Deep Sky
Printing
Displaying Your Favorite
Astrophotos at Their Best

By Craig Stark

A good number of years ago, my uncle Brad got me a present. I’d seen the original Hubble Deep Field shot and spent a few awe-struck minutes scanning around its incredible detail. Without Brad, that moment would have been wonderful, but transient. Our world today is so data-rich and so fast paced that, all too often, something like that Hubble image may strike us for a moment, but then we move on.

What Brad did that changed this was to give me a professionally made print of the shot that I promptly framed and hung on the wall of my office. There, it continued to impact me and those who visited my office day after day. A number of years later, I got to return the favor. I gave him (and myself, of course), the 84-hour Hubble shot of the small region in the halo of M31 showing globular clusters within M31 and thousands of galaxies in the image – an image that would cover a swath of sky so small that it’s only about what a grain of sand covers at arm’s length. Having the print of that on the wall let the impact of that shot hit me again and again and gave the visitors to my office something more to think about.

Those shots were reasonably well-done, but times and technologies have changed and when offered the opportunity to see just what a modern printing service that had a specialization in astrophotography could do, I leapt at the chance. Enter Tony Rodrigues of Deep Sky Printing (www.deepskyprinting.com). Deep Sky Printing is a division of a professional photo printing service, Printmakers, Inc., that is tailored to work with our astrophotographs. Upload your shots to their website and a few days later prints will appear via UPS.

For testing out their services, I decided to use a few of my own shots and a few shots from the Hubble. I included the Hubble shots because there’s no way that anything of mine can justify a 20-inch by 30-inch print and there’s no way that it would do justice to what Deep Sky Printing can do when given really good data. For my shots, I did a color image of the Western Veil off of my square-format QSI 540 and a black-and-white shot of a wide-field mosaic of Orion in H-alpha that covers a swath from the Orion Nebula to the Horsehead Nebula (also off the QSI 540). The Veil shot got printed both on a 16-inch by 16-inch piece of Deep Sky Printing’s normal Kodak metallic paper and on an 8-inch by 8-inch ceramic tile (more on this later). For the Hubble shots, I had an 8-inch by 16-inch made of the Eagle Nebula, a 12-inch by 12-inch made of the Crab Nebula, and a monster 20-inch by 30-inch shot made of the ultra-deep image of the Whirlpool Galaxy.

Setting up Your Prints

Setting up your order could hardly be easier. Just go to the main website (www.deepskyprinting.com) and click on the Place Order link. A new window will appear and a Java applet will load (I had to reload this page once for some reason - probably an issue on my end). You’ll see much like what we have here in Figure 1. First, take a guess as to the paper size you’re going to want to print on by selecting something in Select a Product in the upper-left. Then, in the lower-right, click on the icon that says Folder and point it to the folder on
your drive with your images. You’ll then see thumbnails of your shots appear (as in Figure 1) under the heading Choose Your Images (by default, it also searches subdirectories of that directory, a behavior you can disable by selecting Preferences). Simply grab one you want to work on and drag it into the middle to see how it lines up on the paper you chose.

If the aspect-ratio doesn’t fit your shot, you’ll see this as either a white border on your preview of the paper (Figure 2, left) or a shadow of your image going over the edge of the “paper” (Figure 2, middle). When this happens, you’ve got two solid options.

First, you can try a different size piece of paper. Just click on another one in your Select a Product area to try it out. Here, on this shot of the Eagle from the Hubble, we can see that an 8-inch by 16-inch (Figure 2, right) is doing very well where the 11-inch by 14-inch did not (left and middle). One of the things I particularly liked about setting up the order was the choice of sizes. As we do montages and as we end up cropping

Figure 1: Main window from Deep Sky Printing in which you select your images, print size, and mounting options. Here, you also compose the final print.
the shot, the odds of your picture nicely fitting into an 8x10, 8x12, or 11x14 or other variants on those aspect ratios drop precipitously. Here, you get 7x10, 8x8, 8x10, 8x12, 8x16, 8x24, 10x10, 10x18, 10x20, 11x14, 12x12, 12x18, 12x24, 14x22, 16x16, 16x20, 16x24, 20x20, 20x24, 20x30, 24x24, 24x30, and 24x36. (Prices here range from $4.25 through $55, with everything 12x12 and below costing $10 or less.)

Second, you can zoom and crop the image if things don’t line up on the paper the way you’d like them to. A slider lets you zoom the image and you can just drag the image around to compose the shot as you desire. If things get too odd (or even as a matter of course), you can click on the Crop or Fit checkbox to have it automatically scale and compose the shot for you so that it fits on the paper.

Once you have the shot composed the way you like it, it’s time to consider a few entries in the Options section before you commit your order. Deep Sky Printing can
mount the shot on standard foam board or on Gatorfoam (a Polystyrene foam that’s more durable than standard foam core). Both will give you a nice, rigid surface to help protect your shot (or to serve as a convenient and easy way to display the shot). Here, you’ll also find two entries for Image Tone. While I doubt many of us will want to make our shots sepia, the Black and White option is one many of us will want to select. Doing this will ensure that your print comes out in pure black and white and that there isn’t a slight hue to it. Back in the days of black and white paper, you had to work to get a non-neutral tone if you wanted one and otherwise a nice neutral grayscale was assured. But, these days even black and white prints are printed on color paper. I’ve tried having black and white shots printed elsewhere and, all too often, they come out with a slight hue. If you’ve got a black and white shot like the wide-field Ha shot of the Orion area I sent off, you’ll want to check the prices of each item and give you your shipping options. You can go back and edit shots (or delete shots) here as well. On this page, you’ll also find a checkbox labeled “Do not adjust color and density.” More on this later, but it’s something to consider before finalizing things. Once you’re done here, click on Complete Order and the payment and upload process will begin. If these are your shots, odds are the upload process will go quickly. If these are several hundred megabyte images from the Hubble, odds are it’s time to go grab a beverage of choice.

Finalizing and Uploading
At this point, you’ll see a screen that lets you review your entire order. It’ll show you the on-screen view looked very close to the test print. That said, before you go and place a large order, it’s not a bad idea at all to do something like this as well. A quick 8-inch by 10-inch print is cheap insurance against a botched poster-sized print when the problem comes down to your monitor not being properly setup.

For the review, I decided to do a test run before placing a large order with big prints. I know what shots look like on my monitors and I’ve made some effort to calibrate them. (I use a Mac and there is a nice built-in calibration routine you can use if you don’t like the stock profiles supplied by the monitor makers.) The concern, though, was that the printout would look different. In particular, the gamma (brightness/contrast curve) is a problem I’ve hit before and never really known whether it comes down to the printing being off or my monitor being off. So, I assembled a montage in Photoshop of several shots I planned on using and I even had a few versions of several shots. I sent this test shot off and when it returned, I compared it to the on-screen view. I’m pleased to say that the monitor-maker’s calibration curves worked well and that the on-screen view looked very close to the test print. That said, before you go and place a large order, it’s not a bad idea at all to do something like this as well. A quick 8-inch by 10-inch print is cheap insurance against a botched poster-sized print when the problem comes down to your monitor not being properly setup.

Earlier, I mentioned the “Do not adjust color and density” option you can enable at the end of your order and it deserves some explaining. By default, Deep Sky Printing will attempt to set black and white points for you and to get the color spot-on. This worked wonderfully for the Hubble shots, but on the first attempt with the Veil shot, the black point I set was elevated enough so that the resulting print, when re-adjusted, ended up too dark (after talking with Tony, I ordered a replacement of this shot). Selecting this option will tell them that you’ve adjusted it just the way you want it and to print it as-is (even if the black isn’t really black, etc.). If you’re confident in your monitor’s calibration (remember running that test print?) and know what you’re doing here, feel free to check this. It’s
another tip of the hat to Deep Sky Printing as they thought to offer us this control. We can choose to let them tweak things to get a nice print or to skip that step and give us full control. Kudos!

The Results

A few days after placing my order, a nice big, flat box arrived. Deep Sky Printing did a fantastic job protecting the prints (shipped flat) in the box. Prints of similar sizes were grouped (separated by tissue) and protected on both sides by pieces of cardboard (taped). Short of dunking the box in water or piercing it through with a fork-lift, the prints were going to come through any shipping mishaps intact.

Before sending shots off, I didn’t think I had anything really worthy of printing (you can see the Veil and Orion shots on my homepage - http://www.stark-labs.com/craig). They’re a lot better than my shots of several years ago, but there’s still a lot to be learned. That said, a 10-inch by 10-inch print from my square-sensor camera is only $5.55. Are they really not worth the price of a couple of lattes? Well, if you’re still thinking that they’re not worth it, think again. My shots look much better on one of Deep Sky Printing’s prints than they do on the screen. They’re crisp, but have a smoothness and depth I just don’t get on my monitors. Printed out, they have a sense of permanence or formality that they don’t get on the screen. Even I have to admit that they’re actually pretty nice shots!

They’re also a lot easier to mount on the wall and to then use as a way of sharing the hobby with those who know little about it. While on the topic of mounting, I can report that both the normal foamboard and the Gatorfoam mounting work well and can let you easily display a shot without framing.

I mentioned earlier the ceramic tile I ordered and the quality of the output here was a nice surprise. I wasn’t quite sure what to expect, having only seen prints on ceramic in the form of a “Happy Father’s Day!” mug that looks vaguely like a shot of one of my sons and me (and I’m not sure which son). The technology is clearly not the same as Deep Sky Printing’s is a fantastic rendition of the image. It’s got a glossy surface that has wonderful depth and smoothness to it. The colors and the sharpness are excellent. How cool would it be to use these as accent tiles somewhere?

The real surprise came when looking at the Hubble shots. You may have been awed when looking at these on your computer screen – I know I was. I also know firsthand now that that doesn’t hold a candle to the impact Deep Sky Printing’s metallic prints of them. The metallic paper gives the colors a depth that is hard for this scientist to describe other than to say that they are simply stunning. When the box arrived and was unpacked, a few colleagues happened by and saw the shots laid out on a table. Minutes went by as each stared at them with a look that just said “Wow!” They are really that beautiful. Really. And I now know what I’m getting Brad for Christmas this year!