Installing Developer Release 8 of the BeOS

This booklet shows you how to:

- Upgrade the boot ROM of a BeBox™ that was running Developer Release 7 (DR7) of the Be™ operating system (the BeOS™).

  You do this with the *Boot ROM Upgrader* floppy disk, which comes with this booklet.

- Install or upgrade to DR8 of the BeOS.

  You do this with the *BeOS* CD-ROM, which comes with this booklet.

- Install Metrowerks® CodeWarrior™ 9 and the DR8 versions of Be development environment files on a Macintosh.

  You do this with the *Metrowerks CodeWarrior Tools* CD-ROM, which you get when you purchase CodeWarrior 9 from Metrowerks, and with the *BeOS* CD-ROM.

Before You Start

Before you install DR8 of the BeOS on a BeBox, you need to assemble it, as described in Chapter 1, "Assembling the BeBox," in the *Be User's Guide*.

You may also want to review Chapter 2, "Learning BeOS Basics," in the *Be User's Guide*. Chapter 2 teaches you the basics of working with the BeOS and the BeBox, including turning it on and off safely, using the keyboard and mouse, and working with menus—all things you need to do when following the instructions in this booklet.

Finally, check for any last-minute installation instructions, release notes, or other tips that are included with this booklet or that are on the Be web site: **http://www.be.com**.

Where to Start

If you have a BeBox that's running DR7 of the BeOS, start with "Upgrading from DR7" on page 3.

If you received an unconfigured BeBox, with a hard disk you added that doesn't yet have the BeOS installed on it, start with "Installing the BeOS" on page 4.

If you received a BeBox with DR8 of the BeOS already installed on its hard disk, start with "About DR8 of the BeOS" on page 6. Then if you want to develop Be applications on a Macintosh, turn to "Installing the Macintosh Development Environment" on page 8.

Upgrading from DR7

Before you upgrade from DR7:

- Back up any files you don't want to lose.

  Though you don't erase the files you created in DR7 when you upgrade to DR8, it's best to be safe. Back up the files onto a hard disk, onto floppy disks, or onto another kind of removable disk (you can mount disks initialized in DR7 after you install DR8). You can also back up your files onto another file system using **ftp**, or into a **tar** archive (for information on **ftp** and **tar**, see Appendix B, "Transferring Files to and from the BeOS," in the *Be User's Guide*).

  Upgrading replaces the entire contents of the **/documentation** folder (this is the only folder that's replaced rather than simply upgraded), so be sure to move any files you want to keep into a folder with a name other than **/documentation**.

- Make sure you have at least 150 MB of free space on your hard disk.

  DR8 isn't that much larger than DR7, but the Installer needs the room during the installation process.

- Keep in mind that the first time you reboot after installing DR8, the Be database is rebuilt.

  Any information you changed or added to the database is lost after you upgrade. This includes information about icons in the dock, window positions, and any changes you made to the database with the applications you wrote. If this presents a significant problem for you, contact Be Developer Support (**devsupport@be.com**) *before* you upgrade.

Upgrade the Boot ROM

If you have a BeBox running DR7 of the BeOS, you must upgrade its boot ROM—a portion of the Be system software that's stored on a chip on the Be motherboard—before you install DR8.

1. With the BeBox turned off, insert the *Boot ROM Upgrader* floppy disk in the floppy disk drive.
2. Turn on the BeBox.

   Messages inform you that the boot ROM chip is being upgraded. When the upgrade is complete, you're instructed to eject the floppy disk.
3. Eject the floppy disk and turn off the BeBox.

You can now use the *BeOS* CD-ROM to install DR8, as described in the next section, "Installing the BeOS."

Installing the BeOS

You install DR8 of the BeOS onto a hard disk using the *BeOS* CD-ROM.

Note: To install the BeOS on a hard disk, you must have at least 150 MB of free space. (DR8 isn't that large, but the Installer needs the room during the installation process.)

1. If necessary, turn on the CD-ROM drive. Then insert the *BeOS* CD-ROM and turn on the BeBox.

2. The Be logo appears on the screen and after a few moments, the Installer application window opens.

   If the Installer window never opens, it may be because the BeBox tried to boot from the hard disk, instead of from the CD-ROM. Some CD-ROM drives take a long time to get up to speed, so the BeBox may give up on the CD-ROM drive and boot from the hard disk. If this happens, turn the BeBox off and on, but as soon as the Be logo starts to appear on the screen, press and hold down any key on the keyboard until the boot selection screen appears. Follow the on-screen instructions to select the **BeOS-DR8** CD-ROM as the boot disk. For more information about boot disks and the boot selection screen, see "Selecting a Boot Disk" on page 16 of the *Be User's Guide*.

   Tip: If you're booting from the *BeOS* CD-ROM to replace a few essential files on a DR8 hard disk that's become unbootable, close the Installer window to quit the Installer. After a few moments, the Browser starts and you can copy files from the CD-ROM. However, don't try to run applications or do much else when booted from the CD-ROM: The BeOS counts on being able to write files on the boot disk, and since the CD-ROM is a read-only disk, the BeOS will eventually crash.

3. Choose Install From from the left pop-up list and BeOS-DR8 (the name of the *BeOS* CD-ROM) from the middle pop-up list. Then choose the name of the disk you want to install the Be OS on from the right pop-up list.

   If you're installing the BeOS on a hard disk that's never had Be files on it before, you need to use the Installer to initialize it before you can install the BeOS. Initializing a disk is described in "Installer," on page 100 of the *Be User's Guide*.

4. Click Begin.

   The contents of the *BeOS* CD-ROM are copied onto the disk you chose. When the installation is complete, a panel asks whether you want to make the disk you just installed the BeOS on the startup disk and restart the BeBox.

5. Click Restart to make the disk the startup disk and to restart the BeBox. Or click No to keep the current settings and leave the Installer running, so you can install the BeOS onto another disk.

   When you click Restart, the *BeOS* CD-ROM is ejected and the BeBox restarts, using the disk you installed the BeOS on as the boot disk.

   If you click No in the panel and decide you'd rather quit, close the Installer window. The Installer quits and after a few moments, the Browser starts. Choose Shut Down from the Browser's main menu and eject the CD-ROM. Don't try to use other applications: The BeOS counts on being able to write files on the boot disk, and since the CD-ROM is a read-only disk, the BeOS will soon crash.

The Installer installs everything from the *BeOS* CD-ROM onto a hard disk except the contents of the **/optional** folder (which is described in the next section, "About DR8 of the BeOS") and the **Finish_Install** script. The Installer runs the **Finish_Install** script at the beginning of the installation process to remove outdated DR7 files.

The first time the BeOS boots after installing DR8, the Be database is rebuilt. At the same time, if you used the Network application in DR7 to configure the BeOS to communicate across a network, a panel opens warning you that "a network device... failed to initialize." This is because the format of the **/system/settings/network** file (where Network stores its settings) changed between DR7 and DR8. Click OK in the panel and after the BeOS boots, use Network to check that the BeOS is configured correctly for your network and Ethernet card. Then click Save in the Network window and in the panel that asks if you want to restart the networking software, click Restart. For more information, see "Network" on page 128 of the *Be User's Guide*.

One outdated file the **Finish_Install** script doesn't delete is **/apps/hot_list**, where you may have stored the addresses of web sites you visited with the Orb application. Orb is replaced with NetPositive in DR8, and NetPositive's version of **hot_list** is the **/system/settings/bookmarks.html** file. You can use the Edit application to copy web site addresses you want to keep from **hot_list** into **bookmarks.html** and then delete **hot_list**. (For more information on NetPositive, see "NetPositive" on page 110 of the *Be User's Guide*.)

You can now start using the BeBox and the BeOS. You'll probably be able to figure out how to do a lot of things in the BeOS on your own, but when you have questions, see the *Be User's Guide*. If you want to use a Macintosh to develop Be applications, you need to install the Be development environment, as described in "Installing the Macintosh Development Environment" on page 8.

About DR8 of the BeOS

Everything in DR8 of the BeOS is contained in six folders:

/apps Applications with a window-based user interface—including the Installer, Terminal, Edit, IconWorld, and others. These applications are described in alphabetical order in "Using Be Applications," which starts on page 73 of the *Be User's Guide*

/bin Programs that don't bring up windows, like **ls**, **tar**, and **df**, which you use in the Terminal application and in shell scripts. Documentation for many of these programs is included in the **/documentation/Shell Tools** folder.

/develop The Be development environment, including BeIDE (the CodeWarrior Integrated Development Environment for the BeBox), Be headers and libraries, AppModeler, and a number of sample applications. The contents of this folder are described in detail in "About the Development Environment on the BeBox" on page 147 of the *Be User's Guide*.

/documentation The HTML edition of *The Be Book*, the reference to the Be API; HTML editions of the documentation ("man pages") for the GNU shell tools; and the HTML edition of *CodeWarrior Documents for Be*, the Metrowerks documentation for BeIDE and the command-line tools. See the description of the **/optional** folder on the *BeOS* CD-ROM, below, for more information about these documents.

/preferences Applications you use to configure the BeOS to work on a network, to change the screen resolution, and to set other preferences. These applications are described in alphabetical order in "Customizing the BeOS," which starts on page 119 of the *Be User's Guide*.

/system The servers, the Browser, fonts, the **Bootscript** file that's run at startup, and other system software.

In addition, you'll see an empty **/tmp** folder, which is created at startup and is used by the Be shell.

In addition to the six folders described above, the *BeOS* CD-ROM contains a seventh folder, **/optional**, with over 350 MB of information, tools, and applications. You can mount the CD-ROM and copy what you want from the **/optional** folder onto the BeBox hard disk (see "Mounting a Disk" on page 45 and "Moving and Copying Items" on page 48 of the *Be User's Guide* to learn how). The folders in the **/optional** folder are:

documentation Everything that's in the **/documentation** folder that's installed by the Installer, plus a PostScript edition of *The Be Book* and single-file archives of *The Be Book* and the HTML documentation for the GNU tools. The archives are in UNIX format (with a ".tar" extension), Macintosh format (with a ".sea.hqx" extension), and Windows '95 and Windows NT format (with a ".zip" extension). You can transfer these archives to another computer so you can read or print their contents (see Appendix B, "Transferring Files to and from the BeOS," in the *Be User's Guide*).

gnu Sources for the GNU tools in **/bin**.

goodies Area codes, zip codes, a dictionary, a thesaurus, and more.

images Images in TIFF and Be image file formats, which you can open in the ImageViewer application. See "ImageViewer" on page 83 of the *Be User's Guide*.

macintosh Software you use to develop Be applications on a Macintosh, as described in "Developing Be Applications on a Macintosh," which starts on page 153 of the *Be User's Guide*. Installing this software is described in the next section of this booklet, "Installing the Macintosh Development Environment."

midi MIDI files you can play using the Midi application (if you have a MIDI synthesizer connected to the BeBox). See "Midi" on page 90 of the *Be User's Guide*.

movies QuickTime movies you can play with NetPositive (which is described on page 110 of the *Be User's Guide*). Also movies in the "raw" Be format and the raw movie player, VideoPlayer.

sounds Sounds, including complete tracks from a selection of Thomas Dolby albums. Double-click them to listen to them with the PlaySound application, as described on page 112 of the *Be User's Guide*.

A ninth folder, **_optional_install_**, simply tells the Installer not to install the **/optional** folder. The **Finish_Install** script is described in the previous section of this booklet.

Installing the Macintosh Development Environment

To set up a Macintosh so you can develop applications for the BeBox, you need to install Metrowerks CodeWarrior 9 for the PowerPC. You also need to install some updated files from the **/optional** folder on the *BeOS* CD-ROM.

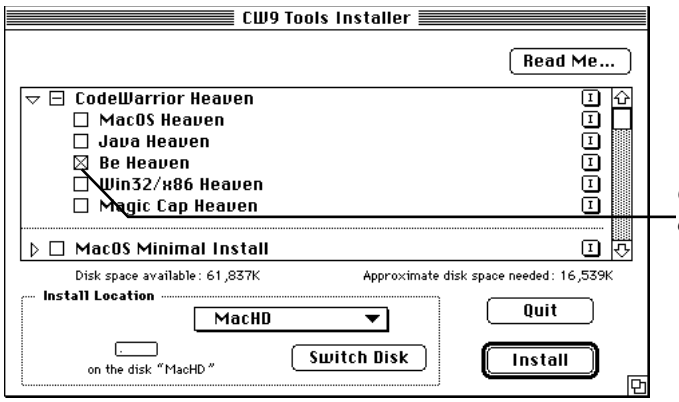
Installing CodeWarrior 9

The *CodeWarrior 9 Tools* CD-ROM comes with development software for the BeOS.

Note: These instructions assume you're installing CodeWarrior 9 Gold. If you're installing another version of CodeWarrior 9, you'll have to interpolate slightly as you follow these steps.

1. Insert the *CodeWarrior 9 Tools* CD-ROM in the CD-ROM drive.
2. Double-click the **CW9 Gold Tools** CD-ROM icon.
3. Double-click **CW9 Tools Installer**.
4. Click Continue in the banner dialog box and again in the Release Notes dialog box.

   A dialog box lists CodeWarrior installation options.
5. Click the right-pointing arrow next to CodeWarrior Heaven. Then check Be Heaven.



6. Use the Switch Disk button and the pop-up list above it to select the folder where you want to install the CodeWarrior software.
7. Click Install.

8. Click Continue in the dialog box that warns you should restart the Macintosh after installing CodeWarrior.

   Any other running applications are quit. A dialog box keeps you informed on the progress of the installation.

9. Click Restart in the dialog box that tells you the installation was successful.

   The Macintosh restarts, and you're ready to install the DR8 versions of some of the Be development software from the *BeOS* CD-ROM, as described in the next section.

Installing the DR8 BeOS Files

The *BeOS* CD-ROM contains DR8 versions of the headers, libraries, and cross-debugger that replace similar files that come with CodeWarrior 9.

1. Install the **/optional/macintosh** folder on the BeBox hard disk.

2. Drag the Nub application from **/optional/macintosh/Cross-Debugger** to the **/develop** folder on the BeBox.

3. Transfer **/optional/macintosh/Headers and Libraries/BeDR8.sea.hqx** and **/optional/macintosh/Cross-Debugger/MW Debug XPPC-1.4.3d1.sea.hqx** from the BeBox to the Macintosh.

   The two archive files you transfer have been "BinHexed," meaning they're binary files that have been converted to ASCII format to ensure they can be transferred from one computer to another without losing information. Many Macintosh-based **ftp** utilities, such as Fetch (available from the Dartmouth College **ftp** site: **ftp.dartmouth.edu/pub/software/mac**), will "unBinHex" these files automatically. Otherwise you'll need to use a BinHex utility to convert the archives back to binary format.

   For information on transferring the files across a network or with a floppy disk, see Appendix B, "Transferring Files to and from the BeOS," in the *Be User's Guide*.

4. Double-click each archive and in the dialog box that opens, click Continue. Then select the folder where you want to install the development software and click Save. When the installation is complete, click Quit.

   Each archive is uncompressed, installing the Be development software in the folder you specified. By default, the **BeDr8.sea** archive is uncompressed into a folder named **BeDr8**, and the **MW Debug XPPC-1.4.3d1.sea** archive is uncompressed into the cross-debugger itself, **MW Debug XPPC-1.4.3d1**.

5. Open the **BeDr8** folder you just installed.

6. Open the **Metrowerks CodeWarrior** folder (it's in the **CW9 Gold** folder if you used the suggested folder names when you installed CodeWarrior 9).

7. Drag the **Headers** and **Libraries** folders from the **BeDr8** folder to the **BeOS Support** folder in the **Metrowerks CodeWarrior** folder. Then click OK in the panel that warns you items with the same names will be replaced.

8. Drag the **MW Debug XPPC-1.4.3d1** application into the **Metrowerks CodeWarrior** folder. Then drag the out-of-date **MW Debug/Be 1.4.2d2** application to the trash.

9. Drag the archive files you transferred from the BeBox and the now-empty **BeDr8** folder to the trash.

You're now ready to develop Be applications on the Macintosh, as described in Chapter 6, "Developing Be Applications," in the *Be User's Guide*.

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