibilities for displaying etched and carved glass. One can choose from many types of white light – from daylight to



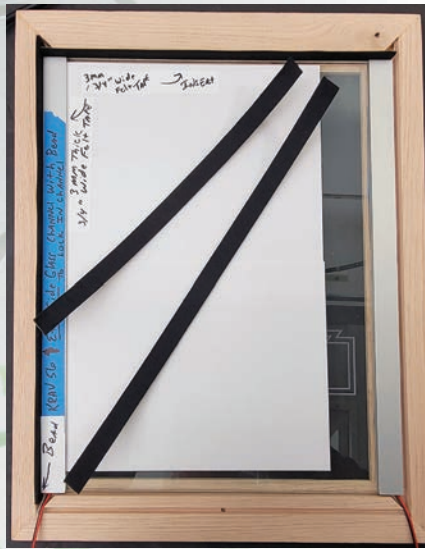
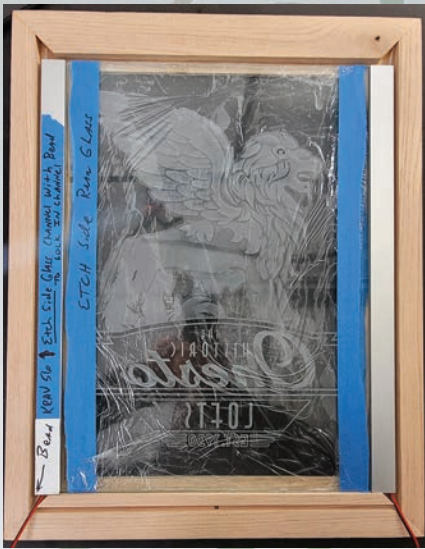
Installation of the LED strip to the anodized strip.



Above: The etched glass panel is inserted on top of the installed LED channel, with the etched side facing up.
Left: Heavy duty double-sided mounting tape is applied to the glass panel.

The anodized channel with bead is attached to the mounting tape.



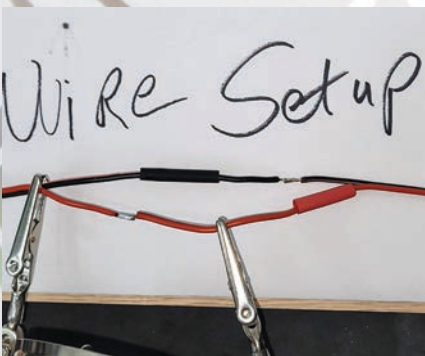
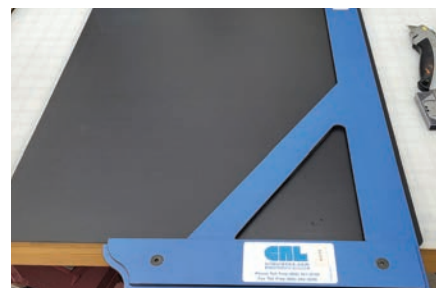
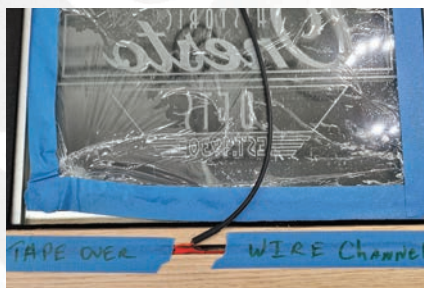
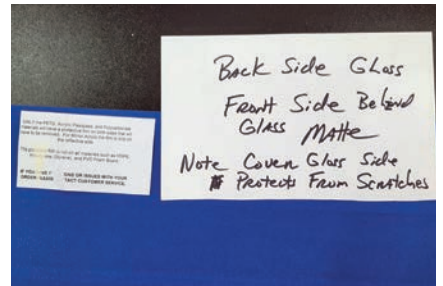
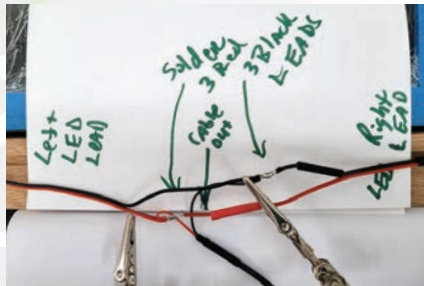


All sides of the frame are treated with the above steps until the frame is complete and the individual glass panel is firmly seated in the frame.

To assure a snug fit a felt tape is inserted into the channel and trimmed off for tight fit.



Adding the felt tape to the short sides.



Tinning the red and black wires and heat shrinking the connections.



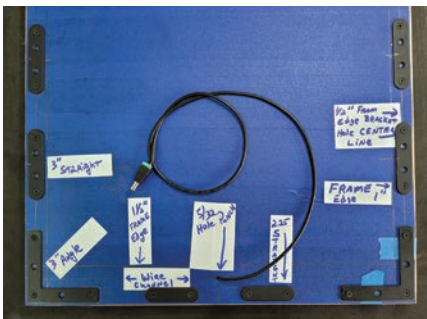
Cutting two conductor black cables and connect with the red and black cables, heat shrink all connections and insert wiring into the wood channel, securing all with blue masking tape.



Top: Cut the Kydex plastic material to fit the back of each panel and hole punch for the power cord.
Center: Cutting of the Kydex material. **Above:** The power cord for the panel.



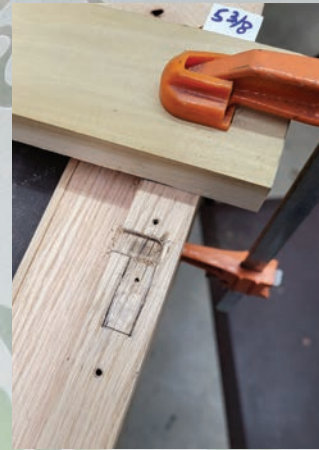
Place the backing panel onto the frame and pre-drill holes for fastening.



Assemble the back panel with the power cord and the D-rings for hanging.



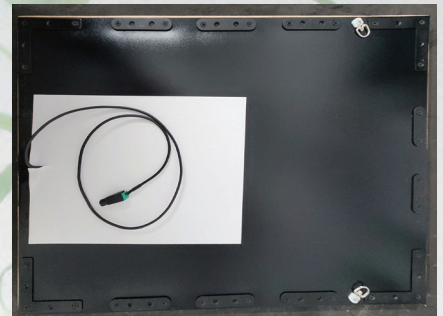
Add angle brackets to the frame to secure glass and anodized channels to the frame.



Cut out the area of the bracket with a Dremel tool and remove the felt in that area so the angle iron fits flush in the frame.



D-rings for the hanging wire.



Back panel secured and D-rings installed.

soft or bright lights, colored LEDs and computer chip controls that allow for changing of colors in specified intervals and much more.

How Pat went about constructing the display is illustrated step by step in the photos here. You will see that careful planning was very important if all individual pieces were going to fit together and form a whole. The photos detail the whole process and may give you some ideas for possible projects of your own. And since a picture is worth a thousand words, I will keep this short. **GP**



Left: Finished view of the front side and the rear side of a panel, rear with hanging wire applied. **Below:** The finished panels.



With over 40 years in the glass business, **RUTH DOBBINS** offers experience in all glass-etching techniques as well as in fused and cast glass. Ruth holds a master's degree in art and has been a partner in an art glass wholesale supply and studio company in Europe, which also placed great emphasis on a training program, before joining forces with Norm. You can reach Ruth by email at ruth@etchmaster.com, or by phone at 505-473-9203.



GETTING TO KNOW YOUR LASER

You may have just purchased a laser or are considering buying one. The layout of the machine will be important to what you can accomplish with your laser and help determine which projects you can work on. You can use a laser engraver for many types of businesses and markets. The design and specifications of the machine you choose will be important.

BASIC LAYOUT

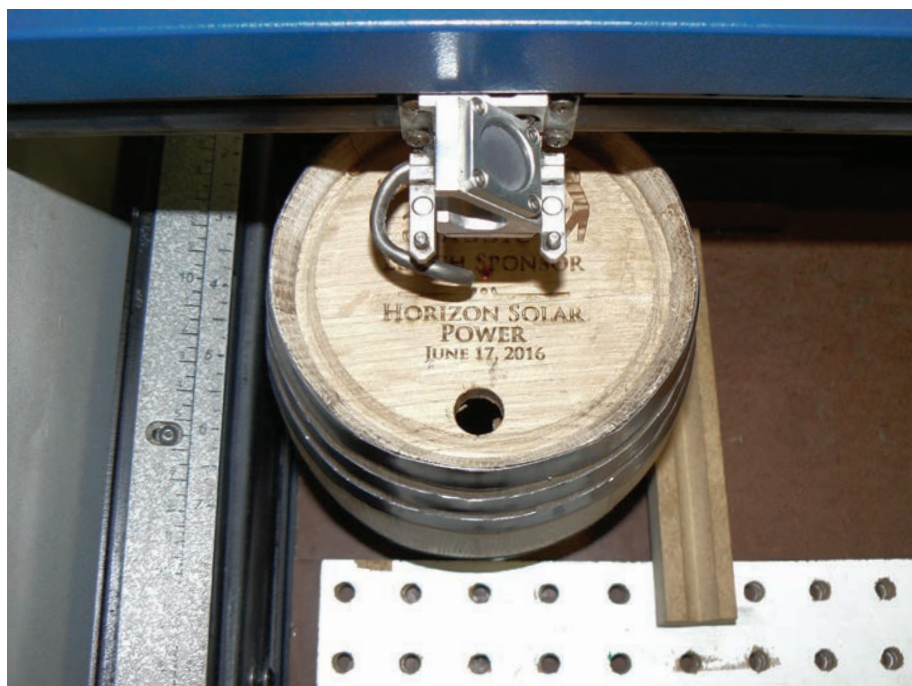
Your laser has a table or tray that your products and materials will be placed on. So, the width and depth of the table will determine the maximum size of the product or material you can engrave. The width is referred to as the X-axis direction and the depth as the Y-axis direction. The width and depth might be 18" X 12" or

24" X 12". It could be larger or smaller. Most sheet material such as laserable acrylic, wood sheets and leatherette are available in 24" X 12" sheets and some available in larger or smaller sizes. The table size will also determine how many items of smaller products you can fit on the table at once and engrave at the same time. So, width and depth will be important based on the markets you plan to sell to. For instance, if you plan to sell signage products, especially outdoor signs, you will find projects that will require a table larger than 24" X 12". Besides width and depth, lasers can also accommodate a product's height as the table will drop down to a specific maximum product height. This is referred to as the "Z" direction. Your table may drop

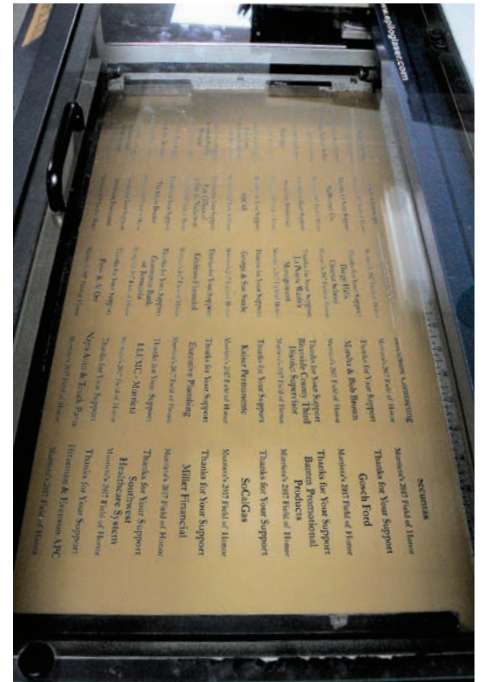
down a maximum of 8". You may be able to extend this by removing the engraving table and sitting the product on the floor of the laser. You will want to be very careful if using the laser floor as screws may stick up and ruin a product. You might want to make a simple, slightly raised platform out of wood with cross pieces around the edges and in the middle for support. This would allow the table to sit flat and avoid laying on any metal parts. So the letters X, Y, and Z refer to the sizes of products that will fit in your laser. As I engraved lots of wood urns, the Z height was important to the projects I could accept. I worked directly with a regional urn craftsman and my maximum laser height became important to his design specifications, especially for custom projects.

MORE BASICS

The type of laser you choose will determine what you can engrave and cut. CO₂ lasers are the most popular and can laser plastics, wood, leather, and leatherette, as well as remove thin paint or other paint-like surfaces from metal. A CO₂ laser can also heat specific chemicals to form letters and graphics on metal. Anodized steel and powder coating can also be processed with a CO₂ laser. Powder coating can be very tricky to laser depending upon the coating thickness and adhesion to the steel. Glass can also be surfaced etched (not deep etched like sandcarving provides). A fiber or YAG laser can etch many raw metal products but may not be as effective on other materials as a CO₂ laser. However, you won't be cutting metal with a fiber laser. Knowing what you plan to laser and the target market you are focused on is important to your choice of lasers. Lasers



The product height you intend to engrave will determine the laser needed. Lasers designed for home use typically only allow for about 2" in height. (All images courtesy Bob Hagel)



Left: An urn can be as tall as 8" or more. Many gift and jewelry boxes will be 3" to 6" in height. **Right:** A full 24" X 12" acrylic sheet allows for multiple labels for these "Field of Honor" sponsor books to be lasered at once. Next, the laser will cut them with stylish corners.

that offer both fiber and CO₂ laser tubes are available and much more expensive. A few other basics that are important is the lasers maximum power in wattage such as a 30-, 50- or 75-watt laser. The maximum wattage is when the laser is new, and as it ages after numerous years the maximum wattage will drop. The wattage is less important for engraving; however, it becomes much more important for cutting materials. When engraving or etching out a surface, thick paints or paint-like coverings will require a more powerful laser. Certain metal water bottles and mugs have thicker surfaces that can be difficult to laser through, especially if lasering without a rotary device to turn the bottle.

When cutting materials, a 30-watt laser may cut 1/16" acrylic with ease. Cutting 1/8" or 1/4" acrylic may require two passes

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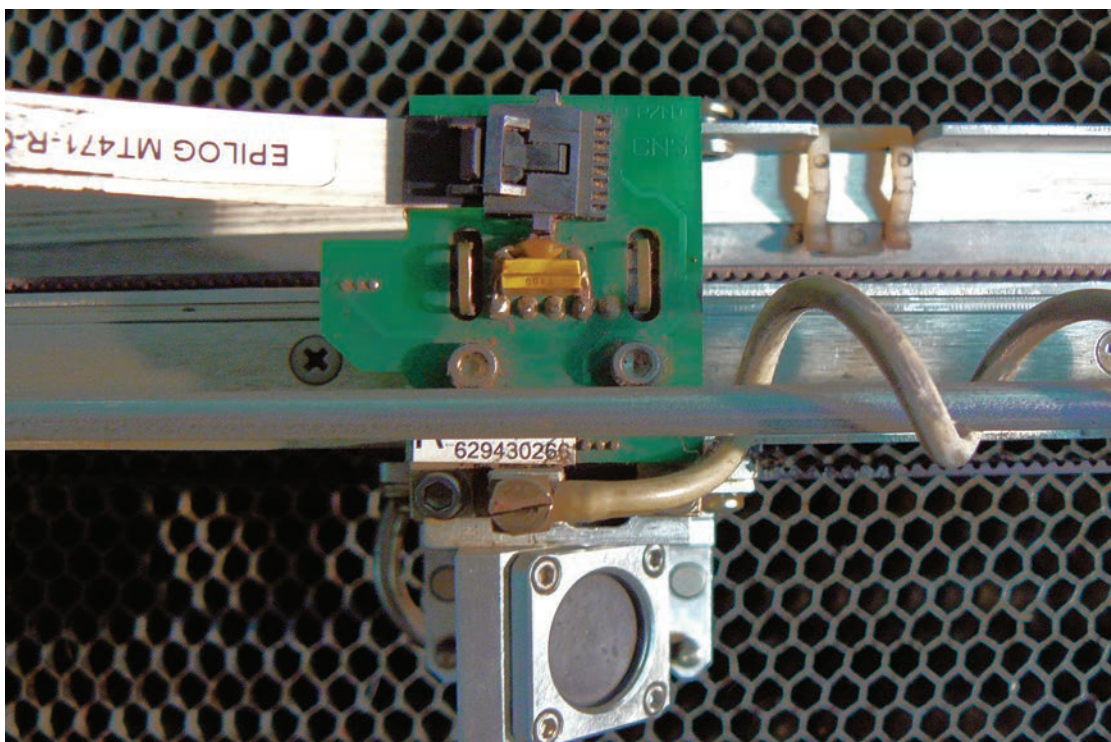
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YOUR LASER AT WORK



Above: This emergency repair kit contains several parts that would tend to wear out plus cleaning and lubricants for the moving parts.

Left: The laser's bridge contains electronic parts for tracking where the laser head is within the laser table for accurate engraving. These parts can wear out.



or more. A 50-watt laser may process 1/8" material with ease but require two or more passes for 1/4" material. You will want to discuss with your laser manufacturer what your cutting plans are and remember, some number of years down the line your laser power will begin to drop off. Purchase more power than you expect to use if cutting acrylic and wood will be a major part of your business.

HOW A LASER TUBE WORKS

A CO₂ laser tube is a sealed glass tube that contains carbon dioxide and a few other gasses. Electricity is introduced into the tube reacting with the gas and exciting it. The excited gas moves up and down the tube (extremely quickly) and turns into light.

At one end of the tube is a partially reflective mirror, the other end, a fully reflective mirror. The light is reflected back and forth, up and down the length of the tube, this increases the intensity of light as it flows through the tube. Eventually the light becomes powerful enough to pass through the partially reflective mirror. From here, it is guided to the first mirror outside of the tube, then to a second, and finally the third. These mirrors are used to accurately deflect the laser beam in the desired direction and guide the light through the laser's lens focusing the light onto the product or material. The light is powerful and hot enough that it burns away material, etching it or if the laser is moving slow enough (dwell time), cutting the material.

I noticed on winter mornings, first thing, that the laser would take a second or two to fire. I always ran a short test pass to let the laser heat up a little. The colder mornings, especially after a weekend, the laser tube was cold and needed to warm up some to begin firing. The laser beam travels from mirror to mir-



Lubricate rails on schedule, as provided by the manufacturer. Do not over lubricate.

ror changing direction until it is guided through the lens. Alignment is critical. Any harsh movement of the laser machine, a shock or hard hit to the machine can throw the alignment off. If the laser engraving or cutting quality is off, consider checking your mirror and lens alignment, as well as the level of the laser table.

Your lens will focus the light to a much smaller beam about three thousandths of an inch in diameter. Now, you have a very hot light beam that can cause injury to the operator, even if reflected.

GETTING AROUND YOUR LASER ENGRAVER

A laser has three main electric motor types. I will refer to them by the direction they travel: X, Y, and Z-axis motors. The speed of your laser is determined by how fast it moves from left to right or along your X-axis while engraving. You may hear some boasting among laser manufacturers about how fast their lasers travel. It is typically measured in inches per second.

Most lasers move very fast, and I never found the speed to be a very important aspect of lasering. I rarely ran my laser at maximum speed. The faster the speed, the faster a motor would wear out. More on this subject in the next section.

The fastest speeds quoted are for engraving and not cutting. The laser lens must move much slower while cutting. The slower a laser head moves the deeper it cuts. However, it also can cause visible burning if moving too slow. Leather, leatherette, and wood are especially vulnerable to visible burning. Burning may require extended cleaning time or ruin a product. A blower or air assist that blows room air on the lasering spot will help to cool the area and blow lasered material off the product. However, this will not prevent burning. You must laser cut at a speed that is safe for the material.

Engraving and cutting issues will arise if your laser table is not flat nor level. Remember, your material must sit at the same distance from your laser head to



ENGRAVING GLASS AND CRYSTAL VS. ACRYLIC — EACH IS BETTER SUITED TO A DIFFERENT METHOD OF ENGRAVING: <http://gpro.ly/engrave>



Clean your filter system thoroughly. Most have a variety of filters with different replacement schedules. The filter bag that captures the larger waste will have the most frequent schedule. Have several on hand as the filter may not run with a full bag.

be properly focused. As your laser head will not rise and fall with the level of the material, uneven materials may be out of focus in certain spots. You will notice a drop off in the quality of the engraving or material not cut as deep or cut through. Check your table with a level. Most often it will be your sheet goods that are warped and not lie flat. Make sure you store all sheet goods flat and perhaps with a weight on top.

WHAT WEARS OUT

Your laser tube loses its gasses over time until there is none left to fire the tube. Commercial quality laser tubes typically last 10 to as many as 15 years before needing to be replaced.

However, you will notice a drop-off in power over time, which will require you to increase your power settings or slow your laser down for each material type. During the life of your laser tube, you may need to replace your laser lens as the high-powered light that constantly goes through it will degrade the lens over time. You may also need to replace a mirror or two, yet this is much less likely than a lens.

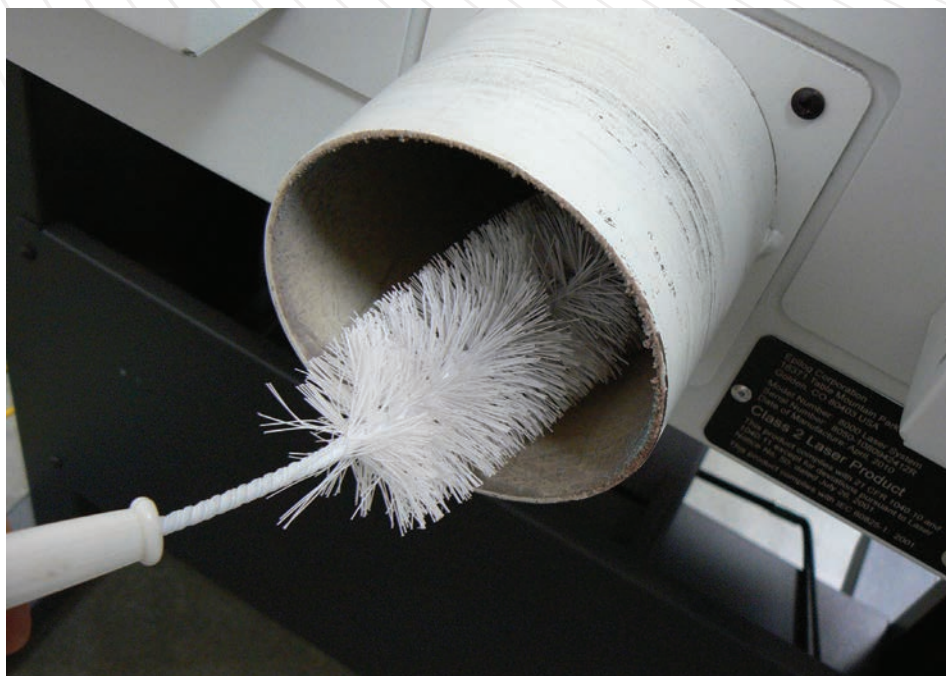
Your two motors that move your laser head and the motor(s) that move the table up and down can also wear out. Your Z motor(s) are not used often and will last far past your laser tube. Your Y motor moves often but moves in small increments at a time. Your X motor moves constantly while engraving or cutting and can move at very fast speeds. It is not only the speed the motor runs and how often it moves that

wears it out but also the heat created by the motor's use that contributes a great deal to its wear. You may need to replace your X motor every few years or it may last longer based on how often and how fast the motor is run.

The X motor will last longer if a small fan is used to cool it. Many manufacturers include a fan next to it. I also kept my workroom cool and used fans on my laser during working hours to help reduce the heat and extend the life of my X motor.

MAINTAINING A HEALTHY LASER MACHINE

Cleaning your laser including mirrors, lens, and entire exhaust system is important to having a healthy machine



Above: As plastic and wood have oils in their smoke, brushing the inside of vents and hoses is necessary to remove material that does not go all the way through to the filter. Brushes of various sizes and shapes come in handy. I found brushes made for home dryer vents work great. The handles are long and flexible. **Left:** A home-based business with a small laser still needs to be vented or filtered. This one is vented to the outside through the garage wall.

that lasts for many years. The lens should be cleaned several times a week and more often if used four to six hours or more daily. Mirrors should be cleaned weekly following the directions supplied by the manufacturer. Your exhaust system and inside of your laser should be cleaned at least a few times a year or more frequently if you do a lot of laser cutting. A clean exhaust system will extend the life of your exhaust fan motor as well.

An emergency repair kit will reduce stress and panic and allow you to get your laser up and running when the more frequent parts wear out. Always keep an extra X motor available. You will have other parts that differ from machine to machine that moves your laser head such as a belt. You may also have a part that allows the laser to always keep track of the laser head's location. These are parts that can also wear out and an extra should be kept available as well.

continued on page 94





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TRAINING SCHEDULE

WEDNESDAY, MARCH 9, 2022

10 a.m. — 4 p.m.

- Hirsch Solutions Inc** - Join the DTG Revolution!

12-1:30 p.m.

- GRAPHICS PRO** - How to Price yourself for Profit, with Matt Richart **PRO**

THURSDAY, MARCH 10, 2022

8-9:30 a.m.

- Epilog Laser** - Finding Success in the Laser Engraving Industry: Application Ideas and Tips to Boost Production **START HERE**
- JDS Industries** - Starting Sublimation: What Do I Need? **START HERE**

THURSDAY, MARCH 10, 2022 cont.

11 a.m. — 12:30 p.m.

- GSG** - Heat Press How To: Top Apparel Trends **START HERE**
- Rayzist Photomask Inc** - Learn Sandcarving with Rayzist Photomask **START HERE**

1:30-3 p.m.

- HIX® Corporation** - Learning the Sublimation Business
- Trotec Laser** - Skills, Materials, & Laser Hacks to Help you Succeed in a Changing Business Environment

4-5:30 p.m.

- Advertising Specialty Institute** - Sell More to Existing Customers **PRO**
- General Formulations** - Which Glue is Right for you? **START HERE**

TRAINING SCHEDULE cont.

FRIDAY, MARCH 11, 2022

8-9:30 a.m.

- ❑ **IKONICS Imaging** - Lights, Camera, Action! Become a Sandcarving Star! **START HERE**
- ❑ **Transfer Express** - Screen Print with Just a Heat Press **START HERE**

11 a.m. — 12:30 p.m.

- ❑ **PDS Equipment** - Energize your Business with UV Print **START HERE**
- ❑ **GSG** - Embroidery 101 **START HERE**

1:30-3 p.m.

- ❑ **Reece Supply Co** - Taking the Pain out of the Digital Artwork Process **START HERE**
- ❑ **Transfer Express** - Print More than T-Shirts **PRO**

4-5:30 p.m.

- ❑ **Corel Trainer** - Everyone Can Learn CorelDRAW **START HERE**
- ❑ **GSG** - How to Choose the Right DTG Printer for your Business **START HERE**

SATURDAY, MARCH 12, 2022

8-9:30 a.m.

- ❑ **GRAPHICS PRO** - Accelerating your Decorating Techniques, with Lon Winters **PRO**
- ❑ **GRAPHICS PRO** - Wraps Designer Tools & Tips, with Dallas Fowler **PRO**

10:30 a.m. — 12 p.m.

- ❑ **GRAPHICS PRO** - Managing the Details of the Sign Creation Process, with Matt Charboneau **PRO**
- ❑ **GRAPHICS PRO** - Engraving Photographs: Intermediate, with Jason & Deanna Ramm **PRO**

1-2:30 p.m.

- ❑ **GRAPHICS PRO** - Pricing Strategies: Are you Getting Paid for your Time? with Matt Charboneau **PRO**



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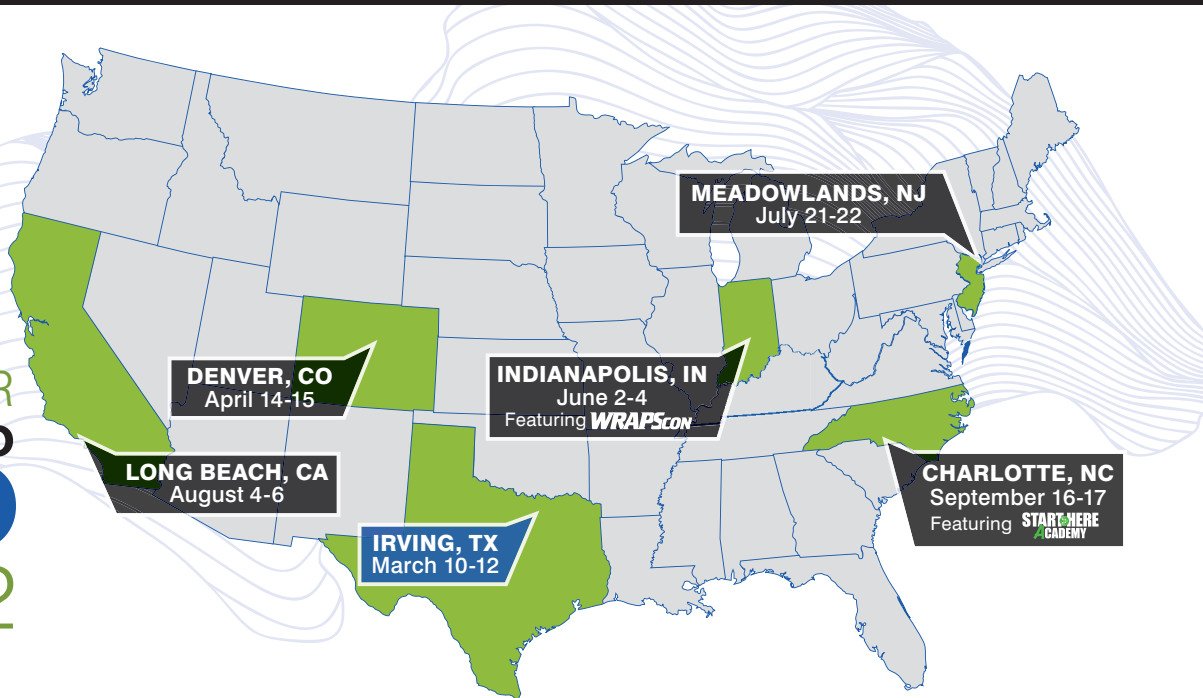


Image Adjustment Lab

WORKING ON A SHOWCARD FOR AN AUTOMOTIVE RESTORATION



BY DOUG ZENDER

Let's discuss the abilities of the Image Adjustment Lab contained within CorelDRAW. I am going to use a project I had some time ago as an example of the processes I used to create these images, but first a bit of history about the evolution of the final project. The client is a local company that specializes in custom automotive restoration. They had completed the restoration process on a particular vehicle and since the vehicle would be featured in numerous national car shows, they wanted a showcard to display some technical specifics as well as some photos.

This is where I entered the scene. I was asked to produce the showcard that exists in Fig. 1 at a dimension of 16" X 26". The final print, on high-performance adhesive vinyl, was adhered to a 1/4"-thick acrylic panel, then clear coated with a

catalyzed automotive acrylic enamel for protection and longevity. But here, I want to focus on the photograph in the left lower corner of the showcard. The only known photograph of this car appeared in a printed book. So, I scanned

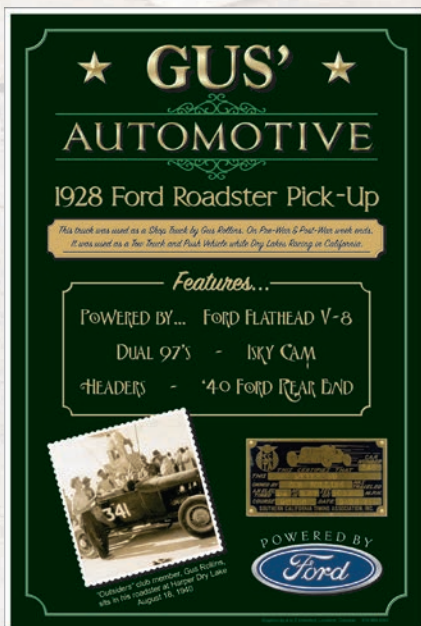


Fig. 1: I was asked to produce the showcard that exists at a dimension of 16" X 26". (All images courtesy Doug Zender)



Fig. 2: Since the original grayscale scan was made up of a series of dots by the halftone screen used to print this image in the book, I chose to smooth my scanned image by editing in PHOTO-PAINT.

the image from the book provided by my customer. It was a grayscale image, and it was agreed that a sepia look would be a better representation of the time frame. So, the following is my attempt to change a grayscale image to a sepia perception using CorelDRAW. Since the original grayscale scan (Fig. 2) was made up of a series of dots by the halftone screen used to print this image in the book, I chose to smooth my scanned image by editing in PHOTO-PAINT. With the image selected, I chose the Bitmap Edit function. After a few seconds, it opens in PHOTO-PAINT. Here I chose Effects > Blur > Smooth and percentage at 84. This step is not necessary but makes the image appear more like a photograph than a scanned image and makes it easier to visually monitor changes in the Adjustment Lab. In PHOTO-PAINT, click Save and close. The changes then appear back in DRAW.

At this point, with the image selected, I first changed the original grayscale color model to RGB color model by using Bitmaps > Mode > RGB then I chose Bitmaps > Image Adjustment Lab and the image appeared there. It is usually best to choose the side-by-side view as shown in Fig. 3. On the left side is the original image and the right side shows changes made in real time. Note that at the bottom there are thumbnail renditions of changes made. Any change you make can be saved as a thumbnail or snapshot and retrieved by clicking on it. I recommend keeping your changes to small

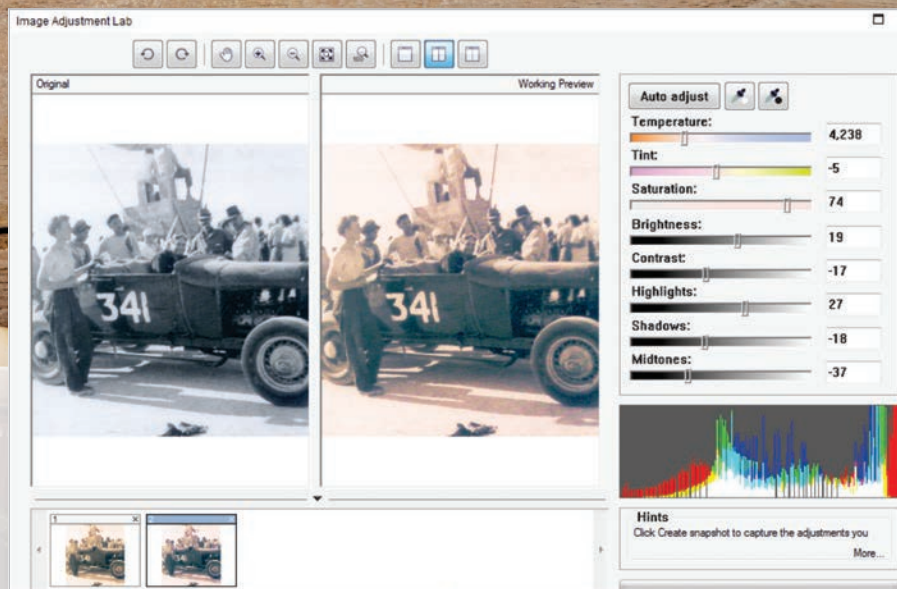


Fig. 3: It is usually best to choose the side-by-side view.

increments. Going too far can result in unwanted results, but snapshots can be vital to the final image.

Please keep in mind that this showcard was originally produced when CorelDRAW X3 was the newest and most cutting-edge program available. Some of the newer versions have capabilities that surpass previous versions. Nevertheless, most



Fig. 4: At this point, with it selected, I chose the Distortion tool to alter the image.

things of importance remain unchanged between versions. I can't see much difference from then to now in the Image Adjustment Lab. It should be nearly the same in your version of the program. There may be some slight differences in these images from the original (about 18 years ago), but all-in-all it should be about equal. I have done my best to reproduce my original adjustments and settings for this article in CorelDRAW X7. Later versions may vary slightly.

So, when I was content with my endeavors to change colors, I added one more feature to my photo to further depict the time period. It was often common practice back then to trim photographs with a scalloped or rounded exterior. To achieve this concept, I first drew a rectangle around my photo with Snap to Objects enabled, then created an outside contour on the rectangle.

At this point, with it selected I chose the Distortion tool to alter the image. (See Fig. 4). Note that the outside contour is in gray for clarity but was originally white as seen in Fig. 1. We will look more closely at the Distortion tool in a future article.

The next step was to select the whole thing and rotate it 15 degrees counter-clockwise. When rotating a bitmap, it is best to constrain the rotation to an increment of 15 degrees (holding down the ctrl key) to avoid a possible moiré pattern occurring in the bitmap. Moiré is a pattern that is usually undesirable and can occur when pixels are not properly aligned. One can search on the internet to learn more information about this phenomenon.

We have, so far, seen how the Image Adjustment Lab can change a grayscale image to a sepia perception, but what if we want to enhance a washed-out image to make it more vibrant? The following is about another X3 image. Although it appeared OK on screen, when printed, it appeared a bit washed out and muted and was far from “shouting.” To correct and enhance the image, the Image Adjustment Lab was again employed, as seen in Fig. 5. I zoomed in to see my changes more closely. The intended color was less than perfect in print. This image was a part of a partial wrap, so vibrancy was paramount to final output. Compare the two images in Fig. 6, a before and after view. The more vibrant red was more desirable for the intended message and printed out with a greater

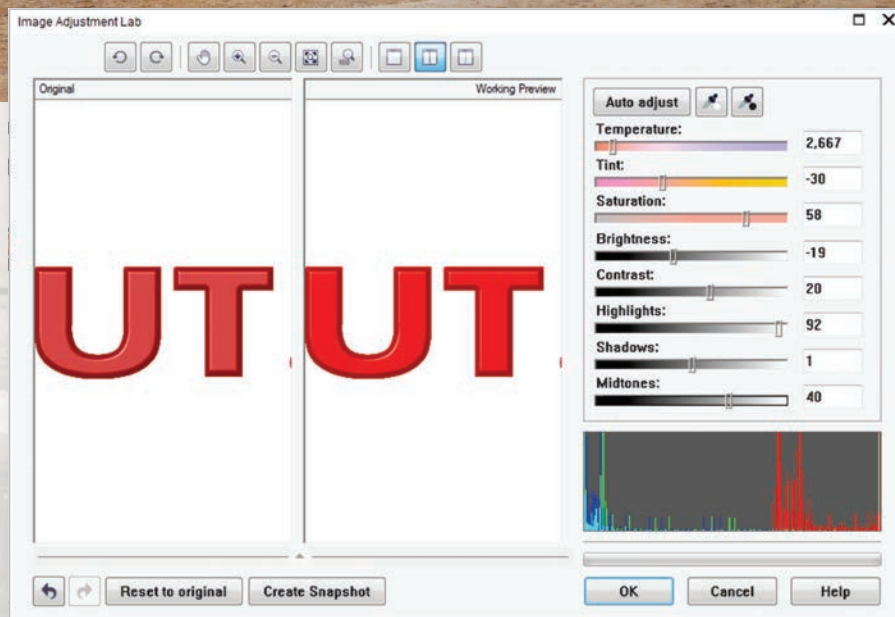


Fig. 5: To correct and enhance the image, the Image Adjustment Lab was again employed.

sense of importance. This design was created for a colleague to put his information and advertising on his van.

The Color Management System in CorelDRAW was completely overhauled with the release of the X5 version, in keeping with industry standards, so many of the color problems in previous versions are no longer an issue. We will explore color management in a future article. The depth of the concept prob-

ably exceeds space available in a magazine article, but we'll touch the highlights. The Image Adjustment Lab is only one of many tools available in the Corel Graphics Suite that are designed and exist to help folks reach their final goal in whatever their graphic design project requires. Having used the program since version 4, I have been able to find a solution to nearly every design problem I ever encountered. Years ago, I used to do most of my designs on a drawing board and used a local print shop for copies and scaling. All that is now available within the program.

As always, I invite questions and/or insights into the program at dezender1@gmail.com. I will answer questions as soon as possible. If I do not know the answer, I will try to find it. I consider myself a student of the program, so some questions may require a bit of research. Questions may also be directed to mdixon@nbm.com. **GP**



Fig. 6: Compare the two images in a before and after view.

DOUG ZENDER has used CorelDRAW extensively since version 4. His goal is to minimize the intimidation of the program and give users the sense that CorelDRAW is a friend, not an adversary. Doug began as a design artist, then moved into the sign industry in 1992 doing vinyl graphics. You can contact him at dezender1@gmail.com.

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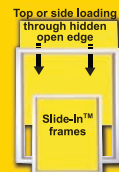
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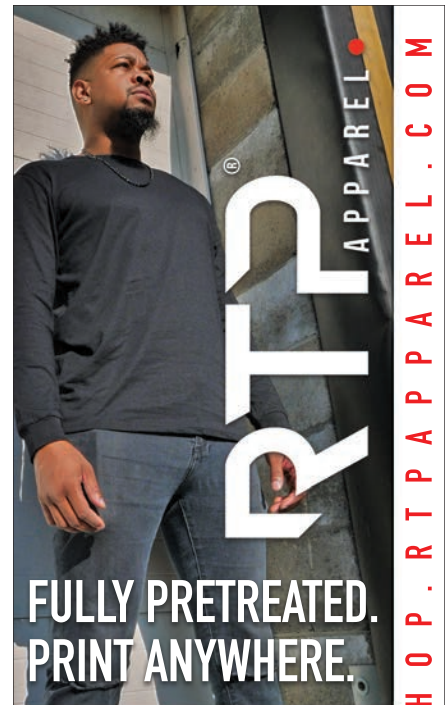
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WENDY AND WANDER

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What types of garments/apparel do you decorate?

LS: Currently, we only offer customized aprons. I probably will expand, but aprons seem to be a sweet spot for my business. If I were going to add a product, it would probably be customized makeup bags.

What trends for DTG designs are you seeing?

LS: Our customers tend to like the classics, like “Plant Lady,” “Grandma Chef,” “Mini Chef,” etc. We also sell a lot of products with wittier phrases, like “Daddio of the Patio.” People seem to like these types of designs for gifting.

Do you offer custom DTG printing if a customer requests it?

LS: I do offer personalized designs. Customers can send me a picture and I can print it for them, or I’m happy to create a custom design if they’d like a superhero theme or something like that. I really enjoy being able to provide customers with exactly what they’re looking for.

Do you do any wholesale DTG printing?

LS: We have a lot of friends with small businesses, and we offer custom printing for them – items like tote bags with their store’s logo. Because I’m busy with my own orders, I tend to stay away from really large wholesale orders. I mostly do 100 pieces or less.

What lies ahead for you?

LS: My husband and I are renovating a trailer so I can bring my store to events and have an office wherever I need one. We named this shop after my eldest daughter, Wendy, and we now have another daughter, so we’ll need to name the next one after her. **GP**

GINNY MUMM is a freelance consultant for Roland DGA.

LOGO DESIGN

continued from page 53

and it’s what we all live for. Providing a logo to a happy client doesn’t get any better than this. Period.

CREATIVE INNER-SPIRATION SOURCE

What is your creative inner source? Have you identified it yet? Take time to stop, think, listen, and follow your own inner creative inspirational resources (it’s the mojo that separates you from the accountants).

This is the voice in your head that provides you the drive, focus, passion, and desire that helps propel your creative brain into the direction the design needs to go.

The simple fact you are reading this means you are aware of this creative source, but you may not have recognized nor realized you can tap into it, like a tool whenever you need it, and you can absolutely lean on it at any time for the inspiration needed to get through a tough design project.

Every creative designer or artist who sets out on a creative process with a result in mind depends on tapping into their own private, inspirational source for the “WOW-NESS” factor. This is needed to provide the creative drive, passion and abilities that help them avoid pursuing the accounting degree they never ever wanted.

I hope this outline has helped you define the logo design process or at least helped you realize there really is a creative drive you can tap into and use to make the creative process easier and faster, and ultimately more fun for you and your customer. **GP**

MATT CHARBONEAU started his career in the sign industry in 1985 as Charboneau Signs. In 2017, he published the Pre-Sale Sign Survey Field Guide. In 2019, he started Storm Mountain Signs and the Sign Design Institute. Contact him at Matt@stormmountainsigns.com; www.stormmountainsigns.com; and 970-481-4151.

YOUR LASER AT WORK

continued from page 79

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Your manufacturer’s technical support team will offer great advice as to when to replace the tube. Many readers will find they can replace the tube themselves with some phone help from technical support. If you plan to use a service technician, make sure you plan in the lead time, so you don’t find yourself in a very expensive rush situation. You risk ruining too much product and creating quality and customer deadline problems that will result in far more costs to your business.

My last piece of advice is to consider the cost of replacing your laser tube before you buy the laser. Find out what the policy is, how much it cost, and if the manufacturer will purchase back your used tube for refill. This can save you a lot of money if they do offer a buyback program. Can you replace the tube yourself? If not, how much does it cost and where is your technician located. Also, what is the typical wait time? Are there travel costs?

Knowing your laser will provide many years of an enjoyable working relationship with much less frustration and panic. **GP**

BOB HAGEL recently retired after owning Eagle’s Mark Awards & Signs for 18 years in Southern California. While owning the business, he offered a full line of personalized products using laser engraving, sandcarving, and full-color UV direct print on products. Today, he consults on starting and expanding personalized businesses and on improving production efficiency and quality. He can be reached at rjhagel@verizon.net.

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