

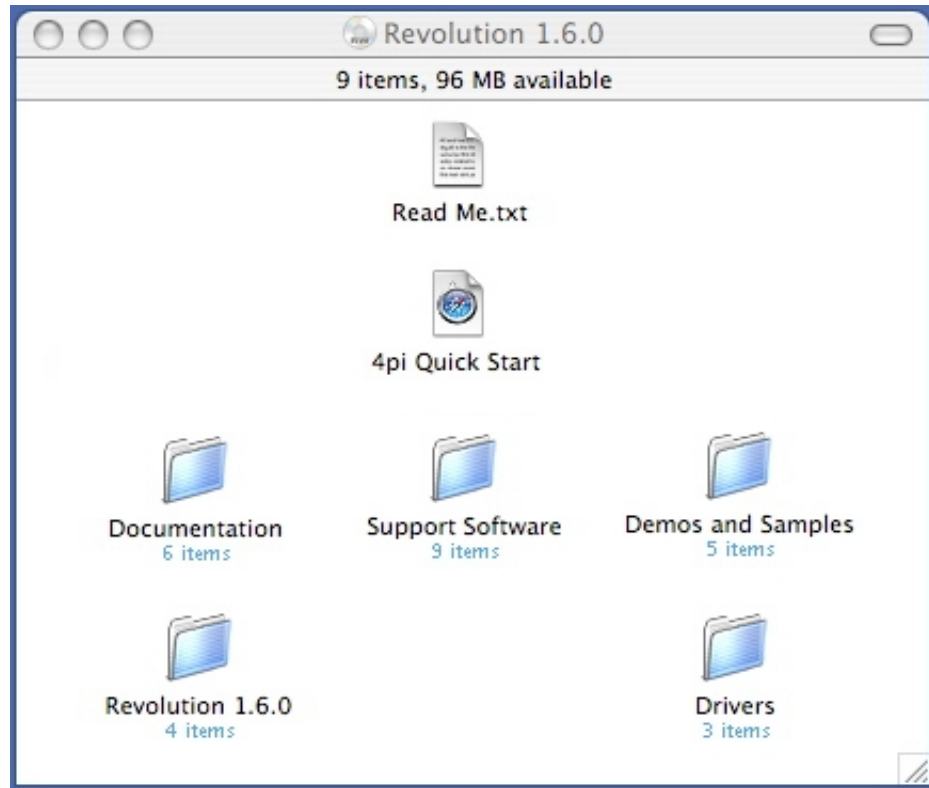
# Installing Macintosh Software

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current for:

The 4pi software package ships on a single CD-ROM, or can be downloaded. Opening either presents the following window or similar:

*Note: Starting with v1.6.0, there is no separate OS9 and OSX version. For v1.5.6, the screenshots seen here may not agree exactly with what you see in the actual distribution CD, but should be sufficient to finish the installation.*



Each item is described below:

**Read Me:** describes the contents of this software distribution, and simple installation procedures; it is terse but typically all one needs to get started. In large measure, the **Read Me** file can substitute for this install guide.

**4pi Quick Start** is a browser-based link to the User Guide.

**Documentation:** contains Release Notes and this browser-based User Guide. The Release Notes are highly-recommended reading, and contain important information about bug fixes, new and/or undocumented features, known issues, and future versions. To access the User Guide with your browser, double-click the "manual toc" link inside the Documentation folder.

**Support Software:** varies according to operating system. It may contain older drivers, software, DLLs, or

debugging aids. As a general rule, do not install any of the components unless instructed to by 4pi technical support.

**Demos and Samples:** includes S(T)EM images, CCD images, x-ray maps, and x-ray spectra that were acquired in Revolution, and that can be opened in Revolution and manipulated. The only limitation is that spectra files cannot be reanalyzed without a hasp installed (see hasp discussion below). None of the images, maps, or spectra can be used outside of Revolution without the consent of 4pi Analysis.

**Revolution:** contains the Revolution program, specially designed to use the 4pi Spectral Engine hardware to control and acquire data from an electron microscope, an x-ray pulse processor, or a CCD camera. The folder name includes the version number to help identify the program. To install, simply drag this entire folder to any convenient location on any hard drive, or to the desktop. No reboot of the computer is required. To run Revolution, open the folder you just copied and double-click on the Revolution program icon (do not try to run it from the CD-ROM). If Revolution is launched without the drivers installed (below), it will operate in demo mode. The OSX version contains a folder called **FPXOSXGlue.bundle**. This folder **must** remain in the same directory with the OSX version of Revolution. The OS9 version contains a file called **FLI Classic Library**. This file **must** remain in the same directory with the OS9 version of Revolution.

**Drivers:** contains driver files that are specific to the platform in use. There are 2 variants: MacOS9 and MacOSX. MacOS 8.6 users fall under OS9; Jaguar, Panther, and Tiger users fall under OSX. Inside each of the platform-specific folders, the following subfolders can be found:

**Drivers/Hasp:** contains the installer required to install the hasp software. The hasp is required to unlock the acquisition and analytical routines in Revolution. Revolution will run in demo mode if the hasp software is not installed (or if the hasp itself is missing). The "hasp" is a physical key that plugs into a USB port; it can only be purchased through 4pi Analysis. To install, open the Hasp folder that pertains to your operating system. For OS9, launch the aksusb installer. For OSX, mount the HDD\_Installer\_MacOSX.dmg disk image, and launch the aksusb package file; enter your administrator password when requested and proceed. On OS9, a reboot is necessary; no reboot is necessary for OSX.

**Drivers/FPXDriver:** contains the driver (or installer) required for Revolution to talk to the 4pi Spectral Engine hardware. You must run the correct version of the driver and the Revolution application together. Failure to do so may result in unpredictable behavior or a system crash on OS9 and earlier (if you experience a system crash, simply reboot your machine; the 4pi software cannot damage your computer). For OSX, the Revolution program may unexpectedly quit, but it is unlikely the computer will need to be rebooted. To determine the version number of any Macintosh software, single click the item to highlight it and select **Get Info** from the **File** menu, or hit **clover-I** on the keyboard. Correct matches for version numbers and 4pi Spectral Engine hardware are:

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Revolution v1.4.6 and FPXDriver v5.8	PCI SEII v2.3, v2.2, v2.1; NuBus SEII v2.1, v1.0
Revolution v1.5.0 - v1.5.3 and FPXDriver v6.0	PCI SEII v2.3, v2.3b, v2.2, v2.1; NuBus SEII v2.1, v1.0
Revolution v1.5.5 - v1.5.6 and FPXDriver v6.1 or v6.2	PCI SEII v2.3, v2.3b, v2.2, v2.1; NuBus SEII v2.1, v1.0
Revolution v1.5.7 - v1.5.9 and FPXDriver v6.x	PCI SEII v2.3, v2.3b, v2.2, v2.1; NuBus SEII v2.1, v1.0
Revolution v1.6.x and FPXDriver v7.x	PCI SEII v2.3, v2.3b, v2.2, v2.1, Universal Spectral Engine

- For OS9, before installing the new driver, manually remove any older drivers that are in the Extensions folder or the Control Panels folder (each located in the System Folder), including any version of FPXDriver, any driver named 4piDriver, or any 4pi driver that has a /step or /nostep suffix. Then, open the FPXDriver folder shown above, drag the **FPXDriver** extension into the Extensions folder of the System folder, and reboot. *Note: OS9 support in v1.6.x is spotty; and, OS9 absolutely will not work with the Universal Spectral Engine.*
- For OSX, an installer script is provided; it will automatically remove older versions of the driver. Detailed instructions can be found in the Read Me in the FPXDriver folder. No reboot is necessary.
- **Special notice for Universal Spectral Engine users:** there is no traditional driver to be installed for the USE, as all communications are handled through the gigabit ethernet interface. However, not unlike the discussion above, *the USE must have firmware matched to the version of Revolution, or else the software may fail in unpredictable ways.* Always contact 4pi Analysis before upgrading Revolution, to inquire about critical firmware updates.

**Drivers/CCD:** contains the driver (or installer) required for Revolution to talk to the CCD camera hardware. For OS9, drag the **FLI USB MaxCam** extension into the Extensions folder of the System folder, and reboot. No CCD software installation is required for OSX — just plug the camera into a USB port and launch Revolution.