

# BrightQ-Pro User Guide

Version 2.5



# BrightQ - Pro User Guide

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# Documentation Overview

The User Guide is designed to assist in the installation, setup, configuration, and usage of BrightQ-Pro. The manual is structured so that it follows the process of installing, registering, executing, configuring, and printing from BrightQ-Pro. Listed below are some of the subjects covered.

- Installing BrightQ-Pro on a Linux/Unix computer
- Installing and configuring BrightQ-Pro via. Unix shell-based interface
- How to register your copy of BrightQ-Pro and activate a BrightQ-Pro license
- How to configure BrightQ-Pro for Socket (9100) based printing
- How to configure BrightQ-Pro for remote LPD based printing
- Setting the default print options for a print queue
- How to print a file

## 1 Product Overview

Note; All following instructions, illustrations, Figures, etc, are done under the assumption that the user is "root", unless otherwise noted.

### 1.1 BrightQ-Pro Product Overview

Codehost BrightQ-Pro is a highly scalable, turnkey software package, which provides both a friendly, graphical user interface (GUI), and a Unix shell-based interface that links into all commonly utilized Unix and Linux print systems and spoolers (i.e. CUPS, System V/LP, BSD Printing/LPD). BrightQ-Pro additionally provides access to device specific output functionality while printing. This access to the printers additional functionality is done without the need for end user developed complex filters or scripting. Increased output device functionality is provided via Original Equipment Manufacturer (OEM) device specific Printer Drivers, and the default printing system on the local or remote host. Codehost BrightQ-Pro user software consists of multiple modules outlined below.

#### 1.1.1 BrightINSTALL

BrightINSTALL allows for an easy X Window System or Unix shell-based interface installation of BrightQ-Pro. The installer has both a recommended and expert installation mode. .

#### 1.1.2 Printer Installation Wizard

The BrightQ-Pro Add Printer Wizard allows for an X Window System driven tool with the ability to scan the local network for output devices. Scanning can discover devices based upon numerous criteria, including but not limited to; Available Port, Service Protocol, IP Address, IP Address range, etc. The "Add Printer Wizard" will also detect your devices Device Accessories, and automatically recommend the appropriate device drivers.

#### 1.1.3 License Manager

The license manager provides an easy to use X Window System or Unix shell-based interface for importing, activation, and management of Codehost License Files and Programs. The License manager controls product registration as well.

### 1.1.4 Configuration Tool

The Configuration tool provides an easy X Window System or Unix shell-based interface that will define the default printing variables/options for a specific printing device, which may include, but is not limited to, the selection of the service level printing protocols, access to local printing, default Device Accessories, a graphical queuing manager, remote and local connectivity, and many other features. This data is saved as a user centric configuration file and queried via. the BrightQ-Pro filters and the BrightQ-Pro Print Job Manager (PJM).

### 1.1.5 Device Status monitoring

BrightQ-Pro allows for passive monitoring of the selected output device to ensure that the device is in the appropriate state to accept incoming print jobs. Device Status keeps the user up to date on the availability and status of the selected output device. Device status will also report back some of your output devices configuration information. This monitoring is based upon the supported and available private and public printer MIB's (management information base).

### 1.1.6 Printer drivers and filters

BrightQ-Pro incorporates the OEM's latest printer drivers and integrates industry standard and, OEM specific PDL filters into the printing workflow.

### 1.1.7 Print Job Manager

The Print Job Manager (PJM) allows for easy access to all output devices finishing options/features. This is performed via. any application that utilizes the default printing system/spooler that BrightQ-Pro is compatible with and configured to support. The PJM presents all of the output device options in an easy to work with X Window System GUI, or Unix shell-based interface that is consistent across supported OS and distributions. The PJM will by default be symbolically linked to the printing systems default spooler

## 2 System Requirements

Listed below are the minimum requirements to run Codehost Inc.'s BrightQ-Pro with Linux and Unix Operating systems. BrightQ-Pro supports the hardware platforms/architectures listed, as well as associated Operating Systems. It is assumed that if the hardware (HW) platform/architecture is not listed in this document it is not supported in BrightQ-Pro.

### 2.1 Major Linux Distributions and Unix operating systems

BrightQ-Pro supports most major Linux distributions currently available. Listed in Table 2.5 are the minimum major distribution revisions supported. BrightQ-Pro supports most major recent Unix OS currently shipping and available. Listed in Table 2.6 are the minimum versions of the supported Unix OS.

### 2.2 Kernel: minimum supported version

Linux Kernel for BrightQ-Pro is 2.4.12 or greater

### 2.3 X11 Window System

The minimum version of supported Linux X Server for BrightQ-Pro is Xfree86 version 4.0. The minimum version of supported Unix X Server for BrightQ-Pro is version 11 release 5. The X Window system must be installed in order to run any of the BrightQ-Pro tools graphically. Please refer to the Unix shell-based interface chapter of this document for instructions pertaining to usage without the X Window System.

### 2.4 Hardware

For Linux distributions of BrightQ-Pro software, must be installed on the Intel x86 series (or compatible), or AMD series of 32 bit and 64 bit processors. Currently there is no support offered for Linux distributions running on SPARC, UltraSPARC, PPC, Alpha, or additional architectures not mentioned in this document.

In order to install, configure, and run BrightQ-Pro to its fullest potential, the following minimum requirements should be met

- 250MB free hard drive space to install and run BrightQ-Pro
- 64MB RAM
- Unless otherwise noted, the minimum processor speed required by the OS will be acceptable for running BrightQ-Pro.

### 2.4.1 AIX

The AIX version of BrightQ-Pro must be run on PowerPC processors.

### 2.4.2 FreeBSD

The FreeBSD version of BrightQ-Pro must be installed on Intel x86 processors (or compatible).

The options (-o) are only supported when using the BrightQ-Pro Print Job Manager (PJM) vs. the standard (i.e. built-in) printing system spooler when printing to BrightQ-Pro output devices.

### 2.4.3 HP-UX

The HP-UX version of BrightQ-Pro must be run on PA-RISC processors.

### 2.4.4 Linux

We recommend a minimum processor configuration of a Pentium 133 MHz (or compatible) with 64 MB of RAM, and 250 MB of free hard drive space. 64-bit AMD CPUs are also supported with recent Linux distributions.

### 2.4.5 Solaris

The Sun Solaris version of BrightQ-Pro must run on UltraSPARC or Intel compatible processors.

## 2.5 Minimum Supported Linux Distributions and Versions Table

Linux Distribution	Minimum Supported Distribution Version
Red Hat EL / CentOS	4
Fedora	7
SuSE / OpenSuSE	7.3
TurboLinux	10.0
Debian	3.0
Slackware	10
Ubuntu Linux	9.10

## 2.6 Minimum Supported Unix Versions and Architectures Table

Unix OS	Minimum Supported Version	Processor Architecture
Solaris *	10 UltraSPARC	UltraSPARC II or III
Solaris *	10 i86pc	x86-Intel and Intel-Compatible
HP-UX	11i	PA-RISC
Free BSD **	8.2	x86-Intel and Intel-Compatible
AIX***	4.3	PowerPC

### 2.6.1 Solaris \*

As of the writing of this document, when using Solaris 9 there is an engineering defect in the Solaris 9 X-Server when using applications created with the Gimp Tool Kit (GTK). The Solaris 9 X server will exit when running BrightQ-Pro. In order for BrightQ-Pro to work in conjunction with the default Solaris 9 X server you will need to download and install patch 112786-06 from SunSolve (<http://sunsolve.sun.com>)

### 2.6.2 FreeBSD \*\*

When using FreeBSD the options (-o) are only supported when using the BrightQ-Pro Print Job Manager (/usr/local/BrightQ-Pro/bin/pjm) vs. the standard (i.e. built-in) printing system spooler (i.e. /usr/bin/lp, lpr)

### 2.6.3 AIX \*\*\*

When using AIX, BrightQ-Pro supports print via. System V (on AIX 5 and above) and the AIX printing system. To switch to SystemV from AIX or vice versa you can use "smit" or simply use the commands below before installing the software:

```
/usr/sbin/switch.prt -s AIX (this switches from SystemV to AIX)
/usr/sbin/switch.prt -s SystemV (this switches from AIX to SystemV)
```

## 2.7 Supported Linux Printing Systems

BrightQ-Pro supports most major Linux print spoolers/systems (i.e. Berkeley, LPR, LPRng, CUPS). When installing BrightQ-Pro using the "Expert" option, you will be prompted to select the appropriate installed print spooler for BrightQ-Pro to monitor (note this is only relevant if you have multiple spoolers installed). When installing BrightQ-Pro using the "Recommended" installation option, the installer will select the default print spooler as the system to monitor and symbolically link to its default spooler. If no default print system is loaded or detected then BrightQ-Pro will abort the installation, and prompt the user to install a default print system and reinstall BrightQ-Pro.

*Note; When utilizing the Recommended mode of installation the BrightQ-Pro Print Job Manager will by default be symbolically linked to the systems default print spooler (i.e. lp, lpr, cups, etc.).*

The three supported Linux print spoolers/systems are listed below, with their supported versions

### 2.7.1 CUPS (Common Unix Printing System)

We support CUPS releases later than or equal to 1.1.15. CUPS focus is on the Internet Printing Protocol (IPP), but also supports other protocols such as Socket and LPD. CUPS is not included with BrightQ-Pro, so therefore needs to be installed prior to installing BrightQ-Pro.

*Note; As of the writing of this document Codehost recommends that CUPS version 1.1.20 be utilized in conjunction with BrightQ.*

### 2.7.2 LPRng (Line Printer Remote New Generation - BSD)

We support the LPRng release later or equal to 3.79. The LPRng software is an enhanced, extended, and portable implementation of the Berkeley LPR print spooler functionality. LPRng is not included on the BrightQ-Pro CD or BrightQ-Pro.xxx .run file, so therefore needs to be installed prior to installing BrightQ-Pro.

### 2.7.3 LPR, LPD (Berkeley Printing)

We support the LPR release later or equal to 1.6.3.1. LPR, LPD is the Berkeley Line Printer Daemon. This is commonly referred to as the Berkeley Software Distribution (BSD) printing system.

## 2.8 Supported Unix Printing Systems

BrightQ-Pro supports most major Unix print spoolers/systems (i.e. LP, LPR, AIX, CUPS). When installing BrightQ-Pro using the "Expert" installation option you will be prompted to select the appropriate installed print spooler for BrightQ-Pro to monitor. When installing BrightQ-Pro using the "Recommended" installation option the installer will select the default print spooler as the system to monitor. If no print spooler is loaded or detected then BrightQ-Pro will abort the installation, and prompt the user to install a default spooler and reinstall BrightQ-Pro. The two supported Unix print spoolers/systems are listed below with their supported versions.

*Note; When utilizing the recommended mode of installation the BrightQ-Pro Print Job Manager will by default be symbolically linked to the systems default print spooler (i.e. lp, lpr, etc.).*

### 2.8.1 CUPS (Common Unix Printing System)

We support the CUPS release later or equal to 1.1.15. CUPS focuses on the Internet Printing Protocol (IPP), but also supports other protocols such as Socket and LPD. CUPS is not included on the BrightQ-Pro CD or BrightQ-Pro.xxx .run file, so therefore, needs to be installed prior to installing BrightQ-Pro.

*Note; As of the writing of this document Codehost Recommends that CUPS version 1.1.20 be utilized in conjunction with BrightQ.*

### 2.8.2 LP (System V)

We support the LP printing spooler/system. LP is the Line Printer system most commonly associated with the AT&T flavors of Unix, and is referred to as the System V printing system. Note; LP will work on systems that are BSD based as well as AT&T System V based.

### 2.8.3 LPR, LPD (Berkeley Printing)

We support the LPR release later or equal to 1.6.3.1. LPR, LPD is the Berkeley Line Printer Daemon. This is usually referred to as the Berkeley Software Distribution (BSD) printing system.

### 2.8.4 AIX Native

We support printing using the native AIX print system on any AIX system supported by BrightQ.

## 2.9 Supported Printers/Devices

Please refer to the README document that is contained within the specific version of BrightQ-Pro that you have chosen to install.

## 3 Installing BrightQ-Pro on a Linux or Unix Computer

*Note: It is always recommended that you check the Codehost, Inc., or your printer OEMs web site for recent BrightQ-Pro updates, patches, FAQ/Technical notes, and the most recent release notes. Codehost updates can be found at the following URLs:*

<http://www.codehost.com>

**The installation of BrightQ-Pro on either a Linux or UNIX computer involves the following core steps:**

1. Ensure that all of the system requirements are in place prior to installing BrightQ-Pro, including root or super user access to the system you will be installing BrightQ-Pro on.
2. Download the appropriate binary file (.run file) or Mount the CD media, and install the program into an accessible directory.
3. If required define the path to the BrightQ-Pro program directory in order for the BrightQ binary to be accessed.
4. Ensure that the correct default print spooler is selected while installing (expert class) or accepting the recommended installation class
5. Utilize the BrightQ-Pro License Manager to license BrightQ-Pro and ensure the proper Codehost License File's (CLF) or Codehost License Packages (CLP) are loaded.

Note; Licensing BrightQ-Pro, and loading .clf or .clp files is not required for some copies of BrightQ-Pro. Some OEM copies of BrightQ-Pro have the license files built into the program. Please refer to the information supplied with your copy of BrightQ-Pro to determine if importing a license is required.

### 3.1 To install BrightQ-Pro on a Linux or Unix system

Note: The procedure described and the illustrations utilized are Linux centric. Unix installations follow the same procedure but the look, feel, install paths, and core OS centric commands for installation may differ slightly. If it is required (for Unix installations) we will point out the core differences. The installation procedure below will work when installing the program via X11 or from the command line.

BrightInstall will detect the following system attributes, and variables, and adjust the installation accordingly:

- **Automatic detection of the System Architecture:** The installer will auto detect the hardware platform/architecture the system is utilizing (i.e. x86, Sparc, MIPS, etc.)
- **Automatic detection of the Operating System (UNIX):** The installer will auto detect the Unix OS and utilize the appropriate binaries (i.e. Solaris, HP-UX, IRIX, etc.)
- **Automatic detection of the Distribution (Linux) and kernel:** The installer will auto detect the Linux Distribution and kernel version in order to load and utilize the appropriate binaries (i.e. Red Hat, SuSE, Slackware, etc.)
- **Automatic detection of the available Libraries (i.e. GLIBC, GTK, etc.)**

- **Automatic detection of the existing and default printing spooler/system:** The installer will auto detect the default printing system and (depending on the class of installation) will prompt to utilize the default spooler/printing system.

A printing spooler/system must be pre-installed on either the Unix or Linux systems in order to successfully install and run BrightQ-Pro. If one is not loaded the install will abort and you will be prompted to load one.

- **Automatic detection of pre-installed printers:** The pre-installed printers will be made available via. BrightQ-Pro.
- Only printers installed via. BrightQ-Pro will be modifiable from either the Print Job Manager or the configuration tool, the only exception to this is the generic BrightQ filter options (i.e. Properties, General, Layout, Margins, Image, Text, HP-GL/2) and printers installed via. CUPS that have a device specific PPD associated with them.

CUPS printers will be modifiable from either the Print Job Manager or the Configuration tool only if the appropriate BrightQ-Pro CUPS license is installed and the options for “Feature Selection for other queues” and “User Print Job Manager or other queues” are selected.

- The detection of pre-installed printers is determined from the appropriate print spooler/systems default configuration files. Pre-installed non-BrightQ-Pro printers can utilize BrightQ-Pro conversion filters if the option is enabled via the Configuration-Tool options menu.
- **Automatic detection of pre-installed copies of BrightQ or BrightQ-Pro:** If you have a pre-existing copy of BrightQ or BrightQ-Pro on your system the BrightInstall will detect this and retain your configured printers, as well as the configuration for the default printing system, and default print spooler link to the BrightQ spooler (the Print Job Manager or PJM).

## 3.2 Locating the .run or setup.sh installer

The first installation step will involve locating the locally accessible BrightQ-Pro installer either on CD or via the downloaded .run file

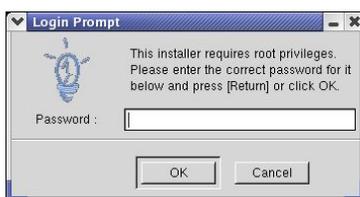
### 3.2.1 Starting the Installation script

To start the setup process, locate the “brightq-<os>.xxx.run” file and run the setup script to launch the installer.

An example command to start the installation script is listed below.

```
# sh BrightQ-Pro-2.x-solaris-2003-08-23.run
# ./ BrightQ-Pro-2.x-solaris-2003-08-23.run
```

If you are not logged into the system as root you will be prompted to supply the root password



Root login menu

### 3.2.2 Command line feedback

For a Unix shell-based interface you will first be presented with a menu that displays the operating system the installer is being run on and some basic information pertaining to the libraries being used (see example below).

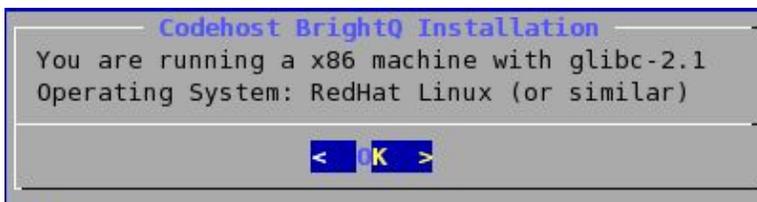
This is for informational purposes only, simply select "OK" to move to the next menu. X Window System's will not display this menu.

- **Unix shell-based interface menu displayed for Solaris x86:**

You are running a x86 machine with glibc-2.1  
Operating System: Sun Solaris 5.8 (or similar)

- **Unix shell-based interface menu displayed for Red Hat Linux:**

You are running a x86 machine with glibc-2.1  
Operating System: Red Hat Linux (or similar)



Unix Shell semi-graphical menu

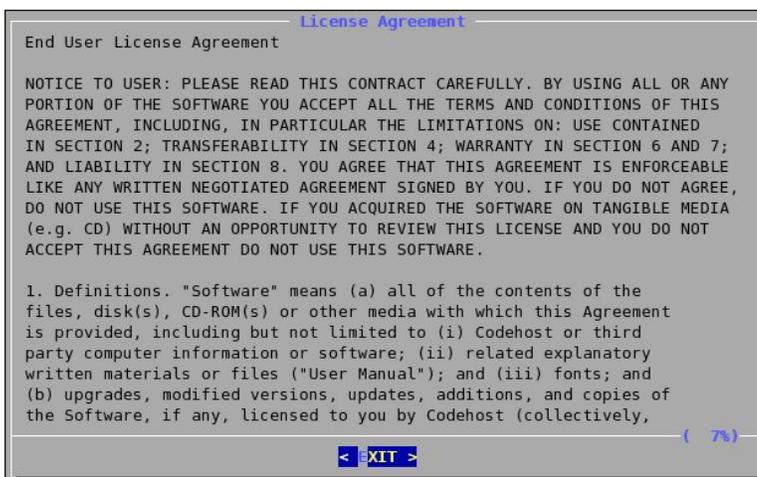
### 3.2.3 End User License Agreement

The next menu you will be presented with will be the Codehost "End User License Agreement (EULA)".

Please review the agreement and if you agree to the terms of the EULA select "I Agree". For Unix shell-based interface when you are finished reviewing the EULA first select "Exit" you will then be prompted whether or not you agree with the license. If you do not agree to the terms of the EULA select "cancel or no" and the installation will be aborted.

Once you have accepted the EULA the menu system will vary based upon whether you are using an X Window System or a Unix shell-based interface.

For the Unix shell-based interface you will be prompted as to whether or not you would like to read the README file. For the X Window System installation you will go directly into the setup menu that will prompt for the installation class, and provide a button for the viewing of the README file.



Unix Shell semi-graphical EULA menu

### 3.3 Installation Classes

You will now be prompted by the BrightQ-Pro setup menu to select the "class" of installation. The two classes are as follows: "Expert" or "Recommended". They are explained in the following sections.

- The two classes determine whether the BrightQ-Pro installer will make certain installation decisions for you, or these decisions will be made by the individual conducting the installation.

#### 3.3.1 Expert Class Installation

The Expert installation class will allow the user to make certain decisions pertaining to the installation of BrightQ-Pro. Under the Expert installation class, BrightINSTALL still auto detects all relevant items, such as default printing system, operating system, and system architecture. You will be able to choose the following items when utilizing the Expert Class installation.



Unix Shell semi-graphical Installation Class menu



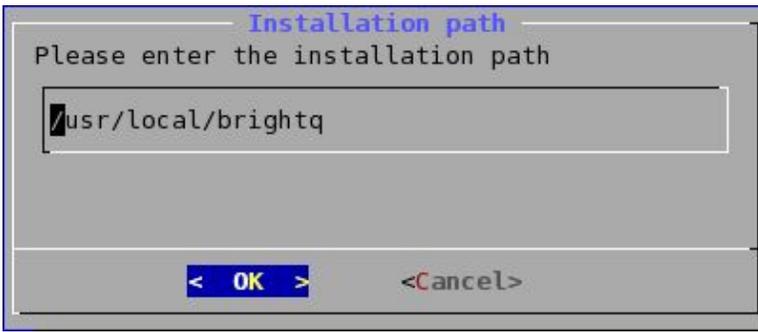
X Window System installation class menu

### Global Options

These options are consistent whether using an X Window System or a Unix shell-based interface.

#### 3.3.1.1 Install Path

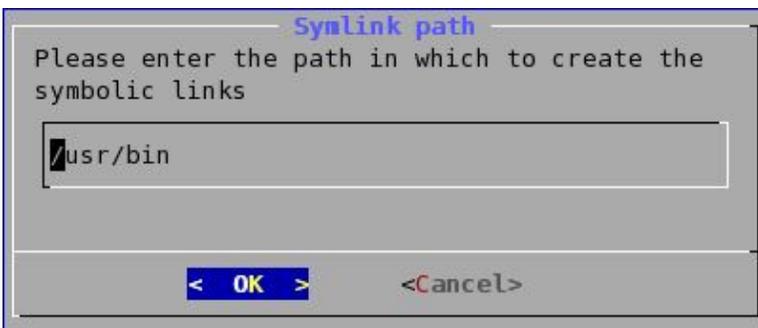
This is the default path where BrightQ-Pro will be installed on your local machine. The default path is `/usr/local/brightq`, but this path is user definable.



Unix Shell semi-graphical installation path menu option

### 3.3.1.2 Link Path

This is where the symbolic link resides for the installed print spooler binaries. The default is /usr/bin, but this path is user definable.



Unix Shell semi-graphical symlink menu option

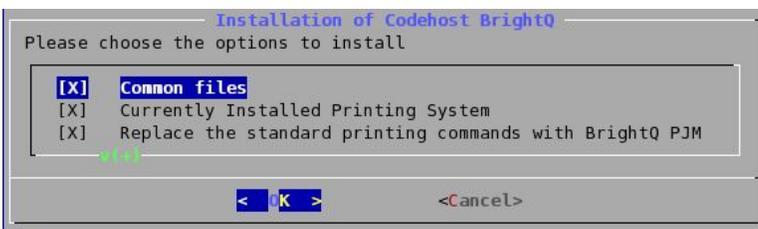
## Install Options/Printing System

The Printing system options menus will vary whether you are using a X Window System or Unix shell-based interface.

### 3.3.1.3 Common Files

This option is selected by default. If this option is unselected the installation will abort. This is only available as a selectable option with the Unix shell-based interface. With the X Window System you cannot deselect this option. Listed below is the option as displayed with the Unix shell-based interface.

Common Files



Unix Shell semi-graphical installation options menu option

### 3.3.1.4 Components

These are only available as a selectable option with the Unix shell-based interface, and only if a default OEM license is being shipped with the product. You will be presented with two component options. Listed below are the options as displayed with the Unix shell-based interface.

- Component Codehost BrightQ-Pro
- Component Printer OEM License Name

### **3.3.1.5 Currently Installed Printing System**

This option is selected by default. If this options is unselected the next menu will prompt you to select the appropriate printing system installed on your host. If left selected, BrightInstall will select the default printing system that was detected. It is highly recommended to leave this option selected. This option is not available in the X Window System. Instead it will be represented by the actual printing system being selected. Listed below is the option as displayed with the Unix shell-based interface.

- Currently Installed Printing System

### **3.3.1.6 Replace the standard printing commands with BrightQ-Pro PJM**

This option is selected by default. Selecting this option means that your printing system spooler (i.e. /usr/bin/lpr, /usr/bin/lp etc.) will be renamed to lp.brightq or lpr.brightq (depending on the operating system), and we will symbolically link the default spooler command with /usr/local/bin/pjm.

Therefore, when using an X Window System and typing lp or lpr in a terminal you will see the BrightQ-Pro Print Job Manager (PJM) as PJM is now symlinked with the lp/lpr/etc. spooler command. If your application is utilizing lp then it will now be using the BrightQ-Pro PJM.

- Replace Standard Printing commands with BrightQ-Pro PJM

If you choose not to select this option then no symlink will be established between the default print system spooler and the PJM. With no symlink in place you will need to call the PJM explicitly via. /usr/bin/pjm, /usr/local/brightq/bin/pjm, or ensure that that BrightQ-Pro is in the systems path. Listed below is the option as displayed with the Unix shell-based interface.

### **3.3.1.7 CUPS Printing System**

Selecting this option assumes that you have the Common Unix Printing System (CUPS) installed and selected as the default print spooler/system on your host. Please ensure that you have a supported version of CUPS installed on your system prior to installation of BrightQ-Pro.

### **3.3.1.8 LPRng/LPR Printing System**

Selecting this option assumes that you have a LPR variant (LPRng, BSD, LPR, GNU LPR...) Berkeley (BSD) based printing system installed and selected as the default print spooler on your host. BrightQ-Pro will detect what the default print spooler/system is on your system and select this option. Please ensure that you have a supported version of LPRng/LPR installed on your system prior to installation of BrightQ-Pro.

### **3.3.1.9 Unix Printing System**

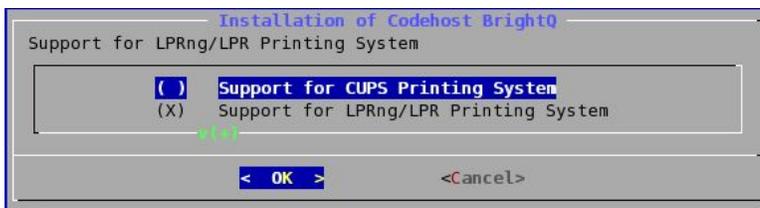
Selecting this option assumes that you have a System V or LP variant printing system installed and selected as the default spooler on your host. BrightQ-Pro will detect what the default print spooler/system is on your system and select this option.

### **3.3.1.10 AIX Printing System**

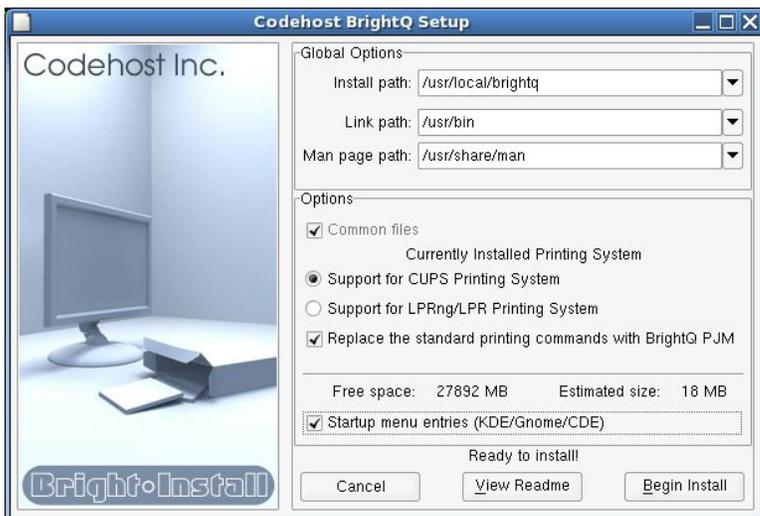
If you are installing BrightQ-Pro on an AIX system, you will be able to select the native AIX print system.

### **3.3.1.11 Startup Menu Entries (KDE/GNOME/CDE)**

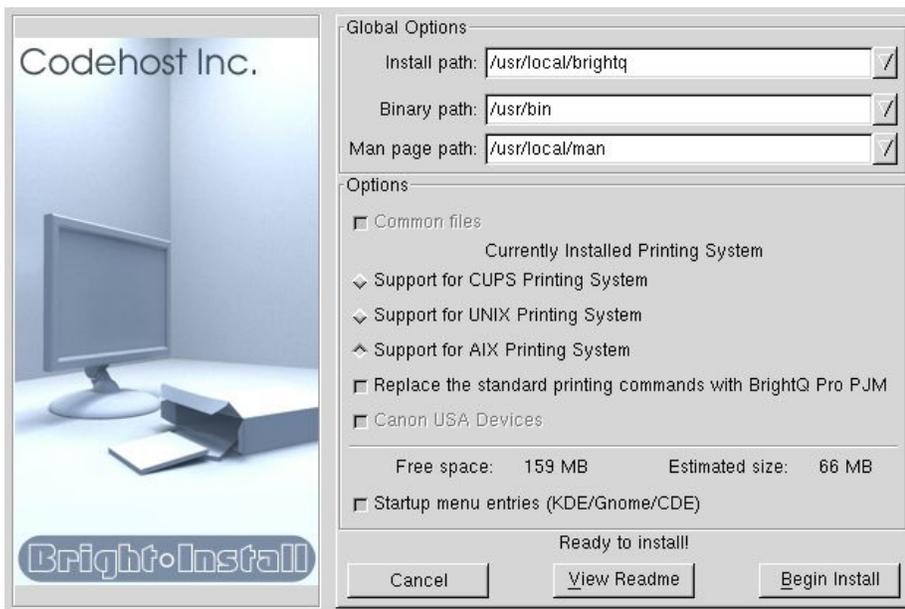
For users who are utilizing the KDE, GNOME, or the Common Desktop Environment (CDE) an entry will be placed in the "startup menu".



Unix Shell semi-graphical Expert installation class menu



X Window System Expert installation class menu



### 3.4 Recommended Install

When using the "Recommended" installation class the installer will make the core decisions pertaining to the installation of BrightQ-Pro for you. These decisions are the same as the Expert Class install (i.e. Install Path, Link Path, default print spooler/system, etc.). Under the Recommended installation BrightINSTALL still automatically detects and addresses all relevant items.

- The "Recommended Install" is designed for individuals who do not have a strong knowledge of either the Unix or Linux operating systems or are comfortable with the default installation options.

- Once you have agreed to the EULA, selected the "Recommended Install", and selected the "Continue" button, the BrightQ-Pro installation will run until completed.
- Note: if you cancel the installation of BrightQ-Pro prior to its completion, all files installed up to that point will be removed, and your system will be returned to the original state it was prior to installation.

### 3.5 Registration, License Manager, License Activation

Once you have completed the installation, you will be prompted to register and license your copy of BrightQ-Pro.

If you have a bundled and Original Equipment Manufacturer (OEM) licensed version of BrightQ-Pro the appropriate OEM license will be included with the program. All others will require a license to be installed.

- All demo versions of BrightQ-Pro will require that you both register and download a demo license.
- If you are working with a Demo version of BrightQ-Pro you will be required to register via the BrightQ-Pro License Manager, Online Registration inside the application or at <https://license.codehost.com> in order to receive a Demo Codehost License Program (.clp), Codehost License File (.clf), or Codehost License Number (CLN). Please refer to the "BrightQ-Pro Demo and Full License Activation Steps", chapter below for more details on this process.
- The aforementioned files will enable BrightQ-Pro support for your Original Equipment Manufacturer (OEM) specific output device. If you are working with a Demo license, by registering your copy, you will be automatically emailed a Codehost License Certificate Number (CLN) that will download a .clp file, and subsequently activate BrightQ-Pro. Listed below are the steps to register your copy of BrightQ-Pro and to install either the .clp, .clf, or CLN.
- Listed below are step by step instructions on how to download, install, and activate the BrightQ-Pro OEM specific license from the BrightQ-Pro license manager and <https://license.codehost.com>

#### 3.5.1 BrightQ-Pro Demo and Full License Activation Steps

##### 3.5.1.1 Registration

Not all copies of BrightQ-Pro require registration. If you have a demo version of BrightQ-Pro you will be required to register your copy of BrightQ-Pro in order to download and activate an OEM BrightQ-Pro license.

##### 3.5.1.2 Online Registration

If you are using an X Window System you can skip to "Registration with an X Window System:" chapter below.

If you are not using an X Window System but instead a Unix Shell-Based interface you will first need to register at the following URL;

- <https://license.codehost.com>

Click on the registration option (Click here to REGISTER). Please ensure that all registration information is valid, and retain the email address and password you entered, as this information will be required later.

#### 3.5.2 Registration and License Activation - X Window System:

1. To activate the BrightQ-Pro license launch the BrightQ-Pro License Manager by typing "register" at Unix Shell or

“codehost-config” and then go to the “File/License Manager” menu option.

2. Select “License Activation”
3. If you have not already registered online or via. BrightQ-Pro, in the “Process an online order” menu select “Create an account”.
4. After filling out all of the registration information select “Register”. Please retain for your records the email address and passwords you entered.
5. You will now automatically be put back into the “Process an online order” menu. The email address and password you entered will be automatically populated. If this does not occur automatically then manually populate these menu fields.
6. Input the “License Program Certificate Number” which was either emailed to you, listed on the URL you registered on, or listed on page one of your BrightQ-Pro License Certificate, and select submit. Following is an example of a Codehost “License Certificate Number”:

**OEMX-10-JQZB-URXA-NTAL-KZHL-5111**

7. BrightQ-Pro will validate your license on the Codehost License servers and download the appropriate files for you. For all additional systems, utilize the “License Activation”, (you will now be in the “Process an online order” dialog) as described above and input the Certificate number, email address, and password. If you have (for example) a five user license this process will work for five unique systems.

*You are now ready to use BrightQ-Pro.*

- *Note: If you are downloading a demo license it is valid for 45 days, and can be installed on three unique computers.*

License Manager  
Codehost License Manager  
Version 1.99

Registered license : Generic Demo License (2.0) (demo.cif)

Your Machine ID is : ETHA6FF296B-65537

Generic Demo License (2.0)

Contact Information

Company: Your Company  
Contact: Friendly Customer  
Address: Your address  
City: Your City State / Province: Your State  
ZIP / Postal Code: 00000 Country: Your Country  
Phone Number: (310) 945-0222  
Email Address: info@codehost.com

License Information

Reseller: Codehost Machine ID: [dropdown]  
Operating Systems: All Users: Enterprise / Unlimited  
Architectures: All Expiration date: Never

Serial Number: DEMO - ZYFW - FFEA - WOPO - PUUW - YYTA - YZOA - 3333

Import... License Activation... Online Registration... Exit

Upon Selecting “License Activation” you will access the “Process an online order” menu

**Process an online order**

If you have purchased a certificate number from Codehost, you may use this form to download and install a license for this machine.

You first need to have an account created on <http://license.codehost.com/>

Order Information:

Certificate Number :

Email address :

Password :

Process an online order menu. Upon Selecting "Create Account" you will access the "Create account with the Codehost License Server" menu

**Create account with the Codehost License Server**

Contact Information (mandatory)

Company:

Contact Name:

Address:

City:

State / Province:

ZIP / Postal Code:

Country:

Phone Number:

Email address:

Password:

Password (confirm) :

Other Information

What industry is your company in ?

How many people are at your site?

Create an account with the Codehost License Server menu.

### 3.5.3 Registration and License Activation - Unix Shell-Based interface

1. If you have not already registered please refer to the "Online Registration" chapter of this document and follow the online registration steps.
2. To activate the BrightQ-Pro license simply launch the Unix Shell-Based, BrightQ-Pro license manager by typing the "codehost-license" command with the "activation or -a" option:

**"codehost-license --activation" or "codehost-license -a"**

3. You will be prompted to input the "Codehost License Certificate Number" (either emailed to you, listed on the URL you registered on, or listed on page one of your Codehost License Certificate Number), and once input select submit. You will also be prompted to input the email address and password you input via the online registration.

You can include all of the above information with the "codehost-license" command if you choose, see below:

```
codehost-license --activation --certificate OEMC-10-YQZI-SRXV-WTAP-HZHP-5111 -email
example@codehost.com -password sample_password
```

or

```
codehost-license -a -c (codehost license certificate number) -e email address -p password
```

BrightQ-Pro will validate your Certificate Number, email address, and password on the Codehost License Certificate Number servers and download the appropriate files for you.

For all additional systems, utilize the steps as described above and input the Codehost License Certificate Number, email address, and password. If you have (for example) a five user license this process will work for five unique systems with five unique Network Adapters/MAC addresses

*You are now ready to use BrightQ-Pro.*

- *Note: If you are downloading a demo license it is valid for 45 days, and can be installed on three unique computers.*

### 3.5.4 Registration and License Activation without Internet Access - X Window System

If the computer hosting BrightQ-Pro does not have access to an Internet connection then you will need to generate what is referred to as a Codehost License Package (CLP) file from the <http://license.codehost.com> URL, in order to activate BrightQ. The following steps are only necessary if you cannot activate BrightQ via the built in License manager with a connection to the Codehost license servers via the Internet or you do not have a built-in license (i.e. OEM bundled copy of BrightQ-Pro).

**Note: You are still required to register as outlined in chapters 3.5.2-3**

Listed below are the steps to generate and install a .clp file (Codehost License Program) with an X Window System

1. In the BrightQ-Pro GUI go to the "File/License Manager" and copy your machine ID from the screen listed next to "Your Machine ID is: (example ETHA6FFXXX-61234).
2. Go to URL <https://license.codehost.com> and login with your user name and password. If you have not already registered on the Codehost servers refer to chapter 3.5.2-3 above.
3. Enter your Codehost License Certificate Number listed on page #1 or your license document (if the number has been supplied in another manner use that number), in the field "Enter a new certificate number". Once the number is input, select "submit".
4. You will now be pushed to the customer page with the current certificate displayed.
5. Listed under "GET FULL DRIVERS & LICENSE" :  
  
Select your:     Operating System  
Input your:     Machine ID (i.e. ETHA6FF296B-61234)
6. Now select "Product Activation" and you will be presented with a xxxx.clp file to save to your local system.
7. Save the xxxx.clp file to an accessible location (i.e. local drive, archive media, etc.)
8. In the BrightQ-Pro GUI go to the "File/License Manager" select "Import" and locate the xxxx.clp file

9. Restart BrightQ.

### 3.5.5 Registration and License Activation without Internet Access - Unix Shell

If the computer hosting BrightQ-Pro does not have access to an internet connection then you will need to generate what is referred to as a Codehost License Program (CLP) file from <http://license.codehost.com>, in order to activate BrightQ.

**Note; You are still required to register as outlined in chapters 3.5.2-3**

Listed below are the steps to generate and install a .clp file (Codehost License Program) with a Unix Shell based interface

1. The only element that varies in the Unix shell vs. the X Window system is the process to determine the Machine ID and the process to import the xxxx.clp
2. Go to URL <http://license.codehost.com> and login with your user name and password. If you have not already registered on the Codehost servers refer to chapters 3.5.2-3 above.
3. To get the machine ID simply type "codehost-license --machineid" or "codehost-license -m" at a Unix Shell and the shell will respond with the following feedback;

ETHA6FFXXXX-61234 (this is an example Machine ID)

d.) To import the xxxx.clp file type :

```
# codehost-license -i xxxx.clp
```

e.) When imported successfully you will get the following feedback.

```
"License for 'xxxx License and Drivers' imported successfully. You may need to restart any running Codehost BrightQ programs for the changes to take effect."
```

## 3.6 Upgrading from a previous version of BrightQ to BrightQ-Pro

If you are a current BrightQ 1.6.5 (or greater) user you can upgrade to BrightQ-Pro without having to uninstall the previous version of BrightQ. The process is exactly the same as listed in the previous chapter ("3.0 Installing BrightQ-Pro on a Unix or Linux computer"), with the exception of the following items.

- BrightQ 1.6.4 or earlier must be completely removed prior to installing BrightQ-Pro
- The default print system you initially installed BrightQ in support of, cannot be switched. For example if you installed BrightQ in support of CUPS you cannot now select LPD as the default print system. If you have changed your print system to one that is different then when you initially installed BrightQ you will be required to Uninstall BrightQ prior to installing BrightQ-Pro.
- The Print Job Managers (PJM) link to the default print spooler cannot be changed when upgrading. If you want to change this option while upgrading you will be required to Uninstall BrightQ and install BrightQ-Pro.
- The Installation and Link Paths cannot be changed when upgrading from BrightQ to BrightQ-Pro. If you wish to change these locations you will be required to Uninstall BrightQ prior to installing BrightQ-Pro.

## 4 Printer Installation Wizard - X Window System

Now that you have installed and registered BrightQ-Pro it is time to begin the process of adding and configuring output devices. The configuration of printers on either a Linux/Unix X Window System or Unix Shell-based Interface involves the following core steps:

- Launching the BrightQ-Pro configuration tool either via. X Window System or the Unix shell-based interface (chapters 8-9). Note the Unix shell-based interface requires a printer to be manually installed and configured.
- Selecting either the BrightQ-Pro printer installation wizard or the expert mode Add Printer
- Selecting the appropriate model of output device and setting the default "Device Accessories"
- Selecting the appropriate local or remote connection to your output device (parallel, serial, USB, File, Remote LPD, SMB, IPP, socket 9100, etc.)
- Naming the print queue, and setting the system's default print queue
- Printing a BrightQ-Pro Test Page to ensure that the output device is configured properly

### ***Unix Shell-Based interface***

*Please refer to chapter 8-9 Unix shell-based interface, for the process to install, configure, etc. output devices without an X Window System*

### 4.1 Launching the Configuration Tool

The first step in configuring BrightQ-Pro is to launch the Configuration tool. If you accepted the installation option to include "Startup Menu Entries for KDE/GNOME/CDE then you can launch the Configuration Tool via the appropriate window manager menu entries. You can additionally (at a Unix shell-based interface) type the following command (type without the quotes) to evoke the Configuration Tool:

```
codehost-config
```

### 4.2 Adding/removing a printer

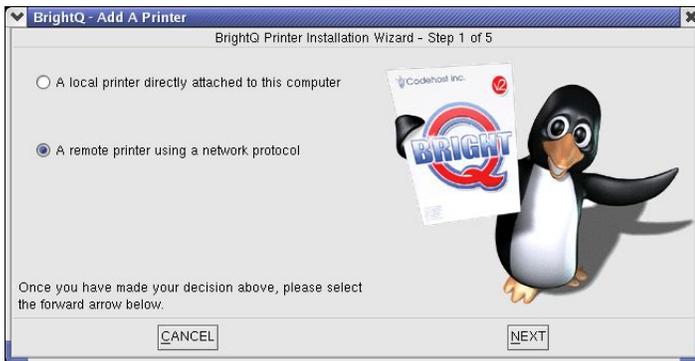
Once you have the BrightQ-Pro Configuration Tool launched you will need to add and subsequently configure your desired output devices. You can utilize the following steps to add, configure, and test your output device. There are two methods to add a printer in BrightQ-Pro. You can add a printer using the Printer installation wizard which will guide you step by step through the configuration of your printer or you can add and configure a printer manually.

### 4.3 Printer Installation Wizard

The Printer Installation Wizard is a tool designed to guide a user through the process of adding, configuring, and subsequently printing to a BrightQ-Pro supported printer. The Printer Installation Wizard is designed to simplify the process of printer installation, and configuration. Listed below are the core steps (1-5) to install a BrightQ-Pro printer.

### 4.3.1 Step 1 of 5

1. The first step in adding a device via the Printer Installation Wizard is to click the "Add Printer Icon" in the upper left of the configuration tool interface.
2. You will now be prompted to select the type of printer you will be installing. You will have a choice of "A local printer directly attached to this computer" (i.e. a printer connected via. Parallel, Serial, USB, or printing to a File) or a "Remote printer using a network protocol" (i.e. LPD, IPP, SMB, or Socket). Once you have made your selection click Next.



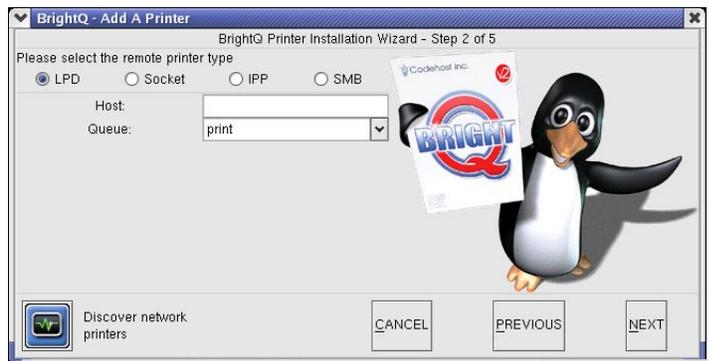
Printer Installation Wizard selection for a remote printer

### 4.3.2 Step 2 of 5 (local printer)

1. If you selected to connect to a local printer you will be give the local connection configuration options. Please refer to the following chapters for more detail on all of the locally connected device options.
  - Parallel – chapter 5.2.2
  - USB (Linux and Solaris only) – chapter 5.2.3
  - Serial – chapter 5.2.4
  - File – chapter 5.2.5
2. If you selected a remote printer, and you know the connection information select the appropriate protocol, input your configuration information, and select next. Please refer to chapters 5.x.x – 5.x.x for more detail on all of the remotely connected device and protocol option.
  - Remote LPD – chapter 5.2.6
  - IPP – chapter 5.2.7
  - Socket (Direct to Port Printing) – chapter 5.2.8
  - SMB (thru Samba's SMB) – chapter 5.2.9



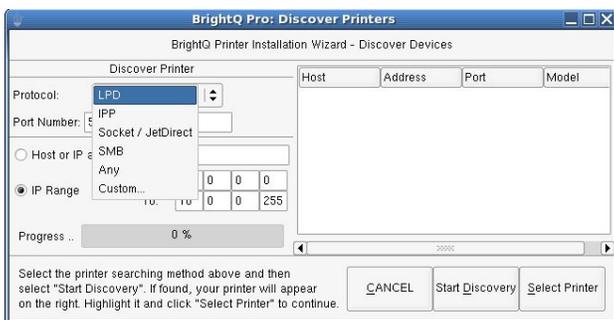
Printer Installation Wizard selection for the Parallel Port



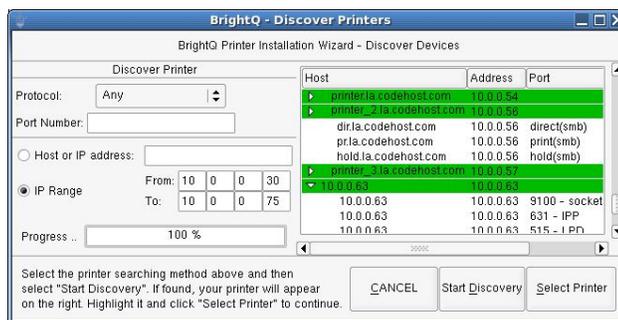
Printer Installation Wizard selection for LPD

### 4.3.3 Step 2 of 5 (remote printer)

1. If you do not have the connectivity information for your output device or want to scan the network for available Printers select the “Discover Network Printers” icon in the lower left corner of step 2.
2. The BrightQ-Pro “Discover Printers” menu will allow you to easily scan your network for available printers based upon the multiple criteria listed below.
  - a. **Protocol:** You can scan your network for available printers based upon the LPD, IPP, Socket, SMB, Custom or Any supported service level protocol.
  - b. **Port Number:** You can scan your network for available printers utilizing specific ports such as 515, 631, 9100, etc. You can also specify a custom port.
  - c. **Host name, IP Address, or IP Address range:** You can scan your network for a specific Host Name, IP Address, or range of IP Addresses. This will scan the specified host or hosts for available printers based upon protocol and port.
3. Once you have chosen your method of discovery and IP range, select the “Start Discovery” button. BrightQ-Pro will now scan your network for devices that are available based upon the criteria you supplied. This scan may take several minutes depending on the criteria supplied and the extensiveness your network. In order to expedite the discovery process please supply as much information as possible.
4. When the printer discovery process is complete you will be presented with a list of Hosts. Locate the appropriate printer and click “Select Printer”. You will now be automatically forwarded to step 3 of 5.



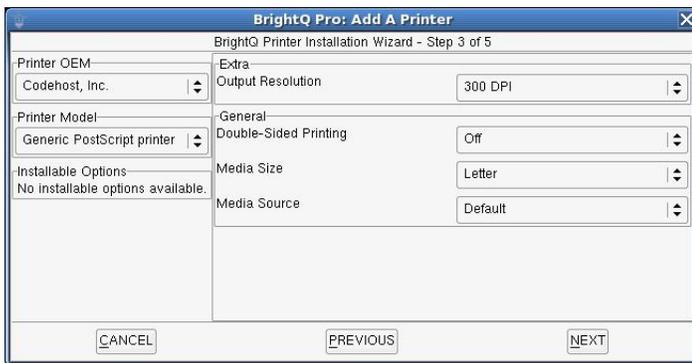
Printer Installation Wizard selection for LPD



Printer Installation Wizard scanning Any protocol with an IP range selected

#### 4.3.4 Step 3 of 5

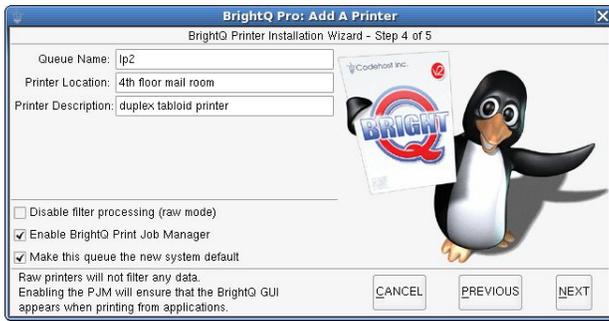
1. If you did not use the discovery process to locate your printer or the discovery process did not find a (device driver) PPD for you printer you will now be prompted to make a few manual selections.
  - a. **Printer OEM:** This is the Original Equipment Manufacturer of the printer you are configuring. If you only have single OEM license installed then you will only have one option in the drop down menu.
  - b. **Printer Model:** This is the model of the printer you are configuring. All of the models listed are dependant upon the selection made under the “Printer OEM” menu.
  - c. **Installable Options:** These are installed options on your printer such as additional paper decks, folding units, stapler units, etc. All of the options listed are dependant upon the selection made under the “Printer Model” menu.
  - d. **Features:** These are the Printer Model and Installable Options specific features. The selections made here will become the defaults for the print queue being configured.
2. Once you have finished select next.



Printer Installation Wizard Printer OEM, Printer Model, Installable Options, and device options for the Codehost Generic PostScript Printer

#### 4.3.5 Step 4 of 5

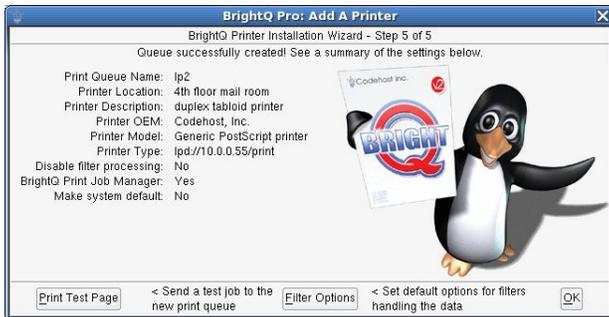
1. You will now be prompted to input some data.
  - a. **Queue Name:** This is a user definable queue name. Please refer to table 11.10 for maximum queue name lengths. Please note that spaces and non-alpha numeric characters cannot be utilized for queue names.
  - b. **Printer Location:** This is a user definable field designed to correlate with the location of your printer. An example might be 4<sup>th</sup> floor mailroom, lab, etc.
  - c. **Disable Filter Processing:** Please refer to chapter 5.2.1 for more detail on disabling filter processing.
  - d. **Enable BrightQ Print Job Manager:** Please refer to chapter 5.2.2 for detail on enabling the PJM.
  - e. **Make this queue the new system default:** This print queue will now become the system default print queue.
2. At this point selecting Next will enable the print queue on the system.



Printer Installation Wizard Queue Name, Location, Description, Raw Mode, Enable PJM, and System Default queue menu

### 4.3.6 Step 5 of 5

1. Queue configuration confirmation.
  - a. **Queue Settings:** This page will list the specific queue settings from previous steps.
  - b. **Print Test Page:** This will print a default BrightQ-Pro Test page to the configured printer
  - c. **Filter Options:** This option will display the default device independent filter options. Please refer to chapter 7.2 for more detail on configuring the default “Filter Options”
2. Select “Ok” and the configuration of your print queue is now complete and read to utilize.



Printer Installation Wizard queue successfully established, Print Test Page, and Generic Filter Options menu

## 5 Adding a printer manually - X Window System

Now that you have installed and registered BrightQ-Pro it is time to begin the process of adding and configuring output devices. The configuration of printers on either a Linux/Unix X Window System or Unix Shell-based Interface involves the following core steps:

- Launching the BrightQ-Pro configuration tool either via. X Window System or the Unix shell-based interface (chapters 8-9). Please note that the Unix shell-based interface requires a printer to be manually installed and configured.
- Selecting the Add Printer (Expert) (Ctl+A) menu option listed under the Printer Menu.
- Selecting the appropriate model of the output device.

- Selecting the appropriate local or remote connection to your output device (parallel, serial, USB, File, Remote LPD, SMB, IPP, socket 9100, etc.)
- Selecting the device specific properties and the device specific Device Accessories
- Naming the print queue, setting the location, and description, and establishing this queue as the system's default print queue if appropriate.

### Unix Shell-Based interface

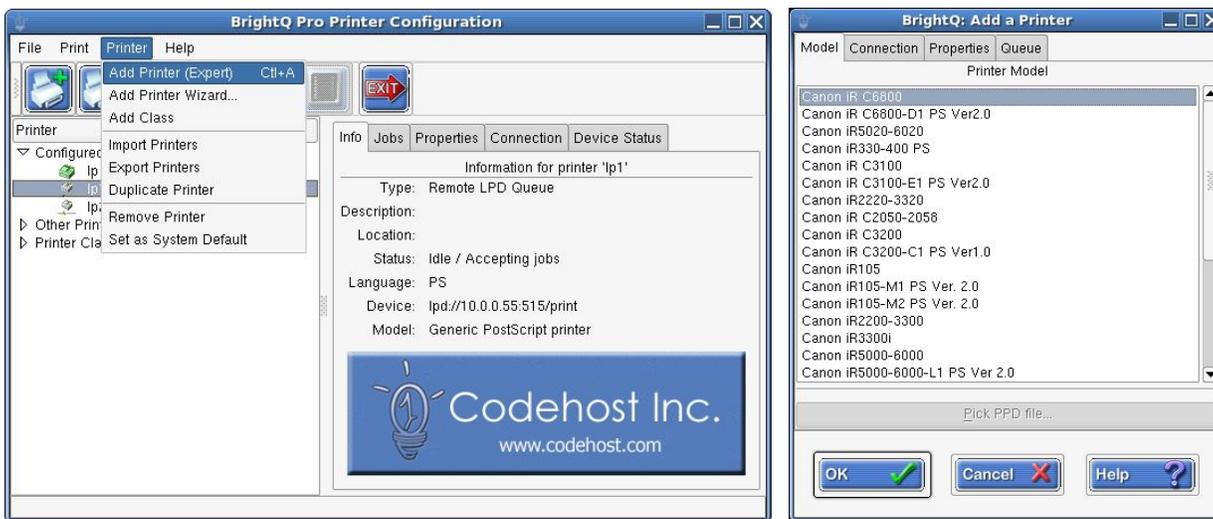
Please refer to chapter 8-9 Unix shell-based interface, for the process to install, configure, etc. output devices without an X Window System

## 5.1 The Model tab menu

This is the menu system you will use to determine which OEM model of printer you wish to install and which Device Accessories are on this printer. Options on your printer, such as additional paper decks, folding units, stapler units, etc. All of the options listed are dependent upon the selection made under the "Printer Model" menu.

1. Step one to adding an output device manually, is to select the Add Printer (Ctl+A) menu option listed under the "Printer" menu item.
2. Once you have selected "Add Printer (Expert)" you will be prompted to select the appropriate output device model. Once you have selected the appropriate model select the "Connection" tab.

Please note that BrightQ-Pro will display all currently installed Bright-Pro printers under "Configured Printers". All printers listed under "Other Printers" were installed prior to, or outside of BrightQ-Pro.



## 5.2 The Connection tab menu

This is the menu system you will use to determine how your computer will communicate with the printer model that you have selected to configure. You will be presented with a number of different connectivity/communication options. The options relate to printers both local and remote. The available connection options are as follows:

- Parallel

- USB (Linux and Solaris only)
- Serial
- File
- Remote LPD
- IPP
- Socket (Direct to Port Printing)
- SMB (thru Samba's SMB)
- Disable filter processing
- Enable Print Job Manager GUI

### 5.2.1 Disabling filter processing

You will also be presented with the option to "Disable filter processing". This allows the file to be passed on to the destination output device without any data modifications or filtering done by BrightQ-Pro. You might disable filter processing if (for example) you already have a print-ready data stream and you do not want any modifications performed. If you choose to not select this option the data stream handed to that queue will pass through the BrightQ-Pro data, document, input, etc. filters. This option is applied on a queue-by-queue basis.

Please note that BrightQ-Pro does not Filter-Process queues for printers established outside of BrightQ-Pro unless it is explicitly specified via the BrightQ-Pro options menu. This conversion filtering for other printers is enabled or disabled on a global vs queue-by-queue basis.

### 5.2.2 Enable Print Job Manager GUI

You will also be presented with the option to "Enable BrightQ Print Job Manager GUI". You would enable this option if you want to have the Graphical User Interface (GUI) of BrightQ-Pro appear each time the default print spooler is utilized (i.e. each time you print). With this option enabled you will have graphical printing UI to work with in order to select the appropriate printing (i.e. duplex, paper size, etc.) and finishing options (i.e. staple, fold, paper tray number x).

If this option is disabled then in order to access the Print Job Manager (PJM) you will have to call the PJM specifically. To call the PJM explicitly the "pjm" command will need to be in the systems default path or it will need to be called from its install location (i.e. /usr/local/brightq/bin/pjm). Enabling the Print Job Manager GUI will still allow you to access printers installed outside of BrightQ-Pro

### 5.2.3 Parallel Printing

Parallel printing refers to a printer connected directly to the local computer via a parallel cable. You will have the option to specify the path to the printer. The default path is "/dev/lp0", but this is a user definable path.

#### 5.2.3.1 Device

The usual default path for a parallel device is "/dev/lp0" but this path might exist as "/dev/lp1", "/dev/lp2", or it might exist as "/dev/par0", "/dev/parallel/0", etc. depending on your operating system.



Add Printer (Expert) menu for a local Parallel port printer

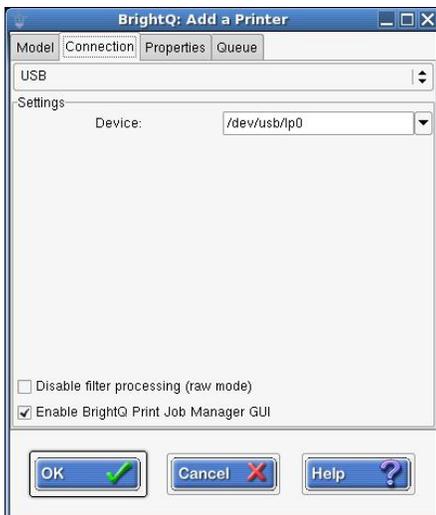
## 5.2.4 Universal Serial Bus (USB) Printing

When printing via the USB, you will need to have the printer directly connected via USB cable to the computer utilizing BrightQ-Pro. You will need to define the default path to the device. Note: USB port printing does not support any port options.

***USB Printing is only a feature of Linux and Solaris versions of BrightQ-Pro***

### 5.2.4.1 Device

The usual default path for a USB printer device is "/dev/usb/lp0" but this path might exist as lp1, lp2, or it might exist as "/dev/ulpt1", "/dev/unlpt1", "/dev/usblp1", "/dev/usb/lp1", "/dev/usb/usblp1", etc. depending on how you have configured your computer to use the USB port.



Add Printer (Expert) menu for a local USB printer

*Note; all numbers listed in the above paths are only examples and may be different on your individual setup*

## 5.2.5 Serial Printing

BrightQ-Pro supports the standard RS-232C serial ports on the system (the ports on a normal PC are examples of RS-232 connections). When printing via the serial port of the computer you will need to have a Serial printer directly connected via serial cable to the computer utilizing BrightQ-Pro. You will need to define the default path to the device, speed of data transfer, Data Bits, Parity, and Flow Control parameters.

#### 5.2.5.1 Device

The usual default path for a Serial device is `"/dev/ttyS0"` but this path (`/dev/`) might exist as `"ttyS1"`, `"ttyS2"`, `"cua0"`, or it might exist as `"/dev/serial/0"` etc. depending on how you have configured your computer to use the serial port or what generation your OS release or distribution is.

#### 5.2.5.2 Speed (Baud Rate)

Sets the speed of the serial port in bits per second (baud). You have to select a data transfer speed for the serial connection. You have a choice between 1200, 2400, 4800, 9600 (default), 19200, 38400, 57600, 115200, baud rates

#### 5.2.5.3 Data Bits

This determines the number of asynchronous data characters transmissions at a time. You have an option of 7 or 8 Data Bits to be asynchronously transferred at a time (8 is default).

#### 5.2.5.4 Parity

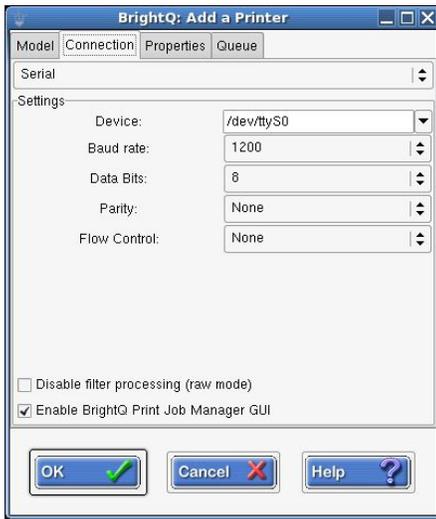
A calculated value that is used to reconstruct data after a transfer failure. Select None, Odd, or Even.

- **None:** Does not send a parity bit check (default)
- **Odd:** Send a parity check bit with every character; the result of the sum of all bits in each character must be odd.
- **Even:** Send a parity check bit with every character; the result of the sum of all bits in each character must be even.

#### 5.2.5.5 Flow Control

This is the management of data flow between computers or, in this case, a computer and a peripheral printing device. Flow control is designed so that computers and devices can handle data at an efficient pace.

- **None:** This effectively determines that no flow control is necessary and no parity check bit will be sent by default (by default a parity check bit is sent).
- **Soft:** This uses the XON and XOFF characters to do flow control; note this is usually not reliable with printers for the following reasons. Software flow control is slower and usually less desirable than hardware flow control. Software flow control is used only for transmitting text. It cannot be used for binary file transfer because binary data may contain the special flow control characters.
- **Hard:** This sets the flow control to use the request-to-send (RTS) and clear-to-send (CTS) signal lines. This should be used with all high-speed serial connections that compress data.
- **DTR/DSR:** This sets the flow control to use the data-terminal-ready (DTR) and data-set-ready (DSR) signal lines.



Add Printer (Expert) menu for a local Serial port printer (all settings are for example only)

## 5.2.6 File (printing to a file)

This option will allow you to configure a printer to print to a file vs. printing to an actual printer. All the data will be directed to the specified file path, instead of being sent to the printer. This can be utilized for testing, or to send files to a pipe or device (dev/\*). You will need to define an absolute path for the file to be placed.

### 5.2.6.1 Path to file

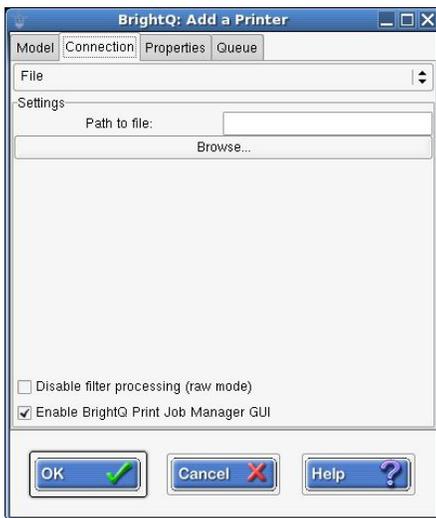
Path to file: You must supply the exact path to the file to be printed to, e.g. "/usr/local/tmp/psoutput/temp.ps".

With this example BrightQ-Pro will produce a file called "temp.ps" and place it in the "/usr/local/name/psoutput" directory. This can also be used to specify an arbitrary device that would not be explicitly supported by the configuration tool, such as hot folders.

Be aware that most printing systems will not truncate the file, and thus each jobs data may be appended to the specified file which will make multiple outputs merge together and behave in a inconsistent manner. You must also ensure proper permissions on the file and directory so that the daemon has write access to it.

- **Note:** *When printing to a file and using the Common Unix Print System (CUPS) you will need to edit the /etc/cups/cupsd.conf file so that the FileDevice entry has a Yes argument (see below);*

example:      FileDevice Yes



Add Printer (Expert) menu for a local Print to File printer without the required "Path to the file" entry

## 5.2.7 Remote LPD

This is the implementation of the protocol used by the Berkeley printing system (BSD) or Line Printer Daemon (LPD). Printers on the network using the LPD protocol (or LPD print servers). Both host and queue need to be specified.

### 5.2.7.1 Host

The host address is either an IP address of the printer or LPD server supplying the LPD service, or the Fully Qualified Domain Name (FQDN) of the remote LPD server (e.g. printer.codehost.com). This is the IP address of the output device.

### 5.2.7.2 Queue

The Queue is the name of the printing Queue on the LPD server. Note; some devices can have multiple queue names that redirect to specific locations (virtual or physical) on the printer. Examples of multiple queue names might be, "print", "hold", and "direct". Additionally many output devices have fixed remote queue names. We have built into BrightQ-Pro four default remote LPD queue names of "print", "lp", "direct", and "hold". If your remote queue name is not one of the aforementioned names you can simply highlight the Queue name and type in the appropriate name.

### 5.2.7.3 Send data before control file (Available with non-CUPS system)

A data file will be sent before the LPD control file, if the print server needs this.

### 5.2.7.4 Manual copies (Available with non-CUPS system)

Multiple copies will be manually produced, instead of managed at the printer. So instead of a single file being produced and sent with a multiple copies option, multiple files will be sent.

### 5.2.7.5 Add banner (Available with non-CUPS system)

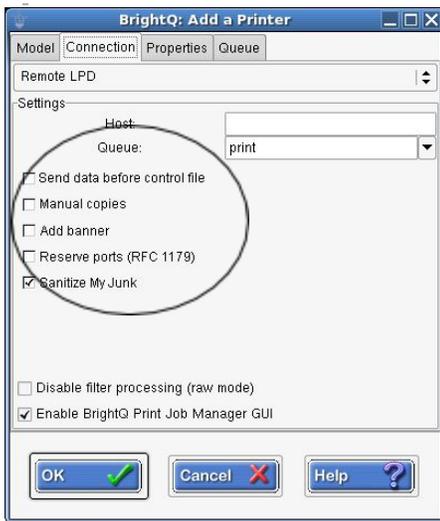
This will tell the print server to add a banner for each print job

### 5.2.7.6 Reserve Ports – Part of the RFC 1179 for LPD (Available with non-CUPS system)

This will reserve privileged ports to initiate LPD connections. The source port must be in the range 721 to 731, inclusive.

### 5.2.7.7 Sanitize my junk – (Available with non-CUPS system)

This will sanitize job titles before sending them to the LPD server. This process will ensure that only supported characters are submitted as a job title. All unsupported control characters will be stripped out.



Add Printer (Expert) menu for a "Remote LPD" printer without the required "Host" entry

These options are only available with non-CUPS systems.

With CUPS systems only Host, Queue, Disable filter processing, and Enabling the PJM GUI are available.

Add Printer (Expert) menu for a "Remote LPD" printer without the required "Host" entry

## 5.2.8 Internet Printing Protocol (IPP)

The Internet Printing Protocol is a newer, open protocol for printing on IP networks. Many modern print servers, including CUPS, use it. Host, Port, and Resource need to be specified.

### 5.2.8.1 Host

The host address is either an IP address of the printer or IPP server supplying the IPP service, or the Fully Qualified Domain Name (FQDN) of the remote IPP server (i.e. printer.codehost.com).

### 5.2.8.2 Port

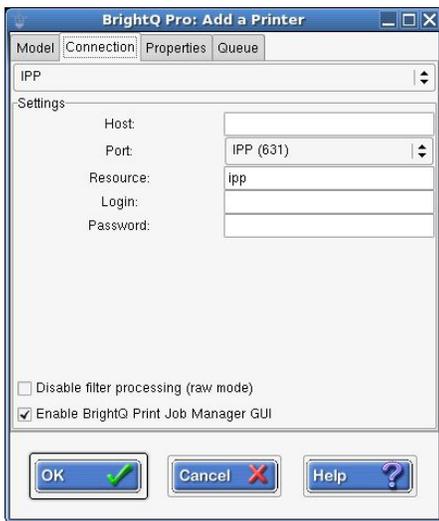
This is the port IPP will talk to, in order to send an outgoing job. Normally for CUPS this port is set at IPP (631), but may be HTTP (80), or HTTPS (443) for secure printing. This is determined by the printer OEM and/or IPP server.

### 5.2.8.3 IPP Resource

The resource is the name of the IPP resource on the IPP server, or printer. The "IPP" URL scheme allows an IPP address to choose an appropriate IPP print service (for example, from a directory). The IPP client can establish an HTTP connection to the specified IPP print service. The IPP client (computer running BrightQ-Pro) can send IPP protocol requests (for example, a 'Print-Job' request) and receive IPP protocol responses over that HTTP connection.

### 5.2.8.4 Login/Password

If needed, you can specify the IPP Login name and Password combination. The need for such a Login and Password is defined by the printer OEM, or the IPP server administrator.



Add Printer (Expert) menu for a "IPP" printer without the required "Host" entry.

## 5.2.9 Socket/Raw TCP/IP (port 9100)

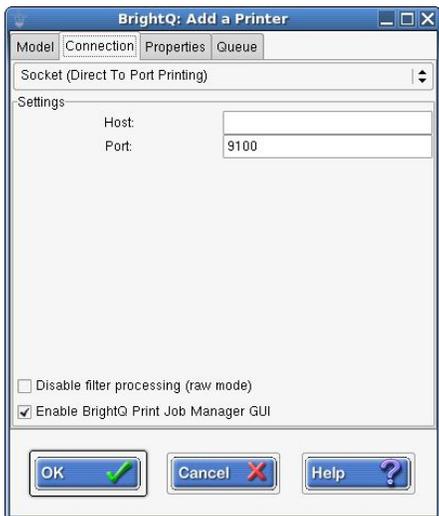
Socket or direct to port printing allows you to print directly via a raw TCP socket connection, or what is often called "AppSocket printing" or the "JetDirect" protocol. Both host and port need to be specified.

### 5.2.9.1 Host

The host address is either an IP address of the printer or Server supplying the Socket/Raw service, or the Fully Qualified Domain Name (FQDN) of the remote server (i.e. printer.codehost.com).

### 5.2.9.2 Port

The port number is usually 9100 and is usually associated with a HP Jet Direct box, but can apply to non-jet direct printers.



Add Printer (Expert) menu for a "Socket (Direct to Port)" printer without the required "Host" entry.

## 5.2.10 Samba/CIFS

This is a file-sharing protocol designed to allow networked computers to transparently access files that reside on remote systems over a variety of networks. The CIFS/SMB protocol defines a series of commands that pass information between computers. SMB uses four message types: session control, file, printer, and message.

Use this to connect to a Windows or Unix based SMB print server using the SMB protocol or utilizing Samba.

**Note:** In order to use SMB printing you will need to have Samba's SMB client installed on your local host prior to setting up the BrightQ-Pro SMB printer queue. If you do not have support for SMB installed on your local host prior to the establishment of a BrightQ-Pro queue you will not have the "SMB (thru Samba)" option available in the "Add a Printer" dialog box.

#### 5.2.10.1 Server

This is the SMB name for the print server (this is not an IP address).

#### 5.2.10.2 IP Address (this is only displayed with systems not running CUPS)

This is the IP address for the print server, if necessary.

#### 5.2.10.3 Resource:

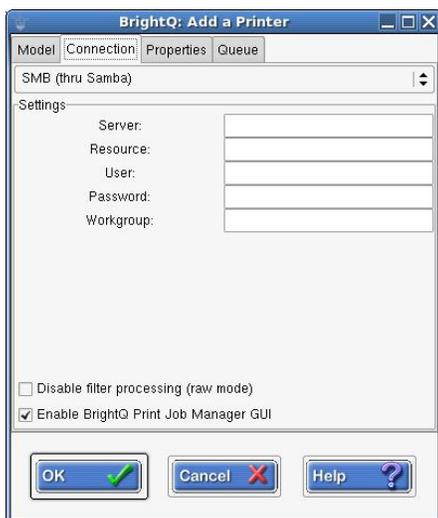
This is the name of the SMB resource on the server. For instance, if you want to access the printer commonly referred to as \\MACHINE\PRINTER\, then MACHINE would be the Server, and PRINTER would be the Resource.

#### 5.2.10.4 User Password/Workgroup

Specify if necessary.

#### 5.2.10.5 Translate CR -> CR/LF (this is only displayed with systems not running CUPS)

This enables automatic translation between DOS and Unix text files.



Add Printer (Expert) menu for a "SMB (thru Samba)" printer before the entries are filled.

## 5.3 Printer Properties Tab Menu

Once you have completed selecting your output device and configuring the connection options, it will be time to select the default output device options. These will be the default options for the currently logged in user. Selections may include both Device Accessories (such as whether the output device you are printing to has certain add-on equipment) as well as the actual option you want to be set up as default for a particular print queue. These options could be any of the device specific elements such as media size, media source, stapler modes, etc.

The output device's Properties that are selected will be associated with the user that configures the specific queue. For example if you are user 1 and you have configured queue 1 properties to include a stapler, and additional paper deck, and to select from tray 2 when printing then each time you log on to the system your configured queue 1 will have the stapler and paper deck options enabled and the data sent to that queue will pull from tray 2. If you are user 2 and you have logged on to

the system and have not configured a print queue's properties then you will be presented with the output devices default options. If you are configuring the output device as the "root" user your configuration will be the default for all users. Installable options need to be configured by root.

## 5.4 Printer Queue Tab Menu

Once you have completed configuring your output device's model, connection options, and properties it is time to choose your output device's queue name.

### 5.4.1 Choose a name for this queue

This is a user-definable print queue name. This is the name for the output device you will interface with in all of the BrightQ-Pro modules. Only standard alphanumeric characters are supported for the queue name. Depending on your default printing system/spooler this name may or may not be changed (creating an alias) without reinstalling the printer. Currently CUPS does not support queue name aliases or renaming of the queue. The Berkeley print system/spooler and some System V printing systems/spoolers support an alias and the queue renaming.

### 5.4.2 Description

Description will only be available if BrightQ-Pro is installed with a printing system supporting this attribute. This is a user definable description of the print queue. It will default to the model of printer installed and associated with this queue.

### 5.4.3 Location

Location will only be available if BrightQ-Pro is installed with a printing system supporting this attribute. This is a user definable location of the printer. This will not be populated by default.

### 5.4.4 Make this queue the system default

This option will make this BrightQ-Pro print queue the default print queue for the system. Setting a default printer can also be achieved by right clicking the appropriate print queue listed under the "Configured Printer" and selecting "Set as system default". This can also be done via the "Printer/Set as System Default" option.

***Note; Other print queues set up as default with "printconf" on systems using the Berkeley based (BSD) print architecture will not allow BrightQ-Pro to establish the default queue.***

## 5.5 Maximum allowed characters in queue name - Table

Print System	Maximum allowed characters in print queue name
Unix LP back-ends (including Solaris)	14 characters maximum
AIX native	20 characters maximum
CUPS and LPRng	25 characters maximum
BSD LPR on Linux/FreeBSD	14 characters maximum

## 6 Configuration Tool User Interface and Menus

**Unix Shell-Based interface:** Please refer to chapters 8-9 Unix shell-based interface, for the process to install, configure, etc. output devices without an X Window System.

**X Window System:** The Configuration Tool (Config. Tool) is the primary User Interface for configuration, and management of BrightQ-Pro printers. Listed below are some of the features the Config Tool UI can be used to control.

- Registering and Licensing BrightQ-Pro (License Manager)
- Adding and configuring print queues and Printer Classes
- Start and Stop device Monitoring
- Showing Device Status
- Selecting a print queue
- Setting the default printer
- Naming the print queues
- Testing a print queue (test print)
- Optionally printing documents directly (Postscript, Image, PDF, and Text)
- Enabling, Disabling, and Removing print queues
- Queuing System UI
- Uninstalling BrightQ-Pro or a BrightQ-Pro license
- Defining the configuration tool options (CUPS, LPD, LP, Filter usage)

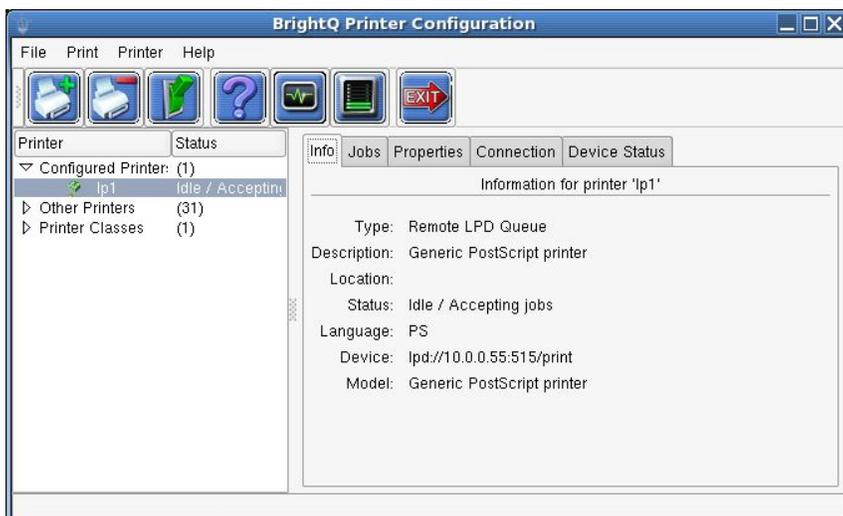
## 6.1 Launching the Configuration tool

### 6.1.1 Launching the Configuration tool

The first step in BrightQ-Pro operation is to launch the BrightQ-Pro configuration tool in order to add, configure, set as default, etc an output device to the print spooling/queuing system. To launch the configuration tool either go to the menu item/application Icon, etc that was added to GNOME, KDE, or CDE during installation and launch the program from there, or type the following command at a Unix Shell-Based interface;

**Unix Shell-Based interface:** Please refer to chapters 8-9 Unix shell-based interface, for more detail on the “codehost-config” command and options.

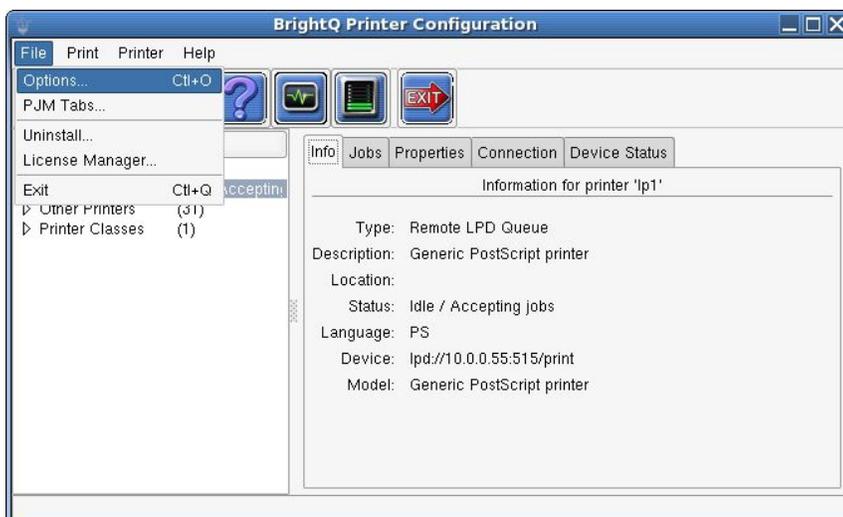
```
"codehost-config"
```



Configuration Tool primary user interface

## 6.2 Configuration tool - File Menu - Options (CUPS, LPD server, and Printcap)

In BrightQ-Pro you have the ability to define certain options pertaining to the default print spooler that BrightQ-Pro is working in conjunction with. By selecting the "File/Options" menu option you will launch the Options dialog box. These options pertain to the location of certain configuration files, server addresses, encryption, etc. Additionally based upon what your default print system/spooler is, the options presented will vary. The Options are listed and explained below.



Configuration Tool primary user interface with the File menu drop down.

### 6.2.1 Global Options

The following options are available whether utilizing CUPS, System V, AIX, or the Berkeley based printing system.

#### 6.2.1.1 SNMP Timeout (ms)

The SNMP timeout will determine how long BrightQ will continue to query a system via. SNMP until it times out. The default value is 1,000 milliseconds (1 second). The SNMP query is utilized for the "Device Status" tab menu. If this setting is set too high then BrightQ-Pro's performance might be degraded as it waits for a response from the Host it is querying.

#### 6.2.1.2 Monitoring Interval (s)

The "Monitoring Interval (s)" will determine how often BrightQ-Pro will query the output devices that have "Enable status monitoring" checked in the "Device Status" tab menu. The default value is 15 seconds. If this value is set too low then BrightQ-Pro's performance might be degraded by constant SNMP queries to the Host it is querying.

### **6.2.1.5 Use Print Job Manager for other queues**

This feature will enable the BrightQ-Pro PJM (Print Job Manager) for all print queues whether installed and configured via. BrightQ-Pro, or the default system tools for printer configuration (i.e. lpadmin, etc.). If this option is not selected then the "Other Printers" queues will not invoke the BrightQ-Pro PJM.

## **6.2.2 CUPS**

If you have CUPS installed as the default spooler on your system you will have the following CUPS centric options for BrightQ-Pro;

### **6.2.2.1 User**

In order to configure a printer/device you need to be logged in as a user with administrative privileges on the CUPS server.

### **6.2.2.2 Password**

This is the password for the aforementioned logged in user.

### **6.2.2.3 Server Address**

This is the location of the CUPS server. By default this is the "localhost" or the local computer that you are loading BrightQ-Pro on. This could also be a remote host that has a CUPS server on board.

### **6.2.2.4 Server Port**

This is port that the system will query the CUPS server on. This is by default 631, which is the default port for the Internet Printing Protocol or IPP.

### **6.2.2.5 Configuration Directory**

This is default local directory in which the CUPS configuration files are located.

### **6.2.2.6 Force Encryption**

This option forces all communication between the Unix shell-based interface and CUPS server to be encrypted (SSL). This is a user defined variable.

### **6.2.2.7 Restart CUPS daemon automatically**

This will force a restart of the CUPS daemon and all other element required to restart CUPS. In some instances the CUPS server might stop responding and this is an error recovery mechanism to restart the CUPS daemon automatically.

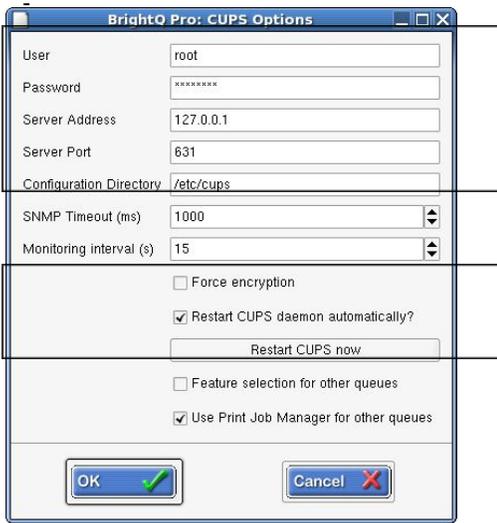
- Note: the CUPS Daemon does not require a restart to add printers, modify printers, etc. This option is a failsafe. This can also be done manually as outlined below.

### **6.2.2.8 Restart CUPS now**

This will manually force a restart of the CUPS daemon and all other elements required to restart CUPS.

### **6.2.2.9 Feature selection for other queues**

This option will only be available for systems running CUPS as the default printing system. This option allows for the selection of the generic filter options (i.e. non-device specific), and device specific options for queue's configured utilizing CUPS (i.e. queues that have a print driver associated with them) via the Configuration Tool and PJM. The generic filter options are listed in chapter 7.2.



CUPS  
Options

CUPS  
Options

### 6.2.3 Configuration Tool Options - LPR, LP (Berkeley and System V)

*If you are using BSD or System V based print spooling system then you will have the following options for BrightQ-Pro*

#### 6.2.3.1 Printcap (Printer Capability Database file, BSD)

This is the default user printcap location that you want BrightQ-Pro to use to add and configure new printers. This is the file that contains the core info. for your printer. The values in the user printcap file override values in the /etc/printcap, which override the default values in the /etc/lpd.conf file. This dialog box is designed to allow a user to define the location of a local printcap file.

#### 6.2.3.2 Printers Config File (System V)

This is the default location for the System V printing configuration database file. By default this is /etc/printers.conf but this can vary.

#### 6.2.3.3 LPD Server (BSD)

This is the default address of the LPD server. This is the Line Printer Daemon, or the print server program of LPR or LPRng. By default the location of the LPD Server is the "localhost" that is running BrightQ-Pro

#### 6.2.3.4 Submit jobs with (System V)

This is the default location of the binary that will be used to submit jobs to the printing system. This is by default /usr/bin/lp (or lp.brightq)

#### 6.2.3.5 Restart LPD Now (BSD)

This button will allow you to restart the systems default LPD daemon. This might be necessary for troubleshooting purposes.

#### 6.2.3.6 Restart LP Now (System V)

This button will allow you to restart the systems default LP daemon. This might be necessary for troubleshooting purposes.

#### 6.2.3.7 Use conversion filters for non-BrightQ queues

This feature will only be available for non-CUPS systems. This option allows for the selection of the generic filter options (i.e. non-device specific) via the Configuration Tool and the PJM. The generic filter options are listed in chapter 7.2.

Please note that using the generic filters with “Other Printers” does not guarantee that the data stream produced will be compatible with “Other Printers”.

## 6.2.4 Configuration Tool Options - AIX Native

If you are using the AIX Native print systems then you will have the following options for BrightQ-Pro :

### 6.2.4.1 Printers Configuration File

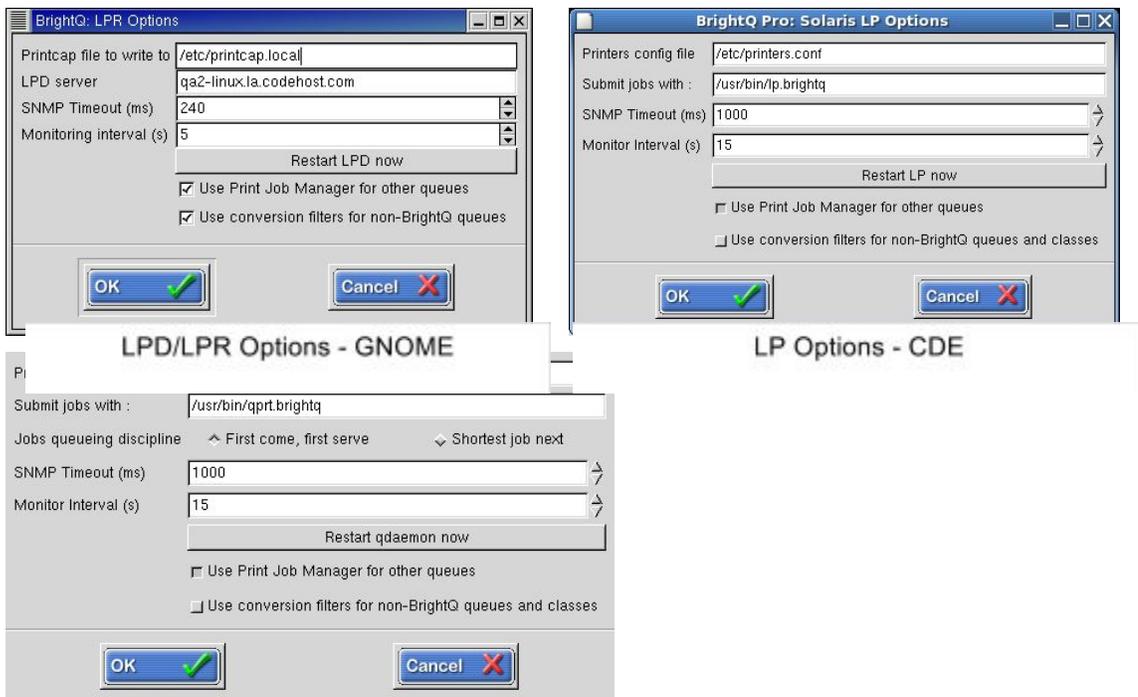
This is the location of the AIX Native print system configuration file. By default, it is /etc/qconfig

### 6.2.4.2 Submit jobs with

This is the full path to the command that will be used to submit jobs to the print system. By default this will be /usr/bin/qprt.brightq

### 6.2.4.3 Job queuing discipline

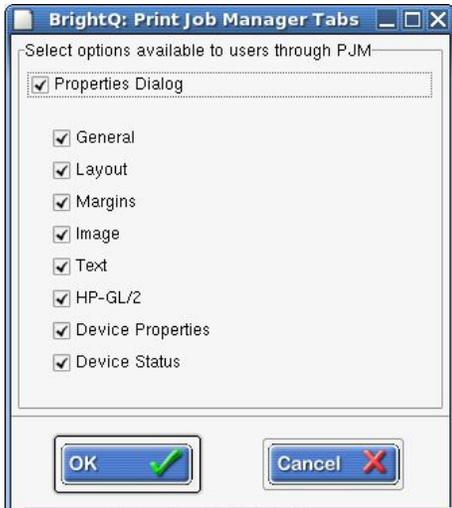
The AIX print system has two way of queuing jobs; either it will print jobs in the exact same order as they are submitted (as is normal for most print systems), called “First come, first serve”, or you may elect to print the shortest job first each time, “Shortest job next”. The second method has the benefit that faster jobs will come out of the printer much faster and not need to wait on very large jobs that may take some time.



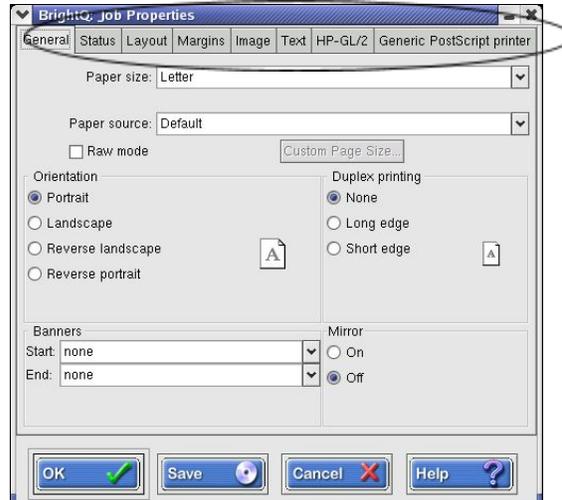
## 6.3 File Menu - PJM Tabs

BrightQ-Pro enables you customize the look and feel of the X Window System driven Print Job Manager (PJM), on a per user basis. By selecting the "File/PJM Tabs" menu option you will launch the BrightQ-Pro Print Job Manager Tabs dialog box. You will be presented with the option to enable and disable the various tab menus within the Properties Dialog box or disable the Properties Dialog box entirely.

The options selected will be viewable via the PJM. Any option unselected will be not be viewable via the PJM. The selection made will only apply to the current user of the Configuration Tool. For example if user “guest” deselects layout and image, then when user “guest” prints (with the PJM) the layout and image tabs will not be viewable. If user root has all tabs enabled then when user root prints (with the PJM) all tabs will be viewable.



This the PJM Tabs menu



These are the PJM Tab Menu (Tabs)

## 6.4 Uninstalling BrightQ-Pro

BrightQ-Pro comes with both an installer and an uninstaller. By selecting the "File/Uninstall" menu option or by running the uninstaller in a shell you can Uninstall BrightQ-Pro and all relevant supporting files. You will be presented with the following options to uninstall certain BrightQ-Pro packages.

### 6.4.1 Complete Uninstall

This will uninstall all BrightQ-Pro related elements and return your system to the same state it was prior to installing BrightQ-Pro.

### 6.4.2 Uninstall a specific package

This will uninstall only the specific BrightQ-Pro package you select. These packages can be licenses that are OEM specific or feature specific (BrightQ-Pro-CUPS license). The Uninstall tool can be launched via the shell by typing "codehost-uninstall" as.

**Note:** Please refer to chapter 8-9 of this document for specifics of the Unix Shell-Based interface for uninstalling.



BrightQ Uninstall Menu

## 6.5 Print Menu - Test print and Document Printing

In BrightQ-Pro via the Config Tools "Print" Menu, you have the ability to print both a test page and print documents in their native file format (without first opening them in their associated applications).

### 6.5.1 Printing a Codehost Test page

In order to print a Test Page, you will select the "Print/Test Page" or Ctl+T; this will print a Test Page to your selected printer in the appropriate PDL for that printer.

- Printing the Test file will "not" engage the Print Job Manager (PJM).
- This page will print out utilizing the default PDL and default options of the device queue it is being printed to.

### 6.5.2 Printing a PostScript File

BrightQ-Pro will allow you to print a PostScript file directly from the Config tool program interface. To access this option, go to the "Print/Document/PostScript". You will be prompted to locate a RAW PS file for printing (\*.ps).

- Once the PostScript file is loaded the PJM will be engaged so that you can select any relevant printing options. Please refer to chapter 7 for detailed information on the Print Job Manager (PJM) Job Properties tab menus.

### 6.5.3 Printing an Image file

BrightQ-Pro will allow you to print an Image file directly from the Config tool program interface. To access this option, go to "Print/Document/Image". You will be prompted to locate an Image file for printing.

- Once the Image file is loaded the PJM will be engaged so that you can select any relevant printing options. Please refer to chapter 7 for detailed information on the Print Job Manager (PJM) Job Properties tab menus.

### 6.5.4 Printing an Adobe Acrobat file (PDF)

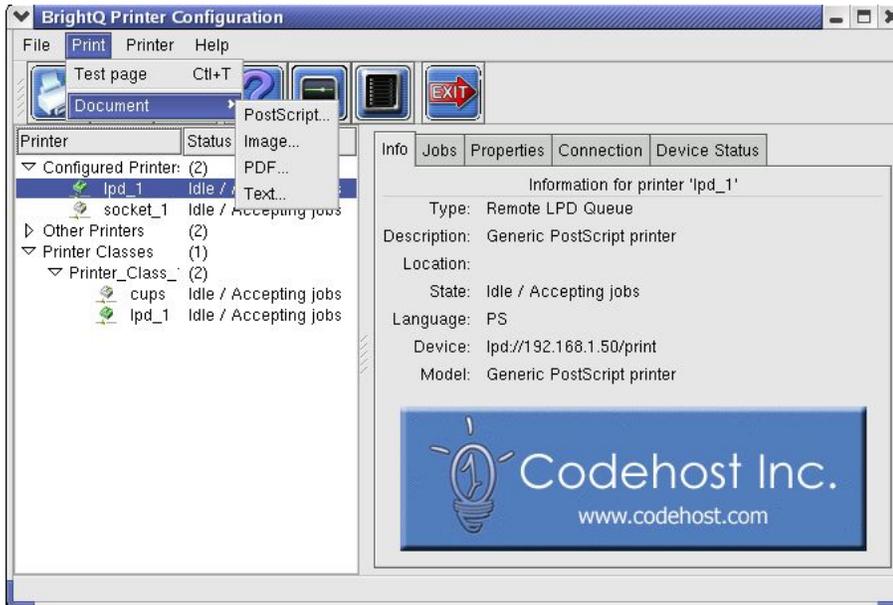
BrightQ-Pro will allow you to print an Adobe Acrobat Portable Document Format (PDF) file directly from the Configuration tool program interface. To access this option go to the "Print/Document/PDF file". You will be prompted to locate a PDF file for printing.

- Once the PDF file is loaded the PJM will be engaged so that you can select any relevant printing options. Please refer to chapter 7 for detailed information on the Print Job Manager (PJM) Job Properties tab menus.

## 6.5.5 Printing a Text file

BrightQ-Pro will allow you to print any Text file directly from the Configuration tool program interface. To access this option go to the "Print/Document/Text". You will be prompted to locate a Text file for printing.

- Once the Text file is loaded the PJM will be engaged so that you can select any relevant printing options. Please refer to chapter 7 for detailed information on the Print Job Manager (PJM) Job Properties tab menus.

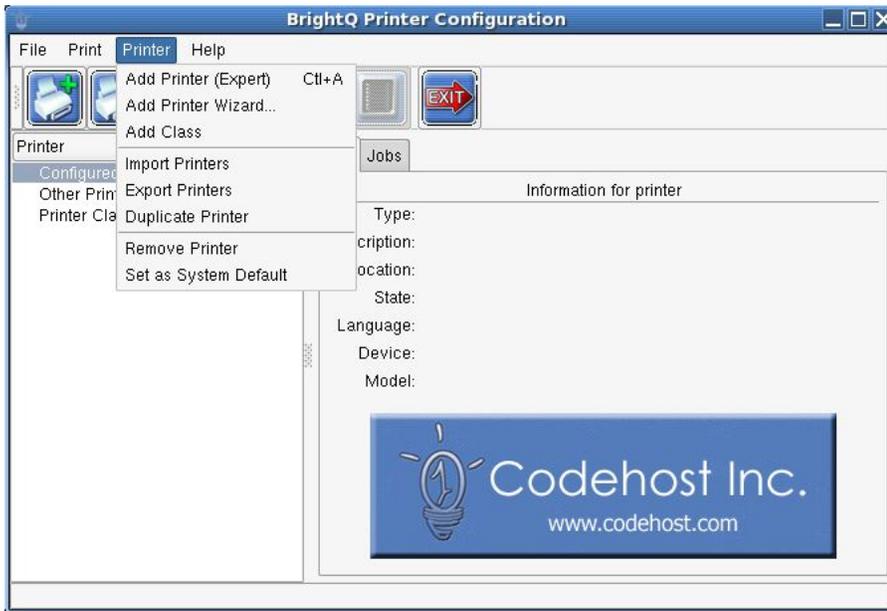


Configuration Tool with "Print Document" menu drop down.

## 6.6 Printer Menu

The printer drop-down menu will allow you to conduct the following operations;

- Add a printer (Expert Mode)
- Add a printer (Printer Installation Wizard)
- Add a printer Class
- Import printers
- Export printers
- Duplicate printers
- Remove printers
- Set a system default printer

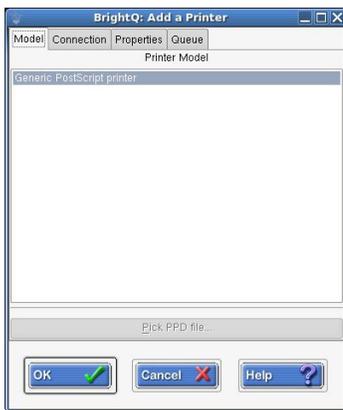


Configuration Tool with "Printer" menu drop-down.

### 6.6.1 Add Printer (Expert)

This menu option will allow you to install, and configure a printer manually. You will be presented with four tab menu options;

- **Model:** This is the device model that you will connect to.
- **Connection:** This is the methodology that you wish to connect to the printer. The options include local (i.e. USB, Parallel, Serial, File) and remote (i.e. LPD, Socket, IPP, SMB). For more information please refer to chapter 5
- **Properties:** These are the default device centric options you want associated with the print queue
- **Queue:** This is the user defined print queue name



"Add printer (Expert)" menu

### 6.6.2 Printer Installation Wizard

The BrightQ-Pro Add Printer Wizard allows for a GUI driven tool with the ability to scan the local network for output devices. This scanning can discover devices based upon numerous criteria, including but not limited to; Port (631, 515, 9100, 80, and 443) Service level Protocol, IP Address, IP Address range, hostname, etc. The "Add Printer Wizard" will also detect your devices Device Accessories (for supported output devices), and automatically load the appropriate device drivers. Please refer to chapter 4 for more information on the "Printer Installation Wizard".

### 6.6.3 Add Class (CUPS and System V only)

BrightQ-Pro allows users to establish and print to Printer Classes. Printer Classes are a group of print queues established under a collective queue name. Setting up Printer Classes allows for printer redundancy. Printer queues and Classes can exist within other Printer Classes if supported by the underlying printing system.

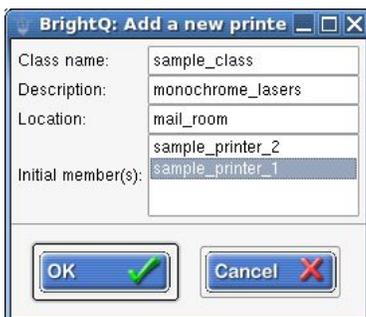
- Printer Classes can only be established with CUPS and System V printing environments. The Berkeley Print System does not support printer classes.
- When printing to a Printer Class the job will be spooled to the first available print queue in that Class.
- The printer Class options will not be available when installing on a Berkeley based print system
- At least one print queue must be established prior to adding a Class

#### 6.6.3.1 Adding a printer Class

There are two ways in which to add a Printer Class in BrightQ-Pro, additionally for the printing systems that support classes you can establish a Class via. the print system tools (i.e. lpadmin)

The first way to add a printer class is by using the Configuration tool's Printer menu. Listed under Printer is the menu option "Add Class". When selecting "Add Class" you will be prompted to fill in a number of fields and select at least one print queue to be the "initial member". The second method is to simply drag and drop a print queue or class on to an existing printer class (configured via. BrightQ-Pro or otherwise), in the BrightQ-Pro configuration tool.

- **Class name:** This is a user definable Class name. For both Class and queue names spaces and non-alpha numeric characters cannot be utilized for queue names.
- **Description:** This is a user definable Class Description. This option is only be available for users of the CUPS printing system, for all other systems it will be unavailable.
- **Location:** This is a user definable Class description. This option is only be available for users of the CUPS printing system, for all other systems it will be unavailable.



"Add a new printer Class" menu

### 6.6.4 Export Printers

BrightQ-Pro allows users to export their printer configuration into a single xml formatted data file. Once exported the file can be re-imported into BrightQ-Pro to populate the user's installation of BrightQ-Pro with the same configured printers as the Host that exported the file. This allows for easy deployment of configured printers across a broad range of operating systems, architectures, and printing systems.

#### 6.6.4.1 Exporting Printers

Listed under the Printer menu you will have an option to "Export Printers". Once selected you will be prompted to define the path for the exported printer's XML file.

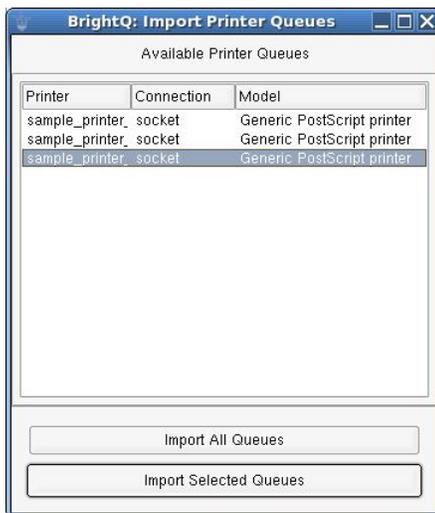
## 6.6.5 Import Printers

BrightQ-Pro allows users to import their exported printer configuration information from a single XML-formatted data file. Once imported, the data file will establish the print queues that were on the users system that originally exported the data file.

### 6.6.5.1 Importing Printers

Listed under the Printer menu you will have an option to “Import Printers”, once selected you will be prompted to define the path to the exported printers’ file. When you have located and selected the printer data file to be imported click OK.

- You will be prompted to either “Import All Queues” in which case all exported printers will be loaded onto the system importing the file. You will also have the option to select a subset of the exported queues “Import Selected Queues”.
- Note; The system that is importing the printers must have a BrightQ-Pro license installed that supports the imported print queues and subsequent drivers. If the appropriate license is not installed, then the queue that requires that license will not be successfully imported.
- Printers can be imported across Architectures, Operating Systems, and Printing Systems. For example you can export the printers from a Linux x86 System using CUPS and BrightQ-Pro and import that exported data file onto a system running Solaris Sparc with System V printing.



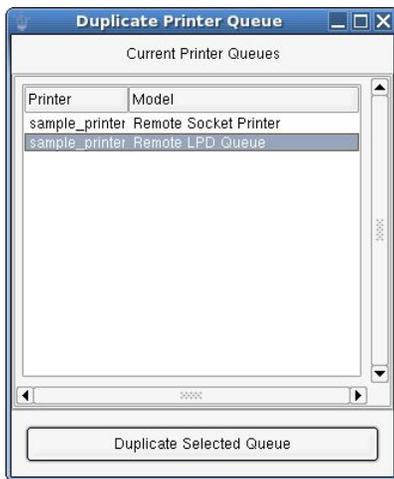
“Import Printers” menu

## 6.6.6 Duplicate Printer

BrightQ-Pro allows users to duplicate their configured printer queues. The duplicate printer queue will require a unique queue name

### 6.6.6.1 Duplicating Printer

Once the “Duplicate Printer Queue” menu is launched you will be prompted to select the print queue to be duplicated. The print queue will need to be assigned a new print queue name in order not to conflict with the existing queue. You can also accomplish the duplication of the queue by right clicking the appropriate queue listed under “Configured Printer”.



"Duplicate Printer" menu



### 6.6.7 Remove Printer

Removing a print queue can be done via the printer/Remove Printer option, by selecting "Remove the selected printer", or by right clicking on the appropriate print queue listed under configured printers and selecting "remove". This will remove all occurrences of the print queue in both BrightQ-Pro and the underlying print system

### 6.6.8 Set as system default

Setting a print queue as the system default can be accomplished via the printer/Set as System Default, or by right clicking the appropriate print queue listed under configured printer. This option will set the selected print queue as both the BrightQ-Pro and underlying printing system default.

## 6.7 Enabling, Disabling, Rejecting, Accepting, and Removing Print Queues

Please refer to chapter 8-9 of this document for specifics of the Unix Shell-Based Enabling, Disabling, and Removing Print Queues. By disabling a printer you are not allowing any print jobs to be submitted to that queue and conversely by enabling it you are allowing jobs to be submitted to that queue. If you attempt to print to a disabled queue the default print spooler (i.e. PJM, lp, lpr, etc.) will not be allowed to submit the file to the printer.

- In order to Enable, Disable a printer or have it Accept, or Reject print jobs simply select the configured printer, right mouse click and select the appropriate option. You can also do this with the enable/disable printer icon. The icon is in the form of a switch that will be green if the currently selected printer is enabled and red if it is disabled. A full description of enable, disable, accept, and reject are listed in chapter 6.7.3.3

### 6.7.1 Queuing System User interface

When using BrightQ-Pro's configuration tool you can view an output devices Info, Queued Jobs, device properties, and the device Connection type. Listed below is a brief description of each tab menu.

### 6.7.2 Info Tab Menu

The "Info Tab" supplies the user with certain information about the configured output device, that is currently selected. The output device's specific information is listed below.

#### 6.7.2.1 Type

Defines the type of queue configured for the selected output device. Options are as follows :

- o **Local**  
Applies to all local connections (i.e. Parallel, USB, Serial, and File)

- o **Remote LPD Printer**  
Printer is configured to use LPD. The default port for LPD is 515.
- o **Remote IPP Printer**  
Printer is configured to use IPP. The default port for IPP is 631.
- o **Remote Socket Printer**  
Printer is configured to use Socket. The default port for Socket is 9100.
- o **Remote SMB Printer**  
Printer is configured to use Samba's SMB client.

#### **6.7.2.2 Description (some print systems only)**

This field will only appear if you are using a print system that supports it (such as CUPS), and only if you filled in the fields in the "Add a Printer" dialog box.

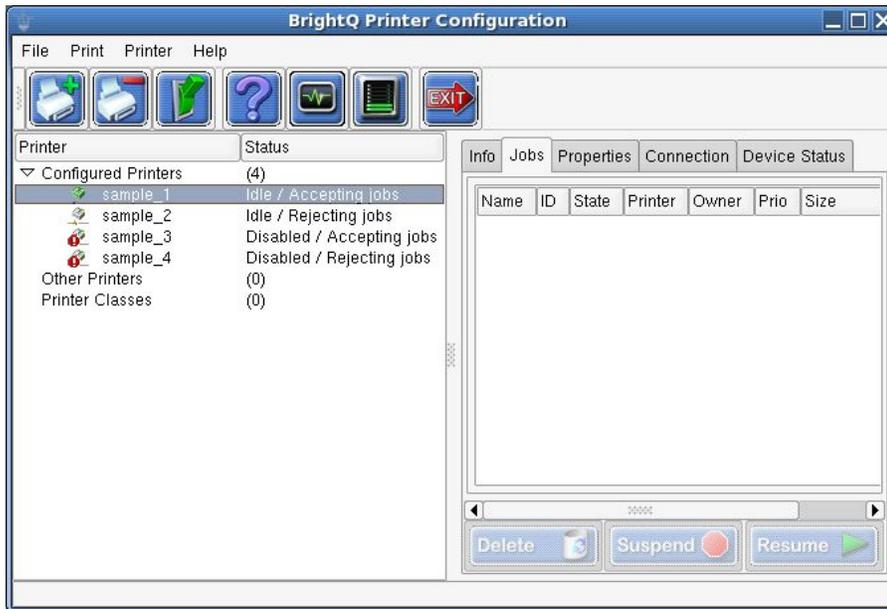
#### **6.7.2.3 Location (some print systems only)**

This field will only appear if you are using a print system that supports it, and only if you filled in the fields in the "Add a Printer" dialog box This is a user-definable field and applies to the physical location of the printer.

#### **6.7.2.4 State**

This is the current state of the selected printer queue.

- o **Idle / Accepting Jobs**  
When the print queue is in this state it will allow jobs to be spooled into the printing system/BrightQ-Pro and will release the jobs to the output device associated with the print queue.
- o **Idle / Rejecting Jobs**  
When the print queue is in this state it will reject jobs being spooled into the printing system/BrightQ-Pro and will only process/release the jobs to the output device associated with the print queue that were already in the print queue prior to the Reject Jobs option being enabled.
- o **Disabled / Accepting Jobs**  
When the print queue is in this state it will allow jobs to be spooled into the printing system/BrightQ-Pro but will not release the jobs to the output device associated with the print queue until the queue is enabled.
- o **Disabled / Rejecting Jobs**  
When the print queue is in this state it will reject jobs being spooled into the printing system/BrightQ-Pro and will not release the jobs to the output device associated with the print queue until the queue is enabled



### 6.7.2.5 Language

This is the Page Description Language (PDL) this output device supports by default (i.e. Postscript, PCL, etc.)

### 6.7.2.6 Device

With a standard BSD (Berkeley) or System V spooler it is listed simply as remote or local.

In the case of CUPS this defines the devices URL (universal resource locator) in the following format;

**protocol://address:resource**

<b>file:/path/to/filename</b>	<b>(print to a file)</b>
<b>parallel:/dev/lp0</b>	<b>(print to the parallel port)</b>
<b>usb:/dev/usb/lp0</b>	<b>(print the USB port)</b>
<b>lpd://hostname/print,</b>	<b>(print using LPD)</b>
<b>ipp://hostname/ipp/print</b>	<b>(print using the internet printing protocol – IPP)</b>
<b>socket://hostname:9100</b>	<b>(print using port 9100)</b>

### 6.7.2.7 Model

This is the model of output device that you have installed. This is hard coded to the output device driver.

## 6.7.3 Jobs Tab Menu

The jobs that you have queued to print will be visible by selecting the Jobs tab. The Jobs tab represents the queuing interface for BrightQ-Pro. If you select the "Jobs" tab menu in the window on the right it shows the currently queued print jobs and displays the following information about the jobs;

#### 6.7.3.1 Name

This is the name of the file being printed or processed

#### 6.7.3.2 ID

This is a numeric identifier assigned to the job by the print system.

### 6.7.3.3 State

This is the state that currently queued document is in. Each job object is always in one of the six states listed below:

- o **Pending:** This is a job that is waiting to be printed
- o **Suspend:** This is a job that has been suspended and is currently waiting to be resumed or deleted
- o **Processing:** This is a job that is being processed (filtered) or printing
- o **Cancelled:** This is a job that has been deleted
- o **Aborted:** This is a job that has been aborted by the system due to an error condition
- o **Completed:** This is a job that is completed

### 6.7.3.4 Printer

This field will display the user defined queue name of the output device you are printing to

### 6.7.3.5 Owner

This field will display the user name that is logged in to the system that is printing (i.e. "root", guest, etc.)

### 6.7.3.6 Priority

This field will display the default priority of the print queue or the defined priority of the print queue. This is set in the default printing system by utilizing the "priority" (-q). This will set the job priority from 1 (lowest) to 100 (highest). The default priority is 50.

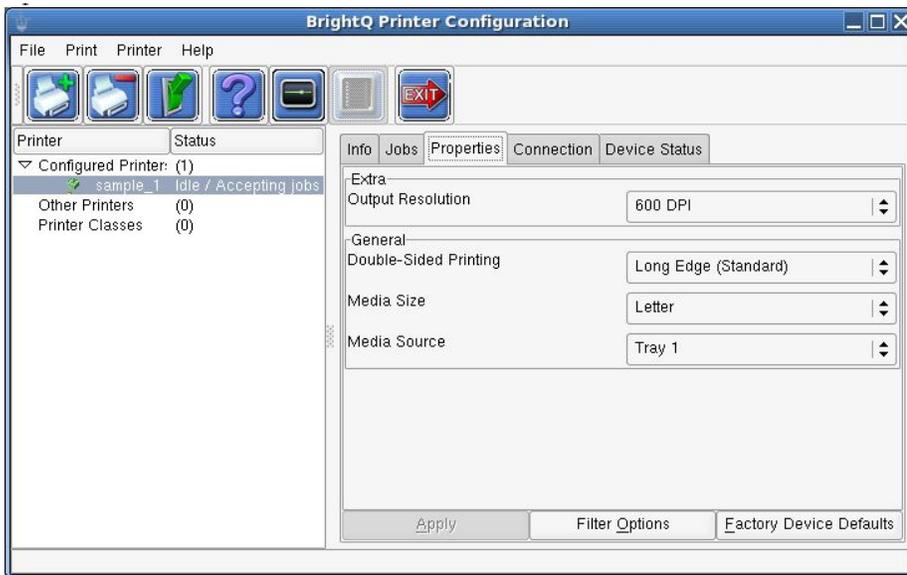
### 6.7.3.7 Size

This is the size of the currently printing file represented in bytes

## 6.7.4 Properties tab menu

The output device's default options you selected during installation and configuration will be visible by selecting the Properties tab. The output device options selected under the Properties tab represents the default options for that device. If you are printing via BrightQ-Pro the options selected in the Properties tab will be appended to your data file, document, etc. unless you select other options via the PJM that override's the selections in the Properties menu. This is also the menu you will use to define your output devices "Installable Options". The devices Device Accessories may include Finisher options, paper deck options, staple options, duplex options, etc.

If the appropriate Device Accessories are not selected, then when you print via the PJM, you might not have access to certain finishing features you need.



**Properties menu  
tab**

#### 6.7.4.1 Filter Options

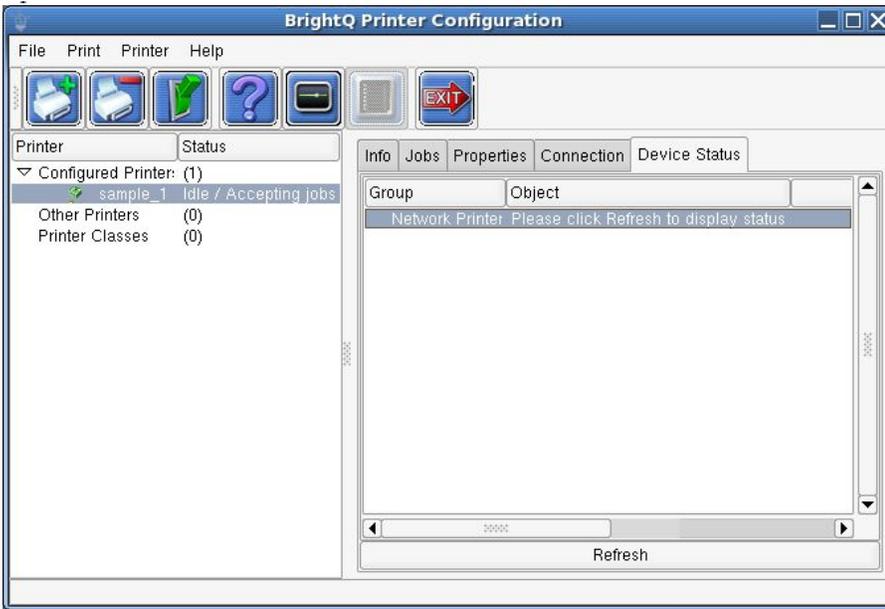
This option will display the default device independent (i.e. not output device specific) filter options. Please refer to chapter 7.2 for more detail on configuring the default generic “Filter Options”

#### 6.7.5 Connection tab menu

This is the menu system you will use to determine how your computer will communicate with the printer model that you have selected to configure. You will be presented with a number of different connectivity/communication options to connect your printer. The options relate to printing both locally and remotely. Please refer to chapter 5.2 for more detail on the “Connection” menu.

#### 6.7.6 Device Status

This is the menu system you will use to determine what the current operating status is with the printer queue that you have selected. Device status can be enabled/disabled on a queue by queue basis and for the queues that are monitoring device status it can be enabled/disabled on a global basis.

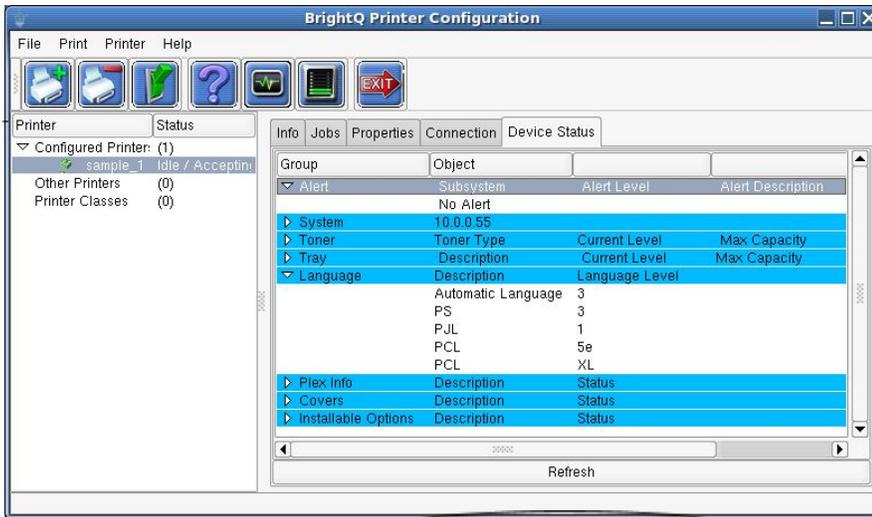


Device Status menu tab

Status monitor showing monitoring is disabled

Button to enable or disable device status monitoring

Config Tool with device status disabled

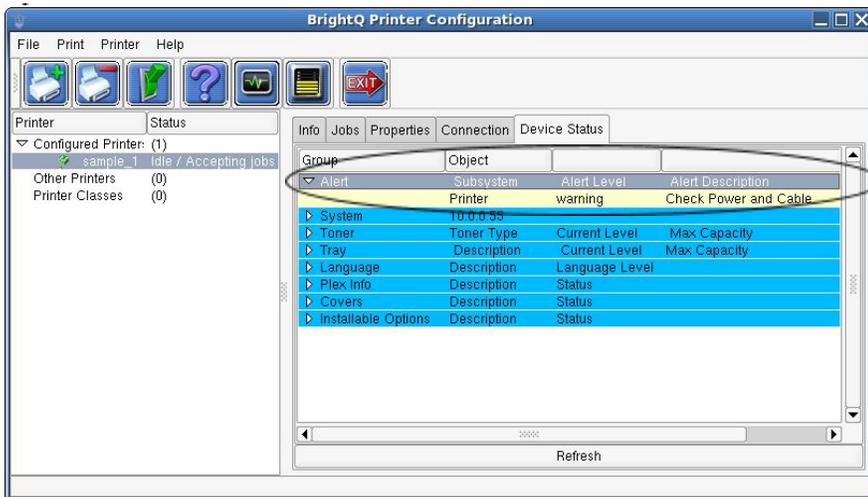


Status monitor showing status enabled with no alert (status icon is green)

Button to enable device status monitoring is switched on or enabled

Button to refresh current device status

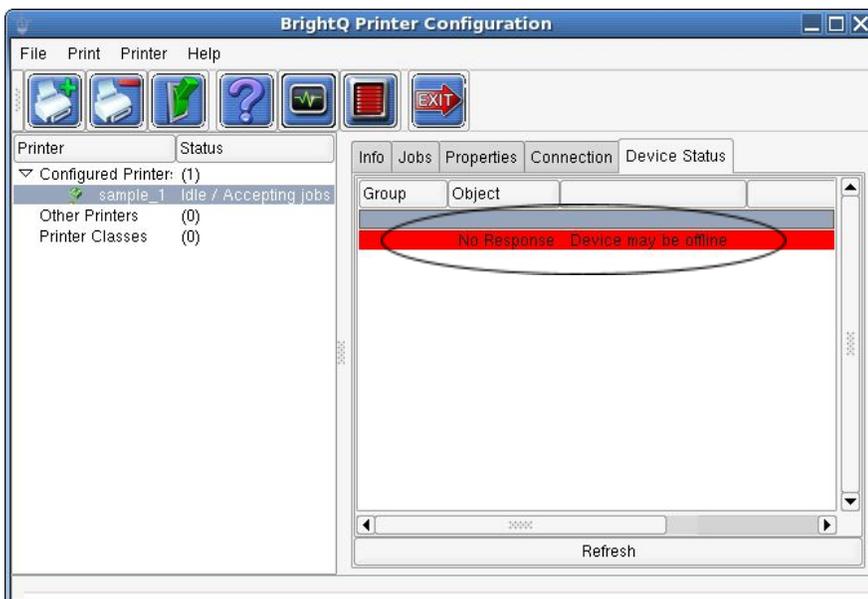
Config Tool with device status enabled and no alert



Status monitor showing status enabled with a warning alert (status icon is yellow)

Alert showing that the Printer Subsystem is indicating a problem (Check Power and Cable)

Config Tool with device status enabled a yellow (Warning) alert



Status monitor showing status enabled with a red alert (status icon is red)

Alert showing that the Printer is not responding (No Response) and may be offline

Config Tool with device status enabled and red alert

## 7 PRINT JOB MANAGER - MENU | ADS

The Print Job Manager or PJM is the primary tool that users will interface with while printing documents thru applications and BrightQ-Pro whether via. the X Window System, or the Unix shell-based interface.

- PJM is similar in form and function to the printing interfaces utilized in other operating systems with integrated print spoolers and print systems.
- PJM is a program designed as a replacement for the popular System V, BSD, or CUPS print spoolers, that are traditionally used by applications to submit jobs to the printing system.

Upon installation, PJM is set up so that it will symbolically link the default print spooler command, so that each program that calls the default print spooler command (i.e. lp, lpr, etc.) will in fact be calling the PJM. For X Window System users the PJM supplies an intuitive user interface.

For the Unix shell-based users of BrightQ-Pro the PJM will act as a replacement for System V, BSD, and CUPS print spooler commands allowing for access to the BrightQ-Pro printer specific options (-o) and allowing access to and support for printers installed outside of BrightQ-Pro.

All of the printers default options will be made available to the user at the point of printing. If none are selected the PJM will default to the options set as default in the Configuration Tools properties tab menu. The PJM is the main printing interface for BrightQ-Pro, designed to allow access to the core areas of the OEM print driver. Some of these core subcategories of printing are generic in nature while others are OEM print driver specific.

- Note: The PJM can be launched from the command line;
- "pjm" or "/usr/local/brightq/bin/pjm" (or equivalent location where BrightQ was installed).

Listed below is the description of the PJM's (X Window System) menus and sub-menus. For a description of the equivalent options available via the Unix Shell-based interface please refer to chapter 8-9.

## 7.1 Initial PJM menu

Utilize the drop down menu to select the name of the printer queue name.

### 7.1.1 Name

This is the name of the configured print queue

### 7.1.2 Type

This is also defined by the spooling system, but in general will display the name of the device, the connection type and PDL. This will vary whether you are using a System V, BSD, or CUPS printing system.

### 7.1.3 Description

This is displayed as the configured printer driver name.

### 7.1.4 Location

This is a user definable field that is determined via the Configuration tool at the printer installation. This is a CUPS only field.

### 7.1.5 Status Icon

This icon will indicate the current device status. The status of the device will either be idle (green), warning (yellow), or alert (red). By clicking the icon it will take you to the Status tab menu.

### 7.1.6 Properties

By selecting the Properties button you will enable the "Job Properties" tab menus

### 7.1.7 Set as default

This will set the currently selected printer as the user's default printing device.

### 7.1.8 Page Selection

All Pages, Even Pages, Odd Pages, or a page range separated by commas (1, 5, 7, 11) and hyphens (1-5, 6, 7-11).

### 7.1.9 Number of copies

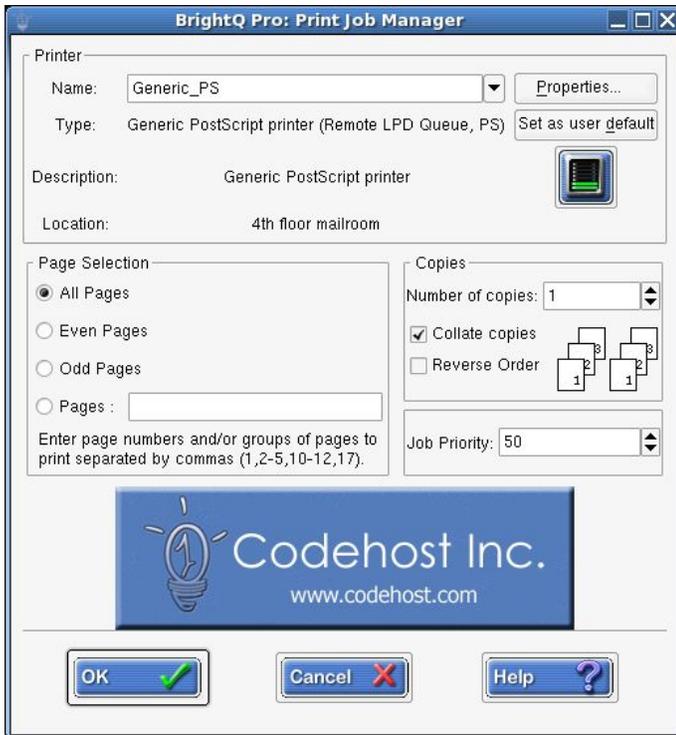
This will determine the number of copies of the document you want. The maximum value for this field is 100.

### 7.1.10 Collate Copies

This option ensures that each copy of the job will be processed individually or electronically collated, it is designed to take multiple sets of documents and print them for example; pages 1, 2, 3 - 1, 2, 3 vs. un-collated which would produce 1, 1, - 2, 2 - 3, 3. If Collate is not selected (then unless you have a "collator" on your output device) you will have to collate the output by hand.

### 7.1.11 Reverse Order:

This will determine whether or not your documents come out 1, 2, 3, etc. or reversed 3, 2, 1, etc. This option ensures that the last page is printed first and that the first page is printed last.



Initial Print Job Manager (PJM) menu

## 7.2 General Tab

### 7.2.1 Paper Size

This will determine the size of paper your output will print on. The printer's device driver determines the options.

### 7.2.2 Paper Type

This is the type of media that the printer can utilize. The printer's device driver determines these options.

### 7.2.3 Paper Source

This option will only be displayed if the printer has more than one available input source for paper. The printer's device driver determines these options.

### 7.2.4 Raw Mode

This option will allow you print out your documents in the raw PDL that they have been created in. By checking this box your files will not pass through any BrightQ-Pro PDL filters but instead will be handed off "as is" to the appropriate IO filter.

### 7.2.5 Orientation

This is the option that will define how the X and Y paper axis are displayed when printing.

- **Portrait:** This is the default paper orientation. This orientation is with the short paper edge on top.
- **Landscape:** This orientation is with the long edge of the paper on top.
- **Reverse landscape:** This is Landscape printing upside down.
- **Reverse portrait:** This is Portrait printing upside down.

### 7.2.6 Duplex Printing

The printer's device driver determines this option's availability.

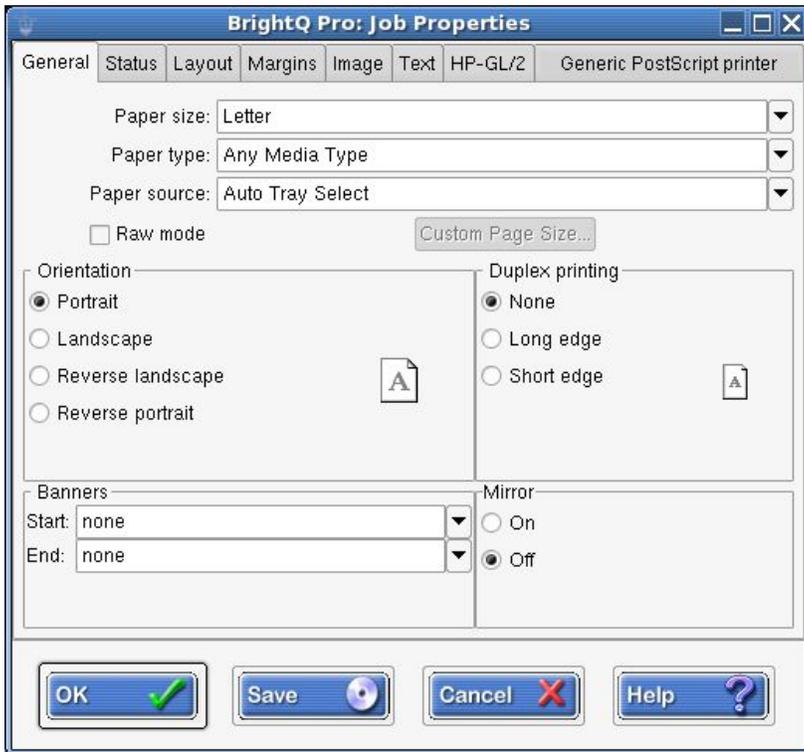
- **None:** This determines the job should be printed single sided (simplex)
- **Long edge:** This is duplex or two sided printing with the long edge (i.e. the 11in. edge on an 8.5"x11" piece of paper) of the paper. This will print the top of the page on side one on the same edge of the paper as the top of the page on side two. In the case of Long Edge, the top of the page would be the short edge.
- **Short edge:** This is duplex or two sided printing with the short edge (i.e. the 8.5in. edge on an 8.5x11 piece of paper) of the paper. This will print the top of the page on side one, and on the same edge of the paper as the top of the page on side two. In the case of short Edge, the top of the page would be the long edge.

### 7.2.7 Pages per sheet

This option will automatically scale and place multiple pages per sheet depending on the number selected. The options are one (default), two, four, six and nine.

### 7.2.8 Banners

- **Start:** This will print a banner sheet prior to the print job
- **End:** This will print a banner sheet after the job prints



General Print Job Manager (PJM) menu

## 7.3 Status Tab

This is the menu system you will use to determine what the current operating status is with the printer queue that you have selected. Device status can be enabled/disabled on a queue-by-queue basis and for the queues that are monitoring device status it can be enabled/disabled on a global basis. The Status Tab will also list a number of output device options based upon a listing the printer OEM has requested to be available.

### 7.3.1 Green Alert

**When the Device Status icon is green then the printer is idle and ready to have jobs submitted to it.**

### 7.3.2 Yellow Alert

**When the Device Status icon is yellow then the printer is in an Alert status and requires attention.**

### 7.3.2 Red Alert

**When the Device Status icon is red then the printer is in an Warning status and requires attention.**



Device Status Print Job Manager (PJM) menu

## 7.4 Layout Tab

The Margins tab menu is designed to only work with either text or image files. Note margin adjustments are relative to paper orientation.

### 7.4.1 Pages per sheet

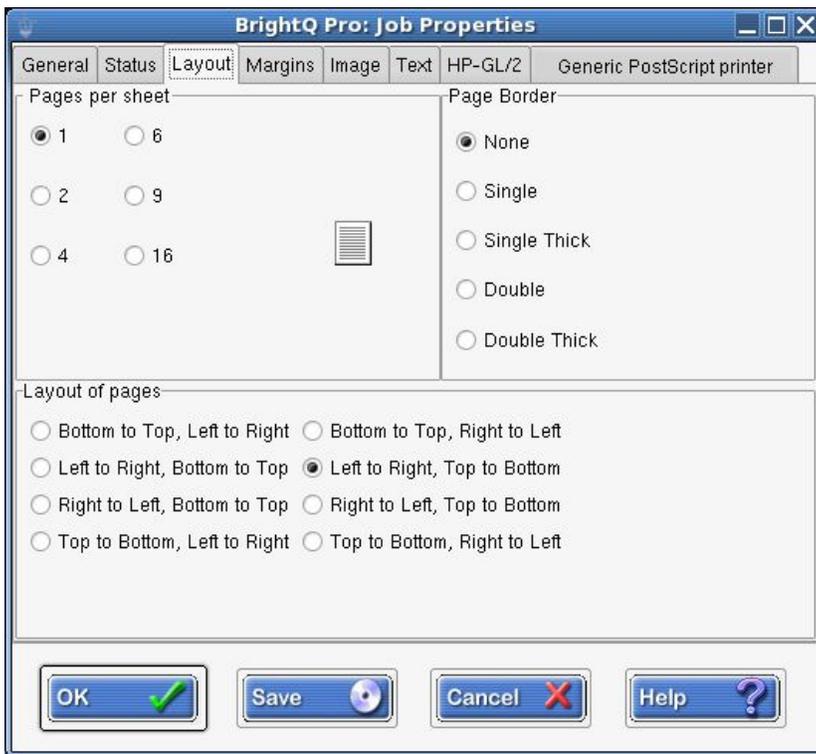
This option will allow for multiple pages to be printed on a single sheet. The options are for 1 (default), 2, 4, 6, 9, and 16 pages per output sheet.

### 7.4.2 Page Border

This option will place a black line (i.e. border) around the imageable area of the page being output. The border options are None (default), Single, Single Thick, Double, and Double Thick.

### 7.4.3 Layout of Pages

This option will determine how the data on the page being printed will be laid out.. When looking at a page the standard layout for printing is "Left to Right, Top to Bottom". The data starts on the left and continues to the right, and progresses down the page top to bottom. The additional options are "Bottom to top, Left to Right", "Left to Right, Bottom to Top", "Right to Left, Bottom to Top", "Top to Bottom, Left to Right", "Bottom to Top, Right to Left", "Left to Right, Top to Bottom (default)", "Right to Left, Top to Bottom", and "Top to Bottom, Right to Left".



## 7.5 Margins Tab

The Margins tab menu is designed to only work with either text or image files. Note margin adjustments are relative to paper orientation.

### 7.5.1 Use custom margins

When enabled this option will force the margins of Image or Text files to adhere to values input into the available fields.

#### 7.5.2 Top

This will determine how far down from the top of the document the imageable area of the page begins.

#### 7.5.3 Bottom

This will determine how far up from the bottom of the document the imageable area of the page begins.

#### 7.5.4 Left

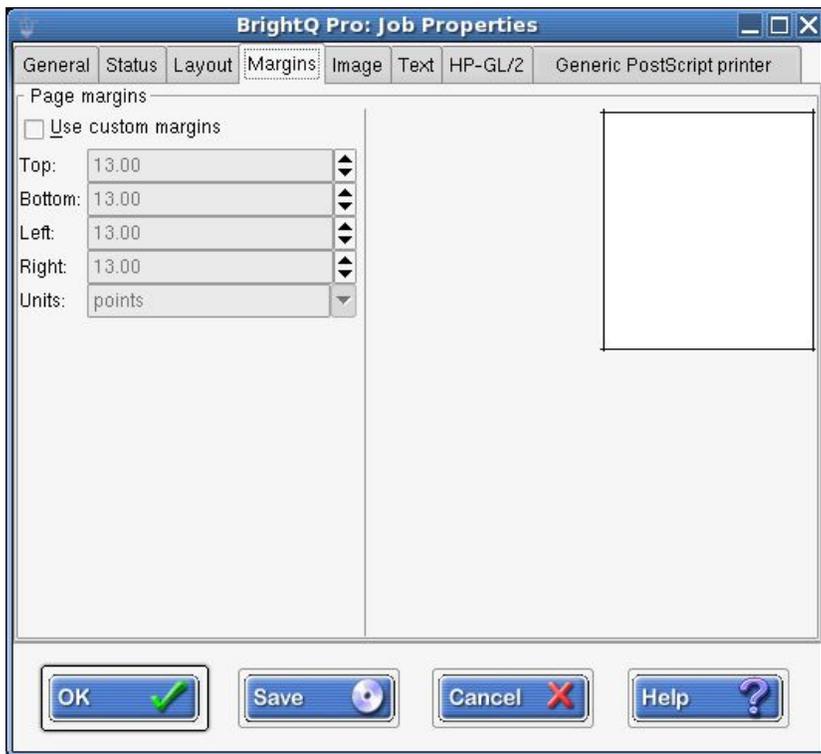
This will determine how far in from the left of the document the imageable area of the page begins

#### 7.5.5 Right

This will determine how far in from the right of the document the imageable area of the page begins

#### 7.5.6 Units

You can select which units of measurement you will utilize for your margin adjustments. The options are cm (centimeters), in (inches), or points. Note the default unit of measurement is points and when enabled it will default to 13 points for all margins.



Margins Print Job Manager (PJM) menu

## 7.6 Image Tab

The Image tab menu is designed to work with image files directly with the exception of the Brightness and Gamma adjustments. The Brightness and Gamma controls will work with Images, PostScript files, and PDF files with embedded Images

The supported Image file formats are listed below;

- BMP, GIF, JPEG, PhotoCD, Portable bitmap (PBM, PGM, PNM, and PPM), PNG, SGI RGB, Sun Raster, and Tiff image files.
- In the PJM you have numerous menu options centric to printing an Image File. Listed below are the Image Printing options and a brief description of each.
- Note: This option only applies when printing an image unless otherwise specified.

### 7.6.1 Brightness

Specifies the overall brightness of the Image. 100% is normal, 50% is half as bright and 200% is twice as bright. This affects all of the RGB or CMYK channels.

- o Note: This option only applies when printing an image, PDF with embedded images, or a PostScript file.

### 7.6.2 Hue

This specifies a color Hue rotation.

- o Note: This option only applies when printing an image.

### 7.6.3 Saturation

This specifies the saturation, or the distance the color's hue moves from neutral gray. If you increase the saturation then the hue will move farther from neutral gray. A value of 100 is unchanged, 50 is half as colorful or saturated as 100 and 200 is twice as saturated or colorful as 100.

Note: This option only applies when printing an image.

### 7.6.4 Gamma

This specifies the overall gamma or luminance correction for the output. A value of 1.0 specifies no correction, whereas a correction of 0.5 or 2.0 will generate darker or lighter output, respectively. Gamma is applied to the RGB or Luminance for Grayscale output, equally.

- o Note: This option only applies when printing an image, PDF with embedded images, or a PostScript file.

### 7.6.5 Resolution (ppi)

This specifies the resolution of the image in Pixels per Inch. Default value is that of the resolution of the actual file being printed or 128 PPI if no resolution information is available or selected. The Resolution (PPI) overrides the “% of page” options.

- o Note: This option only applies when printing an image.

### 7.6.6 % of page

This specifies the scaling of the image with respect to the selected media. The default value is 100, which means that if you were to select Letter paper the image would cover the entire 8.5x11 printable area. The “% of Page” option overrides the Resolution (ppi) options.

- o Note: This option only applies when printing an image, and will retain the image files' aspect ratio.

### 7.6.7 Image Position

This specifies the location of the image file on the printed page.

- o Note: This option only applies when printing an image.



Image Print Job Manager (PJM) menu

## 7.7 Text

This filter converts Text files into PostScript and adds printer commands and options. In the PJM you have numerous menu options centric to printing a Text File. Listed below are the Text Printing options and a brief description.

### 7.7.1 - Chars per inch

The default value is 10 characters per inch. Characters per inch determine the number of text characters per inch that will be printed.

### 7.7.2 - Lines per inch

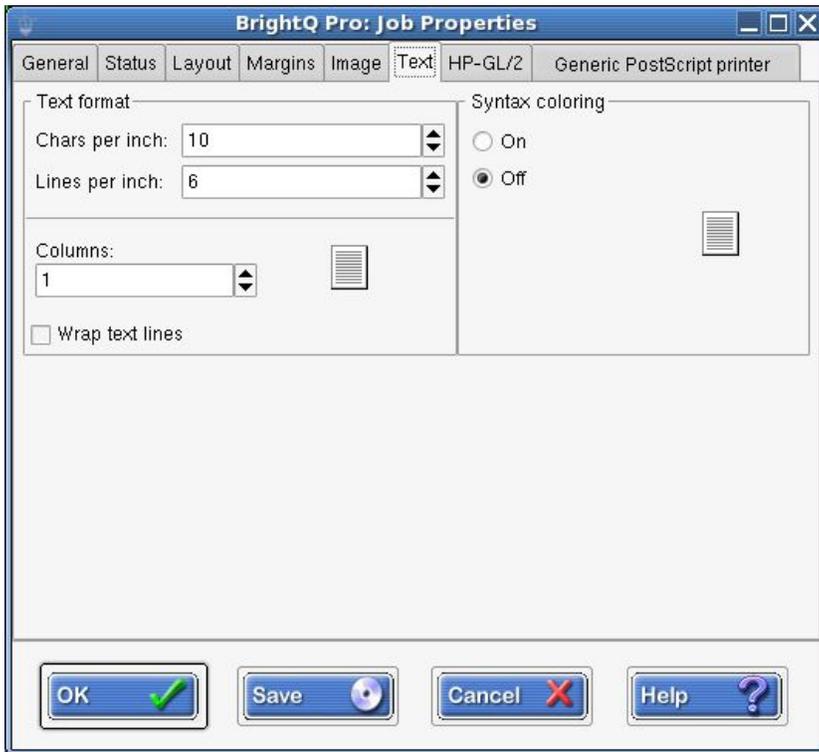
The default value is 6 lines of text per inch.

### 7.7.3 - Columns

The default value is 1 column. These are columns of text. one Column will fill the entire imageable area of the page. If you select two columns, then the imageable area of the page would be separated into two columns each representing 50% of the page, etc.

### 7.7.4 - Syntax Coloring

On/Off: The default value is off. This option will take any C, C++, shell script, and PERL code that is in the text file and color its language keywords accordingly.



Text Print Job Manager (PJM) menu

## 7.8 HP-GL/2

The HP-GL/2 tab menu is for printing HP-GL/2 files to your PostScript output device (HPGL to PS). The options selected here will only apply to HP-GL/2 files and will not affect any other data format. Please refer to.

### 7.8.1 - Use only black pen

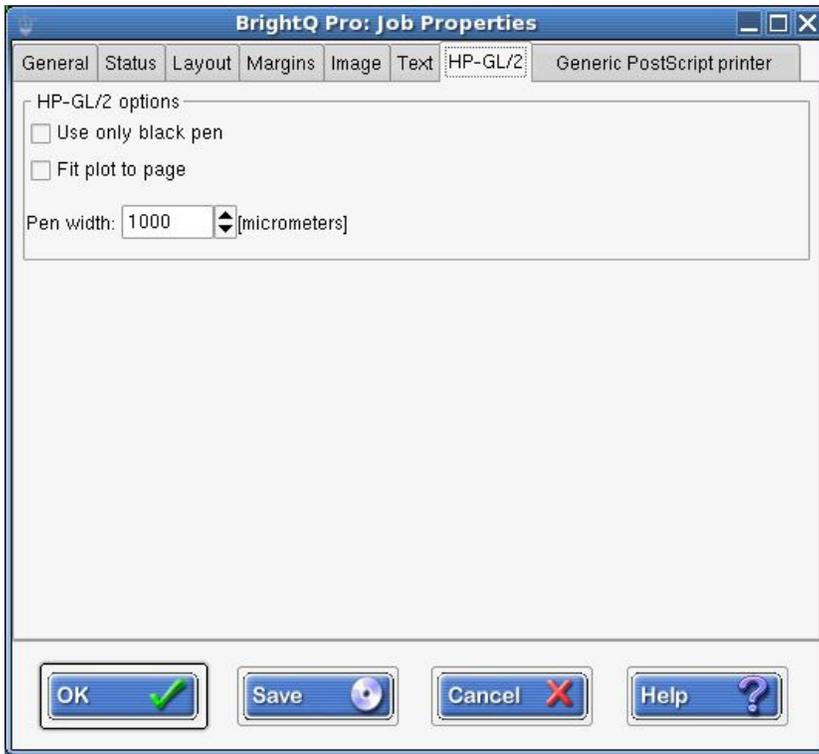
This will force the HP-GL/2 plot to be output in grayscale

### 7.8.2 - Fit plot to page

This will force the output to fit the page size selected via. the devices PPD regardless of the size of the HP-GL/2 plot.

### 7.8.3 - Pen Width

This option will determine the emulation of the pen width of the plot as it is converted to PostScript. Pen width is measured in micrometers and default is set to 1000.



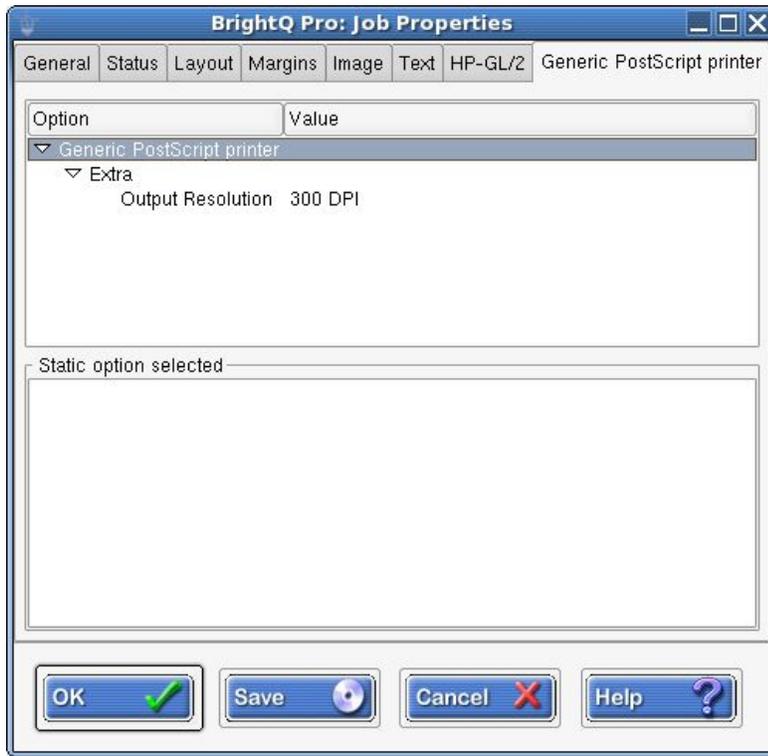
HP-GL/2 Print Job Manager (PJM) menu

## 7.9 Configured Printer

Note: this will display the PPD or output device name

- This is the tab menu for your configured printers. The configured printer will display all relevant options for that device's printer driver. Any selection made here will override the selections for the device made in the Configuration tool, (with the exception of the Device Accessories). The Device Accessories can only be overridden within the configuration tool, and only by the root user. The print driver defines options available in this menu, and they will vary depending on the output device.

Note: If the print queue you are printing to is set up as "Raw", the output device options will not be enabled. Additionally, you will not have the ability to view and/or select options within the Print Job Manager (PJM) which are centric to your printer, and all other options selected will be ignored.



Configured Printer Print Job Manager (PJM) menu

## 8 BrightQ-Pro - Unix shell-based interface

BrightQ-Pro can be used within the X Window System or via a Unix shell interface. The BrightQ-Pro Unix shell-based interface will allow you to install, configure, license, etc BrightQ-Pro, as well as establish, delete, and configure print queues. The BrightQ-Pro Unix shell-base interface will also allow you to print files with the same features and functionality as the X Windows System.

Please refer to the Minimum Supported Linux/Unix Distributions and Versions for any OS or printing system related limitations. The following section will describe the steps required to install, query, and configure a printer with the Unix shell-based interface.

### 8.1 Installing a BrightQ-Pro printer with the Unix shell-based interface

Please refer to chapter "3.1 To install BrightQ-Pro on a Linux or Unix computer" for details on the various installation classes and options. The following chapter makes the assumption that you have already successfully installed BrightQ-Pro on your system. This chapter is broken down by the selected printer connection type.

### 8.2 "codehost-config" command

The "codehost-config" command is one of the core BrightQ-Pro commands. "codehost-config" is what you will use to install, configure, restart, remove, and list print queues.

"codehost-config" arguments and their descriptions are listed below.

### 8.2.1 “codehost-config” arguments and descriptions- Table

**Format: command --argument value (codehost-config --remove printqueue\_name)**

“codehost-config” – table	
Arguments	Descriptions
--help   -h	Print this help message
--version   -v	Print version information and exit
--fast   -f	Fast start-up; do not fetch initial status information. Implied for non-interactive commands.
--add   -c <queue> <ppd>	Configure a new printer
--add-class   -A <class> <queue1> <queue2> ...	Configure a class from existing queues or classes. Only available on CUPS and System V systems.
--remove   -r <queue>	Remove a queue from the system
--remove-member   -R <class> <queue1> <queue2> ...	Remove one or more queue/class from an existing class
--update   -u <queue>	Update the parameters for a queue
--config   -C <queue>	Show available options for the queue
--default   -d <queue>	Make the queue the system default
--system   -s	option=value Set a printing system option
--list   -a	List all available queues
--list-queues   -q	List all available queues with alert status
--status   -t <queue>	Show current status for the queue
Optional Arguments	
--login   -l <login>	Specify a user for login
--pass   -p <password>	Specify a password for the user
--description   -D <desc>	Add/update a description for the printer
--location   -L <location>	Add/update the location for the printer
--uri   -U <URI>	Set the connection URI for the printer
--options   -o <options>	Change the default PPD settings
--use-pjm y n	Whether to use the PJM GUI for the printer

### 8.2.2 codehost-config --system: (GLOBAL) arguments, and descriptions - Table

Listed below are the "codehost-config --system" Names and Values. These are options that are GLOBAL in nature and control the way BrightQ-Pro interacts with the underlying print system.

**Format: command --argument name=value (codehost-config --system replaced-lp=true)**

“codehost-config - -system” - table	
Arguments	Descriptions
ghostscript	Path to gs command
smbclient	Path to Samba smbclient program

replaced-lp	"true" if PJM was linked for the lp/lpr
use-pjm-others	"true" PJM pop up for non-BrightQ-Pro queues
use-cups-others	"true" to access all PPD features with CUPS and the corresponding cups license
BrightQ-Pro-default-printer	The name of the system default queue
<b>codehost-config - -system "CUPS Commands"</b>	
port	And its port (normally 631)
restart	The path to a script to restart the CUPS daemon (/etc/rc.d/init.d/cups or similar)
lpr	The command called for submitting jobs (lp.cups or similar)
encrypt	If 'yes', force encryption when connecting to the server.
autorestart	If 'yes', automatically restart the CUPS daemon if we fail to connect to it.
<b>codehost-config - -system "LPR/LPD/LP – Commands"</b>	
printcap	The file where we write new queues
printconf	The path to the printconf-backend command
printconf-db	The path to the printconf database
reload	Path to the script to restart the daemon
lpc	Path to the 'lpc' command
lpr	Path to the actual 'lpr' command
lpq	Path to the actual 'lpq' command
lprm	Path to the actual 'lprm' command
spooldir	Root of the spooling directories (/var/spool/lpd)
lpuser	The user that owns the spool directories
lpgroup	The group that owns the spool directories
use-j	Set to "true" if the lpr -J syntax is to be used to submit job options

### 8.3 "codehost-license" command

"codehost-license" is one of the core BrightQ-Pro commands. "codehost-license" is what you will use to import, activate, register, etc. BrightQ-Pro licenses.

#### 8.3.1 "codehost-license" -argument - Table

Listed below are the "codehost-config --system" Names and Values. These are options control the way BrightQ-Pro interacts with the BrightQ-Pro license manager.

**Format: command --argument name option (codehost-License --onLine)**

**The "codehost-license" command, arguments, and descriptions are listed below:**

<b>"codehost-license" - table</b>	
<b>Arguments</b>	<b>Descriptions</b>
--help   -h	Print this help message
--import   -i	-i licence.cl[f p] Import a license file
--machineid   -m	-m Print out the machine id for this computer
--online   -o	-o Online product registration
--activation   -a	-a Online product activation (certificate needed)

--certificate   -c	-c CERT Specify the certificate number for activation
--email   -e your@email.com	your@email.com Specify the user account for activation
--password   -p	password Specify the password for the user account

## 8.4 "codehost-uninstall" command

"codehost-uninstall" is one of the core BrightQ-Pro commands. Codehost-uninstall is what you will utilize to remove BrightQ or BrightQ-Pro components from your computer.

### 8.4.1 "codehost-uninstall" -argument - Table

Listed below are the "codehost-uninstall" Names and Values. These are options that are GLOBAL in nature and control the way BrightQ-Pro is removed from your system.

**Format: command --argument name option (register --online)**

The "codehost-uninstall" command, arguments, and descriptions are listed below:

"codehost-uninstall" - table	
Arguments	Descriptions
--help   -h	Print this help message
--list   -l	List all installed products and components.
--version   -v	Gets the Uninstall Tool version information
brightq	Uninstall the entire BrightQ-Pro program
product [component]	Uninstalls the specified product, or its subcomponent (for example "codehost-uninstall brightq")

## 8.5 "pjm" command

The Print Job Manager or pjm, is one of the core BrightQ-Pro commands. pjm, is what you will use to print from BrightQ-Pro. PJM is by default symbolically linked to the printing system's default print spooler (i.e. lp, lpr, etc.)

### 8.5.1 "pjm" --argument - Table

Listed below are the "pjm" argument names and values. These are options that are GLOBAL in nature and control the way the BrightQ-Pro PJM interacts with the underlying print system. All options that are device and/or filter specific must be prefaced with the "-o" switch

**Format: command --argument name=value (duplex=yes)**

The "pjm" command, arguments, and descriptions are listed below:

"pjm" - table	
Arguments	Descriptions
--option   -o	specifies the print job option(s)
--no-gui	Do not use the Print Job Manager (pjm) GUI
raw	Print the data in raw unfiltered format (for example "pjm -o raw")

**Note; The PJM options (-o) are variables based on the printer that the print job is being sent to and also the available data, document, input, etc. filters.**

## 8.6 Configuring LPD (515)-Unix Shell-Based interface

As listed in the above tables the core command to set up a device with BrightQ-Pro is "codehost-config". In order to set up a print queue for a device utilizing a remote line printer daemon (LPD) use the following arguments.

**Note: The local queue name, IP address of the remote machine that is hosting the LPD queue, device specific ppd (and path), and remote printer queue name are all variables.**

At a terminal or command prompt type the following;

- `codehost-config -c <localqueue_name> /usr/local/brightq/ppd/C/<device specific ppd for this printer> -U lpd://<IP address of the remote machine hosting the LPD queue>/<remote print queue>`

See the example below:

- `codehost-config -c localprintqueue /usr/local/brightq/ppd/C/printer.ppd -U lpd://10.0.0.20/print`

## 8.7 Configuring IPP (631)-Unix Shell-Based interface

In order to set up a print queue for a device utilizing the Internet Printing Protocol (IPP), use the following arguments.

**Note: The local queue name, device specific ppd (and path), user name, password, IP address of the remote machine that is hosting the IPP resource, the port number, and IPP resource are all variables.**

At a terminal or command prompt type the following;

- `codehost-config -c <localqueue_name> /usr/local/brightq/ppd/C/<device specific ppd for this printer> -U ipp://<username:password@IP address of the remote machine hosting the IPP queue:the port IPP is listening on/ipp resource/ipp resource>`

See the example below:

- `codehost-config -c localprintqueue /usr/local/brightq/ppd/C/printer.ppd -U ipp://user:password@10.0.0.20:631/ipp/printer`

## 8.8 Configuring Socket (9100)-Unix Shell-Based interface

In order to set up a print queue for a device utilizing Socket or port 9100, use the following arguments.

**Note; The Host name or IP Address, are variables.**

At a terminal or command prompt type the following;

- `codehost-config -c <localqueue_name> /usr/local/brightq/ppd/C/<device specific ppd for this printer> -U socket://<IP address of the remote machine hosting the socket queue:the port socket is listening on>`

See the example below.

- `codehost-config -c localprintqueue /usr/local/brightq/ppd/C/printer.ppd -U socket://10.0.0.20:9100`

## 8.9 Configuring SMB (Samba)-Unix Shell-Based interface

In order to set up a print queue for a device utilizing the SMB protocol (via Samba), use the following arguments.

**Note; The local queue name, device specific PPD (and path), user name, password, server, workgroup, and SMB resource are all variables. SMB will require the installation of the Samba SMB client software.**

At a terminal or command prompt type the following;

- `codehost-config -c <localqueue_name> /usr/local/brightq/ppd/C/<device specific ppd for this printer> -U smb://<user name on the printer hosting the SMB resource:password@SMB server/SMB workgroup/SMB resource>`

See the example below:

- `codehost-config -c localprintqueue /usr/local/brightq/ppd/C/printer.ppd -U smb://user:password@server/workgroup/resource`

## 8.10 Configuring USB-Unix Shell-Based interface

In order to set up a print queue for a device utilizing an USB connection utilize the following arguments.

**Note; The local queue name, device specific PPD (and path), and the path to the USB device, are all variables.**

At a terminal or command prompt type the following;

- `codehost-config -c <localqueue_name> /usr/local/brightq/ppd/C/<device specific ppd for this printer> -U usb:<path to usb device>`

See example below;

- `codehost-config -c localprintqueue /usr/local/brightq/ppd/C/printer.ppd -U usb:/dev/usb/lp0`

## 8.11 Print to File-Unix Shell-Based interface

In order to set up a print queue to print to a file use the following arguments.

**Note; The local queue name, device specific PPD (and path), and the path to the file, are all variables.**

At a terminal or command prompt type the following;

- `codehost-config -c <localqueue_name> /usr/local/brightq/ppd/C/<device specific ppd for this printer> -U file:<path to file>`

See example below;

- `codehost-config -c localprintqueue /usr/local/brightq/ppd/C/printer.ppd -U file:/tmp/file1.ps`

## 8.12 Serial-Unix Shell-Based interface

In order to set up a print queue to print to a printer use a serial connection use the following arguments.

**Note; The local queue name, device specific PPD (and path), path to the serial printer, baud rate, data bits, parity, and flow control are all variables.**

At a terminal or command prompt type the following;

- `codehost-config -c <localqueue_name> /usr/local/brightq/ppd/C/<device specific ppd for this printer> -U serial:/<path to serial device>baud=9600+bits=8 +parity=none flow=soft`

See example below;

- `codehost-config -c localprintqueue /usr/local/brightq/ppd/C/printer.ppd -U serial:/dev/ttyS0?baud=9600+bits=8 +parity=none flow=soft`

## 8.13 Parallel-Unix Shell-Based interface

In order to set up a print queue to print to a printer use a parallel connection use the following arguments.

**Note; The local queue name, device specific ppd (and path), and path to the parallel printer are all variables.**

At a terminal or command prompt type the following;

- `codehost-config -c <localqueue_name> /usr/local/brightq/ppd/C/<device specific ppd for this printer> -U parallel:/<path to parallel device>`

See example below:

- `codehost-config -c localprintqueue /usr/local/brightq/ppd/C/printer.ppd -U parallel:/dev/lp0`

## 8.14 Configuring a Printer Class

In order to configure a printer class with BrightQ-Pro you will use the core command "codehost-config".

In order to create and configure a printer class named test\_class use the "-A" argument.

- `codehost-config -A <class> <queue1> <queue2>`

See example below:

- `codehost-config -A test_class localqueue_name`

## 8.15 Removing a print queue

In order to remove a queue set up and configured by BrightQ-Pro you will use the core command "codehost-config". In order to remove a print queue named localprintqueue use the "-r" argument.

- codehost-config -r <localqueue\_name>

See example below:

- codehost-config -r localprintqueue

### 8.15.1 Removing a print queue from a print Class

In order to remove a print queue from a print Class you need to specify the print Class and queue by using the "--remove-member" or "-R" (note upper case R) argument.

- codehost-config --remove-member or -R <class> <queue>

See example below

- codehost-config -R laser\_printer\_class laser\_printer\_queue

### 8.15.2 Removing a print Class

In order to remove a print class, you need to specify the print Class by using the "--remove-member" or "-R" argument. When removing a class all queues within that class will also be removed.

- codehost-config --remove-member or -R <class>

See example below

- codehost-config -R laser\_printer\_class

## 8.16 Updating a print queue, queue description, and location

In order to update a queue set up and configured by BrightQ-Pro you will use the core command "codehost-config". In order to update a print queue named localprintqueue utilize the "-u" argument. In the first example you are updating the localprintqueue from a remote LPD queue to a socket queue. In the second example you are updating the IP Address of localprintqueue's remote LPD server.

- codehost-config -u localprintqueue -U socket://10.0.0.20:9100

See example below:

- codehost-config -u localprintqueue -U lpd://10.0.0.21/print

In order to update a queue's description utilize the -D argument. In the example below we are updating the localprintqueue's description to colorprinter.

- `codehost-config -u localprintqueue -D colorprinter`

In order to update a queue's location utilize the `-L` argument. In the example below we are updating the `localprintqueue`'s location to `2ndfloor`.

- `codehost-config -u localprintqueue -L 2ndfloor`

### 8.17 Listing all available queues and their configuration info.

In order to list the queues and their respective setup information, use the `-a` argument. "codehost-config" will print to the screen detailed information on the connection type, URI, Model, PPD being used, and the default PPD options for that queue.

See the example below;

- `codehost-config -a` or `--list`

### 8.18 Listing all available queues and their alert status.

In order to list the queues and their current status, utilize the `-q` argument. "codehost-config" will print to the screen information on the alert status, queue status and URI for all available queues.

See the example below;

- `codehost-config -q` or `--list-queues`

### 8.19 Show status for a print queue.

In order to show the complete status for a print queue, utilize the `-t` argument. "codehost-config" will print to the screen information on all the current status for the print queue.

See the example below;

- `codehost-config -t` or `--status remoteprintqueue`

### 8.20 Setting login and password when creating a new queue with CUPS

In order to avoid having to enter a root login and password for CUPS each time you install a printer you can include those in the Unix shell-based interface. You will use the core command "codehost-config". In order to include the login and password utilize the `-l` for login and `-p` for password arguments. The `-l` and `-p` arguments can be used for all aspects of BrightQ-Pro and CUPS that require root login and password.

- `codehost-config -c localprintqueue /usr/local/brightq/ppd/C/printer.ppd -U lpd://10.0.0.55/print -l root -p password`

### 8.21 Setting the print queue's URI

In order to configure the print queue's URI you will use the core command "codehost-config". In order to set the URI utilize the `-U` argument. The example below is updating the `localprintqueue`'s default URI to `lpd://10.0.0.22/hold`.

- `codehost-config -u localprintqueue -U lpd://10.0.0.22/hold`

## 8.22 Configuring a BrightQ-Pro printer

Once you have installed your printer using the Unix shell-based interface commands and arguments listed above, it will now be necessary to configure the installed printer. The primary elements that you will need to configure are the default PPD or filter options, and the Device Accessories. Once you have configured these options they will become the default for that queue. Subsequently any job that goes through the configured queues will be filtered with the options that you have applied to that queue. These options will be statically linked to the queue and can only be overridden by specific Unix shell-based interface options applied when printing or by using the update (-u) option.

### 8.22.1 Determining the default ppd or filter options

In order to determine the default PPD or filter options utilize the following "codehost-config" arguments.

- `codehost-config -C localprintqueue`

Once you have run this command you will be presented with a list of default PPD or filter options. The list will display both the subsection of the ppd or filter and the options and default arguments. Next to each "default option" will be an asterisk (\*). An example of the displayed "Installable" PPD options are listed below.

```
InstallableOptions :
```

```
Option 'Option2' (Multi-Cassette Unit) :
```

```
True (Installed)
```

```
<*> False (Not Installed)
```

```
Option 'Option3' (Extra Paper Deck) :
```

```
True (Installed)
```

```
<*> False (Not Installed)
```

```
Option 'Option4' (Output Option) :
```

```
<*> None (Not Installed)
```

```
Finisher1 (Finisher-1)
```

```
Finisher2 (Finisher-2)
```

### 8.22.2 Configuring the default PPD or filter options

The next step will be to configure or define the defaults for that queue. The core command to configure or define a device's defaults is "codehost-config". In order to configure or define the default ppd or filter options you will use both the "-u" (update) and "-o" (option) arguments. An example of configuring a print queue named localprintqueue with an Output Option of Finisher-1 is listed below.

Note: None of the PPD options are fixed and you will need to query the print queue via “codehost-config -C localqueue\_name” in order to determine the available options.

- codehost-config -u localprintqueue -o Option4=Finisher1

In order to configure multiple options in the same Unix shell-based interface string simply place the -o (option) argument between each option. An example of configuring a print queue named localprintqueue with a default paper size A3 and an Output Option of Finisher-1 is listed below.

- codehost-config -u localprintqueue -o Pagesize=A3 -o Option4=FinisherJ1

All options and arguments are variables and you will need to query the print queue via. “codehost-config -C localqueue\_name” in order to determine them. If you want to chain multiple options together when updating a queue with the -u please ensure that all options are chained together as listed above, or in quotes as listed below.

- codehost-config -u localprintqueue -o "Pagesize=A3 Option4=FinisherJ1"

## 8.23 BrightQ-Pro Printing with the Unix Shell-based interface

It will now be necessary to understand how to print and dynamically access the ppd or filter options for that queue. In order to determine the default ppd or filter options utilize the "codehost-config -C localqueue\_name" command. Once you have run the "codehost-config -C localprintqueue" command you will be presented with a list of default PPD or filter options. The list will display both the subsection of the ppd or filter, the options, and default arguments. Next to each "default option" will be an asterisk (\*).

An example of the displayed "PageSize" PPD or filter options are listed below.

General :

Option 'PageSize' (Media Size) :

Letter (Letter)

Legal (Legal)

<\*> A3 (A3)

A4 (A4)

A5 (A5)

B4 (B4)

B5 (B5)

Tabloid (11x17)

Once you have determined the option you want to use (in this case printing on Tabloid paper) use the syntax below to ensure that the data will be filtered appropriately. In order to utilize multiple options in the same Unix shell-based interface string simply place the "-o" (option) argument between each option.

### 8.23.1 Printing with no GUI, -P, and -d

lp, lpr, pjm, -P, -d, etc. are all the default system spooler commands, and all with the exception of pjm (print job manager) will be determined by the underlying print spooler/system. The --no-gui command can be utilized to suppress the pjm UI.

- `lpr -P localprintqueue -o PageSize=Tabloid /path/to/file`
- `lp -dlocalprintqueue -o PageSize=Tabloid -o MediaType=Heavy /path/to/file`
- `pjm --no-gui -P localprintqueue -o PageSize=Tabloid /path/to/file`

### 8.23.2 Number of copies (System V)

In order to specify the number of copies being printed via the Unix shell-based interface, you must use the default print system option for number of copies. For example, "-n" is the default number of copies option for the System V based (lp) print spoolers.

- `lp -dlocalprintqueue -n3 /path/to/file`

### 8.23.3 Number of copies (Berkeley)

-# is the default number of copies option for the Berkeley based (lpr) print spoolers as well as the BrightQ-Pro Print Job Manager (PJM)

- `lpr -P localprintqueue -#3 /path/to/file`

Listed below is a sample of printing a file with both the "--no-gui" and "raw" options

- `lpr --no-gui -P localprintqueue -o raw /path/to/file`
- `lpr --no-gui -P localprintqueue -o PageSize=Tabloid /path/to/file`
- `lp --no-gui -dlocalprintqueue -o raw /path/to/file`
- `pjm --no-gui -P localprintqueue -o raw /path/to/file`

## 8.24 Uninstalling BrightQ-Pro from the Unix shell-based interface

If you need to uninstall BrightQ-Pro from the Unix shell-based interface utilize the "codehost-uninstall brightq" command. If you need help with the command, type "codehost-uninstall --help". In order to list all installed products utilize the "-l" argument as displayed below (please refer to table 8.4.1 for a breakdown of the "codehost-uninstall" option arguments) :

- `codehost-uninstall -l`

In order to conduct a complete uninstall of BrightQ-Pro and not select individual products or options, use the following command:

- `codehost-uninstall brightq`

If you would like to uninstall only a specific product or option utilize the "-l" argument to list the products and options, then select the appropriate products or options and utilize the following command. Note: you will be prompted for each product or option as to whether or not you want to uninstall.

- `codehost-uninstall brightq "product or option in quotes"`

## 9.0 Unix Shell-Based Interface - Generic Filter Options

The Generic Filters refer to the following filters: Text to PostScript, Image to PostScript, PDF to PostScript, and PostScript to PostScript.

### 9.1 Media:

The following options apply when printing; Media Size, Type, and Source.

#### 9.1.1 Setting the media type, size, and source

The `-o media=xyz` option sets the media size, type, and/or source: usage; lp, lpr, pjm

See example below:

- `lpr -o media=Letter,MultiPurpose,Transparency filename`

The available media sizes, types, and sources depend on the printer, but most support the following options (case is not significant):

- Letter - US Letter (8.5x11 inches, or 216x279mm)
- Legal - US Legal (8.5x14 inches, or 216x356mm)
- A4 - ISO A4 (8.27x11.69 inches, or 210x297mm)
- COM10 - US #10 Envelope (9.5x4.125 inches, or 241x105mm)
- DL - ISO DL Envelope (8.66x4.33 inches, or 220x110mm)
- Transparency - Transparency media type or source
- Upper - Upper paper tray
- Lower - Lower paper tray
- MultiPurpose - Multi-purpose paper tray
- LargeCapacity - Large capacity paper tray

The actual options supported are defined in the printer's PPD file in the PageSize, InputSlot, and MediaType options.

#### 9.1.2 Setting the paper Orientation

The `"-o orientation-requested=4"` option will rotate the page 90 degrees to print in landscape orientation.

- `lpr -o landscape filename`
- `lpr -o orientation-requested=4` (this is landscape)
- `lpr -o orientation-requested=3` (this is portrait)

### 9.1.3 Printing on Both Sides of the Paper (Duplex)

The `-o sides=two-sided-short-edge` and `-o sides=two-sided-long-edge` options will enable duplexing on the printer, if the printer supports it.

The `-o sides=two-sided-short-edge` option is suitable for landscape pages, while the `-o sides=two-sided-long-edge` option is suitable for portrait pages:

Note: Duplex commands need to be crosschecked with the codehost-config `-C queue_name` to ensure that a generic approach like the one listed below will work. usage; lp, lpr, pjm

- `lp -o sides=two-sided-short-edge filename`
- `lpr -o sides=two-sided-long-edge filename`

The default is to print single-sided:

- `lpr -o sides=one-sided filename`

### 9.1.4 Banner Options:

The following options apply when printing all types of files.

The `-o jobsheets=start,end` option sets the banner page(s) to use for a job: usage; lp, lpr, pjm

- `lp -o job-sheets=none filename`
- `lp -o job-sheets=standard filename`
- `lpr -o job-sheets=classified,classified filename`

If only one banner file is specified, it will be printed before the files in the job. If a second banner file is specified, it is printed after the files in the job.

The available banner pages depend on the local system configuration; BrightQ-Pro includes the following banner files:

- none - Do not produce a banner page.
- classified - A banner page with a "classified" label at the top and bottom.
- confidential - A banner page with a "confidential" label at the top and bottom.
- secret - A banner page with a "secret" label at the top and bottom.
- standard - A banner page with no label at the top and bottom.
- topsecret - A banner page with a "top secret" label at the top and bottom.
- unclassified - A banner page with an "unclassified" label at the top and bottom.

## 9.2 Document Options:

The following options apply when printing supported file types.

### 9.2.1 Page Ranges

The `-o page-ranges=pages` option selects a range of pages for printing: usage; lp, lpr, pjm

- `lpr -o page-ranges=1-4,7,9-12 filename`

As shown above, the pages value can be a single page, a range of pages, or a collection of page numbers and ranges separated by commas. The pages will always be printed in ascending order, regardless of the order of the pages in the page-ranges option.

The default is to print all pages.

### 9.2.2 Selecting Even or Odd Pages

Use the `-o page-set=set` option to select the even or odd pages:

- `lp -o page-set=odd filename`
- `lp -o page-set=even filename`
- `lpr -o page-set=even filename`

The default is to print all pages.

### 9.2.3 Setting the Output Order

The `-o outputorder=order` option to set the output order of all pages: usage; lp, lpr, pjm

- `lp -o outputorder=normal filename`
- `lp -o outputorder=reverse filename`

### 9.2.4 N-Up Printing

The `-o number-up=value` option selects N-Up printing. N-Up printing places multiple document pages on a single printed page. BrightQ-Pro supports 1, 2, 4, 6, 9, and 16-Up formats; the default format is 1-Up: usage; lp, lpr, pjm

- `lp -o number-up=1 filename`
- `lp -o number-up=2 filename`
- `lp -o number-up=4 filename`
- `lp -o number-up=6 filename`
- `lp -o number-up=9 filename`
- `lp -o number-up=16 filename`

### 9.2.5 Page Border

The `-o page-border=value` option chooses the border to draw around each page: usage; lp, lpr, pjm

- `-o page-border=double`; draw two hairline borders around each page
- `-o page-border=double-thick`; draw two 1pt borders around each page
- `-o page-border=none`; do not draw a border (default)
- `-o page-border=single`; draw one hairline border around each page
- `-o page-border=single-thick`; draw one 1pt border around each page

### 9.2.6 Number Up Layout (number-up-layout)

The `-o number-up-layout=value` option chooses the layout of the pages on each output page: usage; lp, lpr, pjm

- `-o number-up-layout=btlr`; Bottom to top, left to right
- `-o number-up-layout=btrl`; Bottom to top, right to left

- -o number-up-layout=lrbt; Left to right, bottom to top
- -o number-up-layout=lrtb; Left to right, top to bottom (default)
- -o number-up-layout=rlbt; Right to left, bottom to top
- -o number-up-layout=rltb; Right to left, top to bottom
- -o number-up-layout=tblr; Top to bottom, left to right
- -o number-up-layout=tbrl; Top to bottom, right to left

### 9.2.7 Mirroring Prints

You can mirror a print using the -o mirror option: usage; lp, lpr, pjm

- lp -o mirror filename

This is useful for printing mirrored pages on transfer paper, for T-shirts, mugs, etc.

### 9.2.8 Brightness

You can control the overall brightness of the printed output using the -o brightness=percent option: usage; lp, lpr, pjm

**Note; Brightness controls will only apply to Image, and supported image files being printed directly from BrightQ-Pro**

- lp -o brightness=120 filename

Values greater than 100 will lighten the print, while values less than 100 will darken it.

### 9.2.9 Gamma Control

You can control the overall gamma correction of the printed output using the -o gamma=value option: usage; lp, lpr, pjm

**Note; Gamma controls will only apply to Image, and supported image files being printed directly from BrightQ-Pro**

- lp -o gamma=1700 filename
- lpr -o gamma=1700 filename

Values greater than 1.000 will lighten the print, while values less than 1.000 will darken it. The default gamma is 1.000.

## 9.3 Text Options

The following options apply when printing text files. usage; lp, lpr, pjm

### 9.3.1 Setting the Number of Characters Per Inch (CPI)

The -o cpi=value option sets the number of characters per inch: usage; lp, lpr, pjm

- lp -o cpi=10 filename
- lp -o cpi=12 filename
- lpr -o cpi=17 filename

The default characters per inch value is 10.

### 9.3.2 Setting the Number of Lines Per Inch (LPI)

The `-o lpi=value` option sets the number of lines per inch: usage; lp, lpr, pjm

- `lp -o lpi=8 filename`

The default lines per inch value is 6.

### 9.3.3 Setting the number of columns

The `-o columns=value` option sets the number of text columns: usage; lp, lpr, pjm

- `lp -o columns=2 filename`

The default number of columns is 1.

### 9.3.4 Wrapping text

The `-o wrap=true` sets the text on the page to wrap to the next line when it hits the page borders usage; lp, lpr, pjm

- `lp -o wrap=true filename`

### 9.3.5 Setting the Page Margins

Normally the page margins are set to the hard limits of the printer. Use the `-o page-left=value`, `-o page-right=value`, `-o page-top=value`, and `-o page-bottom=value` options to adjust the page margins: usage; lp, lpr, pjm

**Note: Page Margin controls will only apply to text, PostScript, PDF, and supported image files being printed directly from BrightQ-Pro. The value argument is the margin in points; each point is 1/72 inch or 0.35mm.**

- `lp -o page-left=value filename`
- `lp -o page-right=value filename`
- `lp -o page-top=value filename`
- `lp -o page-bottom=value filename`

### 9.3.6 Set Pretty Print/Syntax Coloring

The `-o prettyprint` option puts a header at the top of each page with the page number, job title (usually the filename), and the date. Also, C and C++ keywords are highlighted, and comment lines are italicized: usage; lp, lpr, pjm

- `lp -o prettyprint filename`

## 9.4 Image Options

The following options apply when printing image files only. The supported image file formats are listed below:

BMP, GIF, JPEG, PhotoCD, Portable anymap (PBM, PGM, PNM, and PPM), PNG, SGI RGB, Sun Raster, and TIFF image files.

### 9.4.1 Positioning the Image

The `-o position=name` option specifies the position of the image on the page: usage; lp, lpr, pjm

- center - Center the image on the page (default)
- top - Print the image centered at the top of the page
- left - Print the image centered on the left of page
- right - Print the image centered on the right of the page
- top-left - Print the image at the top left corner of the page
- top-right - Print the image at the top right corner of the page
- bottom - Print the image centered at the bottom of the page
- bottom-left - Print the image at the bottom left corner of the page
- bottom-right - Print the image at the bottom right corner of the page

### 9.4.2 Scaling the Image

The `-o scaling=percent`, `-o ppi=value`, and `-o natural-scaling=percent` options change the size of a printed image: usage; lp, lpr, pjm

- lp `-o scaling=percent filename`
- lp `-o ppi=value filename`
- lpr `-o natural-scaling=percent filename`

The `scaling=percent` value is a number from 1 to 700 (in the GUI) specifying the size in relation to the page (not the image.) A scaling of 100 percent will fill the page as completely as the image aspect ratio allows.

A scaling of 200 percent will print on up to 4 pages.

### 9.4.3 Setting the PPI for an image

The `ppi=value` value is a number from 1 to 800 (in the GUI) specifying the resolution of the image in pixels per inch. An image that is 3000x2400 pixels will print 10x8 inches at 300 pixels per inch, for example. If the specified resolution makes the image larger than the page, multiple pages will be printed to satisfy the request. Usage; lp, lpr, pjm

The `natural-scaling=percent` value is a number from 1 to 800 specifying the size in relation to the natural image size. A scaling of 100 percent will print the image at its natural size, while a scaling of 50 percent will print the image at half its natural size. If the specified scaling makes the image larger than the page, multiple pages will be printed to satisfy the request.

- lp `-o ppi=value filename`

### 9.4.4 Setting the Hue for an image

The `-o hue=value` option will adjust the hue of the printed image, much like the tint control on a television: usage; lp, lpr, pjm.

- lp `-o hue=value filename`

The value argument is a number from -180 to 180 (in the GUI) and represents the color hue rotation. The following table summarizes the change you will see with different colors: The default hue adjustment is 0.

Hue adjustments for an image		
Color	hue -45	hue +45
<b>Red</b>	Purple	Yellow-orange
<b>Green</b>	Yellow-green	Blue-green
<b>Yellow</b>	Orange	Green-yellow
<b>Blue</b>	Sky Blue	Purple
<b>Magenta</b>	Indigo	Crimson
<b>Cyan</b>	Blue-green	Light-navy-blue

### 9.4.5 Setting the Color Saturation

Adjusting the Saturation (Color) of an Image. The `-o saturation=percent` option adjusts the saturation of the colors in an image, much like the color knob on a television: usage; lp, lpr, pjm

- `lp -o saturation=percent filename`

The percent argument specifies the color saturation from 0 to 200. A color saturation of 0 produces a black-and-white print, while a value of 200 will make the colors extremely intense. The default saturation is 100.

## 9.5 HP-GL/2 Options

### 9.5.1 Printing with the Black Pen

The `-o blackplot` option specifies that all pens should plot in grayscale: usage; lp, lpr, pjm

- `lp -o blackplot filename`

The default is to use the colors defined in the plot file or the standard pen colors defined in the HP-GL/2 reference manual.

### 9.5.2 Fitting the plot to the page

The `-o fitplot` option specifies that the plot should be scaled to fit on the page: usage; lp, lpr, pjm

- `lp -o fitplot filename`

The default is to use the absolute distances specified in the plot file. NOTE: This feature depends upon an accurate plot size (PS) command in the HP-GL/2 file. If no plot size is given in the file than the HP-GL/2 filter assumes the plot is ANSI E size.

### 9.5.3 Setting the Default Pen Width

The `-o penwidth=value` option specifies the default pen width for HP-GL/2 files: usage; lp, lpr, pjm

- `lp -o penwidth=value filename`

The pen width value specifies the pen width in micrometers. The default value of 1000 produces lines that are 1 millimeter in width. Specifying a pen width of 0 produces lines that are exactly 1 pixel wide.

NOTE: This option is ignored when the pen widths are set in the plot file.

## 9.6 Raw or Unfiltered output

The -o raw option allows you to send files directly to a printer without filtering. This is sometimes required when Printing data that is already formatted for the output device: usage; lp, lpr, pjm

### 9.6.1 Raw or Unfiltered output

- `lp -o raw filename`

The -l option can also be used with the lpr command to send files directly to a printer: usage; lp, lpr, pjm

- `lpr -l filename`

## 10 User vs "root" while using BrightQ-Pro

BrightQ-Pro can be use by regular users as well as "root" users. There are core differences between the user experience with BrightQ-Pro (when logged in as a user) or "root". The "root" user has full access to all BrightQ-Pro functions. The regular user on the other hand cannot install/configure printers, restart the printing system, as well as access numerous other configuration options (they will be grayed out and unavailable).

Listed in Tables below are the features that the user or "root" can access, modify, etc. These are listed by the Configuration Tool, which encompasses the installer and the Print Job Manager.

### BrightINSTALL, PJM, and Configuration Tool “user vs. root” - Table

user vs. root options		
Function or menu options	Normal User	“root” user
<b>BrightQ-Pro Installer</b>		
Installing BrightQ-Pro	No *	Yes
Uninstalling BrightQ-Pro	No	Yes
<b>Configuration Tool – File, Print, Printer, and Help menu’s</b>		
Running the BrightQ-Pro License Manager	No	Yes
File/Options (CUPS, System V, Berkeley)	Yes	Yes
PJM Tabs	Yes	Yes
Print /Test page	Yes	Yes
Print /Documents	Yes	Yes
Printer/Add Printer (Expert)	No	Yes
Printer/Add Printer (Wizard)	No	Yes
Printer/Add Class	No	Yes
Printer/Import Printers	No	Yes
Printer/Export Printers	Yes	Yes
Printer/Duplicate Printer	No	Yes
Printer/Remove Printer	No	Yes
Printer/Set as System Default	No	Yes
Help/Index	Yes	Yes
Help/User Guide	Yes	Yes
Help/About	Yes	Yes

Configuration Tool – Icons		
Add printer wizard	No	Yes
Remove the selected printer	No	Yes
Enable/Disable printer	No	Yes
Browse the online help	Yes	Yes
Start/Stop Monitor	Yes	Yes
Show Device Status	Yes	Yes
Exit the program	Yes	Yes
Configuration Tool – Info. Tab Menu		
Web-based administration	Yes	Yes
Display Printer Information	Yes	Yes
Configuration Tool – Info. Job Menu		
Delete	Yes (only the users jobs)	Yes
Suspend**	No	Yes
Resume**	No	Yes
Configuration Tool – Properties Menu		
Device Accessories	No	Yes
Filter Options	Yes	Yes
Factory Device Defaults	Yes	Yes
Configuration Tool – Connection		
Access to the menu	No	Yes
Configuration Tool – Device Status Menu		
Refresh	Yes	Yes
Enable Status Monitoring	No	Yes
Configuration Tool – Configured Printer - Right Click Menu		
Set as system default	No	Yes
Set as user's default	Yes	Yes
Remove	No	Yes
Duplicate	No	Yes
Disable	No	Yes
Enable	No	Yes
Reject/Accept Jobs	No	Yes
Print Job Manager		
Selecting printer outside the default	Yes	Yes
Primary PJM Menu	Yes	Yes
Properties	Yes	Yes
Set as user default	Yes	Yes
Device status icon	Yes	Yes
Ok/Cancel/Help	Yes	Yes
General/Status/Layout/Margins/Image/Text/HP-GL/2	Yes	Yes
Device Specific Tab	Yes	Yes
Device Specific Tab - Installable options	No	Yes

\* You may execute this as a normal user and BrightInstall will ask for the "root" password

\*\* Suspend/Resume are only supported for Root Users and are not supported at all for HPUX or IRIX

# 11 Tables

## 11.1 Minimum Supported Linux Distributions and Versions - Table

Linux Distribution	Minimum Supported Distribution Version	Minimum Kernel Version	Minimum Processor Recommendation	Minimum Hard Drive space and Memory Recommendation
RedHat EL	4	2.2.14 or 2.4.12 or greater	Pentium 1 133MHz	64 MB RAM, 250 MB free HD space
Fedora	7	2.2.14 or 2.4.12 or greater	Pentium 1 133MHz	64 MB RAM, 250 MB free HD space
SuSE	7.3	2.2.14 or 2.4.12 or greater	Pentium 1 133MHz	64 MB RAM, 250 MB free HD space
TurboLinux	10.0	2.2.14 or 2.4.12 or greater	Pentium 1 133MHz	64 MB RAM, 250 MB free HD space
Debian	3.0	2.2.14 or 2.4.12 or greater	Pentium 1 133MHz	64 MB RAM, 250 MB free HD space
Slackware	10	2.2.14 or 2.4.12 or greater	Pentium 1 133MHz	64 MB RAM, 250 MB free HD space
Ubuntu	9.10	2.2.14 or 2.4.12 or greater	Pentium 1 133MHz	64 MB RAM, 250 MB free HD space

## 11.2 Minimum Supported Unix Versions and Architectures - Table

Unix OS	Minimum Supported Version	Processor Architecture	Minimum Hard Drive space and Memory Recommendation
Solaris	10 UltraSPARC	UltraSPARC II or III	64 MB RAM, 250 MB free HD space
Solaris	10 i86pc	x86-Intel and Intel-Compatible	64 MB RAM, 250 MB free HD space
HP-UX	11i	PA-RISC	64 MB RAM, 250 MB free HD space
FreeBSD *	8.2	x86-Intel and Intel-Compatible	64 MB RAM, 250 MB free HD space
AIX **	4.3	Power PC	64 MB RAM, 250 MB free HD space

- \* FreeBSD: When using FreeBSD, the options (-o) are only supported when using the BrightQ-Pro Print Job Manager (/usr/local/brightq/bin/pjm) vs. the standard (i.e. built-in) printing system spooler (i.e. /usr/bin/lp, lpr)
- \*\* AIX: On AIX 5 and above, you can switch to System V from AIX or vice versa by using "smit" or simply using the commands below:

```
/usr/sbin/switch.prt -s AIX (switch from System V to AIX)
/usr/sbin/switch.prt -s SystemV (switch from AIX to System V)
```

### 11.3 Acronyms - Table

BrightQ-Pro Acronyms	
Acronym	Description
BrightINSTALL	This is the BrightQ-Pro installation wizard
Config. Tool	BrightQ-Pro Configuration Tool
PJM	Print Job Manager
Page Description Language Acronyms	
Acronym	Description
GDI	Graphical Device Interface
PCL	Printer Control Language
PDL	Page Description Language
PJL	Printer Job Language
PPD	Postscript Printer Description
PS	PostScript
System Acronyms	
Acronym	Description
BSD	Berkeley Software Distribution
CUPS	Common Unix Printing System
CLI	Unix shell-based or Command Line interface
FQDN	Fully Qualified Domain Name
GUI	Graphical User Interface
IP	Internet Protocol
IPP	Internet Printing Protocol
LP	Line Printer (SVR4)
LPD	Line Printer Daemon
LPR	Line Printer Remote (BSD)
LPRng	Line Printer Remote New Generation
MIB	Management Information Block
ms	Milliseconds
QA	Quality Assurance
SMB	Server Message Block
URL	Uniform Resource Locator
SNMP	Simple Network Management Protocol
SVR4	System Five release four - AT&T Unix
UI	User Interface

### 11.4 “codehost-config” arguments and descriptions- Table

*Format: command --argument value (codehost-config --remove printqueue\_name)*

“codehost-config” - table	
Arguments	Descriptions
--help   -h	Print this help message
--add   -c <queue> <ppd>	Configure a new printer
--remove   -r <queue>	Remove a queue from the system
--update   -u <queue>	Update the parameters for a queue
--config   -C <queue>	Show available options for the queue
--version   -v	Print version information and exit

--default   -d <queue>	Make the queue the system default
--system   -s	option=value Set a printing system option
--add-class   -A <class> <queue1> <queue2> ...	Configure a class from existing queues or classes. Only available on CUPS and System V systems.
--remove-member   -R <class> <queue1> <queue2> ...	Remove one or more queue/class from an existing class
<b>Optional Arguments</b>	
--fast   -f	Fast start-up; do not fetch initial status information. Implied for non-interactive commands.
--list   -a	List all available queues
--login   -l <login>	Specify a user for login
--pass   -p <password>	Specify a password for the user
--description   -D <desc>	Add/update a description for the printer
--location   -L <location>	Add/update the location for the printer
--uri   -U <URI>	Set the connection URI for the printer
--options   -o <options>	Change the default PPD settings
--use-pjm y n	Whether to use the PJM GUI for the printer

## 11.5 codehost-config --system: (GLOBAL) - Table

Listed below are the "codehost-config --system" Names and Values. These are options that are GLOBAL in nature and control the way BrightQ-Pro interacts with the underlying print system.

**Format: command --argument name=value (codehost-config --system replaced-lp=true)**

"codehost-config - -system" - table	
Arguments	Descriptions
ghostscript	Path to gs command
smbclient	Path to Samba smbclient program
replaced-lp	"true" if PJM was linked for the lp/lpr
use-pjm-others	"true" PJM pop up for non-BrightQ-Pro queues
use-cups-others	"true" to access all PPD features with CUPS and the corresponding cups license
BrightQ-Pro-default-printer	The name of the system default queue
codehost-config - -system "CUPS Commands"	
port	And its port (normally 631)
restart	The path to a script to restart the CUPS daemon (/etc/rc.d/init.d/cups or similar)
lpr	The command called for submitting jobs (lp.cups or similar)
encrypt	If 'yes', force encryption when connecting to the server.
autorestart	If 'yes', automatically restart the CUPS daemon if we fail to connect to it.
codehost-config - -system "LPR/LPD/LP - Commands"	
printcap	The file where we write new queues
printconf	The path to the printconf-backend command
printconf-db	The path to the printconf database
reload	Path to the script to restart the daemon
lpc	Path to the 'lpc' command
lpr	Path to the actual 'lpr' command
lpq	Path to the actual 'lpq' command
lprm	Path to the actual 'lprm' command

spooldir	Root of the spooling directories (/var/spool/lpd)
lpuser	The user that owns the spool directories
lpgroup	The group that owns the spool directories
use-j	Set to "true" if the lpr -J syntax is to be used to submit job options

## 11.6 “codehost-license” -argument - Table

Listed below are the "codehost-license" Names and Values. These are options that control the way BrightQ-Pro interacts with the BrightQ-Pro license manager.

**Format: command --argument name option (register --online)**

“register” - table	
Arguments	Descriptions
--help   -h	Print this help message
--import   -i	-i licence.cl[f p] Import a license file
--online   -o	-o Online product registration
--activation   -a	-a Online product activation (certificate needed)
--certificate   -c	-c CERT Specify the certificate number for activation
--email   -e	our@email.com Specify the user account for activation
--password   -p	password Specify the password for the user account

## 11.7 “codehost-uninstall” -argument - Table

Listed below are the "codehost-uninstall" Names and Values. These are options that are GLOBAL in nature and control the way BrightQ-Pro is removed from your system.

**Format: command --argument name option (register --online)**

“codehost-uninstall” - table	
Arguments	Descriptions
--help   -h	Print this help message
--list   -l	List all installed products and components.
--version   -v	Gets the Uninstall Tool version information
brightq	Uninstall the entire BrightQ-Pro program
product [component]	Uninstalls the specified product, or its subcomponent (i.e. “codehost-uninstall brightq”)
--email   -e	our@email.com Specify the user account for activation
--password   -p	password Specify the password for the user account

## 11.8 “pjm” -argument - Table

Listed below are the "pjm" Names and Values. These are options that are GLOBAL in nature and control the way the BrightQ-Pro PJM interacts with the underlying print system. All device specific or generic filter specific options are listed separately.

**Format: command --argument name=value (duplex=yes)**

“pjm” - table	
Arguments	Descriptions
--option   -o	specifies the printing option/s
--no-gui	Do not use the Print Job Manager (pjm) GUI
raw	Print the data in raw (unfiltered format)

## 11.9 “pjm and codehost-config -o” -arguments for the Generic Filters - Table

Listed below are the "pjm, lp, lpr and codehost-config -o" Names and Values. These are options that are centric to the Generic Filters in BrightQ-Pro. These are the filters that are centric to media, document types,

Images, text, HPGL/2, and printing RAW data. Please refer to chapter #8 for more detail on the names and values.

**Format: command --argument name=value (duplex=yes)**

**All options usage - *pjm*, *lp*, *lpr*, unless otherwise noted**

Media Options	
Category	name=value
Media	media=Letter
Media Orientation	-o landscape orientation-requested=4 (this is landscape) orientation-requested=3 (this is portrait)
Media Duplex/Simplex	sides=two-sided-short-edge sides=two-sided-long-edge sides=one-sided
Banner Options	lp -o job-sheets=none lp -o job-sheets=standard lpr -o job-sheets=classified,classified
Document Options	
Category	name=value
Page Ranges	page-ranges=1-4,7,9-12
Page Ranges/Odd/Even	page-set=odd lp -o page-set=even
Output Order	outputorder=normal outputorder=reverse
Number up printing (N-up)	number-up=1 number-up=2 number-up=4 number-up=6 number-up=9 number-up=16
Page border	page-border=double page-border=double-thick page-border=none (default) page-border=single page-border=single-thick
Number up layout	number-up-layout=btlr number-up-layout=btrl number-up-layout=lrbt number-up-layout=lrtb (default) number-up-layout=rlbt number-up-layout=rltb number-up-layout=tblr number-up-layout=tbrl
mirror output	mirror
brightness	brightness=120
gamma	gamma=1.000
Text Options	
Category	name=value
Characters Per Inch (CPI)	cpi=10
Lines Per Inch (LPI)	lpi=6

Columns	columns=1
Text Wrapping	wrap=true wrap=false
Page Margin	page-left=value page-right=value page-top=value page-bottom=value
Pretty Printing/Syntax Coloring	prettyprint
Image Options	
Category	name=value
Positioning the image on the page	position=center position=top position=left position=right position=top-left position=top-right position=bottom position=bottom-left position=bottom-right
Scaling the image	scaling=percent ppi=value natural-scaling=percent
Pixel Per Inch	ppi=value
Setting the hue	hue=value
Setting the saturation	saturation=percent
HPGL/2 Options	
Category	name=value
Printing with the black pen	blackplot
Fit the plot to the page	fitplot
Setting the default pen width	penwidth=value
RAW Options	
Category	name=value
To print data RAW without being filtered via. BrightQ-Pro	raw

## 11.10 Maximum Characters allowed in a print queue name

Listed below are maximum alphanumeric characters allowed in a print queue name listed by printing system.

Print System	Maximum allowed characters in print queue name
Unix LP back-ends (including Solaris)	14 characters maximum
AIX native	20 characters maximum
CUPS and LPRng	25 characters maximum
BSD LPR on Linux/FreeBSD	14 characters maximum

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