



A Companion to Installing
YELLOW DOG LINUX 4.1

by Terra Soft Solutions, Inc.

INTRODUCTION

It is advised that you refer to www.terasoftsolutions.com/support/ for updates, issues specific with unique computer configurations, and engineering notes.

Please note that *this Companion to Install is an addendum* to that which is presented on-screen during the installation process. It is not meant to be used as a stand-alone document. Instead, it is designed to provide extra guidance for those portions of the installation process that may otherwise be confusing.

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, SCSI, or Firewire chain (at the time of this writing, USB drives are not supported as targets for the installer).

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.

PREPARATION

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 www.terasoftsolutions.com/support/installation/guide2.3.shtml

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

TECHNICAL NOTES

Dual and Quad-Core G5 Power Macs

Due to an unexplained modification to Apple's firmware with these particular G5 Power Macs, the "halt system" command issued by the Yellow Dog Linux installer fails, keeping the firmware update from taking effect.

The end result is 2-fold:

1) Your G5 will not reboot following Yellow Dog Linux installation. So, following the "rebooting system" message, power-down your G5 by holding the power button until the system halts. You may then power-on your G5.

2) Upon reboot, yaboot (the boot loader which enables Linux to boot) is not installed. This results in the G5 defaulting to OSX. To remedy this, hold the OPTION(ALT) key upon reboot. Complete the FirstBoot configuration and tests. Log in as root. Launch a terminal (Konsole in KDE). And then:

```
ybin [ENTER]
```

... and reboot your system. You will now have the option to boot OSX, YDL, or from CD.

2006 PowerBooks

The sound card introduced with the 2006 PowerBooks is not supported by YDL v4.1. Therefore, the *PB Buttons* (screen brightness, audio levels, backlit keyboard) and *sleep* are not supported either as these functions depend upon the sound card support. When these are supported, the updated packages will be made available through YDL.net Enhanced accounts and the public mirrors.

Rev A iMacs

The Rev A iMac firmware was not designed to recognize drives over 30GB. If you have upgraded your iMac with a larger drive, it is VERY important to create a 100MB /boot partition immediately following the Apple bootstrap and swap partitions when creating partitions, as follows:

apple_bootstrap	1MB
swap	xxxMB
/boot	100MB
/root	(remaining space)

This forces the location of the kernel to reside on a portion of the drive that firmware will recognize and be able to use. If you do not do this, your system will hang immediately following the yaboot prompt.

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.

If this occurs, review the HOWTO: www.yellowdoglinux.com/support/solutions/ydl_general/boot_functions.shtml

Single Drive for YDL without OSX

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

OldWorld ROM Computers

As of v4.0, Yellow Dog Linux *no longer officially supports* OldWorld ROM computers (pre USB G3; ie: beige G3 desktops and towers). While this does not mean this version of Yellow Dog Linux will not function with these systems, the required BootX bootloader is not included and must be installed. It may be found on pre-v4.0 versions of YDL or obtained from www.penguinppc.org/bootloaders/bootx/

NewWorld ROM Computers

NewWorld ROM systems use ROM-in-RAM technology and require '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). In general, the following models are supported NewWorld ROM systems: Blue & White G3s, iMacs, '99 G3+/G4 PowerBooks, iBooks, G4s, and G5s.

For a complete list of supported systems, visit:
www.terasoftsolutions.com/support/hardware/

INSTALLATION

As mentioned in the first page of this document, this *Companion to Install* is an addendum to that which is presented on-screen during the installation process. It is not meant to be used as a stand-alone document. Instead, it is designed to provide extra guidance for those portions of the installation process that may otherwise be confusing or tricky.

1. Insert the Yellow Dog Linux Install CD #1.
2. Restart your computer.
3. Hold the "C" key until you have booted from the Install CD.
4. 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:
 - G3, G4, G5** – Press [ENTER] to use the graphical installer.
 - FireWire** – Type 'install firewire [ENTER]' to install to a FireWire drive.
 - Text Installer** – Type 'install text [ENTER]' to use the non-graphical, text-based 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.
5. Follow the on-screen instructions and this Guide for particular sections.

Additional CDs

You may install additional, individual packages from this menu. But it is recommended that you wait until fully booted and then use 'yum' or 'Up2Date'.

GUI VS COMMAND LINE LOGIN

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 passwd.

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.

users who are experimenting with home-grown kernels or in an effort to boot with a non-supported video card.

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 stream of messages. These are analogous to the loading of Classic Mac OS Extensions.
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

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.

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.terrasoftsolutions.com or the Yellow Dog Linux Support pages at www.terrasoftsolutions.com/support/

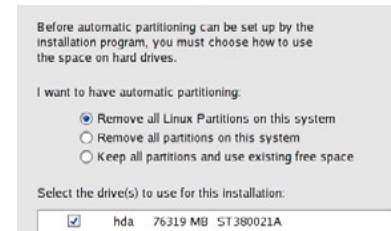
Language & Keyboard Selection

It is assumed at this point that you have selected your preferred Language and Keyboard configurations. Therefore, the following text assumes you are following the on-screen text and help functions and serves as a guide with additional information.

Partition Disks

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. This is typically done using the Free space created through use of the Drive Setup application in OSX.

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 via Disk Druid.

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**.

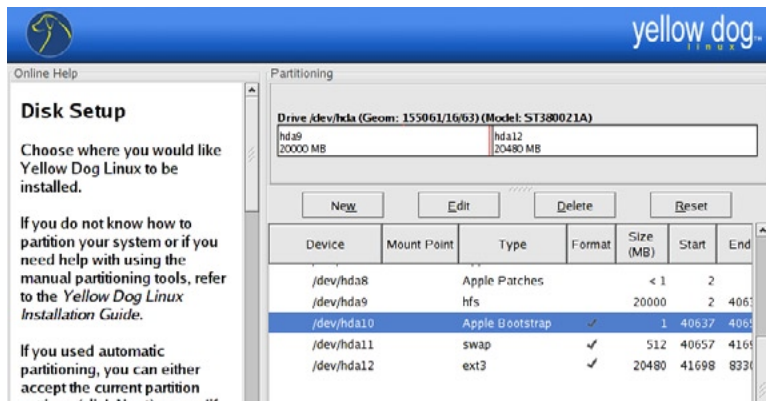
Remove all partitions: this may be done ONLY on a NewWorld ROM computer with no OSX. This procedure **deletes all partitions, including those that contain OSX**. With an OldWorld ROM, OSX will be destroyed, forcing a reformat and re-installation.

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.

Resizing Partitions

This function enables you to resize an existing partition (ie: OSX) to something smaller, making space for the YDL installation without reformatting. It is important to *not* resize the OSX partition smaller than the total data already on that partition or you will lose data and functionality.

Disk Druid → [select desired partition] → Edit → Resize



If you elect to use Disk Druid, the following will guide you through a basic partitioning scheme:

1. Select the drive on which you wish to install YDL. If you have only one drive, only one will appear on this screen.
2. Select *New*. Then select *Apple bootstrap* from the *File System Type* menu, *1MB* partition size, and *Fixed Size*.
3. Select *New* again. Then select *swap* from the *File System Type* menu, *512MB*, and *Fixed Size*. The MB quantity may be as much as the amount of RAM you have installed, but 512 is usually more than adequate.
4. Select *New* a third and final time. Then select */root* from the *Mount Point* menu and then *Fill all available space* to utilize the remaining portion of your drive. The root partition should be no smaller than 2GB and truly should be greater than 6GB to provide ample room for an Everything install (if you elected to install all of the available packages on a previous screen).

Bootloader Configuration

With the current version of Yellow Dog Linux, the Installer automatically detects OSX partitions and modifies the yaboot settings. When you reboot, you should be prompted with an "L" for Linux, "C" for CD, and if present, "M" for Classic Mac OS or "X" for OSX.

Package Selection

The Yellow Dog Installer has pre-defined package installation groups. The "select individual packages" feature allows you to add or remove packages from the pre-defined groups. The required space on your drive is as follows:

Personal Desktop: 3GB required drive space. This set of packages is for a home or office setting with the OpenOffice suite, FireFox web browser, Evolution email client, Mac-On-Linux, and hundreds more. Do note that Kmail and the KOffice suite are not included by default. You may select these individually by Customizing the package selection.

Workstation: 4GB required drive space. This set includes those packages found in the Personal Desktop (above) and then includes programming utilities for code development.

Server: 1GB required drive space. This set of packages does not include XFree86 (the windowing server) as it is designed instead to build an email, FTP, NFS, HTTP, and Appletalk or Samba server.

Everything (all packages): 6GB required drive space. This includes every package available on the 4 Install CDs.

Good time for a beverage break ...

BOOTING UP!

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, 'M'ac OS 9.x, '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 'M' and 'X' will be present ONLY if Mac OS 9.x and/or X were available and designated during 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 www.terrasoftsolutions.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 boot sequence to time-out and auto-boot the default (denoted with an *) kernel, typically labeled "linux". If you choose to try a different kernel, linux-novideo for instance, you may do so by typing that name verbatim and then pressing the return key. This should be done only by advanced