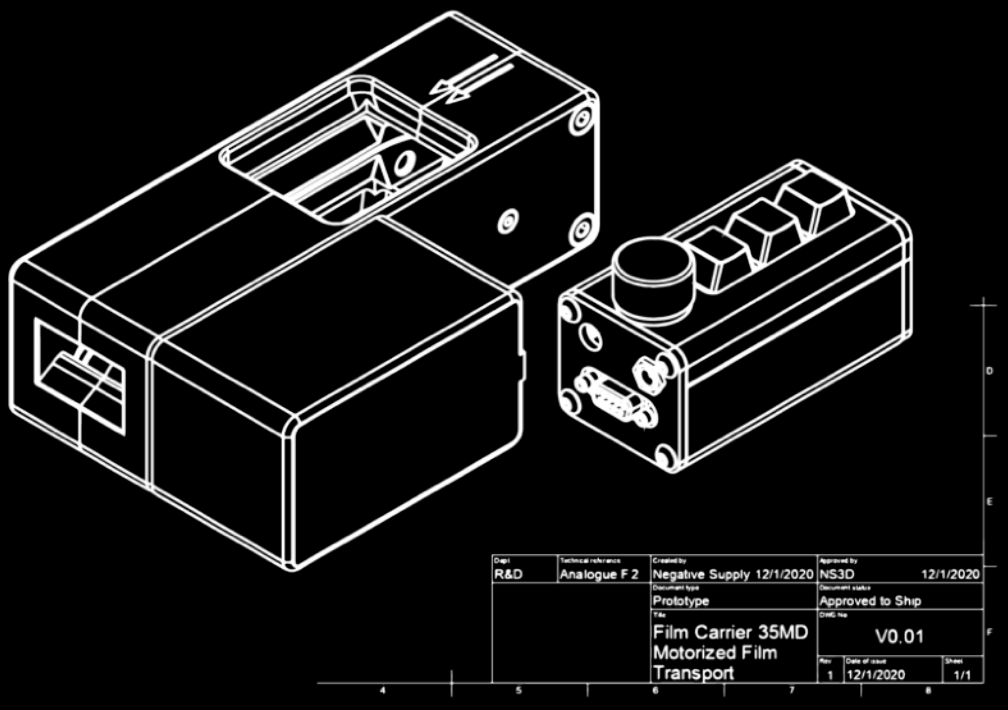
Negative Supply

CAMERA SCANNING QUICKSTART GUIDE

This guide shows you how to digitize (scan) film with a digital camera. It covers the basics, including what gear and software you will need, as well as information about how to get best results.



WHAT IS COVERED IN THIS GUIDE

WHAT IS CAMERA SCANNING

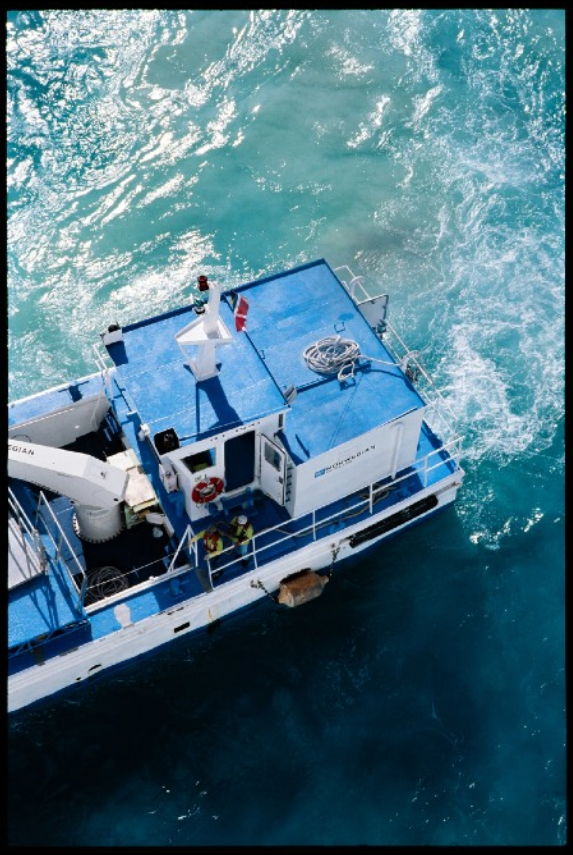
Camera scanning is the process of using a digital camera (mirrorless or DSLR) to photograph pieces of film, either negatives or positives. This process allows you to capture frames very quickly, and eliminates the need for flatbed scanners or traditional commercial scanners that are either out of date, or extremely slow. Once you've taken a photo of your negative, you then import it onto a computer for conversion using software. For positives, you may use the file as is.

By not limiting yourself to today's technology, camera scanning helps future proof your investment into the process by allowing you to upgrade cameras in the future, as technology evolves.

Camera scanning has been around for several years, however it has only recently been made more popular due to tools like our film carriers and software like FilmLab or Negative Lab Pro. Using these tools, you are able to scan film much more quickly than before, and conversions are more accurate than ever.

The Negative Supply Basic Carrier, a film holder designed to quickly and easily hold film flat during camera scanning under your macro lens.

WHY SCAN WITH A CAMERA



Ektachrome E100G Scanned with the Film Carrier MK1 by Northeast Photographic, one of the many professional labs using camera scanning.

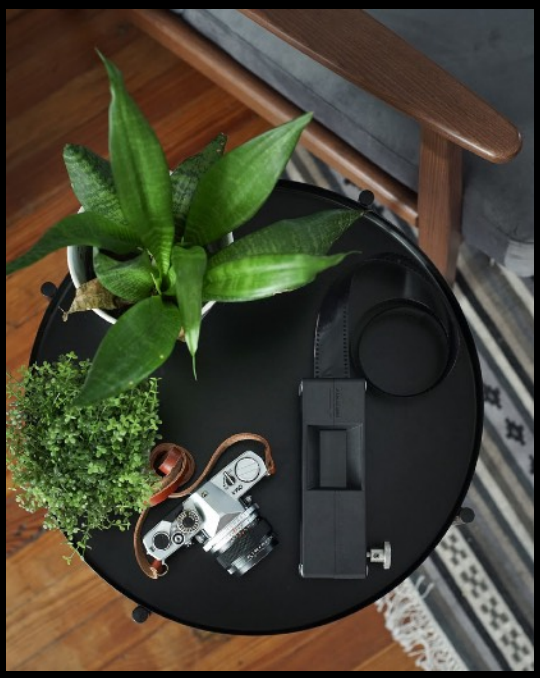
NOT JUST BECAUSE FLATBEDS TAKE FOREVER.

DSLR/Mirrorless scanning is relatively new to film, but it gives added speed, convenience, and precision for capturing frames in full detail. Modern cameras with high resolution also capture slide film with better reproduction quality and color due to CMOS sensor technology.

Digital camera scanning is popular because it's an easy and resourceful way to scan your own work with equipment you may already have.

All you need is a digital camera, a computer, a way to hold negatives flat, and a small light table or similar light source. If you're a digital photographer interested in shooting film, a hybrid photographer looking for a resourceful way to scan your own film, or a photographer exclusively shooting film with the desire to quickly and easily scan at home or the office, using a digital camera is a great option. You can make use of the digital camera you already own or easily source one used or new. (P.S.- you don't need the newest and greatest to get great scans)

WHAT NEGATIVE SUPPLY SOLVED



Pictured above is one of the first Negative Supply Film Carrier prototypes. This model launched on Kickstarter in 2019.

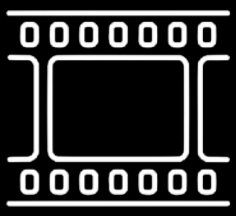
The biggest pain point with camera scanning is holding the negative flat. Unfortunately, existing solutions rely on strip holders that are incredibly slow to set up and use.
While varying concepts for digital camera film scanning exist today, our products are unique in that they scans full length, uncut rolls of 35mm film. We build these products with working photographers in mind, always looking to make devices that are not only fast and easy to use, but products that are durable and low maintenance.

Our Film Carrier lineup are the industry standard because they provide a much faster means of operation, have the ability to scan an uncut roll of film, and are built to professional standards. The MK1 can allow an operator to scan an entire 36 exposure roll in 5 minutes or less, and our Film Carrier 35MD automates the process and allows you to scan in as little as 2 minutes or less.

Recently, due to customer requests, we have introduced our Basic lineup of products. These tools provide the same Negative Supply experience, but with a lower barrier of entry. The Basic Film Carrier 35 is a great way to start scanning film for less than $100.

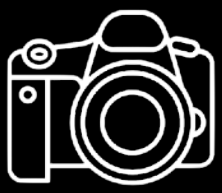
WHAT HARDWARE DO YOU NEED FOR CAMERA SCANNING

The following items are what you need to get started with camera scanning. While this guide will cover mostly commercial products that get you set up and scanning fast with good results, keep in mind there may be DIY options if you are interested.



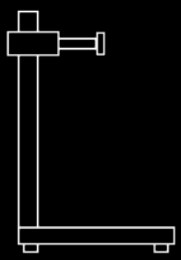
Negative Holder

Keeps the film in place for image capture. The film needs to be completely flat for sharp photos. Examples include the Basic Carrier 35mm, the Film Carrier 120, and our 4x5 scanning kits.



Digital Camera + Macro Lens

Most digital cameras work well. Tethered capture to a computer makes workflow much faster. Your macro lens should be 1:1 (for full frame) to capture 35mm negatives without cropping in.



Copy Stand or Tripod

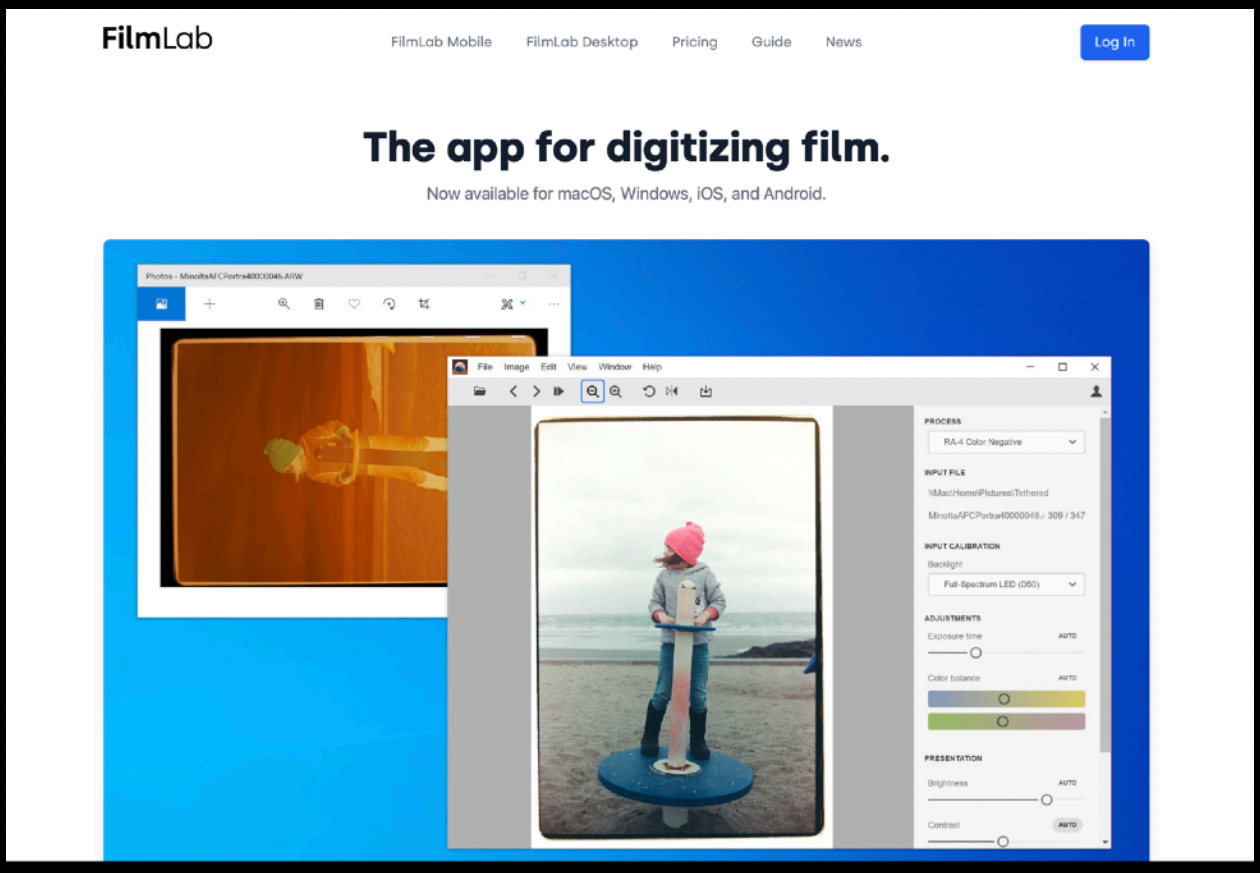
Hold the camera over the light source. Avoiding shake will reduce blur and ensure the final images are sharp. Tripods can also be used if they offer a downward configuration.

Light Source

Illuminate the negative from below. Consistent, high CRI light allows for even capture without vignetting. You can also use the Negative Supply App as a light source with good results.

WHAT SOFTWARE CAN YOU USE TO CONVERT NEGATIVES

Negative film, both black and white or color, needs to be inverted and color corrected once scanned. While this was traditionally a very laborious process that took skilled users hours in Photoshop, it is now a very fast and convenient step thanks to several software packages available. Examples include FilmLab (for desktop or mobile) and Negative Lab Pro (a Lightroom Classic plugin). You will also find other presets and plugins for Lightroom or Photoshop, but they generally take multiple steps to produce good results with each frame. Below you will see a screenshot of FilmLab Desktop, with a before and after of a color negative using their software.



SETTING UP YOUR CAMERA SCANNING SYSTEM

1. Set your equipment out and ensure each item is dust free. You will need a camera, a macro lens, a memory card or cable for tethering, a light source, a copy stand or tripod, and a light source or other device.

2. Start by inspecting your light source to ensure the surface has no marks or blemishes. These will show up in final scans if not removed. Place your light source (or mobile device like a phone or iPad if using the Negative Supply App as a backlight) on your copy stand or under your tripod.

3. Then, place your film holder or carrier on top of the light source. Center it directly over the light so that there are no obstructions. Keep in mind your film should be 1-2cm away from the light source to provide adequate diffusion and eliminate any artifacts.

4. Next, attach your camera to your tripod or copy stand, and adjust the height until the negative comes into focus, and fills the frame. You may need to move your film carrier or negative holder around to ensure it is perfectly centered.

5. Now, with everything set up and aligned, carefully double check that your negatives are in focus. Tack sharp scans are only achieved when the negative is parallel to your camera's sensor. You may need to use spirit levels on the camera and negative holder to help with alignment.

A basic Camera Scanning Setup comprised of the Basic Riser, The Film Carrier MK1, and a Basic Light.

TIPS AND TRICKS

Let there be (quality) light!

Look for high quality light sources for scanning, which will accurately illuminate the colors in your original. LED panels with a high CRI are recommended. Having a higher CRI prevents there from being gaps in the color spectrum that reaches your cameras RGB sensor.

Hold Steady

You want your capture camera held rigidly in place during scanning. We recommend a copy stand. These were made to copy documents, pieces of art, photographs etc. They are just about perfect. The Basic and Pro Riser lineups provide different heights and a sturdy base for shake free scanning.

KISS

Keep it simple, stupid! That rather rude saying is true in my experience. Any APS-C or Full Frame camera made in the last 10 years is likely well suited for scanning. We recommend native macro lenses which will work well, and should be available used on the cheap. Newer cameras do have some advantages but you do run into the law of diminishing returns at a certain point.

TIPS AND TRICKS (CONTINUED)

A to the F

Some people autofocus every single frame that is scanned, however others find this isn't necessary. We typically scan at between f/8 and f/11 as this balances having a high enough shutter speed to prevent shake (over 1/60th) with enough light to use the lowest ISO your camera offers. It also gives more depth of field, and sharper results as this is generally where most Macro lens work best. In theory the film or camera should not move so a manual focus lens should be fine.

Film Scratch Fever

Avoid scratches by having a takeoff and landing area for your film roll. If your copy stand is on a small table you can fix bags or containers on each side. This way the film starts and ends in a safe place while being run through the scanner.

Light Panel

The light source is one of the most important things when creating a camera scanning setup. Consistent light creates evenly lit images, and full spectrum light allows for great color correction. Chances are, if your light source isn't high CRI or has dips in the spectrum, your colors will be very hard to correct. There are many light panel options out there, but the very best offer consistent, full spectrum light with a brightness high enough to capture images at moderate shutter speeds. Consider the Negative Supply line of 99 CRI panels the gold standard for color for those that need the absolute best, but 95 works great as well at a lower price point.

TIPS AND TRICKS (CONTINUED)

Camera Body

Just about any semi-modern interchangeable camera will work great for camera scanning. There are many mirrorless or DSLR options to choose from, with the most convenient offering tethered live view capture to your computer. The Canon T2i is probably the cheapest option out there with tethering and large lens selection, and new cameras like the Sony A7 series are now very affordable with great IQ. High end setups may even use the new full frame Panasonic mirrorless cameras with pixel stitching.

Macro Lens

For camera scanning, the one real requirement is that your lens focuses close enough to capture the entire frame, without having to digitally crop. For full frame cameras and capturing 35mm film, the term 1:1 designates a lens that will reproduce the 35mm frame exactly onto the full frame digital sensor. With crop bodies, 1:1 focus even closer. There are also options to use extension tubes for older macro lenses. We have had excellent results with an inexpensive Nikon 55mm macro from the film days, using a simple extension tube to get 1:1 on our full frame bodies. Higher end, yet affordable options include the excellent Sigma 70mm ART Macro. The Outside of reproduction factor (1:1), also look out for lenses that are sharp, have good color reproduction, limit internal reflections (modern coatings), and have very little vignetting. Finally, it's generally best to use your lens stopped down 2-3 from wide open, as this gives a good combination between depth of field and brightness.

TIPS AND TRICKS (CONTINUED)

Camera Stand

There are many ways to hold your camera, but the two most common are tripods in the downward position, and copy stands like the Pro Riser and Basic Riser from Negative Supply. These compact camera stands work best with mirrorless and midsized DSLR cameras and the Pro Riser features lead-screw height adjustment for quickly and easily raising and lowering. Because of this adjustment option, it is impossible for your camera to “fall” or “descend uncontrollably” into your workpiece.

Negative Lab Pro

A fantastic Lightroom Classic plugin, NLP quickly converts negatives inside your existing LR workflow with excellent color reproduction and speed. With a huge user base and large continued development, this application is used by many working professionals and amateurs alike.

FilmLab Desktop

Launched on the same day as our Film Carrier 120, this software is currently in beta. Features include image conversion without the use of other software, and Mac/PC compatibility. With color science based on darkroom printing, the interface will feel easy to use and streamlined.

ABOUT NEGATIVE SUPPLY

Co-founded by Saxon McClamma and AJ Holmes, Negative Supply is a company that works to respond to the needs of film photographers around the world while actively evolving with a rapidly changing industry. While our primary focus is currently on product engineering and design within the film scanning world, our vision doesn't stop there. We aim to become a resource for film photographers of all skill levels and career points to come and learn, share, and support the industry together.

Negative Supply exists to create tools for film photographers around the world that want to spend more time photographing, and less time scanning. Our first product, the Film Carrier MK1, allows you to digitize negatives using your digital camera and a macro lens in as little as 5 minutes (or less) with tools you may already have. Our Film Carrier 120 allows you to scan full length or cut rolls of 120 film in as little as 2 minutes (or less).

NS Negative Supply

WHAT WE BELIEVE IN

Assembly in House

Every product we sell is hand assembled in our Camarillo, CA Headquarters giving us control over quality and craft.

Designing for the Future

We listen to our peers and create tools for the film community based on the needs of the industry.

Lifelong Products

Our products are made for working professionals and hobbyist alike, and built to last a lifetime just like the analogue cameras we love.

LEARN MORE AND CONTACT US

Based in Ventura County, California, we are proud to offer direct to consumer shipping and fulfillment. We also provide all warranty and support help using our in house team. Should you need anything, feel free to reach out to us using the information below.

As a reminder, we offer free guided shopping with a member of our team. During this 20-30 minute phone call, we will talk with you about your needs and make recommendations about which pieces of equipment would suite you best. You will find a link below for this service, called Concierge.

Shop for Products

http://negativesupply.co/shop
https://www.negative.supply/concierge

Contact Us

https://negativesupply.co/connect
contact@negativesupply.co

Please note our regular office hours and allow up to 24 business hours for response.

Monday through Thursday: 9:30AM - 5:30PM PST