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A GUIDE TO INSTALLING  
*YELLOW DOG LINUX 6.1*

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FOR Apple G4/G5

*Rev 1.0 November 18 2008*

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# A Guide to Installing Yellow Dog Linux 6.1– For Apple G4/G5

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*Many thanks to the Fixstars staff in the U.S. and Canada for making a reality this latest release of Yellow Dog Linux, our best effort yet.*

## Revision History

Revision	Date	Change
1.0	November 18, 2008	Initial Publication.

## INTRODUCTION

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### INTRODUCTION

*Thank you for choosing Yellow Dog Linux!*

While Apple switched to Intel, the PowerPC lives on! With the G4 and G5 Power Macs well supported, the Sony Computer Entertainment PLAYSTATION®3 gives the Power architecture a new, exciting foundation for the future of Linux computing. A PS3 owner may play games, watch movies, view photos, listen to music, and run the full-featured Yellow Dog Linux operating system to grant it the functions of a home computer too!.

Yellow Dog Linux combines a simple to use graphical installer with leading-edge components and a foundation of must-have home, office, and server applications. Everything you need to browse the web, check and compose email, do your school homework or take your office work home is included with more than 2000 packages on the Install DVD.

And what's more, Yellow Dog Linux is 100% open-source, meaning the source code to every component is freely available so that if you desire to improve one or more applications, you may do so at your choosing. This contribution back to the open-source community leads to the improvement of Linux software worldwide.

It's a system that has worked for more than 15 years, continuing to grow in both quality and users every year. Linux is collectively one of the top operating systems in use worldwide. Fixstars is proud to be a part of this with a CentOS, RPM based Yellow Dog Linux.

### **This Guide to Installation**

This Guide to Installation is written specifically for the former Apple PowerPC product line. This Guide does not offer instructions specific to other computers (ie: Sony PS3) supported by Yellow Dog Linux. Installation instructions for other computers are available from Fixstars' website.

Refer to [us.fixstars.com/support/](http://us.fixstars.com/support/) for updates, issues specific with unique computer configurations, and engineering notes.

## **Drive Configurations**

You may install Yellow Dog Linux as a stand-alone operating system, or you may install both OSX and Yellow Dog Linux. You may have 1 or more drives independent of the number of operating systems installed. If you do have 2 or more drives, 1 for YDL and the second drive for OSX, it is advised that the Yellow Dog Linux drive be placed first in the ATA or SCSI chain. Neither Firewire nor USB drives are supported for installation.

To install OSX and Yellow Dog Linux on a single drive, you will require a minimum of two primary partitions. Unless your drive is already configured as such, you must either boot from the OSX CD, reformat, then reinstall OSX (using the Drive Setup application) or use a 3rd party, non-destructive partitioning tool prior to installing Linux.

Be certain to back-up all important OSX applications and data before working with any partitioning tool or reformatting your drive.

We hope you enjoy Yellow Dog Linux for Apple PowerPC and we look forward to receiving your feedback.

Please visit us at [us.fixstars.com](http://us.fixstars.com)

## PREPARATION

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### Single Drive, Multi-Boot System

You are now going to use Apple's Drive Setup application to format and partition your drive. Please note that this procedure completely reformats and DESTROYS ALL DATA on your drive.

These instructions are for the partitioning of OSX. For Classic Mac OS partitioning, please download the YDL 2.3 Guide to Installation located at [us.fixstars.com/support/installation/archives](http://us.fixstars.com/support/installation/archives)

1. Insert the OSX Software Install CD or DVD.
2. Restart your computer.
3. Hold the "C" key until you have booted from the OSX Software Install
4. Select the Install menu at the top of the screen.
5. Select 'Open Disk Utility'.
6. Select Mac HD (or the name of the drive that contains OSX).
7. Select the Partition tab.
8. Under the Volume Scheme menu, choose "2 Partitions," one for OS X and one for Yellow Dog Linux.
9. Select the first (top) partition, "Untitled". It should be gray.
10. Use the Format menu to the right and choose "Free Space." This will be your YDL partition.
11. Move the slider at the bottom of the partition to increase or decrease its size or, alternatively, enter your preferred size in the Size text box to the right.
12. Select the second partition. This should be your MacOS X partition. Keep it OSX Extended, and resize as desired.
13. Name this partition "OS X" or whatever you like.
14. Click the "Partition" button at the bottom of the screen and then again at the prompt.
15. Quit Disk Utility.
16. Resume your OS X install.

Your OS X installer may reorder the partition numbers from what you originally created. This is a logical (as compared to physical) reorder and is normal.

## **Dual Drive, Multi-Boot System**

With 2 or more drives, it is recommended that YDL be placed on the first (master) drive and OSX on the second. This is to ensure that if the PRAM (firmware) settings are lost, firmware will locate the yaboot bootloader as it scans the disks from first to last, top to bottom. If OSX is first, you will have to reset the boot partition from firmware.

## **Single Drive for YDL without OSX**

You may install YDL as the only operating system on NewWorld ROM computers.

## **Supported Systems**

As of YDL v6.0, only Apple G4 and G5 systems with a DVD drive are supported. Your Apple will use 'yaboot' (yet another bootloader) to boot Yellow Dog Linux following power-on. The 'bootloader' passed control from the firmware (BIOS for PowerPC) to the operating system (YDL).

To learn more about the supported systems and any specific hardware issues, visit:

[us.fixstars.com/support/hardware/](http://us.fixstars.com/support/hardware/)

## INSTALLATION

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1. Insert the Yellow DogLinux Install DVD and restart your computer.
2. Hold the "C" key until you have booted from the Install DVD.
3. At the white text on a black background boot prompt, press TAB for a full selection of install options, a few of which are detailed as follows:
  - G4 -- Enter install\_ppc32 or install\_ppc32\_text and press ENTER
  - G5 -- Enter install\_ppc64 or install\_ppc64\_text and press ENTER
  - Text Installer -- Use the text options to use a non-graphical installer which uses the TAB, ARROW, and RETURN keys instead of a mouse. This is used with systems whose graphics cards or monitors are not readily supported or systems with less than 200MB RAM.
4. Follow the on-screen instructions and this Guide for particular sections.

### Language & Keyboard Selection

Select your preferred Language and Keyboard configurations.

### Partition Drive

Partitioning creates logical (as compared to physical) sections on your drive, each of which serves a defined purpose. While you may create additional partitions for your own needs, there are a minimum of 3 partitions that must be created in addition to the OSX partition--if you have one.

If you are using a drive which contains existing Linux partitions, you may instruct the Installer to use these partitions. However, to do so, you must allow the Installer to reformat them which **COMPLETELY DESTROYS ALL DATA**.

You may either allow the Installer to create the partitions for you by selecting Automatic Partitioning, or conduct this effort manually.

If you elect to use the Automatic Partitioning feature, you may choose from one of three schemes:

- Remove all Linux partitions: this will delete and then replace only existing Linux partitions. Please note this procedure will destroy all data.
- Remove all partitions: this should be done **ONLY** if you have no OSX installed or if you desire to delete OSX. This procedure deletes all partitions, including those that contain OSX.
- Keep all partitions and use existing free space: most often used if you prepared your drive using Drive Utility under OSX or are not installing OSX on this drive.

## **Network Configuration**

The default DHCP enables your computer to automatically obtain an IP address from your DSL or cable modem or in-office router. Only advanced users who have specific needs should manually configure this information.

## **Root Password**

Choose a password that is at least 8 characters, both letters and numbers and is not based on a dictionary word. Lower and upper case letters are unique.

Do not use your birthday, your child's name spelled backward, nor the name of your spouse followed by the year you were married. The security of your computer is only as strong as your passwords. Do not forget this password. Only login as root if you are an experienced user, as it is possible to remove files or data which are required for the proper function of your Linux OS.

## **Package Selection**

The Yellow Dog Installer defaults to a pre-defined package set which includes a full-featured set of graphical applications for a wide variety of functions. These applications are listed on the following webpage:

[us.fixstars.com/products/ydl/apps.shtml](http://us.fixstars.com/products/ydl/apps.shtml)

You may elect to customize the package set to be installed, which may increase or decrease the number of applications and time required. If you remain with the default set, this will require roughly one hour. Once up and running, additional packages may be installed using yum or the Add/Remove Software utility.

## **Dependency Check**

The Installer will now check for package dependencies. This will take 3-4 minutes.

*Good time for a beverage break ...*

## BOOTING UP!

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1. Press the power button and you will hear the Macintosh chime.
2. At this point, you may allow your system to boot into the yaboot bootloader in order to select your desired operating system, or press and hold the OPTION (ALT) key which will present a graphical menu for all available operating systems installed on local, visible drives.
3. If you allow the system to continue uninterrupted, 'yaboot' will present a list ('L'inux, 'X' for OS X, and 'C'D-ROM) in the upper left corner of your screen, white text on a black background. 'yaboot' will time-out and default to the OS that you designated during installation.

Select the OS you wish to boot into by pressing the appropriate key. Please note 'X' will be present ONLY if OSX is available at the time of installation.

**Do NOT** use the OSX Startup Disk Control Panel as this will reset the firmware and 'yaboot' will no longer be presented. If this occurs, review

[us.fixstars.com/support/solutions/ydl\\_general/boot\\_functions.shtml](http://us.fixstars.com/support/solutions/ydl_general/boot_functions.shtml)

4. When presented with the "Welcome to Yellow Dog Linux" white text on a black background, you will notice a "boot:" prompt. You may press the TAB key to view the various kernel options or just wait for this to time-out and auto-boot the default (\*) typically labeled "linux". Alternative kernels (of your own design) may be booted by typing their name.
5. A penguin icon will appear in the upper left corner of your screen (or 2 if your system has 2 processors) followed by a list of services as they load.
6. During the first-ever boot following installation, you will be welcomed by 'firstboot' in order that you may conduct additional system tests and configuration. See the next section for details.

## **FIRSTBOOT**

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Firstboot will walk you through Acceptance of the License Agreement, Date and Time settings, Display Configuration, User Accounts, Sound settings, and then queries if there are any additional packages you desire to install.

### **License Agreement**

Please read and accept this document.

### **Date and Time**

Make certain the date and time are correct.

### **YDL.net Username and Password**

If you have purchased a YDL.net enhanced account, you have the option to enable the system to download yum updates from the YDL.net repositories instead of from the public mirrors. To enable this feature, select the YDL.net checkbox and enter your YDL.net username and password.

### **Display**

This version of the Yellow Dog Linux Installer automatically detects your graphics card and monitor and prepares a configuration which it believes is appropriate. While this configuration is most often usable, it does default to the "fbdev" (frame buffer device) driver which will not offer the same speed as the native driver. You may experiment with these settings once up and running.

YDL Menu --> System Settings --> Display

## **User Account**

Add those users whom you desire to have immediate access to your system. Additional users may be added later. Choose a password that is at least 8 characters, both letters and numbers and is not based on a dictionary word. Do not use your birthday, your child's name spelled backward, nor the name of your favorite golf course. The security of your computer is only as strong as your passwords. Do not forget this password. Never login as root, but instead, use "sudo" at the command prompt in order to temporarily gain root access.

## **Sound Card**

Sound is not supported on all modern systems. If your system is not immediately supported, stay tuned to the Announce list at [lists.fixstars.com](http://lists.fixstars.com) or the Yellow Dog Linux Support pages at [us.fixstars.com/support/](http://us.fixstars.com/support/).

## GUI VS COMMAND LINE LOGIN

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### Graphical Login

Yellow Dog Linux now defaults to a graphical login unless you chose a set of packages that do not include the X windows environment. You will be presented with a place to enter your username (do NOT login as root unless you have need to do so). Choose your preferred default window manager. Enter your password. You may also reboot or shutdown your computer.

### Command Line (text) Login

If you did not install an X windows environment, you will be presented with a "login:" prompt. Enter your account name and password.

If you desire to change your GUI login to a text login, login as 'root' and then the root password. You may change the login from GUI to text as follows:

```
nano /etc/inittab [ENTER]
```

Change the run-level from '3' to '5' (located a dozen or so lines from the top of the file). You may save this file by following the instructions presented at the bottom of the 'pico' text editor window. When you restart your computer:

```
reboot [ENTER]
```

... YDL will now automatically boot to a text login. You may change this back to a graphical login by changing the 3 back to a 5.

If you maintain the text login but do have X windows installed, you may launch the GUI (from the command line) by typing:

```
startx [ENTER]
```

If this fails to launch a graphical environment and you are returned to the command line prompt, enter:

```
Xautoconfig [ENTER]
```

This will generate a base monitor setting that will at least get you into a graphical environment whereby you may select the Display configuration tool from the System Settings of the Yellow Dog Linux menu. You should then log-out and log back in again to test the new settings.

## **RUNNING YELLOW DOG LINUX**

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### **Login**

At the graphical prompt, enter the username and password created during Firstboot's System User query. You will then enter the graphical user interface to Yellow Dog Linux, featuring the Enlightenment "E17" desktop environment.

With Linux, no one desktop environment is locked to the operating system, granting end users room for creativity, choice, and a variety of features. Other desktop environments such as KDE and Gnome are available with the YDL Install DVD or from on-line repositories. KDE offers a tightly integrated productive environment for office and education. Gnome generally caters to those who desire greater room for customization. Gnome is installed by default and may be selected at log in.

Yellow Dog Linux defaults to the Enlightenment "E17" desktop environment.

### **Enlightenment**

Enlightenment "E17" is an alternative desktop manager to KDE and Gnome, offering a completely customizable interface, integrated functionality, access to all the traditional applications, and a lightweight, intuitive, yet robust graphical interface.

While unique in many respects, E17 offers familiar operating system features such as a start (YDL logo) menu, productivity applications, and the ability to customize the desktop environment to your liking.

To learn more about Yellow Dog Linux and the E17 desktop environment, review the included Quick Start Tutorial, presented as the home page of your Firefox web browser:

YDL Menu ==> Applications ==> Internet ==> Firefox

The same tutorial is also available on-line:

[us.fixstars.com/support/configuration/](http://us.fixstars.com/support/configuration/)

## **SUPPORT**

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### **Installation Support**

Installation Support is provided through YDL.netEnhanced accounts:

[us.fixstars.com/store/](http://us.fixstars.com/store/)

### **HOWTOs, Lists, and Forums**

A guide to free, on-line support is available at Fixstars' website:

[us.fixstars.com/support/](http://us.fixstars.com/support/)

### **Technical Support**

To learn more about Fixstars' technical support offerings, visit:

[us.fixstars.com/support/](http://us.fixstars.com/support/)

### **Apple Xserves**

If your Xserve did not ship with a DVD drive, it cannot boot directly from the install DVD. Therefore, you must netinstall from a local machine which offers the YDL ISO image. A HOWTO for this procedure is available from the Fixstars support pages at:

[us.fixstars.com/support/solutions/](http://us.fixstars.com/support/solutions/)

### **Systems without DVD drives**

If your Apple or IBM computer does not have a DVD drive and therefore cannot boot directly from the install DVD, you must netinstall from a local machine which offers the YDL ISO image. A HOWTO for this procedure is available from the Fixstars support pages at:

[us.fixstars.com/support/solutions/](http://us.fixstars.com/support/solutions/)