

Taking Quick Macro Photos of Textiles with Point and Shoot Cameras

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There is a little known feature to many small point and shoot cameras that allow them to digitally enhance the macro photographs it can take. This feature is called Digital Macro. Because so few people need this function, the camera manufacturers bury it in the manual and feature buttons and very rarely does a camera rep even know that the feature exists. This tutorial was written to help users find the feature and use it appropriately.

Why use Digital Macro at all? This is a question I get all the time. I often argue with camera dealers when choosing my next camera. They don't get it and keep wanting to divert me to a different product. The answer is that there are times where you can use a quick close-up view and don't need the resolution provided by a fancy SLR and big lens or hassle of a stereo-microscope. While those set-ups will get you a higher quality photo (i.e. higher resolution meaning you can print it poster size without getting fuzzy), most of my needs don't require this. Here are some of my favorite situations where these photos are a great help:

- Taking close up photos for blogs, emails, newsletters or websites. The resolution of the screen is usually around 76 dpi and so you don't need the extra resolution of a fancy camera set-up. The digital macro is good enough.
- Taking close up photos for teaching or lecturing. Using the photos for .pdf documents or powerpoint presentation don't require the extra horsepower also.
- Doing embroidery research in museums. I always want to see details of the stitches or materials. I don't need a flash to use digital macro or a tripod to keep the camera stable. Large SLRs with big lenses make curators nervous as they are likely to bump into the object.
- An 'instant' microscope. I use the function as if it was a microscope that I can take anywhere. I love it for this. And it fits in my back pocket. You can't beat that when you are walking around and run into some unexpected textile find.
- Taking in-process stitch photos. The small size and easy to use function allows me to keep the camera by my side as I stitch. I then grab it and snap as I take stitches to highlight points for my projects and teaching.
- Taking pictures in situations where I have only one chance to get that photo. Often a research trip to museum storage is a once in a decade opportunity. I need to know that I got the shot I wanted. I have used lovely SLRs with twice the megapixels as my camera and taken them head-to-head in testing. What I find is that you take the picture, thinking that you held it steady enough and then have to magnify it on your computer screen. You will find that there is wobble at that level. The digital zoom feature on the point and shoot lets you see exactly what the picture will be and focus at that level. So you know if you were shaky and can reshoot the photo. The only way to use the SLR in that setting is to use a tripod and a macro lens. Often you are barred from doing one or both.

Pretty much the only situations I come across where I need a SLR with macro lens and tripod is when I need photos for print magazines and book publishing. Many of the photos I take are restricted from this use anyways and therefore I would need to make separate arrangements to have photos taken.

This primer is meant specifically for the Canon PowerShot SD970 IS camera (12.1 Mega pixels) and shows how to use the Digital Macro feature in detail. Many of the midrange Canon PowerShot cameras work similarly (i.e. using the Function Set button to locate the Digital Macro feature). The PowerShot cameras use an icon in the Function Bar. The feature shows as an icon of a tulip with a uppercase D superimposed on it. I have found this function on other camera brands, sometimes you can find it by zooming until the zoom stops, releasing the zoom and then trying to zoom more. This kicks it into Digital Zoom. I prefer Canon as it consistently has the shortest working distance (focal

distance) as well on digital macro mode. This means that the camera can be held very close to the object (usually around an inch) and still focus. That gives you a lot of range and control since you can use a table to rest your arms on for support.

If you are looking to buy a camera and this particular model is not available or doesn't fit all your needs, there are a few parameters to look for in the specifications to ensure you buy one that can get good digital macro photos. A good rating website to visit and examine camera specifications is www.imaging-resource.com.

The important parameters are:

(1) the amount of DIGITAL ZOOM. (Listed as Digital Zoom values) Cameras currently feature 3x - 5x. The higher the number the better.

(2) the MACRO FOCUS RANGE (Found under 'Lens'). Good macro cameras will be between 1.2 - 0.8 inches as the smallest number. The smaller the number the closer you can get and stay in focus.

Digital Macro Don'ts

Always make sure that your flash is off when working in macro or digital macro mode. Many cameras will automatically turn it off for digital macro mode, but if you are taking pictures of historic works, be double sure before exposing the object to abuse.

Using the Digital Macro

The photos below take you through the step by step directions to get the camera into digital macro mode.

Once in digital macro mode, you can magnify between 1.0x and 4.0x continuously using the wideangle toggle.

The instructions with photos below also show how to focus the camera in this mode. It is done both by holding down the focus button as well as moving the camera a closer or farther distance from the embroidery to find the distance that was listed in the specification that is the optimal focal distance for the camera.

Once you have all this up and running, practice with a piece of your own embroidery is recommended before going to collections to take pictures. You want to be comfortable with the focusing and also with keeping the camera a safe distance from the piece.

Troubleshooting

If you just can't seem to get the Digital Macro photos to work, check these possible issues:

- Make sure that the camera is on Program Mode
- Make sure that you have the tulip icon with D on it showing
- Make sure camera is set to maximum wideangle before using digital macro mode. Make sure that the zoom (wideangle) toggle is pressed all the way to the west (left) so you get the most objects in the field of view.
- Check that you are around 1-2 inches away from the object surface.



Picture 1
Sampler used for model



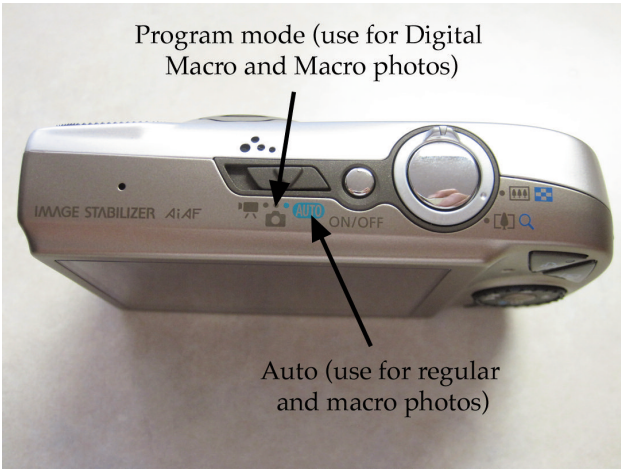
Picture 2
Macro Photo of Sampler using Canon PowerShot SD970 IS



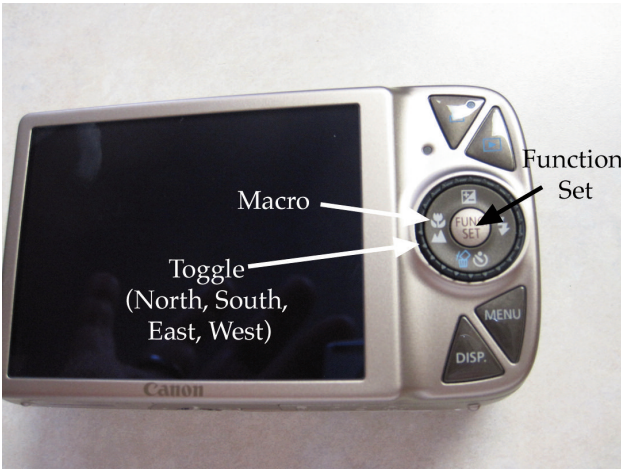
Picture 3
4.0x Digital Macro Photo of Sampler using Canon PowerShot SD970 IS



Picture 4
Canon PowerShot SD970 IS 12.1 Megapixels



Picture 5
Location of important macro photograph buttons



Picture 6
Location of important macro photograph buttons



Picture 7
Macro function in Auto Mode will take close photos (about a 2-4" square area)



Picture 8
Press the selection button at the top to set the camera to Program Mode. You should see a big P on the screen



Picture 9
Press the central Function Set button to see the menu. You are looking for the Program feature



Picture 10
Press the east toggle to move and highlight the program bar with all the various camera functions



Picture 11
Press the north-south toggle to change to the Digital Zoom setting



Picture 12
The Digital Macro is now engaged and the flash is automatically off. You can now take pictures



Picture 13

Focusing at this mode is done by both holding down the 'take a picture' button lightly and by moving the camera closer and farther from the object to find the maximum magnification



Picture 14

This is just a few millimeters closer than the camera can focus at maximum magnification



Picture 15

Perfect focus and maximum magnification for this camera



Picture 16

This is exactly the distance of maximum magnification for this camera - less than an inch from the object.