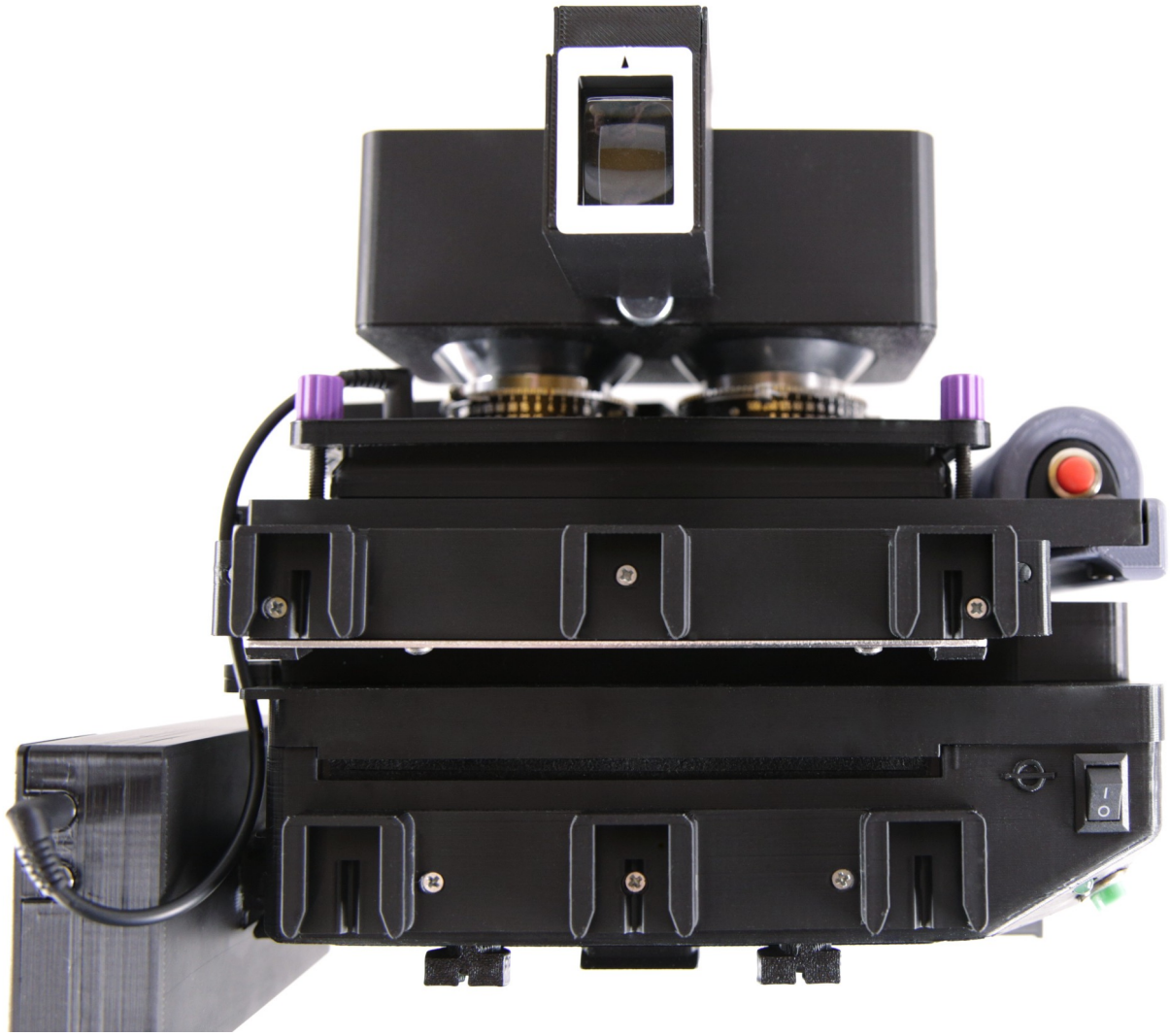
INSTAX 3D USER GUIDE

Introduction

Instax 3D is the first stereoscopic instant film format. It was invented by Mercury Works and released in August 2025. Instax 3D is shot on common Instax Wide film. A single exposure creates two side-by-side images that form a stereo pair when mounted using our multi-fold mount.



Instax 3D is a modular system with a number of different possible configurations. The most versatile one is the Stereo 12 Pancake body with the Mercury Instax Wide Motorized back. Both of these items have been optimized for Instax 3D, yet both can be used for other formats as well. The Stereo 12 Pancake body is compatible with most lenses and all backs in the Mercury Stereo system, and can thus shoot medium format negatives and slides as well as Instax 3D. The Mercury Instax Wide Motorized back, the only Instax Wide back available that centers your film with respect to the camera, is a Graflok 45 standard back that can be used on most large format cameras, including Mercury Universal 4x5 cameras, to shoot standard Instax Wide images.

Instax 3D prints can be given away easily, and can be viewed with very inexpensive stereo card viewers, vintage and modern.

Instax 3D combines the joy of instant photography with the “wow factor” of stereoscopy! It is also the fastest and easiest stereo format to arrive at a viewable final image.

Stereo 12 Pancake Camera Configurations

For the full range of options when shooting Instax 3D, use the Mercury Stereo 12 Pancake camera body. This is like the standard Stereo 12 body, but 20mm thinner, without internal electronics other than a trigger button, which can be connected to the optional Stereo Power Module.

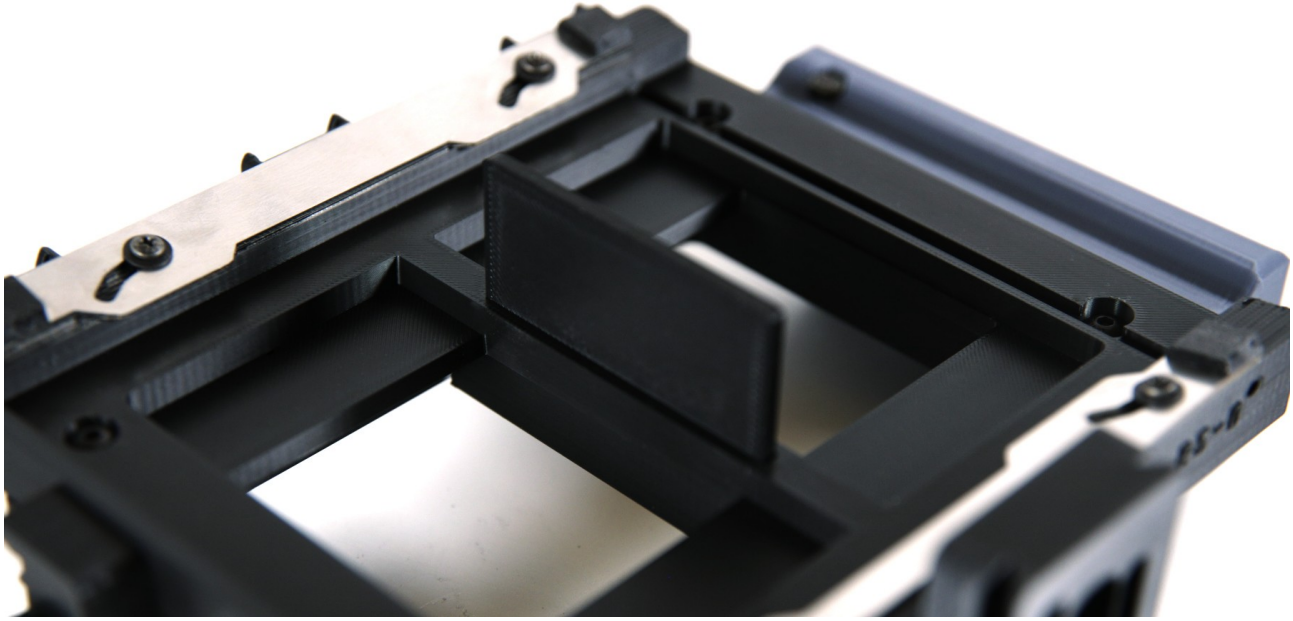
Any Mercury Stereo 12 lensboard can technically be used for Instax 3D, but only certain lenses, with smaller than normal base distances, are recommend. Five lens configurations have been approved for Instax 3D. They are summarized in the table below:

Lens	Base Spacer	Focus Spacer	Bolts	f/22 focal range	Rear Septum	Electronic/ Manual	Darkslide	Brilliant Finder
Pinhole 56mm Base	(none)	(none)	14mm	infinite	#2 (long)	Manual	No*	No; use sportfinder
Angulon 65mm f/6.8	Base 4.8	(none)	18W	2.5ft – 40ft	#2 (long)	Either	No*	Instax 3D mask
Super Angulon 65mm f/8	(none)	#4	20mm (purple)	2.5ft – INF	#2 (long)	Either	No*	Instax 3D mask
Trioptar 103mm	Base 20	#10	45mm (white)	4ft – 40ft	#1 (short)	Manual	Yes	Dedicated mask
Wistar 130mm	Extension 30mm + Base 8	#12	35mm (gray)	4ft – 7ft	#1 (short)	Manual	Yes	Dedicated mask

* The Instax back's darkslide must be removed and the darkslide slot taped with ½" (12mm) black cloth gaffer tape. If you change lenses or use the ground glass back, you will lose (expose) a frame.

Rear Septum Size

Two Instax 3D Septums are provided with your camera body: a short one (#1) and a long one (#2). The short one will allow you to continue to use your Instax Wide back's darkslide, enabling you to remove the back and replace it with the matching Ground Glass back.



#2 septum. The #1 septum is shorter.

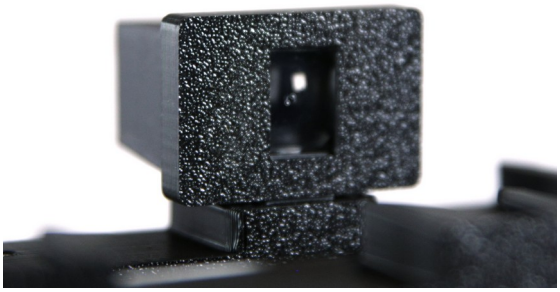
As indicated in the table above (“Darkslide” column), only longer lenses are compatible with the #1 septum. Shorter lenses will exhibit too much overlap between the left and right images, affecting your final print. These lenses require the #2, longer, septum. This septum prevents significant overlap, but prevents you from using the darkslide on your Instax back. Instead, before mounting the Instax back on your camera, you must remove the darkslide and tape over the darkslide slot with a single strip of black cloth gaffer’s tape, generally ½ inch wide. This is readily available online, including from Amazon. In this configuration, you will lose at least one exposed frame every time you remove the back from the camera (unless in a darkroom or changing bag).

Viewing Options

Whenever you can place the camera on a tripod and use the **ground glass back**, we recommend doing so. The ground glass back matches the spacing and frame size of the Instax 3D format and gives you the precise framing information. However, it can only be used when the camera is locked down on a tripod. Additionally, the ground glass back requires the use of the darkslide. When you replace your Instax Wide back with the ground glass back, if your lens configuration isn’t compatible with darkslide use (see the configuration table above), you’ll expose at least one frame of film. However, the ground glass back can still be useful in these situations, to setup a shot before you’ve started a new pack of film, or when it is worth burning one sheet of film, etc.

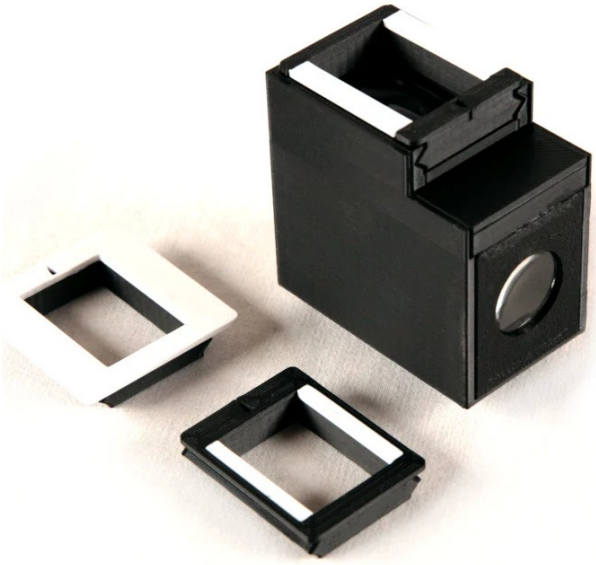
There are two versions of the Instax 3D ground glass mask. The first, pictured above, is dedicated to the Instax 3D format. The second is a transparency insert with a full Instax Wide frame over that. This second type gives you frame lines for Instax 3D, while also providing a full Instax Wide frame for using the Mercury Instax Wide back on other, non-stereo cameras.

All Instax 3D Pro Camera Kits also include our standard Instax 3D Viewfinder. Note that it does not display the full vertical range of the image, and is subject to parallax error. However, with a bit of practice, you will quickly learn to discern vertical framing based on subject distance. One huge advantage of Instax as a format is that you get to see the results right away, and can generally re-take a photo if necessary! Our Reduced Height mounts (see below) also allow you some leeway in "re-framing" a shot as you mount it.



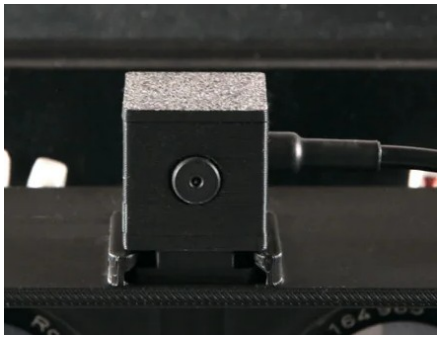
This viewfinder is optimized for 65mm lenses, but can also be used to frame the center of a Pinhole shot, and as a rough guide for longer lenses.

The Mercury Brilliant Finder is a very bright, fully optical device that mounts on the front of your camera and projects an image upward, like a waist-level-finder. It accepts various masks for different formats; one such mask is for Instax 3D. It displays your entire vertical image, and *most* of your horizontal image. Small white areas on the finder's mask indicate how much image is not visible, enabling easy framing. In practice, this finder is more accurate than the standard 65mm Viewfinder. It won't work well for Pinhole shots, but works well with 65mm, 103mm, and 130mm lenses. Each has its own slide-in mask available.



The Brilliant Finder is designed to mount as close to your lenses as possible, to minimize vertical parallax. For the Super Angulon 65mm lenses, it mounts on the optional lens good for that lensboard. On the Wistar 130mm lensboard, it mounts on a dedicated cold shoe. For Angulon 65mm f/6.8 lenses and Trioptar 103mm lenses, it must mount on the center cold shoe of the camera, and will exhibit some parallax error.

The Mercury Videofinder also mounts to the front of your camera, and plugs into any recent Android phone. Using the USB Cam Pro app, your phone will display a live video image. Use our printable Instax 3D mask for the Videofinder to either overlay your screen, or make marks on your phone case, etc. to indicate your exact framing. This device is probably overkill for Instax 3D use, but will give you a more accurate image for Pinhole shots. It is also very accurate for 65mm shots.



65mm Lens Configurations

The most versatile lenses you can use for Instax 3D are 65mm lenses in Compur 00 shutters. The same lensboard can be used for eitther the Anuglon 65mm f/6.8 lenses or the Super Angulon 65mm f/8 lenses. It has a stereo base of 57mm, narrower than usual to accommodate the format. However, it can also be used for medium format slides and negatives.

Both of these lens models will work equally well with Instax 3D. The Super Angulon lenses, however, are capable of mounting a Mercury Stereo Lens Hood, which includes a special mount for the Mercury Bright Finder. This is highly recommended for use with the Super Angulon 65mm lenses. The Angulon lenses cannot use a Stereo Lens Hood, but have the advantage of being extremely compact and light weight. These lenses are nearly perfect for Instax 3D!

A 65mm lens configuration consists of the following, from front to back:

- Schneider Super Angulon 65mm f/8 lenses (pair) or Schneider Angulon 65mm f/6.8 lenses (pair)
- Mercury Electronic Compur 00 Base 57 Lensboard *or* Mercury Manual Compur 00 Base 57 Lensboard
- Front Spacer #4
- (no base spacer)
- Mercury Stereo 12 Pancake Camera, with inserted Septum #2 (long)
- Mercury Instax Wide Motorized Back

- Optional: Mercury Stereo Power Module, mounted on Instax Wide back, if utilizing an Electronic lensboard (recommended)

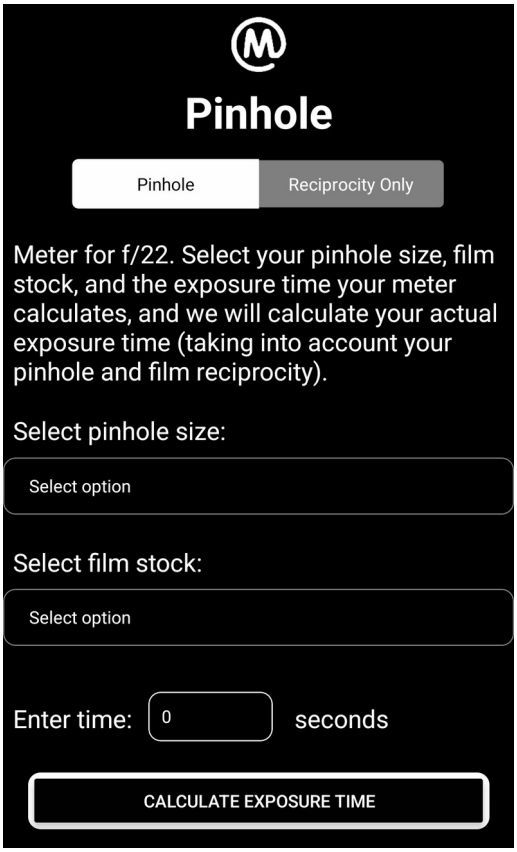
For framing, you can use any of the following:

- Mercury Instax 3D 65mm Viewfinder
- Mercury Brilliant Finder with Instax 3D mask
- Mercury Videofinder
- Instax 3D Ground Glass Back

With a single front spacer configuration that never needs to be changed, you can photograph subjects from less than 4 ft away to infinity. The sweet spot for stereo depth, however, is 5-10 ft. Due to the shortened base (57mm), objects farther away will register less depth than usual. With this configuration, subjects closer than approximately 5.5ft will be in front of the stereo window: i.e. they will "pop out" above the frame when viewed. The Instax 3D format tends to have the most impact on casual viewers when a bit of "pop out" is included, but this is easy to control as you wish.

Pinhole Board (56mm Base) Configuration

Mercury Works makes a special pinhole board specifically for Instax 3D. It has a reduced stereo base of 56mm and contains internal filtration to partially correct Instax color shift for longer exposures. The standard Mercury Stereo Pinhole board will not work well with Instax 3D.



Use the Mercury Stereo Toolkit app's (Android or iOS) Pinhole tool to properly expose for Instax 3D. As the app instructs, meter for f/22, at Instax film's standard ISO of 800, and enter the shutter speed your light meter gives you into the Mercury app. Select 0.3mm as your pinhole size. The app will let you know how many seconds to expose for.

Alternately, you can print out or otherwise create a chart of the following values as exposure starting points:

Metered shutter speed (at ISO 800 and f/22)	**Instax 3D pinhole exposure**
1	57 minutes
2	20 minutes
4	9 minutes
8	4 minutes
10	3 minutes
15	1:30 (min:sec)
30	25 seconds
50	10 seconds
60	6.5 seconds
125	2.5 seconds
250	1 second

For framing, you can either use the standard Mercury Instax 3D Viewfinder to frame the center of your image, with the knowledge that all sides will be wider than the viewfinder shows, or you can use the Mercury Pinhole Sportfinder. This simple device attaches to the camera's top cold shoe. When you position your eye to roughly match the rear reticule and the front frame of the sportfinder, you will have the rough framing of your image.

Wistar 130mm Twin Lens Configuration

This special vintage lens unit was designed to shoot two identical ID card photos, but is nonetheless a beautifully made stereo lens unit with built in double shutter. These units can be readily obtained online (especially on Ebay) and make gorgeous portrait and still life lenses for Instax 3D (and medium format slides as well)!

No electronic option is available for this configuration, and note that only 1/50 and T shutter settings are available. This lens module has a base distance of approximately 54mm, which enables you to focus close with these long lenses, but generates very little depth at longer distances. These limitations severely restrict the subjects that you can capture with this lens, but despite all of these limitations, this lens setup can achieve superb results that no other stereo lens setup can replicate, and is particularly striking when used for portraits and closeup still lives. This very unique lens really shines in Instax 3D format. However, we'd recommend it chiefly as an ancillary lens for Instax 3D, with the primary lens being the Super Angulon 65mm.

This configuration consists of the following, from front to back:

- Wistar 130mm Twin Lens module (often sold separately, but originally found on the Wista ID camera, designed to take a simultaneous set of ID photos on instant film).
- Mercury Wistar 130mm Lensboard
- Front Spacer #12 (for closeup "headshots") or #7 for head and torso portraits
- Base Spacer 8
- Front Extension Spacer 30mm
- Mercury Stereo 12 Pancake Camera, with inserted Instax Divider
- Mercury Instax Wide Motorized Back

For framing, the Instax 3D Ground Glass Back can and should be used whenever possible. However, the Mercury Brilliant Finder has a special mask for this lens, and though the image is

small, it is quite accurate and usable for precise framing. The Mercury Wistar lensboard features a special front cold shoe designed specifically to mount the Brilliant Finder.

Trioptar 103mm Configuration

This rather inexpensive configuration for Instax 3D makes a good portrait lens. It utilizes a classic lens from the 1940s: the Trioptar 103mm f/4.5, made by Wollensak as the standard lens for the Graflex Century medium format camera. The lenses are generally quite cheap and readily available online (especially Ebay). However, due to their age, they usually require a good CLA. They are simple enough that you can do this yourself, or send it to a reputable camera repair shop such as Zack's Camera Repair in Florida (no connection to Zach Horton of Mercury Works!).

This configuration is manual only; the Trioptar's Century shutter is a press shutter that self cocks and fires in one stroke, but isn't electronically triggerable. Consequently, you will need a double shutter release, or two standard mechanical shutter releases, and will manually figure both shutters simultaneously.

This configuration works great with ground glass, for very precise framing. A special mask for the Mercury Brilliant Finder is also available. For this configuration, the Brilliant Finder must be mounted on the camera's top cold shoe. The Brilliant Finder mask is calibrated to be accurate at a subject distance of approximately 8 ft. Farther subjects won't render much depth; close subjects will have their framing shifted down slightly with regard to the finder.

Alternate Focus Spacers

We have found the focal spacers listed in the configuration charts already given to yield the best results for Instax 3D, taking into account both stereo depth and depth of field. However, any Mercury focus spacer can be used with any of these lens configurations to shift focus to closer or farther subjects if you wish to deviate from the optimum or just to experiment.

For example, using a #7 Focus Spacer with the Wistar 130mm lens unit instead of the recommended #12 shifts your focus farther away from camera (approximately 5ft to 10ft will be critically sharp at f/22), but photos taken at those distances exhibit much less pleasing depth.

Taking The Shot

1. Compose your shot using ground glass or Instax 3D viewfinder.

2. Meter (800 ISO) and set your aperture and shutter speed accordingly. Note that the Wistar 130mm lens has only a single shutter speed around 1/50. Thus, all exposure adjustments must be made via f/stop.

3. Expose your shot.

4. Make sure Instax Wide Motorized back is switched on.

5. Press and hold the green button the right hand side-back of the back until your photo appears at the top of the back. Once the photo stops moving, immediately let up the green button. Note that a green LED will light while you have the button pressed.

6. Your image will begin to develop and appear in less than a minute, allowing you to evaluate your photograph. It will take about 10 minutes for the blacks to fully develop, however.

Mounting

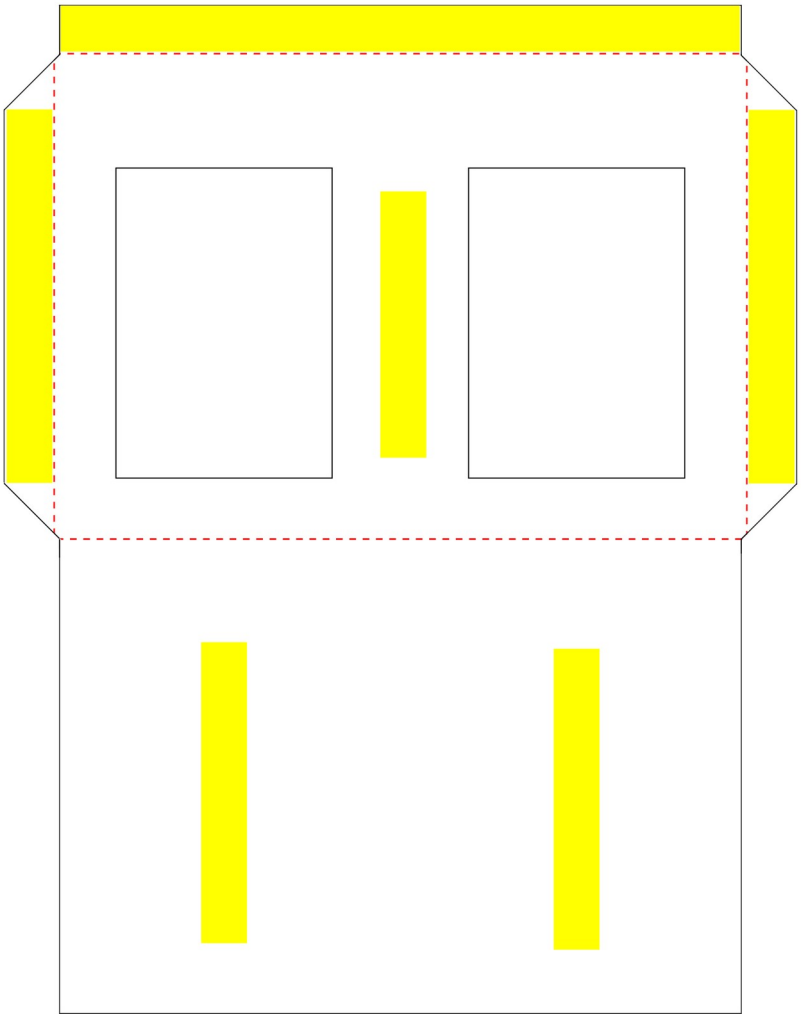
Mercury Works makes two types of Instax 3D mounts: a standard frame and a reduced height frame. Both mounts consist of a single sheet of heavyweight paper that has been cut to the correct shape, and includes several embossed fold lines (red dotted lines in illustration):

Mounting an Instax 3D photo takes under one minute and involves no special tools or glue. Once you've mounted your image, it 100% finished and ready to view, give away, or keep for yourself!

The only items you need, other than the Mercury mount, is a pair of scissors and a roll of Scotch Double-Sided tape. ¾ in wide is preferred, but ½ in wide works great as well.

1. Lay your mount on a flat surface with the raised ridges (on the fold lines) facing up. (The “trench” side should be facing down, against the surface.)

2. Dispense 6 strips of Scotch double-sided tape and stick them down on your mount in the positions indicated in yellow. The strips on the bottom half need only be approximate in position. The strips on the flaps (top, left, and right) must be precise, and you will in many cases need to trim the tape with your scissors right at the edge of the mount (do not let any tape overhang the mount).



3. Cut your developed Instax image directly in half. It is important to be fairly accurate. To determine the mid-point of the image, just look for the overlapping area between your two chips (left image and right image). Cut right in the middle of the overlap line. If, in very rare cases, you cannot tell where the center is, you can measure to find it.

4. Transpose your two chips by moving the right-side image to the left and the left-side image to the right. Align each with the left or right edge (as appropriate) and the bottom fold line, as seen below. Press them down against the tape to adhere them to the mount.

5. Fold the top half of the mount down over the bottom half. It will adhere to the central strip of tape.

6. Fold the left and right sides down and around the back of the mount.

7. Fold the bottom side down and around the back of the mount. You’re now done!

Reduced Height Mounts

The reduced height mount should be used whenever (a) your subject is less vertical and you want to crop out dead space or (b) you need to recompose vertically, perhaps because you were tricked by parallax into leaving too much space at the bottom of the frame! This mount will crop 2mm from the top, and 2mm from the bottom of the image if you mount it as normal.

This gives you the option of shifting your images up or down to recompose them. To shift upward, trim up to 2mm from the top of the frame, then align the new top of your images in the standard place: just under the top fold line. To shift your images down, trim up to 2mm from the bottom of

your frame and align your new bottom with the bottom fold line. Note that in both cases, you will be trimming from the border above or below your actual photograph, not from the photo itself.

Once you've adhered your two chips, proceed normally.

Viewing

Instax 3D photos are designed to be viewed with London Stereoscopic Company's Owl or Lite Owl viewers. Generally, the Lite Owl is the best if you are "on the go," as it takes up almost no space, is easy to use, and costs very little.

To use the Lite Owl, hold it to the bridge of your nose, then hold the Instax 3D photo in front of you. Bring it slowly toward your eyes until it pops into focus and 3D. Most people "off the street" can do this easily with minimal instruction, and your subjects will be amazed when they come to life and emerge from the photo's surface! If you give them the photo, you can let them know about the Lite Owl, which they can easily purchase for under $10.

However, some people have trouble aligning the photo, the viewer, and their eyes, and you may need to straighten out one or more of these elements for them.

A generally easier and more comfortable viewer is the standard Owl, which is less portable. To use the standard Owl viewer, you need the Mercury Instax 3D Owl Adapter. This simple device slips into the Owl in lieu of a vintage stereo card, and then holds Instax 3D photos, one at a time.

Final Words

Instax 3D is the easiest stereoscopic format to mount/process into a final stereo image, as well as the easiest to view. If you want to bring the surprise of 3D photography to people around you, this is also surely the most fun way to do it!