

# Ultima Underworld

## Labyrinth of Worlds

REFERENCE CARD  
IBM-PC 386 & 100% compatibles

**ORIGIN**  
*We create worlds.*

### BEGINNING PLAY

Install the game, following the directions in the **Install Guide**. Change to the directory in which you installed it and type **U W 2 Enter** to begin play. If you used our default selections you would type:

**C :** Enter  
**C D 1 U W 2** Enter  
**U W 2** Enter

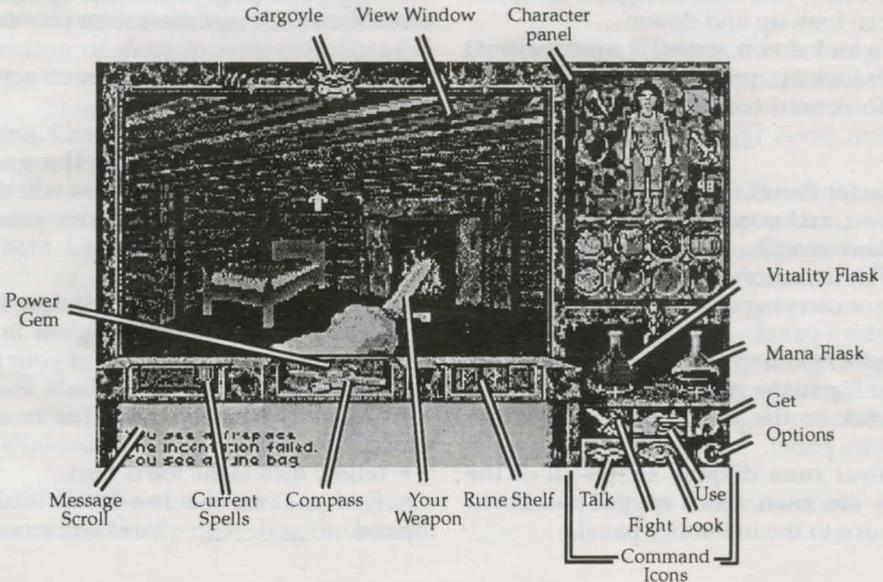
The first time you play, typing **U W 2** takes you to the title screens, followed by the introduction. Press **Esc** to bypass the titles and/or introduction and go to the Main Menu.

If you have played (and saved) the game, typing **U W 2** takes you to the title screens and then 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 II.

**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.
  - When you wear or use a cursed item or a spell backfires, the screen flashes orange.
- 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.

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

On these panels, the right mouse-button triggers the action specified by the command icon selected and, when used to drag, moves an item; the left button selects 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 silver arrow-tip always points north. 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 starts red, then turns green, then sparkles when the attack is at maximum power.

**Current Spells.** Icons represent active duration spells.

**Command Icons.** Accesses the game option panel, and determines 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

Swift-moving water and slick ice may make movement difficult and may even cause you to move in a direction you didn't want to go!

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

- Standing still, you jump straight up. You jump forward if you press **[Shift][J]**.
- 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 the normal movement commands to determine your direction of flight. Use **[Q]** to lower yourself.

### INTERACTING WITH THE WORLD

**Quick Mode.** If no icons are highlighted, you are in Quick 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 world. 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** Preserves your current game state. You can have up to four saved games at once. Each saved game requires about 500K of hard disk space. Always save before ending a game session.

• **Restore** 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** Resumes play when you're done selecting options.
- **Quit** 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 and drag 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.

### 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 rune bag 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 missile spells, the targeting cursor is a red circle. For non-missile 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.)

### THE EIGHT CIRCLES OF RUNIC MAGIC

<b>First Circle</b>	
Create Food	1 PAF
Detect Trap	M Φ
Light	7
Luck	B M I
Magic Arrow	Φ Φ
Resist Blows	B I H
<b>Second Circle</b>	
Cause Fear	I K
Deadly Seeker	R M Φ
Jump	7 K K
Lesser Heal	I B A
Rune of Flame	I Φ Φ
Slow Fall	R M K
<b>Third Circle</b>	
Bleeding	Φ A
Cure Poison	7 7
Dispel Rune	7 Φ E
Lightning	Φ X
Night Vision	I 7
Speed	R 7 K
Water Walk	A K

<b>Fourth Circle</b>	
Flameproof	7 P
Heal	I A
Missile Protection	X H K
Poison Weapon	X Φ A
Remove Trap	7 Φ
Study Monster	I A

<b>Fifth Circle</b>	
Fireball	K P
Levitate	P K
Name Enchantment	7 7 E
Open	M E
Smite Undead	7 I A
Telekinesis	7 K E

<b>Sixth Circle</b>	
Charm	I R A
Daylight	A I 7
Gate Travel	A R K
Greater Heal	A I B
Invisibility	A H 7
Paralyze	E M K
Sheet Lightning	A E X

<b>Seventh Circle</b>	
Magic Satellite	7 K X
Mass Confusion	A 7 E
Portal	A M E
Reveal	E 7 7
Shockwave	Φ Φ

<b>Eighth Circle</b>	
Flame Wind	7 P
Fly	A P K
Freeze Time	7 7
Iron Flesh	I A 7
Restoration	A 7 A
Roaming Sight	7 K H

### HEALING

To regain lost Vitality (or shake off the effects of poison), you must eat and sleep, or cast healing magic. No healing

magic restores Mana. The spells which restore Vitality are Lesser Heal, Heal and Greater Heal (in order of the amount of Vitality they restore). Cure Poison has no effect on Vitality, but reverses the effects of any toxins in your character's system. Restoration restores all Vitality, and it also negates poison, hunger, paralysis and fatigue.

To regain Vitality and Mana, you must sleep. Press [F10] or Use a bed or a bedroll. When you awaken, you regain a percentage of lost Vitality and Mana. If you are hungry, or you have slept very recently, 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 unpaue, click on "Return." On the keyboard, press [F6] to pause and ESC to unpaue.

### THE AUTO-MAP

Use the auto-map parchment to bring up a full-screen map. Your position is indicated by a small pushpin. Usually, the map updates itself automatically as you explore, but it is possible to get lost.

**Changing Views.** Click either mouse-button on a facet of the gem on the right-hand side of the map to bring up an image of the world represented by that facet. Click on the castle in the center of the gem to bring up the map of Lord British's castle.

To view maps of different levels in a given world, click either mouse-button on the arrows in the upper- and lower-right corners of the map until the level you want is displayed.

**Notes.** To write a note, move the quill-shaped cursor until it is pointing where you want your note to appear, click either mouse-button and begin typing. To end the note, click again, press [Enter] or press [Esc].

To erase a note, move the cursor over

the eraser, click either mouse-button, move the eraser over the note you want to erase and click either mouse-button.

**Exiting the map.** To return to the game from the auto-map, click either mouse-button on the "Close" scroll or press [Esc].

## COMBAT

### Using a Hand Weapon

1. Click on a weapon in your weapon hand (or click on the Fight icon) to enter Fight mode.

2. Position the mouse cursor in the view window to select an attack type. (See "Types of Attack," below.)

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 dark green when you release the button, your attack is aborted.)

### Types of Attack

**Bash.** Press the right button at the beginning of each attack 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. (In Quick Mode, skip this step.)

2. Position the cursor over the character you wish to talk to, then press the right mouse-button to bring up the conversation screen (or, in Quick Mode, position the cursor on the character, then right-click and drag the mouse). 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 mouse cursor 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 remained in the barter area that 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

To repair damaged weapons or armor:

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.

Two of these keyboard-only commands require additional explanation: The Handedness command and the Save to .GIF command.

**Handedness.** Some players find it easier to click-and-drag with the left mouse button than with the right. The game allows you to do this with the [Alt][H] command. Pressing [Alt][H] reverses the function of each mouse button. So, for example, you could press aH and use the right mouse-button to move. All functions normally associated with the right mouse-button would then be controlled by the left.

**Save to .GIF.** Press [Alt][Q] to save any game screen (including your automap) as a .GIF file. With appropriate software, you can then view saved screens whenever you wish. Many .GIF viewers and conversion programs are available as shareware and can be downloaded from computer bulletin board systems. Note that you cannot save introduction or endgame screens in this manner.

## KEYBOARD COMANDS

### Menus

↑	Up to next option above
↓	Down to next option below
←	Left one column (2-column lists only)
→	Right one column (2-column lists only)
[Pg Up]	Top of List
or [Home]	Top of List
[Pg Dn]	Bottom of List
or [End]	Bottom of List

## Normal Movement

W	Run Forward
A	Turn Left
D	Turn Right
Z	Slide Left
C	Slide Right
X	Walk Backwards

## Other Movement

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

## Combat Mode Keys

P	Bash
;	Slash
.	Thrust

## Special Function Keys

F1	Fight Mode
F2	Use Mode
F3	Get Mode
F4	Talk Mode
F5	Look Mode
F6	Game Options/Pause Game
F7	Slide Character Panel
F8	Cast Spell
F9	Use Track Skill
F10	Sleep

## Game Options

Alt H Reverse functions of left and

	right mouse buttons
Alt Q	Save screen as .GIF file
Ctrl D	Change Detail Level
Ctrl F	Turn Sound Effects on/off
Ctrl J	Calibrate/center joystick
Ctrl M	Turn Music on/off
Ctrl Q	Quit Game
Ctrl R	Restore Game
Ctrl S	Save Game
Esc	Return to Game

## Cursor Movement Keys

(in game and on auto-map)

Tab	Move cursor one hot area right
Shift Tab	Move cursor one hot area left

## Numeric Pad

1	Cursor Direction
0	Left Mouse-Button
.	Right Mouse-Button

## JOYSTICK CONTROLS

In addition to mouse and keyboard control, you can play ULTIMA Underworld II with a joystick.

### Movement

To move, push or pull the joystick in the direction you wish to go -- push forward to move forward, pull back to move back, and so on.

Your speed is determined by how far you push or pull the joystick. The farther you move the stick, the faster you move.

(Note that you can't sidestep or jump when using the joystick -- you must use the keyboard commands.)

### Selecting Options

To control cursor movement (to select one of the game icons, for example), press joystick button #1 and move the joystick. Moving the stick while button #1 is pressed moves the cursor, not your character.

(Since buttons vary from joystick to joystick, a bit of experimentation may be necessary in order to determine which button is #1 on your stick.)

Actions normally accomplished with the right mouse-button are accomplished by selecting an icon, moving the cursor and pressing joystick button #2 when the cursor is over the person or object with which you want to interact.

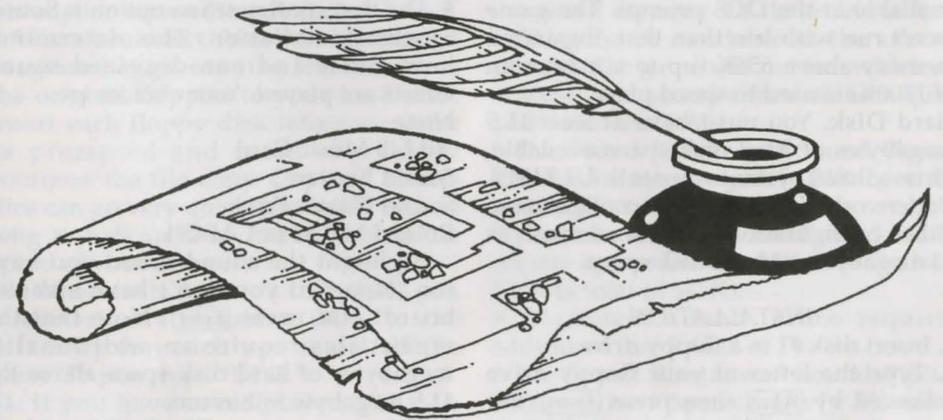
Some actions may require you to keep both joystick buttons pressed simultaneously. For example, to pick up and move an object from the view window into your inventory, you would first press button #1 to move the cursor over the Get icon. Press button #2 to select this icon. Then press button #1 again and move the cursor over the object you want to pick up. Now, press button #2 while keeping button #1 pressed to pick up and move the object. When it is over the appropriate circle in your inventory, release both

buttons. The object will fall into place.

Note that you can combine joystick and keyboard controls to increase efficiency. (In the example above, you could simply press # to select Get mode, saving yourself time and effort.)

### In Brief

To move: No button, move joystick.  
To control cursor: Button #1, move joystick  
To emulate right mouse-button: Button #2



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# Ultima Underworld Labyrinth of Worlds II

## Installation Guide IBM-PC 386 & 100% compatibles

### SYSTEM REQUIREMENTS

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

**Video Card.** An IBM VGA or compatible video card with at least 256K of video ram. (Note: MCGA, as found on the PS/2 model 25 and model 30, will not work).

**Free RAM.** You must have at least 640K of low RAM (memory) to play ULTIMA Underworld II. Of that 640K, at least 525K of low memory must be available at the DOS prompt to run the minimum game configuration. Other configurations may require as much as 561K free.

**EMS.** In addition to 525-561K of free RAM, you must have at least 656K (671744 bytes) of expanded memory available at the DOS prompt. The game won't run with less than that. Expanded memory above 656K (up to a maximum of 1700K) is used to speed play.

**Hard Disk.** You must have at least 11.5 megabytes of hard disk space available. This allows you to install ULTIMA Underworld II in its smallest configuration. Other configurations require as much as 13 megabytes of hard disk space.

### INSTALLATION

1. Insert disk #1 in a floppy drive.
2. Type the letter of your floppy drive followed by **[A:]**, then press **[Enter]**. For example, if your floppy drive is drive A, type "A:"
3. Type "INSTALL **[Enter]**."
4. The Configuration Screen appears. Your current configuration (including required hard disk space) is shown on the left. Options available to you are displayed on the right.

- Use the arrow keys on your keyboard to highlight the option you want.
- A highlighted option appears as blue text in a gray box.
- Press **[Enter]** to select a highlighted option.

While selecting options, you can press **[Esc]** at any time to return to DOS. Once the program begins copying files to your hard disk, press **[Control] [Break]** if you need to abort installation. (You may have to try a few times before the program aborts. Also note that you will have to delete any files and/or directories that were copied during the aborted installation before you can try installing again.)

5. The first configuration option is Sound System Installation. This determines how music and non-digitized sound effects are played. Your choices are:

- None
- Ad Lib Music Card
- Sound Blaster
- Sound Blaster Pro
- Roland MT-32 or LAPC-1

Highlight the sound board you have (or "None" if you don't have a sound board) and press **[Enter]**. Note that the music files require an additional .5 megabytes of hard disk space above the 11.5 megabyte minimum.

6. The next option is Digitized Sounds. If you have one of the sound boards listed on the right side of the screen, you can hear digitized sound effects and limited speech during the game. (Note that you can use a different sound board to play music and digitized effects.) The options on this screen are:

- None
- Sound Blaster
- Sound Blaster Pro

Highlight the option you want and press **[Enter]** to select it. The digitized sound files take up 1 megabyte of disk space above the 11.5 megabyte minimum. If your hard disk is nearly full, you may not want to install digitized sound.

7. Hard Disk Installation is the next choice. The installation program detects which drives are available (i.e., which of your hard disks -- or partitions -- have enough free space) and lists them on the right. Type the letter of the drive on which you want to install ULTIMA Underworld II. Then type a directory name, or press **[Enter]** to select the default UW2 directory.

8. When the Confirm Selections screen appears, you must decide whether to copy the files to your hard disk. If the configuration on the left is correct, select "Yes" to continue. If the configuration is incorrect, select "No" and you will begin again, from the Sound System Installation screen (Step 5, above).

9. When you select "Yes," the installation program begins copying the files from the original floppies to your hard disk. Insert each floppy disk into your drive as prompted and press any key to continue the file copy. Copying all the files can go very quickly or it can take as long as half an hour, depending on the speed of your computer.

10. When installation is complete, you automatically return to DOS, in the directory to which you installed the game. To play, type "UW2."

11. If you have never played ULTIMA Underworld II before, consult the Player's Guide. This begins with a tutorial that explains everything you need to know to get started. If you encounter any difficulties, consult the Troubleshooting section of this Install Guide. If problems persist, call Electronic Arts Customer Service.

### CHANGING YOUR CONFIGURATION

Follow the reinstallation instructions below if you ever add a sound card (or change from one sound card to another).

Return to the drive and directory where you installed the game and type "Install." This allows you to change any or all of the selections you made when you originally installed ULTIMA Underworld II. Simply select the options that reflect your current hardware configuration. (See the installation instructions, above.)

If you have a sound card in your PC and you originally installed the game without sound or speech, the installation program must copy new files from the original floppies to your hard drive. Insert the original game disks when prompted.

### MEMORY USAGE

#### Requirements

ULTIMA Underworld II requires 640K of main RAM and at least 656K expanded memory. Of the 640K, at least 525K must be available at the system prompt. The game will not run with less.

- Music and sound effects alone require additional free RAM.
- \* The Sound Blaster and Sound Blaster Pro require approximately 31K over the base 525K (a total of 556K).
- \* The Roland LAPC-1 and Roland MT-32 require approximately 20K over the base 525K (a total of 545K).
- Digitized sound alone requires additional free RAM.
- \* The Sound Blaster and Sound Blaster Pro require approximately 5K more memory.
- Music, sound effects and digitized sound together require the most memory.
- \* The Sound Blaster and Sound Blaster Pro require a total of approximately 561K to run music and digitized sound.
- \* Using a Roland MT-32 and LAPC-1 for

music and effects with either Sound Blaster board for digitized sound requires a total of approximately 550K 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 is free. For example, CHKDSK might tell you that your 640K system has 519,490 bytes free.

Continuing the Sound Blaster example above: You must have 561K free to play the game with both music and digitized sound. (That's 574,464 bytes.) If CHKDSK tells you that you have 519,490, for example, you don't have enough free memory and the game will not run. If you have more than the minimum 525K required, but less than the amount required for your sound configuration, the game will run, but without sound.

### Freeing RAM

If you don't have enough memory to run ULTIMA Underworld II, 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.

If you have a drive cache program that works with your EMS manager, it will speed game play if you leave it in your AUTOEXEC.BAT file. One such cache, SMARTDRV, comes with DOS 5.0 as well as Microsoft Windows, but there are many other drive cache programs available.

### 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. To do this, insert a blank disk into your A drive. Type your hard drive prompt (for example, "C:") followed by "FORMAT A:/S." This will copy enough of your system files onto the floppy disk. You can now use this disk to boot up the machine.

However, to play ULTIMA Underworld II, you must also copy your CONFIG.SYS and AUTOEXEC.BAT files to your boot disk so you can access expanded memory (see Expanded Memory, below) and use a mouse. Then consult the documentation that came with your memory manager and mouse to edit these crucial files as necessary to allow their use and to free up as much RAM as possible.

Should this process fail, it is also possible to create a bootable floppy by typing "SYS A:" after the drive prompt. When the words SYSTEM TRANSFERRED appear, type "COPY COMMAND.COM A:" and you will see "1 FILE COPIED." This indicates that the disk is now a boot disk. If you are running under DOS 4.01, also copy SHARE.EXE onto this boot disk. Finally, copy your AUTOEXEC.BAT and CONFIG.SYS files (suitably edited, as above).

As mentioned in the last section, if you have a drive cache program that works with your EMS manager, the game will play faster if you keep it in the AUTOEXEC.BAT and CONFIG.SYS files.

Turn your computer off, insert your new boot disk in your A drive, and turn the computer back on. Change to your hard drive (by typing "<DRIVE LETTER>: [Enter]"), switch to the directory containing ULTIMA Underworld II (type "CD\UW2 [Enter]" if you selected the default directory) and type "UW2 [Enter]" to begin play.

### 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 1 megabyte (1024K) or more if possible. (The game will run with as little as 656K of available expanded memory, but the more you allocate, up to a maximum of 1.7 megabytes (1744K), the better. Memory resident software can use up some of the available memory, so you may have to allocate more than the minimum 656K in order to run ULTIMA Underworld II.)

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 1024
```

"<PATH>" is the directory in which these files are found (usually C:\WINDOWS, if you use Microsoft

Windows or C:\DOS, if you use DOS 5.0). The number 1024 indicates the amount of memory you want to access as expanded memory. You can have as little as 656K free and the game will run, and the game will utilize up to 1744.

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 II requires at least 11.5 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:

- Music and sound effects require an additional 500K of hard drive disk space.
- Digitized sound requires an additional 1 megabyte 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 11.5 megabytes.

For example, the full game -- including Roland music (500K) and Sound Blaster digitized sound (1 megabyte) -- requires about 13 megabytes of free hard disk space.

In addition to the space required to install the game, you must have an additional 1200K free to begin play. This space is required for saved games. If you don't have this 1200K free when you try to play, the game will not run.

### TROUBLESHOOTING

ULTIMA Underworld II 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 amount of free RAM required for your configuration as listed above. 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 II. 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 II to run.

- Your CONFIG.SYS file may need to be modified. If you get a message that reads, "Internal Error" or "Underworld II 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 11.5 megabytes on your hard drive to install the game and 1200K of free hard disk space to run it.

#### **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.

#### **I want to play different characters in different games.**

ULTIMA Underworld II 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 500K 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.

In addition, you must have 1200K of free hard disk space available when you begin a session.

#### **When I try to run the game, I get a message that says "Sound System Initialization Failed"**

You probably have enough memory to run the basic game, but not enough to load the sound drivers you configured with. You will either have to increase the amount of free low memory (see Freeing RAM, above) or play without sound.

#### **When I start, the music sounds very odd.**

Early versions of the Sound Blaster Pro require different configurations than later versions. To correct this, run the SET-ENV program that came with your Sound Blaster Pro. This will automatically set the environme-

variable properly. If this doesn't work, this variable can be set manually. Consult your Sound Blaster Pro documentation or your hardware dealer for more information.

#### **I'm having trouble using my joystick.**

Your joystick may be set to "auto fire." If this is the case you may have difficulty moving your character and the buttons may not function as you expect. To correct the problem, turn auto fire off. If your joystick doesn't allow you to turn auto fire off, unplug it and play with a mouse or use the keyboard controls.

#### **I seem to spin around even when I'm not touching the mouse, joystick or keyboard movement keys.**

This can be caused by a miscalibrated joystick. Press **Control** **J** and follow the instructions on screen to calibrate and center your joystick properly. If you cannot get the joystick correctly calibrated, you will have to unplug it to play.

#### **My Sound Blaster beeps before playing digital effects.**

Under OS/2 old Sound Blaster ROM (1.5) will cause this. Reinstalling without digital effects will fix this, though you will lose digital effects, of course.

#### **Technical Support**

If you have any queries about this product, Electronic Arts' Customer Service Department can help. If your question isn't urgent, please write to us at:

**Electronic Arts  
Customer Service,  
P.O. Box 835,  
Slough,  
Berkshire,  
England.  
SL3 8XU.**

Please be sure to include the following information in your letter:

- Type and model of computer you own
- Any additional system information (e.g. make and model of printer, hard disk, video card/ display etc)
- Type of operating system or DOS version number
- Full description of the problem

If you need to talk to someone immediately, call us on (0753) 546465 Monday to Friday during normal business hours. Please have the above information ready when you call. This will help us answer your question in the shortest possible time.

If you live outside Europe, you can contact one of our other offices.

- In the United States contact Electronic Arts, P.O. Box 7578, San Mateo, CA, 94403-7578. Tel (415) 572-ARTS
- In Australia, contact Electronic Arts Pty. Limited, P.O. Box 539, Ashmore City, Queensland 4214, Australia. Tel (008) 074-298

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