

## Setting Up Physics & Astronomy Department Printers

In order to print to one of the various HP network printers and Ricoh copiers in the Department of Physics & Astronomy, that printer needs to be installed upon your device. Below are the instructions for setting up these printers.

### 1. Determine which printers you need to install

Please refer to the following chart to determine which printer[s] you would like to install. It is highly recommended **not** to install all printers, but rather the ones that are closest to your location.

| Location               | Model                    | Windows PostScript Queue             | LPD PostScript Queue URI                 | Color? | 3 <sup>rd</sup> Paper Tray? | Finishing Unit? |
|------------------------|--------------------------|--------------------------------------|--|--------|-----------------------------|-----------------|
| 100L Allen             | HP Color LaserJet M651   | \\print.phyast.pitt.edu\clj100-ps    | lpd://print.phyast.pitt.edu/clj100-ps    | Yes    | No                          | No              |
| 100L Allen Rear Corner | Ricoh Aficio MP 4002     | \\print.phyast.pitt.edu\ricoh100A-ps | lpd://print.phyast.pitt.edu/ricoh100A-ps | No     | Yes (LCT)                   | Yes (SR3090)    |
| 100L Allen Near Door   | Ricoh Aficio MP 4002     | \\print.phyast.pitt.edu\ricoh100B-ps | lpd://print.phyast.pitt.edu/ricoh100B-ps | No     | Yes (LCT)                   | Yes (SR3090)    |
| 104 Allen              | HP LaserJet M601         | \\print.phyast.pitt.edu\lj104-ps     | lpd://print.phyast.pitt.edu/lj104-ps     | No     | No                          | No              |
| 200 Allen              | HP LaserJet M604         | \\print.phyast.pitt.edu\lj200-ps     | lpd://print.phyast.pitt.edu/lj200-ps     | No     | No                          | No              |
| 200 Allen              | HP Color LaserJet M651   | \\print.phyast.pitt.edu\clj200-ps    | lpd://print.phyast.pitt.edu/clj200-ps    | Yes    | No                          | No              |
| 300 Allen              | HP LaserJet P3015        | \\print.phyast.pitt.edu\lj300-ps     | lpd://print.phyast.pitt.edu/lj300-ps     | No     | No                          | No              |
| 300 Allen              | HP Color LaserJet M651   | \\print.phyast.pitt.edu\clj300-ps    | lpd://print.phyast.pitt.edu/clj300-ps    | Yes    | No                          | No              |
| 302 Allen              | HP LaserJet P3015        | \\print.phyast.pitt.edu\lj302-ps     | lpd://print.phyast.pitt.edu/lj302-ps     | No     | Yes                         | No              |
| 411 Allen              | HP LaserJet P3015        | \\print.phyast.pitt.edu\lj411-ps     | lpd://print.phyast.pitt.edu/lj411-ps     | No     | No                          | No              |
| 420 Allen              | HP Color LaserJet CP4525 | \\print.phyast.pitt.edu\clj420-ps    | lpd://print.phyast.pitt.edu/clj420-ps    | Yes    | No                          | No              |
| 420 Allen              | Ricoh Aficio MP 3352     | \\print.phyast.pitt.edu\ricoh420-ps  | lpd://print.phyast.pitt.edu/ricoh420-ps  | No     | No                          | No              |
| 500 Allen              | HP LaserJet P3015        | \\print.phyast.pitt.edu\lj500-ps     | lpd://print.phyast.pitt.edu/lj500-ps     | No     | No                          | No              |
| 524 Allen              | HP LaserJet M601         | \\print.phyast.pitt.edu\lj524-ps     | lpd://print.phyast.pitt.edu/lj524-ps     | No     | No                          | No              |
| 113B OEH               | HP LaserJet M604         | \\print.phyast.pitt.edu\lj113b-ps    | lpd://print.phyast.pitt.edu/lj113b-ps    | No     | No                          | No              |
| 219 OEH                | HP LaserJet M604         | \\print.phyast.pitt.edu\lj219-ps     | lpd://print.phyast.pitt.edu/lj219-ps     | No     | No                          | No              |
| 210 Thaw               | HP LaserJet P2015        | \\print.phyast.pitt.edu\thaw210-ps   | lpd://print.phyast.pitt.edu/thaw210-ps   | No     | No                          | No              |

Other groups may have their own network printers that are not installed on the Department's print server. Refer to their own instructions for setting up those printers.

Also note that all of the above queues assume that you are installing the PostScript driver for each printer. While this generally works 99% of the time, there are certain instances where it is necessary to use the PCL6 driver (e.g. there are problems printing a large PDF document with figures, your computer may not have a suitable PostScript driver available, etc.) Each queue above (except 210 Thaw) has a corresponding PCL6 queue. To use this queue instead, change the ending of the queue name from "ps" to "pcl6".

Some of the above printers (104 Allen, 302 Allen, 411 Allen, 500 Allen, 210 Thaw) also have PCL5e queues. While these are not recommended for most devices due to lower quality, some older devices may need to use these. To use these queues instead, change the ending of the queue name from "ps" to "pcl5".

## 2. Installing the printers on your Windows computer

If your computer runs Windows, you may install one or more of the above Windows queues on your computer. You will need to use your University of Pittsburgh username and password to perform this installation. If you do not have a username and password, please e-mail [phyast-itsupport@pitt.edu](mailto:phyast-itsupport@pitt.edu) to schedule an alternate installation, or see Appendix 1 at the end of this document. You must also be on the Pitt network in order to perform this installation and use the printers.

Windows XP, Vista and 7 users:

Click on your Start Menu. You may have either the Search Box at the bottom, or the option “Run...” at the bottom. In either place, enter the entire Windows queue that is listed in the section above for the printer that you want to install. At this point, you may see a username & password prompt appear. Enter `PITT\yourusername` in the username box, and then type your Pitt password in the next box. You will likely want to check the box marked “Remember my credentials”.

Windows 8.1 and 10 users:

Right-click on your Start Menu and hit “Run...” Enter the entire Windows queue that is listed in the section above for the printer that you want to install. At this point, you may see a username & password prompt appear. Enter `PITT\yourusername` in the username box, and then type your Pitt password in the next box. You will likely want to check the box marked “Remember my credentials”.

If successful, it will begin to automatically install the driver on your computer. It may prompt you for your permission to do so at some point. After installation, the printer will appear in your “Devices and Printers” list in the Control Panel, and also in your Printers list whenever you print from a program. They will either appear as the Windows queue name or by their long name, which states what room the printer is in and what model printer it is.

Repeat the above process for each printer you wish to install.

**PLEASE NOTE:** Because printing to the Windows queues requires your Pitt username and password, if you change your Pitt password, then printing may stop working for you. Whenever you change your Pitt password, go to Control Panel's “Credentials Manager”, and look for `print.phyast.pitt.edu`. Click on it, then hit its “Edit” link. This will allow you to update your password. Note that if you are on a computer that is attached to the PITT Active Directory, you will not need this step except in unusual circumstances.

An alternate method of setting up Windows queues is given below in Appendix 1. This is not recommended for most users.

### 3. Installing the printers on your Macintosh computer

If your computer runs Mac OS X, you will need to install the printers as LPD printers. This does not require a Pitt username and password. You also do not need to be on the Pitt network to perform the installation, but you do need to be on the network in order to print.

You will need to install Apple's HP and/or Ricoh driver packages prior to performing these installations. You can obtain this either via the App Store, or by downloading them from these links:

HP: <https://support.apple.com/kb/dl1888> (Note that the link is for version 5.0 of the HP drivers; this may change over time.)

Ricoh: <https://support.apple.com/kb/DL1867> (Note that the link is for version 3.0 of the Ricoh drivers; this may change over time.)

Open System Preferences, and “Printers and Scanners” (“Printers and Faxes” on older versions of OS X). Click the “+” at the bottom left. In the next box that appears, click “IP” at the top, then fill out the following boxes:

Address: `print.phyast.pitt.edu`

Protocol: Line Printer Daemon – LPD

Queue: Enter just the end of the LPD queue stated in Section 1 above; e.g. `clj100-ps`, `lj500-ps`, etc.

Name: Enter a name descriptive of the printer or location; e.g. “clj100”, “100L Allen Color Printer”, etc.

Location: Enter the location of the printer as stated in the previous section.

Use: Click on the drop-down box, and select “Select Software...”. Begin typing the model name as stated in Section 1 in the Search box until you see the correct model. Select that model and hit “OK”. (Note: If you are installing an HP LaserJet P3015, use “HP LaserJet P3010 Series”.) Hit “Add” when complete.

Note that it may be necessary to manually configure the options for each printer – it will ask you if it cannot do so manually after you've hit “Add”. If so, continue to configure the printer manually by checking off the boxes below:

“Duplex Unit” (all printers)

“Tray 3” (only for lj302)

“Tray 3 (LCT)” (only for ricoh100A and ricoh100B)

“Finisher: SR3090” (only for ricoh100A and ricoh100B)

The printer will then appear in your Printers list. Repeat the process for each printer you wish to install.

#### 4. Installing the printers on your Linux computer

Most Linux distributions use the CUPS printing system and Foomatic print driver system. However, many Linux distributions also have different configuration programs for setting up printers. Most of these are relatively similar, albeit with a few look-and-feel modifications. Installation of the printers on Linux does not require a Pitt username and password. You also do not need to be on the Pitt network to perform the installation, but you do need to be on the network in order to print.

Use the LPD URIs listed in the first section for each printer you wish to install. Alternately, it may ask for a server and queue separately; use `print.phyast.pitt.edu` as the server, and the queue name at the end of the URI for the printer you wish to install; e.g. `clj100-ps`, `lj524-ps`, etc. It should then ask for which driver you wish to use; select “HP”, then try searching on the appropriate model above. (Note: If you are installing an HP LaserJet P3015, you may find it as “HP LaserJet P3010 Series”.)

It is possible that your distribution may not have your model printer available. If this is the case, you may wish to use the generic Foomatic/PostScript driver; however, this may not give the best quality, nor is it guaranteed to print reliably in color to the color printers. An alternate method would be to use the PCL6 driver and queue; most distributions will have a generic “HP Color LaserJet PCL 6/PCL XL CUPS” or “HP LaserJet PCL 6/PCL XL CUPS” driver. Use the appropriately named queue as described in first section above. If you do not have any of these drivers, or if you want to install Ricoh drivers, please e-mail [phyast-itsupport@pitt.edu](mailto:phyast-itsupport@pitt.edu) to schedule an alternate installation.

The installer may ask you for installable options for each printer. Please use these options:

- “Duplex Unit” should be “Installed” (all printers)
- “Duplex Mode” should be “Long Edge” or “NoTumble” (all printers)
- “Paper Size” should be “Letter” or “US Letter” (all printers)
- “Tray 3” should be “Installed” (only for lj302)
- “Tray 3 (LCT)” should be “Installed” (only for ricoh100A and ricoh100B)
- “Finisher” should be set to “SR3090” (only for ricoh100A and ricoh100B)

Repeat the above process for each printer you wish to install.

For advanced users, it is also possible to install printers using your web browser to access CUPS' internal web server at <http://localhost:631>. This is recommended only if your graphical printer installer fails. You can also download and install the PPD drivers for the Ricoh copiers from <http://www.openprinting.org/printers>.

## 5. Installing the printers on your Android device

LPD service for the various printers can be obtained by installing the app “Let's Print Droid” from the Google Play Store (other app stores may have this as well).

Once installed, open the app. To add a printer, click on the “+” at the top. When it asks whether you want to “Scan network or manually add?”, select “Manual Config”. In the page that appears next, enter the following options:

Printer name: Enter a name descriptive of the printer or location; e.g. “clj100”, “100L Allen Color Printer”, etc.

Protocol: “LPR – Line Printer Remote”.

IP Address/Computer Name: `print.phyast.pitt.edu`

Port Number: 515

Queue/Share/Dir Name: enter the queue name at the end of the URI for the printer you wish to install, as listed above in Section 1; e.g. `clj100-ps`, `lj411-pcl5`, `ricoh100A-pcl6`, etc.

Page Description Language: select the option that reflects which queue you selected above: if you selected `-ps`, select “PS – Postscript”; if you selected `-pcl6`, select “PCL-XL HP PCL 6 colour, b/w”; if you selected `-pcl5`, select “PCL – HP-PCL5 Black/White”.

**PLEASE NOTE:** Do not use any other page description languages, and make sure that the one you choose matches the queue that you selected!

Repeat the above process for each printer you wish to install. You may also print a test page after each installation, but please make sure that you pick up the test page after printing!

You can print using Let's Print Droid by two ways:

1. For certain document and picture types, you can open the Let's Print Droid app and look around in its file manager for the document or picture you want to print. Select it, then it will bring up a list of your installed printers. Select the printer that you wish to print to.
2. In an app that has a “Share” button, you may be able to share it to the Let's Print Droid app. If it allows you to do so, it will bring up a list of your installed printers. Select the printer that you wish to print to.

## 6. If all else fails...

Most of the printers in the department have a USB port on their front or side. It is possible to plug in a USB drive and print certain documents from that drive. The Ricoh copiers in 100L Allen also have an SD card slot as well.

The printers will only print to a drive that is FAT formatted. If your drive is formatted as NTFS (Windows-only), HFS (Macintosh-only), or ext2/3/4 (Linux-only), they will not be recognized by the printer.

### 1. Printing from a USB drive to an HP printer

The HP printers will generally only print PDF or Postscript (.ps) documents. Some newer models can also print TIFF image files; see Appendix B for more information.

When you plug in a drive to an HP printer, it will bring up a small directory menu on its screen. Use the arrow keys to navigate to the folder and file that you want to print. Use the OK key to select the file. Then, use the up, down, and OK keys to specify how many copies you want. **DO NOT REMOVE THE DRIVE WHILE IT IS PRINTING, OR IT MAY DAMAGE YOUR DRIVE!**

### 2. Printing from a USB drive or SD Card to a Ricoh copier in 100L Allen

**PLEASE NOTE:** There is no USB port nor SD Card slot available on the copier in 420 Allen.

The Ricoh copiers will print PDF documents, as well as JPG and TIFF image files.

After you plug in a drive or insert an SD card into a Ricoh copier, click on the Home button and select “Printer”. Touch “Print from Memory Storage Device”. Use the arrow keys on the touchscreen to navigate to the folder and file that you want to print, and then touch the file you want to print. You may begin printing by touching the “Start Printing” button, or you may set additional features (e.g. stapling, duplex, multiple pages-up, resolution, paper size, tray selection, etc.) by touching the “Advanced Features” button. **DO NOT REMOVE THE DRIVE WHILE IT IS PRINTING, OR IT MAY DAMAGE YOUR DRIVE!**

Remove the device after the printing has completed, or re-navigate to an additional file on the key as above.

## 7. Appendix 1: Setting up LPR queues on Windows 10

In some circumstances, it may be useful on a Windows machine to set up a network printer as an LPR queue rather than the Windows queue (as described in section 2 above). While it is not recommended for most users and PCs, it may be necessary on non-domain computers such as personal laptops, guest laptops, and multi-user lab machines.

This method assumes you either have already installed the appropriate HP and Ricoh drivers, or have them in a convenient folder. If you do not, contact [phyast-itsupport@pitt.edu](mailto:phyast-itsupport@pitt.edu) for the drivers.

The following instructions are taken from a machine running Windows 10 build 1703. Other Windows 10, 8.1, and 7 builds may differ slightly.

Click on the “Settings” icon in the Start Menu.

Click on the “Devices” icon in the Settings.

Click on “Devices and Printers” on the right-hand side.

Select “Add a printer”.

When it begins searching for printers, click on “The printer that I want isn’t listed”.

In the next menu, select “Add a printer using a TCP/IP address or hostname” and hit “Next”.

In the next window, change the Device Type to “TCP/IP Device”, enter “print.phyast.pitt.edu” (no quotes) in Hostname, and put the queue name in Port Name. Uncheck the box marked “Query the printer...” and hit “Next”.

It will then take a minute at a “Detecting the TCP/IP port...”, which will eventually time out. In the window that appears afterward called “Additional port information required”, select “Custom” under Device Type and click “Settings”.

In the Settings window, change the protocol to “LPR” and enter the queue name in Queue Name under “LPR Settings”. Click the box marked “LPR Byte Counting Enabled” and hit “OK”.

Hit “Next” at the previous window which reappears.

It then will ask which driver you want to use. If the driver is pre-installed, locate that driver using “HP” or “Ricoh” as the Manufacturer, then locate its model in the Printers box. If the driver is not pre-installed, click “Have Disk...”, locate and select the folder where the driver is located, then select the appropriate driver and hit “Next”.

In the next window, type the Printer Name. It is recommended to use the standard convention for department printers: “Location Room – Manufacturer Model”; e.g. “Allen 100L – HP Color LaserJet M651”. Hit “Next”.

It will perform “Installing printer” for about one or two minutes. When it is done, it should say “You’ve successfully added...” and offer to print a test page. Do not do so yet, and hit “Finish”.

Back at the “Devices and Printers” window, right-click on the printer you just added and select “Printer Properties”.



If this is an HP printer, click on the tab marked “Device Settings”. Scroll through the list and make sure that the following settings are set correctly:

Under “Installable Options”:

“Duplex Unit”: Installed

“Device Type”: Color (if it is a color printer); Monochrome (if it is not)

“Tray 3”: Installed (if it has a third tray)

Under “Form to Tray Assignment”:

“Tray 2”: Letter

“Tray 3”: Letter (if it has a third tray, and “Tray 3” in Installable Options is already set to Installed)

Click on “OK” and in the previous window, click on the tab marked “Advanced” and click “Printing Defaults...”. In the new window’s tab marked “Printing Shortcuts”, change “Print on both sides:” to “Yes, flip over”. Hit “OK”, then “OK” again in the previous window.

If this is a Ricoh copier in 100L Allen, click on the tab marked “Accessories”. Under “Select Model”, select “Aficio MP 4002” and hit the button marked “Update Now”. In the options box below it (which will change once the update has taken place), select the options marked “Tray 3 (LCT)”, “Large Capacity Tray”, “Internal Tray 2”, and “Finisher SR3090”. Hit “OK”.

## 8. Appendix 2: Printers, Models, and Toner Cartridge Models

Shortages in toner should be reported to [phyast-itsupport@pitt.edu](mailto:phyast-itsupport@pitt.edu), or to the front desk of the Main Office in 100 Allen Hall.

| Building | Room | Area                    | Queue Prefix | Make  | Model                 | USB printing support | Black Toner           | Cyan Toner    | Magenta Toner | Yellow Toner  | 3 <sup>rd</sup> Paper Tray | Finishing Unit |
|----------|------|-------------------------|--------------|-------|-----------------------|----------------------|-----------------------|---------------|---------------|---------------|----------------------------|----------------|
| Allen    | 100L | Copy room               | clj100       | HP    | Color LaserJet M651   | Yes (PDF, PS, TIFF)  | CF320A (652A)         | CF331A (654A) | CF333A (654A) | CF332A (654A) | No                         | No             |
| Allen    | 100L | Copy room (rear corner) | ricoh100A    | Ricoh | Aficio MP 4002        | Yes (PDF, JPG, TIFF) | <i>Do not attempt</i> | <i>n/a</i>    | <i>n/a</i>    | <i>n/a</i>    | Yes (LCT)                  | Yes (SR3090)   |
| Allen    | 100L | Copy room (near door)   | ricoh100B    | Ricoh | Aficio MP 4002        | Yes (PDF, JPG, TIFF) | <i>Do not attempt</i> | <i>n/a</i>    | <i>n/a</i>    | <i>n/a</i>    | Yes (LCT)                  | Yes (SR3090)   |
| Allen    | 104  | Undergrad lounge        | lj104        | HP    | LaserJet M601         | Yes (PDF, PS, TIFF)  | CE390A (90A)          | <i>n/a</i>    | <i>n/a</i>    | <i>n/a</i>    | No                         | No             |
| Allen    | 200  | CM/PE grad office       | clj200       | HP    | Color LaserJet M651   | Yes (PDF, PS, TIFF)  | CF320A (652A)         | CF331A (654A) | CF333A (654A) | CF332A (654A) | No                         | No             |
| Allen    | 200  | CM/PE grad office       | lj200        | HP    | LaserJet M604         | Yes (PDF, PS, TIFF)  | CF281A (81A)          | <i>n/a</i>    | <i>n/a</i>    | <i>n/a</i>    | No                         | No             |
| Allen    | 300  | Astro grad office       | clj300       | HP    | Color LaserJet M651   | Yes (PDF, PS, TIFF)  | CF320A (652A)         | CF331A (654A) | CF333A (654A) | CF332A (654A) | No                         | No             |
| Allen    | 300  | Astro grad office       | lj300        | HP    | LaserJet P3015        | Yes (PDF, PS)        | CE255A (55A)          | <i>n/a</i>    | <i>n/a</i>    | <i>n/a</i>    | No                         | No             |
| Allen    | 302  | Astro computer lab      | lj302        | HP    | LaserJet P3015        | Yes (PDF, PS)        | CE255A (55A)          | <i>n/a</i>    | <i>n/a</i>    | <i>n/a</i>    | Yes                        | No             |
| Allen    | 411  | Particle grad office    | lj411        | HP    | LaserJet P3015        | Yes (PDF, PS)        | CE255A (55A)          | <i>n/a</i>    | <i>n/a</i>    | <i>n/a</i>    | No                         | No             |
| Allen    | 420  | PITT-PACC office        | clj420       | HP    | Color LaserJet CP4525 | No                   | CE260A (647A)         | CE261A (648A) | CE263A (648A) | CE262A (648A) | No                         | No             |
| Allen    | 420  | PITT-PACC office        | ricoh420     | Ricoh | Aficio MP 3352        | No                   | <i>Do not attempt</i> | <i>n/a</i>    | <i>n/a</i>    | <i>n/a</i>    | No                         | No             |
| Allen    | 500  | TA office               | lj500        | HP    | LaserJet P3015        | Yes (PDF, PS)        | CE255A (55A)          | <i>n/a</i>    | <i>n/a</i>    | <i>n/a</i>    | No                         | No             |
| Allen    | 524  | 2nd year grad office    | lj524        | HP    | LaserJet M601         | Yes (PDF, PS, TIFF)  | CE390A (90A)          | <i>n/a</i>    | <i>n/a</i>    | <i>n/a</i>    | No                         | No             |
| OEH      | 113B | OEH 1 common area       | lj113b       | HP    | LaserJet M604         | Yes (PDF, PS, TIFF)  | CF281A (81A)          | <i>n/a</i>    | <i>n/a</i>    | <i>n/a</i>    | No                         | No             |
| OEH      | 219  | BioPhys grad office     | lj219        | HP    | LaserJet M604         | Yes (PDF, PS, TIFF)  | CF281A (81A)          | <i>n/a</i>    | <i>n/a</i>    | <i>n/a</i>    | No                         | No             |
| Thaw     | 210  | Computer classroom      | thaw210      | HP    | LaserJet P2015        | No                   | Q7553A (53A)          | <i>n/a</i>    | <i>n/a</i>    | <i>n/a</i>    | No                         | No             |