Quad Tone RIP

BASIC TUTORIAL

Quad Tone RIP
on
Mac OS X

Version 2.7.2 - August 2011

Special Installation Requirements

QuadToneRIP version 2.7 requires Mac OS X 10.5 Leopard, Mac OS X 10.6 Snow Leopard or Mac OS X 10.7 Lion. Those users with 10.4 Tiger should remain on a previous version of QTR.

There are two folders that contain all the files for QuadToneRIP. The first folder is **/Applications/QuadToneRIP** which contains all the user accessed programs, profiles and other information. The other folder is **/Library/ Printers/QTR** which contains all the files accessed by the OS X print system.

Installation of this new version will replace any old version. There is no need to install or uninstall any previous version.

Support is no longer possible for the older versions of OS X --
i.e. **10.2 Jaguar** and **10.3 Panther**.

Program and Profile Installation

Installing QuadToneRIP Software:

Simply double-click on the **Install-QTR-#.#.#** package -- it is an ordinary Mac OS X installation package. You will need the Admin password to install. Install it on your main hard drive. After installing the programs you must setup the printer and install the appropriate profiles. There are scripts for doing this, see the following page.

Removing QuadToneRIP Software and Profiles:

If for any reason you wish to remove the QuadToneRIP product:
1) Delete all the Quad printers using:
    System Preferences > Print & Fax.
2) In Finder go to **/Library/Printers/QTR/ppd/**
    then drag all the Quad…. files in that folder to the Trash
3) drag to the Trash the folders:
    /Applications/QuadToneRIP
    /Library/Printers/QTR

For previous versions before 2.6 there is an application called **Uninstall-QTR** that will remove all those files. Download this Application from the **www.quadtonerip.com** website if needed. You will also need your Admin password to run this program.

Installing and Setting up a Printer with QTR Profiles:

The profile install scripts setup everything necessary for printing using the USB interface. Before running the USB scripts the printer should be attached and powered on. The firewire interface cannot be used for any of the printers.

After installation you should restart Photoshop or any programs that you want to print through QuadToneRIP.

Within the **Profiles** folder there are separate folders for each of the printers with a particular inkset.   Within each there is an install script for each model of printer. Folder names consist of family name and inkset.

Name	Printers in Family
1160	860, 1160
1270	870, 1270
1280	890, 1280, 1290
1400	1400
2200	2100, 2200
3800	3800, 3880
4000	4000
4800	4800, 7800, 9800
4880	4880, 7880, 9880, 7890, 9890
4900	4900, 7900, 9900
7500	7000, 7500, 9000, 9500
7600	7600, 9600
10000	10000
R200	R200, R220, R300, R320, R340
R260	R260, R280, R380
R800	R800, R1800, R1900, R2000
R2400	R2400
R2880	R2880, R3000

Inkset	Supplier and Name
UC	Epson UltraChrome inks
K7	Piezography K7 inks
K6	Piezography K6 inks
VM	MIS VM and UT inks
VMS	MIS VM Sepia inks
UT2	MIS UT2 (Ultratone-2) inks
UT7	MIS UT7 (Ultratone-7) inks

So look in the **/Applications/QuadToneRIP/Profiles** folder and find a folder name with your printer model number (some have an R in front) plus a designation of the inkset you are using in the printer.   Inside the folder you will find Install scripts that also have the model# and inkname. To create and install curves for this printer simply double-click on the install script.

for example if you have an R2880 with UltraChrome inks use:
  /Applications/QuadToneRIP/Profiles/R2880-UC/InstallR2880.command

if it has Piezography K7 inks however use:
  /Applications/QuadToneRIP/Profiles/R2880-K7/InstallR2880-K7.command

Installing custom QTR Profiles for another source:

Profiles are often available from other sources: ink suppliers and other users. These profiles are also very easy to install and use. There are three possible kinds of files that you may receive as profiles. They are distinguished by a 3 or 4 letter extension: a .txt or .qidf extension is an ink descriptor the "*source*" code for creating a profile; a .quad file is the "*binary*" profile format.   The installation scripts handle all of these formats.   The procedure is to create a new folder on your disk, copy all the profiles into that folder. Then go to the download folder **Profiles/InstallScripts**, find the appropriate script for your printer and drag it into your folder with the profiles. Simply double-click on the script and it will setup the printer, create and install all the profiles. Remember to restart Photoshop.

There are now standard locations where you ought to place your own custom profiles. The "source" profiles i.e. files with .txt or .qidf extensions should be placed in /Applications/QuadToneRIP/Profiles under one of the existing sub-folders or a new personal one.   Drag an Install script into this folder and rename it accordingly (see Read-Me in the InstallScripts folder).   This will create a printer, process the "source" profiles and install the .quad files in the /Library/Printers/QTR/quadtone folder which is where the drivers will access them. Notice that the sub-folders are named the same as the printer name.

Printing Workflow

QuadToneRIP is completely integrated with the standard Max OS X Printing. It is very similar to all the normal printing one does on OS X. There are separate printers with names such as Quad2200. One uses these printers as if they were Black & White i.e. grayscale printers. All the system features such as Presets, Remote and Shared Printers work with QuadToneRIP printers. You use all the standard Page Setup and Print commands from any OS X application. Typically one would be printing grayscale images but RGB files can be used. They will be automatically be converted to grayscale. The one major addition is a separate QuadToneRIP print dialog page.

On Mac OS X since QuadToneRIP runs as an standard print driver you can print from any Application that has a Print command. Most Applications will just print centered images but Photoshop and Photoshop Elements are recommended to layout an image on the paper exactly as desired.

The Photoshop **Print with Preview** command allows this complete control. This page has many sections. If the lower section isn't visible click **More Options** and **Color Management**. The first thing to do is make sure the **Page Setup** is correct i.e. the correct size paper and correct orientation. See below for more info about Page Setup. If you want a centered image on the **Pro Printers** pay particular attention to the **Centered Paper Size** in Page Setup and the **Center Image** box below. Note also that **Position** is measured from the margins not from the edge of the paper. Typically the margin will be 1/8 inch or about 3mm.

The **Print Document** shows your embedded Profile Space.
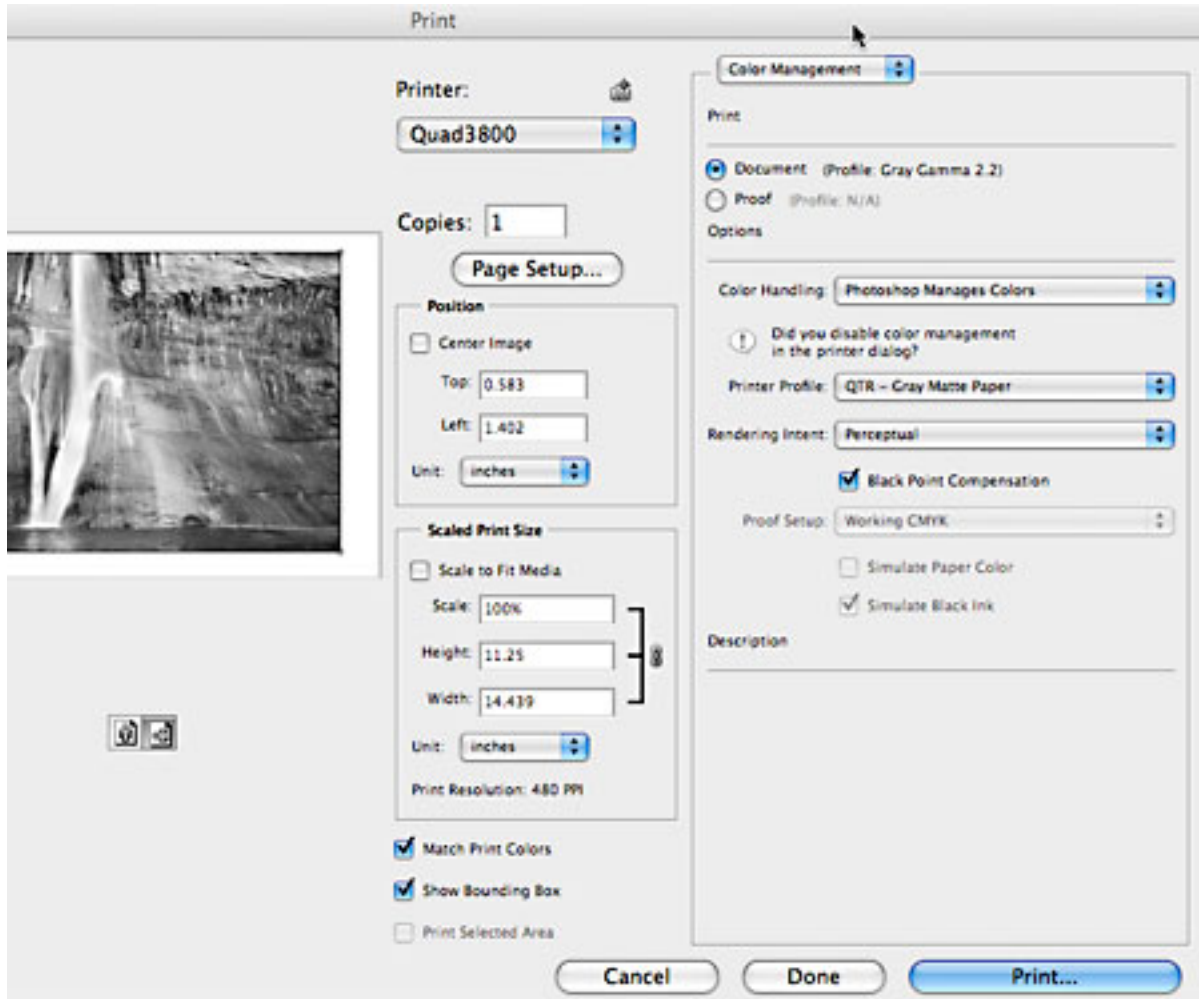The **Options** section shows how color management is being used.

Color Handling: **Let Photoshop Determine Colors**
Printer Profile: **QTR - Gray Matte** or **Photo Paper**
Rendering Intent: **Perceptual** and **Black Point Compensation**

If you have a custom grayscale ICC profile from **QTR-Create-ICC** use that
for the Printer Profile.

Photoshop CS2 — Print with Preview

Photoshop CS3 — Print ...

In **Photoshop CS3** there is only the **Print ...** command but it is very similar to the Print with Preview command. Similarly use Color Management:

Color Handling: **Photoshop Manages Colors**
Printer Profile: **QTR - Gray Matte** or **Photo Paper**
Rendering Intent: **Perceptual** and **Black Point Compensation**

Note that **Match Print Colors** gives a soft-proof of the result. This is useful if you have a custom ICC print profile that shows the hue of the print.

Page Setup and Centering

Standard Paper Selection
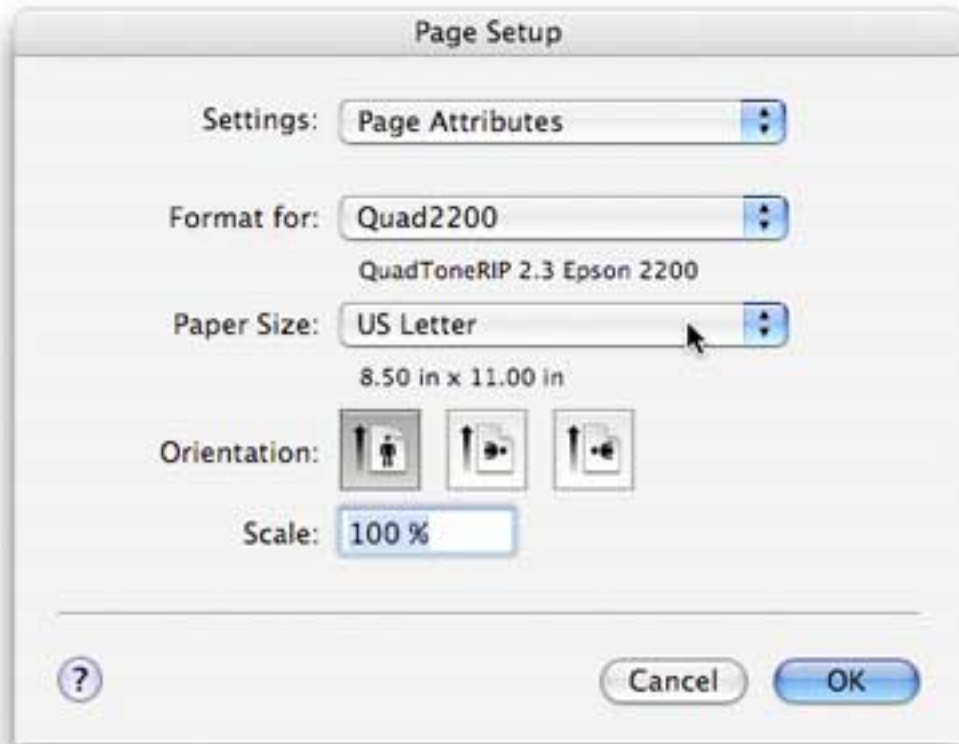
Page Setup is as usual. By selecting **Format for** a Quad printer you can see all the built-in page sizes for the printer. Select the desired **Paper Size** and the **Orientation** - see feed icon for Portrait or Landscape.

Page sizes and image centering have very often been a source of frustration. One of the main sources of the problem is the difference between the physical page dimensions and the printable page dimensions. Some Epson printers typically have a mechanically imposed page margin restriction and it is usually larger at the bottom than on the other three sides. This results in the printable area not being centered on the physical page. However, it is the printable area that is used for all the high-level positioning algorithms. So the default, centered image very often isn't centered on the physical page.

Centered Paper Selection for Pro Printers
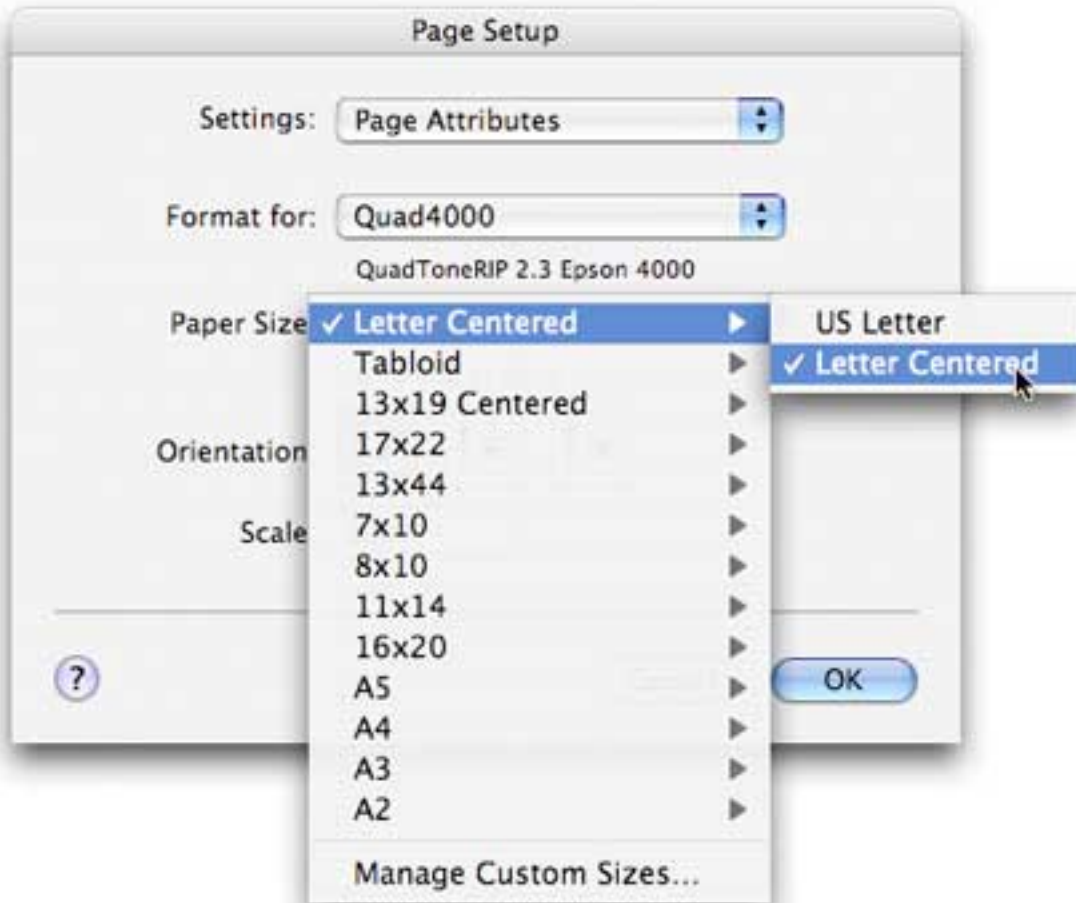
To alleviate this problem for printers with uneven margins, QuadToneRIP has expanded the Page Setup dialog. The Paper Size pull down selection is now a two level selection.   Each page size has two versions: first, the hardware restricted printable area which allows the maximum size image and second, a version with a centered printable area.   The centered version has a slightly smaller printable area since the top margin must be increased to match the bottom margin.   When selecting a page size be sure to drag down to the desired size and also to drag right to select which version of printable area you want.

Page Setup — Manage Custom Sizes...
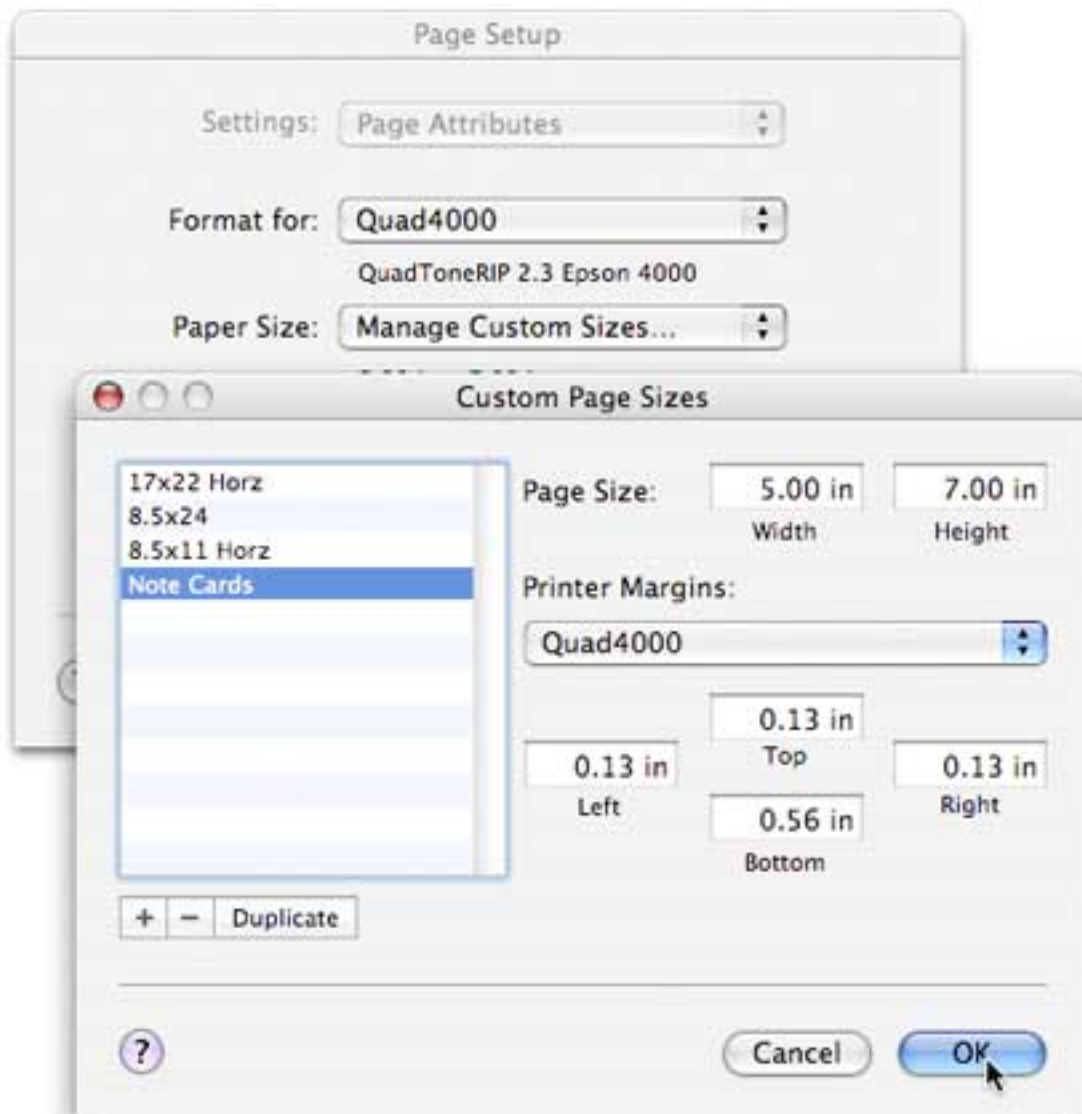
In Page Setup > Paper Size you will find **Manage Custom Sizes...** at the bottom of the list. On this dialog page you can create and modify paper sizes. Most is self explanatory but note the Printer Margins. If you are making a paper for a specific printer it's best to set the margins according to the printer -- select a printer and it will show the margins allowed. You should not use a margin less than specified or you may find images cropped at the edge. After creating a custom size be sure to select it after leaving the Custom Page Size dialog.

QuadToneRIP Print Dialog Pane:

QuadToneRIP has a very specialized print dialog page. All of the commonly used options are readily visible and available on one page.   Some printers may not have all options.   There are quite a lot of options and sliders but after some practice they should become clearer. The interface will gray-out options that are not appropriate at the time.

After finding values that give you the results you like it's highly recommended that you use the OS X Presets for saving the selections for future use.   Under the **Presets:** pull down use **Save As** to save the settings under a name of your choice.

Mode:
   QTR now supports both 8-bit and 16-bit data paths from the application to the print driver. Only applications that explicitly support 16-bit will be able to take advantage of this. Plus usually this must be explicitly selected in the application as well. Photoshop CS4 in the Print preview page you must select **Output** >> **Send 16-bit Data**. Lightroom on the print page has a **16-bit Output** selection.

   select QuadToneRIP 8-bit or 16-bit for normal printing
   the QuadToneRIP Calibration Mode is used just for printing the inkseparation.tif files. when the Calib mode is selected all the Curve options are disabled and a single Calibration Ink Limit slider will appear and is used to set the overall ink limit.

Curve1, Curve2 and **Curve3**, **Curve Blending:**

   These options are the critical part of QuadToneRIP. You must select at least one curve here -- None will produce unpredictable results.

   Unlike the standard color profiling systems, QTR allows 1, 2 or 3 curves (or profiles) with different color tones to be selected. The blending allows you to vary the tone of the print based on the different **Curves**. The blends are varying percentages of each curve or tone. The percentages must total 100% and the slider interface insures this. If **Split-tone Curve Blending** is enabled it's also possible to make a split-tone blend from highlights to mid tones to shadows. The example above shows neutral highlights that gradually warm to the midtones and then add more sepia in the shadows.

   When fewer than three curves are used the blending will gray-out the

unused ones so they are not active. If you try no curves you will get a warning that the print results are not predictable.

In a much simple example typically one would pick a warm and a cool tone. The **Curve Blend** then allows you to blend the two color tones for your own personal taste -- you can pick any tone between the two extreme colors. The following example shows several color tones plus a 50/50 blend.

Print from a cool/neutral tone curve.

Print from a warm tone curve.

Print from a sepia tone curve.

Print from 50/50 warm/sepia tone.

Paper Feed:
   select the type of Paper Feed desired. its important to have this agree with
   the physical paper slot you use for the paper.

Resolution:
   The resolutions supported are 720, 1440, and 2880. 1440 also has a
   "super" version on some printers that does a more elaborate weaving if the
   printer is capable of that. Most of the supplied profiles so far are created for
   1440 dpi resolution and can be used with any 1440 mode. Profiles meant
   for 2880 have this in the profile name.

Speed:
   selects either **Uni-directional** or **Bi-directional** printing. The Pro printers
   usually do well with faster bi-directional but the desktop printers often
   improve with better uni-directional.

Black Ink:
   this option is only for the Epson 4000, 3800 or 3880. it allows you to
   select which black ink -- matte or photo -- will be used.

Advanced Adjustments:
   this click box enables the use of the following special adjustments.

 Ink Limit:
   this option allows you to increase or decrease the overall ink limits all the
   ink limits in the profile are multiplied by this factor.   the mostly case you
   might use this is to use a paper that can handle more or less ink than the
   profile allows. also you might increase the ink limits for a print that you
   want to really push the blacks dark -- there may be some loss of shadow
   detail however.

 Gamma:
   this option allows an overall lightening or darkening of a print without re-
   editing the files. the effect is identical to using the Levels command in
   Photoshop. the percent value is approximately how much the 50%
   midtone will be affected.

 Dither:
   this option allows selection of different dithering algorithms. in general the
   Ordered dither will be just fine.   the others may be tried for unusual
   banding problems.

Troubleshooting and Diagnostics

There is a Diagnostic Script that can aid in solving problems. If there are any difficulties running QuadToneRIP, please run this script by double-clicking on **DiagnosticScript.command**.   The script will open a window and show lots of information about your print system. Cut and paste this info into an email when inquiring about a problem. **Do not** use the **Save** command as this saves info about the session not what is displayed.
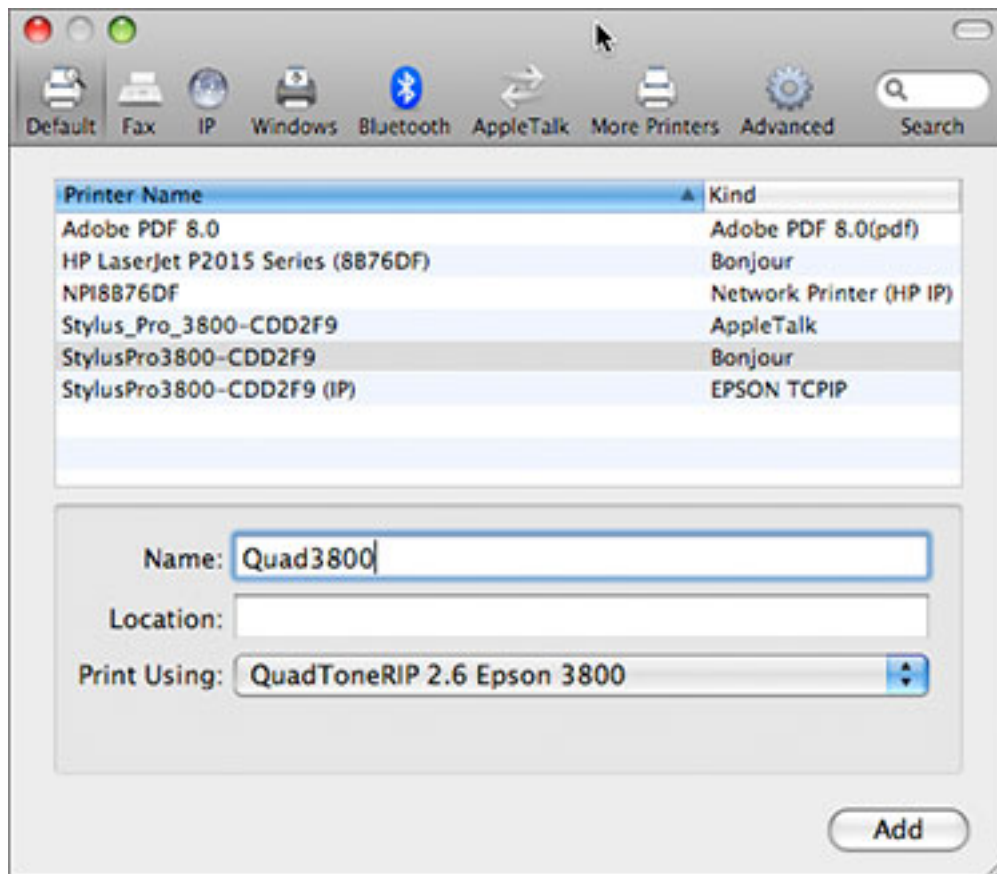
There is a yahoo group that has many users of QuadToneRIP, see:
> **http://groups.yahoo.com/group/QuadtoneRIP**

Email support questions to:
> **quadtone@harrington.com**

Bonjour Printers and Manual
Connecting of Printers and Drivers

Leopard 10.5, Snow Leopard 10.6, Lion 10.7

System Preferences > Print & Fax -- **+ Add** command

There are three important selections or entries on this page.

1) Select the **Printer Name** to setup -- note connection **Kind**
    Notice there are several connections to the 3800 printer.
    Bonjour is probably the best.

2) Change the **Name** to QuadXXXX where XXXX is the Epson model number such Quad2200, QuadR800, Quad7600, or QuadR2400. Note some printers have a letter "R" preceding the number. If the printer has a special inkset add dash '-' and the inkset name such as Quad2200-K7.

3) select the **Print Using** to **QuadToneRIP** and the printer model.

In this example all the printer model numbers match, but it is possible to different ones if you have a special need. (1) is the hardware device, (2) is the printer name and also refers to profiles you will use, (3) is the QTR driver software that is to be used.

Run the Profile install script from the QTR download to get the profiles. It's important the the install script name and the printer name above correspond accurately.

>   For instance:
>   use Install2200-K7 for Quad2200-K7
>   use InstallR2400 for QuadR2400