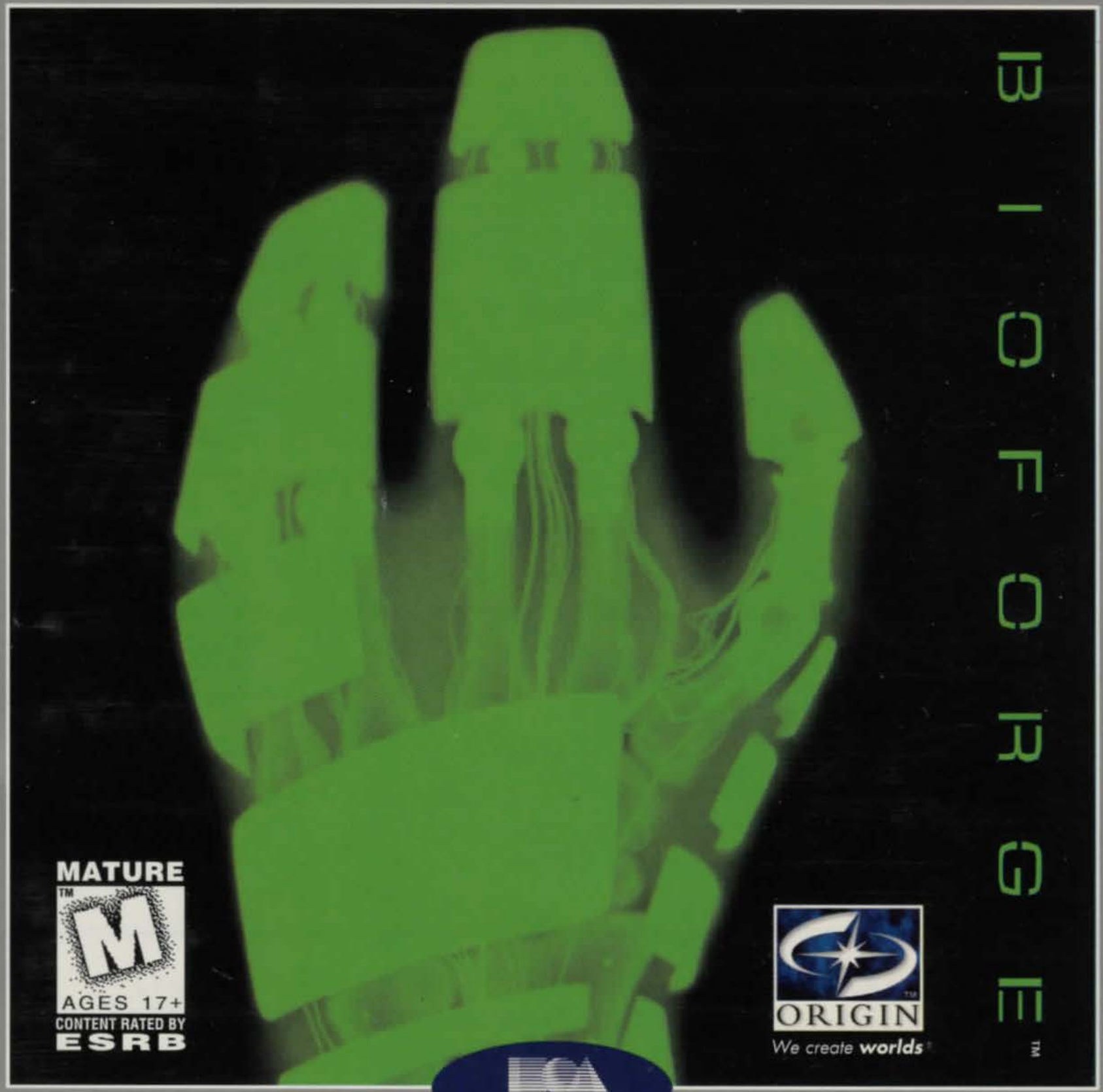
BIOFORGE™
MATURE
M
AGES 17+
CONTENT RATED BY
ESRB
ORIGIN™
We create worlds™
ELECTRONIC ARTS®

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Documentation is provided on-line. If you would like to receive the printed manual, please see the order form on the last page.

SYSTEM REQUIREMENTS

- **Computer.** *BioForge* requires at least an Intel486/50+ or 100% compatible system and MS-DOS version 5.0 or higher.
- **Video Card.** VGA video card.
- **Hard Drive.** You should have a minimum of 5.6 free megabytes on your hard drive to install and play this game. (TINY INSTALLATION and up to nine save games require 5.6 megabytes. SMALL INSTALLATION and up to nine save games require 12.3 megabytes. MEDIUM INSTALLATION and up to nine save games require 30.6 megabytes. LARGE INSTALLATION and up to nine save games require 55.4 megabytes.)
- **Mouse.** *BioForge* requires a Microsoft or 100% compatible mouse, using Microsoft software driver version 6.11 or higher, Logitech software driver version 6.0 or higher, or 100% compatible software driver.
- **Memory.** *BioForge* uses conventional memory (base memory) and extended memory (XMS). You must have a minimum of 8 megabytes of RAM installed in your machine.

QUICK INSTALLATION

✔ NOTE: If you are running a disk cache such as *SMARTDrive*, you need to disable it to ensure a clean installation. (This only affects the installation of the game. *SMARTDrive* will work normally during gameplay.) Refer to your *SMARTDrive* documentation or make a system boot disk or shortcut as described in **Creating a Boot Disk** (p. 8) or **Creating a Windows 95 Shortcut** (p. 13) to disable this cache.

1. Turn on your computer and wait for the DOS prompt. Some machines boot directly to *Windows*, or a different shell environment. Be sure to exit *Windows* (or other shell program), and install directly from the DOS command prompt (C:\>).
2. Insert the CD for *BioForge* into your CD-ROM drive.
3. Type the name of that drive (usually D:), then press Enter.
4. Type INSTALL and press Enter.
5. When prompted, follow the installation program instructions.
6. For important game hints and last minute changes, type README and press Enter.
7. To begin play, type BIOFORGE at the game's directory and press Enter.

For more details, see **Installation** (p. 4).

THE *BIOFORGE* ONLINE MANUAL

WINDOWS 95 USERS:

To install the *BioForge* online manual:

1. Left-click START on the taskbar.
2. Select RUN.
3. Type D:\MANUAL\SETUP and click OK. (Substitute the name of your CD drive if other than d:.)
4. Follow the prompts to install.

To access the online manual:

1. Left-click on START on the taskbar.
2. Select *Programs* from the *Start* menu.
3. Select *Modern Age Books* from the *Programs* menu.
4. Select *BioForge* from the *Modern Age Books* menu. The *BioForge* manual appears.
5. Select *Print* from the *File* menu if you wish to print the document.

WINDOWS 3.X USERS:

To install the *BioForge* online manual:

1. From the Program Manager, select *Run* from the *File* menu.
2. Type D:\MANUAL\SETUP and click OK. (Substitute the name of your CD drive if otherthan d:.)
3. Follow the prompts to install.

To access the online manual:

1. From the Program Manager, open the *Modern Age Books* program group.
2. Double-click the *BioForge* icon. The *BioForge* manual appears.
3. Select *Print* from the *File* menu if you wish to print the document.

PRE-INSTALLATION

DISK PREPARATION

Before you install any software, it is critical that your hard drive be in proper working order. We recommend running SCANDISK or DEFRAG (DOS 6.2 or higher). SCANDISK searches your hard drive for any lost allocation units as well as any cross-linked files and directories. DEFRAG ensures that your data is sorted properly. Failure to verify this may result in corrupt data.
Steps for running these preventative applications are given below for DOS and Windows® 95.

DOS Preparation

1. Type VER [Enter] from the DOS C:> prompt. Your DOS version is displayed on the screen.
   - If it says MS-DOS VERSION 6.0, 6.21 or any version later than 6.2, folow the steps below.
   - If you are using DOS version 5.0, you may need to use other utilities (such as NortonUtilities or Central Point Tools) to check your drive's condition.
2. Type SCANDISK C: [Enter] from the DOS prompt. This will determine if your drive is in good repair. If any damage is found, you should repair it before continuing, following the instructions in your DOS manual.
3. Type DEFRAG C: /F [Enter] from the DOS prompt. This runs a complete defragmentation on your hard disk to ensure all your data is sorted properly. It also optimizes your hard disk for faster load and access times.

Windows 95 Preparation

The procedure for scanning and defragmenting your disk from Windows 95 is essentially the same as from DOS—only the method for starting the programs is different.

1. First, run SCANDISK. To start SCANDISK, left-click on the START button from the Taskbar. The ***Start*** menu opens.

   ➪ From the ***Start*** menu, highlight ***Programs***, and then select ***Accessories*** from the menu that appears. From that menu, select ***System Tools***. Finally, click on ***ScanDisk***, and the program starts.

   ➪ Once activated, make sure there is a check mark in the ***Automatically Fix Errors*** box and select the hard drive you are installing the game to (e.g., C:). Once everything is set up correctly, click ***Start*** to have the program scan the drive and correct any errors.
2. Next, run DEFRAG. To start DEFRAG, go to ***System Tools*** (as in the previous step) and click on ***Disk Defragmenter***. As with SCANDISK, select the drive you are installing the game to and click OK.

INSTALLATION

Boot Disk/Shortcuts. Boot disks and shortcuts solve most installation problems! (See **Creating a Boot Disk**, p. 8, or **Creating a Windows 95 Shortcut**, p. 13, for instructions.)

Disk Cache. If you are running a disk cache such as *SMARTDrive*, you will need to disable it to ensure a clean installation. Refer to your *SMARTDrive* documentation or make a system boot disk or shortcut to disable this cache. This only affects the installation of the game. *SMARTDrive* will work normally during gameplay.

CHKDSK. Before installing any software, run CHKDSK (for DOS 5.0 & 6.0 users) or SCANDISK (for DOS 6.2 and up users) from your DOS directory. This searches for any lost allocation chains (pieces of files). If any are found, please run a disk utility to correct these errors on your hard drive. It's also a good idea to fully optimize and de-fragment your drive before installing new software.

Highlighting. Use [↑] or [↓] to move the white highlight option up and down. Press [Enter] to select that option.

Exiting. To exit the installation without recording any selections, press [Esc] from the Main Menu. To exit most submenus, press [Esc] to return to the Main Menu or select the appropriate exit option.

Sound. *BioForge* will install **without** sound or music configured unless you specify otherwise.

1. to 4. Follow Steps 1 through 4 of **Quick Installation** (p. 2).
5. Highlight a language and press [Enter].
6. Check the default choices.

6a. If the information at the top of the screen is acceptable, press [Enter]. Go to Step 7.

6b. Highlight CHANGE INSTALL OPTIONS if you need to change the information, and press [Enter]. (Each of the options on the screen are described below.) Once you have made the necessary changes, select RETURN TO THE MAIN INSTALL MENU and press [Enter].

- ***Installing to a destination drive other than the default drive***
  Highlight CHANGE THE INSTALL DRIVE and press [Enter]. Highlight the drive where you wish to install the game. Press [Enter] to accept.
- ***Installing to a directory other than the default (C:\BIOFORGE)***
  Highlight CHANGE INSTALLATION PATH and press [Enter]. Use [Backspace] to delete the default option. Type the new path, including any desired subdirectories for the new destination path, then press [Enter].

- *Changing the installation type to copy more/less of the game's program files to your hard drive*
  Each option will take a different amount of hard drive space. Ensure that you have enough hard drive space available to perform the desired option by checking HARD DRIVE SPACE AVAILABLE listed at the top of the screen. Highlight CHANGE INSTALLATION TYPE and press [Enter]. Select the desired size of installation between TINY, SMALL, MEDIUM (RECOMMENDED) and LARGE. Press [Enter] to accept.

7. Select INSTALL BIOFORGE to begin the file copying procedure. A progress indicator will appear, indicating the percentage of installation completed. If you wish to abort during this procedure, press [Alt][X]. If you choose to do this, you will be returned to DOS immediately. You must delete the BioForge directory and reinstall before you can play the game.
8. Press any key to continue. At the end of a successful installation, a Sound Configuration menu will appear. You can choose from CHANGE DIGITAL SOUND CARD SETUP, CHANGE MUSIC CARD SETUP or SAVE SETTINGS AND EXIT.

- *Changing your digital sound card setup*
  Use [↓] and [↑] to highlight the appropriate Sound Port Address, Sound IRQ and Sound DMA of your sound card. (If you are unsure about what any of these are, consult your sound card documentation.) Press [Enter] to advance to the next screen.
- *Changing your music card setup*
  Use [↓] and [↑] to highlight the appropriate music card and, if necessary, music port setting. (If you are unsure about what these might be, consult your sound card documentation.) Press [Enter] to advance to the next screen.
- *Save settings and exit*
  This allows you to keep any configuration changes — which should now appear at the top of the screen. Highlight SAVE SETTINGS AND EXIT.

9. Press [Enter] to return to DOS.
10. Go to the drive and directory where the game is installed. (If you used the defaults, go to C:\BioForge.)
11. Type BIOFORGE and press [Enter] to begin the game.

CHANGING YOUR SOUND CARD OR MUSIC CARD CONFIGURATION

If you ever add a sound card (or change from one sound card to another), you must reconfigure your sound card configuration for *BioForge*).
Make sure the CD is in your drive, then return to the drive and directory where you installed the game (default: C:\BIOFORGE) and type INSTALL [Enter]. This allows you to change the selections you made when you originally installed the game. Simply follow the **Installation** procedures, beginning with Step 8.

BOOT DISKS AND SHORTCUTS

(IF YOU HAVE TROUBLE INSTALLING)

If you are experiencing problems running *BioForge* or cannot free the appropriate amount of memory, it might help to create a separate boot disk and decrease the number of memory resident programs (TSRs) you have loaded.

First, review **System Requirements** (p. 2) to be sure your hardware setup and *BioForge* are compatible. Then, see **Creating a Boot Disk** (p. 8) or **Creating a *Windows 95* Shortcut** (p. 13).

MEMORY REQUIREMENTS

BioForge uses conventional RAM (base memory) and extended memory (XMS). You must have a minimum of 8 megabytes of total RAM installed in your machine. Of this memory, you must have at least 5,836,800 bytes (5700K) free XMS memory for *BioForge* to run. An Expanded Memory Manager driver (like EMM386.EXE) may be loaded. (Consult your memory manager's documentation for more information.) This will allow you to load other drivers into upper memory and load *BioForge*. If you are unsure about these different types of memory, consult your DOS manual.
To find out how much DOS, XMS and EMS memory your computer has available, use the DOS MEM command. From the DOS prompt, type: MEM [Enter].

When the memory information is displayed on the screen, look for the following listings:

- LARGEST EXECUTABLE PROGRAM SIZE: This number indicates how much DOS conventional memory is available. You must have at least 409,600 bytes (400K) listed here.

- TOTAL EXTENDED (XMS) **or** TOTAL CONTIGUOUS EXTENDED: This is the amount of extended memory in your computer.
- BYTES FREE OF EMS **or** FREE EXPANDED (EMS): This is the amount of expanded memory in your computer. You must have at least 5,836,800 bytes (5700K) listed in one of these lines.

CREATING A BOOT DISK

✔ NOTE: **Do *not* delete your AUTOEXEC.BAT or CONFIG.SYS files copletely. Without them, your computer will not funtion.**

Paper Copy. Before creating a boot disk, we recommend that you make a paper copy of your hard drive's CONFIG.SYS and AUTOEXEC.BAT start-up files.

Type at the DOS prompt:

```
TYPE CONFIG.SYS
```

Either hand-copy or, if you have a printer, use [Print Screen] to generate a printout of this startup file. Now at the DOS prompt, type:

```
TYPE AUTOEXEC.BAT
```

Hand copy or use [Print Screen] to generate a printout of this startup file.

Setup. To create a separate boot disk, insert a blank high density (HD) disk in your A: drive. **(Your computer will not boot from a B: drive.)** From the DOS prompt, type:

```
FORMAT A: /S [Enter]
```

If you already have a formatted disk handy for your A: drive, then you will need to transfer the necessary system files. From the DOS prompt, type:

```
SYS A: [Enter]
```

Modifying CONFIG.SYS

When the DOS prompt returns and the format is complete, type:

```
EDIT A:\CONFIG.SYS [Enter]
```

When the new screen appears, determine which memory management system you are using (if any) from those listed in this section and type the commands shown under that system:

CONFIG.SYS using Microsoft's HIMEM.SYS (XMS with DOS 5.0 and up)—the RECOMMENDED CONFIGURATION!

```
DEVICE=C:\DOS\HIMEM.SYS
DOS=HIGH
FILES=25
BUFFERS=25
SHELL=C:\DOS\COMMAND.COM C:\DOS /P
DEVICE=C:\<path>\<your CD-ROM driver> <parameters>
```

Type in the information for your CD-ROM driver line from the printout of the CONFIG.SYS. It will usually be a line containing the driver name (example: SBCD.SYS) followed by the device name of your CD-ROM (example: /D:MSCD001).

Include the next line only if you have Double Space *loaded on your system.*

```
DEVICE=C:\DOS\DBLSPACE.SYS /MOVE
```

Include the next line only if you have Drive Space *loaded on your system.*

```
DEVICE=C:\DOS\DRVSPACE.SYS /MOVE
```

CONFIG.SYS using Microsoft's EMM386.EXE (EMS with DOS 5.0 and up)

```
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE 6144 RAM
DOS=HIGH, UMB
FILES=25
BUFFERS=25
SHELL=C:\DOS\COMMAND.COM C:\DOS /P
DEVICEHIGH=C:\<path>\<your CD-ROM driver> <parameters>
```

Type in the information for your CD-ROM driver line from the printout of the CONFIG.SYS. It will usually be a line containing the driver name (example: SBCD.SYS) followed by the device name of your CD-ROM (example: /D:MSCD001).

Include the next line only if you have Double Space *loaded on your system.*

```
DEVICEHIGH=C:\DOS\DBLSPACE.SYS /MOVE
```

Include the next line only if you have Drive Space *loaded on your system.*

```
DEVICEHIGH=C:\DOS\DRVSPACE.SYS /MOVE
```

CONFIG.SYS using* Quarterdeck's *QEMM386

```
DEVICE=C:\QEMM\QEMM386.SYS RAM
DOS=HIGH
FILES=25
BUFFERS=25
SHELL=C:\DOS\COMMAND.COM C:\DOS /P
DEVICE=C:\QEMM\LOADHI.SYS C:\<path>\<your CD-ROM driver> <parameters>
```

Type in the information for your CD-ROM driver line from the printout of the CONFIG.SYS. It will usually be a line containing the driver name (example: SBCD.SYS) followed by the device name of your CD-ROM (example: /D:MSCD001).

Include the next line only if you have Double Space *loaded on your system.*

```
DEVICE=C:\QEMM\LOADHI.SYS C:\DOS\DBLSPACE.SYS /MOVE
```

Include the next line only if you have Drive Space *loaded on your system.*

```
DEVICE=C:\QEMM\LOADHI.SYS C:\DOS\DRVSPACE.SYS /MOVE
```

Exiting CONFIG.SYS

After typing these lines, you should exit and save your file. Do so by typing:

Alt F
X
Y

Modifying AUTOEXEC.BAT

Next you need an AUTOEXEC.BAT file on your boot disk. Type:

```
EDIT A:\AUTOEXEC.BAT
```


When the new screen appears, type:

```
PROMPT $P$G
PATH=C:\DOS
SET COMSPEC=C:\DOS\COMMAND.COM
C: (or the drive where the game is installed)
C:\MOUSE\MOUSE.COM
C:\<PATH>\MSCDEX.EXE <exceptions>
```

Type in the information for the above MSCDEX.EXE line from the printout of your AUTOEXEC.BAT. This line should be identical except for two items: delete the /E parameter (the /E and so on—but not past the next blank space), and change /M:## to /M:5. For example,

```
C:\DOS\MSCDEX.EXE /E /M:15 /L:F
```

would change to:

```
C:\DOS\MSCDEX.EXE /M:5 /L:F
CD\BIOFORGE (or your game directory, if different from the default)
BIOFORGE
```

The AUTOEXEC.BAT file does not vary with different memory drivers.

(Your mouse driver may need to be loaded differently. Refer to **Mouse Setup**, p. 12, and the printout of your original AUTOEXEC.BAT.)

Exit and save this file by typing:

Alt F
X
Y

To Use Your New Boot Disk

Turn your computer off, insert your new boot disk in your A: drive and turn the computer back on. The boot disk should run and automatically take you into *BioForge*.

Installation Fails

In the unlikely event that the installation fails, an error message should tell you the nature of the problem. See **Troubleshooting** (p. 16) for solutions to some common problems.

OTHER PRECAUTIONS

Mouse Setup

Be sure that you are using a 100% Microsoft-compatible mouse driver—a Microsoft version 6.11 or higher mouse driver is preferable. If you are using a boot disk, this driver must be loaded within your boot disk configuration. Since the command line may differ from mouse to mouse, consult your hard drive's AUTOEXEC.BAT. (If you have not made a paper copy (see p. 8), you may view your AUTOEXEC.BAT by typing at the DOS prompt: TYPE C:\AUTOEXEC.BAT.) Look for your mouse driver line and copy it into your boot disk's AUTOEXEC.BAT, replacing the mouse driver information (C:\MOUSE\MOUSE.COM) that we suggest above.

Consult your mouse user's guide for more detailed instructions on loading the mouse driver.

Disk Cache Setup

Before installing *BioForge*, we recommend that you temporarily disable your disk cache. Occasionally, "DOS error" messages can erroneously appear when installing with a disk cache active. To temporarily disable your disk cache, make a boot disk or shortcut with one of our recommended configurations. Refer to **Creating a Boot Disk** (p. 8) or **Creating a *Windows 95* Shortcut** (p. 13) to learn how. Now reboot your computer with this boot disk or shortcut (which does not include the disk cache). Then install the game normally. If you have *SMARTDrive*, when you have completed the installation, follow the instructions below to reconfigure your boot disk or shortcut to include the disk cache program.

SMARTDrive

If you decide to install *SMARTDrive* (a disk caching program), you will need to add the following line at the beginning of your AUTOEXEC.BAT file. (You may need to change the path on this line, depending upon where your disk cache program is located.) If you use *SMARTDrive*, we recommend using the *SMARTDrive* versions from *Windows* 3.1 or DOS 6.0.

Type: C:\DOS\SMARTDRV.EXE 1024 C (the final letter is the drive where you installed *BioForge).*

CREATING A WINDOWS 95 SHORTCUT

1. Turn on your computer and wait for Windows 95 to load. Minimize or close all applications.
2. ***Right***-click once anywhere on your desktop (except on an icon). A menu will appear.
3. Move your mouse pointer to **New**, then ***left***-click on **Shortcut**. A dialogue box appears, asking you to name the shortcut.
4. In the box beneath *Cmd Line*, type in C:\COMMAND.COM. Then, ***left***-click on NEXT.
5. Type in the name of the shortcut as it will appear on your desktop. (Use the name of the game.)
6. ***Left***-click on FINISH. The new shortcut now appears on your desktop.
7. Edit the game's shortcut icon according to the instructions in **Creating a Boot Disk** (p. 8). (The steps are outlined below; the information you need to include appears on pp. 8-10.)
8. ***Double-left***-click on the icon to start the game.

Editing The Game Shortcut Icon

1. Before the game will launch with your new icon, you need to edit the shortcut. Right-click once on the shortcut icon you created above.
2. Left-click once on ***Properties,*** then left-click on the ***Program*** tab at the top of the window.
3. If the box next to ***Close on exit*** is empty, left-click on it.
4. Left-click on the ADVANCED button. The ***Advanced Program Settings*** screen appears.
5. Make sure checkmarks appear next to ***MS-DOS mode*** and ***Warn before entering MS-DOS mode.*** If not, left-click once in the box next to the item.
6. Left-click in the circle next to ***Specify a new MS-DOS configuration.*** Make sure there is a dot in this circle.

- Two windows open up, one labeled ***CONFIG.SYS for MS-DOS mode*** and one labeled ***AUTOEXEC.BAT for MS-DOS mode.*** These are the two windows in which you will create a "boot disk" that runs the game directly in DOS.
- The text in these windows is a copy of a Windows 95 boot. You will be replacing this with the text you would normally use to make a boot disk. *Modifying or deleting this text has no effect on the files your system normally uses to boot up.*

7. Make backup copies of your original startup files as a precaution.
   a. Left-click on the START button.
   b. Highlight *Programs*, then left-click on *MS-DOS Prompt*. You'll be in a DOS window.
   c. Type CD\ and press Enter.
   d. Type COPY C:\CONFIG.SYS C:\CONFIG.OSI and press Enter. (You should see *1 File(s) copied.*)
   e. Type COPY C:\AUTOEXEC.BAT C:\AUTOEXEC.OSI and press Enter. (You should see *1 File(s) copied.*)
   f. Type EXIT to return to Windows 95.
8. Right-click inside the *CONFIG.SYS for MS-DOS mode* window. Highlight *Select All*, then left-click and press Delete. Do the same for the *AUTOEXEC.BAT for MS-DOS mode* window.
9. Leave the *Advanced Program Settings* window open, and open *Notepad*. (Left-click the START button. Highlight *Programs*, and then *Accessories*. Left-click on *Notepad*.)
10. Open the CONFIG.OSI file on your hard drive.
    a. Left-click on *File*, and then on *Open*.
    b. Type C:\CONFIG.OSI in the box under *File Name*.
    c. Left-click on the OPEN button.
11. Copy this file to the CONFIG.SYS window inside the *Advanced Program Settings* window where you are setting up your shortcut.
    a. Left-click *Edit*, and highlight *Select All*.
    b. Press Ctrl C to copy the contents of the file.
    c. Left-click on the - button (in the upper right corner) to minimize *Notepad*.
    d. Click anywhere on the *Advanced Program Settings* window to return to it.
    e. Left-click inside the *CONFIG.SYS for MS-DOS mode* window.
    f. Press Ctrl V to paste the file contents into the window.
12. Open *Notepad* again. (Tip: Look on the tool bar at the bottom of your screen for a CONFIG.OSI - NOTEPAD button. Left-click on this button. If you don't see this button, use the instructions in Step 9 to open *Notepad*.)
13. Open the AUTOEXEC.OSI file on your hard drive.
    a. Left-click on *File*, then on *Open*.
    b. Type C:\AUTOEXEC.OSI in the box under *File Name*.
    c. Left-click OPEN.

14. Copy this file to the AUTOEXEC.BAT window inside the *Advanced Program Settings* screen, where you are setting up your shortcut.
    a. Left-click on *Edit* and highlight *Select All*.
    b. Press Ctrl C to copy the contents of the screen.
    c. Click anywhere on the *Advanced Program Settings* window to return to it. (Press N if you are prompted to save changes to the file you were editing.)
    d. Left-click inside the *AUTOEXEC.BAT for MS-DOS* **mode** window.
    e. Press Ctrl V to paste the *Notepad* contents into the window.
15. Left-click OK, then left-click OK again.

Using The Shortcut To Run The Game

Double-left-click your new shortcut to restart your system. If you've set up the shortcut correctly, your machine will reboot. To start the game, change to the directory where the game is installed (the default is C:\BIOFORGE) and type BIOFORGE. When you are done playing the game, type EXIT from the DOS prompt and hit Enter to reboot into *Windows 95* (answer Y if prompted).

If you receive an error message, or the machine returns to *Windows*, double-check the lines in the *CONFIG.SYS for MS-DOS mode* and *AUTOEXEC.BAT for MS-DOS mode* windows in the *Advanced Program Settings* screen against the boot disk instructions.

GENERAL MIDI

BioForge has joined the next generation of music quality with its support of the instrument voice set known as General MIDI, which ensures that the MIDI music data will sound correct on any General MIDI card. At the time of publishing, only a few cards support MPU-401. These cards include the **Roland SCC-1**, **Roland RAP-10** and **Creative Labs Sound Blaster 16/16 ASP with the attached Wave Blaster daughterboard**. Other manufacturers have already released, or are planning to release, sound cards that utilize the MPU-401 instruction set. However, sound cards that use a memory-resident program (TSR) to emulate MPU-401 *may not* work with this software. *BioForge* natively supports (supports without using emulation techniques) the cards listed above. However, some music and sound cards require you to load special drivers and/or choose specific ports.

✔ NOTE: Some General MIDI sound cards offer digitized speech or sound effect capabilities. However, in most cases, you will need to use a second sound card such as a Sound Blaster, Sound Blaster Pro or 100% compatible sound card for digitized speech and effects. Review your sound card documentation or contact the manufacturer if you have any questions.

Sound Blaster AWE32. Sound Blaster AWE32 emulates General MIDI. *BioForge* natively supports the AWE Synthesizer chip located on your sound card. You do not need to load any emulation drivers to receive General MIDI-quality music support. Simply load AWEUTIL (from your sound card directory) in your AUTOEXEC.BAT with its default parameters.

TROUBLESHOOTING

STARTUP QUESTIONS

Q: When I run **BioForge,** *I get the following error message: YOU DO NOT HAVE ENOUGH XMS/EMS MEMORY TO RUN BIOFORGE. THE GAME REQUIRES 5700K (5,836,800 BYTES) OF FREE XMS/EMS MEMORY. What should I do?*

A1: You may not have your memory configured properly to run *BioForge*. You need a total of 8 MB of RAM to play. Of that memory, you must have at least 5700K of XMS/EMS memory free. Refer to **Creating a Boot Disk** (p. 8) or **Creating a Windows 95 Shortcut** (p. 13).

A2: You may not have enough RAM installed in your machine. Type CHKDSK or MEM at the DOS prompt, or check with your computer manufacturer, to ensure that you have 8 MB installed within your computer. (See **Memory Requirements**, p. 7.)

Q: When I start the game, it returns me to DOS with the error message: FATAL ERROR 286.2230: LOAD PROGRAM FAILED—OUT OF MEMORY. What does this mean? I have the proper amount of RAM.

A: This error can usually be attributed to having the NOEMS parameter on your Expanded Memory Manager line of your CONFIG.SYS. A boot disk or shortcut should solve this problem (refer to **Creating a Boot Disk**, p. 8, or **Creating a Windows 95 Shortcut**, p. 13).

Q: After trying to start the game, I get the error message: YOU DO NOT HAVE ENOUGH HARD DRIVE SPACE FOR YOUR SAVED GAMES. PLEASE FREE AN ADDITIONAL XXXX BYTES OF HARD DRIVE SPACE TO CONTINUE PLAYING BIOFORGE.

A: In addition to the amount of hard drive space required for the game files and data, you must have a small amount of space reserved for nine saved games. For the total amount of saved games, this will not exceed 3.1 MB (3,250,586 bytes) of hard drive space.

Q: When I start **BioForge,** *the game returns me to DOS with the error message: MEMORY: CPROTMEM.C, 1352 FATAL ERROR 286.3330 GENERAL PROTECTION FAULT DETECTED. What can I do?*

A: This error indicates that you do not have enough conventional DOS memory available to run the game. Remove any unnecessary TSRs or consult **Creating a Boot Disk** (p. 8) or **Creating a Windows 95 Shortcut** (p. 13) to remedy this problem.

Q: After typing BIOFORGE, *the game locks up during the initialization screen at the Music or Sound lines. What's wrong with my game?*

A: Lockup at this point in the initialization of the game can usually be attributed to an incorrect music port configuration. Ensure that you have selected the correct type of sound card and its respective port settings. Consult your sound card manufacturer's documentation for further information.

Q: After I start my game, the initialization text scrolls by, and the screen goes black.

A: You may be running QEMM with Stealth Mode parameter activated. Try booting with a clean boot disk or shortcut (refer to **Creating a Boot Disk**, p. 8, or **Creating a Windows 95 Shortcut**, p. 13) before running the game again.

Q. Each time I start the game now or attempt to load a saved game, **BioForge** *crashes with an error: FATAL ERROR 286.3330. GENERAL PROTECTION FAULT. Can I use my earlier saved games?*

A. Unfortunately, you may have corrupted a game or directory. Try running the batch file RESTART.BAT from the BioForge directory—that should clean any corruption from your current saved games directory. Now start *BioForge* again. Select NEW GAME, then simply load one of your old saved games.

Frame Rate / Speed Questions

Q: The introduction movie and gameplay seems to play excessively slow and "jerky" when I run with both music and sound options turned on. What could be causing this?

A1: Some sound cards require special lines in the CONFIG.SYS and/or AUTOEXEC.BAT to initialize the sound card properly. Some new Sound Blaster cards require a special command called DIAGNOSE.EXE to initialize the card properly. If you do not load this line, *BioForge* will not run properly.

A2: If you are running from a single-speed CD-ROM, you will experience poor performance throughout the game. *BioForge* does not support single-speed drives. You will need to upgrade your CD-ROM to at least a double spin or greater.

A3: Alternatively, you may be running on a computer that is too slow to show the intro or play the game properly. You can try to speed up CD access times by increasing the /M:XX parameter on your MSCDEX.EXE driver line in your AUTOEXEC.BAT file. Instead of the recommended /M:5, try something between /M:10 and /M:20.

Q: Why does the game keep pausing excessively during combat or take a long time to load a new game? What can I do to correct this?

A: You might try using a larger Installation Type for the game. Run INSTALL.EXE from the CD again and choose either a MEDIUM (requiring 30.6 megabytes hard drive space) or a LARGE (requiring 55.4 megabytes). By copying certain sound and graphic files to the hard drive, they will access faster than a CD-ROM drive.

Q: When I play on MEDIUM or HARD difficulty levels, sometimes my character's frame rate decreases dramatically — it looks like he's moving in slow motion. Is this supposed to happen?

A: Yes. To simulate combat exhaustion from repetitive actions, your character will move more slowly when executing a combat move for the second or sequential number of times. To avoid this slowdown, don't repeat the same move twice in a row. Alternating powerful attacks works well. This is only a feature for MEDIUM and HARD levels.

Audio Questions

Q: I am not getting any sound or music during the introduction or gameplay. Why not?

A: This can using be attributed to an incorrect sound card or sound card setting configuration during the installation of the game. Run INSTALL.EXE from the *BioForge* directory to reconfigure the sound card settings. Make sure that you have selected the correct type of sound card and its appropriate settings. Consult your sound card manual or its manufacturer for further information.

Q: I have a sound card that is 100% compatible with* Sound Blaster, *but I'm not getting any sound or music. Why not?

A: If your sound card is not one of the cards listed on the box or in the installation program, but is "100% compatible" with one of the cards listed, it may have to be put into "SB" (Sound Blaster) emulation mode through its software or a switch setting on the card. Consult your sound card manual or its manufacturer.

Mouse Questions

Q: My mouse is not working with* BioForge. *My mouse works with all of my other software applications. Why not with* BioForge*?

A1: You should first check to see if your mouse has been loaded into either DOS (in your AUTOEXEC.BAT or CONFIG.SYS file) or onto the boot disk or shortcut that you are using to play the game. If it hasn't been loaded onto either of these, it cannot interact with your game. *Windows* and many other "multi-tasking" shell environments load their own built-in mouse driver. These mouse drivers will not operate outside their shell environment. Loading a mouse driver into the DOS environment can be as simple as typing MOUSE [Enter] at the command prompt (C:\>).

A2: Your mouse may not be 100% Microsoft compatible. If you have Windows, you can edit the AUTOEXEC.BAT file by adding C:\WINDOWS\MOUSE and typing REM at the beginning of your previous mouse line.

If you have DOS 6.0, you can edit the AUTOEXEC.BAT file by adding C:\DOS\MOUSE and typing REM at the beginning of your previous mouse line.

If you have the disks to Windows 3.1, you can copy that mouse driver. Check each disk's directory (by typing DIR A:\MOUSE*.* /S) to find something similar to MOUSE.CO_ — a few letters difference is okay, but remember to *type the file name the way it appears in the directory in the following steps.* Copy it to your *BioForge* directory or boot disk. Then type EXPAND C:\BIOFORGE\MOUSE.CO_ C:\BIOFORGE\MOUSE.COM. (If copied to your boot disk, type EXPAND A:\MOUSE.CO_ A:\MOUSE.COM.) Lastly, add the line C:\BIOFORGE\MOUSE.COM to your boot disk AUTOEXEC.BAT and type REM at the beginning of your previous mouse line.

Other Common Questions

Q:* BioForge *locks up or crashes randomly during gameplay with: ERROR 286.3330: GENERAL PROTECTION FAULT DETECTED. What's wrong?

OR

Q:* BioForge *keeps crashing to DOS with the message: A PROBLEM WAS DETECTED: BIOFORGE STOPPED.

A1: The game encountered an error that stopped it. Make sure that you are meeting all of the requirements listed in **System Requirements** (p. 2) and that you are using your optimal boot disk configuration listed in **Creating a Boot Disk** (p. 8). (We recommend the CONFIG.SYS using Microsoft's HIMEM.SYS.) To reduce the chance of this problem in the future, return to the install program and perform a MEDIUM or LARGE installation. By installing more data files, you limit the number of times the CD-ROM must be accessed. If you continue to have this problem, see **ORIGIN Product Support** (p. 22).

A2: During our Hardware Lab testing, we encountered this error message with NEC 3x (triple spin) internal CD-ROM drives (Model # CDR-510) after extended hours of game-play on DX2/66 or slower systems. This particular model may generate bad data reads from which *BioForge* cannot recover. To reduce the probability of this error, we recommend a MEDIUM or LARGE installation. Run INSTALL.EXE from the CD-ROM drive to perform a larger installation. This will not damage any of your save games. Contact NEC for further information or possible firmware upgrades for your hardware.

A3: Sound Blaster AWE32 and other cards with General MIDI emulation may cause this error if their emulation is not compatible with *BioForge*. The game offers native support for the AWE32; therefore, we recommend that you utilize this native support instead.

Q: Why does my game crash when I play* BioForge *through Microsoft Windows or Windows NT, IBM* OS/2 *or* Desqview*?

A: Multi-tasking environments such as these often conflict with *BioForge* in their use of memory and other system resources. If you experience difficulty, we recommend that you exit out of Windows (or similar application) and play directly from the DOS prompt.

Q: During gameplay or when I start up the game, I will get the error: CDR-101: NOT READY READING DRIVE. What do I do to prevent this?

A1: Your *BioForge* CD may not be in the CD drive or it may not be detected properly. Under some circumstances you may have to put the CD in the drive, then type DIR D: (where D: is the letter of your CD drive) and then type BIOFORGE in order to run the game.

A2: Ensure that your CD is clean—without blemishes, dust, dirt or scratches. If you find that you might need a new CD, please review the warranty information listed on p. 23 and call ORIGIN Product Support.

A3: Occasionally, some older CD-ROM software drivers may have difficulty handling constant and repetitive requests for data, or cannot read beyond a certain point on the CD itself. Contact your CD-ROM or SCSI controller card manufacturer for the latest drivers to your particular model of CD-ROM drive.

Q: When I use the keyboard for combat moves as described in the Reference Card, the game does not perform the action I expect. For example, a round-house kick combination does a head-butt instead. What's wrong?

A: You may have your keyboard commands re-mapped by programmable software or BIOS. You will need to disable this function to play *BioForge* properly. Contact your computer/keyboard manufacturer for information on how to temporarily disable this programmability function.

Q:* BioForge *still doesn't work after I made a boot disk (or shortcut) and/or modified my CONFIG.SYS and AUTOEXEC.BAT files.

A: Copy down the error code and information the computer displayed when it quit to DOS. Then see **ORIGIN Product Support**, p. 22.

ORIGIN PRODUCT SUPPORT

If, after reviewing *Troubleshooting*, you are still having a problem with your software, please read this section and call us. We have a staff of product support technicians ready to help you with any problems you may encounter with the game. Today's PCs run with many different hardware and software combinations, so you may also have to refer to your computer dealer, hardware manufacturer, or system software publisher in order to properly configure their products to run with our game. When you do call us, if at all possible, be near your computer. If this is not possible, have the following information ready:

- Contents of CONFIG.SYS
- Contents of AUTOEXEC.BAT
- DOS version and manufacturer
- The type and version of mouse driver
- The contents of CHKDSK and MEM /C statement
- Your CD-ROM drive type and CD-ROM extensions versions
- The error message displayed when the problem occurred (if any)
- The System Summary display from pressing F3 during installation.
- Brand of sound card, and IRQ, I/O address and DMA setting of that card

Contact Origin Product Support at (512) 434-HELP (4357), Monday through Friday, between 9:00 am and 5 pm, Central Standard Time. (The phones are shut down from 12:45 pm to 2 pm.) Times are subject to change.

The ORIGIN fax number is (512) 795-8014. The Origin BBS can be reached at (512) 346-2BBS (2227) at 8 bit, no parity, 1 stop bit.

Or write to: **ORIGIN Customer Service, 5918 West Courtyard Drive, Austin, TX 78730**

On-line Services and Bulletin Boards

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America Online. You can e-mail Customer Support at ORIGIN CS or Marketing at OSI. To reach our Customer Support board in the Industry Connection, press Ctrl K for "Go to Keyword." Then type ORIGIN in the Keyword window. In addition to reading messages, you can download files from the Origin Software Library. For membership information and a free starter kit, you can call America Online toll-free at 1-800-827-6364.

CompuServe. To reach our Customer Support board in the Game Publishers Forum, type GO GAMAPUB at any "!" prompt. Then select the Origin Section (Section 12). In addition to reading the messages, you can download files from the "Library Files" menu. To reach our Customer Service department by e-mail, our address is 76004,2612 (or you can post a message in the Origin Game Publishers' Section). For membership information and a free starter kit, you can call CompuServe toll-free at 1-800-848-8199 and ask Representative #361 for your free introductory membership and $15 usage credit.

ORIGIN BBS. The ORIGIN BBS is located in Austin, Texas and has a modem support of: 300/1200/2400/9600/14,400 bauds with N,8,1. It is operational 24 hours a day, 7 days a week. Full support is provided. Call 1-512-346-2bbs (2227) to contact. No membership is required and the only cost is any long distance charges that you may incur.

Internet. You can e-mail technical support and upgrade questions to ORIGIN Customer Support at support@origin.ea.com. You can reach the ORIGIN Marketing Department at marketing@origin.ea.com. You can also retrieve demos, patches, press releases and screen shots from ORIGIN's anonymous FTP site at ftp.ea.com.

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