



Focus on Imaging December, 2001

Film Recorders in the 21st Century by Jack and Sue Drafa

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Many photo labs are trying to achieve a smooth transition into a hybrid lab that accommodates both traditional and digital photography. Today's most common bridge is the scanner, which can convert just about any traditional image into digital data. One of the earliest digital lab tools was the film recorder, which dates back to the infancy of digital photography. The film recorder takes digital files and converts them back to traditional images on film.

Both scanners and film recorders are necessary for labs offering full service digital and traditional.

SCANNERS ARE SO popular now that you can even find them at discount stores. On the other hand, the film recorder was at its height of popularity in the late '80s. At that time you would find more than a dozen companies that produced film recorders, each offering several different models. Prices ranged from a few thousand dollars to more than a quarter million dollars and the quality of the recorders was proportional to the price tag. At the start, most film recorders were used to output presentation slides for lectures from software programs like the popular Microsoft PowerPoint.

A whole new market emerged with the introduction of scanners, since photographic images could be combined into these presentation images. Eventually, the concept of scanning images, editing them, and finally sending them back out to film became the crux of digital photography.

Early on, digital paper featured very poor image quality, so almost all edited images were converted back to traditional film via the film recorder and printed traditionally. As high quality inkjet inks and papers progressed, the demand for conversion to film declined. Thus, in the 1990s the film recorder started to disappear from the marketplace and only a few manufacturers remain today.

We don't feel that the film recorders are destined to disappear. As long as traditional and digital photography are strong, there will always be a demand for bridging the two. So, where are film recorders being used today? What jobs do they perform? Should you consider one for your lab?

Film Recorder Uses

1. Presentation slides, one of the original reasons for film recorders, are still viable today. Many medical and scientific researchers demand the highest quality for their presentations and still prefer slides to laptop video projectors.
2. Many large photo labs have invested heavily in traditional paper processors.
3. A film recorder should be considered as an inexpensive way to enter the digital market. Even smaller labs that cannot afford the expense of a large digital printing machine may already have film processors and printers. All they need is a film recorder to get their start into digital photography. Large printing jobs of edited images requiring thousands of duplicate color prints may have the best profit margin when a film recorder is used to create the master negatives.

4. No matter what the size of your photo lab, there may be times that you will need to make a duplicate negative or high quality transparency. Often the original is damaged, and it needs repairing before a making new film. Other times you may need to edit the original, add text, or combine it with another image before making a master negative for printing.
5. Many of the movie theaters need film recorder magic to create advertising slides that are shown before the movie begins.
6. One of the largest users of film recorders is Hollywood. All the special effects must be created and blended back onto motion picture film. Many of these labs have dozens of film recorders imaging different segments in a movie scene.
7. The good news is that today's film recorders are easier to use, higher quality, and more reasonably priced. Most now fit into the \$5,000-\$15,000 price range and are compact enough to sit on your desk next to the computer.



If you need to image on 35mm, 6x7 or 4x5 at 8K, you can use the 8035, 8067, or 8045.

The Polaroid 6000 and 7000 are both designed for 35mm and have resolutions set at 4K resolution.

Sample image created on the Polaroid ProPalette 7000.

Film Recorder Companies

Because the sale of film recorders has declined, we found that the remaining companies have split into two major groups. The first includes companies that still manufacturer and sell film recorders. The second group is comprised of companies that provide technical support for film recorders that are no longer being manufactured. Compared to other digital technology, film recorders have a very long life span. Many can be upgraded and refurbished to provide many years of service.

Polaroid, www.polaroid.com

Polaroid was one of the first film recorder manufacturers with its analog version of the Polaroid Palette. It is sold under its own brand name, and other film recorder manufacturers OEM it. Polaroid has never faltered all these years and still has a full line of quality desktop film recorders.

The company offers several film recorders in configurations from 35mm up to 4x5 sheet film. The Polaroid 6000 and 7000 are both designed for 35mm and have resolutions set at 4K resolution.

If you need to image on 35mm, 6x7 or 4x5 at 8K, you can use the 8035, 8067, or 8045 respectively. They use the Raster Plus imaging software and are PostScript compatible. A large selection of negative and positive film tables cover the most popular films used in film recorders today.

Lasergraphics, www.lasergraphics.com

In 1985 Lasergraphics entered the film recorder marketplace. Their inexpensive, high resolution film recorders evolved from the Personal LFR Plus desktop model to the high end LFR Mark VI which creates images at 16K resolution. The LFR Mark III is designed for the lab needing to create negatives from restoration work. The final repaired images can be on 120/220 or 4x5 sheet film at 4k or 8k resolution.





Lasergraphics Mark III and Mark 6: the final repaired images can be on 120/220 or 4x5 sheet film, at 4k or 8k resolution.

Each film recorder is designed to operate with either WinRascal or MacRascal software, depending on your work platform. Film look-up tables are available for a variety of slide and color negative films.

CCG, www.ccg-germany.com CCG is the German company that purchased the Agfa film recorder line. They reduced the group to four units, starting with the PCRP which is designed for presentation graphics. The PCR4 and PCR8 have 4k and 8k resolutions respectively. The PCR4 can shoot 35mm rolls or shoot bulk overnight with a special bulk back. The PCR8 can image 35mm up to 4x5 and also uses the 35mm bulk back. If you need to expose motion picture film, they feature the PCR Cine film recorder. This unit is designed to shoot a variety of film formats and configurations.

Montage, www.montagephototech.com

The FR2 Enhanced digital recorder is a full-feature film recorder system that exposes images at either 2k or 4k resolution. Optional modules for 35mm bulk film, 3.75 x 2.875 prints and 4 x5 sheet film can be used with the FR2. Communication is through a SCSI port for either the Windows or Mac platforms. The RasterPlus driver is used to drag and drop images into the film recorder queue.

Upgrade Technologies, www.upgrade.com

This unique company covers all its bases by upgrading a wide variety of other manufacturer's film recorders to higher speed and increased quality. When you contact them, simply give them your brand name and model number, and they can tell you how it can be upgraded (using their Phoenix film recorder engine), and the cost. The company also has its own 16k resolution film recorder called the Phoenix Plus that is based on the engine used for other upgrades. This unit accepts a wide variety of film formats including 35mm, 120/220, 4x5, 8x10, and Cine. They have an extensive Web page on film recorders, how they work, and how they can be improved with their Phoenix engine.

When considering a film recorder purchase, there will be several features to consider. Often the lingo gets confusing, so be sure to do your homework. Here are a few questions to ask:

- What is the resolution of the CRT for the module that you will be using? Is it a real resolution or interpolated?
- What film modules are available for the unit you are considering? If you think you might use other formats, make sure the unit you buy accepts other film modules.
- What film look up tables does it handle? Can you upload new tables as new film types come out?
- What is the CRT size? The larger the CRT, the better the image quality.
- How long does it take to expose a single image at a specific resolution?
- How does it handle color management? Will it use the same management system as your editing program?
- Can it process Postscript files? Many of the newer film recorders come with Postscript drivers as image files with text and layers are in Postscript format.
- What drivers are included and are any third party drivers necessary?



CCG is a German company that purchased the Agfa film recorder line, and condensed the group to four units; the PCRP (presentation graphics), the PCR4 (4k), the PCR8 (8k) and the PCR Cine film recorder.

- Can you network the film recorder so that other workstations can send images?
- How does it communicate with your computer, Parallel, Serial, SCSI, Firewire?
- Does it include a communication board, or do you need one in your computer?
- What is the life of the CRT when actively used and when not in use?

Film recorders serve a special niche in both the digital and traditional photography worlds. The key is to do extensive market research to see if adding a film recorder will help improve your imaging lab services. Will it help you use your traditional paper processors by printing from digital negatives? Do you need negatives from digitally repaired images? How about 35mm presentation graphic output? Analyze the equipment in your lab, the needs of your client base, and you might be surprised to find that adding a film recorder may provide a great payback.

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