

Installation and Reference Guide

Hong Kong Mahjong Pro™

Populous® II

Seven Cities of Gold™

Shadowcaster™

Space Hulk™

The Savage Empire™

Ultima® VII

Ultima® Underworld™

Wing Commander Academy™

Yeager's Air Combat™

Installation and Reference Guide

This guide contains all you need to get started and to play the programs - installation instructions, game references, troubleshooting, and product support information for Hong Kong Mahjong Pro, Populous II, Savage Empire, Seven Cities of Gold, Shadowcaster, Space Hulk, Ultima VII, Ultima Underworld, Wing Commander Academy, and Yeager's Air Combat.

A reference for each game is provided in an easy-to-use, on-line format. The Creative On-Line Documentation for viewing in Windows is provided on the CD-ROM disc containing the files for the above programs. To run Creative On-Line Documentation, you must have Microsoft Windows 3.1, 2MB free hard disk space and VGA displaying 640x480 resolution with 256 colors.

To install the Creative On-Line Documentation:

1. Insert the CD-ROM disc into your CD-ROM drive.
2. In Windows, select RUN from the File menu in the Program Manager.
3. Type D:\MANUALS\SETUP <Enter> where D: is the letter of the CD-ROM drive.
4. Follow the on-screen instructions. A Creative Labs program group with the Creative On-Line Documentation icon will be created.

To launch the Creative On-Line Documentation, double-click on the Creative On-Line Docs icon. Read the README file for important information that will assist you in using the program.

For users who prefer to review the references in DOS or to print without images, the reference for each program is also provided in text format. To view, you can use a text editor such as DOS Edit. The text file for each program is located on the CD-ROM disc:

For:	Directory:	Filename:	For:	Directory:	Filename:
Hong Kong Mahjong Pro	<i>mahjong</i>	mahjong.txt	Ultima VII	<i>ultima7</i>	ultima7.txt
Populous II	<i>pop2</i>	pop2.txt	Ultima Underworld	<i>uw</i>	uw.txt
Savage Empire	<i>savage</i>	savage.txt	Wing Commander Academy	<i>wca</i>	wca.txt
Seven Cities of Gold	<i>7cities</i>	7cities.txt	Yeager's Air Combat	<i>yeager</i>	yeager.txt
Shadowcaster	<i>shadow</i>	shadow.txt	Product Support Information	<i>root</i>	prodsupp.txt
Space Hulk	<i>hulk</i>	hulk.txt			

We hope you enjoy these entertaining titles included with your Sound Blaster multimedia upgrade kit.

HONG KONG MAHJONG PRO™

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GETTING STARTED

Note: You must have a hard drive and a Microsoft®-compatible mouse to play Hong Kong Mahjong Pro!

Experienced computer users: To install the game to your hard drive, simply run the Install program in the Mahjong directory of the CD-ROM. Follow the screen prompts, and then skip down to the Main Menu section.

Less experienced users: Read the instructions in the next three sections for a step-by-step guide through the installation process.

Installing Hong Kong Mahjong Pro

1. Boot your computer with MS-DOS (Version 3.0 or higher).
2. Place the CD with Hong Kong Mahjong Pro in your CD-ROM drive.
3. At the DOS prompt, type the drive letter (example: D:) and press ENTER.
4. Type CD\MAHJONG and press ENTER.
5. Type INSTALL, followed by the drive letter of your CD-ROM drive, then the drive letter of the hard drive onto which you wish to install the game.

EXAMPLE: If your CD-ROM is drive D:, and you wish to install the game to drive C:, type **INSTALL D: C:** and press ENTER.

Be sure to include the spaces!

The game is installed into a subdirectory called *HKMJ*.

6. You are shown the selections you just made. If they are correct, press any key to continue. If you want to make changes before you begin the install process, press Ctrl-C to terminate, confirm your choice by pressing Y, and then go back to Step 4.
7. After installation, select Run HKCONFIG.

Configuring Hong Kong Mahjong Pro

After you install *Hong Kong Mahjong Pro*, you are automatically taken to the Configuration program. To configure your game to your system, follow these instructions:

Graphics

Note: If, after following the instructions below, your sound card or graphics mode don't function properly, see *Troubleshooting*.

A message appears telling you the graphics mode *Hong Kong Mahjong Pro* will display. If your computer does not have what is required to run in SVGA modes, what you need is printed in red. Press any key to go to the sound and music configuration screen.

Sound and Music Cards

1. To hear digitized voices, you need to have one of the sound cards listed on the left side of the screen. Press the letter of the sound card you want to use for voices.
2. To hear music, you need to have one of the sound cards listed on the right side of the screen. Press the number of the sound card want to use for music.
3. If you want to save your changes, press X. If you want to quit without making any changes, press Q.
You can later return to this configuration program to change your selections. First type CD\HKMJ and press ENTER, and then type HKCONFIG and press ENTER. Then begin again above at Step 1.

Note: In addition to sounds from your sound card, some sound effects may be emitted from your PC speaker.

Starting Hong Kong Mahjong Pro

Note: You must have your mouse driver installed to play Hong Kong Mahjong Pro!

To start playing *Hong Kong Mahjong Pro*, follow these instructions:

1. At the DOS prompt, type the name of the hard drive you installed the game onto (example: C:), and press ENTER.
2. Type **CD\HKMJ** and press ENTER.
3. Type **HKMJ** and press ENTER.
4. Two rows of tiles appear. Read the message to determine the correct tile (**refer to chart on next page**). Click the left mouse button on that tile on the screen.
5. The title screen appears and the credits begin. Click the left mouse button to see the Main Menu and begin to play.

Note: To run the tutorial instead, type **HKMJTUTR** and press ENTER. For a description of using the Tutorial, see *Using the Tutorial* in the on-line documentation.

TROUBLESHOOTING

If you are having a problem installing or playing the game, we want to help. First, please make sure you have read the *Installing Hong Kong Mahjong Pro* section of this user's guide thoroughly, and make sure you have at least 4.8 Meg free on your hard drive. Also, refer to *Problems With The Game* at the back of this manual.

If you have followed the directions in the documentation, and are still having trouble installing or operating the software, here are some hints that might help solve the problem. Before attempting any of the following suggestions, please make sure you are familiar with the MS-DOS commands being used, or consult your MS-DOS manual for more information.

ANSWERS TO COPY PROTECTION QUESTIONS

Page	Tile	Page	Tile	Page	Tile
1, 35		12		23	
2, 36		13		24	
3, 37		14		26	
4, 38		15		27	
5, 39		16		28	
6, 40		17		29	
7, 41		18, 25		30	
8		19		31	
9		20		32	
10		21		33	
11		22		34	

Notes on Graphics cards

Once *Hong Kong Mahjong Pro* has finished installing, the configuration program (HKCONFIG.EXE) is loaded, and begins examining your system. The configuration program checks for 160,000 bytes (160K) of expanded memory (EMS) and for a Super-VGA graphic adapter with chipsets manufactured by Tseng Labs, ATI Technologies Inc., Paradise™, or Video Seven. If both EMS and a compatible Super-VGA graphics adapter are found, a confirmation screen appears.

If both conditions are not met, the configuration program reports what it has found. If it detects EMS only, a green text message reports the amount found. If no EMS is found, a red text message appears. To find out more about EMS see the *Conventional, Extended and Expanded Memory* section in Problems With The Game/Product Support/Limited Warranty section at the back of this manual.

If none of the Super-VGA chipsets are found, a text message appears. If you have a graphics adapter with the correct chipset, the configuration program should detect it. If the program is unable to identify your card, and you are positive that your card contains one of these chipsets (either through physical inspection or through the documentation), you can attempt to force the game to recognize your card using a command line option.

To use a command line option, type one of the following options after the program name when loading the game:

TS	=	Tseng Labs
ATI	=	ATI Technologies Inc.
PAR	=	Paradise™
V7	=	Video Seven

*Example: to force the Tseng Labs video mode, type **HKMJ TS** and press ENTER.*

If the monitor fails to display the program correctly, then your adapter does not follow the standard setup by the respective chipset manufacturers.

Notes on Sound Cards

In the configuration program, if you select Sound Blaster, Thunderboard, or compatibles for your Voice Board, but find that the game doesn't use your card, you might have different addressing. You must specify the correct IRQ and I/O address for the card. The defaults are IRQ5, and I/O address 220h, which are

the standard defaults for most voice boards. If you have different settings on your board, change it in the configuration program. To do so, press S, type the correct values for your card, and then press X to save the change. You can also press Q to quit without changing.

In the configuration program, if you select Roland for your Music Board, but find that the game doesn't use your card, you might have different addressing. You must specify the correct address for the card. The default is 330h, which is the primary default address for Roland. If you have different settings on your board, change it in the configuration program. To do so, press R, type the correct values for your card, and then press X to save the change. You can also press Q to quit without changing.

Consult your sound card manual for more information.

Memory requirements

Due to the high resolution graphics of *Hong Kong Mahjong Pro*, we require 640K RAM minimum installed on your computer. You also need to have at least 562K free RAM (571,000 bytes) to run *Hong Kong Mahjong Pro*.

Color Display Mode	Free Memory Required
256 color with EMS	571,000 bytes free
16 color with EMS	557,000 bytes free
16 color without EMS	567,000 bytes free

*Example: If you have enough EMS available, and you type **CHKDSK** then press ENTER, and a message states: "568,000 bytes free", you will only be able to run the program in 16 color mode. To get 256 colors, you would need to free up an additional 3000 bytes of memory. To find out more about freeing memory see Freeing Up Additional Memory Using A Boot Disk at the back of this manual."*

How To Find It:

- If you have MS-DOS 5.0: type mem /C and press ENTER. Look for the line, "Largest Executable program size".
- If you don't have MS-DOS 5.0, type CHKDSK then press ENTER. Look for the line, "bytes free". This number must be equal or greater than the amounts shown above to run in that many colors.

To find out more about EMS see the *Conventional, Extended and Expanded Memory* section at the back of this manual.

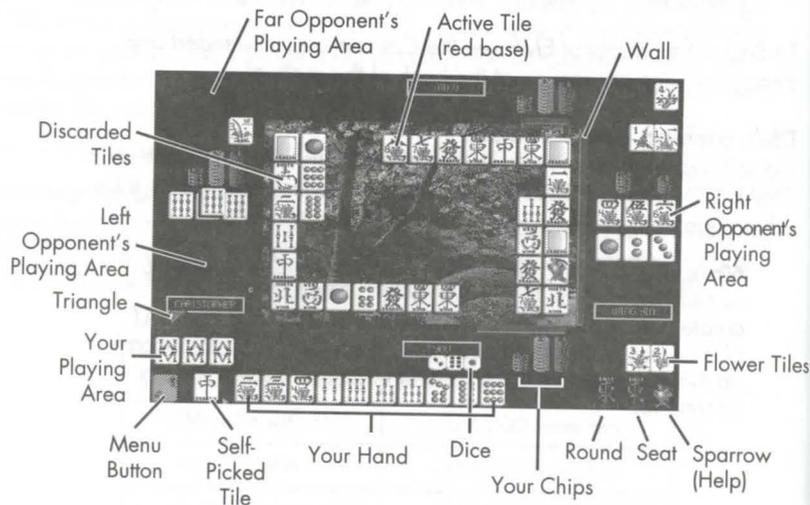
Disk caching and software

Hong Kong Mahjong Pro is compatible with disk caching, such as SMARTDRV.SYS or PCKWIK.SYS. The game will automatically take advantage of it, providing you with faster smoother play.

Note: For general information on optimizing your system, consult your MS-DOS manual. **IMPORTANT:** Be sure to create backups of your CONFIG.SYS and AUTOEXEC.BAT files before you start editing them. Some editors automatically do this for you; check the manual of your editor for more information.

THE GAME SCREEN

This is the Mahjong table.



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POPULOUS® II

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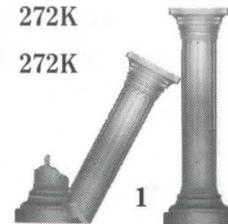
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GETTING STARTED

SYSTEM REQUIREMENTS

To play *Populous II*, you need an IBM PC or compatible computer with a hard drive and a mouse. You must have a minimum 11 MB of free space on your hard disk, and your system must be running MS DOS 3.3 or greater. Expanded Memory (EMS) is required. The minimum amount of base memory and EMS you need depends on the kind of display you select and the sound source you have:

Low-Res 320x200 256 colors with:	Base	EMS
No Sound	485,376 bytes	272K
Internal Speaker	539,649 bytes	272K
Sound Blaster	543,744 bytes	272K



Hi-Res 640x480 16 colors with:	Base	EMS
No Sound	558,480 bytes	1040K
Internal Speaker	613,600 bytes	1040K
Sound Blaster	617,760 bytes	1040K

Populous II requires Expanded Memory. If you do not have memory manager software on your system you will not be able to use EMS. In high resolution mode you need 1040K of EMS and in low resolution mode, you need 272K of EMS. See *Conventional, Extended and Expanded Memory* section in *Problems With The Game* at the back of this manual, or consult your memory manager documentation if you are not sure how much EMS you have available.

If you are using MS DOS 5.0's EMM386, you can select the number of Kilobytes of EMS at the end of the EMM386 entry in your CONFIG.SYS file as shown here.

For 1040K of EMS, the line would read:

DEVICE=C:\DOS\EMM386.EXE 1040

For 272K of EMS, the line would read:

DEVICE=C:\DOS\EMM386.EXE 272

INSTALLING POPULOUS II ON YOUR HARD DRIVE

The install program included on your game CD-ROM does three things:

- Creates a directory on your hard disk for the game.
- Copies the necessary game files into the directory.
- Creates a batch file containing the graphic and sound configuration for your computer.



To install Populous II:

1. Insert CD-ROM into the appropriate CD-ROM drive.
2. Switch to the drive you inserted the disk in. For example, if you inserted the disk in drive D, type **D:** and press **Enter**.
Note: You *must* switch to the CD-ROM drive before you execute the INSTALL command — you *can't* simply type D: INSTALL.
3. Type **CD\POP2** and press **Enter**.
4. Type **INSTALL D: C:** (substitute the correct drive letters for your CD-ROM and hard drives) and press **Enter**. Populous II is installed to the POP2 subdirectory of your hard drive.

LOADING POPULOUS II

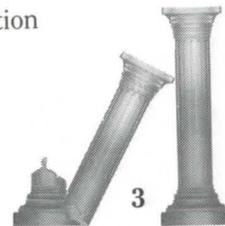
To load Populous II:

1. Boot your computer as you normally would.
2. Make sure that your mouse driver is loaded.
3. Switch to the drive you installed the game on. For example, if you installed the game on the C drive, type **C:** and press **Enter**.
4. Type **CD\POP2**. Press **Enter**.
5. Type **GO** and press **Enter**. An animated intro plays. Watch the intro, or press any key to go to the Game Menu.

SPECIAL PARAMETERS

You can start the game in high resolution graphics or with a different sound mode by adding a few extra characters (called *arguments*) to the **GO** start command.

Example: Let's say you wanted to start the game in high resolution graphics mode. You'd type **GO /H** as your start command.



The order of the extra arguments doesn't matter as long as there's a space between each argument. Here are the arguments you can use:

- /H** High resolution graphics mode. You must have a VGA graphics card to run the game in high resolution graphics mode.
- /SI** Internal speaker sound effects.
- /SS** Sound Blaster sound effects. You must have a Sound Blaster sound card.
- /SN** No sound effects.
- /L** MCGA graphics mode.

NOT ENOUGH DISK SPACE?

After you've installed the game, you may find that you need space on your hard drive for other things. You can free up the animated intro to the game — this has no effect on gameplay, though you'll no longer be able to watch the animated intro.

Assuming for a moment that the game is located on the C drive, the two files you must delete are:

C:\POP2\INTRO.EXE

C:\POP2\DATA\INTRO.DAT

Once you've deleted the files, you can start the game as usual with the GO start command. You'll notice a "Bad Command" error message when you enter the command — pay no attention to it, the game will load and the Game Menu will appear shortly.

KEYBOARD EQUIVALENTS

Pause
Quit

Full Screen/Normal View

Scroll Map

People Effects

Vegetation Effects

Earth Effects

Air Effects

Fire Effects

Water Effects

Divine Intervention Commands

Effect On/Off

Effect Description (Help)

Fight

Go To Papal Magnet

Gather Together (Join)

Settle

Query

Game Requester

Speed up gameplay

Slow down gameplay

Change conquest game to custom game

F10

Shift-Esc

(when Game Menu is showing, this acts as a "Quit to DOS" command)

F7 key

cursor up, down, left, right or keypad

F1 key

F2 key

F3 key

F4 key

F5 key

F6 key

1-5 (keyboard not keypad)

Hold down **Tab** and left-click on icon

Hold down **H** and left-click icon

F

G

J

S

/ or ?

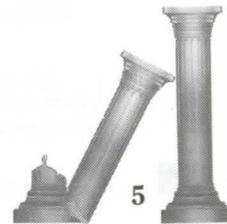
R

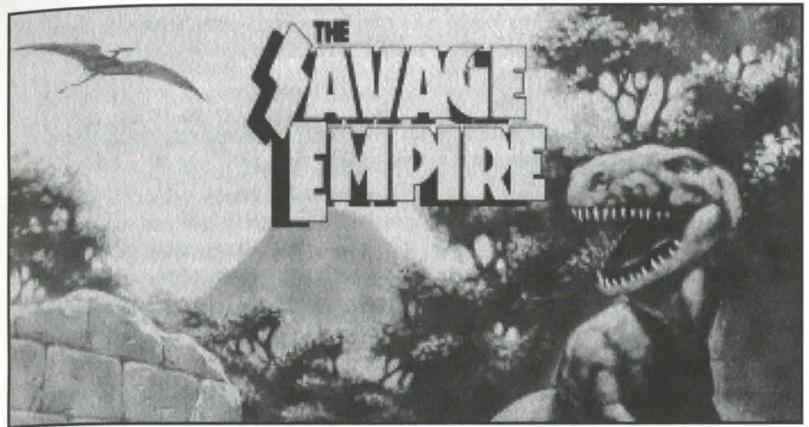
plus (+) (keyboard not keypad)

minus (-) (keyboard not keypad)

Alt-C

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INSTALLING THE GAME

You will need a minimum of 5MB of free hard disk space.

1. Insert the CD-ROM into the CD-ROM drive.
2. Type the drive letter followed by a colon (Example D:), then **<ENTER>**.
3. Change directory to Savage. Type **CD\SAVAGE <ENTER>**.
4. Type **INSTALL D: C:** (substitute the correct letters for your CD-ROM & hard drive) **<ENTER>**.

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NOTE: You **MUST** use expanded memory in order to hear the *Savage Empire* musical soundtrack. Sound effects will play with or without expanded memory installed. See Expanded Memory below.

CHANGING YOUR CONFIGURATION

If you ever upgrade to a different graphics modes, add RAM memory, or add a sound board, follow the directions above and re-installed *Savage Empire* by typing **INSTALL** in the \SAVAGE directory. Press **<ENTER>**.

Saving Additional Games

The *Savage Empire* remembers one saved game at a time. If you wish to keep other saved games, copy the contents of the \SAVEGAME subdirectory to another subdirectory or to a floppy disk. To restore that game later, copy those files back to the \SAVEGAME subdirectory. See your DOS manual for further information on copying files.

Restarting with Another Character

If you wish to start your quest again from the beginning type **INSTALL** from your hard drive's \SAVAGE directory. Press **<ENTER>**. One of the menus in the **INSTALL** program allows you to choose between *Create New Character* and *Keep Existing Character*. Select *Create New Character*.

Memory Usage

Regardless of the amount of RAM memory in your machine, you *must* have 558,000 bytes free to run *Savage Empire*. Run the DOS program, CHKDSK, and look at the last line of the information presented. This tells you how much RAM memory is free. For example, CHKDSK might tell you that your 640K system has 575,239 bytes free. If you have less than 558,000 bytes free, you do not have enough free RAM and the game will not run.

To make more RAM available for your system, you may want to remove from your AUTOEXEC.BAT and CONFIG.SYS startup files any memory-resident programs that are unnecessary for system usage. If you do not want to reconfigure your system, we suggest making a bootable DOS system floppy disk to start your computer prior to play. Refer to your DOS manual for the procedure to create a startup diskette.

Expanded Memory

Memory beyond 640K can be allocated as "expanded memory" which the game uses to play the musical soundtrack. (Remember, you also need a sound card installed for the musical soundtrack.) During the install process and when loading the game, you will be told if expanded memory was detected. Expanded memory is *not* the same as "extended memory."

To access expanded memory, you must use an expanded memory manager program. Two of the most common ones are QEMM.SYS (which comes with Quarterdeck's Desqview) and EMM386.SYS (which comes with Microsoft Windows), but there are others. These memory managers are installed by adding a line to the CONFIG.SYS file on your computer. Consult your expanded memory manager's documentation for information about installing expanded memory and determining how much expanded memory is available for use.

TROUBLESHOOTING

PROBLEM: *Savage Empire* fails to load or run properly:

- You may not have sufficient free RAM memory. Run CHKDSK to check your computer's available In

RAM. Compare this to the amount of free RAM required for your computer/sound board system. Free up RAM if needed.

- You may have a memory-resident TSR program that conflicts with the game. Boot the computer from a DOS system floppy or remove memory resident programs before running the game. Refer to **Problems With The Game** at the back of this manual or your DOS manual for instructions.
- You may have chosen an invalid configuration during the install process. Check your configuration and, if necessary, reinstall *Savage Empire*.
- You may have filled all free space on the active disk drive. Use the DOS "DIR" command to check available disk space.
- You may have incorrectly answered a copy protection question. This returns you to DOS and you must begin again.

PROBLEM: The mouse pointer doesn't respond properly:

- The game supports the Microsoft Mouse and Microsoft Mouse driver, version 7.0. Other mouse brands and drivers may not be compatible.

PROBLEM: The game runs slowly:

- You may have had too little free space on your hard drive to unpack the game files. Free up 5 megabytes of hard disk space and re-install
- PC speaker sound effects slow play. Select "No Sound" when installing.
- Your computer may not be fast enough to run the game efficiently. The preferred minimal configuration is a 10 megahertz 286-based IBM PC/100% compatible machine. Some older and/or slower machines may not be powerful enough to provide the full experience.

PLAYING THE GAME

From the hard disk prompt (Ex. C>), type the following command: **CD \<path>**, where **<path>** is the name of the subdirectory used during installation. If you selected the default choice, you would type **CD \SAVAGE**. After selecting the game subdirectory or disk drive, type **SAVAGE <Enter>** to begin. In order to play *Savage Empire*, you must be able to correctly answer questions the Shaman asks you. The page numbers referenced on the screen are no longer applicable.

The following lists the questions and their correct answers.

Q: What expedition has returned?

A: Wild River

Q: What kind of cover does Jimmy's notebook have?

A: Weatherproof

Q: Who is shown on the cover of Ultimate Adventures magazine?

A: Coatlicue

Q: In your dreams, what was it you lacked?

A: Memory

Q: In your dreams you saw birds. What sort of eyes did they have?

A: Reptilian

Q: In your dreams, what did you think of as an old and trusted friend?

A: Knife

Q: What does Professor Rafkin think the valley is akin to?

A: Time Capsule

Q: What does Rafkin say happens frequently between tribes?

A: Clashes

Q: What is the first tribe Rafkin discusses in his notes?

A: Nahuatla

USING THE INTERFACE

The Savage Empire allows for the use of a mouse and/or keyboard during play. All movement and icon selections can be handled using either of these devices. In general, the left mouse button is the select or “do-it” button. The right mouse button can be used to select a “shortcut” command, allowing a commonly used command to be activated whenever the right button is clicked. On the keyboard, the <Enter> key is used to confirm selections. For the exact uses of each device during game play, refer to the appropriate section below.

SCREEN LAYOUT

The game screen is divided into four regions — the Map, the Status Display, the Message Display and the Command Icons.

THE MAP

The largest region, on the upper left side, is the Map. This shows the world you are moving through, with the view centered on you (or another member of your party if they are in Solo mode). Above the Map, the current position of Eodon’s sun or moon is shown, along with the face of the Fabozz.

With a mouse, move your characters around by positioning the pointer over the Map until it becomes an arrow pointing in the direction you wish to move. Then, click the left button. You may press and hold the left button to move continuously, controlling your direction by steering the pointer. Some actions ask you to select a point on the Map where to perform an action. (You may have to say where you want to drop an item, for example). To select a location, click on it with the left mouse button. If you are using the keyboard, move by pressing an arrow key, or one of the eight keys around the “5” on the numeric keypad. If asked to select a point on the Map to perform an action, use these keys to move a set of crosshairs on the screen to the desired location and press <Enter> to initiate the action.

You can pass your turn and do nothing by positioning the mouse pointer over your character and clicking the left mouse button, or by pressing the spacebar.

THE MESSAGE DISPLAY

At the lower right of the screen is the Message Display. All text describing things you see and hear, as well as the results of your actions, is shown here. When a message is too long to fit on the scroll, a flashing, downward-pointing arrow appears at the bottom of the Display. Press the spacebar or click in the Message Display to view the rest of the message.

THE STATUS DISPLAY

In the upper right-hand corner of the screen is the Status Display. This normally displays a roster of all the members of your party, along with each character’s figure and current health points. A character whose health points are displayed in red is hurt badly; one whose health points are green is poisoned.

- If you click on a character’s name (or press a function key which corresponds to a character’s position in the party [F1-F7]) you will be shown their Inventory.
- If you are using the keyboard, the first time you press <Tab> the cursor shows on the Map. Pressing the <Tab> key again moves the cursor from the map to the Status Display, you can then move to any item or button using the arrow keys or numeric keypad, and press <Enter> to select it.
- The Plus (+) and Minus (-) keys display the next and previous characters respectively.
- Pressing F10 or / returns to the main Party Display.
- The asterisk (*) key will toggle between a character’s Portrait and his Inventory Display.

Character Statistics

STR (Strength) — determines how much a character can carry, and how effectively they can strike with bludgeoning weapons. It also affects your Health Maximum (**HM**).

DEX (Dexterity) — determines how fast they are (faster characters get to move and/or attack more often), and how effective they are with non-bludgeoning weapons such as bows and swords.

INT (Intelligence) — determines the character’s effectiveness in casting spells, and in using certain objects.

HP (Health Points) — indicates how healthy you currently are, and how much damage you have taken in combat. If a character’s HP reaches 0, he collapses unconscious.

HM (Health Maximum) — indicates the maximum amount of health points your character can have. If your HP is the same as your HM, you are perfectly healthy.

Lev (Level) — increases as you gain experience points. Each time your Level goes up, you increase one of your attributes (STR, DEX, INT), and usually increase your maximum health. You must rest (see REST below) to increase your level.

Exper (Experience Points) — increases as you accomplish things in the game. You gain Experience Points for defeating hostile creatures in combat and completing quests. You lose Experience Points when you are knocked unconscious.

INVENTORY DISPLAY

To view a character’s Inventory, select one of the figures to the left of the roster by clicking the mouse or pressing F1-F7.

On the left side of the Inventory Display is a figure showing all equipment that is readied for immediate use — either held in the character’s hands, or being worn. If you are holding something that requires both hands, you will not be allowed to put anything in the other hand. On the right side of the Inventory Display are all other items carried by the character. To ready or unready an item, just click on it with the left mouse button. To look inside a container in your inventory, such as a bag, just click on it. Click on it again to return to the main Inventory Display.

Below the figure are two weights, measured in stones:

- E:** shows how much the items you currently have Equipped weigh, compared to the maximum weight you can have Equipped.
- I:** shows the total weight of your entire Inventory compared to the maximum weight you can possibly carry.

At the lower left of the Status Display are five buttons. From the left to right, their functions are: Show previous character, Return to Party Display, Switch between Portrait and Inventory Displays, Show Next Character, and Change Combat Mode. You can change a character's combat mode at any time, even in the middle of a battle. At the lower right, the character's current combat mode is displayed. To change modes, click the Change button, or if using the keyboard, press <Tab> and then press ~.

The four combat modes are:

Close — Charge and attack nearest enemy.

Retreat — Avoid combat.

Range — Stay at a safe distance and attack with ranged weapons.

Command — Lets you control that character's actions each turn, just as you do for your own character.

THE COMMAND ICONS

Underneath the Map are nine Command Icons. To use a command from the keyboard, simply press the first letter of its name. With the mouse, move the pointer to the Command Icon you want to use and click the left mouse button. Then select the object or person you want to use the command on. For frequently used commands, such as Get, Look, Attack or Use, you can set a command as the "shortcut" command for use with the right mouse button. Click with the right button on a Command Icon, and a box will appear around it. From then on, clicking the right button on any shape on the Map or in your Inventory Display will execute that command on that object. You can change the shortcut command at any time. For all functions other than executing the shortcut command, the left mouse button should be used.

The nine main commands are:

MOVE (M) is used to push an item or to transfer it between characters in the party. If you select an item on the Map, you can sometimes push it to a position adjacent to where it is. If it is something alive, though, it may not let you! This command can also be used to move things in and out of containers or from one character to another. For example, if you wish to give something in your inventory to somebody else, you select "Move," then select the object you want to give, then select the character you want to give it to.

GET (G) lets you pick up an object on the Map. You must be standing next to it. If it isn't too heavy to carry, and you have room for it, it will be put into your inventory.

DROP (D) can be used to lighten your load by getting rid of items you no longer want to carry. First, select the item in your inventory, then choose a spot on the Map to place it.

USE (U) operates any object that has some function. Among other things, it will let you open and close doors, cast a spell with a magic totem, mount riding creatures, light or extinguish fires, eat or drink food and beverages, or apply cloth bandages to wounded characters.

TALK (T) lets you converse with the people you encounter in the game. You can also speak with the other members of your party. After selecting **TALK**, you then select the character on the Map you wish to speak with. Their portrait will appear in the Status Display while they are speaking, and the Map window will change to display the conversation. You talk by typing single words on the keyboard and pressing <Enter>. Most words may be abbreviated to the first four letters (e.g., "dinosaur" may be abbreviated to "dino"). Most people will respond to the words "name," "job," "tribe," "bye." (The "bye" command ends a conversation. You can accomplish the same thing by pressing <Enter> without typing anything.) Some people will also respond to the words "join" and "leave," allowing you to add members to your party or remove them from your party.

During the course of conversation, people can give you an idea of what they're interested in talking about. You may activate the Help function (which defaults as ON when you start the game) and the subjects they want to talk about will appear in a different color on the screen; if help is off, you'll have to figure out the key words in their conversations. You can turn the Help function on or off by pressing **control-H**. Be aware that some people will also respond to other subjects not highlighted by Help mode.

LOOK (L) allows you to identify anyone or anything at the location you select, on the Map or in your inventory. When you use the **LOOK** command on an object you are adjacent to, you will also search it. This will reveal the contents of packs, bags, etc.

ATTACK (A) is used to fight monsters, animals, or people, or to attempt to destroy objects. After choosing the **ATTACK** command, choose a target on the Map that is in range of the weapon you have readied.

REST (R) lets your party set up a camp, recover health, and gain experience levels. To make camp, you must be in a relatively large, clear area. You can rest until sunrise or sunset, or specify a number of hours (1 to 9). A character will not regain health if they do not have food.

BEGIN/BREAK OFF COMBAT (B) switches back and forth between party mode and combat mode. In party mode, the members of your party automatically follow you around. In combat, each character will behave according to the combat mode you have selected for them on their Inventory Display. When you begin or break off combat, the image of Fabozz at the top of the view screen changes to indicate whether you are in party (calm face) or combat (angry face) mode.

USING SHAMANISTIC MAGIC

Only trained shamans such as Triolo may invoke the spirits. To cast a spell, "Use" the desired totem (skull) in the shaman's inventory. You will then be asked which offering to use. Select the offering from the character's inventory. The table below lists the combinations of totems and offerings and their magical effects.

TOTEM	OFFERING		
	CHOCOLATL	PINDLE	YOPO
HELUIZZ (Human Skull)	Light	Eagle Eye	Detect Hostile
APHAZZ (Gorilla Skull)	Charm Enemies	Heal	Protection
MOTAZZ (Jaguar Skull)	Summon Animal	Curse Enemy	Battle Frenzy

KEYBOARD COMMANDS

- **CTRL-S** Save Game.
- **CTRL-R** Restore Saved Game.
- **CTRL-Q** Quit to DOS (Note: The game is NOT saved when you select this option).
- **CTRL-H** Toggle Help Mode ON/OFF.
(Help highlights key words in conversations.)
- **CTRL-Z** Toggle Music & Sound ON/OFF.
- **1 through 7** Activates Solo mode for corresponding party member. In Solo mode, one party member can move around and perform actions while the rest of the party waits inactively. You cannot talk to people or enter caverns while in Solo mode.
- **0 (zero)** Returns to Party Mode.
- **Escape** Aborts most game functions.
- **F1 through F7** Activates Inventory Display for corresponding party member.
- ***** Toggle between Portrait and Inventory screens in Status Display.
- **/ or F10** Display Party Roster.
- **~** Change Combat Mode.
- **+** Move to next character's Status Display.
- **-** Move to previous character's Status Display.

Valley of the Lizards

Chapter One: Strange Departures by "The Avatar"

The roar—a shrill bellow like metal dying in the
of crushing machinery—broke the stillness of the
st, startling birds into flight, waking me from sleep.

But the forest was strange. Huge, thick trees like
sted palms blotted out the sunlight; giant ferns
grily devoured what little light made it to the forest
r. The fleeing birds were misshapen, with short,
by wings, long-plumed tails, beaks filled with teeth,
cold, reptilian eyes.

And I didn't know why I was here. I had no memory
coming to this place, of ever having seen it before.
Quickly, I rose and took stock of the situation, of
self.

I was dressed for the occasion: I wore durable
ng pants, a rugged safari-style shirt, and high boots
ch could withstand a lot of abuse in the field. On
belt was a sheathed Bowie knife, an old and trusted
nd. And I was—I was—

That brought me up short. I didn't know *who* I was.
name and my reason for being here were utterly
re. There was a hard pocket of vacuum where my
mory should be.

That distant scream sounded again, startling me out
ny reverie. I began moving in that direction.
haps, where things were happening. I'd find some
to the memories which were locked away from me.

Was this a dream? I pinched myself, and wished I
ln't; it smarted. I concentrated on my surroundings,
l the level of detail I perceived didn't suggest a
am. I saw hundreds of light-slivers penetrating the
en canopy above, I felt the oppressive, humid weight
the air, I smelled the myriad odors of a living jungle.
his was a dream, it was dangerously real.

Ahead, the jungle opened into a clearing. Branches
l fronds above lengthened to block out the sun,
ept for one dazzling shaft of golden sunlight which
ick down at the center of the glade. I moved
ward, taking advantage of available cover, trying to
t whatever thing had made that terrible cry.

As I reached the edge of the glade, I spotted
vement: A silhouette, a lithe form moving gracefully
ough the clearing, carrying a spear at the ready. The
ure brushed past the shaft of light and was
minated.

It was a young woman.

She was part of this place, no outsider like myself.
Her abbreviated garments were cut from leopard-
spotted furs. The head on her spear was stone. The
coppery tone of her skin suggested the aboriginal tribes
of the Americas. And her features—

She didn't have the pouty, perfect features
preferred by modeling agencies, but oh, she was
beautiful. Her brown eyes were alert, and there was
intelligence and concentration in them. Her lips,
slightly parted, carried no expression, but looked as
though they were made to curl into a heart-rending,
happy smile. Her dark hair was a wild, tumbling
mass—a look natural and effortless for her, and which a
thousand hair stylists could never duplicate. She had
the balanced and confident step of an athlete. She was a
jungle cat reincarnated as a woman.

I must have made some noise, for the woman
turned, on guard, the shaft of light spilling across her.
She turned her face in my direction. It was unlikely she
could see me, but her eyes seems to fix on me. Like one
arrested by the gaze of a panther, I froze.

Then that metallic scream sounded again—from just
the other side of the glade. The woman whipped around
to face it, and both she and I saw the source of the
scream.

It lumbered out of the gloom, a silhouette as tall as
a two-story house; giant reptile moving on two massive
legs. It was all in darkness, except for its teeth, a double
row of serrated fangs picked out by a stray shaft of
light.

It charged the woman, moving like a hungry
express train. Not thinking, I did the same,
hoping—what? To catch her up and outrun that eating
machine on legs? To drag the reptile down and butcher
it with my pitiful knife? I didn't know. I didn't think. I
moved.

But in an instant, the light faded, except where I
stood. Gone were the noise and humidity...all vanished
as though someone killed the lights and struck the set in
one second. I stopped, alert, trying to slow my breathing
in spite of the adrenaline that had just jolted through me.

"The place is real."

Please see the Savage Empire on-line
documentation for the continuation of "Valley of the
Lizards-Chapter One" and other stories.

Seven Cities of Gold™

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Installing Seven Cities of Gold

You will need at least 3.5MB of free hard disk space for this game.

1. Insert the CD in your CD-ROM drive, type **D:** (or your CD-ROM letter) and press **Enter**.
2. Change directory to 7CITIES. Type **CD\7CITIES** and press **Enter**.
3. Type **INSTALL** and press **Enter**.
4. Once the install program loads, the installation screen will appear.

There are a number of options listed at the bottom of the installation screen that are available prior to installation. Press the appropriate **FUNCTION** key to use an option:

- F1** Help: This gives you EA's customer support phone number .
- F2** Visit DOS: Go to a DOS shell. Type **EXIT** to return to the install program.
- F3** System Summary: This will give you a hardware summary of your computer.
- F9** Exit: Quit the installation program and return to DOS.

If you do not want to use any of the **FUNCTION** key options, you can begin to install 7COG onto your hard drive. The installation menu lists these three options:

Install Seven Cities of Gold – Commemorative Edition

Configure Sound

Exit

To leave the installation program and return to the DOS screen, highlight "Exit" and press **Enter**. To begin installation, highlight "Install Seven Cities of Gold – Commemorative Edition" and press **Enter**. You'll then be asked what subdirectory you'd like to install the game to, and you'll see a list of available hard drive partitions. Highlight the drive you want and press **Enter**.

- Next, enter a name for the 7COG subdirectory. The default name is 7CITIES. If you accept this name, press **Enter** to begin installing the game. If you want to rename the subdirectory, press backspace over the default name and type in a name of your choice. Remember to use a valid 8-character DOS name for the subdirectory.
- Once the installation is complete, you can set up the game to run properly with your sound board.

Highlight CONFIGURE SOUND and press **Enter**. If you have the SET BLASTER variable in your AUTOEXEC.BAT file, the installation will detect this and prompt you that it has been found. You can then run a test to verify that the game will run properly with the current sound settings. If you hear the digitized sound effect when you run the test, then everything will be fine when you play Seven Cities.

If the SET BLASTER variable isn't set in your AUTOEXEC.BAT file, you will have to manually select and configure the game for your sound card, using the following steps:

- Highlight the sound board installed in your computer and press **Enter**.
- Enter the Digital Audio Port that your sound card is set to and press **Enter**. In most cases, this will be 220, the default setting. If you have changed this setting, please highlight and select the correct port address and press **Enter**.
- Enter the IRQ number that your sound card is set to and press **Enter**. Please highlight and select IRQ 5 for Sound Blaster and press **Enter**.
- Finally, you can test the settings you have selected. Press **Y** to execute the sound test. If you hear a digitized sound effect, then everything is set up correctly and the

game will run properly with your sound card. If there is a problem, a message will be displayed. You should then re-enter the port and IRQ settings and run the test again. Refer to the manual that came with your sound card for assistance.

- Once you have completed installation and sound configuration, the program will return to the main menu. You can now quit the installation and start a game. See the Starting A Game section of this manual (immediately following) for information.

Starting A Game

- Type **C:** and press **Enter**. (This assumes that your hard drive letter is C. If it isn't, type the appropriate letter and press **Enter**.)
- Type **CD\7CITIES** and press **Enter**. If you gave the subdirectory a name other than 7CITIES, type the directory name after **CD** and press **Enter**.
- Type **7COG** and then press **Enter** to start playing Seven Cities of Gold.

Selecting Options

In most cases, you select Options as described below. Any exceptions to this are noted. (NOTE: There is no mouse support in Seven Cities of Gold.)

With A Keyboard

The **Ctrl** key is the main action key in the game.

Use the up/down arrow keys, or 8 and 2 keys on the numeric key pad to highlight Options. To select a highlighted option, press **Ctrl**.

Press **Alt** to execute the last Exploration option you selected. For instance, if you recently highlighted and selected See Map, press **Alt** to See Map again.

With A Joystick

Press the joystick up/down to highlight the Options. To select a highlighted Option, press joystick button 1.

Press joystick button 2 to execute the last Exploration option you selected. For instance, if you recently highlighted and selected See Map, press joystick button 2 to See Map again.

Getting Started: The Main Menu

There are five options from which to choose at the beginning of the game.

Start New Historical Game

Begins the historical Seven Cities scenario. This scenario takes place in North & South America.

Start New Random World Game

Sets up and begins a random game. Your computer will generate land masses, populate them with Natives, and stock them with Resources.

Restore Saved Game

Restarts a previously saved game. This option appears only if you have a saved game.

Use Joystick

Switch from keyboard controls to joystick controls. After you select this option, press button 1 on your joystick to activate it, or press **Esc** to cancel the option.

Use Keyboard

Toggle keyboard controls on/off. This selection will appear only if you select Use Joystick.

Quit to DOS

Return to the DOS screen and quit playing Seven Cities of Gold.

Object of the Game

The object of Seven Cities of Gold is to explore a New World, find and gather resources, trade with Native peoples, and establish Missions, Forts, and Settlements to spread the rule of the King & Queen you serve.

Game Levels

There are three difficulty levels in Seven Cities of Gold: Novice, Journeyman, and Expert. The Level Selection requester will appear immediately after you select the kind of game you want, Historical or Random. Select the game level you want at this time.

Game Level determines the amount of gold you have at the beginning of the game.

Novice	2500 gold
Journeyman	2000 gold
Expert	1500 gold

Problems With The Game

To free up additional memory refer to the Problems with the Game section at the end of this manual for information on creating a DOS boot disk. DOS 6.0 users can alternately set up a multi-boot configuration. Refer to your DOS manual for information.

When creating a DOS boot disk or a multi-boot setup, make sure the following lines appear in your CONFIG.SYS file:

```
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE 1024RAM
DOS=UMB
DOS=HIGH
FILES=40
BUFFERS=40
DEVICEHIGH=C:\SB16\DRV\<CD-ROM Driver>
(DOS 6.0 Doublespace users should include the next line)
DEVICEHIGH=C:\DOS\DBLSPACE.SYS /MOVE
SHELL=C:\DOS\COMMAND.COM C:\DOS /P
```

Don't forget to include the SET SOUND= and SET BLASTER= lines in your AUTOEXEC.BAT file so you will hear sound while playing Seven Cities of Gold. Also include Prompt SP5G and the line that begins "Path=C:\...".

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SHADOWCASTER™

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INSTALLATION

If you are running a disk cache such as *Smartdrive*, you will need to disable it prior to installing *Shadowcaster* to insure a clean installation. This only affects the installation, Smartdrive will work normally during gameplay.

Insert CD-ROM into CD-ROM drive.

Type the letter of your CD-ROM, a colon, then press **Enter**.

Type CD\SHADOW **Enter** then type INSTALL **Enter**.

The Main Menu appears:

```
INSTALL SHADOWCASTER
CONFIGURE SOUND
EXIT
```

To select a menu item, use **↑** and **↓** to highlight the option you want. Select Install Shadowcaster.

The highlighted option appears as blue text in a gray box.

Press **Enter** to select a highlighted option.

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Other options on the screen:

- F1** HELP
- F2** VISIT DOS (for small tasks)
- F3** SYSTEM SUMMARY
- F9** TO QUIT

5. You must install *Shadowcaster* on a hard drive. The installation program detects what drives have enough free space and lists them. Use **↑** and **↓** or type the letter of the drive on which you want to install *Shadowcaster*.

Note: DoubleSpace drives will prompt a warning message. Select Y and continue. Shadowcaster has been fully tested with the DoubleSpace disk compression utility that shipped with MS-DOS version 6.0. We cannot guarantee the compatibility of our game with other disk compression utilities.

6. Press **Enter** to select the default directory, or choose another by typing the directory name and pressing **Enter**. The default directory will be SHADOW, unless there is already a SHADOW directory on your chosen hard drive. In that case, the default will be CASTER.
7. Once the program begins installing files on your hard disk, you may abort installation by pressing any key.
8. When you return to the Main Menu after installation, the CONFIGURE SOUND option is highlighted. Press **Enter** to configure sound. Your options:

SOUND BLASTER PLUS GENERAL MIDI DEVICE (Sound Blaster plays your sound effects and General MIDI plays the music.)

SOUND BLASTER ONLY (Sound Blaster plays both your sound effects and music.)

GENERAL MIDI DEVICE ONLY (General MIDI plays music, and you will have sound effects.)

NONE (You will have neither sound effects nor music.)

Once the digitized sound configuration information is available, this next screen appears.

SHALL I PERFORM A SOUND EFFECTS TEST USING PORT XXX
AND IRQ X, AND DMA CHANNEL X?

Press **Y** to hear the sound effects test, press **N** to skip it, or press **Ctrl X** to exit the installation program. If you press **Y**, you will hear a "shimmery" sound effect.

If you chose either option involving General MIDI, you will be presented with screens asking you for the correct port and IRQ for your General MIDI device. Then the following box appears.

SHALL I PERFORM A MUSIC TEST USING PORT XXX AND IRQX?

Press **Y** to hear the music test, press **N** to return to the Main Menu, or press **Ctrl X** to exit the installation program. If you press **Y**, you will hear a brief fanfare. You are then returned to the Main Screen.

If you do not hear either the music or sound effect, consult Troubleshooting and/or General MIDI.

When installation is complete, select EXIT to return to DOS. You will be in the directory in which you installed the game. To play, type SHADOW.

9. If you have never played *Shadowcaster* before, consult the TUTORIAL WALKTHROUGH in the on-line documentation that explains everything you need to know to get started. If you encounter any difficulties, consult the Troubleshooting section. If problems persist, call ORIGIN Product Support.

CHANGING YOUR CONFIGURATION

Whenever you ever add a sound card (or change from one sound card to another) you will need to reconfigure your sound system.

Simply return to the drive and directory where you installed the game and type INSTALL. This allows you to change the selections you made when you originally installed *Shadowcaster*. Select CONFIGURE SOUND from the menu and follow Step 8 from Installation.

OPTIMIZING YOUR SYSTEM

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

Do not delete your AUTOEXEC.BAT or CONFIG.SYS files completely—without them, your computer will not function.

CREATING A BOOT DISK

To create a separate boot disk, insert a blank high density disk in your A: drive. From the DOS prompt, type:

```
FORMAT A:/S Enter
```

Once you have completed the instructions below (in this section) and are ready to use your new boot disk, turn your computer off, insert your new boot disk in your A: drive and turn your computer back on. The boot disk should run and automatically take you into *Shadowcaster*.

Modifying CONFIG.SYS

To modify the CONFIG.SYS on your boot disk, when the format is complete the DOS prompt returns, type:

```
EDIT A:\CONFIG.SYS 
```

The boot disk's CONFIG.SYS should resemble the following:

```
DEVICE=C:\DOS\HIMEM.SYS
DOS=HIGH
FILES=30
BUFFERS=30
SHELL=C:\DOS\COMMAND.COM C:\DOS /P
DEVICE=C:\SB16\DRV\<CD-ROM DEVICE DRIVER>
(Users with DBLSPACE should include the next line)
DEVICE=C:\DOS\DBLSPACE.SYS /MOVE
(Users with DRVSPACE [DOS 6.22 only] should include the next line)
DEVICE=C:\DOS\DRVSPACE.SYS /MOVE
```

<CD-ROM DRIVERS) depend on your individual CD-ROM drive. Consult your CD-ROM installation guide for more information.

EMS memory is not necessary to play Shadowcaster!

Bus Mastering Hard Drive Controller users may need to load SMARTDRV.EXE double buffering driver in the CONFIG.SYS if they encounter graphic distortions. Example: "Device=C:\DOS\SMARTDRV.EXE DOUBLE_BUFFER"

Exiting CONFIG.SYS and Modifying AUTOEXEC.BAT

After typing these lines, you should exit and save your file:

```
 
```

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

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

Type at the new screen:

```
PATH=C:\DOS, C:\
@ECHO OFF
PROMPT $P$G
LH C:\SB16\DRV\<MSCDEX.EXE DRIVER>
(Insert your mouse device driver here)
SET BLASTER=A220 I5 D1 H5 P330 T6 (default settings)
SET SOUND=C:\SB16 (default)
C:
```

the AUTOEXEC.BAT file does not vary with different memory drivers.)
The "Blaster" environment may vary if you change the configuration of the Sound Blaster sound card.

"SB16" is the default directory name in which the Sound Blaster software was installed.

The MSCDEX.EXE CD-ROM driver is located in a directory that was created when your CD-ROM hardware was installed. MS-DOS 6.0 user: the MSCDEX.EXE driver is also located in the C:\DOS directory.

You may also add SMARTDRV.EXE to the above configurations to improve system performance, to the AUTOEXEC.BAT add:

```
CL "C:\DOS\SMARTDRV.EXE 2048" or
"CLH C:\DOS\SMARTDRV.EXE 2048"
```

Hit and save the AUTOEXEC.BAT by typing:

```
 
```

Reboot your computer with the boot disk in your floppy drive, then play the game!

Disk Cache Set-Up

Before installing *Shadowcaster*, it is recommended that you DO NOT install the game with SMARTDRV.EXE active - put it in afterwards. To disable your disk cache type REM before the C:\DOS\SMARTDRV.EXE line in your AUTOEXEC.BAT file. This will cause the computer to skip that line when it reads the AUTOEXEC.BAT. To enable your disk cache after installation, delete the addition.

Users with only 4 megabytes of RAM should not specify more than 256K on the SMARTDRV.EXE driver line in the AUTOEXEC.BAT.

Users that have more than 16 megabytes of RAM may have install problems due to DMA functions only being able to access up to 16 megabytes. If you have a problem, try using a large SMARTDRV.EXE cache and/or RAMDRIVE.SYS ram drive. Don't trick the game into thinking that you have less memory.

Mouse Set-Up

Be sure that you are using a 100% Microsoft-compatible mouse driver—a Microsoft version 7.0 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 may differ from mouse to mouse, consult your hard drive's AUTOEXEC.BAT or your mouse user's guide.

One example:

C:\MOUSE\MOUSE.COM

Be sure to include your specific mouse driver line in the AUTOEXEC.BAT file on your boot disk. When you want to play *Shadowcaster*, insert this boot disk in the A: drive and start or restart your computer.

Expanded Memory

Expanded memory is not crucial to play *Shadowcaster*—once running there is no difference between base RAM, EMS and XMS. But an upper memory manager such as Quarterdeck's QEMM386.SYS and Microsoft's HIMEM.SYS is required. These memory managers are installed by adding the device line to the CONFIG.SYS file on your computer.

Do not change EMS or XMS configuration once you've started playing *Shadowcaster*. There is a possibility that mid-game reconfiguration may prevent you from continuing the game.

STARTING SHADOWCASTER

1. From the hard disk prompt, (example C:), type CD\SHADOW or the name of the subdirectory where *Shadowcaster* is installed. Press **[Enter]**.
2. Type SHADOW **[Enter]**.

TROUBLESHOOTING

Q: *My mouse is not working with Shadowcaster. My mouse works with all of my other software applications; why not with Shadowcaster?*

A: If your mouse is not working with *Shadowcaster*, you should make sure your mouse has been loaded in DOS (in your AUTOEXEC.BAT file) or onto the boot disk you are using to play the game. *Windows* and many other "multi-tasking" environments load their own built-in mouse driver. These mouse drivers will not operate outside of their shell environment. Loading a mouse driver into the DOS environment can be as simple as typing MOUSE **[Enter]** at the command prompts. For example:

C:\>MOUSE **[Enter]**

This command can differ from mouse driver to mouse driver. Please consult your mouse user's guide and **Mouse Set-Up** for further details.

My game runs slowly and occasionally locks up.

As you may be loading other software that is not compatible with *Shadowcaster*. First, try running your game from a system boot disk. Refer to **Optimizing Your System** to create a boot disk. *Shadowcaster* is only compatible with Microsoft DOS 5.0 or higher. Also, it is not compatible with 286 PCs. You must use a 386-33, 486 or faster PC.

Why does my game crash when I try to play Shadowcaster while I am logged into our LAN (local area network)?

LAN software often tries to take over the same system resources that *Shadowcaster* uses. Often the two can coexist, but occasionally they can't. If you have strange problems with *Shadowcaster* while your LAN drivers are loaded, try booting from a clean boot disk that does not load your LAN drivers. Please refer to **Optimizing Your System**.

Why does the game crash when I try to play Shadowcaster through Microsoft Windows (Windows NT, IBM OS/2, Desqview, etc.)?

"Multi-taking environments"—*Windows*, *Desqview*, *IBM OS/2*, and so forth—often conflict in their use of memory and other system resources with *Shadowcaster*. We do not recommend playing *Shadowcaster* under these circumstances. Even if you do run the game under a multi-tasker, do not swap to another application while playing. In general, we recommend that you exit *Windows* (or similar applications) and play from the DOS prompt.

During installation, an error message reported that I have a "DOS Error—CRC Data Error reading drive x:"

This error message indicates that you have a bad or corrupted CD. Review the warranty information listed in the back of the manual and call Creative Labs Customer Service.

I have a 100% compatible sound card, but I'm not getting any speech or sound. Why not?

Your sound card may have to be put into "SB" (Sound Blaster) emulation through its software or a switch setting on the card. Consult your sound card manual or its manufacturer.

A: It's also possible that you specified incorrect values during sound configuration. Please recheck your sound card documentation for the proper values and try reconfiguring sound.

A: Your General MIDI soundcard may not support the MPU-401 instruction set. See **General MIDI** below.

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

A: Copy down the error code and information the computer displayed when it exited to DOS. Then see ORIGIN Product Support in the back of this manual.

GENERAL MIDI

Shadowcaster has joined the next generation of sound quality with its support of the General MIDI standard as defined by the MPU-401 instruction set. At the time of this publishing, only a few cards support MPU-401. These cards include the Roland SCC-1, Roland RAP-10, and the Creative Labs Sound Blaster 16 with the attached Wave Blaster daughterboard. Other manufacturers have already 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.

Note: some General MIDI sound cards offer digitized speech or sound effect capabilities. However, in the case of sound cards like the Roland RAP-10, customers will need to use a second sound card such as a Sound Blaster, Sound Blaster Pro or 10 compatible sound card for digitized speech and effects. Review your sound card documentation or contact the manufacturer if you have any questions.

GAME REFERENCE

TALKING, RUNNING, SWIMMING. Press and hold left mouse button while cursor is in View Window. The farther from the center of the window your cursor is, the faster you move. The shape of the arrow determines direction.

JUMPING. Press the right mouse button while jump icon is selected and the cursor is in the View Window. Your speed determines how far you jump.

COMBAT. Left-click on a hand, foot or other attack icon to activate it, then right-click on your target.

PICKING UP AND DROPPING OBJECTS. Right-click on object to pick it up. Right-click near bottom of View Window to drop object.

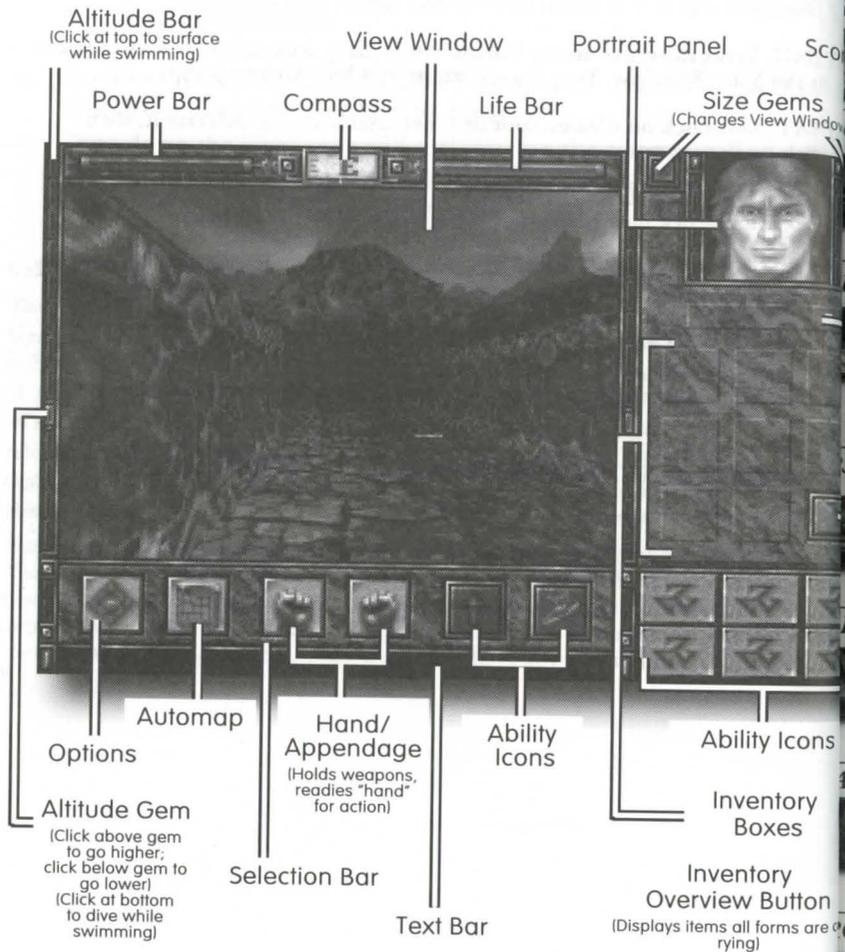
ACTIVATING THINGS. Activate icon or hand-with-object by left-clicking, then right-click cursor over target.

OPENING AND CLOSING. Right-click on object.

CURSOR. *White Arrow* inside View Window. No option is currently selected.

- *Black and Red Crosses.* Hand/appendage is selected.
- *Orange and Black Circles.* Ability is selected.
- *Glowing Blue Cross.* Ability is selected.

MAIN GAME SCREEN



ART AND HIS METAFORMS

ties in **bold face** type do **not** use Power.

RT



Sc

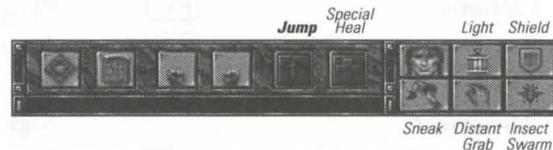
ORIN

Faster, can stand more punishment and can deal out much more damage than a human. Drowns quickly.



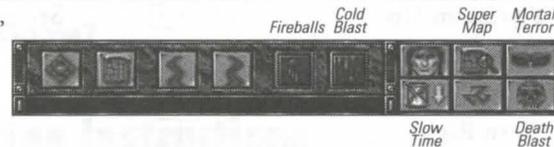
UN

Ineffective fighter, but heals approximately 10 times as quickly as a human.



SIS

Ineffective fighter, powerful spellcaster.



HPA

Surprisingly tough, can breathe underwater. Good in hand-to-flipper combat.



AIR

Can both take and inflict enormous damage. Has a powerful tail attack.



OST

Can punch through some stone walls. Almost impervious to physical attacks. Can survive extremely hot environments.



KEYBOARD CONTROLS

Use of the mouse may be supplemented by the following keyboard commands

Mouse

Left Click Enter

Right Click Spacebar

Game System

Toggle between Normal mode
and Mega mode Tab

Options F1

Sound F7

Music F8

Movement

Fly/Swim Down -

Fly/Swim Up +

Move Ahead ↑

Turn Left ←

Turn Right →

Back Up ↓

(Keypad)

Move Ahead 8

Move Ahead Left 7

Move Ahead Right 9

Turn Left 4

Turn Right 6

Sidestep Left 1

Sidestep Right 3

Back Up 2

Selection

Up

Left

Right

Down

Open/Close

Pick Up/Put Down

Automap

Left "Hand"

Right "Hand"

First Ability

Second Ability

Space Hulk™

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Loading Instructions

Before playing Space Hulk™ you need to install the program on your computer's hard drive. The hard drive must have 8.5 megabytes of free space.

1. Boot the computer with DOS (any version above 3.3).
2. Insert CD-ROM into your CD-ROM drive.
3. Type the appropriate drive letter and press **<ENTER>**.
4. Type **CD\HULK** and press **<ENTER>**.
5. Type **Install D: C:** and press **<ENTER>**. Substitute the appropriate drive letters for your CD-ROM and hard drive.

Starting the Game

To play Space Hulk, your computer needs at least 580k of free base memory and a minimum of 260K of EMS. Configuring more EMS gives you more sound effects and makes the game run faster. For more information on configuring Expanded Memory, see the Boot Disk instructions in *Problems With The Game* section in this reference.

1. Type **C:** and press **<ENTER>**. (If Space Hulk was not installed on the C drive, enter the correct letter.)
2. Type **CD\HULK** and press **<ENTER>**.
3. Type **HULK** and press **<ENTER>**.
4. The introduction sequence begins. To skip the intro press the **left** mouse button.

Essential Information

This computer adaptation of Space Hulk contains a number of very different features which you have not seen in other games. The following section details everything you need to know about the characters you control and the processes that act upon them.

Space Hulks

The Hulks of today are the space craft of yesterday. Scarred by the cold and debris of deep space they resemble giant monoliths of twisted metal, rock and ice, blended together by an eternity of warp travel. It is these drifting relics which aid the Genestealers in their striving for destruction. The Space Hulks hold colonies of Genestealers, waiting until the gravity of a nearby planet draws the craft in. The discovery of a Space Hulk signifies the beginning of the destruction of any rival life forms.

For more information, see the *Mission Descriptions* section in the Space Hulk on-line documentation.

Terminators

First there were the Space Marines. Superbly powerful, bio-engineered warriors whose vigilance defended the Imperium from any menace that

chose to disrupt the peace. When the Genestealers were first discovered, the Space Marines met their match and many a squad were overwhelmed and destroyed as they searched through the cavernous depths of the Space Hulks.

The elite Terminators were called upon to purge the foe from the face of the Imperium. Their immense armored suits gave them defense against the claws and teeth of the Genestealers. The Storm Bolters™ at their side robbed the enemy of life and their Lightning Claws™ were a match for the close combat effectiveness of the Genestealers failing limbs.

For a detailed description of the Terminators, see the *Mission Descriptions* section in the on-line documentation.

Genestealers

The Genestealers. Even the thought of them invoked a fear of the unknown, a fear of the process which had earned them the name.

Their claws could rip through steel with ease, and their tough hides were capable of deflecting the hardest projectiles. It seems they were controlled by some hideous higher power, coordinating their attacks through some psychic link to strike again and again at the weakest points in any attacker's defenses. In combat they were unbeatable—until now.

For a detailed description of the Genestealers, see the *Mission Descriptions* section in the on-line documentation.

Your Role in the Game

In this computer adaptation of Space Hulk, you assume the role of an Imperial Captain of the Dark Angel Chapter of Space Marines. From the circling Space Marine warship, you view and control the movements of the Terminator squad. Cocooned in the control room you view the action through cameras mounted on the armor of each Terminator. Watch the View Screens as your men face threats in Real Time. Evaluate the situation and use the Planning Screen and the Freeze Time option to plan and transmit the orders to your squad. If any of the Terminators come under pressure, you are able to give them direct instructions in Real Time. This enables you to, in effect, take control and manipulate his moving and shooting actions as if you were the Terminator.

For more details, see the *Planning Screen, Terminator View Screens & Giving Orders in the Space Hulk* on-line documentation.

Overwatch

Controlling an elite squad of five battle-hardened Terminators would be even harder if it wasn't for the Overwatch mode.

Overwatch translates as "being aware of the surroundings."

Imagine a Terminator moving through a corridor while in Overwatch. He is aware of anything in his path. If the Terminator senses that a threat is nearby, he stops, waits for the menace to show itself and fires until the Genestealer has been destroyed, then continues to his destination. Imagine the same Terminator moving without Overwatch. A Genestealer shows itself for an instant, but possibly due to the poor light, appears to dissolve into the shadows. The Terminator does not react, continues on his route and stands a greater chance of being killed.

Overwatch is the default mode for moving. This means that every order you construct is in Overwatch unless you choose otherwise. Terminators in Overwatch mode only react to threat within their line of sight.

For further information, see *Giving Orders, Planning Screen & Terminator View Screens* in the on-line documentation.

Freeze Time

In Space Hulk, you can move between Real Time and Freeze Time with the press of a button. Freeze Time gives you the chance to pull everything together and take a breath. Switch to Freeze Time and then go to the Planning screen to take a look around the map, identify potential problem areas and respond by giving orders. Freeze Time is *not* a pause. At the start of every mission you are given a limited amount. As soon as Freeze Time is activated, the amount begins to decrease. When you switch back to Real time, your Freeze Time amount *increases*. The amount you have is displayed on the Freeze Time Allocation bar.

For more information, see *Giving Orders, Planning Screen & Terminator View Screens* in the on-line documentation.

Quick Start

The Quick Start guides you through the first basic tutorial. It enables you to gain a basic understanding of how to make a Terminator move and fire. To gain a further understanding of the game you need to read *Giving Orders and Game Tactics*.

1. Load Space Hulk by following the instructions at the beginning of this manual. When the Mission Selection screen appears, **left-click** on Mission Training.

Note: At any time during the mission selection and preparation process a previous screen can be accessed by **right-clicking**.

2. Now **left-click** on Start Basic Tutorial. This takes you into the briefing phase.

3. The Imperial Commander welcomes you and explains the basic mission plan. **Left-click** after every sentence and then move to the detailed mission briefing. Using the map of the Hulk that appears on the left of the screen, the Commander goes through the initial points of deployment, objectives and pick-up areas for the victorious squad. **Left-click** to end the briefing. You are now transported to the Space Hulk.

4. Only one of the View Screens is active. The display gives you a view from Terminator number 1 (note the number in the top left of the display). The letters next to the Terminator number tell you what weapons he is carrying. The Terminator in this mission carries a Storm Bolter (SB) and a Power Glove™ (PG).

For a list of the abbreviations see *Weapon Descriptions*.

Left-click on the Freeze Time On/Off button to bring the game out of Freeze Time and into Real Time. When the game is in Real time, everything happens at its normal speed.

Example: A Genestealer that becomes "frozen" by the use of Freeze Time can start to thunder down the corridor towards you during Real Time.

5. Control the Terminator by using the mouse or **cursor keys**. As you move the mouse pointer to the edges of the View Screen, it changes into a directional arrow indicating the possible command—to move in that direction **left-click**. Using the mouse control, move the Terminator down the corridor to the door. As you move, watch the Scanner. The green blip is the Primary Terminator. As you move, the Scanner follows your progress through the Hulk.
6. Press the UP cursor once to open the door. Practice turns and walking backwards to get the feel of the controls. Notice the scanner in the left of the screen moves as you do.
7. Move the mouse pointer *into* the center of the View Screen. The arrow changes to a cross-hair. **Left-click** and watch a bolt from your Storm Bolter shoot off down the corridor and explode against the wall. Move your Terminator back to the original starting position. **Left-click** the Freeze Time button.
8. **Right-click** on the scanner to go to the Planning Screen. **Left-click** on the Move icon and **left-click** again at the end of the corridor you're in. The program decides the quickest route, red arrows show the movement you have constructed.

Left-click at the end of the corridor near the two doors. The Planning Screen should now show a route from the starting point down to the furthest door.

Finally **left-click** in the grey square at the bottom right of the map. This is the pick-up square that the Imperial Commander mentioned in the detailed briefing.

9. **Right-click** on the Overhead Map to return to the Viewer Screen.
Left-click the Freeze Time button to exit into Real Time play, and watch the Terminator follow the route you have set out.
10. When he enters the rescue square, the tutorial ends and you receive the Mission Debriefing.

Here endeth the lesson.

Keyboard Commands

F1-F10	Select Terminator
F	Switch between Freeze Time & Real time
Cursor Keys	Scroll view or control Primary Terminator
P	Pause
SHIFT (hold down)	Link/Duplicates orders. Select Terminators while holding SHIFT key
T	Quit Mission
SHIFT-Q (only in pre-mission screens)	Quit to DOS
SPACE BAR	Swap squads (two squad mission only)

Problems With The Game?

If you are having a problem installing or playing the game, we want to help. First, please make sure you have read the installation and start-up section of the manual thoroughly, and make sure you have at least 8.5 megabytes free on your hard drive. If you have followed the directions in the documentation and are still having trouble installing or operating the software, refer to the **Problems With The Game** section at the end of this manual. Before attempting any of the suggestions, please make sure you are familiar with the DOS commands being used. Consult your DOS manual for more information.

DOS Boot Disk

If you are having trouble installing, experiencing unusual lockups, or other problems that do not appear normal, we suggest you try starting up your system with a DOS Boot disk. Here are the steps for creating a DOS Boot disk. Please follow these steps exactly.

1. To create a DOS disk you will need a blank disk the same size as your A: drive.
2. Type C: and press Enter.
3. Place the blank disk into drive A:
4. Type `FORMAT A:/S` and press Enter. Note: If you are formatting low density disks on a high density drive, use the following commands:
5.25 inch low density disk: `FORMAT A: /s /n:9 /t:40`
3.5 inch low density disk: `FORMAT A: /s /n:9 /t:80`
You will be prompted to insert a blank disk into drive A. Do so if you haven't. Press the Enter key when you are ready.
5. Once the disk is finished formatting you will be asked whether you wish to format another disk. Answer N and press Enter.
6. You now have a DOS boot disk.

Freeing Up Additional Memory Using the DOS Boot Disk

Users WITHOUT a memory manager: It is not possible to free up much more base memory without using a memory manager, which allows one to access Expanded Memory (EMS) or Extended Memory (XMS). Most memory ambitious games require Expanded Memory (EMS) while Windows usually uses Extended Memory (XMS).

Users with MS DOS 5: Rather than change your permanent system software configuration, you can use the Boot Disk and the EMM386 memory manager software included with MS DOS 5.0 to temporarily free up available memory.

Read This Section Completely Before You Begin

To configure the Boot Disk to free up OVER 610K of available base memory and to set up Expanded Memory (EMS):

1. Back up your `CONFIG.SYS` and `AUTOEXEC.BAT` files before editing them so that you can return to the originals if you have any problems. To back up the files type `"COPY C:\CONFIG.SYS C:\CONFIG.BAK"` and press Enter, then type `"COPY C:\AUTOEXEC.BAT C:\AUTOEXEC.BAK"` and press Enter.
2. Copy the `CONFIG.SYS` and `AUTOEXEC.BAT` files from the root directory (C:\) on your hard drive to the root directory (A:\) on the Boot Disk that you have just created.

Example: At the C: prompt, type `"COPY C:\CONFIG.SYS A:\"` and then press Enter. To copy the `AUTOEXEC.BAT` file, type `"COPY C:\AUTOEXEC.BAT A:\"` and press Enter.

3. Open the copy of the `AUTOEXEC.BAT` file using the EDIT program from MS DOS 5.0:
 - i. Type `"CD\DOS"` and press Enter.
 - ii. Type `"EDIT A:\AUTOEXEC.BAT"` and press Enter.
4. From the Boot Disk copy of the `AUTOEXEC.BAT` file, delete all lines except the following:

```
@ECHO OFF
PROMPT $P$G
PATH=C:\DOS
LH C:\SB16\DRV\<MSCDEX.EXE driver>
LH <PATH>\MOUSE.COM (or insert other mouse device driver here)
SET BLASTER=A220 D1 I5 H5 P330 T6 (default settings)
SET SOUND=C:\SB16 (default directory)
```

<PATH> is the directory in which your mouse driver is located, usually C:, C:\MOUSE, C:\DOS, or C:\WINDOWS.

Example: `C:\DOS\MOUSE.COM`

NOTE: Your mouse line may be different if you are NOT using the MOUSE.COM mouse driver. Do not change this line if it looks different.

Drivers that have a .SYS extension will be loaded through the CONFIG.SYS file and you should leave that line there when you are editing that file. If you have other questions about loading your particular mouse driver, consult your mouse or DOS manuals.

SET SOUND may vary if you did not use the default name of SB16.
SET BLASTER may vary if you changed your sound card's configuration.

5. Save the edited AUTOEXEC.BAT file and open the Boot Disk copy of the CONFIG.SYS file from within EDIT.

To save, press Alt-F to bring down the File menu and press the "S" key.

To open, press Alt-F, press the "O" key and then type "A:\CONFIG.SYS" and press Enter.

6. While still in EDIT, delete all lines from the Boot Disk copy of the CONFIG.SYS file EXCEPT the following:

```
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE 1024 RAM
DOS=HIGH,UMB
FILES=40
BUFFERS=40
DEVICEHIGH=C:\SB16\<CD-ROM Driver>
(Users with DOS 6.0 and doublespace include the next line)
DEVICEHIGH=C:\DOS\DBLSPACE.SYS /MOVE
SHELL=C:\DOS\COMMAND.COM C:\DOS /P
```

If you do not have these lines, enter them now. If the HIMEM.SYS and memory manager file are not located in the DOS directory, replace DOS with the name of that directory in the first two lines of the

above example. If you have not moved these files, then they will be located in the DOS directory and your file should look identical to the two lines above.

Note: If you are NOT using the EMM386 memory manager, consult your manufacturer's manual for more information on the proper way to load the program through the CONFIG.SYS.

7. Save the edited CONFIG.SYS file and Exit the EDIT program.

To save, press Alt-F and then press the "S" key.

To Exit the EDIT program, press Alt-F and then press the "X" key.

8. You now have a boot disk which will free up over 610K of available base memory and set up Expanded Memory (EMS). You can start your computer from this disk by inserting it into the A: drive and restarting your machine. Your computer will boot up to the A:\ prompt. Type "C:" and then press the Enter key to return to the hard drive.

For more information on editing your CONFIG.SYS and AUTOEXEC.BAT files, or on changing your startup configuration, consult your DOS manual.

NOTE: Users with DOS 6.0: If you are using DoubleSpace to increase the storage capacity of your hard drive, you must copy the DoubleSpace device driver information from the CONFIG.SYS file on your boot disk. If the DoubleSpace driver is not loaded when you start your computer using the boot disk, you will not be able to access any compressed areas on your hard drive.

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Ultima[®] VII

THE BLACK GATE[™]

Installation

1. Insert the CD-ROM into your CD-ROM drive.
2. At the DOS prompt, type the letter of your CD-ROM drive then <Enter>.
3. Type CD\ULTIMA7 <Enter>.
4. Type INSTALL D: C: <Enter>. Substitute the correct drive letters for your CD-ROM and hard drives.
5. Once installation is complete, type ULTIMA7 <Enter> to play.

Voodoo

Ultima VII uses a special memory manager called "Voodoo." This manager, created by ORIGIN, comes with your Ultima VII game. Voodoo will run on any 386SX or higher IBM PC compatible computer. It uses extended memory, so it can co-exist with the HIMEM.SYS driver. However, HIMEM.SYS is not necessary for Voodoo memory to function.

Expanded Memory (e.g., QEMM, 386MAX or EMM386).

The other popular memory manager, called Expanded Memory (EMS), is not compatible with Voodoo. If you are using an expanded memory manager (such as QEMM, 386MAX or EMM386) you must remove it to run Ultima VII. If you do not know how to do this (and if the following instructions don't help you), please call ORIGIN Customer Service for assistance. If you are familiar with this process, disable the EMS memory manager. The acceptable minimum configuration is an empty AUTOEXEC.BAT and a CONFIG.SYS with the lines:

```
FILES=20
BUFFERS=25
DEVICE=C:\MOUSE\MOUSE.SYS*
```

* Your mouse driver may be located on another path. Replace C:\MOUSE with the correct path if necessary.

If you wish to retain your original CONFIG.SYS file, refer to your DOS manual for how to copy it to another file name before making the changes.

HIMEM.SYS or XMM.

As mentioned above, an extended memory manager (XMM) such as HIMEM.SYS (which is compatible with MS-DOS 3.3 or higher) is compatible with Voodoo, and does not require disabling.

Disk Caches

If you have more than two megabytes of RAM, a disk cache will improve upon extended memory and increase the speed of the game. However, if you have a disk caching program that caches the floppy drive, we recommend that you disable the floppy caching before installing or running the game.

Available Memory

Your computer must have at least 640K of RAM plus one megabyte of extended memory to play ULTIMA VII The Black Gate. Regardless of the amount of RAM your computer possesses, there must be 524,000 bytes free to run the game. Sound and speech options can push this total to 561,144 bytes of DOS memory.

To find out how much free RAM your computer has before installation, run the DOS program, CHKDSK, by typing "CHKDSK" at the root directory prompt (e.g., C:\>CHKDSK). On some machines, CHKDSK may be located inside the \DOS directory. When you run the program, the last line of the information presented tells you how much free RAM there is. For example, the last line might tell you that the system has 565,239 bytes free.

If you have less than the required amount of free RAM, you will not be able to run the game until additional memory is freed. If you are not familiar with this process, please call ORIGIN Customer Service.

Freeing RAM

If you are familiar with this process, you can:

- Remove any TSRs and disk caches from your configuration.
- Use the DOS=HIGH command if you use DOS 5.0 or above.
- Remove from your AUTOEXEC.BAT and CONFIG.SYS files any memory-resident programs that are unnecessary for system usage. You can alter these files with the text editors included with MS-DOS. Consult your DOS manual for information on how to do any of these.
- Create a floppy boot disk (see the **Problems with the Game** section for how to do this). Be sure to include in your CONFIG.SYS file the information on page 1.

Never delete your AUTOEXEC.BAT or CONFIG.SYS files completely, for without them, your computer will not function as you expect it to.

Re-Installing

At some time you may want to re-install the game (generally, to change or add a sound card, or to adjust the IRQ/DMA settings). Follow these directions. (You won't need to use the CD-ROM the program is on.)

1. Type the letter of the hard drive where you have installed Ultima VII.
2. Change directory to where the Ultima VII files are (e.g. type CD\ULTIMA7 <Enter>).
3. Type INSTALL <Enter>
4. Follow the instructions for changing any of the Ultima VII settings.

Troubleshooting

Listed here are a few common problems and their solutions.

Speech fails to work after playing for only a short while.

You may have chosen an incorrect IRQ setting for your sound card. Reinstall the game from your hard disk to change the IRQ.

Speech skips lines of dialogue.

You may have an IRQ conflict. This means that another card is operating on the same IRQ as your sound card.

Ultima VII fails to load or run properly.

You may not have enough free RAM. Run CHKDSK to determine your computer's available RAM. Free up RAM if necessary.

You may have a memory-resident TSR program that conflicts with the game. Boot the computer from a DOS system floppy disk or remove memory-resident programs before running the game. See Voodoo earlier in this manual and Making a Floppy Boot Disk at the end of this manual.

You may need to remove your expanded memory manager.

You may have filled all free space on the active disk drive.

The mouse pointer doesn't respond properly.

Ultima VII supports the Microsoft Mouse and Microsoft Mouse Driver, version 7.0. Some other mouse brands may not be compatible.

The game runs too slowly.

Your hard drive may be fragmented. Run an optimization program, such as DOS 6's DEFRAG.

You may be able to use a disk caching program. If you have 4+ megabytes on your machine, a disk caching program can speed up your game.

None of the suggestions seem to help.

Refer to ORIGIN Technical Support information at the end of this manual.

Playing the Game

In order to advance beyond a certain point in the game, you must be able to correctly answer the questions that are asked of you. The following will enable you to easily answer the questions and advance in Ultima VII. The answers follow each question and are printed in bold type.

What is the latitude of the northernmost point of Spektran? **120**

What longitude bisects the island Skara Brae? **60**

What longitude bisects the island Terfin? **120**

What latitude bisects Dagger Isle? **0**

What latitude bisects Skara Brae? **30**

What latitude bisects the Deep Forest? **60**

What latitude bisects Buccaneer's Den? **60**

According to the Book of Archaic Knowledge, how many times must ginseng be reboiled in order for it to be properly used as a magical reagent? **40**

On what page of the Book of Archaic Knowledge is the spell known as An Zu explained? **42**

According to the Book of Archaic Knowledge, how many places may the Mandrake Root naturally be found? **2**

In the Book of the Fellowship, how many bandits can be seen surrounding the old man in the illusion on page three? **6**

According to the Traveller's Companion, how many parts of the body should one wish to protect with armour? **6**

According to the Book of Archaic Knowledge, fewer than how many pearls in 10,000 are black? **1**

Getting Started

To load Ultima VII, go to the drive that contains your game, then go to the directory containing your game (e.g. CD\ULTIMA7). Type ULTIMA7 to start the game.

After the game loads, an introductory sequence automatically begins, but it may be skipped by pressing Escape. Then the main menu appears, listing four options:

VIEW INTRODUCTION
START NEW GAME
JOURNEY ONWARD, and
VIEW CREDITS

To select one of these options, single-click it with the mouse or use the arrow keys and press Enter. To exit the introduction, character creation or credits, press Escape.

View Introduction

The introduction reveals how and why the Avatar™ has returned to Britannia. Information presented here is very relevant to your quest. This scene is the same one that you see the first time you run the game.

Start New Game

This is where character creation takes place. It must be selected the first time you play the game. When you are asked to name your character, type the desired name (up to 14 letters) at the flashing cursor and press Enter. Next, you determine the gender of your character. With the mouse or space bar, select the gender of your choice and press Enter.

Journey Onward

After you first create a character, this option takes you to the beginning of the actual game. In future sessions, this option returns you to your last saved game.

View Credits

This option lists all of the many people who worked on Ultima VII.

Introductory Walkthrough

This section guides you through the first few minutes of Ultima VII. It doesn't reveal any deep secrets, but it does introduce you to all of the basic actions you may perform in the game. It assumes you are using a mouse, which is highly recommended by both Iolo and Lord British.

The scene opens as you, the Avatar, step out of a red Moongate into the Britannian town of Trinsic. Before you stand your old friend Iolo and the stable master, Petre.

Conversations. When Iolo addresses you, read each line of text and then click the left mouse button (“left-click”). Continue until Iolo has finished speaking, at which point he automatically joins your party.

Next, Mayor Finnigan approaches you. Again, left-click after each line of text. Finnigan asks you to investigate the Trinsic murder. Position your mouse cursor (represented by a green arrow) over the word “Yes” and left-click to answer him.

Finnigan asks if you’ve visited the stables. Put the cursor on the word “No” and left-click. He suggests that you visit the stables and you can begin moving around.

Moving. You (the Avatar) are always in the center of the screen. The stables are through the doorway to your north (i.e., toward the top of the screen). Position the cursor so that it points upward (northward) and right-click. You step to the north. Continue moving the cursor and right-clicking until you enter the building.

Examining Things. When you (the Avatar) enter the stables the roof disappears, allowing you (the player) to see inside. A horrible murder has occurred! You can look at each object in the stables by left-clicking on it. Place the cursor over the gold key (lying just west of the body) and left-click. The word “key” appears (to identify it, if you couldn’t tell what it was).

Perhaps the key will provide a clue. Move the cursor to the left of the key and click the right mouse button twice (“double-right-click”). You walk to that location. *Notice that moving around is accomplished by right-clicking, and all other actions, like talking and examining objects, are accomplished by left-clicking.*

Using Things. You don’t want to be disturbed during this investigation, so close the door by placing the cursor on it and double-left-clicking.

Taking Things. The key may be a clue. Place the cursor so that the tip of it overlaps the key. Click and hold down the left mouse button (“left-click-and-hold”). As you continue holding, move the cursor around. If the mouse was properly positioned, the key is attached to the cursor. Don’t let go yet!

To give yourself the key, move the cursor (and key) over your character and release the left button. The key will vanish.

Examining Yourself (and other things). Find out if you have the key by double-left-clicking on your character. An image of your character appears (your Inventory Display), with blue lines indicating the locations of equipment and clothing. The key is in your right hand.

Put the cursor on the large red check mark and left-click-and-hold. This lets you move your inventory window; move it to the upper right corner of the screen by dragging it in that direction. Release the button when you are satisfied with the new position. You can remove your Inventory Display by left-clicking on the red check.

Talking to People. Perhaps your companion Iolo knows more about the murder. To speak with him, double-left-click on him. His portrait appears, along with speech. Responses you may select appear in the center of the screen. Left-click

“Murder” to discuss the murder with him.

When you are finished talking to Iolo, left-click on “Bye” to end the conversation.

Further Investigations. There are other things you might try while inspecting the stables. It’s a good idea to examine everything. Be sure to check out the dead gargoyle at the north of the stables, as well as the bag lying on the ground. You can see the bag’s contents by double-left-clicking on the bag. Try removing items from the bag, such as the torch. Once the torch is on the ground, you may double-left-click on it to light it. Double-left-click on it again to extinguish it. (Note that while the torch is lit you cannot move it into any container.) In general, open the inventory of everyone in your party and both single- and double-left-click on every object. You may discover all sorts of handy things.

When you’ve finished here, you’ll want to leave. You can walk continuously by right-click-and-holding. You always walk in the direction the cursor points. The farther the cursor is from the center of the screen, the faster you travel. Luck be with you as you journey onward!

Commands

Ultima VII is an entirely mouse-driven game. All action commands are controlled by the two mouse buttons. However, for those who do not have a mouse, all commands may also be performed from the keyboard.

Using the Mouse

The key point to using the mouse is knowing that the left button is used to perform actions involving the hands, and the right button is used to perform actions involving the feet. The mouse will generally appear in one of two forms: a green, straight arrow for normal activity or a red, jagged arrow for combat.

	Left Button	Right Button
Click	Look	Take One Pace
Double-Click	Use/Talk/Attack	Find a Path
Click-and-Drag	Move Items	Walk Continuously

Moving Your Character (Right-Clicking)

To make yourself walk, simply point the arrow in the direction you wish to travel and right-click-and-hold. The farther the arrow is from you, the longer it gets, and the faster you travel. To stop moving, release the right button.

When danger is near, your speed is limited in proportion to your dexterity.

Double-right-clicking on a point on the screen makes you walk to that location, providing no obstacles bar the way (e.g., a locked door).

Manipulating Objects (Left-Clicking)

The left mouse button is used to look, move, use or attack.

Look. To bring up a short description of an object, left-click on it.

Move. Many objects may be moved from one location to another. To move something that is portable, left-click-and-hold on the object. The cursor changes to a hand to indicate that you are holding an object. Move the cursor over the desired destination and release the mouse.

Releasing the item over a character places the item inside that character's inventory. If his Inventory Display is open, dropping the item on a container within the display places the item inside of that container (see Inventory Display).

If a container is not in anyone's inventory, it must be open (its display visible) to drop an item into it. If an object is too heavy or too large to fit inside a container, or if you can't reach it, a message saying so appears in red above the object.

Use. To use an object, double-left-click on it. Each type of item functions uniquely when used. For example, using an unlit lamp will light it; using a lit lamp will extinguish it.

Some objects may be used on other objects (e.g., a bucket on a well). Double-left-clicking on such an item turns the cursor into green cross-hairs. Moving these to the target item and left-clicking uses the first item on the second.

Double-left-clicking on many usable objects brings up a display that provides more information about that object. For example, double-left-clicking on a chest brings up a display that reveals the contents of the chest. The contents may then be moved and manipulated like any other object within the world. The bodies of fallen foes are treated like chests for these purposes.

In addition, the displays themselves may be moved in the same manner as moving an object — left-click, drag, release. Single-clicking on the red check at the left side of the display or pressing Escape will close that display.

"Using" a person has several meanings. Double-clicking on a person while not in combat will initiate a conversation with that person. (For more information on how conversations work, see **Screen Display**.) However, doing so while in combat mode indicates that you wish to attack that person. If you are clicking on a member of your party while in combat mode or while your Inventory Display is up, that member's Inventory Display will appear.

"Using" the Avatar will bring up your character's inventory (see **Inventory Display**).

To use a cart, double-left-click on a chair in the cart. Once all of the characters are seated, move the cart as if you were moving the Avatar. A boat operates under the same principle, but you must double-left-click on the sails instead of a chair. To stop using a cart or boat, double-left-click again on the chair or the sails, respectively.

Attack. While in combat mode, double-left-clicking the cursor on another person who is not in your party or on an object initiates an attack on that person or object. If you are in combat mode, and in any attack mode other than Manual Mode (see **Combat**), you automatically attack any nearby hostile foes.

Using the Keyboard

Though using a mouse is highly recommended, the keyboard may be used as a substitute if you have no mouse installed.

Walking. The arrow keys may be pressed to walk one step in the desired direction. Holding the shift key down while pressing an arrow key will allow the Avatar to take three steps instead of one. If Numlock is on during play, every step will be a triple one.

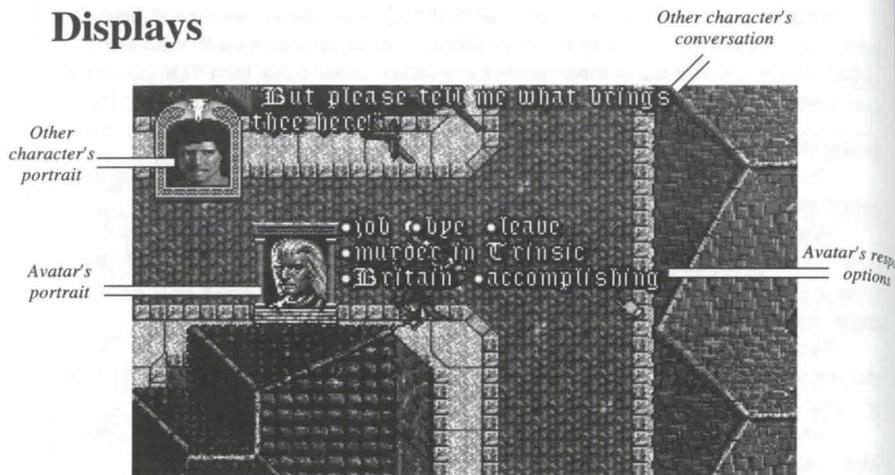
Manipulating Objects. Press Spacebar to make the hand cursor visible. Now the arrow keys will move the cursor instead of the Avatar. Holding down Shift will increase the rate at which the cursor travels.

Treat Control as if it were the left mouse button. For example, a single "click" identifies an object, while a "double-click" uses it.

If you are in any attack mode, there is no red cursor to remind you, but "double-clicking" still initiates an attack.

Key	Function	Mouse Equivalent
C	Turns combat mode on and off	Left-click on the Dove/Sword icon in the Avatar's Inventory Display.
I	Opens up the Inventory Display of each party member, beginning with the Avatar.	Double-left-click on each party member.
Z	Opens up the Statistics Display for each party member, beginning with the Avatar.	Left-click on the heart icon within the Inventory Display of each party member.
S	Opens up the Save/Load Window.	Left-click on the disk icon in the Avatar's Inventory Display.
A	Turns all audio effects on and off.	Left-click on both Sound Effects and Music in the Save/Load Window.
V	Displays a scroll showing the version number of your copy of Ultima VII	(None)
Alt-X	Exits Ultima VII and returns to DOS.	(None)
H	Changes the "handedness" of the mouse by swapping the functions of the left and right mouse buttons. The left button is now used to move around, and the right button to manipulate objects. This "H" toggle affects only the mouse, not keyboard commands.	(None)
Esc	Closes Save/Load window, if it is open. If Save/Load is not open, closes all open displays and windows.	Left-click on each large red check.

Displays



Screen Display

In Ultima VII, the entire screen is devoted to displaying the map. Any messages or other relevant information appear over the game map, at various places.

During conversations, a portrait of the character you are speaking to appears in the upper left corner of the screen, with all of his text appearing to the right of the portrait. If any other characters interject, their portraits appear in the lower left corner of the screen with their text just to the right of their portrait. During conversations, your portrait appears in the center of the screen, with your word options appearing to the right of your portrait. Selecting a word or phrase from your options initiates a response from the character you're talking to.

Text that identifies an object appears just above that object. Text that appears just above a character icon means that that particular character has spoken.

Inventory Display

When you double-left-click on yourself, your Inventory Display appears. This is also true of any character in your party, *as long as you have first brought up your own Inventory Display.*

Dove/Flaming Sword. At the left of the **Inventory Display** is either a dove (non-combat mode) or a flaming sword (combat mode) icon. Left-click on this icon to switch from one mode to the other. During play, the color of the cursor arrow indicates whether you are in non-combat mode (green) or combat mode (red).

Containers. Double-left-clicking on any container in your inventory reveals the

contents of that container.

Disk. On the right side of the Inventory Display is a disk icon. Left-clicking on this brings up a window that permits you to load or save a game, turn sound and music on and off, or exit the game.

Heart. Below the disk is a heart. Left-clicking on this icon reveals the Status Display.

Numbers. At the bottom of the Inventory Display is a number next to another number (e.g., "24/36"). The number on the left is the weight that the character is carrying expressed as stones. The number on the right is the maximum number of stones that the character can carry. When buying items from shopkeepers, you are told if an item is too heavy for you to carry.

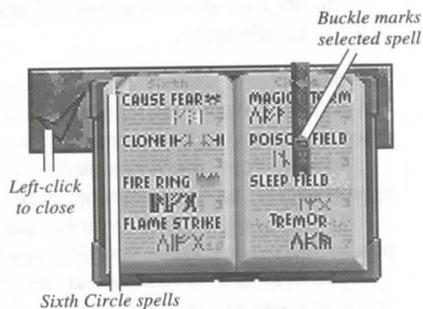
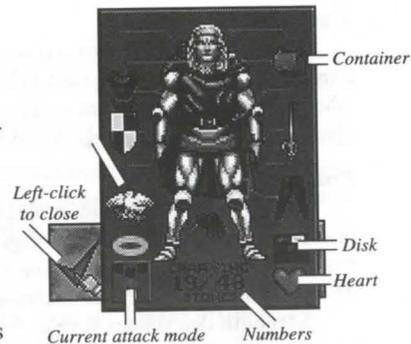
In addition to weight, items also have volume. Sometimes you are told that you cannot carry an item because your hands or your packs are full. By rearranging your equipment (e.g., putting a weapon in your pack or buying another backpack), you may be able to carry the new item.

Current Attack Mode and Protected Halo are described in **Combat**.

Spell Book

Double-left-clicking on the spell book in your Inventory Display brings up its display. To cast a spell, double-left-click on that spell's icon. To select a spell without casting it, left-click on its icon in the spell book. The buckle on the bookmark moves to that spell.

There are six spells (Fire Blast, Paralyze, Lightning, Explosion, Death Bolt and Sword Strike) that may be cast in combat by double-left-clicking on a target as if attacking it. If the spell book is in your hand and the book was closed while that spell was selected (the bookmark's buckle was on that spell), using the mouse to attack causes you to cast that specific spell (as long as you have the spell points and reagents necessary). Also, if you (the Avatar) are not in Manual Mode and have your spell book ready (in hand), you cast spells automatically.



Status Display

The Status Display lists a character's current attributes, both primary and secondary, and whether that character is unconscious, poisoned, charmed, hungry, protected, cursed or paralyzed.

Primary Attributes

Strength, Dexterity and Intelligence are the primary attributes, with values ranging from range from 1 to 30. The higher an attribute is, the better. The remaining attributes are secondary statistics.

Strength determines several things, including how much you can carry, how much (if any) additional damage you do with a hand-to-hand weapon, and how many Hits you can take before dying.

Dexterity affects such things as how fast you are and how well you pick locks. Faster characters can move and attack more often than slower ones. Dexterity determines your Combat skill.

Intelligence determines several things, including your Magic skill and how well you cast certain spells.

Secondary Attributes

Combat. Your base combat skill is derived directly from your dexterity. It determines how likely you are to hit in combat with normal weapons.

Magic. Your base magic skill is derived directly from your intelligence. It determines the maximum number of Mana points you can have.

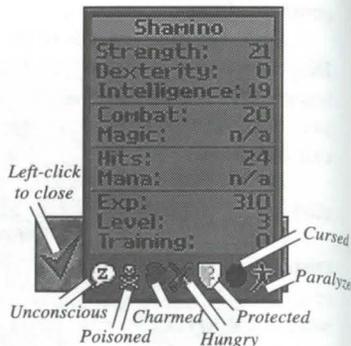
Hits are derived directly from your strength. They are reduced by damage, poison and hunger. When your Hits reach 0, you are unconscious.

Mana records the current number of Mana points you have at that moment. The less active you are, the greater the rate at which Mana points return.

Level indicates your overall prowess. As you gain experience (see below), your level increases. As your level increases, you have the opportunity to raise one or more of your primary attributes. In addition, Hits usually increase as your level does.

Experience points (Exp) are a measure of your accomplishments. Every time you solve a quest or slay a monster, each member of your party gains experience points. After earning the required number of points, a character's level increases.

Training points are accrued with experience points. To increase strength, dexterity, intelligence, combat or magic, you must find a trainer who teaches expertise in that specific attribute. If you pay the trainer's fee and "trade in" training points (representing your study and practice with the trainer), the attribute you are concentrating on increases.



Combat

In the lower left corner of each character's Inventory Display is an icon representing the attack mode for that character when he is in combat. The following attack modes are available (refer to chart on opposite page).

If the Avatar's attack mode is anything but Manual Mode, he selects targets on his own (according to the rules of his attack mode) and fights those opponents without any further input from the player. The player may override control at any time (by double-left-clicking on a specific target to attack it, right-click-and-holding to lead the Avatar in a certain direction, etc.).

When not in Manual Mode, the Avatar does not select fleeing or disabled (sleeping, paralyzed or unconscious) targets on his own, and breaks off an attack once any of these conditions are met. To make the Avatar pursue an enemy to the death, double-left-click on the opponent after it has already fled or been disabled.

Flee Mode

If a party member is seriously injured, he may flee. Neither the Avatar nor party members in Berserk Mode will ever flee. Normally, fleeing characters might drop some of their possessions. Party members who have been set to Flee Mode will make an orderly retreat and will not drop any of their possessions.

Protected "Mode" and Protect Mode

You may designate a party member to be protected by clicking on the "halo" just above that character's attack mode icon. It turns gold, indicating that this party member is to be protected. Only one person in the party may be protected at any one time.

Note that if you have not designated any party member to be protected ("turned his halo on"), an injured party member may turn his own halo on and call out to other party members for protection. Any party members that are in Protect Mode will follow this injured character around and attempt to protect him. Effectively, any protecting character's main concern is for the welfare of the protected individual, and he will fight anyone who attacks the protected character until there is no longer a threat.

Icon	Available to Avatar	Available to Other Party Members	Attack Mode	Description
	Yes	No	Manual	You may direct each combat action.
	Yes	Yes	Attack Weakest	The character will attack the weakest opponent.
	Yes	Yes	Attack Strongest	The character will attack the strongest opponent.
	Yes	Yes	Defend	The character will be less effective at hitting and more effective at dodging blows.
	Yes	Yes	Attack Nearest	The character will attack the nearest opponent.
	No	Yes	Berserk	The character will never flee, regardless of wounds.
	No	Yes	Flee	The character will retreat from any opponents in an orderly fashion.
	No	Yes	Random	The character will attack a random foe.
	No	Yes	Protect	The character will attempt to protect the party member in Protected Mode .
	No	Yes	Flank	The character will attempt to flank the enemy (to either side).

Spellcasting



The mage is able to cast spells when the three elements — spellbook, reagents and words of power — are combined in one unique and fluid action. The mind of the mage must be properly focused, as some spells affect just one person, others affect a group of people and still others affect a specific area. As a mage's experience in casting spells increases, so too will the potency of many of his spells. Outside distractions and interference, as well as the intended target's natural resistance, might prevent the successful casting of any spell.

One factor over which the mage has no control is the state of the ethereal waves when a spell is being cast. While the ethereal waves are often subject to turbulence, such turbulence is a temporary condition.

Magical Spells

Once again, the author takes it upon himself to warn his readers that the following is included as nothing more than a matter of historical record. It is a statement of absolute fact that most of these spells do not work and many will turn back upon the user. The use of magic is strongly suspected to be the cause of a strange mental deterioration that can affect anyone who has practiced magic. The reader is strongly discouraged from experimenting with the spells listed here.

Linear Spells

There are certain spells that a mage will immediately be able to learn upon completing his apprenticeship. They are called Linear spells because they do not directly correspond to any of the eight circles of magic that exist in the ethereal waves. Linear spells are the only types of magical spells that require no reagents to cast.

AN ZU (Awaken)

This spell awakens one sleeping or unconscious creature.

AN FLAM (Douse)

This spell extinguishes any small, non-magical fire.

BET ORT (Fireworks)

This spell creates an impressive display of multicolored moving lights. When the mage becomes more experienced, he can use these lights to frighten his enemies, sometimes causing them to flee.

BET LOR (Glimmer)

This spell creates a small light source that lasts for a short period of time.

KAL LOR (Help)

This spell resurrects the mage and his party and teleports them to Lord British's castle, where they will be fully healed. Remember that this spell is usable only once by any mage.

IN FLAM (Ignite)

This spell generates a tiny missile of sparks that can ignite flammable material.

VAS KAL (Thunder)

This spell causes a single thunderclap to be heard, as if a terrible storm is imminent.

REL HUR (Weather)

This spell can create a storm or cause an existing storm to stop.

The Circles of Magic

There are eight circles of magical spells, each successive circle representing a more powerful level of magical energy. The ethereal waves are made up of eight rings or circles which correspond to the levels of the spells. Each circle is one of eight swirling vortices, all spinning one within another and expanding out through the universe. The more powerful the spell a mage casts, the deeper into the inner circles of the ether must the concentrated psychic energy of the mage penetrate.

Required for the mage are many, many hours of meditation, the strength of concentration, and the will to reach into one of the higher circles with his psychic energy. Every mage is fully aware that a backlash would upset our physical world, possibly harming the mage and those around him.

The First Circle of Magic

VAS AN ZU (Awaken All)

Reagents: Ginseng, Garlic

This spell awakens all unconscious members of the mage's party.

IN MANI YLEM (Create Food)

Reagents: Garlic, Ginseng, Mandrake Root

This spell creates enough food for the mage and each member in his party to have one meal.

AN NOX (Cure)

Reagents: Ginseng, Garlic

This spell cures poison and restores a person afflicted with paralysis. It has also been known to work against an assortment of other malicious maladies.

WIS JUX (Detect Trap)

Reagents: Spider's Silk, Nightshade

This spell reveals the location of all traps within sight of the mage and his party.

VAS AN FLAM (Great Douse)

Reagents: Garlic, Spider's Silk

This spell is a more potent version of the Linear spell Douse. It extinguishes all dousable items within a certain area.

VAS IN FLAM (Great Ignite)

Reagents: Sulfurous Ash, Spider's Silk

This spell is a more potent version of the Linear spell Ignite. It will cause all flammable items within a certain area to burst into flame.

IN LOR (Light)

Reagent: Sulfurous Ash

This spell is a more potent version of the Linear spell Glimmer. It creates a source of light that will illuminate a darkened area. This light source can travel with the party and lasts for a significant amount of time.

IN WIS (Locate)

Reagent: Nightshade

This spell reveals the sextant position of the mage, even when underground.

The Second Circle of Magic

AN JUX (Destroy Trap)

Reagents: Sulfurous Ash, Blood Moss

This spell destroys any one specific trap upon which it is cast.

ORT YLEM (Enchant)

Reagents: Black Pearl, Mandrake Root

This spell causes up to an entire bundle of arrows or bolts to become enchanted and glow blue. Enchanted missiles will always hit their target and do significantly more damage than normal.

VAS FLAM (Fire Blast)

Reagents: Sulfurous Ash, Black Pearl

This spell causes great jets of flame to burst forth from the mage and strike his target.

VAS LOR (Great Light)

Reagents: Sulfurous Ash, Mandrake Root

This spell is a more potent version of the First Circle spell Light, and has a substantially longer duration.

VAS AN NOX (Mass Cure)

Reagents: Mandrake Root, Garlic, Ginseng

This spell cures the mage and all members of his party at once.

UUS SANCT (Protection)

Reagents: Sulfurous Ash, Ginseng, Garlic

This spell temporarily makes its subject more difficult to strike in combat, as well as rendering him invulnerable to traps and other hazards.

ORT POR YLEM (Telekinesis)

Reagents: Blood Moss, Mandrake Root, Black Pearl

This spell allows the mage to manipulate objects without touching them.

POR ORT WIS (Wizard Eye)

Reagents: Blood Moss, Nightshade, Mandrake Root, Sulfurous Ash, Black Pearl, Spider's Silk

This spell enables the mage to extend his sight out over great distances, passing through any barriers that exist between himself and anything he wishes to look at.

The Third Circle of Magic

DES SANCT (Curse)

Reagents: Sulfurous Ash, Nightshade, Garlic
This spell is a minor curse that temporarily makes an enemy easier to hit in combat, while making it harder for him to strike the mage or any member of his party.

MANI (Heal)

Reagents: Ginseng, Garlic, Spider's Silk
This spell heals half the injuries that its subject has sustained.

AN POR (Paralyze)

Reagents: Spider's Silk, Nightshade
This spell paralyzes an enemy in his tracks for a short period of time.

VAS WIS (Peer)

Reagents: Nightshade, Mandrake Root
This spell gives the Mage a look at the entire world as well as showing his location in it.

IN NOX (Poison)

Reagents: Nightshade, Blood Moss, Black Pearl
This spell enables a mage to poison one enemy.

VAS UUS SANCT (Protect All)

Reagents: Sulfurous Ash, Ginseng, Garlic, Mandrake Root
This spell is the equivalent of casting the Second Circle spell Protection on everyone in the mage's party simultaneously.

IN ZU (Sleep)

Reagents: Nightshade, Spider's Silk, Black Pearl

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This spell causes the enchanted person to fall asleep.

KAL BET XEN (Swarm)

Reagents: Nightshade, Mandrake Root, Blood Moss

This spell summons swarms of insects to attack the enemies of the mage from all directions.

The Fourth Circle of Magic

KAL XEN (Conjure)

Reagents: Spider's Silk, Mandrake Root
This spell summons a wild beast that will fight for the mage against any enemy.

ORT GRAV (Lightning)

Reagents: Black Pearl, Sulfurous Ash, Mandrake Root
This spell enables the mage to cast a bolt of lightning that will strike his target. This lightning is so destructive that no armor can protect its wearer from it.

KAL POR YLEM (Mark)

Reagents: Mandrake Root, Black Pearl, Blood Moss
This spell creates a magical (but invisible) "mark" on any of eight specific colored stones. The Fourth Circle spell Recall can then be cast on that stone.

VAS DES SANCT (Mass Curse)

Reagents: Sulfurous Ash, Nightshade, Garlic, Mandrake Root
This spell is similar to the Third Circle spell Curse, but it affects an entire group of the mage's enemies.

KAL ORT POR (Recall)

Reagents: Mandrake Root, Black Pearl, Blood Moss
This spell is a minor spell of teleportation. Casting it on a Marked stone takes the mage and his party back to where the Mark spell was cast on that stone.

WIS QUAS (Reveal)

Reagents: Sulfurous Ash, Blood Moss
This spell makes visible all things that were invisible within a specific area.

KAL WIS CORP (Seance)

Reagents: Blood Moss, Mandrake Root, Nightshade, Spider's Silk, Sulfurous Ash
This spell allows the mage to speak to all recently dead ghosts, until sunrise. If one were travelling to Skara Brae, the wise mage would have a healthy supply of appropriate reagents to cast this spell many times.

EX POR (Unlock Magic)

Reagents: Sulfurous Ash, Blood Moss
This spell unlocks magically locked items, including doors and chests.

The Fifth Circle of Magic

AN XEN EX (Charm)

Reagents: Black Pearl, Nightshade, Spider's Silk
This spell can be used either to ensorcell an enemy or creature into doing the mage's bidding, or to free one who is under the effects of a charm.

POR XEN (Dance)

Reagents: Mandrake Root, Garlic, Blood Moss
This spell makes everyone in sight (except the mage and his party) start to dance.

AN GRAV (Dispel Field)

Reagents: Garlic, Black Pearl, Sulfurous Ash, Spider's Silk
This spell can dispel any type of magical field, such as a Fire Field.

VAS FLAM HUR (Explosion)

Reagents: Mandrake Root, Sulfurous Ash, Black Pearl, Blood Moss
This spell creates a ball of flame that rushes toward the mage's intended target and explodes.

IN FLAM GRAV (Fire Field)

Reagents: Black Pearl, Sulfurous Ash, Spider's Silk
This spell creates a wall of fire between the mage and his enemies.

VAS MANI (Great Heal)

Reagents: Ginseng, Spider's Silk, Mandrake Root, Garlic

This spell completely heals an injured person.

SANCT LOR (Invisibility)

Reagents: Nightshade, Blood Moss
This spell renders the mage undetectable, not only from sight but to all means of normal detection. There are certain creatures that, for various reasons, are capable of seeing invisible objects or people.

VAS ZU (Mass Sleep)

Reagents: Ginseng, Nightshade, Spider's Silk
This spell is a more potent version of the Third Circle spell Sleep. It puts to sleep a group of targets that are not in the mage's party.

The Sixth Circle of Magic

QUAS WIS (Cause Fear)

Reagents: Nightshade, Mandrake Root, Garlic
This spell causes such a wave of fear that each man and creature who is not in the mage's party might flee as if in danger of death.

IN QUAS XEN (Clone)

Reagents: Sulfurous Ash, Spider's Silk, Blood Moss, Ginseng, Nightshade, Mandrake Root
This spell creates an exact duplicate of any mortal creature, who will then fight on the same side as the original.

KAL FLAM GRAV (Fire Ring)

Reagents: Sulfurous Ash, Black Pearl, Mandrake Root, Spider's Silk
This spell create a ring of fire that will encircle the mage's target.

VAS IN FLAM GRAV (Flame Strike)

Reagents: Sulfurous Ash, Black Pearl, Blood Moss
This spell creates a field of fire at the feet of all the mage's enemies that are within sight.

VAS ORT HUR (Magic Storm)

Reagents: Mandrake Root, Nightshade, Sulfurous Ash, Blood Moss

This spell summons a swirling storm that will randomly attack the enemies of the mage with powerful bolts of lightning.

IN NOX GRAV (Poison Field)

Reagents: Nightshade, Spider's Silk, Black Pearl

This spell creates a field of energy that will poison all who come into contact with it.

IN ZU GRAV (Sleep Field)

Reagents: Ginseng, Spider's Silk, Black Pearl

This spell creates a thick wall of energy field where the mage desires. All who enter this energy field will fall asleep.

VAS POR YLEM (Tremor)

Reagents: Blood Moss, Sulfurous Ash, Mandrake Root

This spell creates violent tremors in the earth that will cause the mage's enemies to tremble frantically. The effects of this spell will not inhibit the mage or his party.

The Seventh Circle of Magic

REL YLEM (Create Gold)

Reagents: Mandrake Root, Spider's Silk

This spell changes a chunk of lead into ten gold nuggets.

CORP POR (Death Bolt)

Reagents: Black Pearl, Nightshade, Sulfurous Ash

This spell enables the mage to project a bolt of lethal energy at a specified target.

TYM VAS FLAM (Delayed Blast)

Reagents: Mandrake Root, Sulfurous Ash, Black Pearl, Blood Moss, Spider's Silk

This spell causes whatever it is cast upon to violently explode, destroying much of the surrounding area. The explosion is delayed long enough to give the mage and his party time to get out of range of the blast.

IN SANCT GRAV (Energy Field)

Reagents: Mandrake Root, Spider's Silk, Black Pearl, Sulfurous Ash

This spell creates an electrical field that

protects the mage by harming all who attempt to pass through it.

IN HUR GRAV YLEM (Energy Mist)

Reagents: Mandrake Root, Nightshade, Sulfurous Ash, Blood Moss

This spell causes an electrified mist that flows from the caster, enveloping his enemies and harming them as long as they remain within it.

VAS AN XEN EX (Mass Charm)

Reagents: Black Pearl, Nightshade, Spider's Silk, Mandrake Root

This spell is similar to the Fifth Circle spell Charm, but it affects an entire group of the mage's enemies.

IN VAS POR (Mass Might)

Reagents: Black Pearl, Mandrake Root, Ginseng

This spell doubles the strength and combat abilities of everyone in the mage's party.

VAS MANI (Restoration)

Reagents: Ginseng, Garlic, Sulfurous Ash, Mandrake Root

This spell instantly heals all injury, dispels all harmful magic and cures all poison or paralysis inflicting the mage and his party.

The Eighth Circle of Magic

VAS KAL AN MANI IN CORP HUR TYM (Armageddon)

Reagents: Black Pearl, Blood Moss, Garlic, Ginseng, Mandrake Root, Nightshade, Spider's Silk, Sulfurous Ash

This spell is believed to be so powerful that it may be capable of destroying all known living things in the entire world. Fortunately, this spell has never been cast!

VAS CORP HUR (Death Vortex)

Reagents: Mandrake Root, Nightshade, Sulfurous Ash, Blood Moss

This spell creates a swirling black vortex at the point the mage designates, which will thereafter move at random. Everyone within this vortex will be continuously struck by lightning.

VAS SANCT LOR (Invisibility All)

Reagents: Mandrake Root, Nightshade, Blood Moss, Black Pearl

This spell is the equivalent of casting the Fifth Circle spell Invisibility upon the mage and everyone in his party.

VAS CORP (Mass Death)

Reagents: Garlic, Ginseng, Mandrake Root, Nightshade, Blood Moss

This spell causes everyone in sight (except the mage and his party) to instantly drop dead.

IN MANI CORP (Resurrect)

Reagents: Garlic, Ginseng, Spider's Silk, Sulfurous Ash

This spell, when successful, empowers the mage to restore life in one who has died.

KAL VAS XEN (Summon)

Reagents: Mandrake Root, Garlic, Blood Moss

This spell summons a powerful creature that will fight for the mage and his party.

IN JUX POR YLEM (Swordstrike)

Reagents: Black Pearl, Nightshade, Mandrake Root

This spell creates a deadly pinwheel of eight spinning swords that sails toward the designated target.

AN TYM (Time Stop)

Reagents: Mandrake Root, Garlic, Blood Moss

This spell stops the passage of time for the entire world, with the exception of the mage and his party.

Cosmology

There was once a time when much consideration was given to the phases of the moon and the movements of the heavens. There was much concern over an event, the reoccurrence of which is eminent, called the "astronomical alignment." It was said that the astronomical alignment would create a gateway between this world and another. In recent times the astronomical alignment has been all but forgotten. With the end of the time of magic, it is doubtful that such an event will have any significance to anyone but astronomers.

During this time of magic, a strange form of travel existed, through doorways of light that were often called "Moongates." There were at least two types of Moongates—blue and red. Blue Moongates sprang up wherever fragments of extra-terrestrial rocks called "moonstones" were buried. These gates allowed magical travel from one gate to another.

Red Moongates are generated by the powerful artifact known as the Orb of the Moons. A red Moongate can take a traveller anywhere in Britannia. It has even been said that it can also be used to travel to other worlds. There have only been two red Moongates in all of known existence—one used by Lord British, and the other by the Avatar.

Little is known about these gates, but like magic spells, Moongates no longer function as they once did. Use of Moongates today cannot be discouraged strongly enough. They are dangerous and their use in this less-than-reliable state has resulted in numerous fatalities.

Ultima[®] Underworld

The Stygian Abyss

System Requirements

Computer. A 386SX or higher IBM-PC or 100% compatible system.

Video Card. A VGA or compatible video card with 256K of video RAM.

Free RAM. At least 640K of low RAM (memory). Of that 640K, at least 522K of low memory must be *available* at the DOS prompt to run the *minimum* game configuration. Other configurations may require as much as 557K free.

EMS. In addition to 522-557K of free RAM, you must have at least 480K (491520 bytes) of *expanded memory* available at the DOS prompt. The game won't run with less than that. Expanded memory above 480K (up to a maximum of 1 megabyte) is used to speed play.

Hard Disk. You must have at least 8 megabytes of hard disk space available. This allows you to install *ULTIMA Underworld* in its smallest configuration. Other configurations require as much as 13 megabytes of hard disk space.

Note: *ULTIMA Underworld* has not been fully tested with DBLSpace, DRVSpace, Stacker, and other disk compression utilities. We cannot guarantee the compatibility of this game. We recommend you use a hard drive without disk compression.

Installation

1. Insert the CD-ROM into your CD-ROM drive.
2. Type the letter of your drive followed by a colon, then press Enter. For example, if your drive is drive D, type "D:" <Enter>.
3. Type "CD\UW" to change to the Underworld directory.
4. Type "INSTALL D: C:." Substitute the appropriate drive letters for your CD-ROM and hard drives. Ultima Underworld is installed to your hard drive directory "UW."
5. From the UW directory, run "UWSOUND" to set up your Sound Blaster. Select "Save and Exit" to save the settings.
6. Type "UW" <Enter> to start Ultima Underworld.

Memory Usage

Requirements

ULTIMA Underworld requires 640K of main RAM and at least 480K expanded memory. Of the 640K, at least 522K must be available at the system prompt. The game will not run with less.

- *Music and sound effects* alone require additional free RAM.
 - PC Speaker (sound effects only) requires approximately 8K over the base 522K (a total of 530K).
 - The Sound Blaster and Sound Blaster Pro require approximately 31K over the base 522K (a total of 553K).
 - The Roland LAPC-1 and Roland MT-32 require approximately 20K over the base 522K (a total of 542K).
- *Digitized speech* alone requires additional free RAM.
 - The Sound Blaster and Sound Blaster Pro require approximately 6K (a total of 528K).
- *Music, sound effects and digitized speech* together require the most memory.
 - The Sound Blaster and Sound Blaster Pro require a total of approximately 557K to run music, effects and speech.
 - Using a Roland MT-32 and LAPC-1 for music and effects with either Sound Blaster board for speech requires a total of approximately 549K free.

Available RAM

To find out how much memory you have available, run CHKDSK or MEM, two DOS programs designed for this purpose. If you use CHKDSK, look at the last line of the information presented. If you use MEM, look for the line describing the largest executable program size. This tells you how much RAM memory is free. For example, CHKDSK might tell you that your 640K system has 519490 bytes free.

Continuing the Sound Blaster example above: You must have 557K free to play the game with both sound and speech. (That's 570368 bytes.) If CHKDSK tells you that you have 519490, for example, you don't have enough free memory and the game will not run.

Freeing RAM

If you don't have enough memory to run *ULTIMA Underworld*, you may want to remove memory-resident programs that are unnecessary for system usage from your AUTOEXEC.BAT and CONFIG.SYS start-up files.

You can view these files by using the DOS TYPE command. (Enter "TYPE AUTOEXEC.BAT" at your DOS prompt to view your AUTOEXEC.BAT file.)

To edit your AUTOEXEC.BAT or CONFIG.SYS files, use any commercial text editor or word processor capable of saving files as "text only." Either EDIT, the text editor included with DOS 5.0, or EDLIN, the text editor included with earlier versions of DOS, will do the job. Consult your DOS manual for information about modifying files with EDIT or EDLIN.

Do *not* delete your AUTOEXEC.BAT or CONFIG.SYS files completely — without them, your computer will not function.

Making a New Floppy Boot Disk

If you need more free RAM, but do not want to reconfigure your system, make a bootable system floppy disk to start your computer prior to play. Refer to the **Problems with the Game** section at the end of this manual for more information on making a boot disk.

Expanded Memory

Memory beyond 640K can be allocated as *expanded memory*. Expanded memory is not the same as *extended memory* — if your computer has extended memory, reconfigure it as expanded memory.

To access expanded memory on 386 systems, you must use an expanded memory manager program. Two of the most common ones are Quarterdeck's QEMM.SYS, and EMM386.SYS (which comes with Microsoft *Windows* and DOS 5.0) but there are others. These memory managers are installed by adding a line to the CONFIG.SYS file on your computer.

The Microsoft memory manager allocates only 256K of expanded memory unless you specify a greater amount. Consult your documentation and allocate at least 480K of expanded memory — 500K to 1 megabyte is even better. (Note that you must have 480K of *available* expanded memory. Memory resident software can use up some of the available memory, so you may have to allocate more than the minimum 480K in order to run *ULTIMA Underworld*.)

In addition, you must have HIMEM installed to use the *Windows* memory manager. Your CONFIG.SYS file should include the following lines in this order:

```
DEVICE=<PATH>\HIMEM.SYS  
DEVICE=<PATH>\EMM386.SYS 480
```

"<PATH>" is the directory in which these files are found (usually C:\WINDOWS, if you use *Windows* or C:\DOS, if you use DOS 5.0). The number 480 indicates the amount of memory you want to access as expanded memory. You should allocate more, if you can.

Consult your hardware dealer or your expanded memory manager's documentation for more information about configuring expanded memory and determining how much expanded memory is available.

Hard Disk Space

ULTIMA Underworld requires at least 8 megabytes of hard disk space to install. As you add features, however, the space requirement grows. Additional features require extra hard disk space, as follows:

- *Animating Cut Scenes* require an additional 3 megabytes of hard drive disk space.
- *Music and Sound Effects* require an additional 300K of hard drive disk space.
- *Digitized speech* requires an additional 2 megabytes of disk space on your hard drive.

To determine how much free hard disk space you must have to install the game, add the number of megabytes required for each option you want to the minimum of 8 megabytes.

For example, the full game — including animating cut scenes (+3 megabytes), Roland sound (+300K) and Sound Blaster digitized speech (+2 megabytes) — requires a little more than 13 megabytes of free hard disk space.

In addition to the space required to install the game, you must have an additional 700K free to begin play. This space is required for saved games. If you don't have this 700K free when you try to play, the game will not run.

Troubleshooting

ULTIMA Underworld fails to load or run.

- *You may not have sufficient free RAM.* Run the CHKDSK or MEM program included with DOS to check your computer's available RAM. To do this, type "CHKDSK" or "MEM" after the prompt for the drive in which you have installed the game. In CHKDSK, compare the last line on-screen to the 534,528 bytes of free RAM required. In MEM, consult the third line ("largest executable program size"). Free up RAM if needed.
- *You may be using a memory manager program that uses up too much base RAM to run* *ULTIMA Underworld*. For example, depending upon your system configuration, EMM386.SYS (the Expanded Memory Manager included with Microsoft *Windows*) may use too much of your 640K to permit *ULTIMA Underworld* to run.
- *Your CONFIG.SYS file may need to be modified.* If you get a message that reads, "Internal Error" or "Underworld can no longer run. Error code ####," edit your CONFIG.SYS file so the line reading "FILES=##" reads "FILES=20" (or more). This should allow you to play the game.
- *You may have a memory-resident TSR program that conflicts with the game.* Boot the computer from a DOS system floppy (as in "Making a New Floppy Boot Disk," above) or remove memory-resident programs before running the game.
- *You may have chosen an invalid configuration during the install process.* Check your configuration and, if necessary, re-install the game.

- *You may have filled all free space on the active disk drive.* Use the DOS DIR command to check available hard drive space. You need at least 8 megabytes on your hard drive to install the game and 700K of free hard disk space to run it.

My mouse pointer doesn't respond properly.

Some rare combinations of hardware and software cause mouse conflicts that freeze the on-screen pointer. If your mouse pointer ever stops moving, press Alt-F4 to free the mouse and allow the pointer to move normally.

My game runs too slowly.

Your computer may not be fast enough to run the game efficiently. The minimum configuration is a 16 MHz 386SX, but movement and animation are faster and smoother on a faster computer. From the main game screen, select the Options icon, followed by "Detail." Experiment with the various detail levels until you find a balance between speed and detail that suits you.

When I select PC Speaker sound effects all I get are "Beeps" and "Boops".

There's nothing wrong with your speaker or your game. The PC speaker sound effects are not intended to be realistic. They do, however, provide important feedback (whether you hit a creature in combat, for example).

I want to play different characters in different games.

ULTIMA Underworld allows you to save up to four different games at once. You can save four different points in a single character's adventure or you can save one character's adventure in the first saved game slot, another character's adventure in the second slot, and so on. Any combination of characters and saved game slots is possible (up to the maximum of four).

I've tried saving my game, but I keep getting a message that says, "SAVED GAME FAILED."

Each saved game takes up approximately 300K of hard disk space. If you don't have that much available, you can't save. To get around this, you can save your new position over an existing saved game. Select the Options icon from the main game screen, followed by the "Save Game" option. Then, simply select a saved game slot you've already used. When you are asked to enter a name for the game, press e to use the same name as the old game, or type in a new one. In addition, you must have 700K of free hard disk space available when you begin a session.

None of the suggestions above seem to help.

If you get an error message you don't understand, or you can't solve an *ULTIMA Underworld* *problem, call ORIGIN Customer Service.* Refer to the **Problems with the Game** section at the end of this manual for contact information.

Reference Section

Beginning Play

Install the game, following the directions in the Install Guide. Type CD\UW to change to the directory and type UW <Enter> to begin play.

The first time you play, typing UW takes you to the title screen, followed by the introduction. Press Esc to bypass the titles and/or introduction and go to the Main Menu.

If you have played (and saved) the game, typing UW takes you to the Main Menu.

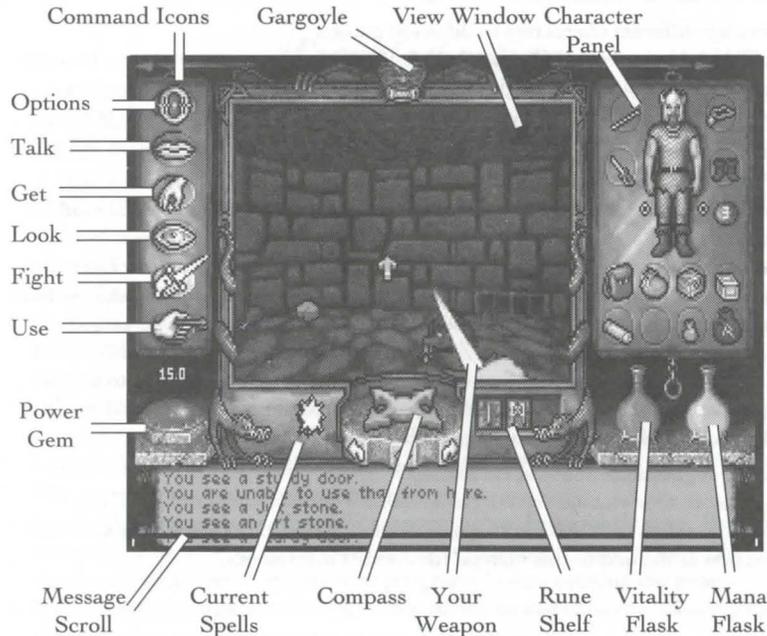
Main Menu

To select an option with the mouse, click on it. With the keyboard, use the arrow keys to highlight it, then press Enter to select it.

Create Character. Choose before you begin a new game. Use the mouse or arrow keys and follow the directions on-screen to make selections.

Introduction. Allows you to watch the introduction. (Press Esc to exit at any time.)

Acknowledgements. Lists the people who created *ULTIMA Underworld*.



Journey Onward. If you have saved games, a list appears when you select Journey Onward. Move the pointer to the game you wish to play and click either button. (With the keyboard, use the arrow keys to highlight your choice and press Enter.)

Main Game Screen

When you Journey Onward, the main game screen appears.

3-D View Window. The view window shows what you see:

- As you move, the view changes to reflect your new position.
 - When you take damage in combat, the window shakes.
 - When you are critically wounded, the screen flashes red.
 - When you are drowning, the screen flashes blue.
- Normally, you look straight ahead, but you can look up and down:
- To look down, press 1 repeatedly.
 - To look up, press 3 repeatedly.
 - To return to the "straight ahead" position, press 2.

Character Panel. Three panels share this position, and you can switch from one to the other at will.

- The **inventory panel** shows all items you are carrying and wearing. From the inventory panel:
 - Left-click the runebag in your inventory to flip to the rune display.
 - Click on the pull chain to flip to the statistics panel.
- The **statistics panel** displays detailed information about your character's skills and current condition. Click on

the pull chain to return to the inventory panel.

- Your **rune display** shows all of the runes you own. Click on the pull chain to return to the inventory panel.

On these panels, the right mouse-button triggers the action specified by the command icon selected; the left button selects, moves or uses an object.

Vitality and Mana Flasks. Shows your current Vitality or Mana as compared to your maximums. If the Vitality flask is green, you are poisoned.

Rune Shelf. Click on runes in your rune display and they appear here. Click on a rune here to cast the spell represented by the runes on the shelf.

Compass. Indicates the direction you are facing. The red dot always points north. The arrows on the base of the compass allow you to use Easy Move mode. Clicking on the compass itself gives you an indication of your character's condition and overall situation.

Message Scroll. Displays messages and results of commands.

Power Gem. In combat, the gem glows red, then yellow, then green, then sparkles as you put more power into an attack.

Current Spells. Icons represent active duration spells.

Command Icons. Access the game option panel, and determine whether the right mouse-button allows you to Look, Get, Use, Fight or Talk.

Gargoyle. Above the view window is a gargoyle. During combat, the glow in its eyes changes as the condition of your foe changes:

- *Green* eyes mean your foe is still strong.
- *Yellow* means the foe is hurt.
- *Red* means the foe is seriously injured.

Movement

Walking, Running, Swimming. Press and hold the left mouse-button while the cursor is in the 3-D view window. The further from the center of the window your cursor is, the faster you move. The shape of the cursor determines direction:

-  Move forward
-  Turn right or left while moving forward
-  Turn right or left with no forward movement
-  Sidestep right or left
-  Move backwards

Jumping. Press the right mouse-button while the left button is down. (In fight mode, press J or Shift-J on your keyboard.) Your speed determines how far you jump:

- Standing still, you jump straight up.
- Walking or running, you jump in the direction of your movement; distance jumped increases with speed.

Flying. Cast a *Fly* or *Levitate* spell, or use an appropriate magic item. Use E to rise into the air. Use normal movement commands to determine your direction of flight. Use Q to lower yourself.

Interacting with the World

Default Mode. If no icons are highlighted, you are in Default Mode. (To “un-select” a highlighted icon, click on it.)

Talk. Put the cursor on the person or creature and briefly right-drag the mouse.

Get. Position the cursor on the object, press and hold the right mouse-button. If the object is “get-able,” it will be put in-hand when you drag the object somewhere on the screen. Release the button to drop the item.

Look. Right-click on the creature or item you want to examine.

Fight. Move the cursor to your inventory and click on the weapon in your weapon-hand. Click on the weapon again to exit fight mode.

Use. To use an object in your inventory, left-click it. To use an object in the view window, position the cursor on the object, and briefly right-drag it.

Note: To access the game options menu you must click on the Options icon or press the appropriate keys on the keyboard.

Icon Mode. Use the right mouse-button to interact with things in the underworld. The command icons determine what the right button does.

Options Icon. Click on this to bring up a list of game-related functions and to pause the game. Click on the function you wish to access:

- **Save Game.** Preserves your current game state. You can have up to four saved games at once. Each saved game requires about 300K of hard disk space. Always save before ending a game session.
- **Restore Game.** Begins the game at a point you saved. Click on this option, then on the roman numeral that matches the name of the saved game.
- **Music.** Toggles music on or off.
- **Sound.** Toggles sound effects on or off.
- **Detail.** Increases or decreases the level of graphic detail.
- **Return to Game.** Resumes play when you’re done selecting options.
- **Quit Game.** Returns you to DOS. (This does *not* save the game.)

Talk Icon. Left-click this icon, then right-click the character you want to talk to.

Get Icon. Left-click this icon, then right-click the object you want to pick up.

Look Icon. Left-click this icon, then right-click the object or area you want to look at.

Fight Icon. Left-click this icon. To attack, right-click and hold until you’re ready to attack, then release the right button.

Use Icon. Left-click this icon, then right-click the object you want to use. For actions that require a target, left-click this icon, then right-click the object you wish to use (putting it “in-hand”). Move the object in-hand over the “target” object and right-click again.

Healing

To regain lost Vitality (or shake off the effects of poison), you must eat and sleep, or cast healing magic.

The healing spells are *Lesser Heal*, *Heal* and *Greater Heal*, in order of the Vitality they restore. These do *not* restore Mana.

To regain Vitality *and* Mana, you must sleep. Press F10 or use a bedroll. When you awaken, you regain some percentage of lost Vitality and Mana. If you are hungry, sleep does less to revitalize you.

Pausing the Game

With a mouse, click on the Options Icon. This pauses the game and brings up a menu of options. To unpause, click on “Return to Game.” On the keyboard, press F1 to pause, Esc to unpause.

Magic

Magic requires three things:

Mana. The Mana point cost of a spell is triple the Circle of the spell.

Character Level. Your character level, halved and rounded up, must equal or exceed the Circle of the spell.

Rune Stones. The rune stones required to cast each spell are listed below.

Casting Spells. If the three conditions above are met, you can attempt to cast a spell. To do so, click on the runebag in your inventory, then click on each rune required to cast the spell, in order. When the runes appear on the rune shelf, left-click anywhere on the rune shelf.

Targeting Spells. Some spells must be targeted. When you left-click the rune shelf to cast such a spell, a targeting cursor appears on screen. For combat spells, the targeting cursor is a red circle. For non-combat spells, the cursor is a blue cross.

When a targeting cursor appears, position it on the person, creature or object you wish to target, then right-click to unleash the spell. (You may or may not succeed.)

Spell List

First Circle

Create Food	IMAA
Light	IT
Magic Arrow	MF
Resist Blows	BH
Stealth	HD

Second Circle

Cause Fear	PK
Detect Monster	NA
Lesser Heal	IBA
Rune of Warding	IF
Slow Fall	RMK

Third Circle

Conceal	BHT
Lightning	FX
Night Vision	IT
Speed	RTK
Strengthen Door	HF

Fourth Circle

Heal	IA
Levitate	DK
Poison	TA
Remove Trap	TF
Resist Fire	HP

Fifth Circle

Cure Poison	FT
Fireball	KF
Missile Protection	XHK
Name Enchantment	ME
Open	MA

Sixth Circle

Daylight	AIT
Gate Travel	ARK
Greater Heal	AIA
Paralyze	FMK
Telekinesis	EKA

Seventh Circle

Ally	IAA
Confusion	AA
Fly	ADK
Invisibility	AHT
Reveal	FF

Eighth Circle

Flame Wind	PD
Freeze Time	FT
Iron Flesh	IAH
Roaming Sight	EKN
Tremor	AKA

Combat

Using a Hand Weapon.

1. Click on a weapon in your weapon hand (or on the Fight icon) to enter fight mode.
2. Position the cursor on your target.
3. Hold down the right button until the weapon is drawn back (You can continue to move by pressing the left button while the right button is pressed.)
4. With the weapon drawn back, the power gem begins to brighten, indicating how much power you are putting into the attack.
5. Release the mouse-button to attack. (If the gem is still red when you release the button, your attack is aborted.)

Types of Attack.

Bash. Press the right button when the cursor is high in the view window.

Slash. Press the right button when the cursor is in the middle of the view window.

Thrust. Press the right button when the cursor is low in the view window.

Missile Weapons

1. Ready a missile weapon by placing it in your hand on the Inventory panel. Make sure you have ammunition in your inventory. Enter fight mode.
2. Press and hold the right mouse-button to initiate an attack (screen location doesn't matter).
3. When the jewel is green, your weapon is ready to shoot and a red, circular cursor appears.
4. Move the cursor where you want to aim your weapon.

5. Release the mouse-button to unleash the attack.

Conversation

To talk to a character or creature:

1. Click on the Talk icon.
2. Position the cursor over the character you wish to talk to, then press the right mouse-button to bring up the conversation screen. The other person's comments appear on the large scroll in the center of the screen. Your response options appear on your message scroll.
3. Move the yellow cross onto the option you want and click either button (or press the number of the statement you want to make).
4. Read the other person's response and pick one of your own. If you see the word "[MORE]" at the end of a comment, click either mouse-button or press any key to see the rest of what the other person has to say. If you see the word "Other" in your list of choices, you have the option of typing in something that isn't on your list.
5. If you have the last word in the conversation, you return to the main game screen automatically. Otherwise, click either mouse-button or press any key.

Bartering

1. Select the option on your conversation option list that says you want to trade items.
2. Get items you are willing to trade and put them in your barter area.
3. Click on items in either barter area to select or deselect them for the current trade.

4. Offer the deal by clicking on the appropriate menu line, or click on "I must think about this deal" to use your *appraise* skill.

5. If the person or creature with whom you are trading accepts the deal, any items you offered disappear into your trading partner's inventory. Now, you may move traded items from his barter area into your inventory.

6. If the deal isn't accepted, you can change the highlighted items in either barter area and try again.

7. At the end of a bartering session, any items that now belong to you appear on the floor in front of you.

Giving and Getting Items

1. Place the item you wish to give or show in your barter area.

2. Select a conversation option like "I wish to give you this gift." The character takes the item from your barter area, or simply looks at it, depending on the circumstances.

3. If a character gives you something, it appears on your cursor, allowing you to place it in your inventory.

Repairing Items

Some characters in the Abyss offer to repair items. To have a broken item repaired, place it in your barter area *before* you select the option requesting the repair.

To repair damaged weapons or armor yourself:

1. Use an anvil as you would any item.
2. When your cursor turns into an anvil, click on the broken item.

3. A message appears telling you how difficult the repair will be and asking if you want to continue.

4. Select "Yes" or "No."

Keyboard Controls

When using a keyboard, note that the game is case sensitive — Shift-A is not the same as A.

Also, there are some keyboard commands for which there are no *mouse* equivalents — even mouse users must use these. These commands are listed below in *italics*.

Menus

- [W] Up to next option above
- [Z] Down to next option below
- [A] Left one column
(2-column lists only)
- [S] Right one column
(2-column lists only)

- [Page Up] Top of List
or Home
- [Page Down] Bottom of List
or [End]

Normal Movement

- [W] Run Forward
- [Shift][W] *Easy Move Run Forward*
- [S] Walk Forward
- [Shift][S] *Easy Move Walk Forward*
- [A] Turn Left
- [Shift][A] *Easy Move Left*
- [D] Turn Right
- [Shift][D] *Easy Move Right*
- [Z] Slide Left
- [C] Slide Right
- [X] Walk Backwards
- [Shift][X] *Easy Move Backwards*

Other Movement

- [E] *Fly Up*
- [Q] *Fly Down*
- [1] *Look Down*
- [2] *Center View*
- [3] *Look Up*
- [Shift][J] *Standing Long Jump*
- [J] Jump

Combat Mode Keys

- [P] Bash
- [;] Slash
- [.] Thrust

Special Function Keys

- [1] Game Options/Pause Game
- [2] Talk Mode
- [3] Get Mode
- [4] Look Mode
- [5] Fight Mode
- [6] Use Mode
- [7] Flip Character Panel
- [8] Cast Spell
- [9] *Use Track Skill*
- [0] Sleep

Game Options

- [Control][S] Save Game
- [Control][R] Restore Game
- [Control][M] Change Music
- [Control][F] Change Sound Effects
- [Control][D] Change Detail Level
- [Esc] Return to Game
- [Control][Q] Quit Game

Cursor Movement Keys

- [Tab] Move cursor one hot area right
- [Shift][Tab] Move cursor one hot area left

Numeric Pad

- [1-9] Cursor Direction
- [0] Left Mouse-Button
- [.] Right Mouse-Button

WING COMMANDER® ACADEMY™

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INSTALLATION

Memory Requirements

A 2 meg machine is required. (However, we recommend 4 megs of memory to play *Wing Commander Academy*.) A minimum of 5MB hard drive space is required. By typing MEM at the DOS command prompt (C:\>), you can see how much memory is available on your computer. The game needs 586K (600,064 bytes) of DOS memory available (3rd line reported by mem) and 800,000 bytes of available EMS memory.

Some sound cards require additional EMS memory. Sound Blaster, Sound Blaster Pro and Ad Lib require no additional EMS memory. Using a Roland card requires 848K (868,352 bytes) of available EMS memory (total, not additional). When you use a Roland card for music and a Sound Blaster (or Sound Blaster Pro) for speech, you must have 913K (934,912 bytes) of available EMS memory (total, not additional).

Note to 2 meg owners: If you have a 2 meg machine, you will not be able to free enough EMS memory to use both a Sound Blaster Pro and a Roland. You must choose between the Sound Blaster Pro and the Roland.

Note: Wing Commander Academy has been fully tested with the Double Space disk compression utility that shipped with MS-DOS version 6.0. We cannot guarantee the compatibility of our games with other disk compression utilities.

On-Line Help

Help with the installation process is available at any time by pressing **[F1]**.

Quick Installation

1. At the DOS prompt, insert CD-ROM disk into your CD-ROM drive.
2. Type the letter of the CD-ROM drive, followed by a colon, then press **Enter**.
3. Type CD\WCA and press **Enter**.
4. Type INSTALL D: C: and press **Enter**. Substitute the correct drive letters for your CD-ROM and hard drives.

Installation Menus

If you change your hardware configuration, you can run INSTALL from the WCA sub-directory of your hard disk. The installation process is menu-guided. Use **↑** and **↓** to select among the options on each screen, then press **Enter**. If the install program detects a condition that will prevent installation (e.g. not enough disk space), the program will stop and notify you of the nature of the problem. You must fix the program before installation can succeed.

Main Menu

After an introductory screen, the main menu appears. From here you can select an install option:

Install the game. This option attempts to install the game onto the hard drive or drive partition you specify.

Change the hardware configuration. Run this option of the install program any time you change the hardware configuration of your machine after *Wing Commander Academy* has been installed, so that the game can use the new configuration. Once you have given the specifications and have verified that they are correct, you are finished. You can now exit the install program.

Abort installation. This option allows you to cancel the install process. (You may also abort the installation process at certain other points while the files are being copied to the hard drive by pressing **Esc**).

You will be asked to verify all abort requests, giving you a chance to change your mind and continue with the installation.

Machine Specifications

After you have selected an install option from the main menu, the install program will attempt to determine some specifics about your machine. What it finds will be displayed as defaults to the left of the screen. If the defaults are incorrect, you can change them with the following menu options (after answering NO to the question "Are you satisfied with the current configuration?"):

Source drive. This is the drive that currently contains the CD-ROM containing *Wing Commander Academy*.

Destination drive. This should be the hard drive (or partition) onto which you are installing *Wing Commander Academy*. It must have at least 5MB of space free for installation.

Destination directory. If you are not satisfied with the default directory (\WCA), select NO, and enter your preferred directory. The directory will be created if it does not already exist.

Sound card. A list of possible sound cards is displayed. Choose the card that most closely matches the one in your machine. For example, if you have a 100% Sound Blaster compatible card, you would choose SOUND BLASTER. The auto-detect feature will only detect sound cards at their default settings. If your sound card is not at its default setting, the installation program will detect it as AD LIB. In this case you should answer NO to the question: "Are you satisfied with the current configuration?" Then manually select the appropriate sound card from the option menus described below. If you have trouble with the installation that the on-line help (**F1**) or information on this guide cannot help you with, please contact ORIGIN Customer Service (see **Troubleshooting**).

The following menus handle sound card configuration information:

I/O port setting. This setting defaults to 220H. Other possible values are 210H, 230H, 240H, 250H and 260H.

IRQ setting. This menu gives you a choice of 3, 5, or 7 (5 is the default for most, but not all, Sound Blaster cards).

For more information on these settings, see your Sound Blaster documentation.

Note Sound Blaster Pro Users: IRQ 10 is not supported due to technical constraints.

Optimizing Your System

If you are experiencing problems running *Wing Commander Academy*, it might help to create a separate boot disk or decrease the number of memory-resident programs (TSRs) you have loaded.

Creating a Boot Disk

To create a separate boot disk, insert a blank high density disk in your A: drive. From the DOS prompt, type:

```
FORMAT A:/S Enter
```

Modifying CONFIG.SYS

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

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

Your boot disk's CONFIG.SYS should resemble the following:

```
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE 2048 /I=B000-B7FF RAM
DOS=UMB
DOS=HIGH
FILES=30
BUFFERS=30
SHELL=C:\DOS\COMMAND.COM C:\DOS /P
DEVICEHIGH=C:\SB16\<CD-ROM DRIVER>
(Users with DBLSPACE should include the next line)
DEVICEHIGH=C:\DOS\DBLSPACE.SYS /MOVE
(Users with DRVSPACE [<DOS 6.22 only] should include the next line)
DEVICEHIGH=C:\DOS\DRVSPACE.SYS /MOVE
```

C:\<CD-ROM DRIVER> will vary depending on your particular CD-ROM drive. If your CONFIG.SYS file does not contain this line, please consult your CD-ROM documentation.

Exiting CONFIG.SYS and Modifying AUTOEXEC.BAT

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

```
Alt F
X
Y
```

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

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

When the new screen appears, type these commands shown

```
@ECHO OFF
PROMPT $P$G
PATH=C:\DOS
LH C:\SB16\DRV<MSCDEX.EXE driver>
LH <path>\MOUSE.COM (or insert other mouse device driver here)
SET SOUND=C:\SB16 (default)
SET BLASTER=A220 D1 I5 H5 P330 T6 (default settings)
C:
```

"SB16" is the default directory in which Sound Blaster software is installed. Insert the appropriate directory name if you chose not to use the default.

SET BLASTER variable may vary depending on whether you changed the configuration of your Sound Blaster sound card.

Exit and save this file by typing:

```
Alt F
X
Y
```

Disk Cache Set-Up

If you have a 4 Meg machine or greater, you can install SMARTDRV.EXE (a disk cache program). We recommend you allocate 1024K of memory to the disk cache. We also recommend using the SMARTDRV versions from *Windows 3.1* or *DOS 6.0*. If you decide to install SMARTDRV, you need to add the following line to the beginning of your AUTOEXEC.BAT file:

```
C:\DOS\SMARTDRV.EXE 1024
```

Mouse Set-Up

For ease of gameplay, we recommend the use of a mouse in addition to a joystick. Be sure that you are using a 100% Microsoft compatible mouse driver. If you're 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 or your mouse user's guide. One example is:

```
C:\MOUSE\MOUSE.COM
```

Be sure to include your specific mouse driver line to the beginning of the AUTOEXEC.BAT file of your boot disk. When you want to play *Wing Commander Academy*, insert this boot disk in the A: drive and start or restart your computer.

Installation Fails

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

TROUBLESHOOTING

Q: *My mouse is not working with WCA. My mouse works with all of my other software applications; why not with WCA?*

A: If your mouse is not working with WCA, you should first check to see if your mouse has been loaded in DOS (in your AUTOEXEC.BAT file) or onto the boot disk you are using to play the game. Windows and many other “multi-tasking” environments load their own built-in mouse driver. These mouse drivers will not operate outside of their shell environment. Loading a mouse driver into the DOS environment can be as simple as typing MOUSE [Enter] at the command prompt. For example:

```
C:\>MOUSE [Enter]
```

This command can differ from mouse driver software to mouse driver software. Please consult your mouse user’s guide for further details.

Q: *Why doesn’t my joystick work correctly? It works with WC and WCII.*

A: Be sure that your joystick has been calibrated correctly. Once within a mission, press [J] or [Shift][J] to recalibrate your joystick. Also, because of the close interaction between the mouse and the joystick, be sure that your mouse driver is 100% Microsoft-compatible. Please consult your mouse user’s guide for further details.

Q: *When I boot the game, it says “Expanded memory not detected,” but I have two megs of RAM. What’s wrong?*

A: First, not all types of extra RAM are equal. There are two basic kinds—exTENDED and exPANDed. If you have no expanded memory, you must configure your extended memory as expanded memory. If you have expanded memory but WCA still won’t acknowledge it, most likely some other piece of software, such as a disk cache or RAM disk, is using up all your expanded memory. Check your CONFIG.SYS and AUTOEXEC.BAT files for such programs, and consult the documentation that came with those programs to find out how to reduce their memory consumption. Also, consult **Optimizing Your Systems**.

Q: *WCA threw me out to DOS. It said I had an “Out of memory error.” When I tried to re-start, it did it again.*
or

Q: *My copy of WCA is defective. Every time I play, it throws me to DOS with a Memory Allocation Error.*

A: Both are trying to play with less than 586K (601,000 bytes) free. If the game does this, use the DOS command CHKDSK and read the last line of output. It should say “XXXXXX bytes free.” This is the amount of free RAM available. If this number is less than 601,000 bytes, modify your AUTOEXEC.BAT and CONFIG.SYS files.

You may want to use a system boot disk instead of modifying the CONFIG.SYS and AUTOEXEC.BAT files on your hard drive. Please refer to **Optimizing Your System** for instructions on making a system boot disk for the WCA game.

Q: *The game still doesn’t work after I modified my AUTOEXEC.BAT and CONFIG.SYS files.*

A: Copy down the information the computer provided when it dumped you to DOS, then see **ORIGIN Customer Service** at the end of this manual.

Q: *My game runs slowly and occasionally locks up.*

A: You may be loading other software that is not compatible with WCA. First, try running your game from a system boot disk. Refer to **Optimizing Your System** to create a boot disk. The WCA game is only compatible with Microsoft DOS versions 5.0 or higher. This software is not compatible with 286 PCs. Please use a 386 or 486 PC.

Q: *Why does my computer crash when I try to play WCA while I am logged into our LAN (local area network)?*

A: LAN software often tries to take over the same system resources that WCA uses. Sometimes the two can coexist, but often they can’t. If you have strange problems with WCA while your LAN drivers are loaded, try booting from a clean boot disk that does not load your LAN drivers. Please refer to **Optimizing Your System**.

Q: *Why does my computer crash when I try to play WCA through Microsoft Windows (or OS/2, Desqview or DOS 5.0 Task Swapper)?*

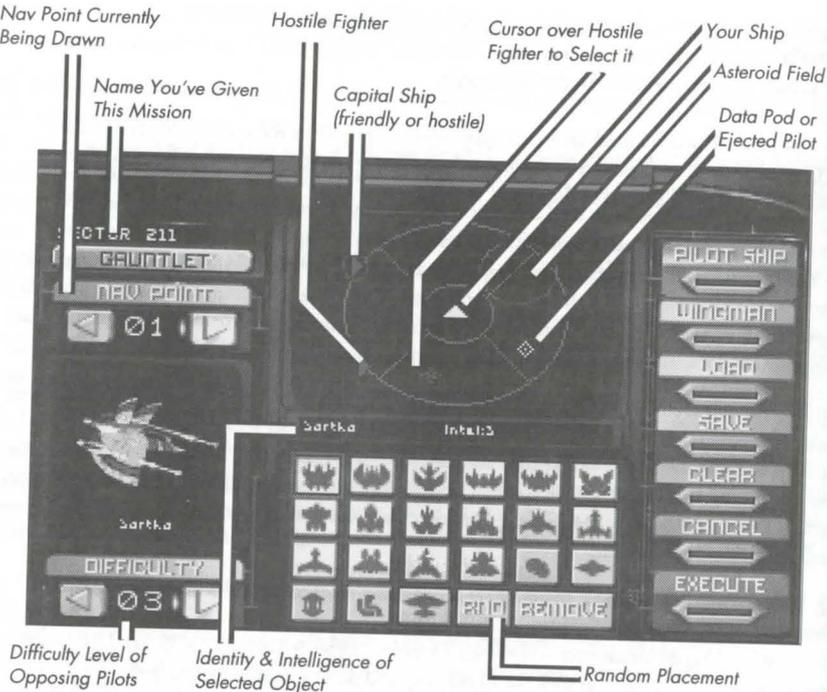
A: “Multi-tasking environments”—Windows, Desqview, Software Carousel, DOS 5.0 Task Swapper, and so forth—often conflict in their use of memory and other system resources with Wing Commander Academy. We do not recommend playing WCA under these circumstances. Even if you do run the game under a multi-tasker, do not swap to another application while playing. Your system will crash if you try to suspend WCA to run another program. In general, we recommend that you log out of Windows (or similar applications) and play from the DOS prompt.

COMPUTER CONSOLE

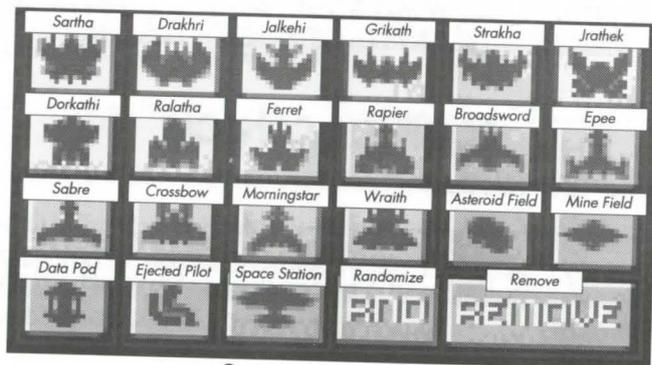
Configuring Your Mission

The large view screen in the upper half of the console is the “drawing board” of the simulator. The green triangle in the center of the screen represents your “ship.” You are free to place various combinations of enemy ships, capital ships, space stations, obstacle fields and other objects around your ship.

Nav Point Currently Being Drawn



COMPUTER CONSOLE



SELECTION BUTTONS

- To select a specific kind of opponent, hazard or object, click on the appropriate button located below your view screen.
- A single click on one of the buttons causes a rotating graphical representation of the object to appear in the window at the lower left of the console. The thin box just above the rows of buttons identifies the object you chose.
- Select the particular ship or object you wish to include in the mission you are configuring by clicking on it. Hitting **[Enter]** selects any object currently located under your cursor.
- You must also specify the difficulty level (intelligence level) of each hostile ship before placing it in the action sphere around your fighter. Use the arrow keys of the difficulty level option at the bottom left of your console to choose an intelligence (from 1 to 4) for each hostile ship. The higher the intelligence number, the more accomplished your opponent will be.
- Once you have decided where you want this hostile fighter or object to appear relative to you, single-click on the desired position on your view screen.
 - If you have positioned a hostile fighter, a red triangle appears to indicate its position.
 - Capital ships and the friendly space station are identified by a red triangle surrounded by a circle.
 - Asteroid fields appear as large red circles on the mission display screen.
 - Mine fields appear as yellow circles on the mission display screen.
 - Data pods and ejected pilots are represented by yellow diamonds.
- You may place up to eight different objects in the action sphere around your ship. You can only place one obstacle field and a maximum of four *Ralathas* in each action sphere. (No ship has enough ammunition to destroy more than four of these formidable fighters.)
- As mentioned above, moving the cursor over each object causes a description to appear in the thin box between the drawing board and the rows of buttons.
- If you made a mistake or you simply decide to remove a particular object from the action sphere, click on remove in the bottom row of the object buttons. Then move your cursor to the ship or object you want to remove and single-click on it. Clicking on the clear button in the right column on your option menu (or typing C) removes all objects you have placed in the action sphere surrounding your ship at the currently selected nav point. If you hit clear again, the simulator will ask you whether you want to clear all nav points. Press Y to clear all nav points.
- You may want to configure a mission with a variety of objectives at different nav points. Once you have placed all desired objects in Nav 1, select Nav 2 with the nav button to the upper left side of your console. Selecting a new nav point automatically clears your "drawing board" and allows you to design a new sub-mission. You can configure missions with anywhere from one to four different nav points in this manner.

Randomizer and Gauntlet Options

If you prefer the unexpected, try the Randomizer and Gauntlet options. The Randomizer button is located in the bottom row of buttons. Select the RND button, click anywhere on the view screen and this feature will generate unpredictable patterns of objects and hostile ships at the selected nav point. This option is particularly useful in preparing you for the unpredictability of combat in space.

The GAUNTLET option button, located in the top left corner of your simulator console, introduces you to yet another kind of combat experience. Using this option, you fly against wave after wave of enemy fighters. You can fly up to fifteen different levels comprising three waves each, although few students at the TCSN Academy have successfully completed the gauntlet even once. As you progress from wave to wave, difficulty will increase along with the skill of your formidable opponents.

Selecting Your Ship

Pressing the SELECT SHIP button, in the upper right corner of your console, (or hitting **P** on your keyboard) brings up an option screen with the different ships you can choose to fly. When you select a particular ship by single-clicking on it, the screen will also indicate the ship's weapon load-out. Once you have decided which ship you want to fly this mission, and have clicked on it, hit SELECT to save and return to the main option screen. Press CANCEL if you want to return to the main option screen without saving your choice.

Selecting Your Wingman

The WINGMAN button located in the right column on your console (or **W** on your keyboard) calls up an option screen with five different wingmen options. If you choose NONE, you will fly this mission alone. Selecting one of the wingman names by single-clicking on it shows you a portrait of the pilot and informs you about piloting and dog fighting skills as well as attitude. Choose the pilot you want on this particular mission (or choose NONE) and hit ACCEPT to save your choice. CANCEL returns you to the main screen without saving a wingman choice.

Saving a Mission

If you have created a mission that you wish to save, you must first type a name for the mission into the slot allocated in the top left corner of the console. When you select the slot (press **Tab** until you highlight the slot you want, or click on the slot), a cursor will appear. You can now use **Backspace** to erase the current name in the slot. Enter the new mission name and select the SAVE button in the right hand column of your computer screen (or hit **S** on your keyboard). A new option menu with numbered slots will pop up. When you click on a numbered slot, the mission name you just entered will appear. You are also free to move this mission to any slot you wish by dragging it. (Click-and-

hold the pointer on the name, drag the pointer to your preferred slot, and release the mouse button.) Once you have placed the mission name in the desired slot, hit SAVE to return to the main console. You may save a total of 24 games in this manner. If you decide to save a new mission in a slot which already contains a mission name, the simulator will overwrite the old data with the new mission. You will be asked whether you want to overwrite the currently saved mission or not. If you change your mind and decide not to save your mission after all, you can escape to the main screen by clicking CANCEL.

Saving a Mission on a Floppy Disk

If you want to save a mission onto a floppy disk, you must first save the mission in one of the allocated slots. Note the slot number(s) of the mission(s) you are transferring to a floppy, then exit to DOS on the simulator computer and insert a disk into the desired disk drive. From the C: prompt, type:

```
CD\WCA\MISSIONS
```

(If you installed the game in a directory other than the default directory, type the name of that directory instead of "WCA" here, and anywhere else it appears in this section.) You are now in the missions subdirectory of WCA. At the prompt, typing DIR will provide you with a list of all available saved missions. The missions are listed by numbers and not by their names, so you must remember the slot number of the mission you wish to save. To copy onto your disk, type:

```
COPY C:\WCA\MISSIONS\MISSION.<mission number> <destination drive>
```

For example, you might type:

```
COPY C:\WCA\MISSIONS\MISSION.007 B:
```

When you want to upload this mission from disk and save it as a certain mission number, insert the floppy disk into the disk drive and type:

```
COPY <source drive>:\MISSION.<mission number> C:\WCA\MISSIONS\MISSION. <desired mission number>
```

For example, you might type:

```
COPY B:\MISSION.007 C:\WCA\MISSIONS\MISSION.008
```

(If you inserted the disk into drive A:, enter A: instead of B: as the source drive.) Now the saved game will appear as a saved mission in slot number 8.

Loading a Mission

If you want to play a mission that was previously saved, you can retrieve it by clicking on the **LOAD** button, in the right column of your computer console (or typing **L** on your keyboard). The new option screen will show you 24 numbered slots with the saved missions. Select the game you want to load and click on **LOAD** to confirm your choice. This will return you to the main menu on the console. If you change your mind, you can always go back to the main screen by hitting **CANCEL**.

Other Console Functions

CANCEL. Should you decide you are not ready to fly a mission right now, you can click on the **CANCEL** button, in the right column of the computer console, (or hit **Esc** on your keyboard) to deactivate the simulator. You can exercise this option if you wish to re-configure your Music and Sound FX selections in the wall panel of the simulator room or if you want to leave the simulator room through the DOS area of the Academy.

EXECUTE. Selecting the **EXECUTE** button (or typing **X**) will let you fly the mission you have just configured or loaded. The walls of the simroom light up and then fade away. In a few seconds you find yourself in the cockpit of the ship you have chosen to fly.

REFERENCE SECTION

CONSOLE COMMANDS

Select	Enter	Selects feature currently under cursor
Next	Tab	Moves to next command button
Clear	C	Clears action sphere
Ship	P	Selects ship
Wingman	W	Selects wingman
Load	L	Loads game
Save	S	Saves mission
Execute	X	Runs mission
Escape	Esc	Returns to simulator room

SPACEFLIGHT COMMANDS

To Fire

Gun/Tractor	G	Cycles through guns (or tractor beam)
Weapon	W	Cycles through weapon systems
Targeting Comp.	T	Selects targeting computer/changes target
Lock Target	L	Locks targeting computer (or activates ITTS, if available)
Chaff	Alt Enter	Fires chaff pods

To Fly

Afterburners	Tab	Fires afterburners for as long as key is pressed
Stop	Backspace	Brings ship to immediate stop
Autopilot	A	Engages autopilot
Damage	D	Displays ship's damage screens
Communications	C	Selects communications panel (or clears incoming communication)
Video	V	Enables or suppresses comm video

Messages

"Attack my target."	Alt A
"Break and attack."	Alt B
Request wingman damage report	Alt D
"Keep formation."	Alt F
"Form on my wing."	Alt F
"Help me out here."	Alt H
Random taunt to targeted enemy	Alt T

Simulator Options

Message Duration	[M]	Changes message duration	Slower	[Alt +]	Slows speed of game
Music	[Ctrl M]	Toggles music on/off	Faster	[Alt -]	Increases speed of game
Sound	[Ctrl S]	Toggles sound effects on/off	Exit	[Alt X]	Exits to DOS
Score	[S]	Displays score (in gauntlet mode) on right VDU	Eject	[Ctrl E]	Ejects from ship and returns to simulator room
Pause	[P]	Pauses game			

Camera Views

Front	[F1]	Front view	Chase	[F5]	Chase plane view
Left	[F2]	Left view / go to left turret if available	Battle	[F6]	Battle view
Right	[F3]	Right view / go to right turret if available	Tactical	[F7]	Tactical view
Rear	[F4]	Rearview / go to rear turret if available	Missiles	[F8]	Missile camera view
			Tailing	[F9]	Tailing view; cycles through ship

USING A KEYBOARD

Between Missions. Use **[↓]**, **[↑]**, **[←]**, and **[→]** (or the numeric keypad) to move the arrow pointer. When the pointer's shape changes into a cross, press **[Enter]** to select functions.

In Space. Both the numeric keypad (with **[Num Lock]** off) and arrow keys are active for controlling flight.

For sharp turns, climbs and dives, press **[Shift]** simultaneously.

Numeric Keypad:

Dive	[8]
Right	[6]
Left	[4]
Climb	[2]
Roll Right	[.]
Roll Left	[0]
Decrease Speed	[=]
Increase Speed	[+]
Fire Selected Missile	[Enter]
Fire Afterburner	[*]
Hold for longer burn	

Other Keys:

Fire Afterburner	[Tab]
Decrease Speed	[=]
Increase Speed	[+]
Fire Selected Gun	[Spacebar]
Decrease Speed Quickly	[Backspace]

USING A MOUSE

Between Missions. Move the mouse to maneuver the arrow-shaped pointer around the on-screen picture. When the pointer's shape changes into a cross, press the left mouse button to select game functions.

In Space. When you move the mouse, a white, circular pointer appears in the view-screen. Your ship homes in on the pointer. Maneuver by moving the mouse until the pointer is where you want to go. You travel in that direction until you move the mouse to a new position.

Mouse Only:

Forward	Dive
Right	Turn right
Left	Turn left
Back	Climb
Left Button	Fire selected gun

Mouse and Right Button:

Forward	Increase speed
Right	Roll right
Left	Roll left
Back	Decrease speed
L & R Buttons	Fire selected missile
Double click & hold	Afterburners
Right Button	

USING A JOYSTICK

Between Missions. Move the joystick to maneuver the arrow-shaped pointer around the on-screen picture. When the pointer's shape changes into a cross, press button #1 to select function.

In Space:

Joystick Only:

Forward	Dive
Right	Turn right
Left	Turn left
Back	Climb

Joystick and Button #2:

Forward	Increase speed
Right	Roll right
Left	Roll left
Back	Decrease speed
Button 1 & 2	Fire selected missile
Double click & hold	Afterburners

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WELCOME TO GENERAL CHUCK YEAGER'S AIR COMBAT

INSTALLING YEAGER AIR COMBAT

You need at least 1.4MB of free hard disk space. To play Yeager Air Combat, the CD must be inserted in your CD-ROM drive, you need 640K of memory, and a CGA, EGA or VGA compatible video adapter.

Use the Install utility included on the CD-ROM to install the game on your hard drive. The install utility creates a directory named YEAGER on your hard disk.

1. Boot your computer with DOS (any version from 2.1 or later)
2. Insert CD-ROM into your CD-ROM drive.
3. Type **D:** and press **Enter**. (Type the appropriate drive letter of your CD-ROM drive.)
4. Type **CD\YEAGER** and press **Enter**.
5. To install, type **Install** followed by the CD-ROM drive letter you are installing FROM and the drive letter you are installing TO. For example, to install from drive **D:** to drive **C:**, you would type **INSTALL D: C:** and press **Enter**.
6. The game is copied into the YEAGER subdirectory on your hard drive.

TO START YEAGER AIR COMBAT

1. Type **C:** and press **Enter**. (If your hard drive isn't C:, enter the correct letter.)
2. Type **CD YEAGER** and press **Enter**.
3. Type **YEAGER** and press **Enter**. To answer the question on the screen, find the correct answer in the *Airplane Description* section, type the answer, and press **Enter**. There is no time limit, and if you answer incorrectly, you get two additional chances.
4. The game will load and you'll see the title screen. Press the spacebar to continue.

The program automatically detects the best graphics mode for your computer and starts the game in that mode. If you want to play the game in a different graphics mode or use an AdLib music card, see Startup Parameters for instructions on these options.

Note: You may need to remove TSRs present in your system (terminate-and-stay-resident programs, such as Sidekick[™]) before starting Yeager Air Combat. You can temporarily avoid these TSRs by booting from your original DOS disk. See *Problems with Game/Technical Support/Warranty* section for information on removing TSRs.

At any time during the game, you can press **Ctrl-P** to pause the game, and any key will resume. You can also press **Ctrl-C** to quit the game (press Y to confirm).

STARTUP PARAMETERS

When you start Yeager Air Combat, the program automatically detects the best graphics mode for your computer and starts the game in that mode. However, if you want to start the game in a different graphics mode, you can do so by adding a few extra characters (called arguments) to the start command.

EXAMPLE: Let's say you want to load the game with EGA graphics mode and use a joystick. You'd type **YEAGER EGA JOYSTICK** and press **Enter**.

The order of the extra arguments doesn't matter as long as there's a space between each argument.

These are the arguments you can use:

EGA	Loads game with EGA graphics.
MCGA	Loads game with MCGA graphics (Same graphics as VGA, but slower. Maintains compatibility with PS/2 25 and 30).
VGA	Loads game with VGA graphics.
SLOWCARD	When you are in MCGA or VGA mode, if the game freezes on startup, or if you get sound but the wrong colors or no colors at all, try this parameter. It slows down the interface between the computer and the video card.
FASTCARD	Deactivates Slowcard.
JOYSTICK	Loads game with joystick flight control.
KEYBOARD	Loads game with keyboard flight control.
MOUSE	Loads game with mouse flight control.
MOUSE2	Loads game with high-resolution mouse flight control.
LOW	Loads game in low graphics detail mode (less detail speeds up game play).
MEDIUM	Loads game in medium graphics detail mode (less details speeds up game play).
HIGH	Loads game in high graphics detail mode.
NOSOUND	Loads game with sound turned off.
NOSPEECH	Loads game with digitized speech turned off.
PC	Loads game with PC internal speaker sounds.
ADLIB	Loads game with AdLib sound card sounds.
BLASTER	Loads game with Sound Blaster sound card sounds.
ALL	If you want to be able to play all missions without having to win each one, type this parameter to make all missions available immediately. This is a default parameter.
CAMPAIGN	Starts new campaign. In order to advanced in Campaign Mode, you will need to land safely at your home base after successfully completing each missions. (See "Playing in Campaign Mode" in the on-line documentation.)

Note: when you quit the game, the program remembers all of that game's startup parameters, and all the items checked on the drop-down menus. The next time you start the game, just type YEAGER and press Enter, and those same parameters and menu items will be in effect. Also, if you quit the game in the middle of a Campaign, and you want to return to where you left off, be sure not to select the Campaign parameter the next time you start up the game, as that will put you at the beginning of a new campaign.

KEYBOARD PROCEDURES FOR NON MOUSE USERS

Tab	Moves cursor arrow sequentially through options buttons.
Spacebar	Selects option beneath cursor arrow.
Enter	Selects option with >"text"< (arrows) on either side. Note: this may be different than the button the cursor arrow points to, so you can hit Enter to save time
Esc	Exit to previous screen.
Backspace	Backup one screen when creating a custom mission.
"Hot keys"	Most options can be selected by pressing the first letter of the first word. For example, "Test Flight" is selected from the main menu by pressing T .

Note: On the Historical Mission Selection screen, pressing 1, 2, or 3 will select the first, second, or third mission visible on the screen.

YEAGER AIR COMBAT KEYBOARD REFERENCES

VIEWS

F1	Forward
F2	Back
F3	Left
F4	Right
F5	Up (Look up at 45° from forward view)
F6	Down (Look down at 45° from forward view)
F7	Plane to target
F8	Target to plane
F9	Map (in playback screen, this activates the "3D box view")
F10	Fly-by
Shift-F1	Behind your airplane, looking forward
Shift-F2	In front of your airplane, looking back
Shift-F3	Alongside the right wing of your airplane
Shift-F4	Alongside the left wing of your airplane
Shift-F5	From below looking up at underside of your airplane
Shift-F6	From above looking down at the top side of your airplane
Shift-F7	Target's cockpit
Shift-F8	Following target
Shift-F9	Circling external view or airplane
Shift-F10	Following missile
(Cursor Arrows)	Slew view angle. If you're using the keyboard to control the flight stick, or if you're on the FILM PLAYBACK screen, then you have to press Ctrl along with the arrow keys.

Ctrl-PgUp/PgDn

After you've selected "fly-by-view" these keys will change the altitude of your view position.

- Decrease view magnification
+ Increase view magnification

FLIGHT CONTROLS

1 to 5 Set throttle (0%, 25%, 50%, 75%, 100%)
6 Afterburner (Vietnam Era aircraft only)
7 Throttle -5%
8 Throttle +5%
G Landing gear up/down
F Flaps in/out
B Air brakes and wheel brakes on/off

COCKPIT CONTROL

Backspace Display/Hide instrument Panel
] Select previous weapon
[Select next weapon
Spacebar, Button A Fire weapon
Enter, Button B Select next target to right of current target
' (apostrophe) Select target closest to center of screen
9 Fire chaff (on MiG-21 and F-4 only)
0 Fire Flare (on MiG-21 and F-4 only)
R Radar on/off (on MiG-21 and F-4 only)
, (comma) Decrease RWR magnification (on MiG-21 and F-4 only)
. (period) Increase RWR magnification (on MiG-21 and F-4 only)
W Next waypoint
Shift-W Previous waypoint
Shift-E Eject
Ctrl-R Change HUD (Heads Up Display) color
Ctrl-F Toggle flight info on/off
D Show how much damage you've absorbed (as % of max damage)

MISCELLANEOUS – DURING FLIGHT

Esc Toggle flight menus on/off
Ctrl-P Pause
Ctrl-S Sounds on/off
Ctrl-Q End mission
Ctrl-A Direction to nearest friendly plane
Ctrl-Z Direction to nearest enemy plane
T Toggle time compression (1x, 2x, 4x)

MENU COMMANDS

Esc Toggle flight menus on/off
Left, Right (arrows) Previous/Next menu
Up, Down (arrows) Previous/Next item
PgUp, PgDn Previous/Next item group ("group"—one or more items separated by line)
Home, End First/Last item
Enter Make selection and remove menus

HELP FUNCTIONS

Ctrl-I Invincibility on/off
Ctrl-E Easy Aiming on/off
Ctrl-L Easy landings on/off
Ctrl-U Unlimited ammo on/off
Ctrl-T Target information on/off
Ctrl-B Blackouts and redouts on/off
Shift-1 Map window on/off
Shift-2 Flight envelope window on/off
Shift-3 Target view window on/off
Shift-4 Yeager window on/off

Note: Using a help function will prevent you from advancing in Campaign Mode. The Nearest Friend (**Ctrl-A**) and Nearest Enemy (**Ctrl-Z**) features do not count as Help Features in Campaign Mode. KEYBOARD AND MOUSE USERS: Because it's more difficult to aim while controlling your airplane with the keyboard or a mouse, you can select Easy Aiming from the Help Menu and still complete a Campaign.

FILM PLAYBACK SCREEN

P Brings up film playback screen when in flight
Home Go to start of film
End Go to end of film
; (semi-colon) Move back five seconds
' (apostrophe) Move forward five seconds
[Move back 1/20th of a second
] Move forward 1/20th of a second
5 (keypad) Stops film
Left Arrow Play in slow motion
Right Arrow Play in normal speed
Pg Dn Play at 2x normal speed

Ctrl-(Cursor Arrows) Slew view angle (Also activated by the tab key and by moving the cursor arrow. These can also be used to rotate perspectives in Box View).

(Function Keys) Set the view mode. All commands remain the same as, except that F9 activates BOX VIEW instead of MAP VIEW, which is not available on the Film Playback screen.

Enter	Next Target button (only works in Review Film on main menu)
+	Zoom in
-	Zoom out
L	Load film (only works in Review Film on main menu)
S	Save film
Esc	Exit Film Playback Screen

The following commands work only in "Box View."

F9	Activates Box View
H	Always follow plane's heading (default=off)
P	Always follow plane's position, keeping player centered in the box (default=off)

EXITING TO DOS

Ctrl-C Exit to DOS. You will be asked to confirm this by pressing Y.

GAME NOTE

In Campaign Mode and Ace's Challenge you MUST come to a full stop at your home base to get credit for a completed mission. In some missions (notably escort missions) the scenario will end after the bombers have reached their final waypoint. You must land at your home base before they reach their final waypoint

AIRPLANE DESCRIPTIONS

REPUBLIC P-47 D THUNDERBOLT

Specifications: Type: Single seat fighter-bomber; Power plant: One 2,300 Pratt & Whitney R-2800 Double Wasp 18-cylinder two-row radial; Wingspan: 40.8 ft; Length: 36.1 ft; Height: 14.2 ft; Weight: 19,400 lbs; Maximum Speed: 428 mph; Climb: 2,800 ft/min; Ceiling: 43,000 ft; Range: 590 miles; Armament: Eight 0.50 in Colt-Browning M-2 machine-guns in wings.

NORTH AMERICAN P-51D MUSTANG

Specifications: Type: Single-seat fighter; Power plant: One 1,590 hp Packard-built Rolls-Royce Merlin V-1650-7 liquid-cooled engine; Wingspan: 37.0 ft; Length: 32.2 ft; Height: 13.7 ft; Weight: 7,125 lbs; Maximum Speed: 437 mph; Climb: 3,475 ft/min; Ceiling: 41,900 ft; Range: 950 to 2,000 miles; Armament: Six Browning MG53-2 machine-guns in wings.

BOEING B-17E FLYING FORTRESS

Specifications: Type: High altitude bomber; Power Plant: Four 1,200 hp Wright R-1820-97 Cyclone nine-cylinder radials with exhaust driven turbochargers. Wingspan: 103.8 ft; Length: 73.8 ft; Height: 19.1 ft; Weight: 31,150 lbs (loaded); Maximum Speed: 317 mph; Ceiling: 35,000 ft; Range: 1,100 miles; Armament: 13 0.50 machine-guns and 17,600 lbs in bombs.

FOCKE-WULF FW-190A-8

Specifications: Type: Single-seat fighter-bomber; Power Plant: One 1,700 hp BMW 801 Dg 18-cylinder two-row radial engine; Wingspan: 34.5 ft; Length: 29.0 ft; Height: 13.0 ft; Weight: 7,055 lbs; Maximum Speed: 408 mph; Climb: 2,350 ft/min; Ceiling: 37,400 ft; Range: 497 miles; Armament: Two 13mm MG 131 machine-guns above engine, four 20mm MG 151/20 cannon in wings.

MESSERSCHMITT ME-109E EMIL

Specifications: Type: Single seat fighter/fighter-bomber; Power Plant: One 1,300 hp Daimler-Benz DB 601E inverted-V-12 liquid-cooled engine; Wingspan: 32.4 ft; Length: 28.3 ft; Height: 7.5 ft; Weight: 4,330 lbs; Maximum Speed: 390 mph; Climb: 3,100 ft/min; Ceiling: 38,000 ft; Range: 350 miles; Armament: Two 8mm cannon MG-17 machine-guns above engine, one 20mm MG-151 cannon in propeller hub.

MESSERSCHMITT ME-110B ZERSTORER

Specifications: Type: Two-seat/three-seat fighter; Power Plant: One 1,100 hp Daimler-Benz DB 601A engine; Wingspan: 32.4 ft; Length: 28.3 ft; Height: 7.5 ft; Weight: 4,330 lbs; Maximum Speed: 349 mph; Climb: 2,255 ft. min; Ceiling: 32,800 ft; Range: 559 miles; Armament: Two 20mm Oerlikon MG FF cannon in nose, four 7.92 mm MG-17 machine-guns in nose, one 7.92mm MG-17 manned machine-gun in rear cockpit.

MESSERSCHMITT ME-163 KOMET

Specifications: Type: Short-range fighter-interceptor; Power Plant: One 16,67 kN 3,748 lb thrust Walter 109-509A-2 rocket motor; Wingspan: 30.6 ft; Length: 18.6 ft; Height: 9.0 ft; Weight: 4,191 lbs; Maximum Speed: 596 mph; Climb: 16,400 ft/min; Ceiling: 54,000; Range: 50 miles; Armament: Two 30mm MK 108 cannons, twenty-four rockets underwing, to vertically discharged rockets within the wing.

MESSERSCHMITT ME-262 STURMVOGEL

Specifications: Type: Single-seat fighter; Power Plant: Two 1,980 lb thrust Junker Jumo 004B single-shaft axial turbojets; Wingspan: 41.0 ft; Length: 34.8 ft; Height: 12.6 ft; Weight: 8,820 lbs; Maximum Speed: 540 mph; Climb: 3,940 ft/min; Ceiling: 37,565 ft; Range: 652 miles; Armament: Four 30mm MK 108 cannon in wings.

STINSON L-5 SENTINEL

Specifications: Type: Two-seat short-range aircraft; Power Plant: One 141.6 kW 190 hp Lycoming O-435-1 engine; Wingspan: 34.0 ft; Length: 24.1 ft; Weight: 2,158 lbs; Maximum Speed: 129 mph.

NORTH AMERICAN F-86E SABRE

Specifications: Type: Single-seat interceptor-fighter; Power plant: One 5,200 lb thrust General Electric J-47-13 turbojet; Wingspan: 37.0 ft; Length: 37.0 ft; Height: 14.0 ft; Weight: 10,555 lbs; Maximum Speed: 679 mph; Climb: 4,760 ft/min; Ceiling: 47,000 ft; Range: 925 miles; Armament: Six 0.50 in machine guns.

MIKOYAN-GUREVICH MIG-15 FAGOT

Specifications: Type: Single-seat fighter; Power Plant: One 5,005 lb thrust RD-45 Rolls-Royce Nene turbojet; Wingspan: 33.1 ft; Length: 36.3 ft; Height: 11.1 ft; Weight: 8,820 lbs; Maximum Speed: 668 mph; Climb: 10,500 ft/min; Ceiling: 51,000 ft; Range: 1,115 miles; Armament: One 37mm NS-37 cannon in nose, two 23mm NS-23 cannons in nose.

YAKOVLEV YAK-9

Specifications: *Type:* Single-seat fighter; *Power Plant:* One 1,014 kW 1360 hp Klimov Mi-105P f-3 engine; *Wingspan:* 32.8 ft; *Length:* 28.0 ft; *Height:* 8.8 ft; *Weight:* 7,055 lbs; *Maximum Speed:* 368 mph; *Climb:* 2,400 ft/min; *Ceiling:* 32,800 ft; *Range:* 875 miles; *Armament:* One 20mm cannon, one 12.7mm machine-gun.

BOEING B-29C SUPERFORTRESS

Specifications: *Type:* High altitude heavy bomber; *Power Plant:* Four 2,200 hp Wright R-3350-23 Duplex Cyclone 18-cylinder radials each with two exhaust-driven turbochargers; *Wingspan:* 141.3 ft; *Length:* 99.0 ft; *Height:* 27.8 ft; *Weight:* 135,000 lbs (loaded); *Maximum Speed:* 357 mph; *Ceiling:* 36,000 ft; *Range:* 3,250 miles; *Armament:* One 20mm cannon, one twin 0.50 cal. machine-gun, 22,000 lbs of bombs.

MCDONNELL DOUGLAS F-4E PHANTOM II

Specifications: *Type:* Two-seat fighter; *Power plant:* Two 17,900 lb thrust General Electric J-79-GE-17A turbojets; *Wingspan:* 38.4 ft *Length:* 62.8 ft; *Height:* 16.5 ft; *Weight:* 28,000 lbs; *Maximum speed:* 1,386 mph; *Climb:* 61,400 ft/min; *Ceiling:* 71,000 ft; *Range:* 786 mph; *Armament:* One 20mm M61A1 rotary cannon, four AIM-7 Sparrows, four AIM-9 Sidewinders.

AIM-7 Sparrow: Guidance: Semi-active radar homing; *Propulsion:* Solid propellant rocket; *Warhead:* 88 lb barthelet continuous rod; *Length:* 12 ft; *Weight:* 503 lbs; *Diameter:* 8 in; *Wingspan:* 3.3 ft; *Maximum Speed:* 3.5 Mach; *Range:* 30+ miles.

AIM-9 Sidewinder: Guidance: Infrared homing; *Propulsion:* Solid propellant rocket; *Warhead:* 25 lb fragmentation; *Length:* 9.4 ft; *Weight:* 190 lbs; *Diameter:* 5 in; *Wingspan:* 2.08 ft; *Maximum Speed:* 2.5 Mach; *Range:* 5 miles.

REPUBLIC F-105D THUNDERCHIEF

Specifications: *Type:* Single-seat fighter-bomber; *Power Plant:* One 17,200 lb thrust Pratt & Whitney J-75-19 turbojet; *Wingspan:* 34.9 ft; *Length:* 67.0 ft; *Height:* 19.8 ft; *Weight:* 27,500 lbs; *Maximum Speed:* 1,226 mph; *Climb:* 34,500 ft/min; *Ceiling:* 48,500 ft; *Range:* 800 miles. *Armament:* One 20mm cannon, two 3,000 lb bombs, and four Sidewinder missiles.

MIKOYAN-GUREVICH MIG-21MF FISHBED

Specifications: *Type:* Single-seat fighter; *Power Plant:* One 11,240 lb thrust Tumansky single-shaft turbojet; *Wingspan:* 23.5 ft; *Length:* 48.0 ft; *Height:* 14.8 ft; *Weight:* 11,464 lbs; *Maximum Speed:* 1,285 mph; *Climb:* 36,090 ft/min; *Ceiling:* 59,050 ft; *Range:* 683 miles; *Armament:* Two 30mm NR-30 cannon, four AA-2 Atoll missiles.

AA-2 Atoll: Guidance: Infrared or semi-active radar homing; *Propulsion:* Solid Propellant Rocket; *Warhead:* unknown; *Length:* 9.1 ft; *Weight:* 155 lbs; *Diameter:* 4.75 in; *Wingspan:* 1.7 ft; *Maximum Speed:* 2+ Mach; *Range:* 4 +miles.

MIKOYAN-GUREVICH MIG-17F FRESCO

Specifications: *Type:* Single-seat fighter-interceptor; *Power Plant:* One 5,952 lb thrust Klimov VK-1 single shaft centrifugal turbojet; *Wingspan:* 31.0 ft; *Length:* 36.3 ft; *Height:* 11.0 ft; *Weight:* 9,040 lbs; *Maximum speed:* 711 mph; *Climb:* 12,795 ft/min; *Ceiling:* 54,460 ft; *Range:* 870 miles; *Armament:* Three NS-23 cannons under nose, up to eight rockets.

BOEING B-52 STRATOFORTRESS

Specifications: *Type:* Strategic Heavy Bomber; *Power Plant:* Eight 13,750 lb thrust Pratt and Whitney J57-P-43W turbojets; *Wingspan:* 185.0 ft; *Length:* 157.6 ft; *Height:* 40.7 ft; *Weight:* 480,000 lbs; *Maximum Speed:* 665 mph; *Ceiling:* 55,000 ft; *Range:* 9,000 miles; *Armament:* Two 20mm cannon in remotely controlled tail position, 20 SRAM missiles, bombs.

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PROBLEMS WITH THE GAME

PRODUCT SUPPORT

LIMITED WARRANTY

PROBLEMS WITH THE GAME

If you are having a problem installing or playing the game, read on.

First, make sure you have read the installation and start-up section of your manual, and make sure you have free hard disk space, depending on the game you are installing. If you have followed the directions in the documentation, and are still having trouble installing or operating the software, here are some hints that might help solve the problem. Before attempting any of the following suggestions, please make sure you are familiar with the DOS commands being used. Consult your DOS manual for more information.

TSRs/DEVICE DRIVERS/DOS SHELLS

TSR stands for Terminate and Stay Resident. A TSR is a program that automatically executes itself when you start up your computer from a hard drive. They are generally installed in your AUTOEXEC.BAT file. Device Drivers and DOS shells are also loaded automatically, and are usually installed in your CONFIG.SYS file. These TSRs or device drivers sometimes interfere with games, or take up valuable memory the game may need, and it is generally recommended that you not run any such programs, device drivers, or shells when attempting to install or play a game.

DOS BOOT DISK

If you are having trouble installing your program, experiencing lockups, or other problems, we suggest you try starting up your system with a DOS boot disk. Below are the steps for creating a DOS boot disk. Please follow these steps exactly. IMPORTANT: To create a DOS boot disk you need a blank disk the same size as your A: drive.

1. Type **C:** and press <ENTER>.
2. Insert a blank disk into drive A:
3. Type **Format A:/S** and press <ENTER>.

Note: If you are formatting low density disks on a high density drive, use the following commands in place of Step 3:

5.25 inch low density disk:

Type: **Format A: /S /N:9 /T:40** and press <ENTER>

3.5 inch low density disk:

Type: **Format A: /S /N:9 /T:80** and press <ENTER>

4. You are prompted to insert a blank disk into drive A:.. Do so if you haven't already and press ENTER.
5. Once the disk is finished formatting, you are asked to label (name) the disk. Type in a label or press <ENTER> for no label.

6. You are now asked whether you wish to format another. Type **N** and press ENTER.
7. Follow *Freeing Up Additional Memory using a DOS Book Disk* (below).

CONVENTIONAL, EXTENDED, AND EXPANDED MEMORY

Most IBM and 100% compatible computers come with at least 640k of RAM. The first 640K RAM area is referred to as Conventional Memory. RAM memory starting at 1MB is known as Extended Memory. For example, if you have a system with 2MB RAM, you have 640K of Conventional Memory and 1MB of Extended Memory available to your applications. Many games utilize Expanded Memory (EMS) in order to provide you with 256 colors with your Super-VGA card.

Note: The area of memory between 640 and 1024 is referred to as Upper Memory Block or UMB. If you are using MS DOS 5.0 or a memory manager such as QEMM or 386MAX, it will take advantage of this area of memory. For more information, consult the manual of your memory manager.

Extended memory can be converted to expanded memory by using an expanded memory manager (software) that complies with the LIM 4.0 standard. EMM386 EXE from MS DOS 5.0, QEMM.SYS from Quarterdeck, and 386MAX from Qualitas are some examples of expanded memory manager (EMM) software. In order to take advantage of your memory manager, refer to the next section.

Freeing Up Additional Memory Using A DOS Boot Disk

Note: Please make sure that the game you are trying to run does not require EMS memory in the respective game references before making a boot disk. If the game does not require EMS memory, please follow the individual references or below for allocating EMS memory.

USERS WITH MS DOS 5.0 OR HIGHER: Rather than change your permanent system software configuration, you can use a Boot Disk and EMM386 memory manager software included with MS DOS 5.0 or higher to temporarily free up available memory.

Note: If you are NOT using EMM386 memory manager, consult your manufacturer's manual for more information on the proper way to load the program through the CONFIG.SYS file.

Read This Section Completely Before You begin:

1. Back up your CONFIG.SYS and AUTOEXEC.BAT files before editing them so that you can return to the originals if you have any problems. To back up the files type: "COPY C:\CONFIG.SYS C:\CONFIG.BAK" and press ENTER. Then type "COPY C:\AUTOEXEC.BAT C:\AUTOEXEC.BAK" and press ENTER.
2. Copy the CONFIG.SYS and AUTOEXEC.BAT files from the root directory (C:\) on your hard drive to the root directory (A:\) on the Boot Disk that you have just created.

Example: At the C: prompt, type "Copy C:\CONFIG.SYS A:\\" and press ENTER. To copy the AUTOEXEC.BAT file, type "COPY C:\AUTOEXEC.BAT A:\\" and press ENTER.

3. Open the copy of the AUTOEXEC.BAT file using the EDIT program from the MS DOS 5.0 or higher:

- a) Type "CD\DOS" and press the ENTER key.
- b) Type "EDIT A:\AUTOEXEC.BAT" and press the ENTER key.

4. From the boot disk copy of the AUTOEXEC.BAT file, delete all lines, except the following:

```
@ECHO OFF
PROMPT $P$G
PATH=C:\DOS
LH C:\SB16\DRV\<MSCDEX.EXE driver>
LH <path>\MOUSE.COM (or insert other mouse device driver here)
SET BLASTER=A220 D1 I5 H5 P330 T6 (default settings)
SET SOUND=C:\SB16 (default)
```

<path> is the directory in which your driver are located.

The MSCDEX.EXE CD-ROM driver is located in a directory that was created when your CD-ROM hardware was installed. MS-DOS 6.0 user: the MSCDEX.EXE driver is also located in the C:\DOS directory.

SET SOUND may vary if you did not use the default name of SB16

SET BLASTER may vary if you changed your sound card's configuration.

The mouse driver is normally located in one of the following directories: C:\MOUSE, C:\WINDOWS, C:\ or C:\DOS. If you do not have a line that loads your mouse driver you must load a mouse driver before running the programs which require a mouse. All the enclosed games, except *Seven Cities of Gold*, require a mouse.

Example: LH C:\MOUSE\MOUSE.COM.

Note: Your mouse line may be different if you are NOT using the MOUSE.COM mouse driver. Do not change this line if it looks different. Drivers that have a .SYS extension will be loaded through the CONFIG.SYS file and you should leave that line the same when you are editing the CONFIG.SYS file. If you have other questions about loading your particular mouse driver, consult your mouse documentation or DOS manuals.

5. Save the edited AUTOEXEC.BAT file and open the Boot Disk copy of the CONFIG.SYS file from within EDIT.

To save, press ALT-F to bring down the File Menu and press the "S" key. To open, press ALT-F; press the "O" key and then type "A:\CONFIG.SYS" and press the ENTER key.

6. While still in EDIT, edit your boot disk copy of the CONFIG.SYS file to resemble the following:

For *Hong Kong Mahjong Pro*, *Populous II*, *Seven Cities of Gold*, *Space Hulk*, and *Yeager's Air Combat*:

```
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE 1024RAM
DOS=HIGH
DOS=UMB
FILES=40
BUFFERS=40
SHELL=C:\DOS\COMMAND.COM C:\DOS /P
DEVICEHIGH=C:\SB16\DRV\<CD-ROM Device Driver>
(Users with DBLSPACE should include the next line)
DEVICEHIGH=C:\DOS\DBLSPACE.SYS /MOVE
(Users with DRVSPACE [DOS 6.22 only] should include the next line)
DEVICEHIGH=C:\DOS\DRVSPACE.SYS /MOVE
```

For *Savage Empire*, *Ultima Underworld*, and *Wing Commander Academy*:

```
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE 2048 /I=B000-B7FF RAM
DOS=UMB
DOS=HIGH
FILES=30
BUFFERS=30
SHELL=C:\DOS\COMMAND.COM C:\DOS /P
DEVICEHIGH=C:\SB16\DRV\<CD-ROM Device Driver>
(Users with DBLSPACE should include the next line)
DEVICEHIGH=C:\DOS\DBLSPACE.SYS /MOVE
(Users with DRVSPACE [DOS 6.22 only] should include the next line)
DEVICEHIGH=C:\DOS\DRVSPACE.SYS /MOVE
```

For *Ultima VII* and *Shadowcaster*:

```
DEVICE=C:\DOS\HIMEM.SYS
DOS=HIGH
FILES=30
BUFFERS=30
SHELL=C:\DOS\COMMAND.COM C:\DOS /P
DEVICEHIGH=C:\SB16\DRV\<CD-ROM Device Driver>
(Users with DBLSPACE should include the next line)
DEVICE=C:\DOS\DBLSPACE.SYS /MOVE
(Users with DRVSPACE [DOS 6.22 only] should include the next line)
DEVICE=C:\DOS\DRVSPACE.SYS /MOVE
```

<CD-ROM DRIVER> will vary depending on your particular CD-ROM drive. Please consult your CD-ROM documentation.

If the HIMEM.SYS and memory manager file are not located in the DOS directory, replace DOS with the names of that directory in the first lines of the above example.

7. Save the edited CONFIG.SYS file and exit to the EDIT program. To save, press ALT-F and then press the "S" key. To exit the EDIT program press ALT-F and then press the "X" key.

8. You now have a Boot Disk. Your computer will boot up to the A: prompt. This boot disk bypasses the AUTOEXEC.BAT and CONFIG.SYS on your hard drive and starts up your computer in as clean a DOS environment as possible.

For more information on editing your CONFIG.SYS and AUTOEXEC.BAT files, or on changing your start up configuration, consult your DOS manual.

PRODUCT SUPPORT

For these games:

Hong Kong Mahjong Pro
Populous II
Seven Cities of Gold

Space Hulk
Yeager's Air Combat

Electronic Arts Technical Support
(415) 572-ARTS (572-2787)
Monday thru Friday
8:30 a.m. to 4:30 p.m. Pacific Time

Have the following information ready, if possible: product name, type of computer you own, any additional system information (like type and make of monitor, video card, sound card, mouse, etc.), DOS version number or type of operating system, description of the problem you are having.

If your question is not urgent, please write to Electronic Arts Technical Support, P. O. Box 7578, San Mateo, CA 94403-7578. Please include the above information in your letter.

For these games:

Savage Empire
Ultima VII
Ultima Underworld

Wing Commander Academy
Shadowcaster

ORIGIN Product Support
(512) 335-0440
(512) 331-8559 Fax (24 hours)
Monday - Thursday 9:00 to noon and 1:00 to 5:00
Friday 9:00 to noon and 1:00 to 4:30, Central Time

ORIGIN Bulletin Board Service
(512) 331-4446
8-bit, no parity, 1 stop bit
Seven day/week, 24 hours

Have the following information ready, if possible: DOS version number, free RAM (from the last line of the CHKDSK info), mouse and mouse driver type, graphics card, machine type, sound board, content of your CONFIG.SYS and AUTOEXEC.BAT files, whether you are using Windows, Desqview or a DOS shell.

Online Services and Bulletin Boards

Many online services provide access to ORIGIN company news, product updates, release dates, technical support and game hints. In addition, ORIGIN has established its own electronic bulletin board as a customer service.

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**+**X** for "Go to Keyword." Then type ORIGINCS 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 Origin Section (12). In addition to reading messages, you can download files from the "Library (Files)" menu. Our Customer Service department e-mail address is 76004,2612 (or you can post a message in the Origin Section). For membership information and a free starter kit, call CompuServe toll-free at 1-800-848-8199 and ask Representative #361 for your free introductory membership and usage credit.

ORIGIN BBS. The ORIGIN BBS has modem support of: 300/1200/2400/9600/14,400 bps with N,8,1. It is operational 24 hours a day, 7 days a week. Full support is provided. No membership is required and the only cost is any long distance charges that you may incur.

Internet Address. You can e-mail ORIGIN at the following addresses:

Product Support Internet address: support@origin.ea.com

Marketing Internet address: marketing@origin.ea.com

Origin Web page: <http://www.ea.com/origin.html>

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