

# User Guide for Plotting Posters with the HP 5500 DesignJet Plotter

by  
David T. Allison

## Introduction

Currently the Department of Earth Sciences maintains a large-format inkjet plotter capable of plotting posters at high-resolution (600 dpi) up to 60 inches wide and 7 feet in length. In order to produce posters on this plotter using Microsoft PowerPoint please follow the below steps. In addition, remember that the cost of maintaining the plotter is substantial, therefore, the Earth Sciences Department must charge for the use of the plotter **even if the result is not usable**. Following the below steps will help to minimize wastage of paper and or ink consumables. Currently the charge for using the plotter is:

1. White background: **\$1.50/square foot**
2. Dark (color-rich gradient) background: **\$2.00/square foot**

Thus, if you plot a 4 x 3 foot poster with a white background the charge would be 12 square feet by \$1.50/square foot = \$18. This charge, by the way, is significantly less than commercial charges for a similar plotter (usually about \$4 per square foot). The rate is calculated to reimburse the department for consumables, wear-and-tear on the plotter, and faculty/staff time.

## Step 1: PowerPoint Setup

The most important step is the proper setup of your poster in the PowerPoint application. Before adding or constructing any objects in PowerPoint you should first set the media size to the size of your poster. For many poster presentations this will be approximately 46 x 36 inches (ANSI E media, landscape orientation). If you are plotting to 36 inch paper you should also realize that the plotting area is never as large as the paper width so the media size should be scaled back to 44 x 34 inches on a 36 inch wide roll of paper (i.e. allowing a 1 inch margin around the media edge). The PowerPoint template used by many faculty and students is set to this size because the old plotter had a maximum width of 36 inches.

Another important issue is the effect of imbedding application-dependent graphics in a PowerPoint presentation. This is often referred to as object linking and embedding (OLE). This technique is often problematic because the application that created the object may not actually be installed on the workstation in LSCB 137 where you will be plotting your poster. For example, if your application produces a graph using unusual mathematical font characters it is likely that when you installed that application on your own office workstation the installation program also added those special characters as a TrueType font file. If that same application is not installed on the workstation you are printing from the computer will have to make a random substitution for the font (usually from the "Symbol" font) that will probably not be anything like your original

# User Guide for Plotting Posters with the HP 5500 DesignJet Plotter

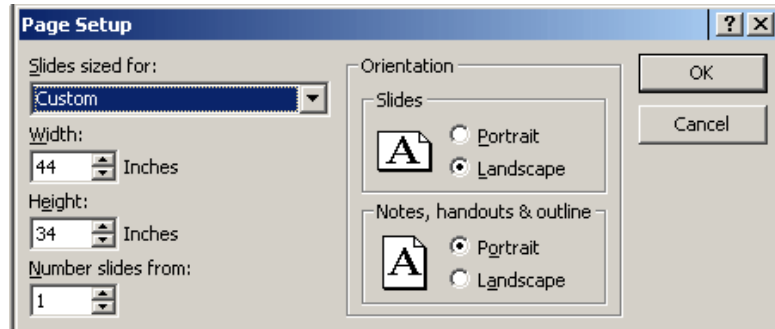
by  
David T. Allison

character. Rather than using the “Edit” > “Paste” menu sequence, instead use “Edit” > “Paste Special” to see a list of possible paste formats. It is best to never select OLE, rather select “metafile” or “Bitmap” if possible. If you must use OLE we need to setup a direct print from your workstation to the plotter over the campus network.

The new plotter, the HP 5500, can plot on paper up to 60 inches in width to it is possible to plot significantly larger posters if needed. Allowing for the 1 inch margin on both sides of the media the maximum width would be 58 inches for a 60 inch wide roll. Remember that the cost of the poster will increase significantly with a plot this size. Another aspect of the new plotter that should be noted is the increased resolution- 600 dpi for images. You will find that the quality of digital photographs is very much improved over the older 300 dpi HP 450.

If you need to create a PowerPoint poster from scratch the first order of business is to set the media size. Start PowerPoint and open a new file using the desired design template. Use the menu sequence “File” > “Page Setup”. Fill in the dialog as indicated in **Figure 1**. In this example a media size of 46 x 36 inches (ANSI E media size) is assumed yielding a plot area of 44 x 34 inches when a 1 inch margin is allotted. Click the “OK” button when the media size is set.

As a check on the plot area size turn on the ruler guides in the main window of PowerPoint. Select the menu sequence “View” > “Ruler”. When “Ruler” is checked you will see a horizontal and vertical ruler appear in the main window. The rulers should appear similar to **Figure 2**. At this point make sure that the rulers reflect the desired plot area size of your poster.



**Figure 1.** Page setup dialog configured for custom page size.

## Step 2: Setting the Plotting Parameters for the HP 5500 Plotter

Once your poster is finalized you should bring your PowerPoint file to room 137 LSCB on a CD, DVD or jump drive. Check in with the Earth Sciences secretary about payment for use of the plotter, and then the staff will open up the room. Any workstation can plot to the plotter. Allow the staff to log you on the “Student” account, and then load your poster into PowerPoint (a desktop icon should be present for PowerPoint).

# User Guide for Plotting Posters with the HP 5500 DesignJet Plotter

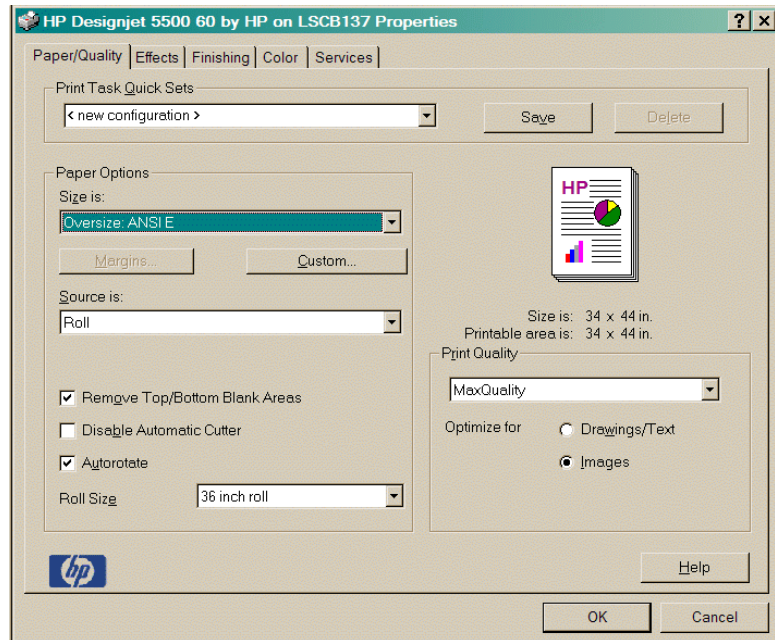
by  
David T. Allison

conceivable that the “Gray Scale” checkbox would be set from a previous plot, which would result in a gray-scale type poster. Make sure this option is not checked unless you really do want a gray-scale poster. See **Figure 7** for the correct settings for this tab.

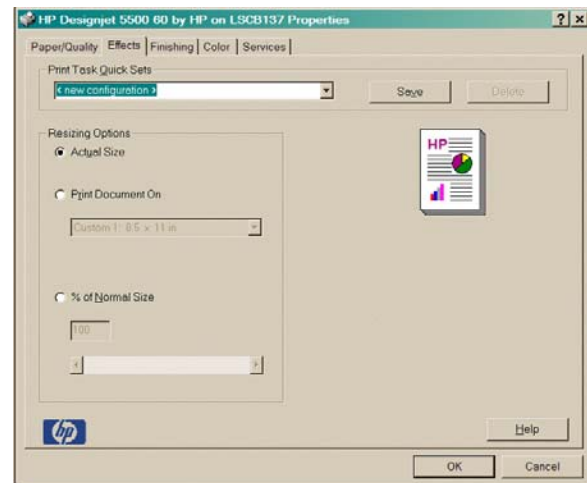
The last (right-most) “Services” tab does not require any changes or inspection so just click the “OK” button to exit the print dialog.

## Step 3: Sending to the Plotter

At this time you are ready to send your poster to the plotter. Before doing so, please check the display on the plotter. To activate the display press the power button. On the main display you will see the remaining feet of media on the current roll. If there is not enough paper for your poster you need to notify the ES departmental secretary so she can summon the lab technician to load a new roll of paper. If any messages on the plotter display window indicated low ink you may have to wait for a new supply to be ordered. If all indications are “GO”, click the “OK” button in the main print window. It is normal for several minutes to pass before the plotter fan motor powers up and plotting begins. BE PATIENT! If nothing happens after 15 minutes the campus network may be down in which case you will have to wait until the network is back up, and re-send the poster to the plotter. After the plot is complete the plotter will “hold” the plot for 1 minute while the ink dries- do not attempt to manually tear off the plot, the plotter will automatically cut your poster for you.



**Figure 4.** “Paper/Quality” tab of the plotter driver main dialog window.



**Figure 5:** “Effects” tab of the print dialog.

# User Guide for Plotting Posters with the HP 5500 DesignJet Plotter

by  
David T. Allison

In case you queue a plot to the plotter but realize that you really didn't want to plot you can cancel by immediately typing in this URL in Internet Explorer:

<http://192.168.114.194/>

This URL will display the window in **Figure 8**. With this web site you will see a list of pending plot jobs, any of which you can select and then delete.

## Trouble-Shooting

Inevitably users have problems getting the desired results. Below are a list of some of the more common problems and solutions:

1. **Problem:** The poster is too “wrinkled”. **Solution:** decrease the color saturation of the background color. Even the best paper can become too saturated with ink if dark saturated colors are selected. Many times the wrinkles will even-out overnight.
2. **Problem:** The poster never plots and I receive a message indicating that the computer cannot find the plotter. **Solution:** Make sure the campus network is functioning. If you can browse the web from your workstation you should be able to plot. Make sure that the faculty workstation is on and fully booted up - all plot jobs are routed through that workstation. If a power outage has occurred this workstation may not be powered up.
3. **Problem:** The poster plots with excessive “white space” along one of the margins. The basic problem is that your poster’s dimensional ratio is not close to the  $44/34 = 1.3$  ratio of the media size of the plotter (assuming ANSI E). For example, you could design a poster that is 60 inches x 34 inches and then use the “Fit to Page” checkbox on the print dialog so that no part of the plot is “chopped” off, however, when the long dimension is scaled from 60 to 44 inches (reduction of 0.74), the 34 inch original height must be scale back to 25.2 inches so that no distortion is produced. This would leave a white space margin of  $34 - 25.2 = 8.8$  inches along the top of the plot. **Solution:** Either re-design the poster to fit the standard ANSI E plot area size of 44 x 34 inches, or manually trim the excess white space with a ruler and razor.
4. **Problem:** The poster prints fine but certain characters that appear fine on my office workstation plot as different characters on the poster. **Solution:** This problem develops when a graphical object is embedded in the PowerPoint poster using a simple “Copy” > “Paste” sequence from a specific application. The default action is to embed an OLE object that depends on that application being present at the time of printing. If the application is not present a random

# User Guide for Plotting Posters with the HP 5500 DesignJet Plotter

by  
David T. Allison

font substitution occurs that is usually problematic. The fix is to use the “Copy” > “Paste Special” sequence to specify that a “metafile” object is inserted. If this is not possible then we need to setup printing over the network to the HP 5500 directly from your office workstation.

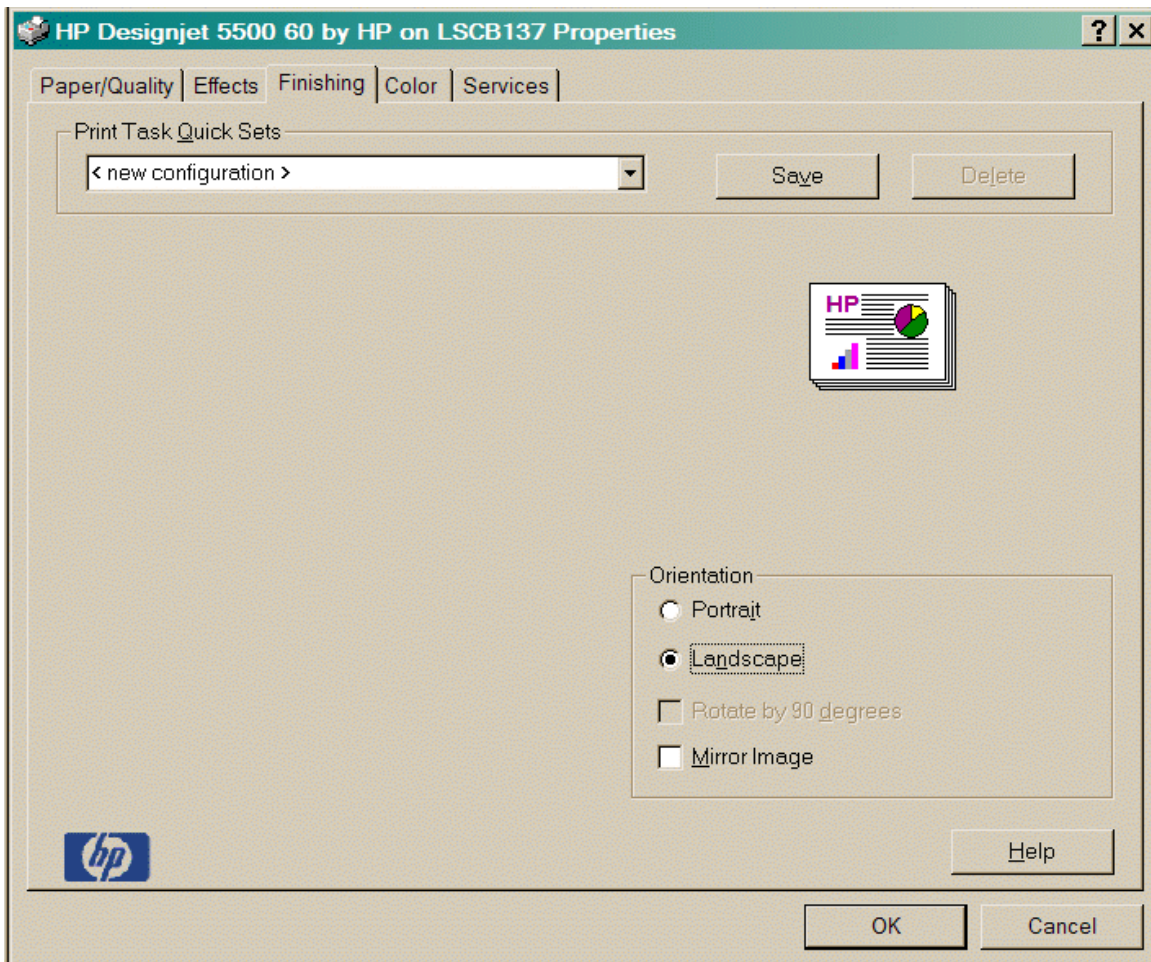


Figure 6. Setup of the “Finishing” tab of the main print dialog.

# User Guide for Plotting Posters with the HP 5500 DesignJet Plotter

by  
David T. Allison

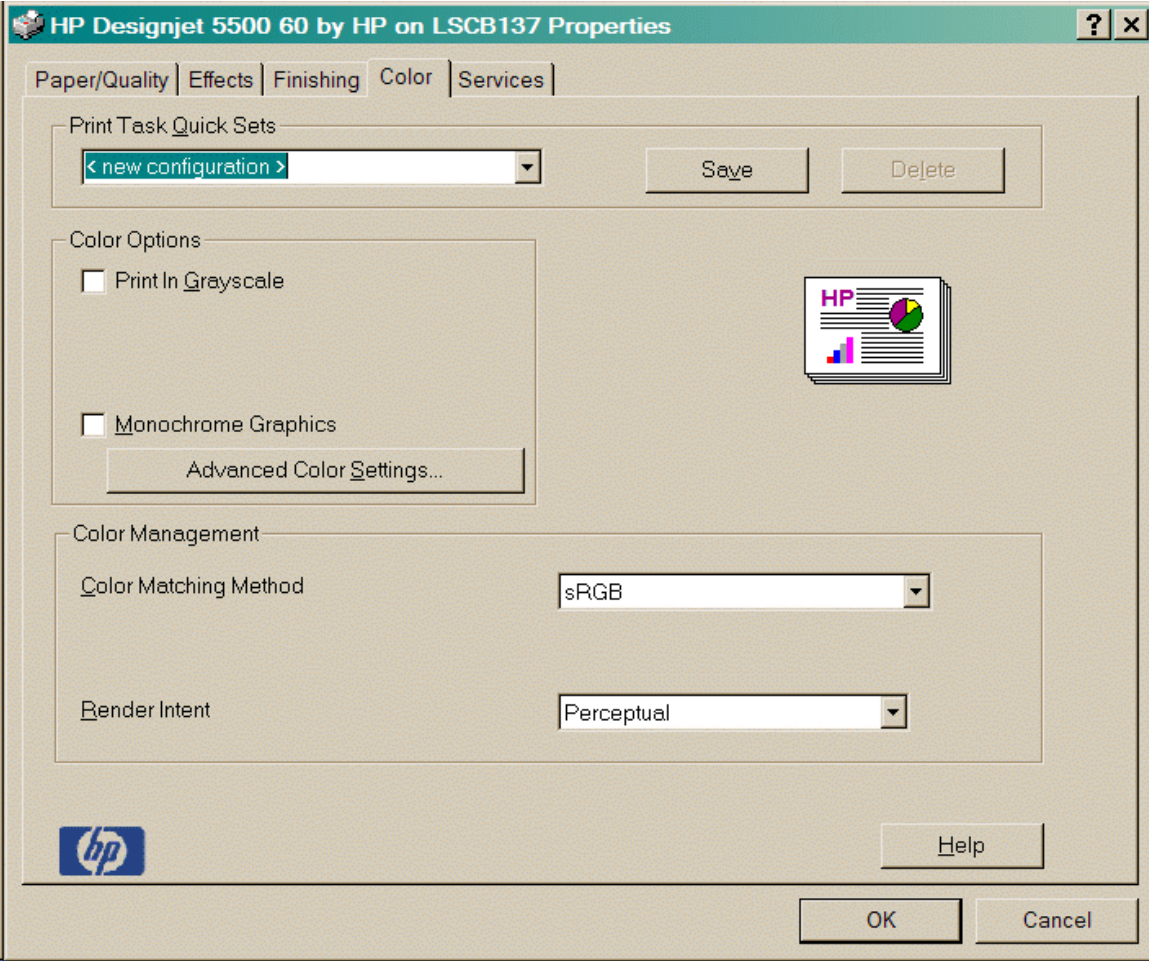


Figure 7: "Color" tab settings for the main print dialog.

# User Guide for Plotting Posters with the HP 5500 DesignJet Plotter

by  
David T. Allison

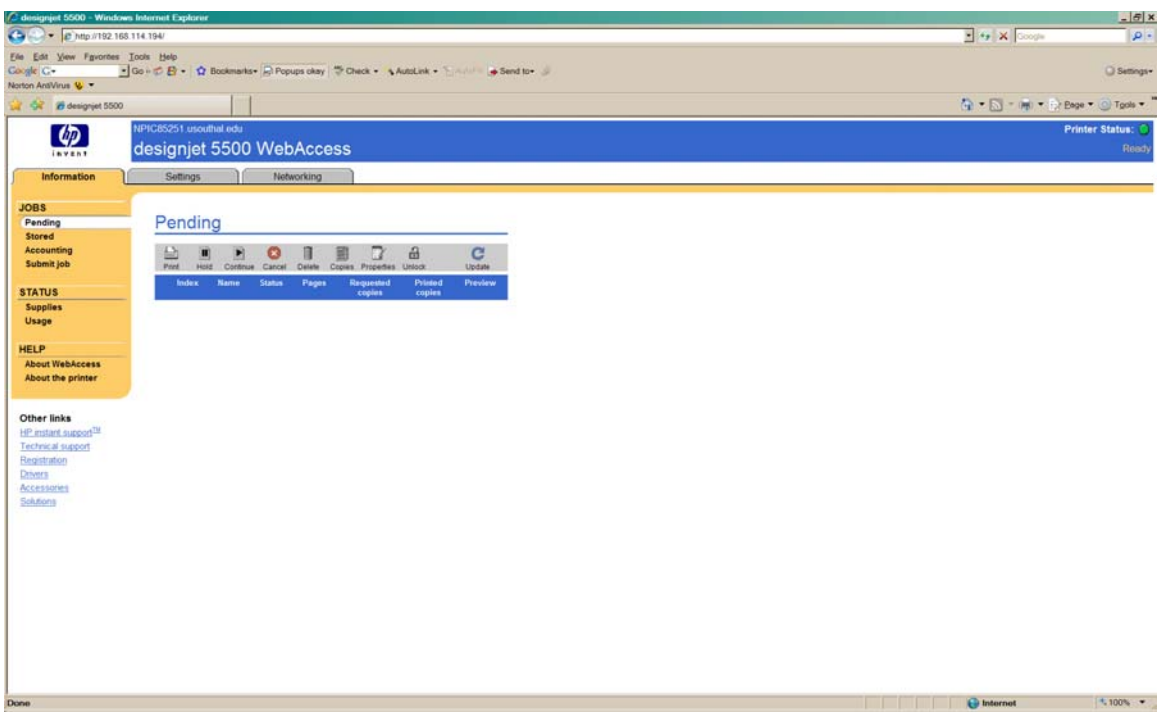


Figure 8. Web access to HP 5500 plotter.