Daydream

Installation and Reference

An Overview

So, actually, what is Daydream?

To be precise, Daydream — together with Software from Apple — is a Version of the System 7 Operating System for the NeXT Computer Hardware. It's the first time System 7 is ported to a non-Apple Computer. Daydream uses System Software which is officially licenced from Apple Computer, Inc — one of the reasons why Daydream is so excellently compatible with a 'real' Macintosh.
Nonetheless, differences exist. The NeXT hardware is not compatible with the Macintosh hardware; QUIX engineers needed to rewrite parts of the System Software in order to hide these differences wherever possible. This manual outlines the few remaining differences between a real Macintosh and Daydream, and gives tips to ensure a seamless cooperation between all parts of the software and hardware.

About this Manual

This manual is the source for Daydream-specific information. Besides the installation, it explains the differences between a Macintosh Computer, and a NeXT Computer running Daydream. Also, the internal operation of daydream is explained as far as needed for advanced users.

This manual is only part of the Daydream documentation. It's assumed that you have acquired a full version of System 7.1 from an Apple Dealer. The manual that comes with System 7.1 is the other part of the documentation, and is used together with this manual. The System 7.1 Manual covers basic tasks using System 7, like dragging windows, opening documents or configuring the System.

Part 1 of this manual describes the installation and use of Daydream. It's written for a first-time user, and covers what's necessary to run Daydream

Part 2 gives detailed Information about Daydream. You should read these sections after you have used Daydream for a while, or if you're in trouble.

If questions or problems arise, we at QUIX will be glad to help you. To ensure efficient support, we ask you to fill out the Troubleshooting Form found in the Appendix, and send it as a fax. This will also help us as the problem can then be answered by the appropriate engineer.

PART 1
Installation and Basics

This part guides you thru the installation of Daydream on a NeXT Computer. You should be familiar with the NeXT Computer and the NEXTSTEP Operating System. If you have difficulties following the instructions below, please refer to the 'User's Reference' Manual that came with your NeXT Computer, or ask your System Administrator for help.

Installing Daydream

The installation of Daydream is not menu driven because it's relatively simple. It takes only a short time to complete: Then, you're ready to run System 7 on your NeXT Computer for the first time.

IMPORTANT NOTE: You must make a backup copy of your hard disks before you install any software, including Daydream.

NOTE: If you want to remove Daydream later, simply destroy the thee files installed during this session. No additional action is necessary

STEP 1

Check the System Configuration

Before you begin to install, please make sure that...

- You have at least 20 MB free space on your hard disk
- You are using NEXTSTEP Version 3.x (If not, please continue with the chapter "Installing daydream on NEXTSTEP 2.x Computers")

STEP 2

Shut down your System

First, shut down your Computer, then turn off all peripherals.

STEP 3

Attach the ROM Box

Now that the Computer is turned off, you may safely attach the Daydream ROM Box to the DSP port of your NeXT Computer.

The **ROM Box** is the small box that comes with Daydream. It has a flat cable and a connector. The **DSP Port** is found on the rear of your NeXT Computer. It's labeled 'DSP'. You need to plug the connector of the Rom Box into the DSP port of the computer. Make sure it's fully plugged in.

WARNING: DO NOT PLUG OR UNPLUG THE ROM BOX WHILE THE COMPUTER IS TURNED ON. DOING SO MAY DAMAGE YOUR COMPUTER AND/OR THE ROM BOX.

STEP 4

Start your System

First, turn on all peripherals. Then, start the computer with the Power key.
The System now begins to start NEXTSTEP, and you'll sooner or later see the Login Window.

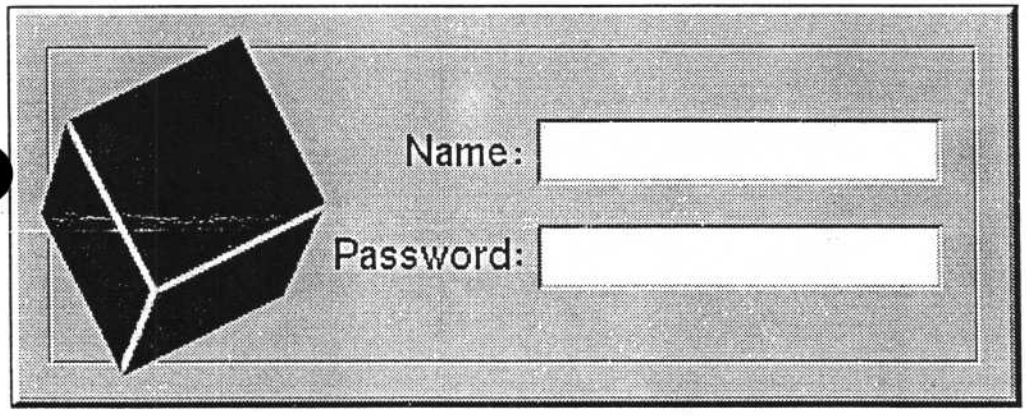


Figure 1: The login Window

STEP 5

Login as root-user

Once you are in the Login Window, log-in with your root-account.
Do so by typing 'root' into the name field, and your root-password into the password-field, then press the Carriage-Return key. (not the Enter key!) If you have no root-password, ask your System Administrator.

STEP 6.0

Install the Daydream files

As soon as the Workspace appears, you're ready to install the Daydream Files. Daydream is installed by copying three files from the Floppy Disks to the root-directory of your NeXT Computer. The root-directory is the topmost directory in the hierarchy, and carries the icon of your computer.

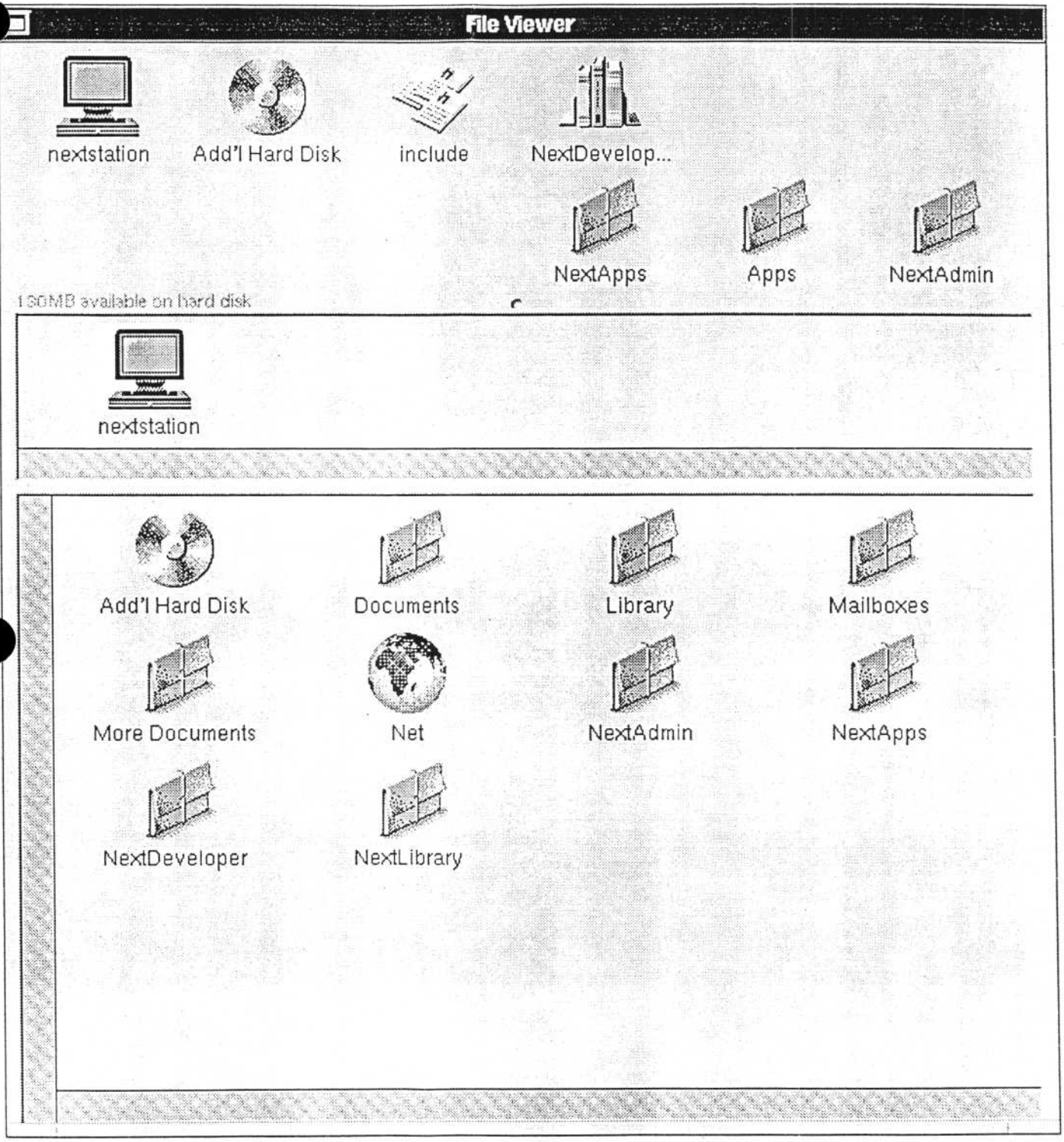


Figure 2: The Workspace after the System has started up. The contents of the root-directory is shown.

STEP 6.1

Copy 'daydream' and 'Daydream.app'

Insert the Floppy Disk labeled 'Kernel & App'. It will appear in the Workspace. Double-click it, so the content

ppears. Now, copy the files named 'daydream' and 'Daydream.app' to the root-directory of your NeXT Computer.

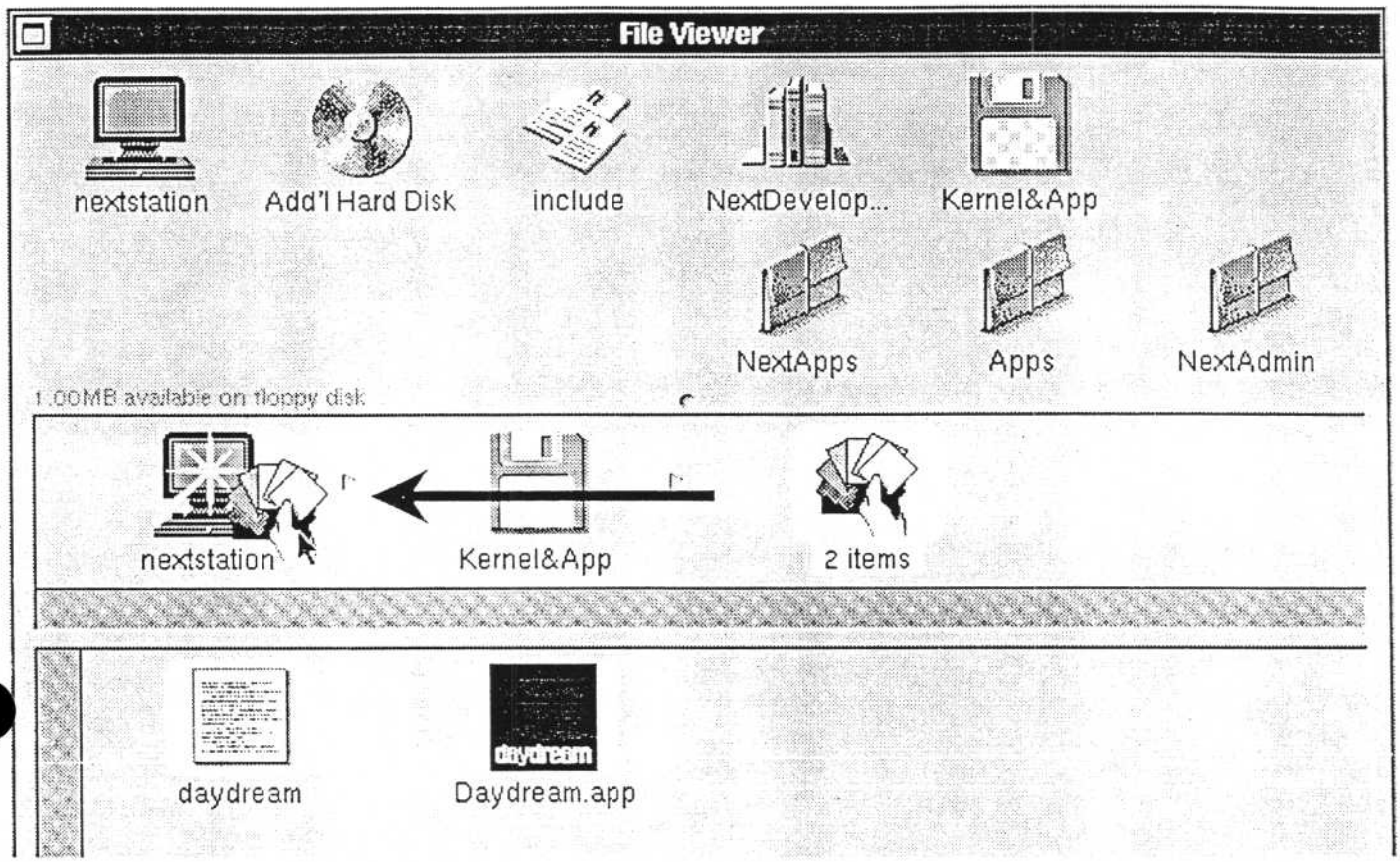


Figure 3: The Kernel&App Disk content in the Workspace. The two files are selected and dragged to the ROOT Directory.

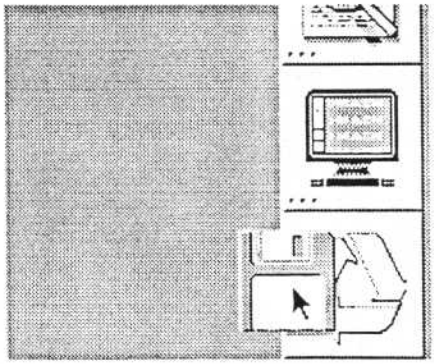


Figure 4: After these two files are in place, eject the Floppy Disk by dragging it to the Recycler.

Now, check whether the two files have been copied and are found in the correct directory: The two files are now correctly placed on the hard disk (Figure 5). Note that both files are on the top-level of the directory structure.

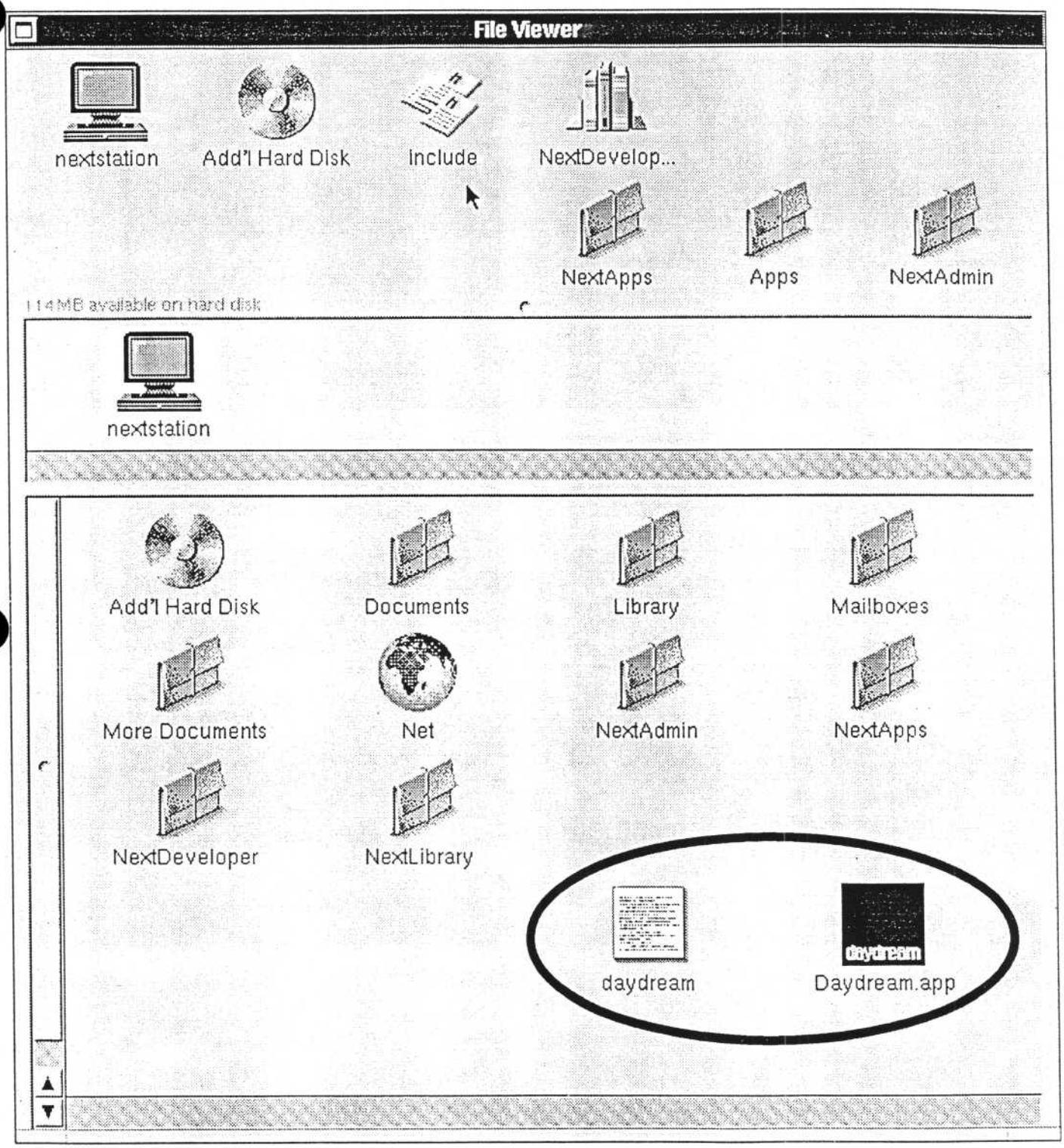


Figure 5: The two files are now correctly placed on the hard disk (circle).

For advanced users: The 'daydream'-file is a kernel, it's the core of the Daydream-product. Also, it contains configuration information about your computer. The 'Daydream.app'-file is an application used to configure the daydream-kernel. You should not move a kernel to a different computer without running the Daydream.app

application before using it.

STEP 6.2

Copy the 'Mini7.daydream.compressed' - file. Uncompress it.

Now, insert the disk labeled 'Mini7.daydream'. You'll find one file on this disk, named 'Mini7.daydream.compressed':
As before, you must copy this file to the root-directory of your NeXT computer. Once it's there, eject the Floppy Disk.

Again, check whether the file is in the correct place:

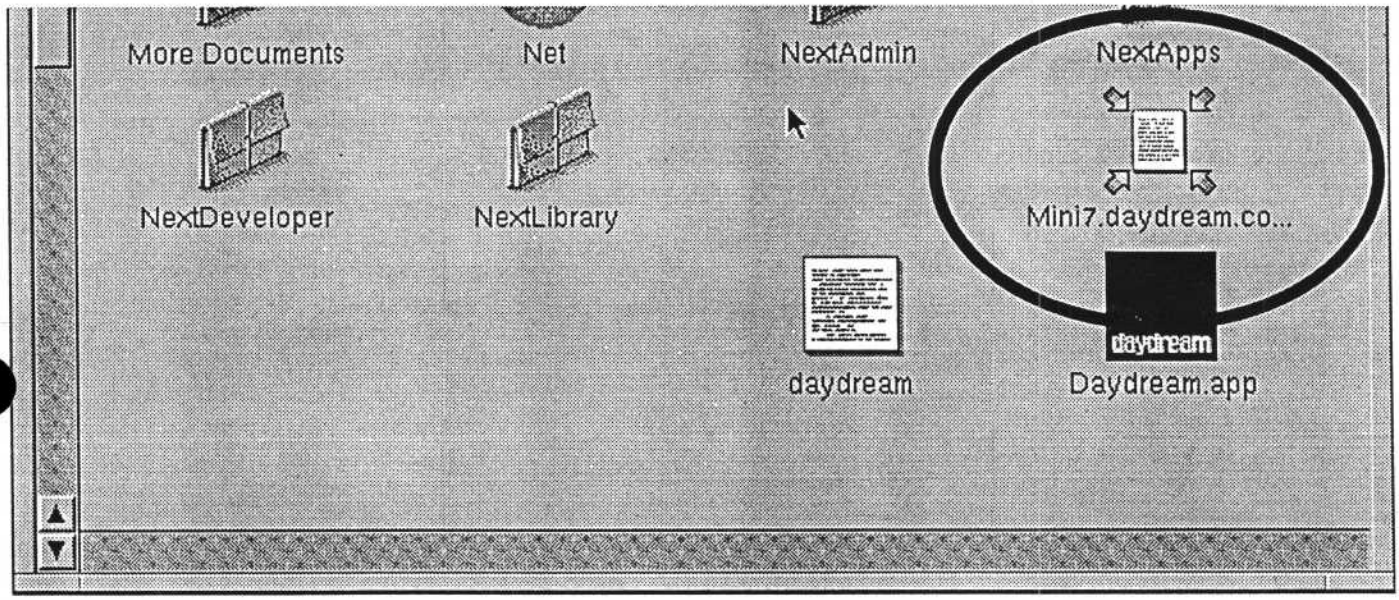
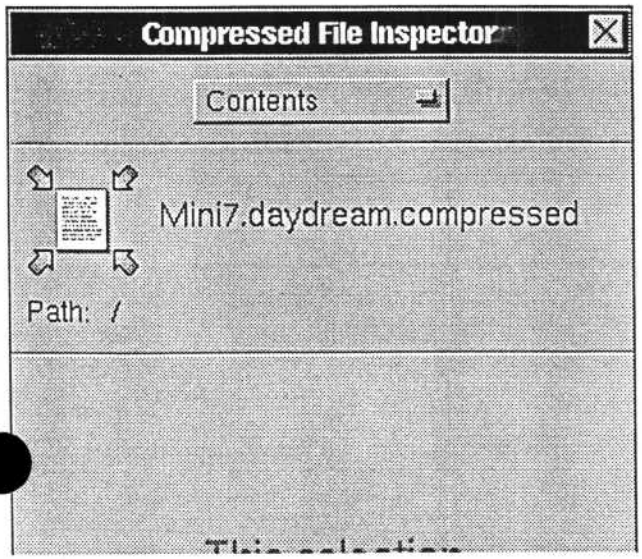


Figure 6: The (compressed) Mini7.daydream File has been correctly copied (circle)

Then, double-click the 'Mini7.daydream.compressed' file, to uncompress it. The following dialog appears:



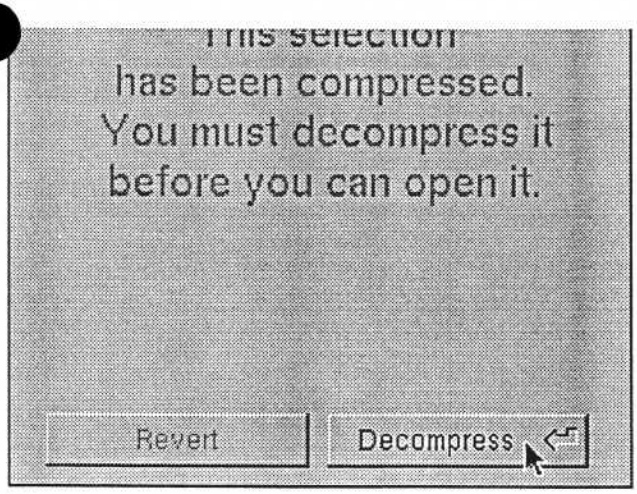
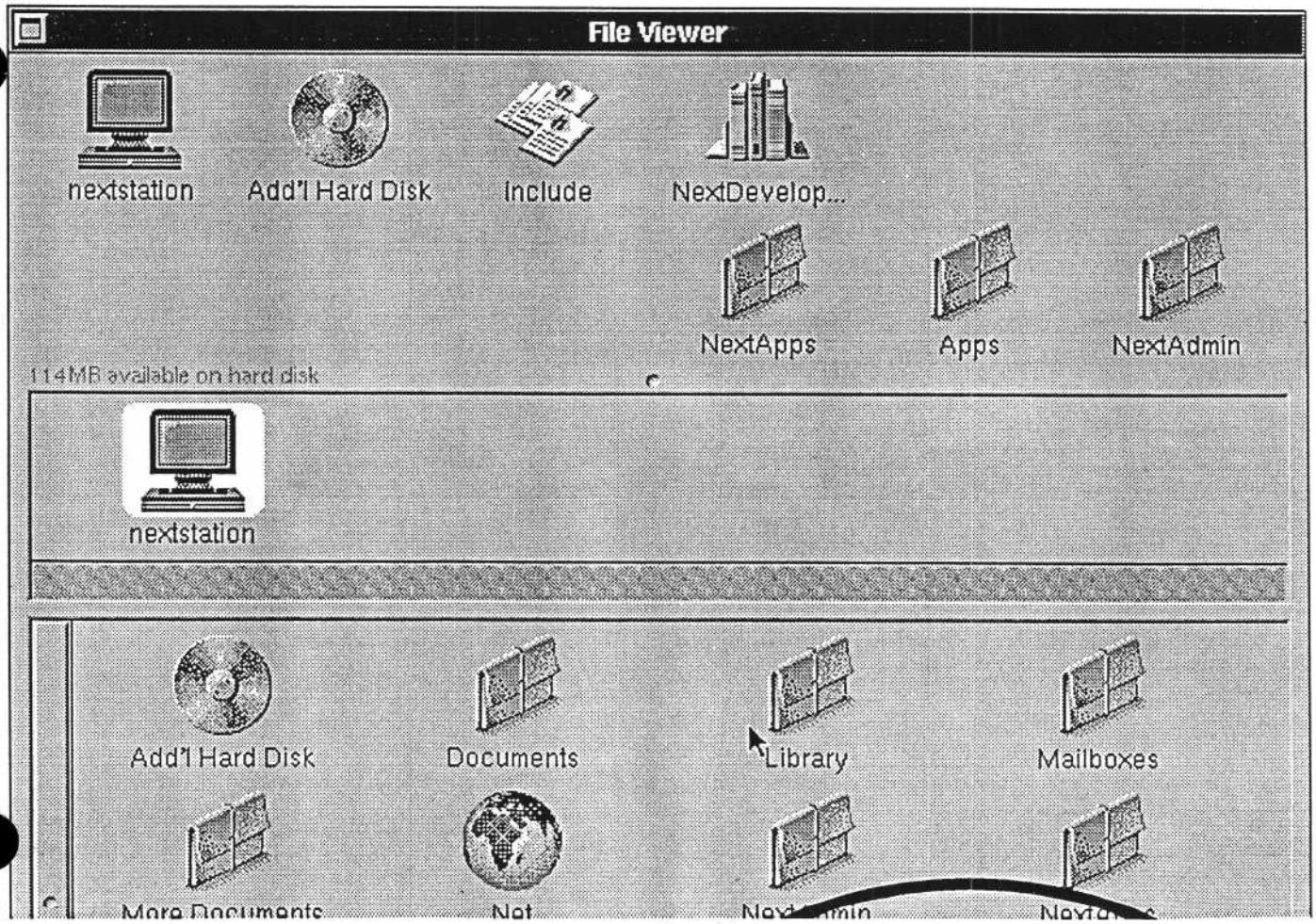


Figure 7

Click DECOMPRESS to continue.
After a while, the process has finished and the name of the file is now 'Mini7.daydream'.

Here's an overview of what files should be on your hard disk now. Please check your installation carefully!



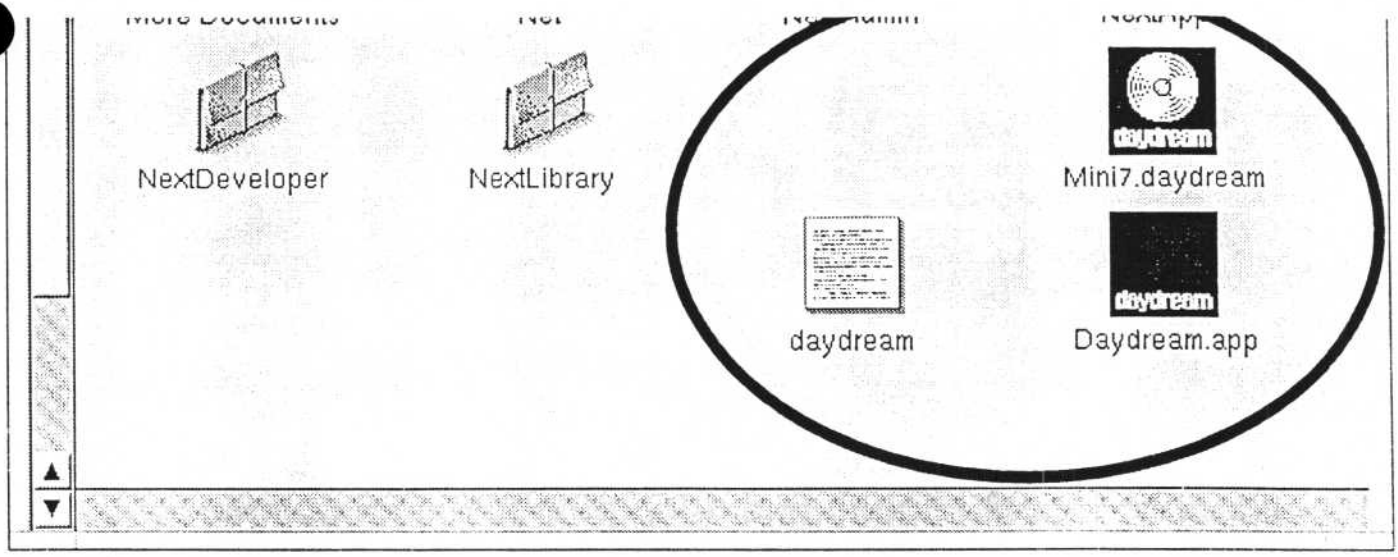


Figure 8: The Workspace with all Daydream files placed correctly (circle).

For advanced users: A file with the ending '.daydream' is a so-called Disk File. The 'Mini7.daydream' Disk File you have just copied contains the minimal System 7 Software. If you don't install this file, daydream will work, but you'll need to start System 7 e.g. from a Floppy Disk. (For example, the Emergency Disk shipped with Daydream can be used.)

STEP 7

You have finished the installation!

Congratulations! You now have all files to run daydream. So let's take a short trip:

STEP 8

Start the Daydream.app application

Before you run daydream the first time, you must start the Daydream.app application to make some settings. Daydream.app is one of the files you have copied a few minutes ago. It's on the root.

Figure 8: The Daydream.app application

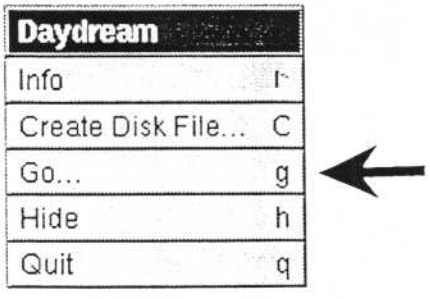


Figure 9

Here's what to do:

- Double-click the Daydream.app application (Figure 8)
- Fill in the fields in the registration window (comes up automatically)
- Choose the menu item 'Go...' to start daydream (Figure 9)

Click 'OK' in the upcoming dialog (Figure 10)

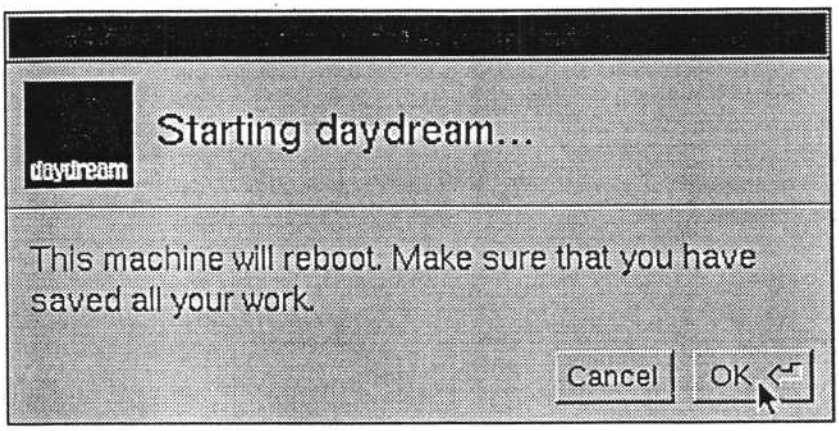


Figure 10: Starting Daydream

STEP 9

Watch the system convert

Your system now shuts down, and begins to start Daydream. This process has several stages:

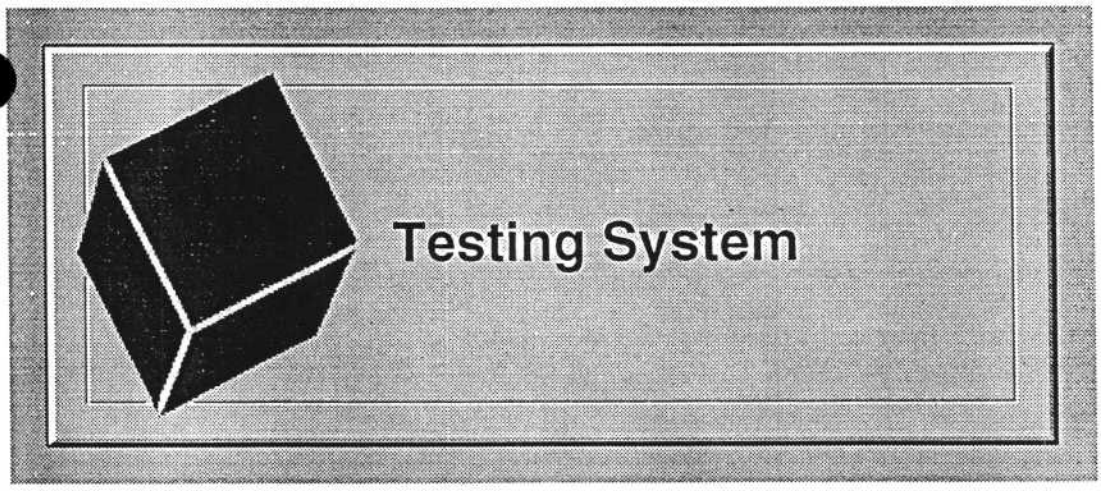


Figure 11: Testing System

a) NEXTSTEP finishes. The windows close.

b) Testing System (Figure 11). Duration: up to 10 sec

Figure 12: Loading from Disk

c) Loading from Disk. Message in a Window, disk NOT turning (Figure 12)
d) Loading from Disk. Message in a Window, disk IS turning. Duration: up to 15 sec

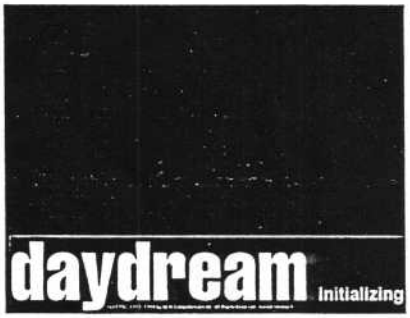


Figure 13: The Daydream initializing screen

e) Screen fades to black, 'daydream initializing' is displayed (Figure 13). Duration: up to 20 sec
f) The empty gray screen with the rounded corners appears. Duration: 3 sec

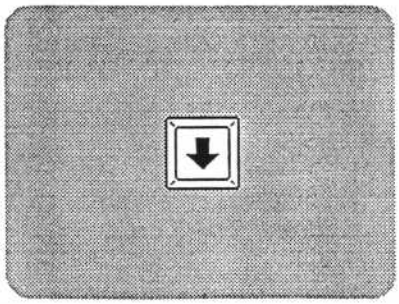


Figure 14: The KeyDown icon

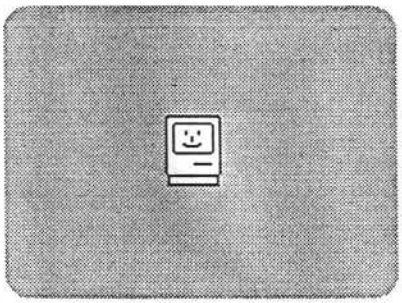


Figure 15: The Happy Mac

g) The KeyDown icon appears (Figure 14). Duration: 1 sec
you want to turn off System Extensions, press Shift now and hold
) The 'Happy Mac' smiles at you (Figure 15). Duration: Usually less than a second, in rare cases up to 30 seconds.

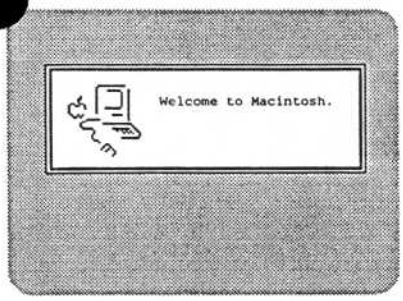


Figure 16

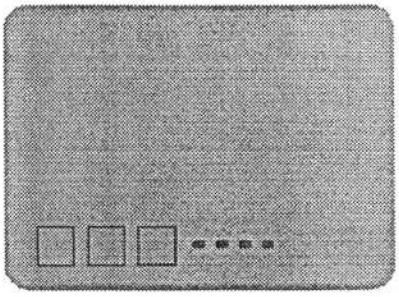


Figure 17: Loading inits

i) The 'Welcome to Macintosh' Message appears (Figure 16). Duration: up to 20 sec
j) A gray Screen appears. Some small pictures (icons) may appear beginning from the lower left corner to the right. (Figure 17) Duration: from 2 seconds to 2 minutes depending on how many extensions are loaded.
k) The Finder (The Workspace of the Mac) appears, with Menus, Windows and the Mouse (Figure 18)

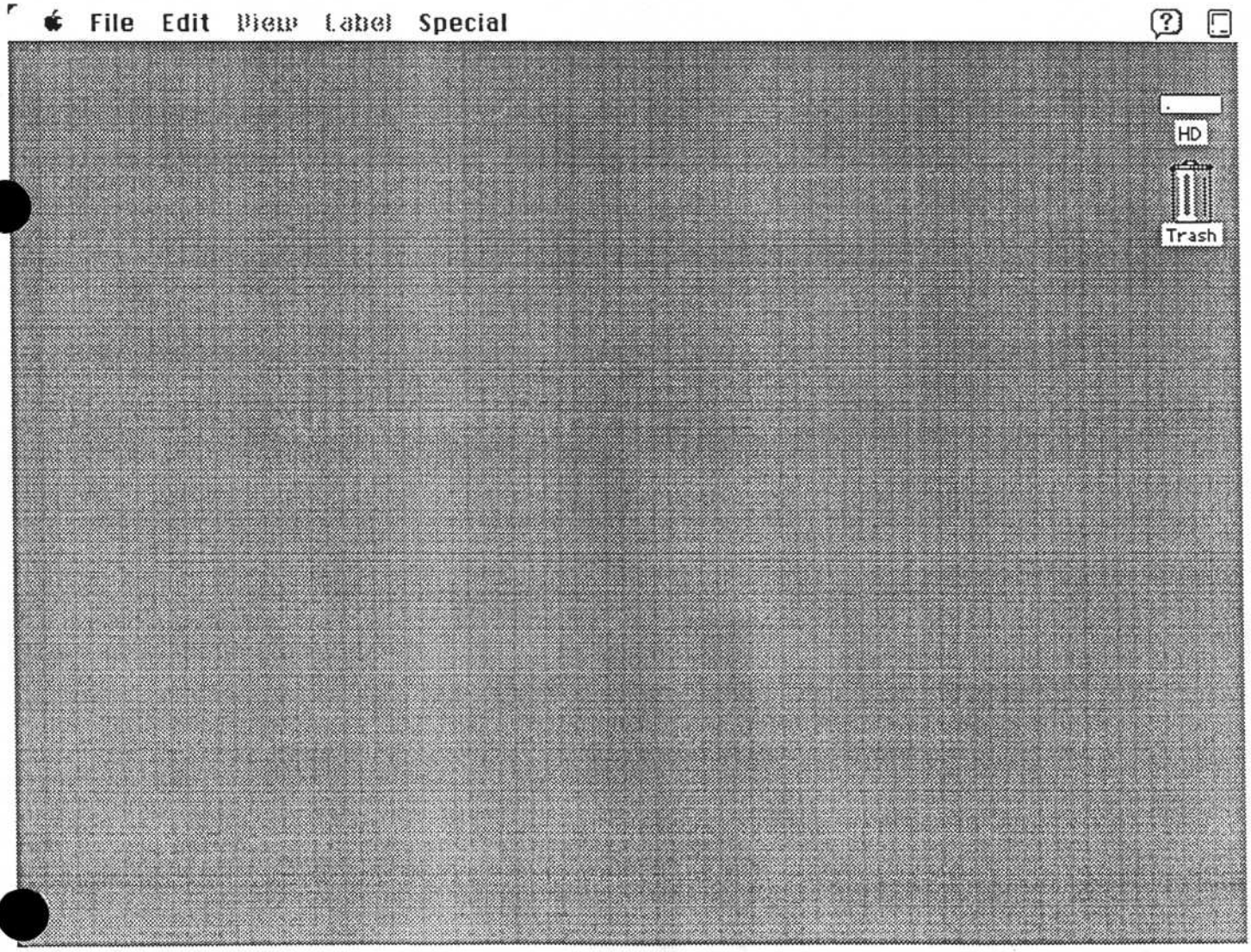


Figure 18: The Macintosh Finder

Step 10

Now, you're up and running.

You can now play a bit with your 'new' computer. As you're probably quite happy now, it's time to remember that:
You should get a full version of System 7.1 from an Apple dealer. You are probably unfamiliar with the Macintosh, or it's a long time since you have used one. So,

PLEASE #1: Read the Manual that comes with System 7. It's good. Usually, the beta-testers of daydream asked more questions related to the Macintosh than about daydream.
PLEASE #2: Don't use old Software. The 'old days' of the Mac System are years behind, and most Software products out of this time don't even work on a real Macintosh today. So, don't be surprised if such software does not work with daydream, too.

STEP 11

You couldn't withstand the temptation, you have run old & buggy software. The System hangs.

Ok, everybody has some old Mac disks somewhere, we know. You can restart the System by

1) pressing Alternate-Command-Esc, or
2) Command- ~ (Tilde, top-left on the numeric keypad) , or
3) Alternate-Command-* (Star, on the numeric keypad).

[1) tries to terminate the current application; you must restart immediately.
2) restarts the Mac System without reloading Daydream, and
3) restarts the NeXT Computer totally.
Note that there are some cases when not even 3) works as some old versions of the NeXT Boot PROMS don't restart the hardware completely. A hardware error can be displayed, but this is actually a software error, and does not influence the operation of the System.]

It is not at all usual that the System hangs or crashes. Crashes mean that erroneous software is installed, and therefore it's likely that the problem will occur again. If a problem occurs more than twice, you should try to correct it.

STEP 12

Shut down the System
To shut down the System, choose 'Shut Down' in the 'Special'-menu in the Finder.

— or —
Return to NEXTSTEP
If you want to return to NEXTSTEP, hold down the Alternate-Key while choosing 'Shut Down' in the 'Special'-Menu, and keep it down till the screen goes black.

Files used by Daydream

Once Daydream is installed on your hard disk, you'll see the following files:

- daydream (on the root [of the boot device])
- Mini7.daydream (on the root [of any attached hard disk]), and
- Daydream.app (no specific location required)

Figure 19: The files used by Daydream

The daydream Kernel

The daydream file is the most important file: It's a so-called Kernel and contains the functionality of the Daydream product. This is the only file which is really necessary – you can run Daydream without any of the other files.
In addition to the basic functionality, this file also stores your configuration information. That's why you should never move a Daydream file from one NeXT to the other the files contains 'personal' information about your NeXT computer hardware, and moving it could cause strange effects.

The Daydream.app application

This is a simple NEXTSTEP-based program used to configure Daydream, and also used to start Daydream. The configuration gathered by this application is written into the daydream-Kernel, that's why you should run the Daydream.app at least once before using the Daydream product on a particular computer.

The Mini7.daydream Disk-File

All files with the ending .daydream are so-called Disk Files. Disk Files are containers for virtual Macintosh-Formatted hard disks. These Disk-Files are important, because they save you from buying a separate hard disk for Daydream.
Daydream comes with one such Disk-File, the Mini7.daydream file. This Disk-File has a size of approximately 15 MB , and contains a minimal System 7 Operating System, installed and ready-to-go.

When daydream starts, it looks for files
1) having a name ending with .daydream, which are found
2) on the root directory of every hard disk.

If such a file is found, it is used as if it were a Macintosh-Formatted hard disk. You can have multiple Disk-Files on multiple hard disks at the same time. You can also copy them, or move them to other computers using NEXTSTEP. You will in these cases copy or move the entire content as seen in the Macintosh Finder.

Disk-File as it appears in NEXTSTEP is shown on the right in the following drawing. The content as it appears under System 7 is shown on the left.

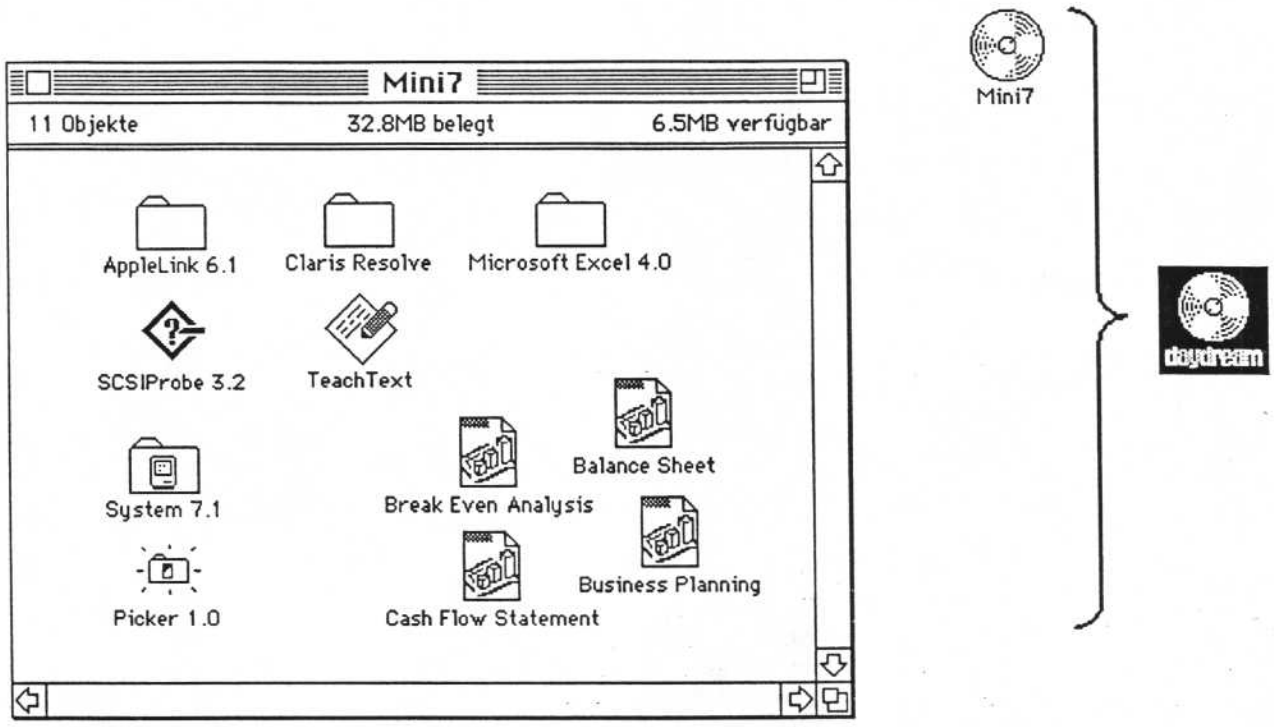


Figure 20: A Disk-File under NEXTSTEP is a container for Macintosh Files.

NOTE: The name of the Macintosh Disk (left) is not necessarily the same as the name of the disk file (right). Although Daydream usually uses the same name for both, it is possible to change the names later. These changes will not be visible 'from the other side of the system', and it's best to avoid confusion by not renaming Disk Files at all.

Disk-Files are important, but are not absolutely necessary for operation:
When no Disk-File is found, your computer will behave like a real Macintosh having a NeXT-Formatted hard disk attached: As a Mac can't use NeXT disks, you'll see a blinking disk icon in the middle of the screen, meaning: The 'Mac' in your Computer hasn't found a bootable disk.

If this happens, you're still not lost. You could start daydream with the EMERGENCY DISK that comes with Daydream: This is a standard Macintosh formatted Floppy containing a System 7. Daydream will then boot from the floppy, a slow process.
Another way to use Daydream running without a Disk-File is to attach a Mac-Formatted hard disk, Removable or Optical, containing a System 7 (for the Macintosh LC). This is comparable to a real Mac, using a real-Macintosh-formatted hard disk.

The Daydream.app application in detail

This is the program used to setup and configure some parts of daydream. In addition, you use it to **start** daydream, probably it's most important function. The application runs under NeXTSTEP 3.x.

Figure 21

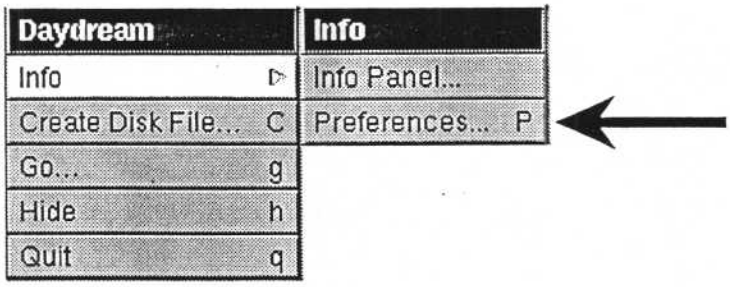


Figure 22: The 'Info' menu

Preferences...

First, let's check the configuration settings. Please choose the menu item 'Preferences' in the 'Info' menu (Figure 22)

The following dialog box appears:

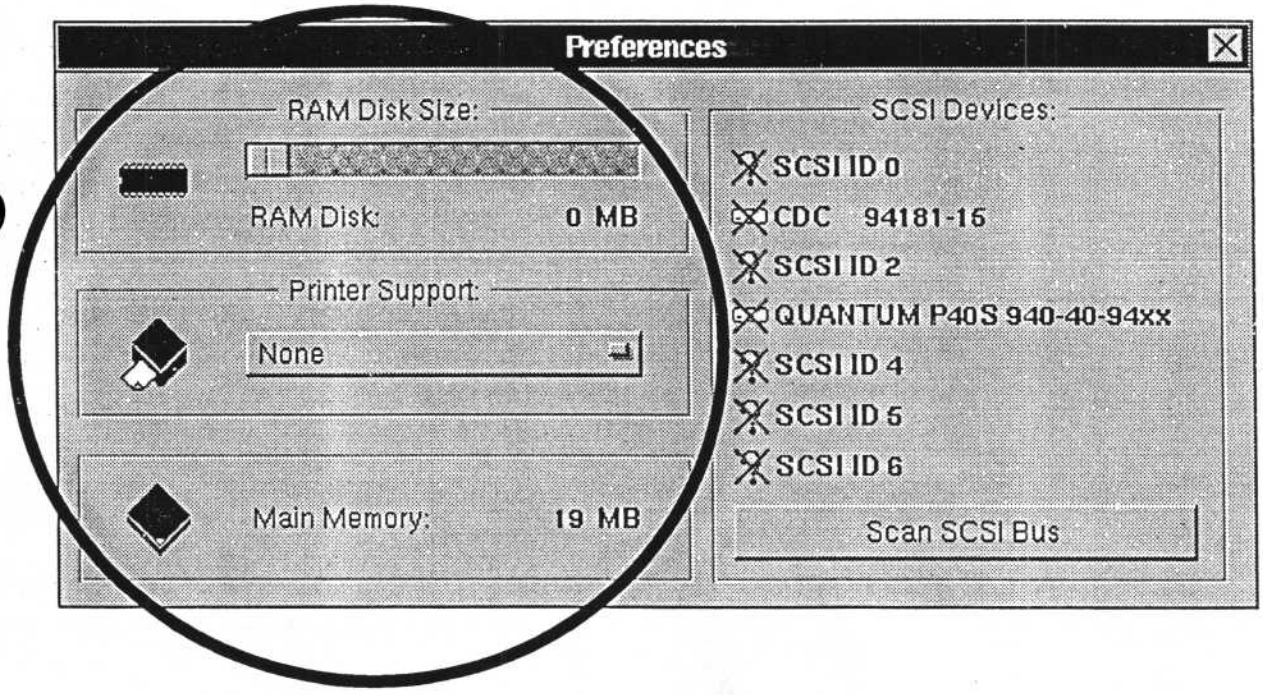


Figure 23: The Preferences dialog box

In this dialog box, you will do most preference settings for daydream.
First, let's have a look at the memory settings, the circled part on the left side of the dialog box.
This part lets you define how you want to use your RAM memory. As a Macintosh generally requires less RAM than a NEXTSTEP system, you probably already have enough RAM installed to run comfortably.

Here are explanations for the settings:

- **RAM Disk Size...** ... should be zero for a standard installation.
You can use parts of your RAM as a very fast disk drive, but the memory used for such a RAM disk is occupied, and can't be used for anything else. In addition, a RAM disk loses its contents when the system is

turned off (or resetted), so you should never store important data on a RAM disk.
RAM disks are used for somewhat special installations only, so the suggested RAM disk size is zero, meaning no RAM Disk at all.

- Printer Support... ... should be set to 300 or 400 dpi if you have a black NeXT Laser Printer attached. If you have a different printer, or no printer at all, set this to zero.
This menu reserves memory for the NeXT Laser Printer. It's necessary to reserve the memory for a page in order to ensure reliable operation of the printer with as many applications as possible. By selecting 300dpi or 400dpi, you specify the quality your printer will print. 300dpi uses 1 MB RAM, while 400dpi uses 2 MB.

- Main Memory: This field displays the amount of memory remaining for use by your Applications (and the System Software). It's calculated as follows:
(Remaining Main Memory) =
(Installed RAM Size) — (RAM Disk Size) — (Printer Support Memory) — 1 MB

NOTE: You should avoid configurations with less than 8 MB of Main Memory remaining.

- SCSI settings: These settings influence the *visibility* of attached SCSI devices.

NOTE: For an explanation of SCSI, SCSI Devices, cabling, terminators or SCSI ID's turn to the NeXT user reference manual. Also, the documentation for the Apple System 7 contains information about SCSI.

If you have SCSI devices attached to your NeXT (and if they're turned on), the list will show each device with an Icon, and with it's SCSI ID. You might have to click on 'Scan SCSI Bus' in order to 'see' all devices. Here's an example:

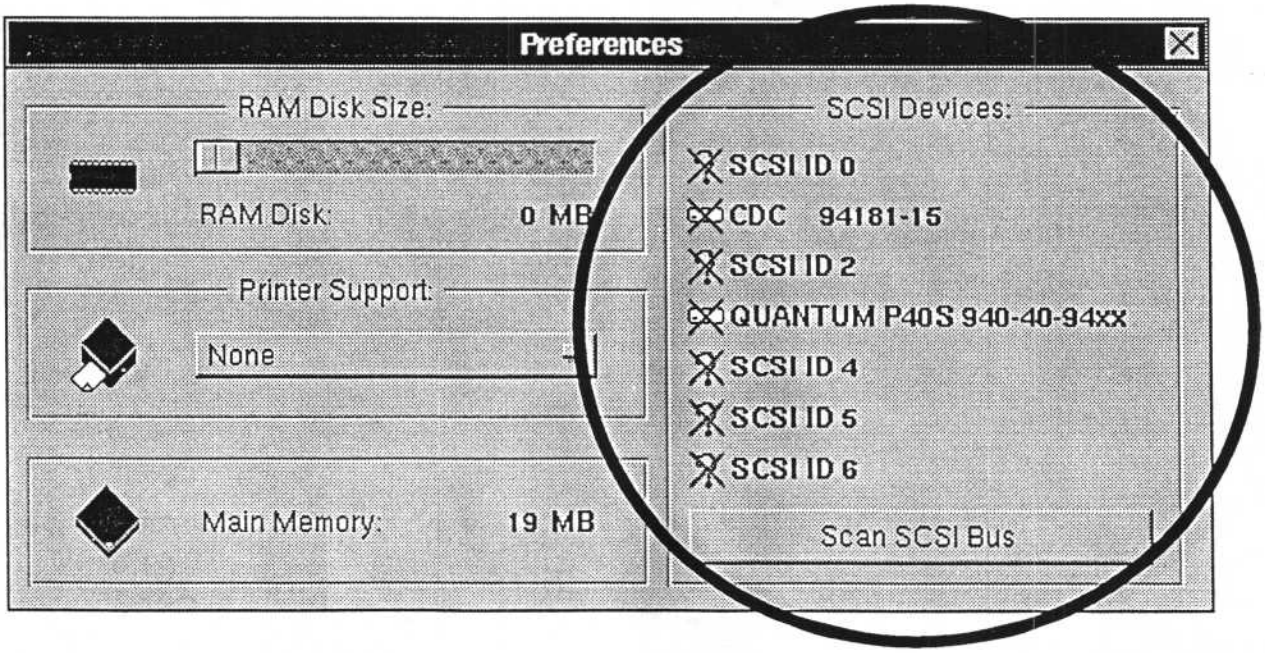


Figure 24

As you can see, every device shown is striked thru. **This means that the device is not visible in Daydream. It's as if it would not exist.**

You can **enable** a device (make it visible) by clicking on it's icon, like it is done in Figure 25. Now the device is enabled: It's no longer striked thru. Such a device can be used under Daydream.

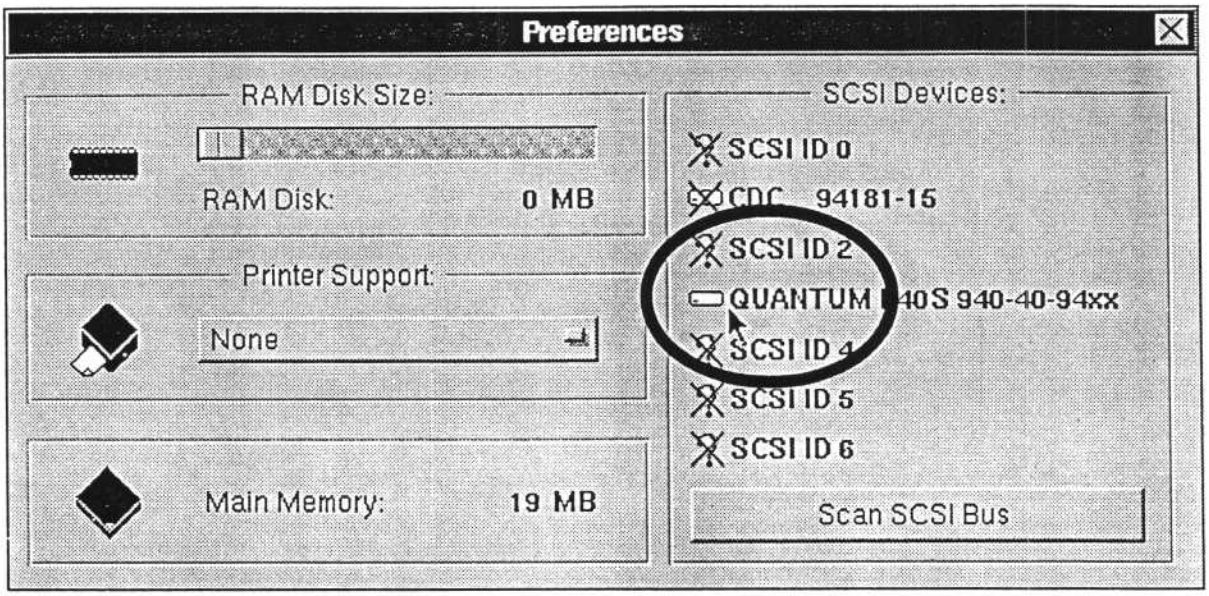


Figure 25: Enabling a SCSI device

IMPORTANT NOTE: You should not enable devices which are not existing. Doing so will cause a delay of 10 sec. for every device not found later.

IMPORTANT NOTE: The mechanism of hiding SCSI devices was created to provide an additional protection for your NeXT-formatted disk drives. You should leave them invisible, thereby preventing Macintosh Applications (like hard disk Formatters) from tampering with your NEXTSTEP-based data.
On the other hand, if you don't protect your NEXTSTEP-formatted hard disk, NO immediate danger exists.

TROUBLESHOOTING TIP: IF YOU CAN'T ACCESS A SCSI DEVICE FROM DAYDREAM, BE SURE TO CHECK THIS LIST IF IT'S VISIBLE

Create Disk File

As described above, Disk Files are container Files in NEXTSTEP; they contain virtual Macintosh hard disks, and make it possible to use Daydream without the need for a Mac-formatted hard disk.
Daydream comes with a 15 MB large Disk File, but in most cases this is not enough. You may want to use additional Disk Files to be able to use more space of your hard disk under System 7.
Here's how to create an additional Disk File: Choose 'Create Disk File' in the Daydream.app Application. The following dialog appears:

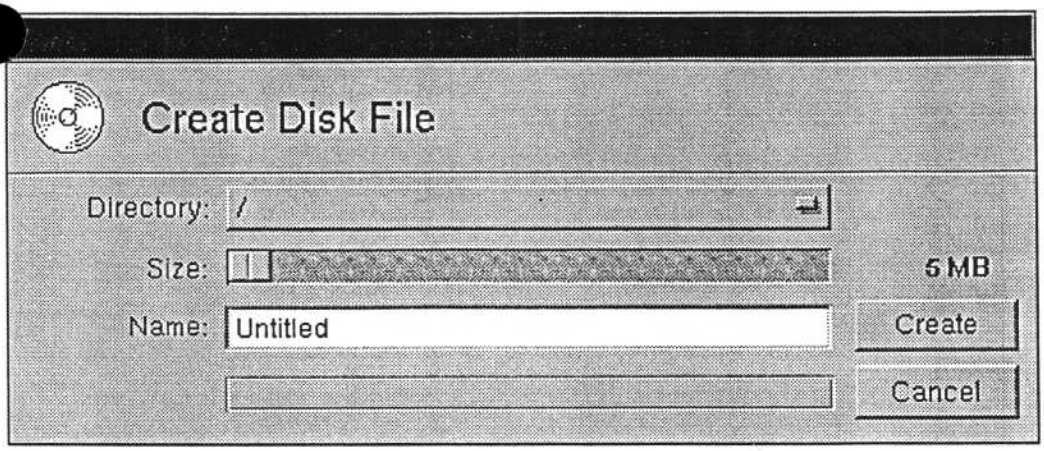


Figure 26

First, decide on which hard disk you want to create your Disk File. Choose the Disk in the upper part of the dialog, labeled 'Directory'. If you have only one disk, you can not switch to a different disk.
Then, set the size of the Disk File with the slider. The size on the right shows how much space is used under NEXTSTEP. There are some conditions which may narrow your choice:

- Disk Files must have a minimum size of 5 MB
- Some free space for NEXTSTEP must remain. (10% of entire Disk)

Both conditions are checked: The slider shows 5 MB on the left and the maximum you can use when it's on the right. If space is very tight, you might even not be able to create a disk file at all.

Once you have set the size of the Disk File you want, click on 'Create'. Now, the File is created for you, and the progress bar shows how long it will take. It can take a few minutes for large Disk Files.

Some notes: There can be several Disk Files on several hard disks at the same time. Disk files can have equal names as long as they're on different hard disks. It's possible to move and copy Disk Files under NEXTSTEP, even across the network. Disk files can be made 'inactive' for Daydream by renaming them (e.g.' Mini7.daydream' to 'Mini7.daydreamxy'). But be careful: Disk Files often contain many files and a lot of work, but appear in NEXTSTEP as just one file. On the other hand, if you make a backup copy of a Disk File under NEXTSTEP, you have backed up all Macintosh Files contained.

Configuration Settings under System 7

The following paragraphs provide some configuration hints (related to Daydream) for System 7. Also, refer to the manuals from Apple.

About System 7 Control Panels

System 7 uses a concept of so-called Control Panels to make configuration settings. These Control Panels are special small programs that are found in the 'Control Panels' Folder within the System folder. You can reach them with the 'Control Panels' entry in the Apple-Menu.

Memory Control Panel

The Memory Control Panel is used to tell the Mac how to use the RAM memory installed.
Here are explanations for some settings:

DISK CACHE: In the upper part, you can enter how much RAM you want to use for the Disk Cache. The Disk Cache is some kind of intermediate storage used to speed up your hard disk. Now, you would think: The more, the better, the faster! But performance measurements have shown that too much makes it slower again. You should set this value somewhere between 128k and 1 MB, 512k is recommended.

32 BIT ADDRESSING:
You should enable 32-bit addressing. The old 24bit mode was used for incompatible software, but limits memory use, wasting valuable MB's.

Startup Device Control Panel

This Panel lists the 'Disk Drives' currently in use, and marks the drive used for starting the System the next time.

Usually, the Mini7 is marked, meaning System7 will try to boot from the Mini7 Disk-File the next time. If you have a RAM-Disk installed and if it contains a bootable System (e.g. a System Folder), you can mark the RAM-Disk as your Startup-Device by clicking at it.

NOTE: You can't choose WHICH DiskFile is to be used on the next startup. The Control Panel will only remember THAT you wanted a disk-file for startup, not which one.

General Controls: Setting the Clock?

The 'General Controls' Control Panel offers a variety of settings. Among them, you can set the clock and the date for your system – on a Mac! Under Daydream, setting the clock is not allowed as this would heavily influence the NEXTSTEP System, especially if you could set the clock back.
You must set the clock under NEXTSTEP.
Sound Control Panel:

As sound is generally not supported, you should set the sound loudness to zero. This will make the menu bar flash when the system beeps.

Network

IMPORTANT NOTE: As the NeXT hardware has no LocalTalk network, never switch to the LocalTalk Port in the Network control Panel. Doing so will hang the System. (This is the only direct action which makes the system hang!) IF the System hangs, restart by pressing Command-Tilde (top left of keypad)

Control Panels and System Extensions: Let's have trouble.

The following paragraph applies both for Mac's, and NeXT's running Daydream:

While Control Panels are most often used to setup a Macintosh system, they sometimes can add functionality to a Mac. Also, System Extensions add more functionality to your Mac. As it is very easy to 'install' Control Panels and System Extensions, many Mac users gather such puzzle pieces from wherever they can, and

Install all and everything to make their Mac as powerful as possible.
Now, you might have discovered that this description was ironic – it was: The message is that System Extensions and Control Panels are not toys; many of them prove to be useful and stable, but at least as many prove to be absolutely useless, unstable, and insane. Please: Install only what's necessary. If you have more than 10 showing up during startup, you should review them.

System Extensions and Control Panels are the most likely source for software problems on your Macintosh. If the system hangs before you see the Finder, if some Applications crash or if the system crashes once or more per day, it's often a problem with a System Extension.

IMPORTANT NOTE: To turn off System Extensions, press the Shift Key after the KeyDown Icon appears on System Startup. Hold the key till 'System Extensions disabled' is displayed below the 'Welcome to Macintosh' Message.

Differences between Daydream and a real Macintosh

This chapter describes the remaining differences between Daydream and a real Macintosh in detail. Also, features are listed.

The SCSI cabling System

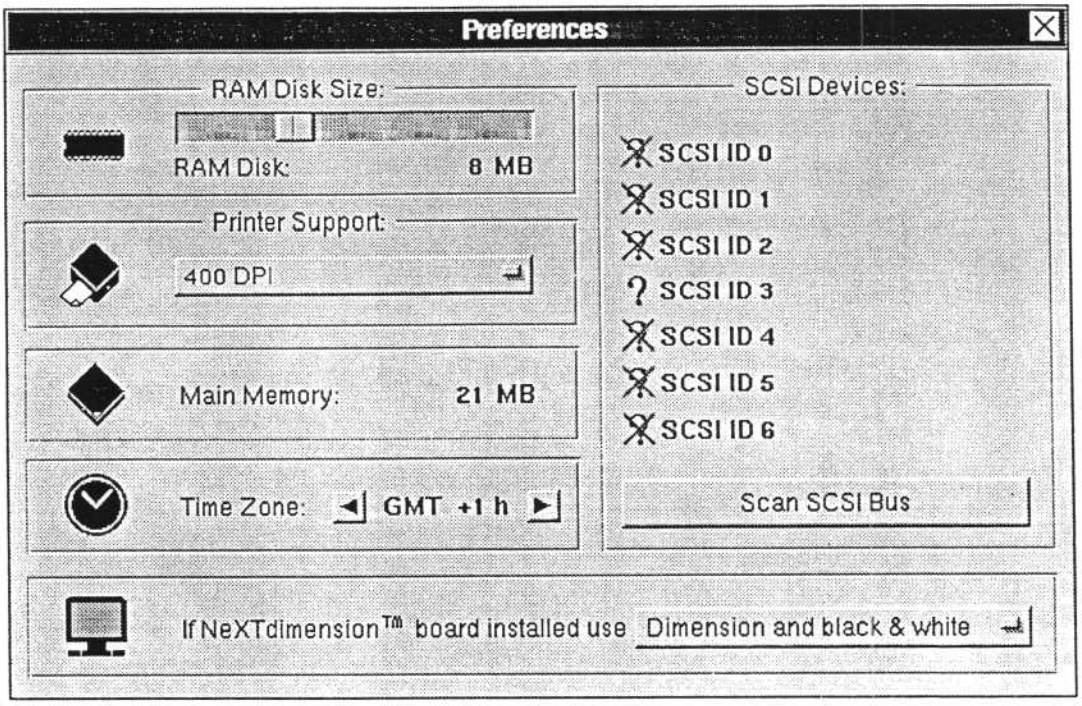
Cabling System is actually a misnomer, but it's what you see form SCSI, the Small Computer System Interface. SCSI is a standard for attaching peripheral devices to your computer. Even devices built into your computer are connected via SCSI, like your internal hard disk.
External devices attached by SCSI are hard disks, Removable hard disk Drives, Optical Disk Drives, Scanners, and some (Color-) Printers.

NOTE: SCSI is the nightmare of many computer users and system administrators. In most cases, the reason for improper operation are bad cables and incorrect termination. For proper termination rules, turn to the manuals that come with System 7 or your NeXT Computer. Also, please note that with SCSI, Cables and Devices can't be separated into 'good' and 'bad', as many bad cables and devices work fine under most circumstances. It's the combination that makes the difference.

IMPORTANT NOTE: You must turn on all external SCSI devices before powering on your Computer.

Compared with a real Macintosh...
Both the Mac and the NeXT have SCSI ports. The SCSI port on the NeXT has a different hardware compared with a Mac. Daydream tries to cover these differences.
The remaining difference is that SCSI Tape Drives usually don't work correctly with the NeXT. Other devices work; hard disks, SyQuest Removables, Optical Drives, Scanners and SCSI-Printers have been tested.

Troubleshooting SCSI
As mentioned above, hardware is the most serious problem with SCSI. Check Cables, termination and SCSI-ID's.
You can get an overview which SCSI devices are attached to your NeXT using the Daydream.app application (in the Preferences menu)
IMPORTANT: MAKE SURE THE SCSI DEVICE YOU WANT TO USE UNDER DAYDREAM IS ENABLED (MADE VISIBLE) IN THE Daydream.app SETUP WINDOW.



Time Zone settings and NeXTdimension settings are new fields in the Daydream.app preferences settings.

Please choose one the following settings:

- *If you have a NeXTdimension-only system* (there is no black and white monitor attached), choose 'Dimension only'

- *If you are using a NeXTdimension and a black & white screen at the same time*, choose 'Dimension and black & white'

- *If you don't want to use a NeXTdimension board* you may have installed, choose 'Black & white' only in the Daydream.app

If configured, the NeXTdimension board is automatically recognized by Daydream and is used as a 24-Bit color display, providing a range of 16.7 million colors.

If you are using both the black&white and the NeXTdimension at the same time, the NeXTdimension appears as a second, additional display besides the black & white display. You can then arrange the location of your displays in the Monitors control panel under System 7. The two screens now offer a 'unified desktop', and you can drag windows between the NeXTdimension display and the black & white display.

IMPORTANT NOTE FOR NEXTDIMENSION BETA TESTERS: You must remove the ND_ptch file from your System folder prior to running Daydream 2.11.
If you see three monitors in the "Monitors" control panels, although only 2 monitors (ND and a Black-and-White) are installed, you still have this file in your System Folder.

Time Zone Settings
Since the Macintosh interprets the time zone differently than NEXTSTEP, you can now adjust your

time zone in the Daydream.app if necessary.

ddcfg
Two new options have been added to ddcfg, `-d` and `-f`:

The `-d` option starts daydream directly from ddcfg. It's equal to the 'Go...' menu item in the Daydream.app application.

The `-f` options are used in conjunction with an installed NEXTdimension board. If a NeXTdimension board is installed, you can use
`-f0` to enable the *black & white and the NeXTdimension display*,
`-f1` to enable the *black & white display only* and
`-f2` to use the *NeXTdimension display only* .

Examples:

`ddcfg -d`
Starts daydream

`ddcfg -f1 -i`
Enables only the black & white display (the NeXTdimension board is ignored) and prints the current configuration. The `-f0`, `-f1` and `-f2` options apply only to systems with a NeXTdimension board installed.

FOR A FULL DESCRIPTION OF DDCFG AND MDSKFILE, see changes for Version 1.43

Printer Driver
The printer driver now offers improved error handling and has been adapted to the new Daydream kernel. If you have an old printer driver installed, replace it with the new driver. Copy the file Printer from the Disk File MacSoft to your System-Folder.

IMPORTANT NOTE:
It is necessary to use the new printer driver Version 1.13, which is distributed with Version 1.46 and 2.11! Old driver versions (before 1.13) will crash the system.

VERSION 1.43

New EtherNet Driver
The Ethernet driver has been fully rewritten and supports the Twisted Pair cabling interface, as well as TCP/IP drivers. Data transfer performance is enhanced by about 20 percent.

New Serial Driver
The serial drivers have been fully rewritten, too. Hardware handshaking is now possible, which solves some remaining problems.

Sorted Disk Files
In the past, it was unpredictable *which* Disk File was taken as boot volume. To make life easier, Disk Files are now alphabetically sorted by the Finder volume name (**not** the Disk File name). During

startup, Daydream tries to boot form Disk Files in ascending order. This feature let you decide which Disk File is used for startup (e.g. "AHardDisk" will be taken before "BHardDisk").

Daydream.app
It's now possible to use the Daydream.app as non-root user. In order to allow this, you must set the suid (SuperUserID) bit in .../Daydream.app/Daydream to run Daydream as non-root user. Log-in as root, then issue

```
chmod -R u+s /Daydream.app
```

assuming that the Daydream.app file is on the root.

Changes for NEXTSTEP 2.x installations (Manual Page 41)

Network
The Ethernet address is now retrieved directly from the hardware during the Daydream startup process. This makes it possible to move a kernel from one computer to another without the need to run Daydream.app again.
For NEXTSTEP 2.x users, this means that you can connect to a network with no danger of address conflicts.

Disk Files and Configuration
On the Kernel&App disk you'll find two command line utilities ("mdskfile" and "ddcfg"). These provide a way to configure Daydream without using the Daydream.app. Copy them to your "/bin" directory. Use "mdskfile" to create a Disk File and "ddcfg" to configure daydream, as directed below. Again, these utilities provide the same functionality as the Daydream.app.

mdskfile
This utility will go through a dialog with you to create a Disk File. Confirm your inputs with the return key.
Attention: mdskfile will only issue a warning when disk space becomes tight for NEXTSTEP, so please don't continue unless you really know what you're doing.

ddcfg
Invoke ddcfg without a parameter to get a short help message.

The following options can be used with ddcfg:

`-p` *n* Sets the printer memory to *n* MB. Only 0 for none, 1 for 300 DPI and 2 for 400 DPI are allowed.
`-r` *n* Sets the Ram Disk size to *n* MB.
`-s` *n* Disables the SCSI device on ID *n*
`-S` *n* Enables the SCSI device on ID *n*.
`-i` Displays the kernel configuration **after** all other options have been applied to the kernel.
`-d` Starts daydream **after** all other options have been applied to the kernel.

The following options apply only to NeXTdimension systems:

`-f0` use both displays

`-f1` use only black & white display
`-f2` use only NeXTdimension display

The memory configuration is checked by ddcfg and corrected if necessary to ensure proper operation.

Examples:

`ddcfg -i -s0 -S1 -S2 -S3 -p1 -r5`
Disables SCSI ID 0 (`-s0`) (no matter whether it was enabled before or not), enables SCSI IDs 1,2 and 3 (`-S1 -S2 -S3`), setups printer memory for 300 DPI (`-p1`) and installs a 5 MB Ram Disk (`-r5`). Then the final configuration is displayed (`-i`).

`ddcfg -s0 -s1 -s2 -s3 -s4 -s5 -s6 -p0 -r0`
Disables all SCSI devices (`-s0 .. -s6`), no printer memory (`-p0`) and no Ram Disk (`-r0`).

`ddcfg -i`
Prints the current configuration

Decompressing Disk Files
If you are working with NEXTSTEP 2.x, it's not possible to decompress the shipped Disk Files by just double-clicking the icon. Here are the necessary commands for NEXTSTEP 2.x:

1. Open a terminal window as root user
2. Make sure you are in the root directory
3. Enter the following commands (boldface):

`turbo:1#` **`mv Mini7.daydream.compressed Mini7.daydream.tar.Z`**
renames the file "Mini7.daydream.compressed" to "Mini7.daydream.tar.Z"

`turbo:2#` **`uncompress Mini7.daydream.tar.Z`**
uncompresses the file "Mini7.daydream.tar.Z" to "Mini7.daydream.tar" (this will take a while)

`turbo:3#` **`tar xf Mini7.daydream.tar`**
extracts the file "Mini7.daydream" from "Mini7.daydream.tar" (this will take a while)

`turbo:4#` **`rm Mini7.daydream.tar`**
removes the file "Mini7.daydream.tar"

4. Now you have the "Mini7.daydream" Disk File ready to use with Daydream.

VERSION 1.41

ADB Support
The latest TURBO Computers from NeXT came with the new ADB [Apple Desktop Bus] keyboard and mouse. The ADB mouse is round, and the ADB keyboard has a green power-on key.
These (and other) ADB devices are supported now. It's also possible to use Apple mice and keyboards, or to attach additional ADB devices like Bar Code Readers, Graphic Tablets and Dongles. (Dongles are copy-protection modules, usually attached to the ADB-Port of a Mac)

The Ethernet Network

Compared with a real Macintosh...

Some Macintosh Computers have an Ethernet Port installed. The port found in the NeXT computer is comparable and provides comparably good performance.

The Serial Port

Compared with a real Macintosh...

The NeXT has (like the Mac) two Serial Ports on the rear. Daydream supports the operation of these ports with the following differences:

- No Hardware Handshaking
- Different Pinout compared with a Macintosh (... NeXT hardware is different...)

The ports offer the following benefit compared with a Macintosh LC:

- Sustained 57kbaud communication without lost characters

IMPORTANT NOTE: The Serial Ports 'A' and 'B' on the rear of the NeXT Computers all use the same connectors as the Macintosh Computers. THE PINOUT OF THESE CONNECTORS IS NOT COMPATIBLE: YOU MUST USE NeXT-SERIAL CABLES WITH YOUR HARDWARE. ALSO, MAKE SURE YOU GET THE RIGHT TYPE OF NeXT CABLE AS THERE ARE MAYOR DIFFERENCES EVEN AMONG 030based AND 040based NeXT COMPUTERS.

Oh, is it LocalTalk?

There is confusion between Serial Ports, LocalTalk and AppleTalk:

Serial Ports are often used for Modems, and serial (non-PostScript) Printers.

LocalTalk is a type of Network, comparable to EtherNet or TokenRing, only slower. LocalTalk is often used to attach (PostScript-) Printers to Macintosh Computers, or to build small and inexpensive Networks among Mac's and Printers.

AppleTalk is the former name of LocalTalk. Today, it refers to the software protocols used on LocalTalk, EtherTalk/EtherNet and TokenTalk/TokenRing. It's therefore no longer the same as LocalTalk.

On a typical Macintosh, LocalTalk uses the same CONNECTOR as the Serial Ports. Apple uses this scheme to save space and cost.
Generally, if a hardware device supports a Serial Interface, it does not necessarily support LocalTalk, and vice versa. For example, the Dayna LT200 Plug-in Board for PC Computers offers LocalTalk, but not support as a serial interface. And your Modem, certainly having a serial port, has no LocalTalk.
On the NeXT, the Serial Ports are supported. LocalTalk is not supported due to differences in the hardware.

The Apple Desktop Bus (ADB)

In the current implementation of Daydream, the Apple Desktop Bus is not supported.

The NeXT Laser Printer

The NeXT Laser Printer is somewhat special in the entire computer industry: It's dumb, meaning it it completely dependent of the NeXT computer. Also, it has no memory, and uses the memory of the NeXT Computer.
If you use the printer driver that comes with daydream, please refer to the documentation that comes with that particular version.

The Keyboard

The NeXT Keyboard is mapped to a Macintosh Keyboard: You can see the mapping in the Key Caps Desk Accessory (Apple-Menu).

The most important mappings are:

Macintosh Keyboard	NeXT Keyboard
Power	Power
Command	Command
ctrl	Control
Option	Alternate
Interrupt	Alternate - Tilde (Keypad, top-left)
Reset	Alternate - Command - Star (Keypad)
	Loudness: not used
	Brightness: press repeatedly

The Video Hardware

Compared with a real Macintosh...

... for a monochrome NeXT Computer

The monochrome Computers seamlessly fit into the Macintosh architecture. They offer 1120 x 832 Pixel with 4 Grayscales (2 Bit per Pixel)
Due to the good compatibility of this hardware, even the few Applications which write directly to the Screen work fine.

... for a [Turbo] ColorStation

Well, the Color Station and Turbo Color Station. We had our headaches. Here's the problem: These NeXT computers have a 12-bit per Pixel Video hardware. (Some NeXT catalogs claim a 16-bit Video, but if you open your computer you'll see the truth)
Due to differences between the Mac and NeXT architecture, color components get mixed up in some programs. (Only on the Screen, your documents are correct)
1120 x 832 Pixels at 12 Bit per Pixel (4096 Colors) are supported.

... for a NeXTDimension System

The NeXTDimension is currently not supported but will deliver 24Bit per Pixel Video.

The internal NeXT Floppy Disk Drive

Compared with a real Macintosh...

... with ED (2.8 MB) Disks:	Currently not supported as Apple does not support 2.8 MB Disks
... with HD (1.4 MB) Disks:	Fully supports Macintosh and PC-formatted 1.44 MB Disks
... with DD (700 k) Disks:	Fully supports Macintosh and PC-formatted 720k Disks
... with Apple 800k Disks:	Not supported due to limitations in the NeXT hardware

The NeXT Computers Compared with a real Macintosh

030 Cubes

The 030 Cubes are the oldest NeXT computers. While probably nobody wants to use them any longer with NEXTSTEP because they're simply too slow, 030 Cubes are still very usable as Macintosh computers. The Apple System 7 demands less computing power, and works faster on these Computers.
030 Cubes are comparable to a Macintosh IIci. The IIci is still used for desktop publishing today, with Word, Illustrator, Freehand and Xpress.
The limitation of the 030 Cubes is that they will run 24Bit addressing only, a restriction you can live with as it makes no sense to use an 030 with 32 MB of RAM.On the other hand, the 030 Cube has the hardware to support fast Floating Point arithmetics.

040 Cubes & 040 Mono Station

These Computers offer a lot of computing power, comparable to a Mac Quadra 900. The Quadra 900 offers amazing performance, and working with a computer in its class is a joy, no matter whether your work is ayout, Picture editing, Programming or Engineering.
With Daydream and System 7 you'll see an improvement in speed and response as compared with NEXTSTEP.

040 Color Station

The 040 Color Station offers 12 Bit color in addition to the 040 Cubes and Stations. We still have that bug in the video architecture which displays false colors in some Mac Applications..

040 Turbo Cube & Station

As you know, the turbos are even faster, a bit faster than a Mac Quadra 950 or 800, one of Apple's fastest Computers.
Read these lines carefully: Before November '93, the Turbos were faster than the Quadra 800-flagship from Apple. Only the brand new AV Quadra is faster! Your NeXT offers not only high-performance on the paper! It's real with Daydream.

040 Turbo Color Station

Here, the same 12bit - color problem applies as for the 040 color station: false colors in some applications.

040 Nitro Computers

s possible to equip the 040-based computers above with the Nitro Accelerator Board. NeXT manufactured nly a few dozen of these boards before they stopped the entire hardware line in February 93. The Nitro offers

MHz 68040 performance with 128 kB of secondary cache. It works fine with daydream, making the Turbo/Nitro combination again faster than the fastest Mac today.

The DSP Port and the Daydream ROM Box

The DSP Port is occupied by the Daydream ROM Box. Always connect it directly to the Port, and never plug or unplug while your Computer is turned on.

Plug-in Boards for Cubes

There are a few plug-in boards for NeXT Cubes available. These board are not supported unless its manufacturer writes a device driver for it.
Additional Information on how to write a daydream-device driver for a NeXTBus Board is available from QUIX.

The Daydream Startup Process

This section describes the Daydream startup process in detail. Also, the Why and How's are given to provide a full understanding of the architecture of Daydream.
The NeXT startup process is discussed with respect to start Daydream or NEXTSTEP directly, then the original Macintosh Statup Process is presented.

e NeXT Startup Process

First, let's have a look at the NeXT startup process as the first steps are common for daydream and NEXTSTEP.

Here's what happens when you turn on your Computer:

1) Several hardware tests are done, and the hardware is initialized

2) Additional tests are done according to the settings of your Computer. (See below: Changing the default startup kernel)
During this time, the 'Testing System' message is displayed on the screen.

3) The default startup kernel is loaded from the boot device, and executed. Usually, the 'sdmach' kernel is loaded to start NEXTSTEP. In the case of Daydream, a different kernel, the 'daydream' Kernel is loaded. During this process the 'Loading from Disk' Message is displayed; the disk icon begins to rotate during the load of the kernel.

4) After loading, control is given to the kernel. This is the last step which is common for daydream and NEXTSTEP.

The process of loading the right kernel is relatively important. Here is a description of additional mechanisms:

- You can take over control:
soon as you hear the 'boink', you can press Alternate-Tilde. A window will appear, asking for a command e typed. This is the ROM-MONITOR.

IMPORTANT NOTE: You must not press Alternate-Tilde **before** the 'Loading from Disk' is displayed, and not **after** the very beginning of 'Loading from Disk' (during the first second or so). If you press too early, you might experience strange effects in daydream, like a locked mouse pointer. If you press too late running NEXTSTEP, the File System will not like it.

Once you are in the ROM-MONITOR, you can issue commands, for example:

```
bsd daydream
```

boot-scsi-device **daydream**. This will immediately load Daydream without entering NEXTSTEP first.

```
bsd sdmach
```

boot-scsi-device **sdmach**. This will immediately load NEXTSTEP. (In most cases, just **bsd** is enough)

If the specified kernel is not found (e.g. because an external disk is not ready), the command fails and you'll have to press Alternate-Tilde again as the ROM Monitor will not accept further commands.

For the unix cracks, **bsd-s** might be interesting, as it will not boot full NEXTSTEP, and just open a text-style UNIX window. This is a single-user boot. To reboot, type

```
reboot
```

With the following ROM-Monitor command, you can change the default kernel used for startup. This kernel is loaded if nobody breaks the boot process. Here, we'll for example change the default kernel from 'sdmach' to 'daydream'. The result is that when you turn on your computer without intervention, it will boot Daydream. Also, if you no longer have NEXTSTEP on your disk drive, you must change this to daydream.

In the ROM Monitor, type

```
p
```

Now, you're asked for the default startup kernel. Type the new name: **daydream**
Many additional questions will be asked, you can skip them with CR.

If you have multiple hard disks attached
This makes the NeXT startup process a bit more complicated. The bsd commands above were given without explicit SCSI ID. In this case, the given file is searched on SCSI Disk ID 0 first, then ID 1 and so on till ID 6. But, fortunately, you can also specify a particular SCSI ID to be searched only. For a more detailed description on the NeXT ROM MONITOR, please refer to the manuals that came with your NeXT computer.

Last tip: If you have the daydream kernel on a floppy (as for example the daydream installation disk), you can boot Daydream directly from Floppy:

```
bfd daydream
```

stands for Boot Floppy Device. Once the disk is ejected, insert the System Emergency Disk that comes with Daydream. This disk contains a bootable Mac System. Booting from Floppy takes a lot longer (surprise!) but can be useful for small 'shock' demonstrations for all non-believers.

The Macintosh Startup Process

This section covers the Macintosh startup process as found on a Macintosh. The discussion may seem complicated as two Operating Systems are involved. The description tries to be as exact as possible, and is intended for advanced users or troubleshooters.

What is a Volume?

First, a definition: A Volume is what the Macintosh treats as a Storage Device with a fixed size. You store files and folders in a Volume.
Examples for a Volume are: A File Server, a Floppy Disk, A RAM Disk, or a hard disk partition. Attention: Not the hard disk is the volume, it can contain multiple Volumes in the form of Partitions.

Generally, a Volume is displayed on the Macintosh Desktop as an icon. Every kind of volume has its icon, although hard disks sometimes have very funny icons which have not anything to do with a disk.
When a Macintosh is turned on, or when the black 'initializing daydream' screen disappears, the Mac looks for a Volume containing a bootable System. Here's more about that process in detail:

1) If there's a floppy in the drive, try to boot from the floppy. If the floppy was not tasty, eject it.

Note: The floppy can be used to override any other bootable volume. This is the hook the Daydream Emergency Disk uses to get the System running.

2) The Mac looks at the Device defined as default in the Startup Control Panel. Usually, the hint from the control panel is good: The selected device is used to boot.

3) If this proposed device was neither tasty, the Mac looks for Macintosh-formatted hard disks starting from SCSI ID 6 down to ID 0. This continues till something bootable appears on the SCSI bus.

Let's have a closer look at what happens in step 2 and 3:
In step 2, the proposed volume from the control panel is examined. The following possibilities exist:
- It's a hard disk. In this case, the corresponding SCSI ID is tried.
- It's the RAM Disk
- It's a Disk-File.

The case of the disk-file is somewhat special. (Disk Files are Macintosh Volumes stored in NeXT-Files) If a Disk File is selected for startup, the control panel only remembers THAT a disk-file was selected, NOT WHICH ONE. Therefore, if you have multiple disk files containing a bootable System, you can't predict which one is taken as this depends on underlying NEXTSTEP data structures.

Once a good candidate is found, the happy Mac smiles at you. Later, the 'Welcome to Macintosh' message is displayed. To be precise, the Happy Mac shows that a System File was found, and the 'Welcome to...' message shows that the found System file is usable.

Installing Daydream on NEXTSTEP 2.x Computers

You should consider upgrading to NEXTSTEP 3.x. If you NEED to run Daydream on a Computer which is equipped with NEXTSTEP 2.x, you should first read the instructions for NEXTSTEP 3.x, and then follow the instructions given here:

The sole problem with NEXTSTEP 2.x is that the Daydream.app Application can not be used. You can therefore NOT make configuration changes, and you'll have to rely on the standard settings of the Kernel as it comes from QUIX.

Here are the settings:

- SCSI ID 3 enabled, rest disabled
- No RAM disk enabled
- 2 MB Printer Memory enabled

These settings are useful in most circumstances. Also, you must not have more than one NeXT with Daydream running on a Network, because the Ethernet address is stored in the Kernel, and equal Ethernet addresses lead to mayor network problems.

There's how to install and run Daydream on NEXTSTEP 2.x:

- Copy the daydream and Mini7.daydream files to the root-directory of your disk.
Daydream is now installed.
- Open a shell window (in Terminal.APP) and type

```
reboot "sd daydream"
```

The system will now shut down and reboot with Daydream.

NOTE: It is possible to configure a Kernel on a NeXT Computer running NEXTSTEP 3.x, and then use it on a different Computer, running NEXTSTEP 2.x. In that case, you MUST ensure these two computers are not on the same network, as they will 'carry' the same Ethernet Address.

IMPORTANT NOTE: It's best if you connect a NEXTSTEP 2.x Computer running Daydream NOT AT ALL to a network.

How to use the Daydream Emergency Disk

Daydream comes with a Disk which is actually not required for installation and use: It's the third Disk, the Emergency Disk.

The Emergency Disk is a Macintosh-formatted 1.4 MB Floppy Disk which contains a standard System 7 Installation (for the Macintosh LC). The Disk works on a Mac LC, too.

If you should ever be in trouble, and can't get your System running because the Operating System is damaged, or because there is a problem with device drivers, you should use the Emergency Disk as a resort:

Instructions if Daydream is installed:

1) start Daydream, wait till the black 'initializing daydream' screen appears,
2) insert the Emergency Disk

Your computer will now begin to boot from Floppy, a slow process.

structions if Daydream is not installed:

1) Attach the ROM Box
2) Turn on the System
3) Press Command-Tilde immediately after 'Loading from Disk' appears
4) insert the 'Daydream Kernel&APP' Floppy
5) type **`bfd daydream`** and press the Carriage Return key
6) wait for the black screen, then for the gray screen
7) the floppy is ejected
8) insert the Emergency Disk
9) press Command - Tilde (top-left on the keypad) to restart booting.

Your Computer will now boot from Floppy.

STEP 13

Where to go from here

You now have successfully installed daydream. Now, some literature about the Macintosh System (7) would be a good idea — Magazines like 'MacWorld' provide a lot of useful tips and tricks.
The more you get used to the Macintosh System, the easier you'll find working with it. And after a few days of intensive work with the system, you'll be able to accomplish more complex tasks.
PART 2 of this manual will help with specific information about daydream: Please read Part 2 entirely after a couple of days using daydream.

IMPORTANT NOTE: This manual will not try to explain the operation of the Apple Macintosh System or third party application software. Please refer to the manuals that come with System 7, or to the documentation that comes with the application software you're using.

PART 2
Reference

This part of the manual gives you specific information about Daydream. Even if you're not looking for specific information, you should read this section at least once. Part 2 is a reference section, although care has been taken to make it readable and understandable for a first time user. It covers the basic concepts behind Daydream and explains the technical background.

First, the files used by daydream are discussed, followed by the Daydream.app application and configuration settings under System 7. You can follow the discussion with your computer if you want.
Later, the differences between Daydream and a real Macintosh are listed.

Daydream.app application. Refer to the Daydream Manual, Page 24/25.

REMOVED BUGS

VERSION 2.11

Early keyboards
Some early keyboards have one key more than all following models: the 'backslash' key (\ ) just below the 'backspace' key is now working.

VERSION 1.46

colorFix
The long awaited fix for false colors in Adobe Photoshop and Illustrator is now available. Copy the system extension colorFix form the Disk File MacSoft to your System-Folder. Besides the right colors in Photoshop and Illustrator, a lot of other applications will now display accurate colors.
- Text selections are now visible (independently of the highlight color you've chosen.)
- The overall graphics performance on color systems is enhanced by approximately 100%.

Do not install the colorFix extension on a black & white machine It has no effect. Also, the colorFix is not required on NeXTdimension systems.

VERSION 1.43

- TCP/IP and Twisted Pair for Ethernet is working
- Serial Handshaking is working
- On NeXT Cube systems, the second half of the memory on the main board is now detected and used.
- A minor SCSI Bug has been fixed which caused certain drivers to delay over a minute.
- The Daydream.app is now more tolerant when deciding whether to allow the creation of a Disk File.

VERSION 1.41

- The Apple Installer sometimes installed buggy system software, which then failed to boot. This bug was the main reason for emergency calls in the past. It was caused by a memory management problem.
- The printer driver displayed a wrong dialog when there was no memory allocated. It displayed that it needs 32-bit addressing, instead of telling there's no memory for the page.
- On 68030, the 32-bit addressing mode is now enabled.

KNOWN BUGS

A problem is found with some **SCSI** Devices (like Hard Disks and Scanners) which prevent Daydream from recognizing a bootable Disk File. In that case, Startup Step h) [see page 17 of the manual] does not happen; instead, a disk icon with a cross or a question mark is displayed. The System does not boot.
To explain what happens: There's a SCSI device attached (or in) to the NeXT which behaves unexpectedly and blocks the SCSI bus. With a blocked SCSI, the System can't start. The problem of blocking the SCSI is temporary and affects System Startup only.
Some users have reported this phenomenon caused by Scanners, e.g. the HP ScanJet IIc. The solution with Scanners is simply to turn them on when the System has started up, Step k) [page 18]. In other cases, this 'blocking effect' was caused by a Fujitsu 1 GB Hard Disk Drive. One solution was to configure the Hard Disks jumpers differently, setting them to
- Asynchronous Transmission
- SCSI 1
These settings work both with NEXTSTEP and Daydream. You might think that your Drive will be slower, but that's not true: SCSI1 is in **no way** slower than SCSI2 (as opposed to what you read everywhere), and Synchronous Transmission serves nothing with the NeXT SCSI implementation.
Another solution was found with an experiment: The blamed Fujitsu was found on SCSI ID 2, a SyQuest 45 MB on SCSI ID 3. The System did not start. When the SyQuest was moved to SCSI ID 4, leaving SCSI ID 3 unused, both devices worked fine. It might therefore be a good idea to leave unused SCSI ID's between problematic devices.

In general, if you can't get up and running, it might be a good idea to disconnect external SCSI devices from your NeXT and try again. It could be that there's a problem in your SCSI System which simply did not show up under NEXTSTEP.
If this does not work, go back to the roots, check the installation (are the files in their correct places?) and try to boot from Floppy (for Instructions see Page 42 of the Daydream Manual)

Note: With Daydream 2.11, the SCSI manager became much more tolerant - so the problem with certain SCSI devices may be solved.

ADDITIONAL HINTS

Messages during System startup

When you start Daydream as it comes [with the System Software included with Daydream] you'll notice some effects:
During the System startup process, the message **'A driver for the selected Appletalk connection could not be found. The built-in LocalTalk port will be used instead'**
Don't worry. The same happens on a Mac when only a restricted version of the Apple System 7 is installed. It's actually the lack of a valid 'EtherTalk' file in the Extensions folder. When you install a full version of System 7.1 an appropriate file will be installed.

DAYDREAM 2.11
READ ME

Welcome to Version 2.11 of Daydream.
We at QUIX are pleased to announce that Daydream...

- **Fully supports System 7.5**

- **Displays true colors on all NeXT² Computers,** and works with Illustrator and Photoshop

- **Is internally prepared to operate on *PowerPC* -based computers.**
  See below "Internal Structure changes"

Furthermore, parts of the boot process have been adapted and are fully compatible with the Macintosh now. SCSI has also become more tolerant.

PLEASE CHECK YOUR PRINTER DRIVER VERSION! (see next page)

- **CD-ROM Primer**
  For how to install a CD-ROM drive, see the end of this document.

Changes in 1.46 and earlier may be new for you as well, so please read this document entirely...

CD-ROM drives.
Our Documentation says that no special SCSI Drivers are necessary for Daydream, and that Macintosh SCSI-Drivers can be used.
Therefore, many of our customers installed the Apple CD-ROM driver for their NeXT CD-ROM.
Unfortunately, the Apple CD-ROM driver checks whether there is really an *Apple* drive out there. The drive, on the other hand, returns 'NEXT' as manufacturer, so the Apple driver refuses to talk to this device. Apple obviously developed this driver for *their* CD-ROM drives, and not for NeXT's.
Solution #1: There are several CD-ROM driver packages sold thru Apple dealers which accept all brands of CD-ROM drives.
Solution #2: Modify an existing driver, if you're a hack and if it's permitted in the software license agreement that came with the driver.
We are sorry we can't include a patched CD-ROM driver with Daydream.

System version

You must use Apple System **7.0, 7.1 , 7.1 PRO** or **7.5** Software for use with Daydream.

New Mac users

The following section gives useful information about configuring System 7. This information can be retrieved from the Apple Manuals, it's presented here again as new Macintosh users often run into the same problems.

How to install a full version of System 7.1
Daydream comes only with a minimal Version of System 7. You need to get a full package of System 7 (or later) from dealer.
Then, start Daydream. Insert the Installation (#1) disk into your drive. Double-click the Installer. When the 'Welcome to the Apple Installer' appears, click OK.
Then, you'll enter the main screen. **Don't click on install now**, as this would not install a full version. **Click on 'customize'.** You'll enter a second screen.
Now hold the Shift key and select
- File Sharing Software
- EtherTalk Software
- Software for LaserWriter
- System for Macintosh LC & LC II

from the list on the left. You may need to scroll thru the list with the arrows.

Once you have selected these options (check it now), click on 'Install'. The installation process begins now, asking for several disks. It ends by restarting your Computer.
Now, a full System 7 has been installed, with a PostScript printer driver, and all Control Panels.

NOTE: Please refer to the manuals that come with System 7 for a full description on how to install.

What to do if your files all look like documents.
When control panels and other files look like documents, it's time to re-build your Desktop File. This is not tragic, and many Macintosh users do this once a week.
So, restart your System, and hold the Alternate and Command keys. Please don't let go until a dialog box appears: "Are you sure you want to rebuild the desktop file of.... " Click OK if the name of your Hard Disk is shown.
The process of rebuilding the desktop file takes some time, depending on how many files are on your hard disk. The desktop file is actually a database storing all the icons used by files.

CD-ROM Primer

How to install a CD-ROM drive

40% of the support question we have seen about Daydream have to do with attaching and using

NOTE that the Tilde key is found below the right shift key on NeXT ADB-Keyboards.

Floating Point Support
The 68040 FPU is now supported. This greatly enhances the speed of calculation-intensive applications. Also, Adobe Dimensions and Mathematica are now working.
Generally, the roots of the Macintosh LC (in the ROM's) have gone. Daydream much more resembles a Quadra than a Mac LC.

Screen Saver
The built-in Screen Saver dims the screen after a while. As soon as you move the Mouse, it restores the previous brightness.
Screen Savers not only save the quality of the image produced by your monitor, they mainly help to save energy.

No KeyDown-Icon
The KeyDown Icon no longer appears during the startup process. (Step g) on page 17 in the Daydream manual is no longer needed)
So, if you are in emergency and want to start without System Extensions, you now press the Shift key before the System begins to start up, as on a Macintosh.

The KeyDown Icon no longer appears when Daydream starts up.

NeXT Laser Printer Driver
This long-awaited piece of software has now been finished. The Printer Driver is found in the MacSoft Disk File.

Please **copy this Driver** to your System Folder on your Hard Disk. It must be in the Extensions folder of the currently active System Folder.

To use a printer on a Macintosh, you also need the Chooser. **Copy the 'Chooser'** from the Emergency Disk (in System:Apple Menu Items) to the 'Apple Menu Items'-Folder of your Hard Disk.

Then, open the Chooser from the Apple Menu, and select the 'Printer' on the left. That's all needed to select the printer: Note that unlike networked printers, there's no list of printers appearing in the chooser. **The printer is fully selected when you click once at its icon on the left.**
If it does not appear, or if you can't find the Chooser in the Apple-Menu, you should check whether you copied these two files correctly. Close the chooser.

Your printer is now ready to print.

In the Finder, choose 'Print Window' in the File menu. You'll now get a dialog from the Printer. Press OK.
The Printer turns on, warms up, and prints your page. If you can't print, make sure the Printer is connected. Also, make sure you have allocated Printer Memory under NEXTSTEP, in the