

Computerized Mat Cutter Series: Teaching an Old Framer New Tricks

Part 1: How Do I Know When To Go CMC?

For decades I have managed to resist most of the hot technology by remaining an incurable old school thinker and craftsman. Manufacturers have made daily work simpler, more precise, and time effective by introducing machines including hot vacuum presses, wall cutters, and underpinners. Well I may have succumbed to the hot/cold vacuum system, but after 30 years, I have continued to function without either a wall cutter or underpinner. Granted, I am not a production shop but rather a high-end specialty framer, educator, and consultant.

Then the computer hit us. I recall back in early 1991 as I ranted and complained about my computer illiteracy and ongoing operational frustrations, my 10-year-old gently touched my the top of my hand and said, "Don't worry Mommy. I'll teach you." Well, if that didn't frost my cookies! In any event, I have at least conquered the basic computer and word processor to write two books and to keep the monthly columns for *PFM* coming.

The next invasion was computers in frame shops. It was bad enough when this electronic monster had me spelling words correctly, but now it was also able to price framing jobs, maintain inventory, and yes, even cut mats. Well, at that I had to put my foot down. Though I had survived without a wall cutter and underpinner, I can truly see the benefit and efficiency of both of these pieces of equipment. But, there was no way I could ever sanctify the travesty of mat cutting with a computer. Seems I had gone from computer illiterate to computer intolerant.



Photo 1: This Asian latticework double mat is comprised of 142 openings. The design requires nearly 1,000 corner cuts to complete.

I was raised with a great-grandfather who was a stone carver, a grandfather who was a fine carpenter, and a father who was an electrotyper and cabinetmaker. Fine hand craftsmanship is in my blood. Cutting mats by hand and assembling frames with hammers and nails is what I have always loved about this art of framing. It's all very creatively right brained.

But the left side of my brain—the analytical business side—sees the benefits of production, precision, and efficiency. As an industry consultant, I have been asked over the years where I thought the framing industry was going. I truly believed that computers were a passing fad within this industry and if you ignored them, they

would go away. But I was mistaken. It may have taken me a decade to come around to digitals and electronics, but I see the error of my ways and I finally realize that computers are here to stay.

This series on Computerized Mat Cutters (CMCs) is meant to be an introductory walk through the basic concepts of utilizing the computer mat cutter successfully in your framing business. So what exactly qualifies me to be the person to tackle a series of articles on computerized mat cutting? Precisely the same thing that kept me computer illiterate for so very long—my resistance to modern technology.

In this series, I plan to include CMC selection, differences, sales, promotion, pricing, designs, and

controversy. So here we go. This first installment discusses the when and how of implementing a CMC in your operation.

Trade Shows and the CMC Boom

Walk any trade show and count the number of booths focused on point-of-sale (POS) software. Then take note of the booths with computer mat cutters. Just a couple of years ago there were only a few. Now there seems to be one on every corner. In fact, it is almost anachronistic to see a manual mat cutter being marketed much these days.

Although Fletcher-Terry, Nielsen Bainbridge, or Keencut

may still showcase and sell their manual cutters, the days of John Raney behind a F-2100 have given way to him in front of a F-6100cmc. It's a sign of the times.

Although the likes of Gunnar and Kaibab have been in large scale production divisions and OEM markets for years, it is in recent years they have become players in our humble "Mom & Pop" market. Wizard International which began in 1994 with small 10'x10' booths now touts full islands and the daVinci mat printing system to boot.

Recognize the Players

There are nine companies you should be familiar with when considering a CMC: Eclipse (which makes Kaibab), F-6100cmc (Fletcher-Terry), IMat (formerly Mat Maestro, Regal Crown Industries), Valiani (Pistorius), Rapido (Gunnar), Spirit (Esterly), Trucut Elan (Berlyne), Wizard, and Zund. Although I will not evaluate each of these individually, I will point out some of their basic differences and target markets.

Esterly, Berlyne, Pistorius, and Zund appear to be more directed toward mass production operations with limited templates, higher cutting speed, or limited interfacing with POS software. These will be less often chosen for privately-owned, smaller scale framers who wish to offer more elaborate designs. Gunnar, Kaibab, and IMat offer alternate systems for either markets of high production or custom framing. Meanwhile Eclipse, Fletcher-Terry, and Wizard are systems targeted more specifically for the custom user.

Too Much To Do, Too Little Time

The question is, "When are you ready to shop CMC?" The only time a change will occur from the way, "its always been done," is when there's a reason. When a process becomes inefficient because of time or money, it's time to search for new technology. For example, a vacuum press is often purchased when the daily volume of mountings exceeds manual mounting production. Such may be the case with a CMC.

When the workload has become more than a single framer can handle, it's time to hire additional help. An additional employee can have its benefits because there is another person to open and close the shop, help customers, keep company, and allow the owner to have vacation time. The disadvantages include higher overhead, employee benefits, and someone else to manage.

Acquiring a CMC offers the benefits of not having to hire a new employee at all, or hiring a lesser skilled "art student type" with good computer skills at a lower hourly rate for fewer worker benefits; less stress and carpal tunnel potential; and quicker, more intricate designs that bring in more money.

Disadvantages include no longer having an employee for opening and closing, customer assistance, vacation and sick time, or companionship. Also, what if the power should go out? There's no cutter. Now you can't meet deadlines because your art student may not be capable of manually cutting mats.

It All Comes Down To Economics

In order to afford a CMC, all you need to do is cut mats everyday. If you cut three double mats a day for \$30 profit, five days a week for 4.3 weeks, that equals \$645 per month for cut mats. Remember these are three basic rectangular opening double mats (for a total of six mats) per day. There's no frills, no fancy corners, no spacers, no tiered mats, and no multiple openings. You do the math. Just imagine the profit potential.

Once the decision has been made to go CMC, then the shopping begins. Cutters may be purchased outright, leased to buy, or rented. If ownership and investment is preferred, (most people do not have disposable capital of between \$15,000 and \$30,000), leasing is necessary. The average lease payment according to Kaibab is \$550 monthly. Based on the above minimal matting calculations this should be very easy to achieve with no additional effort. Plus there is no limit or monthly corner charges, which allows for more extravagant multiple opening mats and fancier cuts.

Wizard is the only one who currently rents CMCs to framers. They have placed more than 2,800 cutters around the world and although their CMC may be either purchased outright or rented, most are rented. It's \$500 to get a Wizard system into the shop, but you can opt for either the \$225 Junior Program allowing for monthly rental charge for equipment and 1,000 corners; or the \$370 Standard Program with the base rate

plus five cents per corner. This allows for a lifetime warranty and CPU coverage for 30 months. After that, the monthly rate drops to \$200 for corner charges.

Rent vs. Lease To Buy

Many people prefer to rent a new CMC because it feels safer. One of the common questions has been, “Can I send it back if I go out of

When researching cutters, remember that the important thing is that it be user-friendly and easy to operate.

business?” Honestly now, what kind of a negative affirmation is that? Just as with investing in a vacuum press or a new car, don't forget resale values. You can always sell your used equipment.

Many people are “dyed in the wool” renters. They rent their store space and company vehicle, and will want to rent their CMC as well. Rent if you wish, but look at the big picture. Do not base rental versus purchase on the monthly

cost. Look more seriously on the potential and the number of corners that you might cut.

I've seen a wonderful Asian latice-work double mat that is an elaborate 142-multiple opening mat that requires nearly 1000 corner cuts to complete. Think through the possibilities and limitations. A mat like that could sell for between \$300 to \$350. A rented machine might limit the corner use, but if profits are the desired end product, then elaborate designs should be the feature of the day.

Hardware, Software, Computer, and Technical Service

There are four areas to research when looking into this new technology: hardware (the machine itself), software, computer, and technical support.

The hardware is the mechanics that runs the machine and the key is to keep the system as simple as possible. There are two kinds of motors used to drive the cutting head and bars—servo motors and stepper motors. Servos are continuous flow while steppers rotate 180 steps per inch for a .005 accuracy rate. Listen to the experts and decide for yourself. Look into maintenance procedures and wear potential on these parts.

As I researched the cutters available, I soon discovered that, as an IBM computer user, some software made me feel more at ease than others. Since I operate with Windows on my PC, I prefer software that replicates most closely the Windows “drag and drop” formats.

When researching cutters, pay close attention to the look and feel of the software. Sales personnel have designs they are very familiar with to showcase during a trade show and it is their job to make their system look user-friendly and easy to operate. The important thing is that you feel comfortable with it.

Many of us suffer from computer intolerance while others thrive in the technological computer world. The key is to locate the system that allows you to be comfortable. Use it yourself to test layouts when at shows. Don't just ask the operator to cut specific designs in variable thickness boards to test it. Yes, it must cut well, but you must also be capable of getting the design into the computer in a timely manner in the first place. When you find the system that feels right, you will likely know it's the one for you.

Some companies include the computer with the cutter, while others do not. If a computer is included, check all warranties on it, limitations, and time frames for upgrades and service. Also note its strength and current capacity.

Depending upon the company you select, technical service could be do-it-yourself with a technical support person online or on the telephone; through a local distributor; or manufacturer-based. A manufacturer-based technician requires all expenses including travel expenses to be covered by the framer in the event of a service call. Know what you are getting into with service expectations. Read the fine print in the warranty.

How To Shop: Questions To Ask

What is the maximum ply thickness that can be effectively cut?

Some cutters comfortably cut 8-ply rag with beautiful clean corners and curves, while others cannot cut boards that thick at all. If you think you will be cutting foam board, ask about that too.

Ask a lot of questions
before
purchasing your

CMC. Some concerns should

be the service and

support offered,

as well as the warranty.

Some will tackle $\frac{1}{8}$ " foam board but I have not found any willing to state $\frac{3}{16}$ " foam board is possible. Maybe that will happen in time. Not all 4-ply boards are created equal in thickness. A 4-ply whitecore, colorcore, fabric, suede, or museum rag all have slightly different thicknesses. Also, how easy is it to alter blade depth for these 4-plys, a 6-plys, 8-plys, or a Paschke tiered mat somewhere in between? *What blades are required?* Any experienced framer has decided

long ago that blades are the cheapest part of the framing process and to change them regularly will make life much simpler and happier. The same with CMC blades. These blades seem to average 20 to 40 cents each. Although the companies will talk about maximum blade usage, it all comes down to individual style and techniques. The main thing to look at is blade installation; mat cutting interruption and realignment; pausing features; cartridge versus head unit blade holders; and the difficulty or simplicity of all of the above.

What is the total board usage?

Edge clearance becomes a good question when an entire sheet of 40"x 60" matboard is to be frequently used. Note the outer edge clearance (a.k.a. minimum border) can range from $\frac{1}{4}$ " to $1\frac{1}{2}$ ". Also check the clamping techniques that might dent outer mat borders.

What is the CMC warranty? What is covered and for how long? Check to see if the warranty is part of the quoted price or if it is an extended offered package at an additional charge. Some warranties cover parts only, while others may include some labor. Find out specifically what is covered and for how long. Even with rental equipment, you will become owner of the computer itself within 30 months. And is the computer also under warranty?

How do you handle computer upgrades? Whether renting or leasing to buy, pay attention to the computer that is supplied with the cutter. If it is a separate unit, can it be replaced with more modern

The hands-on framer
must be prepared
to take a giant leap

into technology. Perhaps the
CMC is a good start.

units in a few years? Some companies offer annual or bi-annual upgrades that can be downloaded free as an ongoing technical support system. If the computer unit is installed into the cutter and has a limited time warranty (i.e.: five years), what happens after the computer is outdated?

Does the software interface with POS software? When acquiring a CMC that you will use to cut fancy and elaborate mat designs, it is best for the CMC to interface with POS software at the design counter. This way, the mat can be designed, shown to the customer, sold, and then sent back as a file to be completed in the workroom later.

What about after sale service? Remember: There can be telephone service, local distributor assistance, or manufacturers reps that need to be flown in to repair or maintain a unit.

Can the software be individually creative or is it limited to programmed templates? Pay attention

to the direction and size limitations of cut mats. If the software is not capable of setting specifications as a profile or landscape (vertical or horizontal), then a cathedral opening will be limited to the 40" width of a mat rather than the 60" length (see Diagram 1). Cutters may have as few as 20 patterns or as many as 120. And when the corners can be separately selected, as many as 400 corner combinations exist, plus clip art.

What is CAD? Most of the CMCs available have limited templates as mentioned above. When the list of patterns and clip art supplied has been exhausted, the frame designer must turn to the CAD (Computer Assisted Design) system to create the special shape desired. These are not easy to use unless you are trained in computers.

The Asian latticework mat seen in Photo 1 can be achieved by creating a multiple opening mat or a CAD design. Obviously a multiple opening design will be much more time-effective. (More on this in Parts II and III of this CMC series—Selling and Pricing).

Do not be fooled into thinking a drawn design may be scanned into the CAD system and magically

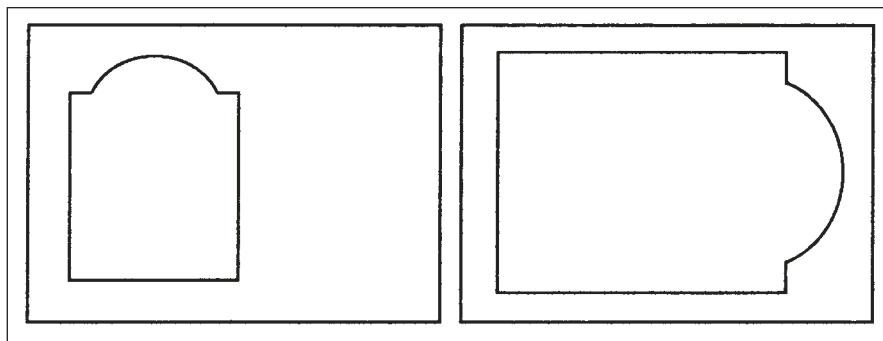


Diagram 1: Pay attention to the direction and size limitations of cut mats. If the software is not capable of setting specifications as a profile or landscape (vertical or horizontal), then your design options will be limited.

transformed into a pattern that may be sent to the mat cutter. Original freeform designs and logos may be scanned but then must be plotted and manually transformed into a computer language to be sent to the cutter. In fact, it's more financially feasible to hire it out to the technical service department than to take the time to do it yourself.

Are You Ready For A CMC?

As we progress into the 21st century, it's time to take stock of your operation and of keeping up with the Joneses. In order to stay competitive, we must be prepared to offer services of higher quality—faster and more cost effectively than ever before. In this world of virtual reality, even the hands-on

framer must be prepared to take a giant leap into technology. Perhaps POS software is only the beginning and all frame shops will eventually have a CMC.

New CMC technology is wondrous. I quote Mark Eaton, Machine Division Manager of Kaibab Industries who told me, "...we have the technology... my goal is to produce a CMC that will cut and carve mats as good as Brian Wolf." The framer should be the brain, while the CMC becomes the muscle.

So, when all is said and done, and my wrists are still throbbing, maybe you can teach this old framer a few new tricks after all. Welcome to the millennium and the computer age of framing. Watch for Part II: Selling CMC Designs. ■