[pro]master®

[Digitizing Kit]

for 35mm and 120 film

Congratulations on your purchase of the ProMaster Digitizing Kit for 35mm and 120 Film! You are about to embark on a fun and rewarding journey that will enrich your enjoyment of film photography.

To use this kit you will need the following items:

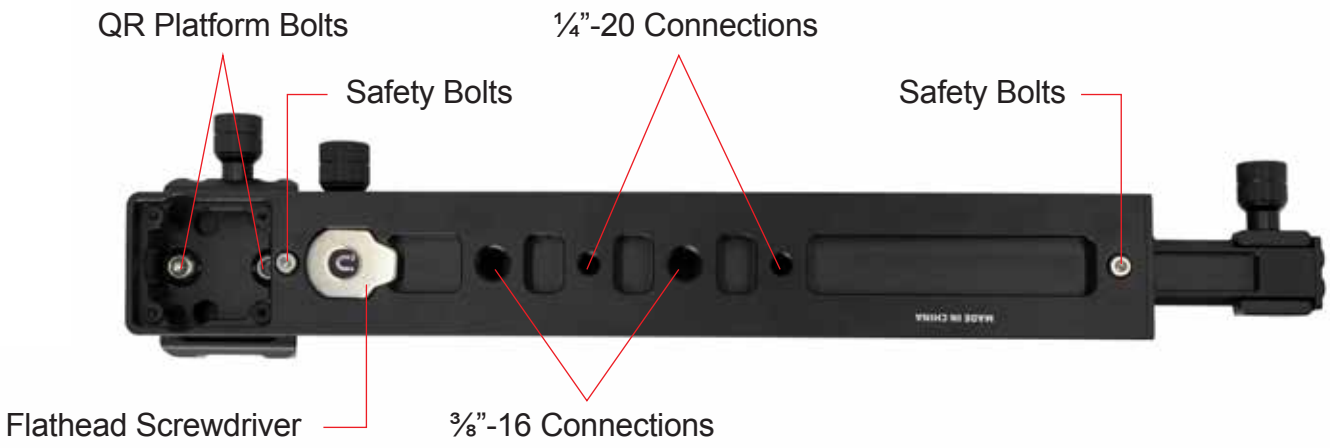
1) Digital interchangeable lens camera
2) Macro lens*
3) Tripod, light stand, or other support with either a ¼”-20, 3/8”-16, or Arca-compatible connection.

**Note: If you do not have access to a macro lens, it is possible to get usable results using extension tubes*

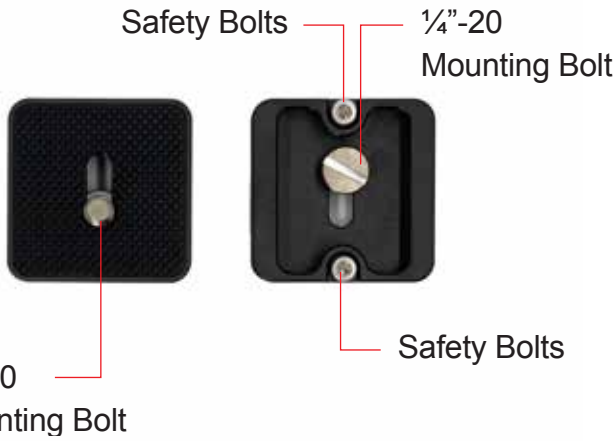
Please read these instructions thoroughly to ensure proper operation of your new kit. With proper use and care, it will provide many years of service. Be sure to refer to the main parts diagram as well as each of the figures throughout the pages as you read. When a specific part is referred to in red, you will find it shown on the main parts diagram or in the referenced figure.

Before getting started, please note that while this manual will show you how to use the kit, it is not meant to be a comprehensive guide to film scanning and processing. There are many viable approaches to processing negatives with the software of your choice once a scan has been captured, and a wealth of resources are available online. If you are new to the process and don’t know where to begin, we recommend perusing the guides at negativelabpro.com or, better yet, visiting your local camera store for some in-person advice.

SLIDING RAIL UNIT

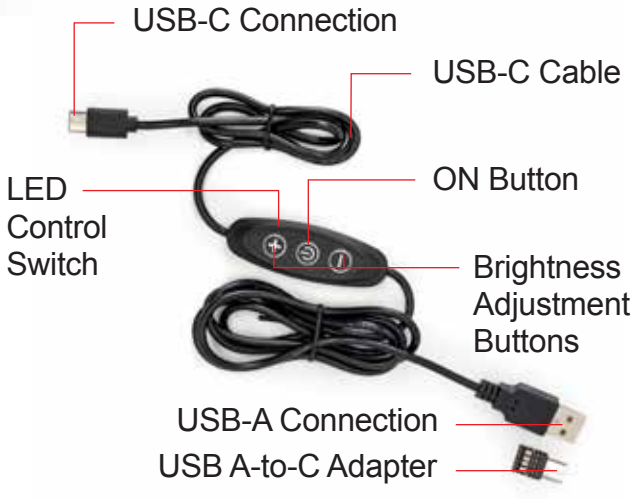

QR Platform Bolts
¼”-20 Connections
Safety Bolts
Safety Bolts
Flathead Screwdriver
⅜”-16 Connections


35mm Film Holder
120 Film Holder


Safety Bolts
¼”-20
Mounting Bolt
¼”-20
Mounting Bolt
Safety Bolts


2.5mm Hex Key
4mm Hex Key

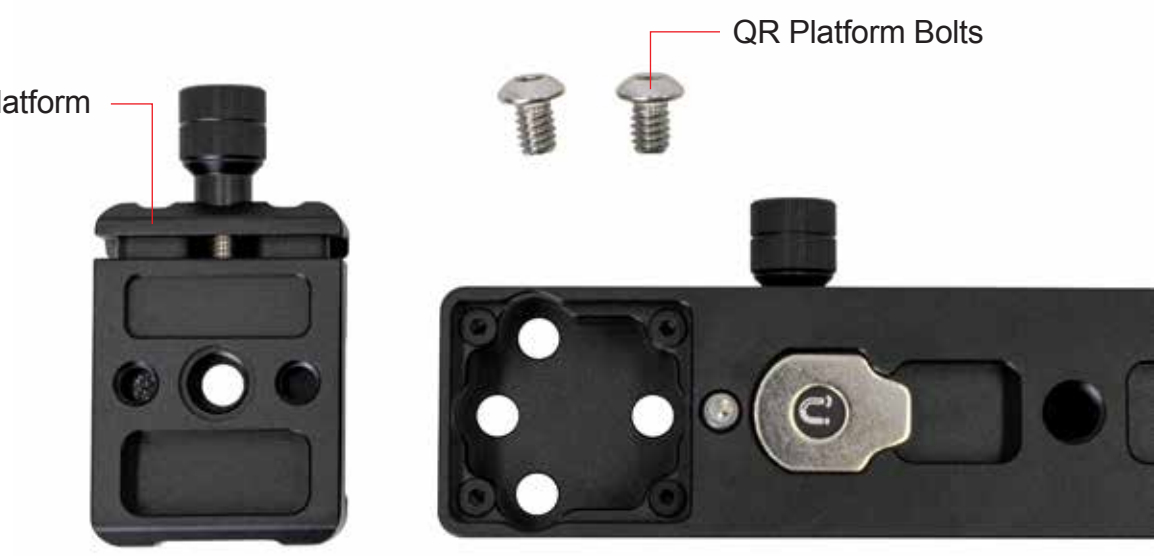

Film Holder Brackets
LED
Backlight
USB-C
Port
¼”-20 Port
LED Backlight
Locking Knob


USB-C Connection
USB-C Cable
ON Button
LED
Control
Switch
Brightness
Adjustment
Buttons
USB-A Connection
USB A-to-C Adapter

To set up this kit for use, connect the QR receiver to the sliding rail unit, mount the sliding rail unit to a support, connect your camera and macro lens, and finally connect the LED backlight and a loaded film holder. Let's go over each of these steps in detail.

CONNECTING THE QR RECEIVER TO THE SLIDING RAIL UNIT

This kit ships without the QR platform connected to the sliding rail unit. To attach it, place the sliding rail unit upside down on the edge of a desk or table so that the vertical mount hangs over the edge. Now, place the QR platform next to it, with the QR platform knob facing the same direction as the other knobs on the sliding rail unit. Lift the sliding rail unit and slide the QR platform under it so that the ports on the QR platform align with the corresponding holes in the sliding rail unit. Secure the QR platform to the sliding rail unit by inserting the two QR receiver bolts and fastening them clockwise with the included 4mm hex key.



Align the holes on the sliding rail unit with the ports on the QR platform

Fasten with the included bolts

Note: you only need to do this once (unless you'd like to change the direction of the QR platform as discussed later in this manual). When the QR platform is secured in place, you will not need to repeat this procedure each time you set up the kit for use.

MOUNTING THE SLIDING RAIL UNIT

The sliding rail unit can be thought of as this kit's hub. There are several ways to mount the unit:

1) Mounting to a tripod using an Arca-compatible connection.

This is the quickest and easiest method and is recommended if you are using a compatible tripod head. The entire bottom rail of the sliding rail unit is an Arca-compatible quick release plate. First, level your tripod and head. Then, loosen the quick-release receiver on your tripod and remove the QR plate if one is present. Now place the sliding rail unit into your tripod head's Arca-compatible receiver and tighten the receiver to hold the sliding rail unit in place. When mounting the sliding rail unit to the head, slide it back and forth within the QR platform to find the best balance point before tightening. This balance point may change once you have mounted your camera and film and positioned the sliding rails for optimal coverage and focus. A primary advantage of using the Arca-compatible connection is the ease of rebalancing by simply sliding the sliding rail unit within the QR platform and retightening once proper balance has been achieved.

2) Mounting to a tripod or light stand using a standard ¼"-20 post.

Locate one of the two available ¼"-20 connections on the bottom of the sliding rail unit. Either one of these can be used to thread the sliding rail unit onto a standard ¼"-20 threaded post on a tripod or light stand. Ensure that your tripod or light stand is balanced and secured before mounting the unit. If, after mounting the unit and attaching your camera and film, you find that the setup is imbalanced, remove each item from the sliding rail unit and remount the unit using the other ¼"-20 connection and see if the unit is now properly balanced. If it is not, consider the use of an Arca-compatible head or receiver for greater flexibility in balancing the unit.

3) Mounting to a tripod or light stand using a standard ⅜"-16 post.

If your tripod or light stand has a ⅜"-16 threaded post, follow the same procedure detailed in item 2 above, but instead use one of the two available ⅜"-16 connections found on the bottom of the sliding rail unit.

Whatever support you use, be sure that it is set up near a power source for the LED backlight.

Note: While not ideal, it is possible to use the sliding rail unit on a tabletop if a tripod, light stand, or other support is unavailable. To do this, use the included 2.5mm hex key to remove the safety bolts found on the bottom of the sliding rail unit. The sliding rail unit can now lie flat on a level surface. (The safety bolts help prevent the unit from accidentally sliding out of a quick release receiver when mounted using its Arca-compatible connection; this is an important safety feature, so be sure to replace them after using the device on a tabletop.)

ATTACHING YOUR CAMERA

Loosen the QR knob on the sliding rail unit and remove the QR plate. The plate's ¼"-20 mounting bolt threads into the corresponding port on the bottom of your camera. When mounting to any camera, slide the ¼"-20 mounting bolt within the slot in the QR plate to achieve the best positioning. The plate should be mounted parallel to the direction of your lens. Use the flathead screwdriver found in the bottom of the sliding rail unit to tighten the mounting bolt.

Now place the QR plate (with your camera attached) onto the QR platform and tighten the QR knob to secure it in place.

On the bottom side of the QR plate you will notice two protruding safety bolts. These prevent the QR plate and your camera from sliding off the QR platform if the QR knob is loosened accidentally. The safety bolts can be removed if you choose using the 2.5mm hex key included with this kit. Removing the bolts will allow the QR plate to slide into the top of the sliding rail unit more easily but will eliminate the safety feature. We do not recommend removing the safety bolts from the QR plate.

Changing the direction of the QR platform

In its default setup, your camera mounts to the sliding rail unit in a front-to-back direction. This can be changed to a side-to-side direction, which is particularly useful for mounting a camera with an L-bracket attached. With the sliding rail unit upside down, notice the two QR platform bolts – these hold the QR platform to the main unit. Remove these bolts using the 4mm hex key, freeing the QR platform. You can reposition the platform in any one of 3 positions at 90° intervals. (Do not position the platform with the QR knob parallel to the sliding rails, as this will make the knob difficult to use.) Replace and tighten the bolts to refasten the QR platform to the sliding rail unit.

ATTACHING THE LED BACKLIGHT

The LED backlight attaches to the sliding rail unit's vertical mount. With the film holder brackets on the LED backlight parallel to the floor, place the back of the LED backlight against the inside of the vertical mount, facing your camera. Position it so that its ¼"-20 port is in the center of the vertical mount. Screw the LED backlight locking knob clockwise into the ¼"-20 port from the outside of the vertical mount, securing it in place. We will fine tune its position later.

Finally, attach the USB-C cable to the LED backlight by connecting the cable's USB-C connection to the USB-C port on the LED. Plug the other end of the cable into a power source such as a wall adapter. A 5V 2A USB-A or USB-C power source is required. You can use the cable as-is with its USB-A connection or attach the included USB A-to-C adapter to connect the cable to a USB-C port.

MOUNTING YOUR FILM

This kit comes with two film holders – one for 35mm, and one for 120 (medium format) film. These ship with protective film applied – remove it before using. Select the corresponding holder for the film that you are using and place it on a flat surface with its hinge on the left side. The two sides of the film holder are held closed with magnets. Notice the small opening on the bottom, right edge; placing a fingertip here can make it easier to open. With the film holder open place your film into the holder, ensuring that it is straight and aligned before closing the film holder. Place the film with the emulsion side down, so that frame numbers and any lettering can be read normally and are not reversed. With the film now loaded, slide the film holder into the film holder brackets on the LED backlight.

Here are some tips for getting the best results:

1) Use a blower and microfiber cleaning cloth on the film holder's clear surface to ensure that it is clean and free of dust before mounting your film.

2) After the film holder has been mounted to the LED backlight, use a blower to remove any dust before photographing.

3) Ensure that your film is flat. Curled film can result in parts of the image being out of focus, and in certain circumstances can produce Newton rings. One way to help flatten your film is to load it into a developing reel with the emulsion side facing out; leave it like this for a few days to neutralize the film's curl. If you do not have a developing reel, you can place your sleeved film under a heavy stack of books instead.

4) If a particular frame is producing troublesome Newton rings, try reversing it in the film holder so that the emulsion side faces your camera; the image can then be reversed in post-processing. (Doing this can also help reduce reflections since the emulsion side has more of a matte surface.)

LET'S DIGITIZE!

Now that everything is set up, it's time for the fun part.

Take the film holder and slide it into the film holder brackets on the LED backlight. You can insert it from either side. Be sure that the film holder is oriented with its hinge on the left; this puts the back of the holder closest to the light with its front facing your camera.

Now, take the LED control switch (part of the USB cable) and press the ON button. The LED backlight will illuminate. You can use the plus and minus buttons on the LED control switch to increase or reduce the light's brightness; there are 11 possible settings. In general, you will find that the maximum brightness setting works best for most negatives with most lenses.

Now, with your camera turned on, it's time to compose your chosen frame in the camera's viewfinder or screen. There are two rails on the main sliding rail unit. The lower sliding rail moves your mounted film away from your camera. To adjust its length, loosen the lower sliding rail knob by turning it counterclockwise. While still holding the loosened knob, slide it forward to achieve your desired length. Tighten the knob to lock the rail in place. The upper sliding rail moves your mounted film toward your camera. To adjust its length, loosen the upper sliding rail knob by turning it counterclockwise, slide backward while holding the loosened knob, and tighten the knob to lock the rail in place. The maximum length can be achieved with the upper sliding rail in its default position and the lower sliding rail fully extended. The minimum length can be achieved with the lower sliding rail in its default position and the upper sliding rail fully retracted.

Adjust the sliding rails so that a single frame on your film strip fills the camera's screen or viewfinder. Depending on the length of your macro lens, you may only need to adjust one rail. As your camera focuses, you will need to recompose. Alternate focusing and sliding until your chosen frame fills the maximum area.

You may find that the film holder needs to be adjusted vertically for proper alignment with your camera and lens. To do this, loosen the LED backlight locking knob, move the LED backlight up or down as needed within the vertical mount, and then tighten the knob. To fine tune horizontal alignment, simply slide the film holder to the right or left within the film holder brackets.

Note that the sliding rails have etched scales; once you have achieved proper setup for a particular camera and lens combination, record their positions and use these as a starting point for your next digitizing session. This will enable you to spend less time on the focusing and framing process.

Once the framing and focusing process has been completed and you have achieved a proper exposure using your camera's settings, the process of image capture is very rapid – simply click the shutter button on your camera, slide the film holder to the next frame, adjust your exposure if needed, and repeat! You will be surprised how quickly you can digitize an entire roll of film.

Here are some tips for the image capture process:

1) Use the RAW file format – JPG or TIFF files are less flexible and can produce color casts that are difficult or impossible to correct in post-processing.
2) Disable your camera's IBIS.
3) Remove any filters that may be attached to your lens.
4) Each lens' aperture setting has a sweet spot which produces the sharpest image with the least amount of diffraction and vignetting. Typically this is around f/8, and we recommend this as a starting point.
5) Set your camera to Aperture priority mode, base ISO, and use its meter's recommended shutter speed.
6) Using a wireless or cabled shutter release or your camera's countdown timer can help minimize vibrations during image capture.
7) Depending on the image being photographed, you may occasionally find that the camera is unable to focus using autofocus. This can occur if the image is extremely dark, high contrast, or low contrast. In these cases, switch to manual focus. It can be helpful to use the magnification and focus peaking features on your camera to focus on the film's grain before zooming back out. (Doing this is also a great way to verify accurate autofocus.)
8) This kit produces excellent results without the need to reduce ambient light. Testing was conducted in a brightly lit office as well as a darkened room, with negligible differences. Your individual results may vary based on the specifics of your location and camera/lens combination. To reduce reflections caused by stray light, turn off any room lights during the image capture process. A lens hood can also be useful in this regard. You can even mask out stray light using black construction paper. This is not necessary for obtaining good scans, but if you are driven to experiment we can certainly relate and encourage it!
9) Want to achieve a cool vintage look with your 35mm film? Load it into the 120 film holder instead and you can then frame up your image to include the sprocket holes!

PRECAUTIONS

1) Watch your fingers as you close the film holders to avoid being pinched.
2) Use exclusively with the provided USB-C cable.
3) Make sure that the kit is mounted securely and that your tripod, light stand, or other support is stable and level. Failure to do so can result in your camera and lens falling over (along with the rest of the kit). If you are using a light stand, the use of a weight bag is encouraged.
4) This kit is designed for indoor use only and its components are not water resistant. Keep them away from rain, snow, high humidity, moisture, and liquids. Do not submerge or allow to get wet.
5) Do not touch the light or cable with wet hands.
6) Avoid contact with solvents, gasoline, grease, oil, paint, and detergents.
7) Do not operate near flammable liquids.
8) Keep out of reach from children at all times.
9) To avoid damage, do not leave your film in front of the LED light for long periods – switch the light off when not in use. Do not leave the light turned ON unattended.
10) Do not dispose of in fire.
11) Do not expose to excessive heat.
12) When the useable life of the light is complete, please recycle it responsibly considering it has a Li-ion battery. Do not dispose of in trash.
13) You're going to be saving a lot of money on lab scans…don't let it go to waste, it's perfect for buying some more film from your local camera store!

One Year Unconditional Warranty

If for any reason, this ProMaster product fails within ONE YEAR of the date of purchase, return this product to your ProMaster dealer and it will be exchanged for you at no charge. ProMaster products are guaranteed for ONE FULL YEAR against defects in workmanship and materials. If, at any time after one year, your ProMaster product fails under normal use, we invite you to return it to ProMaster for evaluation.

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