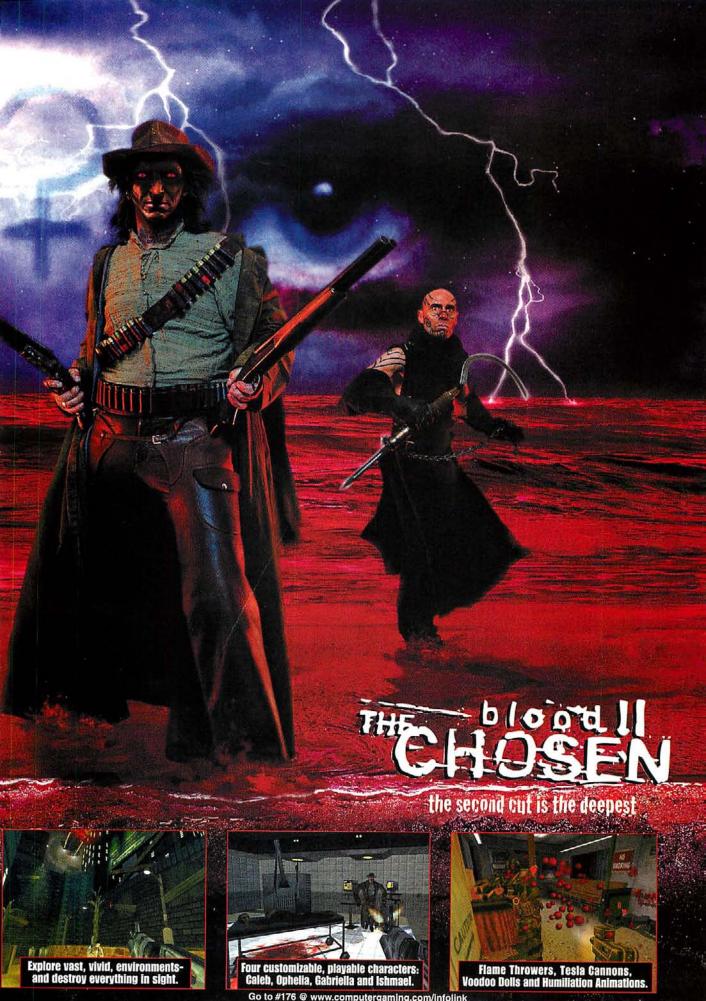
TIBERIAN SUN • NHL 99 • KING'S QUEST • BLOOD 2 and HEAVY GEAR II COMPUTER November 1998 ORLD The #1 PC Game Magazine ly the Millenium Falcon n X-Wing Alliance Exclusive First Look! PLUS: STAR WARS ROGUE EQUADRON









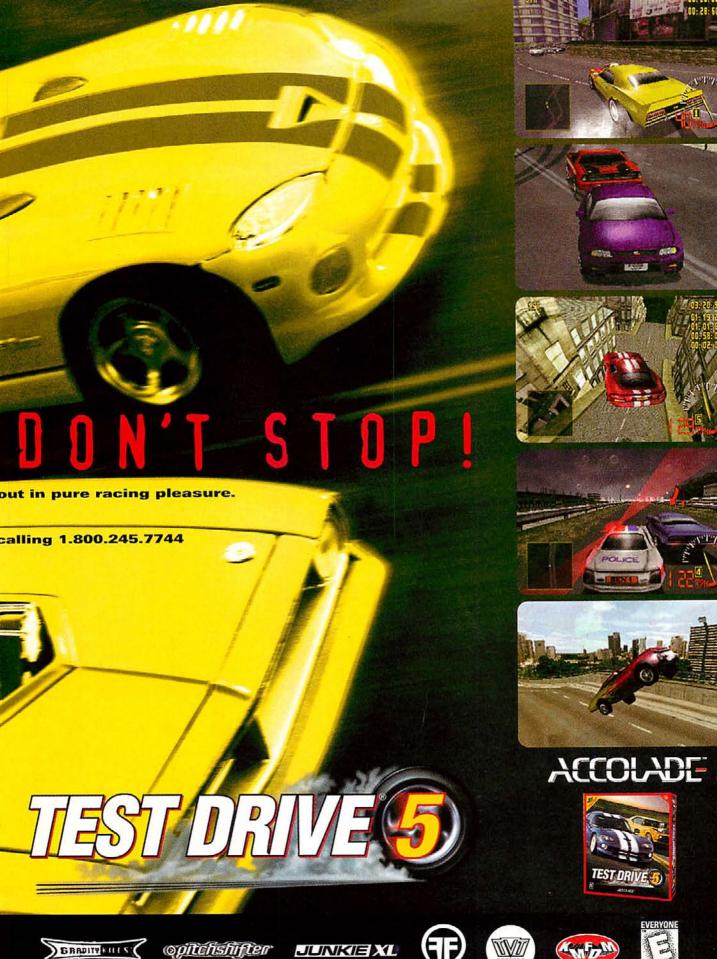


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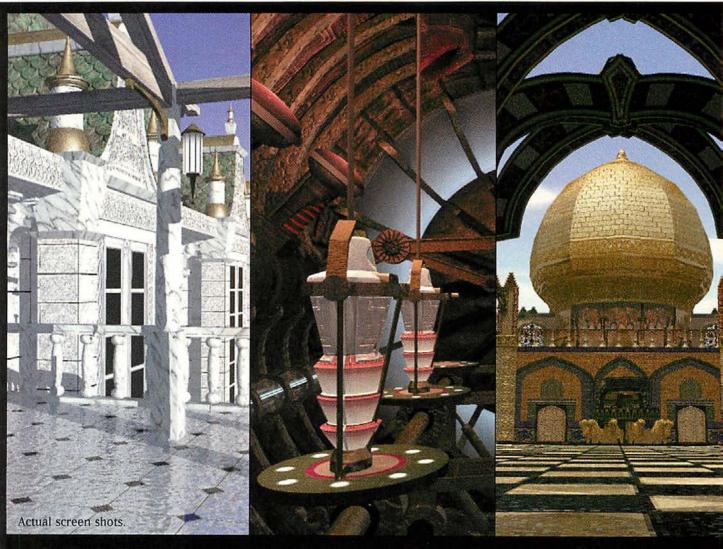


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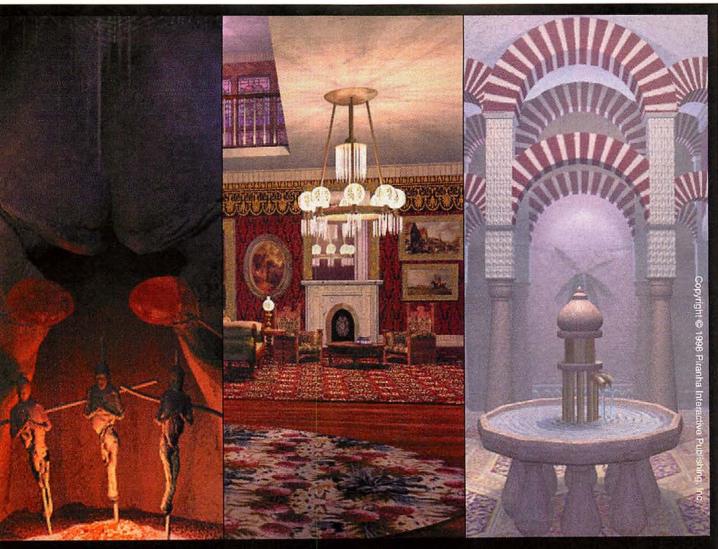












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Racing Feature: Get Your Motor Running

Have you got what it takes to get through a hairpin turn at 120 mph? Could you handle a supercharged 400-horse monster machine without stabilizers? Take a drive on the wild side in our ultracomprehensive racing game roundup.



The Evolving State of 3D Graphics

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CASTROL HONDA SUPERBIKE WORLD CHAMPIONS, DESCENT: FREESPACE, WARGAMES,

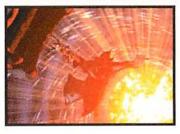


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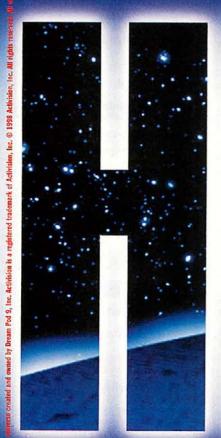


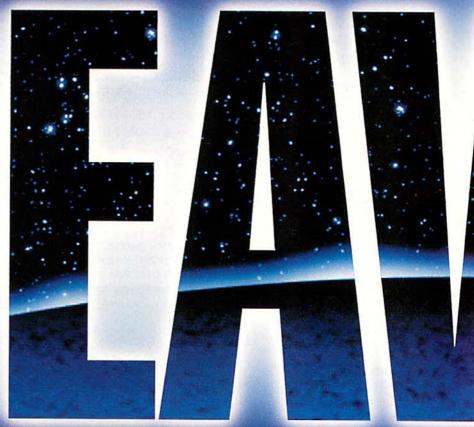
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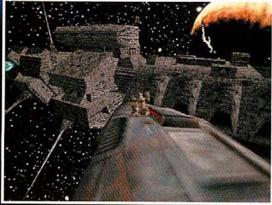


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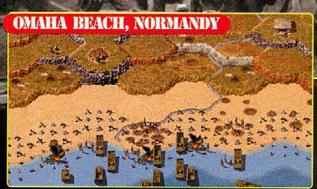
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The Price of Blood

Do Violent and Horrific Games Lead to Antisocial Behavior?

ost likely, 90 percent of the people who see this column in this magazine are going to assume they know exactly what I'm going to say. They are going to assume that: a) I will quickly don the cape of Shillman, Defender of the Game Industry, and blithely answer that there is absolutely no possible way that violent games influence antisocial behavior, or b) I will fall on the general media's sword and proclaim a loud "Mea culpa!" on behalf of some sinister legacy related to game violence.

A pox on both their houses.

experience an increase in their blood lust.

I may not be able to prove this scientifically, but I've seen it anecdotally. I've seen a normally quick-to-fight child settle down after playing a commando game on a console system. Likewise, I've



to safely channel potentially deadly primitive instincts," said the article's author, Jay Teitel.

Our society doesn't have many acceptable forms for releasing aggression. Games provide such a release. They allow us to wield power we probably don't have in "real" life, and they allow us the satisfaction of creating havoc without serious penalties. Play is an attempt to try out options with no authentic risk.

Of course, many people are obsessed by the blood, gore, and violence in a great number of computer and video games. Others are alarmed by the depiction of evil, magic, and horror, believing that

provide a visceral reward. Such special effects, such visual horror, represents a definitive writing off of each threat.

Eat It, Boss-Man

It is all the more exhilarating if the bad guy is really bad. If he evokes the demonic powers of the underworld or engages in egregious acts of terror on an innocent, it is so much more satisfying to blast him into blood-soaked Gravv Train. For those of us who have bosses worthy of a Dilbert Award or who face economic demons that loom larger than the fabled leviathans, games instill such a sense of justice done and mission accomplished with their celebratory gore that they are almost irresistible. It's nice to win once in a while. As Teitel put it succinctly in Psychology Today, "Psychologically speaking, games have a knack for setting us free."

So, in answer to the question posed in the subhead to this article, yes and no. Games can contribute to antisocial behavior and senseless violence. Yet, I think it is far more likely and far more common that games keep us from antisocial acts, giving us opportunities to feel good about ourselves no matter how lousy we feel about our mundane daily existence.

Strange Ways Gaming is a strange activity. It can have both positive and negative effects, regardless of subject It is satisfying to blast the bad guy into blood-soaked Gravy Train.

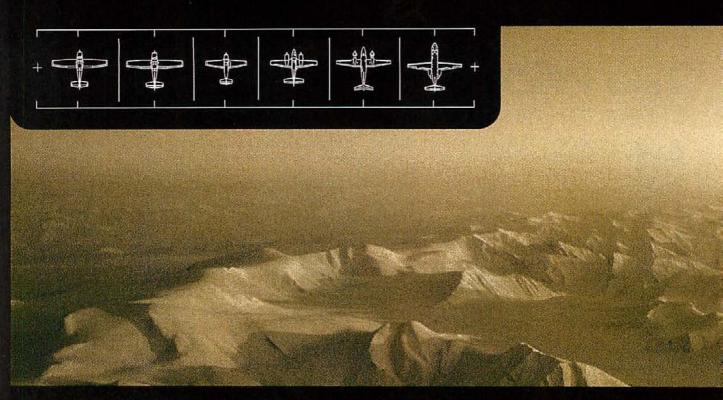
Gaming is a strange activity. It can have both positive and negative effects, regardless of subject matter or game style. For example, a surprising percentage of wargamers are pacifists. On the flip side, however, the military services take some of the same games that pacifists play and use them to train officers in strategy and tactics. Some people actually lower their aggression levels when they engage in playing games in which body parts and gore splatter across the screen; other gamers playing the very same titles may

heard of coin-op players who lost fighting games and responded by turning on their gaming opponent and whacking the effluvia out of them. Yet, overall, I tend to agree with a recent *Psychology Today* article (July/August 1998) that examined the critical part that games play in our lives.

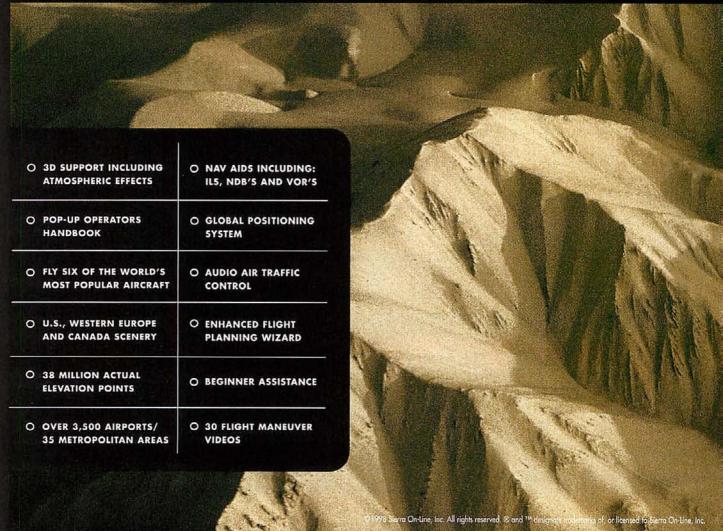
"In the evolutionary sense, it's not a stretch to regard games as collections of dramatic roles meant games that contain such imagery lead individuals into an unhealthy fascination with the macabre.

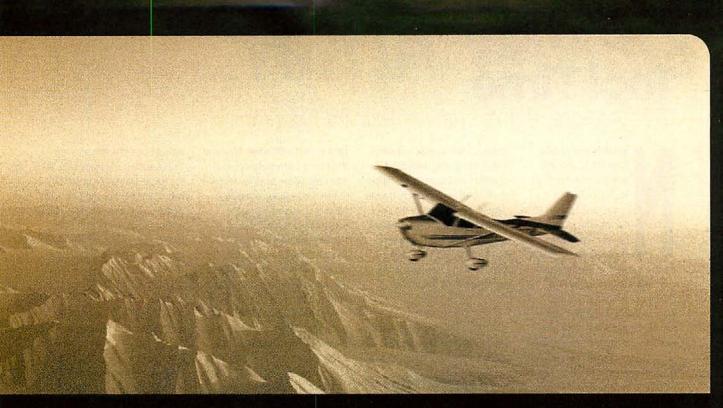
I believe that such components are necessary in certain kinds of games. They represent the most primitive feeling of a hero performing against insurmountable odds, an exhilarating feeling that is enhanced only when the purgative pyrotechnics of spewing blood fountains and exploding monsters

MES FROM THE DARKSIDE Welcome to our annual Games from the Darkside list. Every year, the editors of Computer Gaming World magazine gather together at midnight in a rural graveyard to light candles, turn them upside down, tell dirty jokes in Latin, stick hat pins in rival game magazines, and drink noxious potions. Then, after we're in the appropriate mood, we spell out the names of games backward and assemble this important list. Available Gruesome visuals mixed with an insane asylum **Gothic Horror Adventure ASC Games** Cendant/Sierra 04 '98 Conspiracy theories and medieval mysteries Supernatural Mystery Adventure Gab Knight: Blood of the Sacred... Angels, demons, and more Requiem: Wrath of the Fallen First-Person Horror Shooter 3D0 Q4 '98 **Grim Fandango Supernatural Comedy** LucasArts Q4 '98 Fresh new angle on Mexican Day of the Dead Aliens vs. Predator First-Person Sci-Fi Horror Shooter Fox Interactive Q4 '98 Two horrific aliens for the price of one 6. Blackstone Chronicles John Saul script set in insane asylum **Gothic Horror Adventure** Mindscape/SSI Q4 '98 A visual bloodbath with bizarre cult references 7. Blood II: The Chosen First-Person Horror **GT** Interactive Q4 '98 Available Fallen angels meet historical criminals 8. Of Light & Darkness Supernatural Puzzle Adventure Interplay 9. Black Dahlia **Murder Mystery Adventure** Take 2 Available Famous murder mystery "solved" TV atmosphere works somewhat 10. The X-Files Game Sci-Fi Conspiracy Adventure Fox Interactive Available



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Tool Time

GTT's Add-ons Help You Hot-rod Your Old Flight Sims

o matter how good a flight sim is, you, as a hard-core sim-head, are always looking for more. You've played all the missions in your favorite sim, you've exhausted the supply of downloadable missions from the Web, and you want some new challenges. Or maybe you just want to follow in the footsteps of real fighter pilots and paint your sweetheart's name on your plane's nose? Well, thanks to some innovative add-ons, you no longer have to be satisfied with sims in their standard, out-of-the-box configuration.

Most third-party military sim enhancements have come from maverick groups of gamers who've reverse-engineered the games. Now a number of utility authors have banded together to form Game Tool Technologies. What's different about GTT is that the group is eliciting the cooperation of the actual sim developers, working with information provided by the companies so that they can spend their time not on reverse-engineering the original code, but on adding features to the sims.

GTT has a wide variety of utilities available now, both shareware and freeware. Most of the shareware programs can be used for up to 30 days before registering, so you can decide how useful they are to you before shelling out the bucks.

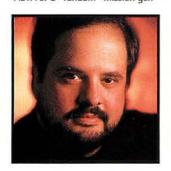
Jane's F-15

Although it doesn't add to gameplay, CAMO COMMANDER is one of my favorite GTT applications. This utility lets you alter the camouflage scheme of the game's F-15. Change the utilitarian F-15 blue paint scheme to Night Fighter Black, Desert Green, or even bright pink if that's your cup of tea. You can also add your own schemes, or download a number of user-created

schemes, some realistic and some reminiscent of the garish paint schemes found at European fighter meets. You'll also find more realistic camouflage schemes for the sim's MiG-29s. This shareware program costs \$15. On the freeware front, F-15 LOADMASTER 1.0 adds the ability to alter your plane's armament loadouts in online play.

F22 Air Dominance Fighter

DYNAMIC MISSION DESIGNER will generate new missions for F22 ADF. For a "random" mission gen-



been around a bit longer here, and there are a wider variety of available camouflage schemes available in free bonus packs, including a number of aggressor aircraft; Swiss, Canadian, and Spanish Hornets; and even a pink "Girl Power" plane created for the daughter of one of the GTT guys. You can even order a custom camouflage scheme for \$25 (or free for real military squadrons). You'll also find a sophisticated version of the freeware AIR COMBAT DESIGNER which creates user-defined and random missions for F/A-18 KOREA.

Su-27 Flanker and ATF/Fighters Anthology

DYNAMIC MISSION DESIGNER for SU-27 FLANKER is a significantly enhanced version of the RANDOM MISSION GENERATOR that SSI bundled with FLANKER 1.5. You can choose from eight mission types, assign custom combat loads, and random missions, but also lets you control nearly every vehicle in the game. Not only can you fly helicopters such as the Cobra and Apache, you can even drive tanks or steer ships. WARCHEST 2000 includes templates for re-creating battles such as the air war over the Falkland Islands.

In the Works

Two programs are in the works for LONGBOW 2. Along with the \$20 MISSIONEER PLUS 1.0 mission editor, which should be available by the time you read this, GTT will also be releasing the \$30 LONGBOW BATTLE COMMANDER 2.0. This is based on the actual internal mission-builder that the Jane's team used to build LONGBOW 2's scripted missions, but it includes an interface created by GTT that's much easier to use than the original programmer-oriented tool. Also in the works is a

Change the F-15's **paint** scheme to bright **pink** if that's your cup of **tea.**

erator, the results are very impressive. Mission types include Intercept, Wild Weasel, Bombing, Runway Attack, Escort, Anti-Ship, Rocket Attack, CAP, and Surgical Strike. You can define all the specs of a mission, or play a completely randomly generated mission. An impressive effort, and a great way to extend ADF's playability. However, TAW should be available by the time you read this, and the \$25 might be better spent on an upgrade to that.

AIR COMBAT DESIGNER is a freeware utility that creates simpler "instant action" missions for ADF.

F/A-18 Korea

CAMO COMMANDER was originally developed for F/A-18 KOREA. This \$15 shareware program has specify air and ground assets. These aren't simple instant-action missions, either. They can take hours, or even days, of game time.

The \$25 shareware WARCHEST 2000 for JANE'S ATF and FIGHTERS ANTHOLOGY not only creates



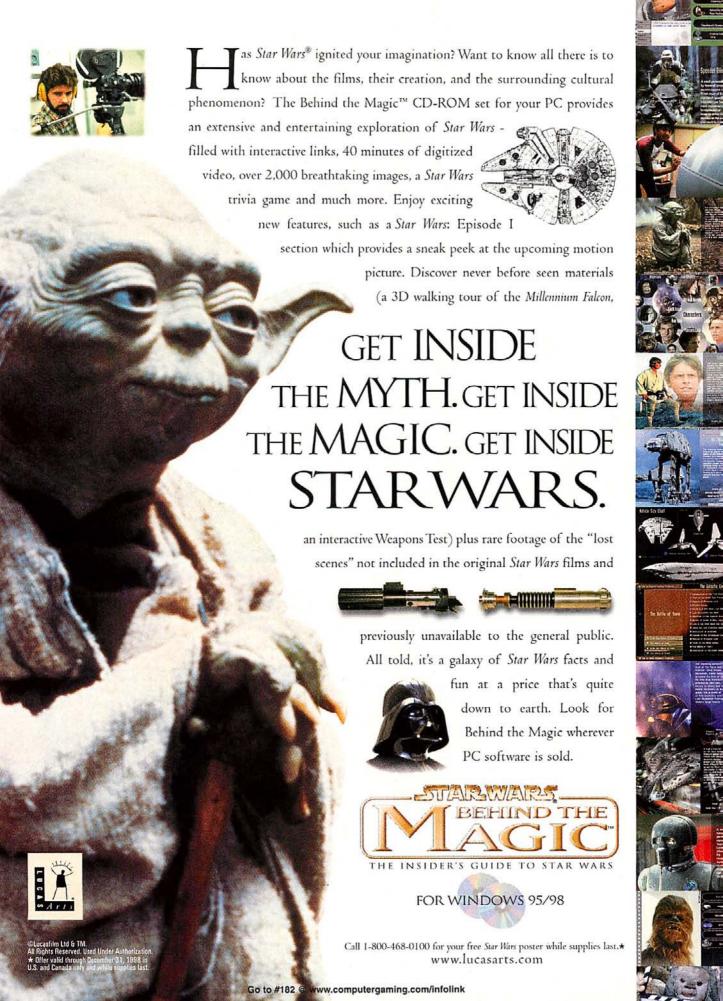
MISSION POSSIBLE The DYNAMIC MISSION DESIGNER for F22 ADF generates singleplayer and multiplayer co-op missions.

mission generator for Micro-Prose's M1 TANK PLATOON II.

A hundred bucks will get you all registered versions of all the programs on CD as well as all new versions and apps for a year. If you're looking to add new life to

your sims, check out www.gttweb.
com. You'll also find most of GTT's free-ware applications on this month's CG-ROM.

While Denny waits for GTT to develop a dynamic mission designer for GALAGA, you can email him at denny_atkin @zd.com.



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Requiem for a Cruiserweight

Avalon Hill Sells Out to Hasbro for \$6M, Ending 40 Years of Game Publishing

bout 40 years ago. Charles Roberts was struggling to come up with a probability system for a strategy game. Over a long night, he started rolling dice, and in a blur of inspiration and lost sleep, he came up with the first combatresults table. This added a bit of uncertainty to combat, forever separating wargames from parlor games such as chess. No one knew then that Roberts' game, Tactics, would usher in the age of the commercial wargame.

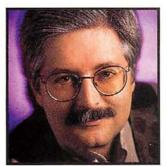
Tactics II, which introduced the concept of hexagons, effectively solved the problems inherent in square grids. By the early 1960s, the fledgling Avalon Hill Game Company (AH) had amassed quite a line up, with most of its games featuring the hexgrid mapboards and colorful cardboard counters that are still standard in many of today's strategy games.

In 40 years, AH produced an incredible number of timeless designs: Third Reich, Football Strategy, We the People, March Madness, Up Front, Panzerblitz, Squad Leader-the list goes on for hundreds of titles. It's hard to imagine a boardgame or computer game set in North Africa, for instance, that doesn't owe a debt to Afrika Korps. And where would games such as MASTER OF ORION or AGE OF EMPIRES be without the legacy of Diplomacy? Chances are, nearly all of your gaming buddies-including your favorite realtime strategy game designerhave enjoyed an Avalon Hill game.

Thank You for Playing

Like the rest of my generation, I've witnessed the fall of the Berlin Wall, the breakup of the Beatles, and the eradication of smallpox. What I never thought I'd see is the end of Avalon Hill, which was sold in August to Hasbro for \$6 million. Sure, the primary owners, Eric and Jack Dott, still run the Monarch printing company, but we'll no longer have paper tanks, pirate cards, or ASL scenarios coming off their presses.

Over four decades, AH survived a lot of challenges to its gaming dominance. In the 1970s, rival SPI



in the last two years, as PC development budgets soared. Even when it had grade-A products, such as ACHTUNG! SPITFIRE, AH didn't support products with ad dollars comparable to its competitors', and PC sales plummeted.

Meanwhile, a disastrous attempt to cash in on baseball-card mania and the startup of Girls' Life magazine by the owners drained cash flow. Nearly two years ago, AH began searching for a "strategic partnership" that never materialized. Interplay (which had already purchased the PC rights to most of the old SPI gaming line) tried to buy the AH game company for a price rumored to be between \$3-4 million, but the Dotts wanted to sell all of Monarch Avalon's holdings, including Girls' Life and the dated printing facilities, and talks fell through. About a year ago,

trying to fill out his collection of boardgames. As one observer put it, "At least they let us have one last big party before they shut everything down."

And shut it down they did: AH was sold to Hasbro the day after Avaloncon ended. The Dotts let the entire creative staff go the very next day—giving them severance pay only through the end of the week, even though the employees had worked all weekend at Avaloncon. That's some show of gratitude, especially to someone like ace developer Don Greenwood, who's been with AH for over 26 years.

What I mourn most is the passing of the idea that you could make challenging games for adults that didn't cater to the latest fad. I'd hate to think that our current era of Clones & Conquer is the beall, end-all of strategy gaming.

Chances are, nearly all of your **gaming** buddies have **enjoyed** an Avalon Hill game.

published hundreds of wargames that they positioned as serious simulations, and smaller companies like Metagaming sold sci-fi games such as *Ogre* for a dollar—when the going boardgame rate was 10 times that. AH stuck to its guns, however, and outlasted all of its contemporaries.

AH was still worth over \$10 million in 1990, but its boardgame sales took a tremendous hit when the company lost its Toys 'R' Us and Children's Palace accounts in 1993. To make up the lost revenues, AH (led by Jim Rose) tried to jump-start its PC games division: KINGMAKER sold nearly 40,000 units in 1994. Yet AH continued to develop PC games on boardgame budgets, which became a liability

MicroProse valued the entire AH game line at only \$250,000.

Things quickly got worse in 1998. When the smoke cleared from the CIVILIZATION lawsuit (see last month's READ.ME), AH paid out nearly half a million dollars and lost publishing rights to one of its all-time best sellers. Then HISTORY OF THE WORLD sold fewer than 10,000 units. Finally, Big Time Software announced it would no longer be doing COMPUTER SQUAD LEADER.

Cold Shutdown

So, Avaloncon in August was essentially a wake, as even avid fans sensed the end was near. Computer-game prices were slashed in half, and everyone was

In the end, Hasbro got a good deal, and probably didn't buy the AH brand to shut it down entirely. Still, having pretty plastic pieces in mainstream fare like History of the World or Acquire won't make up for the lack of new ASL scenarios, and it's unlikely we'll see any more sequels to Stonewall Jackson's Way. My cynicism aside, it is possible that Hasbro will keep the creative torch burning. But for some reason I'm left with one haunting image from Avaloncon: hundreds of copies of The General magazine, left behind on wire racks, unsold, their pages flipping unnoticed in the convention site's air-conditioned breeze. The General has since ceased publication—draw your own conclusions. ATT

2



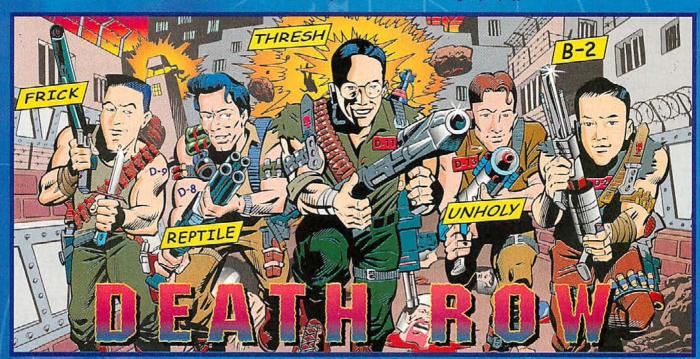
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Invitations to Europe. Challenges from around the globe, You'd think DeathRow was the most hunted clan in Quakedom - and you might be right. There's no question they're the best-known. All five of the "starting team" members were among the eight finalists at the PGL's Season I Quake championships. The only player to beat team leader Thresh in an official Quake deathmatch is his clanmate Reptile. As they set their sights on the first PGL Teampla championship, DeathRow has its work cut out - Unforgiven and several other great clans hope to usurp their position as America's Most Hunted. Check the PGL Web site for the latest standings, playoff match results, and more!





10000 - 36-16-15	- Hiresh	Reptile	Unitally	- 52	frick-
Real Name	Dennis Fong	Jim Dangcil	Jason Carlton	Patrick Li	Wes Culver
Preferred Weapons	Rocket Launcher and Lightning Gun	Rocket Launcher and Lightning Gun	Lightning Gun and Rocket Launcher	Rocket Launcher	Lightning Gun a. Rocket Launche
Birthplace	Hong Kong	Northridge, CA	Westlake Village, CA	Hong Kong	San Jose, CA
Residence	Berkeley, CA	Chatworth, CA	Camarillo, CA	San Jose, CA	Cupertino, CA
Age	211	21	19	19	19
Connection	Ш	TI.	II.	TI.	TJ.
Favorite Levels	None	DM6, DM4, DM2	DM6 for Deathmatch, DM3 for Teamplay	EIM2, E4M3, DM2, DM3, DM4, DM6	DM2, DM3, DM6 E4M3

DEATHROW TEAM HONORS/TITLES:

T3: Champions K9-Con: Champions Bigge: 1st place Elite8: Finalists All 5 DR Starters Were PGL Season I Finalists

























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LETTERS

Ultima Vision

reat article on the
ULTIMA: ASCENSION fiasco
("The Death of ULTIMA
IX," September '98). Odd
isn't it, that this will
make the third ULTIMA
product in a row to be,
well, pathetic. Has any
other once-proud series (or
publisher!) dropped so low?

However, we need not be so overly negative on Origin's laudable attempt to broaden ULTIMA's appeal. Rather, we should support their valiant effort in this regard. After all, why should a role-playing series seek only to involve roleplayers? Stuff and nonsense! Despite my past quibbles with Origin over their vacillations on the Amiga version of ULTIMA VI, I'm willing to move on a mere six years later. In that spirit, I am proud to share my ideas for ways that Origin can further develop Ultima without changing the strategy they've used in PAGAN and ASCENSION. Not having the obvious skills of Origin's crack staff for naming games, I've just given them descriptive names. Because I am so excited about this bold new face of computer gaming, I'm actually giving these ideas to Origin without any hope of compensation. God willing, the gameworld creators will put my humble suggestions to fine use.

Ult-Man: The Avatar runs around a 2D maze gobbling pellets while avoiding orcs; eating "power virtues" allows him to defeat the orcs for a short time.

Ultima Commander: The Avatar, returning to the early games' premise of spaceship travel, battles the Guardian around distant stars, with FMV cut-scenes providing a modicum of plot.

Ultima-roids: The Avatar spins around destroying asteroids that are threatening Britannia.

Ultima Civilization:

Electronic Arts announces that it, in fact, has the rights to the word Civilization, Trip Hawkins having copyrighted volume C in the encyclopedia in 1986. Origin releases a game which has the player research virtues such as compassion and honor while ruling a farflung fantasy world with the inconvenience of continents appearing and disappearing at random.

Avatar must try to shoot down invading hordes of fantasy creatures. An Easter egg allows access to a special level in which the Avatar actually battles EA's marketing team.

Gabriel Knight IV: The Avatar Within: In a bold move, Origin/EA acquires the rights to the series from Sierra. In this installment, Gabriel must tackle his toughest mystery yet: discovering what evil spirit possessed Lord British to sell Britannia to the Forces of Evil.

Ultima Quest: The Avatar voyages to Daventry, where he attempts to rescue Rosella from the unholy influence of Cendant.

Avatar & Conquer: The Avatar and his erstwhile companions gather Britannia's resources (in abstract, of course, no harvesting wheat for bread) to build forces to fight back an invasion. All in realtime!!!

Ult-ulous: The Avatar becomes a god, and, through raising and lowering his followers' land and unleashing disaster on his



THE AVATAR MEETS LARA Here's a scene you won't see in ULTIMA ASCENSION, sometimes disparagingly referred to as "ULTIMA TOMB RAIDER."

opponent, attempts to conquer a world for good in a more straightforward fashion than mucking about with all those oldfashioned "virtues."

Ultima X: The Return of the Avatar: Origin essentially reinvents ULTIMA IV, updating its components to modern standards while retaining the focus of roleplaying and story. Nah, that's obviously too original for them. Never mind.

And why stop there? Not only can every other great RPG of years past follow ULTIMA'S trend (WIZARDRY RAIDER, WASTELAND RAIDER, CHAMPIONS OF KRYNN RAIDER, etc.), but the possibilities in other genres are endless! Why play a boring wargame acting as a stodgy general when you can take the field personally? You thought Gary Grigsby was drawn into Windows 95 gaming kicking and screaming? Well, imagine his reaction when

SSI releases KAMPFGRUPPE 2: TARA VON DROFT KICKS ALLIED BUTT. All of Chris Crawford's high-falutin' game design theory-which of course has already become of too small an interest to warrant inclusion in CGW anymore [Hey, get back to the subject-Ed.] will finally be thrown out the window when BALANCE OF POWER 2000 ships with 3D-accelerated graphics and each nation is represented by an anatomically overly endowed, ethnically correct female representative in a massive action brawl for world domination.

Oh, I am excited! A new Golden Age of Computer Gaming is soon to be upon us. No longer must we worry about originality, innovation, or playability in our game titles. Those fine world-creators at Origin are showing us the way.I don't know about you, but I'm waiting for EARL WEAVER BASEBALL 3: DARA FROFT JOINS THE MAJORS with bated breath.

—Carl Lund Bruno, Minnesota



Mar '98



Mar '98



Feb '98



Jan '98



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Mys-Adventures

It takes guts to fess up after flaming puzzle-oriented, point-and-click adventures for so long (Johnny Wilson's editorial, August '98). But I think you missed an even more important point than that raised in your editorial (that RIVEN and MYST owners play other games). The statistics you presented illustrate that, across the board, the number one gaming genre for RIVEN owners, casual gamers, and core gamers alike is adventure games (number two is action games). Adventure games in general don't get much ink, but those figures indicate that the gaming public certainly gravitates to them. Clearly, game developers and publishers have not dropped their efforts to create enjoyable and challenging adventure games. Game magazines should not dismiss those efforts out of hand.

> —Jeff Sengstack via the Internet

Yes, the statistics in Johnny's editorial suggest that those people play more adventure games than any other kind, and we agree that the genre deserves coverage. However, we've seen strong indications that publishers are backing away from adventure games. Broderbund, publisher of the bestselling adventure game of all time, has basically abandoned the genre. Blizzard canceled plans for WARCRAFT ADVENTURES. Sierra, once synonymous with adventure gaming, is currently developing only two titles in the category (GABRIEL KNIGHT III and KING'S QUEST: MASK OF ETERNITY). We expect to see very few classic graphic adventures in the next year.

Between creating the game and marketing expenses, the cost of producing a graphic adventure is around \$2–3 million. At \$30 a pop, you've got to sell 67,000 copies just to break even. According to PC Data (Reston, VA), below are the top 12 best-selling adventure games for 1998, as of July:

Game	Units Sold	Revenue
Myst	341,201	\$5,994,983
RIVEN	219,602	\$9,378,571
POLICE QUEST V	152,425	\$1,622,405
THE X-FILES GAME	64,680	\$2,769,311
BETRAVAL AT ANTARA	52,309	\$674,058
JOURNEYMAN PROJECT 3	52,269	\$2,178,771
MEN IN BLACK	49,520	\$1,423,382
TITANIC	48,121	\$476,509
BLADE RUNNER	47,939	\$2,283,055
SHIVERS 2	45,963	\$445,196
STARSHIP TITANIC	41,523	\$1,841,429
CURSE OF MONKEY ISLAND	40,538	\$1,576,281

You can see from this why game companies are backing away from adventures. Apart from Mysr and RIVEN, most of these games probably lost money.

For a gamer's perspective on this issue, read the following letter from an adventuregame fan.

Cursing Curse

It may be a little late to comment on this, but am I the only person who didn't appreciate Curse of Monkey Island's attempt to bring adventure gaming back to how it used to be? I will admit that it was a funny

game. However, what should drive an adventure game is its storyline and plot, which seem totally nonexistent here. We get nice cut-scenes at the outset of Chapters One and Two to get the ball rolling, but then it just seems to grind to a halt. We get few cut-scenes beyond those, and at least 75 percent of the time I seemed to be performing foolish, useless tasks that, later, conveniently had some positive effect. When I launched the skeleton into the tomb, I had no idea why I was doing it; I was trying every possible action and then just got lucky. This instance and ones like it destroyed much of my enjoyment.

When I play an adventure game, I want it to be immersive, with suspense and a developing plot. I want every puzzle to be linked to the plot. I want sensible dialogue that moves things along. I'd take GABRIEL KNIGHT II or PANDORA DIRECTIVE any day over CURSE OF MONKEY ISLAND. They were much longer and more involved, but it took me longer to beat Curse of Monkey Island because I booted it up only once or twice a week. Nothing was dragging me back to play. I didn't care what happened next. LeChuck, a good villain, was underused and would have added more incentive to play if he had appeared more often. You haven't reviewed FINAL FANTASY VII yet, but I'm sure the reason you'll give it a high grade is its epic plot. It's more enthralling than any I've ever seen in a game. More designers should emulate it—at least in respect to its plot. The madcap humor in Sam & Max Hit the Road and Day of the TENTACLE made up for their shortcomings in plot, but they still had good villains and reasons to keep playing. Curse of Monkey ISLAND simply doesn't.

> —Chanon via the Internet

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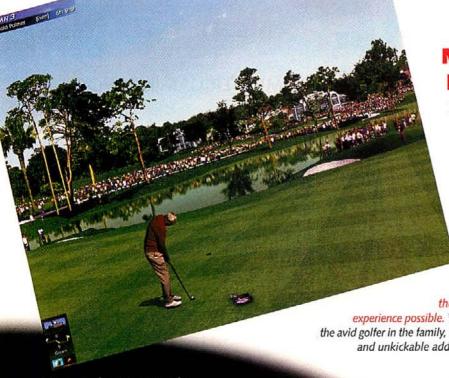






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A new Mode Of Play (MOP) Game

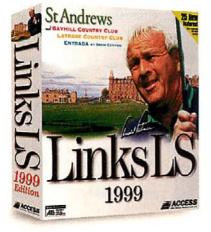
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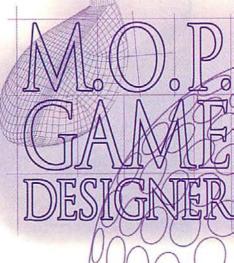


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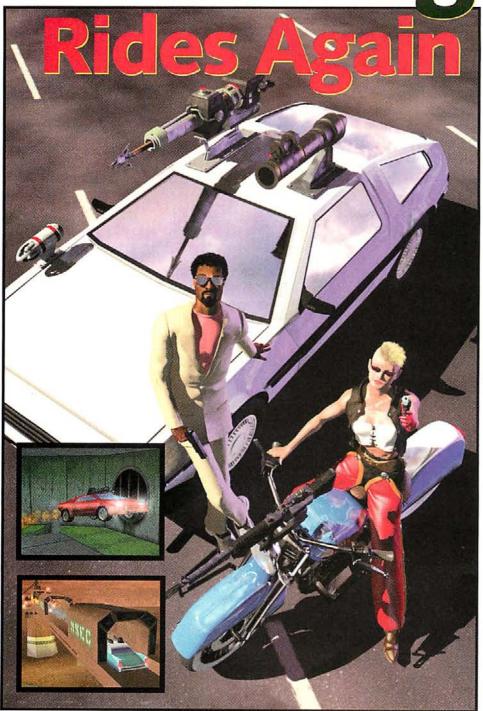


THE LATEST NEWS EDOM THE COMPUTED CAMING WORLD

THE LATEST NEWS FROM THE COMPUTER GAMING WORLD

Edited by Ken Brown (Ken_Brown@zd.com)

Road Rage



Expect Skinny Ties, Bad Haircuts, and Vehicular Homicide In Activision's INTERSTATE '82

ans of INTERSTATE '76's funk-filled auto combat, take heart. Activision has dropped a new engine into this gaming hot-rod and should roll out the new model in early '99.

Six years have passed in the gameworld, and I-76's hero, Groove Champion, is retired, having lost a leg in an unfortunate combine accident. The now one-legged Groove stumbles upon a government plot involving the Contras and promptly vanishes—but not before getting word out to the last living Champion sibling, little sister Skye. Adopting the autovigilante identity of "Vixen," biker babe Skye recruits the Jeri-curled Taurus to help rescue her brother and foil the creepers' sinister plot.

Taurus was easily the coolest character from the first game, so INTERSTATE road warriors should be elated to hear that the game casts you as the digital equivalent of Samuel L. Jackson this time around.

The rusty, modified MECH-WARRIOR II engine that powered I-'76 has been scrapped for parts and the design team has opted for the added horsepower of the Dark Side engine that powers HEAVY GEAR II. This means that next year's model will require 3D hardware, but you'll get all the 3D eye candy we've come to know and love, including fog, realistic wakes left in water, lightning, and reflection effects. I-'76 drivers rightfully complained about the loss of framerates as their cars took damage, and the designers have listened: This time cars will sport textures (such as scorch marks from rockets) instead of the framegobbling hundreds of polygons that depicted crumpled bodies in the first game. Ricocheting

projectiles will also enhance I-'82's appeal.

A virtual armada of new vehicles will hit the tarmac in I-'82, including golf carts, buses, helicopters, and more than 40 cars. While the autos of the '80s weren't all that memorable, the songs and burgeoning MTV culture of the time did display a preference for classic '50s cars. Remember ZZ Top's groovemobile? What about Springsteen's "Pink Cadillac"? Expect to see versions of those as well as a

certain sports car with doors that open like wings.

INTERSTATE '82's gameplay will focus even more squarely on action this time around. True 3D environments, such as multi-tiered parking garages and sewers, will add a whole new dimension to multiplayer games. Players will still be able to outfit their own cars, but there will be countermeasures for every weapon, such as reflective armor to foil energy weapons. The most radical change is the ability to abandon your car and head out on

foot. As a pistol-packin' pedestrian, you'll be able to attack enemies or commandeer new vehicles; in fact, certain single-player scenarios will require it.

CGW will have more on this wild ride in our exclusive preview in the March issue. —Robert "Bonebrake" Coffey



When Cavedogs Dream, They Fantasize About

Total Annihilation: Kingdoms

ith a true 3D engine that was integral to the game, TOTAL ANNIHILATION (TA) was one of the top strategy games of 1997.

Although the game's manic designer, Chris Taylor, has left the building to start his own company (Gas-Powered Games), the team that unleashed TA is now reworking it in a fantasy milieu. Cavedog recently opened its skirt long enough to give CGW a quick thrill, and we'll be bringing you more with our exclusive preview of the game in January.

KINGDOMS will look totally unlike TA. Instead of alien worlds, you'll fight on islands and hills with roads, trees, and towns. TA's trademark 3D terrain will once again mean that elevation and line-of-sight are strategic factors. One of the levels we saw featured high cliffs overlooking the sea, and it was easy to see how a group of archers could

wreak havoc on invaders. To further the impression of a living world, Cavedog also plans to have nonplayer characters and monsters.

Players will choose from one of four sides: Earth and Water are good; Air and Fire are evil. Each side will have a unique interface, build hierarchy, and strategy. Resource management has been simplified, but you'll still need to acquire resources to conjure units and summon gods and deities. The game's designers say that KINGDOM's maps and battles will be at least as big as those in TA, if not bigger. Formations will facilitate large unit movement.

Current plans call for a total of 168 units, with each side's units having unique abilities. We only saw a small number of units, but we were impressed with the high level of detail and articulation they had. The ships have billowing sails that track back and forth depending on the wind. The unit graphics rival those in AGE OF EMPIRES, which is remarkable considering that KINGDOMS renders units in real-time (AOE uses pre-rendered bitmaps). Some of the units have different motions for individual actions, so that a swordsman, for example, might have six different sword swings. Cavedog will once again make additional units free to download, although not as frequently as before.

Perhaps most impressive about KINGDOMS is its stunning graphics. The water graphics and 3D elevation combine to create the

most beautiful shorelines we've seen in any realtime strategy game. Some coastal areas almost look like aerial photos of the tropics. What's more, when ships go down, they sink at the level of the terrain—some drop out of sight and others remain clearly visible below the waves, with their masts sticking out from the water. It's not just for looks: Coastal shipwrecks can become added defensive barriers.

We can only hope that Cavedog can extend that level of detail while reinventing TA's awesome battles with a balanced mix of fantasy and medieval units. If they do, this game should breathe fire into the hearts of thousands of strategy fans. Be sure to catch our exclusive cover story on the game coming in CGW's January issue. —Ken Brown



TA: KINGDOMS' 16-bit graphics and detailed 3D terrain make for stunning scenery. The units feature a surprising level of detail and articulation.

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Close Combat III: The Russian Front

LOSE COMBAT fans can look forward to an impressive third game in the series coming out early next year. The tactical, squad-level scope is the same, but THE RUSSIAN FRONT is far more ambitious in scale than was its predecessors. While the earlier games focused on one military operation lasting 10-40 days, THE RUSSIAN FRONT spans four years and 26 battles.

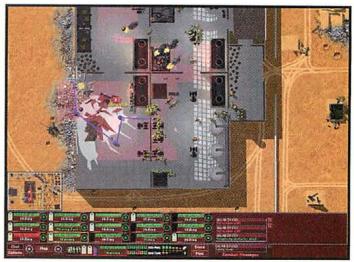


Playing as either the Germans or Soviets, you'll start out commanding a "fire brigade" of soldiers on the Eastern Front during the 1941 invasion of the Soviet Union. Later battles take you through the gates of Moscow, the factory complex of Stalingrad, and the fall of Berlin. You'll start out as a low-ranking

commander, and, if you can keep your troops from panicking or getting killed, you'll advance in rank and take on more units.

If you're a stickler for good maps, this game should appeal to you. The new maps are four times larger than before, and feature exquisite hand-drawn detail. Based on historical aerial photographs, the maps are 16-bit color with improved 3D terrain elevation effects. (Elevation detail is important since line-ofsight is a factor.) There are four different map types reflecting the four seasons, and unit camouflage will even change with the season.

To reflect the variety of units both countries fielded during four years of war, developer Atomic



FACTORY FIREFIGHT The front lines in Stalingrad were often within buildings, as this screen attests. Note the new waypoint settings (in purple).

Games is creating more than 300 squad types, 100 weapon types, 60 soldier types, and 80 types of vehicles and anti-tank guns. It includes

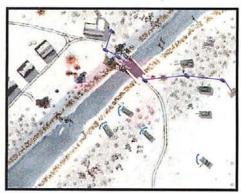
units like

120mm mortars, flamethrowers, and rocket artillery mounted on half-tracks. You'll have the ability to use off-map artillery in certain scenarios, which was

not possible in the earlier games. In addition, you'll have to manage a new type of unit: Commander units, which enable soldiers to rally on the battlefield.

Most of the interface remains the same, so veterans should have little trouble. Atomic has added some refinements, such as multiple groups as well as waypoints that allow you to designate your soldiers' route.

Watch for a more in-depth, hands-on sneak preview of this game in our January issue. The game is currently scheduled to release in January. -Ken Brown



WINTER PANZERLAND Hand-painted maps will feature persistent damage, slight changes in elevation, and the change in seasons.

Playing Lately

Last Mo	nth	Months on Chart
1. StarCraft (Blizzard/Cendant)	1	2
2. Might & Magic VI (3DO)	2	3
3. Quake II (id Software/Activision)	4	6
4. Age of Empires (Microsoft)	3	6
5. Diablo (Blizzard/CUC)	6	18
5. Unreal (GT Interactive)	4	2
7. Total Annihilation: Core Contingency (Cavedog)	9	2
8. Battlezone (Activision)	9	3
8. Panzer General 2 (SSI)		6
8. Jedi Knight (LucasArts)	7	8
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The top-selling PC games as of July, calculated by PC Data (Reston, VA).

Interplay Goes
Beyond the Bounds
PLANESCAPE: TORMENT Is Completely Different

t's not about saving your world, your universe, your society, or your princess. It's about saving your soul and your life. It's not about rescuing innocents or hacking through walls of monstrous flesh. It's about coming to grips with character and fashioning epic victory out of a myriad of defeats. It's not about a fan-

tasy world in which swords and +2 halberds are the way of the warrior. It's about the wildest, most bizarre fantasy world in which dueling philosophies and



Giant statues such as the one pictured here can animate impressively in Interplay's latest role-playing venture.

faction politics are more important than the monster manual. It's not about dying and rebooting. It's about death, resurrection, and all the dilemmas in between.

Interplay has taken one of the lesser-known Advanced Dungeons & Dragons campaign settings and molded a potential masterpiece.

Planescape is the demented setting of TSR's creative psycho extraordinaire, Zeb Cook, Cook took the confusing and amorphous couple of pages in the AD&D rules that explained and fleshed out the multiverse. He peopled these oft-

> neglected planes of existence with bizarre philosophies and fanatical factions. He fashioned the universe in such a

way that Monte Hall-style dungeon masters would avoid this campaign setting, but true role-players would be drawn to its strange setting.

Then, he left TSR (probably because the factions in Planescape weren't so far afield from TSR corporate politics) and Colin McComb took up the Planescape banner.

When the folks at Interplay nabbed the Planescape license, we thought they were crazy. Even TSR didn't seem all that thrilled with the Planescape setting, and we didn't think anyone would care. Now, Interplay has joined Cook with another TSR refugee, Colin McComb, and Guido Henkel, designer of the REALMS OF ARKANIA series of computer role-playing games, and created something very different. In PLANESCAPE: TORMENT, you start by dying. Fortunately, your character is immortal, because he'll die a lot in



Meet the protagonists of PLANESCAPE: TORMENT.

this particular journey through many worlds that make Dante's Inferno look like an English summer garden. It is by dying that you'll shape your character. Indeed, by shaping your character, every game will seem different.

But that's not all. PLANESCAPE: TORMENT has built upon the BALDUR'S GATE engine and managed to get it to do things with larger figures, magical special effects, and large-scale animation that no one thought possible. It feels like an entirely different experience than BALDUR'S GATE. It looks to be Interplay's classiest roleplaying game yet, and from the company that brought us WASTELAND and NEUROMANCER, that's saying something. - Johnny Wilson

Sneak Peek at Flight Unlimited III

Ithough it doesn't sell as many copies as Microsoft's best-selling FLIGHT SIMULATOR (FS), Looking Glass Studios' FLIGHT UNLIMITED (FU) games offer a similar experience piloting private aircraft with realistic physics models and accurate controls. The games differ in that FS emphasizes realistic navigation and avionics, while FU offers greater graphic detail of a particular location. FU II even let pilots

experience the thrill of flying over San Francisco.

The company's latest version, FLIGHT UNLIMITED III, lets you pilot five new aircraft over 10,000 square miles of the Seattle area. Ground detail looks better than ever, with satellite-mapped terrain at a resolution of one meter/pixel. Changes to the engine enable the designers to add animated ground objects such as boats, cars and airport vehicles.

Looking Glass hasn't released much about the game, but we do know you'll be able to fly a BeechJet 400A corporate

jet and a Mooney TLS Bravo.

The game will also feature a new weather modeling system. Said to be based on real-weather physics, the new modeling system adds dynamic weather simulations to the flight experience. Watch the skies for the sim's launch later this year. —Ken Brown



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Alien vs. Predator Fox 04 '98 Asheron's Call Turbine/Microsoft Q4 '98 Q1 '99 Baja 1000 Racing Red Orb Baldur's Gate Interplay 04'98 **Battle of Britain TalonSoft** Q4'98 Birth of the Federation MicroProse Q4'98 Blackstone Chronicles Legend/SSI 04'98 C&C: Tiberian Sun Westwood 04'98 Civilization: Call to Power Activision Q1 '99 Combat Flight Simulator Microsoft 04 '98 Dark Vengeance GT Interactive 04'98 Diablo II Blizzard Q2 '99 Q1 '99 Drakan Psygnosis Dune 2000 Westwood 04 '98 **Enemy Infestation Ripcord** Q4 '98 European Air War MicroProse Q4'98 Falcon 4.0 MicroProse 04 '98 Q4'98 Fallout 2 Interplay Fighter Duel 2 Infogrames Q2 '99 Fighter Squadron Activision Q4 '98 Fighting Steel SSI Q1 '99 **Final Countdown Impact** Q1 '99 Flanker 2.0 SSI Q1 '99 Fleet Command Jane's/EA 01 '99 Force Commander LucasArts Q3 '99 Gabriel Knight 3 Sierra Q1 '99 Grim Fandango LucasArts Q4 '98 Harpoon 4 SSI 02 '99 Q4 '98 Heavy Gear II Activision Heretic II Raven/Activision Q4 '98 Q1 '99 Homeworld Sierra King's Quest: Mask of Eternity Sierra Q4'98 Klingon Honor Guard MicroProse 04 '98 **Knockout Kings EA Sports** Q1 '99 Indiana Jones/Inf. Machine LucasArts Q2 '99 04 '98 International Rally ChampTHQ Interstate '82 Activision Q1 '99 Jagged Alliance 2 Sir-Tech Q4 '98 Legend of the Blademasters Ripcord Q1 '99 Luftwaffe Commander SSI Q4 '98 MechWarrior III MicroProse Q2 '99 Messiah Shiny/Interplay Myth II: Soulblighter Bungie Q1 '99 Q4 '98 North vs. South Interactive Magic 04 '98 **Omikron Eidos** Q1 '99 Panzer Elite Psygnosis Q1 '99 Populous III: The Beginning EA Q4 '98 Prey 3D Realms/GT Interactive Q1 '99 Professional Sports Car Racing VirginQ4 '98 Quest for Glory V Sierra Q4 '98 Q4 '98 Railroad Tycoon II Pop Top Requiem 3DO 04 '98 Return to Krondor Sierra Q4 '98 **Revenant Eidos** Q1 '99 Shogo Monolith Q4 '98 SimCity 3000 Maxis Q4'98 Smart Games 3 Smart Games/Hasbro Q4 '98 Space Bunnies Must Die Ripcord Q4 '98 StarCon Accolade Q4 '98 Q4 '98 Starship Troopers MicroProse StarSiege Sierra 04'98 Q4 '98 Sword & Sorcery Virgin **Tomorrow Never Dies MGM** 04'98 Trans Am Racing '68-'72 GT Interactive Q4 '98 War of the Worlds GT Interactive 04 '98 Q4'98 West Front TalonSoft 02 '99 Wheel of Time Legend/GT Interactive Wings of Destiny Psygnosis Q1 '99 WWII Fighters Jane's/EA 04 '98 You Don't Know Jack 4 Berkeley Q4 '98

Dr. Ballard Dives Into Gaming

Discoverer of the Titanic Helps Develop Underwater Adventure

r. Robert Ballard is the sort of person who would be handy to have around if you lost your car in a parking lot.

Not only is Dr. Ballard the celebrated explorer who discovered the wreck of the Titanic, mired 50 feet into the ocean floor two-and-onehalf miles underwater, he also located the Bismarck and, just this past May, the WWII aircraft carrier USS Yorktown, along with four Japanese ships responsible for the attack on Pearl Harbor. Soon he'll be taking off for the Black Sea to search the oxygen-deprived waters for preserved artifacts of the "Sea People" of Ashkalon described in Egyptian hieroglyphics. He'll also look for evidence to support the theory that 7,000 years ago melting polar ice raised the waters of the Black Sea, leading to the Great Deluge recorded in the Bible.

So, what is this man doing in front of a computer screen in New York City? Playing games.

"You have to do everything I do," says Dr. Ballard when I find him, feet up on a table, his trademark baseball cap covering a slightly sunburnt head. "Every damn thing that happens in the real world, you have to deal with in this game."

The third game in recent memory to include the now-golden word "Titanic" in its name, TITANIC: CHALLENGE OF DISCOVERY is the first (as Dr. Ballard proudly points out) to be set firmly in the real world. Gamers wander around a seaside town modeled after Mystic, Connecticut, choose a nine-person crew and a ship, do the research necessary to find the wreck they're looking for, and then go out and test their mettle against the elements, the financial reality of running an expedition, and the headaches and glories of cutting-edge technology. Six missions give you the chance to locate, map, and explore three

ships, including the Titanic.

It took two game, Dr. Ballard says, ticking off a list of participants from Germany, Russia, Italy, France, Japan, and the U.S. About six months of that time was spent ensuring the game's authenticity: Ballard took his team of 30 computer scientists from Moscow out to sea, where they got to experience the real thing firsthand while Ballard's crew of explorers got to pick holes in the simulation.

If the first game does well, Dr. Ballard is prepared to follow it up with a second title based on his explorations of the wrecks of the Battle of Midway. But the Titanic was the obvious, and perhaps necessary, starting point. "I thought it had gone away 12 years ago," Ballard says about Titanic-mania, "and it had until [James] Cameron made the movie. It seems that each generation rediscovers the Titanic. It is, ironically, unsinkable."

TITANIC: CHALLENGE OF DISCOVERY, from Panasonic, is now available in stores nationwide. - Charles Ardai



the above screen, the bow of the Titanic comes into view through the sub's window at a depth of two-and-one-half miles.

HIS OWN GAME Dr. Ballard (shown top right) takes pride in the realistic sense of exploration players will experience in his game.

CGW Legal Brief: The UO Lawsuit

his could be a watershed year in the computer gaming industry. For the first time ever, a group of gamers have filed a class-action lawsuit against a game publisher, alleging that a game does not measure up to the representations made on the box. The suit was filed in March against Electronic Arts and Origin Systems over ULTIMA ONLINE, and the case is gradually making its way to trial.

The gamers allege that EA and Origin (the publisher and developer of ULTIMA ONLINE, respectively) are liable for damages on several legal theories, which include breach of contract, negligence, misrepresentation, and breach of warranty. Game companies have been sued on similar grounds before, but prior suits have generally involved the interpretation of semantics. For example, Apogee and Creative Labs were sued because the packaging for one of Creative Labs' sound cards stated that a free copy of Apogee's WOLFENSTEIN 3-D was bundled inside, when, in fact, only the shareware version was included. What makes the ULTIMA ONLINE suit unique is that the allegations against EA and Origin concern not only alleged falsehoods on the box, but also the belief that the game does not play like the defendants represented it would. In other words, EA and Origin have released (gasp!) a buggy game.

The plaintiffs' suit goes on for 100 paragraphs of legalese, but the allegations can be distilled to the following list: (1) the ULTIMA ONLINE packaging failed to mention that there would be a \$10 monthly charge to play and that a credit card is needed after the 30-day free trial period; (2) EA and Origin represented that the game could be played "24 hours a day, every day," when, in reality, the servers crash with annoying frequency; (3) whereas the box indicates the game can be played in

"realtime," the latency is so bad that it takes minutes for keystrokes to be implemented on the screen; (4) the minimum system requirements listed on the box are far lower than what is actually needed to play the game; and (5) EA and Origin promised that all gameplay problems would be fixed, but nothing has been resolved.

Public reaction to the lawsuit has been mixed. Some gamers have flamed the plaintiffs and their attorney, San Diego lawyer George Schultz, by alleging that

the whole purpose of filing the lawsuit is to make a quick buck. However, many gamers have praised the plainwith the lawsuit, the court will allow some time for factual investigation (discovery). Then the court will determine if the plaintiffs can certify themselves as a class. Basically, this is a type of lawsuit where numerous similarly situated plaintiffs can file one big lawsuit against a provider of goods or services. It has the benefit of allowing individual consumers to band together instead of going it alone against a large

company in smallclaims court. If the court determines the plaintiffs are sufficiently homogenous to be a class, then the floodgates



Number of Copies Sold:	Roughly 210,000
Monthly Fee:	\$10
Estimated Revenue Since Release:	
Number of Active Players:	and the second s
Number of Users Per Day	46,000+
Average Playing Time Per Day	

tiffs for what they see as a lawsuit long overdue. According to the plaintiffs' supporters, game companies have long gotten away with releasing bug-laden products that do not work as advertised. The supporters see the lawsuit as a wake-up call to publishers and developers that gamers are mad as hell and are not going to take it anymore. Detractors say the suit will have a chilling effect on the game industry such that innovative products, like ULTIMA ONLINE, will not be released for fear of litigation.

Whatever the merits of the suit, the plaintiffs have a long road ahead before they will see any money. Now that EA and Origin have been formally served could open for just about everyone who has bought ULTIMA ONLINE to become a plaintiff. According to attorney Schultz, over 200,000 gamers have purchased ULTIMA ONLINE and every one is a potential plaintiff. If everything goes as planned, the court should have ruled on class certification by the time you read this. We'll follow up with more details as they emerge.

As for potential damages, the culpability of EA and Origin will play a large role in any settlement or judgment. If the evidence proves the defendants made intentional misrepresentations about ULTIMA ONLINE, as opposed to incompetent or negligent misrepresenta-

tions, it is unlikely that EA and Origin will be able to get off without paying—big time. Whereas the amount of damages recoverable by each plaintiff is most likely limited to the price of the game (\$60) and maybe a few monthly charges (\$10/mo.), the cost to EA and Origin could be huge if they are forced to make a complete refund to more than 200,000 gamers.

It is a fact of life that suits of this type settle about 95 percent of the time and rarely for the total damages claimed. Instead of risking a financially devastating adverse judgment, defendants usually try to reach a compromise agreement. Schultz has already told EA and Origin what his clients are willing to accept in settlement: a few months of free play to compensate the plaintiffs for the time they were, in Schultz's words, "paying betatesters," and an enforceable promise from EA and Origin to fix some of the games' major technical flaws. EA and Origin have yet to respond.

Whether the suit will herald a major change in the way computer games are published and marketed remains to be seen. Undoubtedly, developers and publishers will be keeping a close eye on the litigation. In the meantime, EA and Origin collect an estimated \$1,000,000 per month from ULTIMA ONLINE's remaining subscribers—which, by the way, include Schultz and most of the plaintiffs.—

Michael Hawash

When the author is not playing games, he practices law for the firm of Meyer, Orlando & Evans in Houston, Texas.

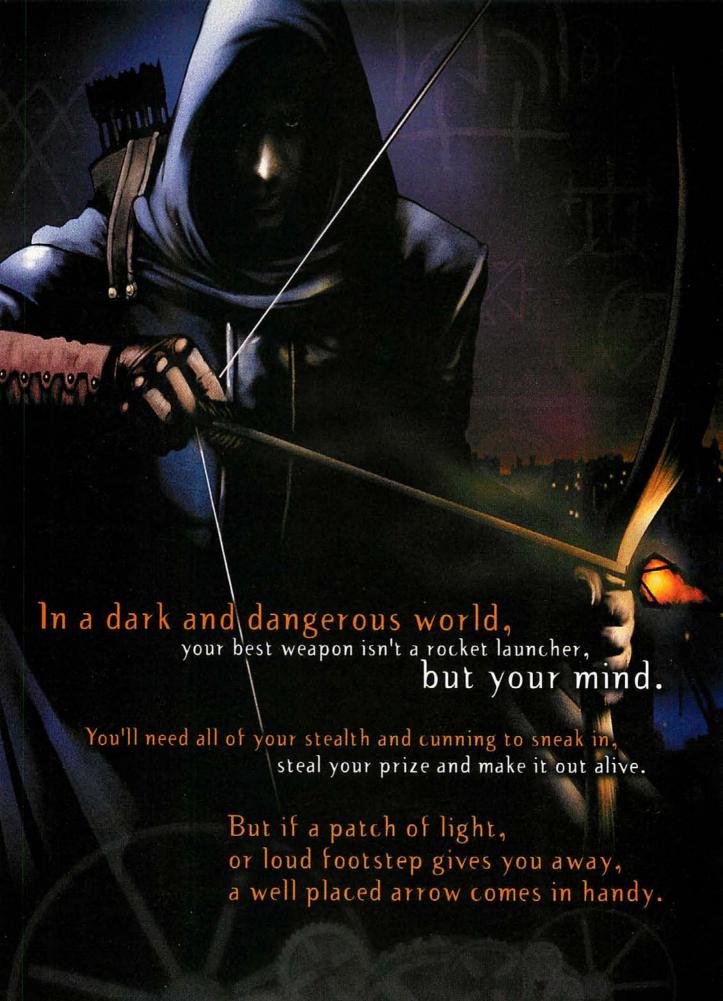


Sneak THROUGH THE SHADOWS

StealTHE LOOT

Stalk YOUR PREY

Get Outalive

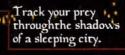


FROM THE CREATORS OF SYSTEM SHOCK" AND ULTIMA" UNDERWORLD"

THEF

THE DARK PROJECT

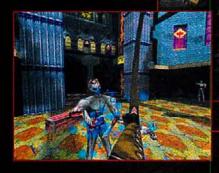
Quietly use your blackjack to take out unsuspecting opponents.







When all else fails, it's time for some swordplay.



Cause some mayhem with your fire arrows.

Use a holy water arrow to keep the undead off your back.



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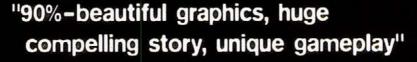


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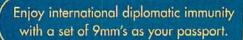
the metal detector will be an adventure in itself.

Plough through five continents with extreme prejudice. And a grenade launcher.





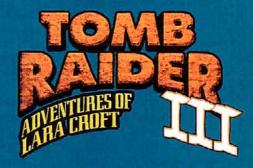
Blaze India and hammer into London, Antarctica, Area 51 or the South Pacific.







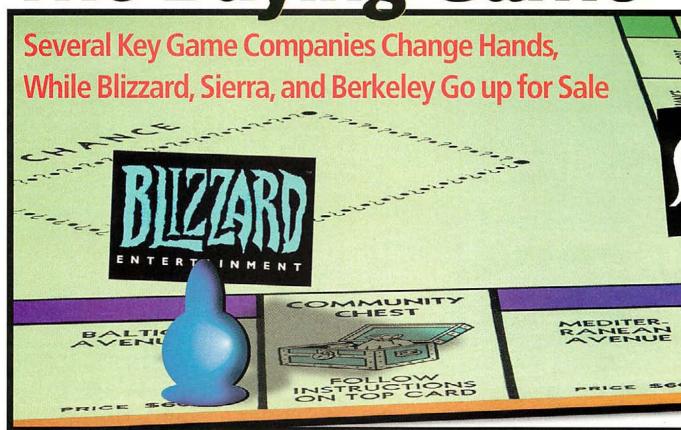
Annihilate your way through 15 levels of high-res mercilessness.





EIDOS

The Buying Game



ugust was a hectic month on the business side of the gaming industry.

Electronic Arts acquired Westwood Studios, Hasbro Interactive bought MicroProse, and The Learning Company purchased Broderbund. During the same

NEWS ANALYSIS

month, Cendant Corp. accounced its intention to sell Cendant Software, a collection of companies that includes Sierra On-Line, Blizzard Entertainment, and Berkeley Systems.

We wanted to delve into the reasons for these purchases and explain some of the recent history behind the changes. We don't usually focus this much on corporate news, but given the number of recent developments and the importance of the companies involved, we thought it merited a closer look.

EA Acquires Westwood For \$122.5M

lectronic Arts seized the jewel of Virgin
Interactive with its August acquisition of
Westwood Studios for \$122.5 million. The sale
includes Westwood's COMMAND & CONQUER properties, Virgin internal development, and select Virgin
games in development. It does not include Virgin
Interactive's distribution, which EA, with distribution in
more than 75 countries, didn't need.

Sellers Viacom and Spelling Entertainment had sought a buyer for the money-losing Virgin for several months. (Viacom owns approximately 80 percent of Spelling Entertainment, which in turn owns more than 90 percent of Westwood Studios, a division of Virgin Interactive.) Viacom made public its intention to "dispose" of its interactive entertainment business last year.

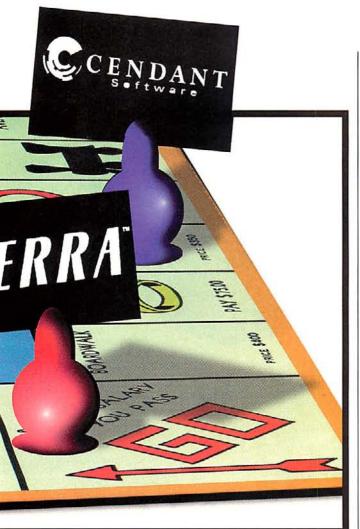
Although Virgin acquired Westwood Studios in 1992 for an undisclosed sum, the relationship soon became a case of the tail wagging the dog. While Westwood Studios released a string of successful titles, including COMMAND & CONQUER and C&C: RED ALERT, Virgin consistently lost money by developing numerous titles with weak sales volumes. In the past year, Westwood co-founder Brett Sperry took control of Virgin's internal development, discontinuing several

projects and strengthening the company's line. Still, much of the damage had already been done. Last year, operating losses at Viacom's interactive games business were \$43.5 million on sales of \$241.3 million, according to the company's annual report.

EA's acquisition of Westwood is merely the latest in a series of purchases to increase its market share. By acquiring Las Vegas-based Westwood, EA takes over the rights to COMMAND & CONQUER, LANDS OF LORE, DUNE, and the brain trust that created them. Both Sperry and Louis Castle, who founded Westwood in 1985, signed five-year employment contracts with EA.

EA's purchase also includes Virgin's internal development and some of its existing projects. Virgin has only a handful of titles in the works, and will eventually be shut down, according to a source close to the company. The same source indicated that the Virgin games EA acquired will either be under the EA or Westwood label.

Electronic Arts, headquartered in San Mateo, CA, is the world's largest interactive entertainment software company. Founded in 1982, EA posted revenues of \$909 million for fiscal 1998 as of August. Approximately 25 percent of the company's revenue is derived from PC game sales. —Ken Brown



Hasbro Interactive Snaps Up MicroProse and Avalon Hill

asbro Interactive cemented its intention of being a power player in the computer games industry by acquiring Avalon Hill and MicroProse for \$6- and \$70 million, respectively. Hasbro, which owns Milton-Bradley, Parker Brothers, and numerous toy and game properties, has been in an aggressive acquisition mode for several years, and seems to have purchased the two gaming companies for different reasons.

In the case of Avalon Hill (AH), some industry observers speculated that Hasbro bought AH for its computer-game division. This is unlikely, since no AH game in the past five years sold even 50,000 units worldwide.

A more plausible explanation is that Hasbro wanted the more than 300 boardgame, card game, and paper RPG products for which AH owned the rights. This would seem a good match, since AH was losing money in recent years due to dwindling boardgame sales, while Hasbro's boardgame division had over \$200M in 1997 revenues. Hasbro's superior distribution should introduce the more mainstream AH titles to a much greater audience. Tentative plans are to "spiff up" *Diplomacy, History of the World, Acquire, Stocks and Bonds*, and similar titles, replacing cardboard counters with plastic pieces, and providing slicker packaging.

Hasbro's acquisition of MicroProse is quite another matter. Once an industry leader, MPS has fallen on hard times, losing \$65 million over the past three years. Last year MicroProse managed to net a profit

Continued on page 370

Big Brother Is Still Watching

New Adventure Game Goes 40 Years Beyond 1984

ans of George Orwell's classic novel 1984 can experience a fresh incarnation of his dystopic universe this winter. BIG BROTHER, a new adventure game from newcomer MediaX,

projects Orwell's Oceania 40 years beyond the novel to an even grittier, more foreboding future. Prole Eric Blair is a soldier back from the front searching for clues behind his girl-friend's disappearance. In a suspicious world monitored by a repressive regime, you'll be forced to cut risky deals to discover if state agents or underground figures are behind her abduction.

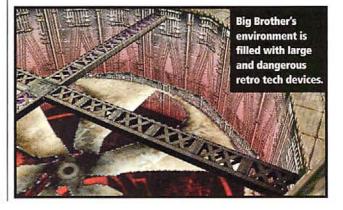
The game is set in firstperson, combining traditional adventure and puzzle-solving elements with sudden bursts of action. In addition to staying alive, you'll have to stay out of prison, judging each action based on how arrestable you are.



Molly can get you access to the master computer in the Ministry of Truth, but there's a price.

Rather than licensing an existing engine, MediaX developed its own to allow large amounts of character animation. The animations are designed to enhance the game's realism as Blair talks with a host of characters to further the story. Dialogue is especially meaningful since Blair's social standing plays a key role in the game.

In addition to the dialogue, the game is filled with puzzles as Blair strives to access restricted areas and escape tight situations. He'll have to contend with giant steam-powered machines, clunky mainframe computers and ubiquitous observation cameras. Like the book, the game's retro tech feel is based on a vision of the future from 1948. Expect to see four-foot flat panel displays with big steam pipes protruding from them, dreary cityscapes and oily machinery. Watch for BIG BROTHER this December. —Ken Brown









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Water



ever known, clash this March.



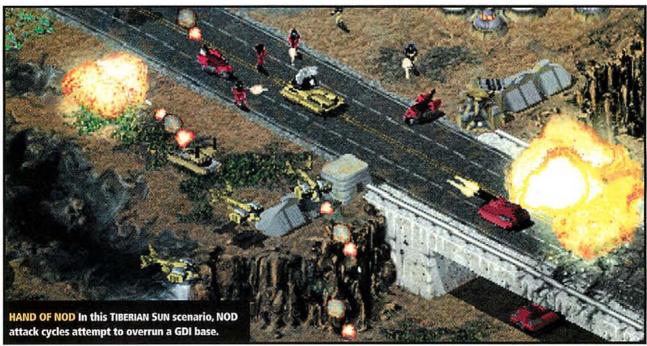
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Hall of Fame Series Continues to Break New Ground



by Johnny L. Wilson

ssume everything you believe about the economic foundation of your universe to be wrong. Then discover that your most vicious enemies have access to alarming new technologies. Such is the setup behind COMMAND & CONQUER 2: TIBERIAN SUN (TS). In TS, you'll learn more about the properties of tiberium, additional background on Kane,

Command & Conquer 2: Tiberian Sun

GENRE: Strategy RELEASE DATE: Q4 '98 DEVELOPER: Westwood PUBLISHER: Electronic Arts and some information that may turn your worldview upside down. TS isn't just a graphically enhanced expansion to COMMAND & CONQUER or COMMAND & CONQUER 2: RED ALERT, it's a dramatic new storyline—and more.

Something New Under the Tiberian Sun

Lead designer Erik Yeo has deliberately moved this game away from scripted events. The model underneath TS is driven by physical properties. Weight, flammability, and downforce play important roles, and the map can change as bodies of water freeze, bridges are destroyed, meteorites crash, or weather modifies the terrain. Add random multiplayer maps to this, and no one has the advantage of memorizing maps. The goal was to

create a world with enough interesting terrain effects and possibilities that gamers wouldn't always be able to win with a brute-force, head-to-head attack. As Yeo told us, "In the earlier games, I tended to design missions the way I would solve them. Now, you just do it your way. If you can think of it, it should work." In the early scenario we played, we got the distinct feeling that this world is alive and that terrain matters.

The building phase, too, has been revised and isn't tied to a linear path. When you click on a building, the possible upgrades are attached so that you can add whatever you want. If you decide in midscenario that you've upgraded unwisely (perhaps adding a SAM site when you needed a vulcan cannon), you merely sell off the

former and use the money to build the latter. One of the nifty new base refinements in TS is a hunter/seeker droid that searches out an enemy, attaches itself, and allows you to observe whatever that enemy unit observes. When you tire of spying, you can selfdestruct at will. Further, you can add threat detection to a radar base, build a hospital to heal infantry, and construct an armory to upgrade units.

TS promises another interesting wrinkle in the way it handles civilians. Civilians and mutants no longer just stand around. They tend to form militias. You won't be able to control civilians, but you will be able to protect or destroy them. Protecting them has certain advantages—you may get additional intelligence or support from them

The Abridaed Version



A BRIDGE NOT TOO FAR AS your GDI force waits impatiently, an engineer begins to repair the bridge.



BRIDGE SUPPORT With the bridge repaired, the GDI assault team advances on the NOD base.



NO SOLICITING The NOD base welcomes your assault team with blistering laser attacks.



HEAT'S ON The advance forces pass the lasers, but they're in trouble if they can't destroy the towers.

via pop-up conversation windows, movies, and sidebars.

Commando units are now totally mercenary, recruited by finding resources and artifacts they want. Having no allegiance, they'll work for whoever finds what they want first. They're quite interesting, however, because they can steal enemy vehicles or become a Trojan horse and infiltrate an enemy base.

Spies are new units that can steal information. They enter facilities invisibly and gain advantages depending on the structure they infiltrate: A spy inside a communications center will see what the opponent sees; one who manages to sneak into a weapons plant may be able to steal secret plans.

Another difference between TS

and its ancestors is that you won't want to commit waves of troops to a bloody war of attrition. Units that survive missions gain experience levels. As a result, they get better and better. In some campaigns, you'll need to have as many experienced units as possible to

hold your own against a betterarmed opponent. The design team added this to dissuade people from indiscriminately throwing their units into combat, as many gamers did in the earlier games.

Playing in the Noonday **Tiberian Sun**

The biggest difference in gameplay for TS is likely to be the combination of reduced playing pace, nonlinear mission trees, and AI difficulty. To refocus on strategy and get away from brute-force solutions like tank rushes, Yeo and the team decided to slow the pace. Says Yeo, "If you leave someone alone for 15 minutes, you have to expect that they'll have had time to build lots of stuff. It shouldn't happen in the first 10 minutes of the game, though." Further, you no longer have to head out immediately to your mission objective in order to accomplish the victory parameters. Now, you can do other things before attacking the main mission objective, hopefully reducing your overall losses.

The AI module is the most interesting new facet of the TS universe.

NOW YOU SEE IT, NOW

YOU'RE DEAD The

obelisk is the most

the NOD arsenal.

powerful weapon in

Instead of using a scripted AI, TS uses a problemsolving routine. The Al routine will track your successes and failures in the course of a mission and campaign. It will actually learn by playing you,

because it will build a continually growing database of your tendencies. Yeo admits that you might be able to fool the AI by having a friend or colleague with an entirely different playing strategy use your computer, thus feeding it conflicting data, but he thinks it highly unlikely that many gamers will go to that trouble. Right now, the team is so pleased with the AI performance



ROCKETEER LIVES The jump-jet infantry for the GDI allows you to build an assault force of "Rocketeer" soldiers.

that it plans to accomplish a lot of the play-balancing for the game by letting the AI play against itself.

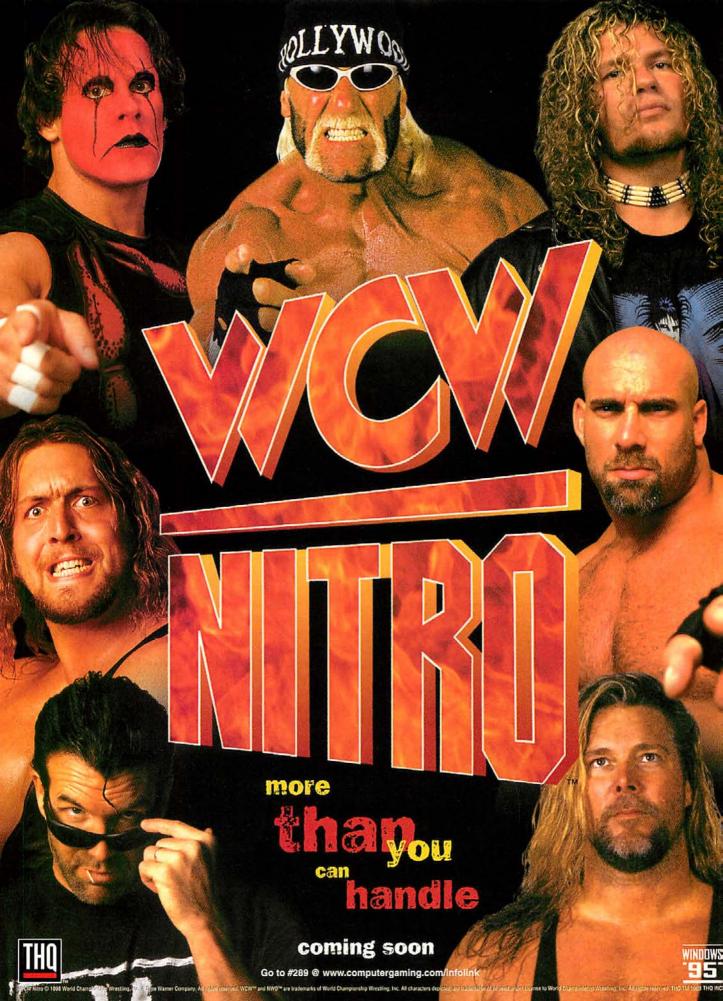
As for the combat itself, TS is designed to create a delicate balance around three weapon types: short-range, medium-range, and unlimited-range. The latter may be the familiar ion cannon or the NOD's new multiheaded weapon (which splits into ten warheads and fires tiberium at the GDI). Better yet, you are no longer stuck with a predetermined mix of weapons. In TS, you'll need to listen to the briefing very carefully for hints to get the right mix of combined arms.

Instead of spurring the gamer to build hundreds of features and units, it's hoped the design philosophy behind TS will keep the unit pool small enough to guarantee balanced play of a "scissors, rock, and paper" nature. The design team wants TS to approach the chess ideal of a finite set of tools

for the gamer to work with. Yet there are still some fascinating new units to use, including cyborg infantry and the Devil's Tonque, a subterranean flame tank that can burrow to its targets.

Tiberian Twilight

COMMAND & CONQUER 2: TIBERIAN SUN has a comic-book plot of cosmic proportion, a mixture of familiar and new game mechanics, fascinating new graphic effects, and what appears to bein these early stages-a challenging new Al. In the wake of new real-time challengers such as AGE OF EMPIRES, TOTAL ANNIHILATION, and STARCRAFT, we wondered if the reigning champion would really have enough to make a comeback. Frankly, as sure as Kane is dangerous, TIBERIAN SUN is going to be a powerful and delightful new entrant. The champion is back. Let's see how the audience reacts to its new moves. KALL



by Terry Coleman

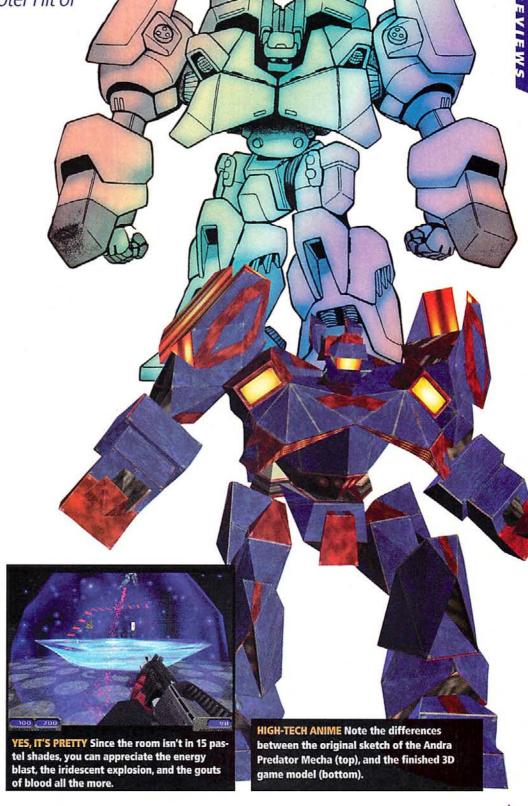
t wasn't very long ago that another CGW editor and I were lamenting how long it had been since a 3D shooter had really reloaded our BFGs. For me, QUAKE II was more evolutionary than revolutionary; and even MYSTERIES OF THE SITH, the add-on to JEDI KNIGHT, left me feeling on the outside of the Force, UNREAL was a decent single-player game, but its multiplayer mode (especially over the Internet) had such a bad framerate that I felt as if I was shooting in turn-based mode. Even when I played UNREAL solo, the graphics were so overblown that they detracted from my immersion rather than adding to it. By the time I got to the later levels, I often felt as though I were cruising through a technology demo rather than playing a game.

Although I might argue that DOOM's level designs, sense of imagination, and atmosphere made for a better game than a lot of recent 3D shooters, you can't go back-especially in this genre, which pushes all of our hardware like nothing else (with the exception of high-end flight sims). Of course, designers and programmers can point to any number of technical reasons why we have to put up with the same brain-dead AI and uninspired level designs product after product. But like most gamers, I want it all, and I'm getting tired of

SHOGO

GENRE: Action
RELEASE DATE: Q4 '98

DEVELOPER: Monolith Productions
PUBLISHER: Monolith Productions





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well-meaning excuses and of waiting for the Next Big Thing: Hell, I can't keep playing SCOURGE OF ARMAGON forever.

Gaming Monolith

How refreshing it is to find that some game designers still believe you can design a 3D shooter that is technically brilliant—and a real game besides. Monolith Productions is a company comprised primarily of gamers; even the CEO is a former DUKE NUKEM champ. While it's strange enough to have a gamer in charge of development-suits everywhere must be calling their analysts-Monolith's motto, "Focus on content," seems even more unusual. Before you start reaching for your barf bag, this is not another Ion Storm-style hypefest. Monolith has actually shipped games some better than others (see our review of GET MEDIEVAL in this issue)-and it has learned from its mistakes.

Forget BLOOD, Monolith's clever, if dated shooter of a year ago (though you should check out our preview of the improved BLOOD 2, also in this issue). The company has moved far beyond the Build engine with LithTech, a really hot 3D technology that Monolith developed in conjunction with Microsoft.

The LithTech engine powers SHOGO, Monolith's upcoming

anime-influenced shooter, which rivals UNREAL for eye candy and seems even more versatile in its depiction of landscapes, espe cially outdoor environments Monolith's art team understands how to use effects such as smoke, reflection, and translucency to make stunning levels that require you to pick up your jaw from the floor and dust it off fairly frequently. But they also realize that, in a game, you can't just gaze at one emptily pretty scene after another, or you'll soon lose that sense of disbelief that's so necessary to a good action game. SHOGO manages to strike a balance between dropdead gorgeous and more realistic environs, so that you can concentrate on what's really important: the gameplay.

Family Plot

The plot of SHOGO is decidedly too labyrinthine to cover in depth here, but as with most good anime, it's a wild mixture of science fiction fantasy, and social commentary, delivered mostly through heart-pumping action. SHOGO has influences as diverse as the anime of Hayao Miyazaki (see sidebar), the samurai films of Akira Kurosawa and old Japanese TV fare like Ultraman. There are the usual characters and caricatures, with plenty of minor villains. Big Bad

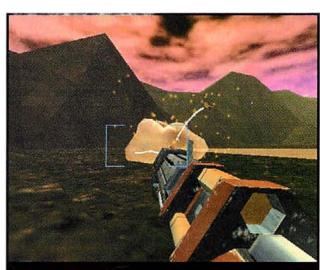
Guys, and monolithic (excuse the pun) corporations manipulating people and fomenting wars to further their ends of dominating the universe. If your only exposure to anime comes from having viewed episodes of stilted fare like Speed Racer, you're in for a sophisticated treat.

As you explore SHOGO's detailed, wonderful world, you'll have more high-tech toys with which to play than in any other 3D shooter in recent memory. At times, you'll run around in darkened hallways, firing pistols and shotguns against a variety of enemy soldiers and thugs On

other levels, you'll jump and race about in an enormous mechanical battlesuit known as a Mecha—shades of MECH-WARRIOR—while firing at your enemies with autocannon and sci-fi beam weapons. The mission variety is such that there is hardly a point at which you could get bored—what I've seen of SHOGO is a lot better paced than TOMB RAIDER—yet there are also places where a little thinking can save you a lot of hassle.

Moral Dilemma

Take for example, the mission in which you're trapped (out of



IF I HAD A ROCKET LAUNCHER Well, it's a safe bet that you can make somebody pay with this futuristic SHOGO toy, shown here powered up to the max.

Weapons, Weapons, Weapons Vollmer 12-Kawamori **Aegis Assault** Skalla 9mm AP **Celsior Pulse Vollmer Particle** MT-101 10mm You can **Gauge Even in** Rifle Not as This armor-**Rifle Any QUAKE Beam Used to Portable** use two of the future, a much firepower piercing player will destroy armor, **Artillery This** these pistols shotgun throws as the legendmachine pistol instantly know particularly is SHOGO's in close quararound plenty ary cruiser, but sprays a lot of how to use this that of other equivalent of ters, John of kinetic enernot bad for a firepower in a Mecha. the BFG. energy Woo-style. gy when its single warrior. hurry. weapon. shells impact.

your Mecha) in a walled city swarming with enemies on the lookout for you. You turn your charm on the old lady manning the city gate, trying to talk her into lowering the gate long enough for you to slip away. She'd like to help, but she's worried about her missing cat. You can either blast her away-the usual choice in a 3D shooter-or look for her cat. If you harm her, you end up facing her ex-warrior husband (hidden in the next room), who just happens to be more powerful than the big boss on the level. So, even if you take hubby out, you'll suffer tremendous damage, and the designers haven't left a bunch of power-ups conveniently near for you to heal. Then, you still have to figure out how to operate the gate, while a bunch of enemies converge on you, having heard the noise. Did I mention that the AI is way better than that of the typical action game?

If you take the honorable path, as you should in anime, then you must track down the cat and return it to the old lady (so that, relieved of her worries, she opens the gate). Sounds simple, except that every time you ring the cat's favorite bell toy to call it, you run the risk of those same enemies hearing the noise and coming to investigate. To get through this level requires stealth and a cool head, as well as quick reflexes.

On the flip side, SHOGO doesn't limit your moral or practical gaming choices.

Just as in the original WING COMMANDER, you can fire on anyone or anything, even your compadres, provided you're willing to live with the consequences. Just for fun, I ran through my side's command center, blasting all of my buddies to that Big Animation Cel beyond. I was overjoyed to find that: a) the game had no problem with me trashing people, furniture, and even the occasional wall; and b) that my rampage didn't last very long, due to the swift and deadly response of the "shoot them, then interrogate them" security squad. Now, who ever heard of that in a recent action game?

I could clue you in on the plot twists, spoil the surprise that the Big Bad Guy has waiting for you, or reveal all the subtleties of the later levels. But I won't, because I hate it when critics do that, and because you owe it to yourself to experience the joys of this game firsthand. Suffice it to say that the LithTech engine is the Next Big Thing, and it just happens to be wrapped around a terrific-looking game. SHOGO should support up to 32 gamers for multiplay, and even if you plan on playing it mostly solo, you need a hot machine: Anyone with less than a Pentium 200 and a Voodoo (or Voodoo2) card need not apply. As for me, I've already upgraded in anticipation of what might just be the most innovative 3D shooter since DOOM. Now, where did I put the keys for that new Mecha? दिना



diers—lots of fun, but the alert security forces will take me out soon enough.

Anime in a Ghostshell

trictly speaking, anime is simply Japanese for animation, but the word more commonly refers to a branch of highly stylized art, Japanese in origin. Examples of anime can be found in a number of U.S. comics, in particular Spider-Man, but Japanese artists from all media, including film and TV, still account for most of anime's cutting-edge work.

If you want a quick immersion into anime, pick up a copy of Hayao Miyazaki's masterwork, Nausicaa of the Valley of Wind: Perfect Collection (translated by Toren



Smith). It's a lot like J.R.R. Tolkien's Lord of the Rings—if the good professor had grown up in Kyoto instead of England except that Miyazaki ranks as a more natural storyteller.

The most innovative work done in

anime recently is

Ghost in the Shell, a
science-fiction film by
Mamoru Oshii that
blends traditional
anime cel animation
with the latest in computer-generated art
techniques. This is no

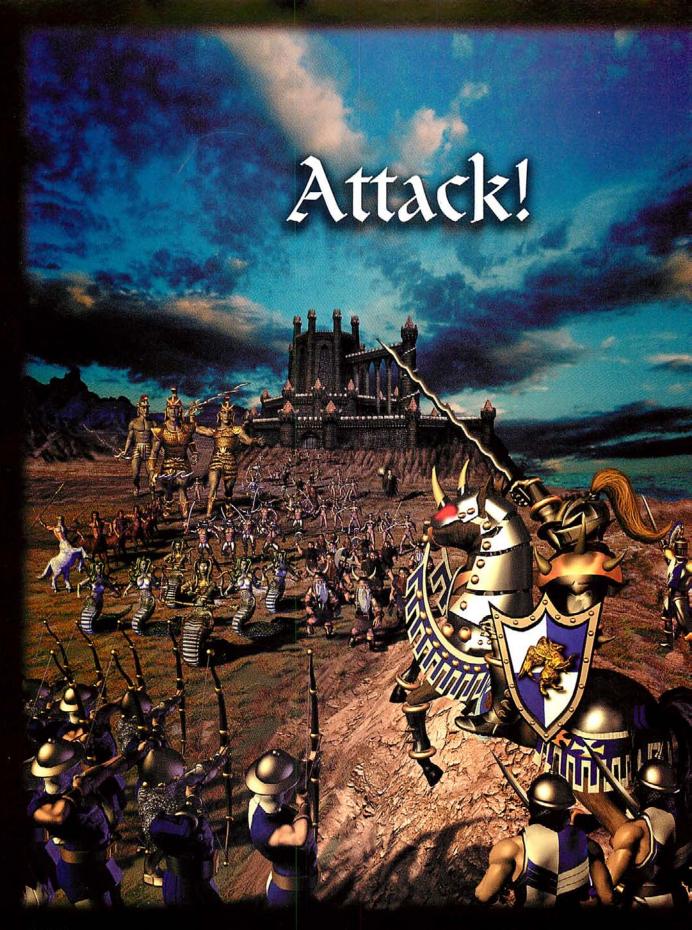


Disney cartoon; it's definitely adult fare, as surreal and compelling as any movie you'd pay \$7.50 to see at the local art cinema.

For anime pleasures more closely related to gaming, check out FINAL FANTASY VII, an action-oriented RPG that, in some respects, outshines DIABLO (you'll find our review in this issue).

My only question isn't why it took so long to get this to PC, but rather, when they're porting over the other games in the series?







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by Tasos Kaiafas

f you don't play sports
games, consider yourself
lucky. You don't have to buy
a new version of your
favorite game every year. If,
on the other hand, you're
heavy into all the major
North American sports—
football, basketball, baseball, and
hockey—then you probably spend
\$200 a year just to keep your
teams, rosters, and stats current.

What's the alternative—being left behind while every other sports gamer out there plays with cutting-edge technology and with the current teams and player rosters? Not much of an alternative—in fact, you could say it's not really a choice at all. Even big, bad Microsoft doesn't make us buy the whole new \$200 version of Windows, just the \$100 upgrade. Wouldn't it be great if we could just buy a \$25 upgrade of NHL 99 instead

NHL 99

GENRE: Sports RELEASE DATE: Q4 '98 DEVELOPER: EA Sports PUBLISHER: EA Sports of the \$50 full version?

OK, so that's wishful thinking. Although EA Sports makes you buy an entire new version every year (I think I still have NHL 95, 96, 97, and 98 crammed somewhere in the apartment—don't tell my wife), at least we get one heck of a new hockey game on time every fall—and this year is no different.

Not Good Enough

Last year, the graphics in NHL 98 amazed us. The 3D polygonal players when viewed on a 3Dfx-juiced system made many a jaw drop to the keyboard. Real texture-mapped faces, lifelike player reactions during play stoppages, and fluid motion-captured animations brought the game to life. (Just think how far we've come since the days when developers would boast about the legibility of names on the players' jerseys.)

The technology isn't perfect, but until the day when characters on a monitor look like real-life players on a TV screen, it's pretty good. In NHL 99, the graphical improvements are subtle but very noticeable. The EA Sports team redid all the player animations and models by motion-capturing the moves of Markus Naslund, Donald Brashear, and Mattias Ohlund of the Vancouver Canucks; Mike Sillinger of the Philadelphia Flyers; and John Vanbiesbrouck of the Florida Panthers over the course of a week at a rented ice hockey rink. Players now reach out with their sticks to pull in loose pucks, and even the goalies display a few more moves in their repertoires. Other neat visuals include ice sprays from hard stops, more arena detail, and TVlike screen transitions.

The commentary, supplied by the NHL's own Jim Hughson and Daryl Reaugh, is pretty much the same as it was in NHL 98— which was very good. You don't get those annoying disjointed inflection changes that so often plague the commentary in other sports games. The crowd noises are likewise as good, and some arena-specific chants have been added to this year's edition.

They Hear You, Man

As nice as these improvements are, they weren't developed as a response to complaints from longtime NHL fans, STICK ON THE ICE, DON'T GET BEAT The action in NHL 99, especially at the All-Star level, is more intense than in past editions.

since the graphics and sounds in EA's NHL franchise have always been as good as those of any sports game on the market. Instead, veteran hockey gamers have complained about AI and realism inconsistencies, and newbies have griped that the game has always been too difficult. The NHL 99 development team says it has addressed many of these problems and thinks it has fixed them this year.

Computer-controlled teammates were one of the biggest problems in NHL 98: They didn't always react properly and were sometimes out of position. In NHL 99, some important AI enhancements make players react properly to situations like shot deflections, breaking out of your own end, neutral-zone play, odd-man rushes, and play behind the nets. There are even times when your computer teammates will block an opponent who might be pursuing you as you move up the ice with the puck. The action and pace of

the game has been turned up a notch, too, with more contact and hitting all around.

For newcomers to the game, there's now a Beginner difficulty level (in addition to the old Rookie, Pro, and All-Star levels), which makes it easier to score and steal the puck, with most of the rules like offside, two-line passing, and icing turned off (though all the rules can be tog-gled back on).

One of the most welcome new additions for beginners and vet-

erans alike is coach Marc
Crawford's Coaching Drills. Here,
you can take to the ice alone to
get the feel of the controls, or
you can compete with a number of different combinations of players (one-onone, two-on-one, one-on-two, and so
on). You can even practice certain game
situations, such as breakaways, onetimers, power plays, behind the net, and
more. Choose a situation, and the computer automatically sets up the players
to practice it. When the drill is over, you
can simply reset and do it again.

For advanced players, the All-Star level is where it's at. The action at this level is much quicker, and players (including your own) react a lot more intelligently. The more realistic physics mean you won't pick up a loose puck just because you skate over it—you also have to be in the right position and get your stick on it, too. And you can't just skate through defenders to the net as easily as you could before. Try it, and a good defender will just poke his stick in and steal the puck away. During face-offs,

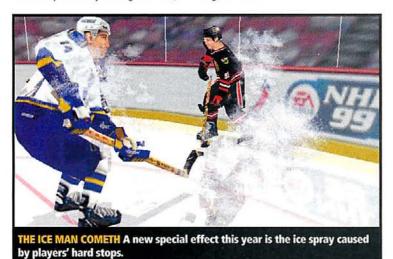


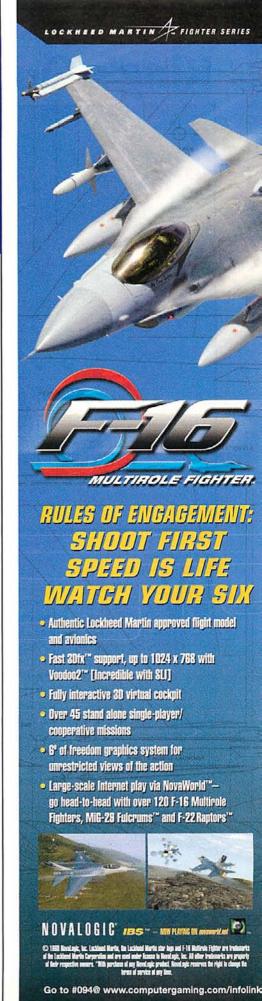
AFTER FURTHER REVIEW This goal was good after the video goal judge's review of it. Was he right? No point in arguing.

refs will make players change if you're too active before the puck drop. And if that's not enough realism, EA has even added a video goal judge this year, so you'd better stay out of the crease.

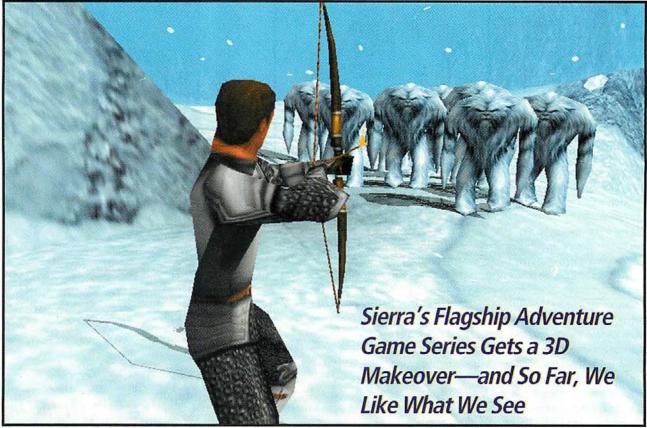
End Game

No doubt about it, NHL 99 has some terrific improvements and features, and the list goes on: player hot-and-cold streaks throughout the season, international teams and ice surfaces, a oneposition lock-on mode that lets you assign yourself one position throughout the game, more coaching strategies, and more. The best way to sum up the improvements made to the franchise this year is its focus on two goals: realism and playability. So while you have to shell out another \$50 to play computer hockey this year-again-with NHL 99, it should be well worth it. Again. GTT





King's Quest: Mask of Eternity



by Jeff Green

hen we first took a look at KING'S QUEST: MASK OF ETERNITY, it was over two years ago at Sierra's office in Seattle, and frankly, we didn't know what to think, Sierra On-Line had long been one of the main purveyors of the traditional adventure game, and the KING'S QUEST series, begun in 1984, was one of the longest-running, bestselling series of them all. Now, however, the series' legendary designer, Roberta Williams, was starting to talk like a crazy person. The eighth game in the series, she said, was going to be a major step

King's Quest: Mask of Eternity

GENRE: Adventure RELEASE DATE: Q4 '98 DEVELOPER: Sierra On-Line PUBLISHER: Sierra On-Line forward, with a 3D engine and action-style combat sequences.

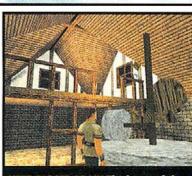
Remember—this was early 1996. QUAKE had yet to rear its monstrous head, Lara Croft had not yet donned her short shortsand adventure games were still dabbling with "Hollywood-style" FMV presentations, as in Sierra's own GABRIEL KNIGHT II and PHANTASMAGORIA. So, while Williams talked passionately about the game's new direction, we dutifully took our notes but kept thinking: Has she gone mad? If you're going to make a 3D action game, why attach the KING'S QUEST name to it? Why alienate the old fans?

Now, however, it looks as though Williams' instincts were dead on. Like LucasArts' upcoming GRIM FANDANGO, KING'S QUEST: MASK OF ETERNITY is indeed going to be a huge leap, and should be a major shot in the arm for a genre that has been on its last legs creatively for over a year now. Over

the last week we've been playing a beta containing the game's entire first three levels (there are seven total), and we've been able to log in enough time to tell—based on firsthand play rather than marketing hype—that, barring any 13th hour catastrophes or bad decisions on Sierra's part—this game is going to rock.

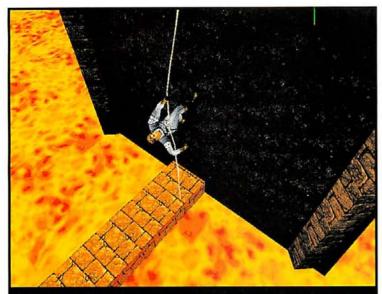
Return to Daventry

Old-school fans need to know right away that MASK OF ETERNITY is not a complete departure. It is once again set in the mythical kingdom of Daventry, and will still take you on a heroic quest. Characters still talk Ye Olde Waye. Most importantly, it is still an adventure game, with a developing storyline and puzzle-based gameplay. As



NEED BIGGER BRAIN The heart of the game will still involve puzzle-solving. There's a grappling hook on that second level, but how do you get up there with this water wheel spinning around?

the game opens, a horrifying magical storm has bombarded the kingdom, turning everyone in the land to stone—everyone except the character you play, Connor Mac Lyrr. As Connor, you meet up with a wizard, frozen in stone except for his head, who informs you that you must seek out the five scattered pieces of



DON'T CALL ME BATMAN Once you get the grappling hook, you'll be able to use it at key points in the game to scale walls.

the Mask of Eternity to restore Daventry and its people to normal.

Even for those who have now experienced MYTH, BATTLEZONE, and other 3D games, MASK OF ETERNITY's 3D engine can hold its own. In fact, as I maneuvered Connor through the world-crossing streams, climbing walls, exploring hillsides-it crossed my mind that this is what MYTH would look like at ground level, rather than from a "god view." Played on a P233 MMX with a 3Dfx board, the game runs smooth and looks great-instantly rendering a game like RIVEN laughably out of date. (How well the game ramps down to lower-end systems remains to be seen, however.) You'll play most of the game in a TOMB RAIDER-style third-person point of view, but you can switch to a first-person perspective at any time. By holding down the right-mouse button, you can completely swivel the camera around in all directions, creating a wonderful sense of immersion-more than has ever been seen in an adventure game.

The first level, set in the Daventry countryside, introduces the game's interface and gameplay, gently ramping you up with skills such as basic movement; camera manipulation; jumping; objects manipulation; and, yes, fighting. Combat is definitely a part of the game, but traditional adventure gamers can rest easy—it is not that tough, and anyone who's ever played DIABLO (which is just about everyone) should be right at

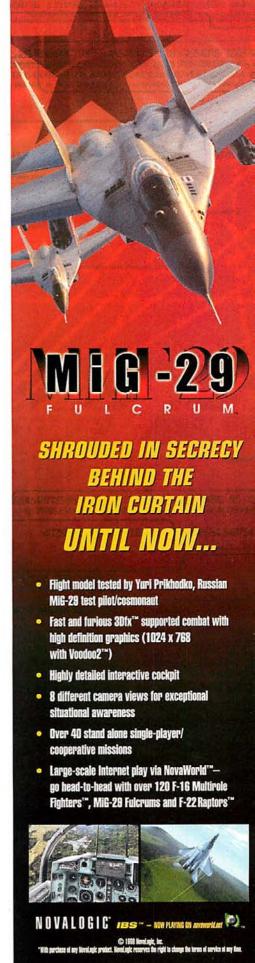
home. It's your basic click-on-the-enemyuntil-he's-dead stuff. Fighting can be set on one of three levels, and on the medium-level setting I felt suitably challenged—dying a couple of times—but not frustrated.

The designers have also added a rudimentary "role-playing" aspect to the game in the form of an experience bar that fills up as you defeat enemies. When the bar maxes out, you rise a level and your weapon skill grows stronger. It's a surprisingly nice touch—giving you another goal to focus on, another way to progress your advancement through the game.

Overall, despite the huge changes in gameplay expectations that MASK OF ETERNITY is asking of adventure gamers, the balance and design is such that by the time you move on to the game's second major area, the City of the Dead, you should be completely at home with all the necessary skills. You'll probably be having a lot of fun, too.

Still the Same

The greatest thing about the gameplay, though, is that it really still is an adventure game. You won't—you can't—make it out of the first level just by bashing on things. Perception, observation, and wit are still key to navigating through the world and solving the puzzles. Yes, you'll need to kill zombies, demons, and more to keep playing, but the overall game requires much more



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Windows®'95 CD-ROM





GET STONED Everyone in Daventry has turned to stone except you and part of this wizard, who kept one arm and his head intact in order to tell you what the heck is going on.

logical thinking than it does mouseclicking. The only real difference between the puzzle-solving here and in previous games is that now you are a more active participant in the world.

For example, if you realize that you need to push a crate out of the way to locate a hidden item, you will physically push the crate and watch it move (in the old days you would have just hit a "Use" button, or—in the really old days—typed "Move crate").

This kind of immersion really keeps you in the game world—something that, until now, the QUAKEs and TOMB RAIDERs have always done better than adventure games. This immersion is further enhanced by the game's cut-scenes, which also take place right in the game-

world, with the same look and feel as the game itself (as in INTERSTATE '76). You are never taken out of the environment, and never made to focus on the game mechanics more than the game itself. And, since the heart of adventure gaming has always been the storytelling—this is the best possible news.

Quest for Glory

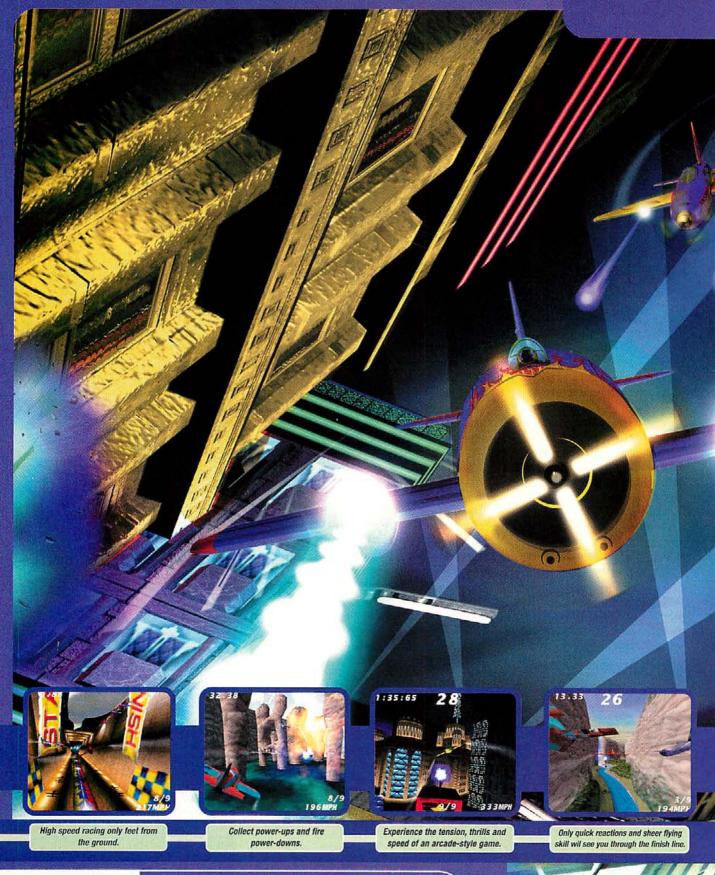
As of this writing, the game is still not finished. The alpha I played was not without its problems, but the designers have promised to fix them all (including long load times between levels and some collision detection weirdness) by the ship date. There is still plenty of time for something to go wrong, like Sierra deciding to release it before it's finished

(and we urge them to please not do that). But KING'S QUEST: MASK OF ETERNITY, after a long time in development, looks like it's shaping up to be one of the year's biggest and most exciting new adventure games. I've played through the whole first three levels now-and I can't wait to play the rest. GTI



ZOMBIE TIME Don't venture into the churchyard without a weapon. There are some hungry zombies there, waiting for a lunchtime snack.





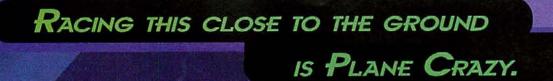






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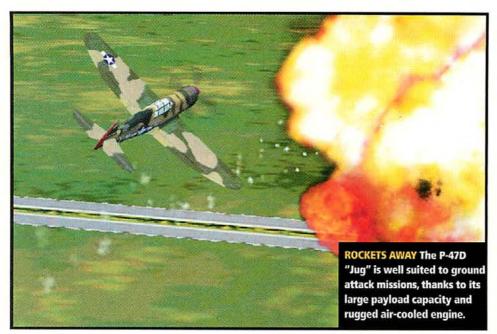
i UNUTUCI

SURRENDER TO THE HERESY

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Combat Flight Simulator

Microsoft's FLIGHT SIMULATOR Goes to War

by Robin G. Kim

rom its title, a cynic might suspect that Microsoft's upcoming COMBAT FLIGHT SIMULATOR (CFS) is just FLIGHT SIMULATOR 98 (FS98) with guns. After putting in some stick time with a mature beta version of CFS, I found that characterization to be not completely off the mark. Current FS98 fans should feel right at home in CFS-until the shooting starts, that is. Then it becomes clear that despite the strong family resemblance, more went into developing this WWII air combat sim than simply strapping .50 calibers onto the planes' wings.

Combat missions in CFS occur in two separate periods: the pivotal Battle of Britain in 1940 and the Allies' strategic bombing cam-

Combat Flight Simulator

GENRE: Simulation RELEASE DATE: Q4 '98 DEVELOPER: Microsoft PUBLISHER: Microsoft paign in Europe starting around 1943. Flyable aircraft during the Battle of Britain include the Messerschmitt Bf-109E, Spitfire Mk I, and Hurricane. Late war scenarios put you in the cockpit of a Spitfire Mk IX, P-51D Mustang, P-47D Thunderbolt, Bf-109G, or Focke-Wulf FW190A8—all hot rods compared to the older fighters. There will also be at least 14 other plane types present, from bombers to buzz bombs, which operate only under computer control.

Mission objectives vary depending on the phase of the war and whether you fly for the Axis or Allies. Overall, a good mix of airto-air and air-to-ground action is provided against a variety of targets. Although the missions are

Are about dong to 175.

HORRIDO! Gun damage effects are well done, from smoke and scattering debris to sawed-off wings and tail sections.

still being play-balanced as this is written, it is worth noting that some in the beta require the destruction of unrealistically large numbers of bandits to win.

There Is No "Try"

Each time period has its own campaign, which consists merely of a linear sequence of canned missions. Unfortunately, you must win every mission to progresssurvival alone is not enough. The designers feel this approach strikes a good balance between ease of advancement and the ability to resurrect your pilot after dying, but in practice it is downright annoying. In addition to the campaigns, the game features 16 interactive training flights, 25 single missions, instant action dogfights, multiplayer team deathmatches (with no AI planes), and a peaceful free-flight mode straight out of FS98.

The focus of the game is on what happens in the air, so preflight activities are kept to a minimum. After reading a short briefing, checking your route (which cannot be edited) on a large-scale map, and optionally changing your aircraft type, weapons load, and fuel percentage, you are transported into the pilot's seat.

Cockpit instrumentation is realistic in both form and function, with each type of plane having its own appearance and layout, right down to the units displayed (meters and km/h for German planes, feet and mph for the rest). Covering all bases, the sim supports three different cockpit view systems: AIR WARRIOR-style overlapping fixed views, a freepanning virtual cockpit mode, and an auto-tracking padlock view. The first two work well, but the padlock view's ability to lock onto targets through the floor of your plane makes it disorienting to use. For those having trouble maintaining situational awareness in dogfights, up to three artificial aids can be toggled on, including an overhead "radar" display showing the locations of nearby aircraft, an onscreen pointer toward the nearest threat, and textual plane type



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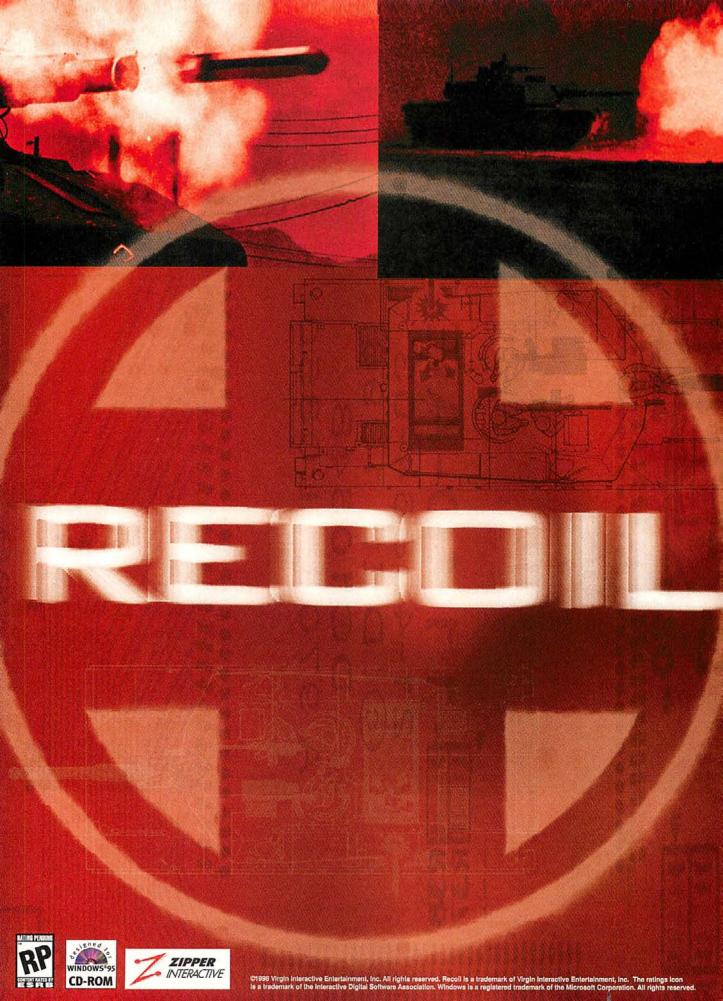
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EYEFUL Although the sim lets you fly anywhere in the world, non-generic scenery is only available for the areas covered by the campaigns.



VIRTUAL COCKPIT The smooth-scrolling virtual cockpit and padlock views may not look as pretty as the fixed views (note the terribly low-res canopy frames), but all the instruments remain functional and legible.

and distance labels hovering above each aircraft in view icons (similar to the system used in WARBIRDS).

Painted Land

The view of the terrain below from the cockpit is nearly photorealistic at altitude, with impressive visibility ranges at the higher detail settings. However, like any other sim that plasters real-world images onto polygonal terrain, the effect is lost at lower heights. This one manages to look great down to around 1,000 feet, getting progressively more blurry (or pixelated, on PCs without 3D accelerators) below that. The landscape is made up of relatively few polygons in favor of framerate, giving the rare mountainous

areas in the sim a distinctly blocky look. Based on the performance of the beta version, a good 3D card will be necessary to access higher resolutions even with a PII/400, but it should provide acceptable 640x480 framerates on mid-range PCs. Without a 3D card, you may need a very fast CPU just to run well with the minimum graphical detail.

CFS features a complex flight model with excellent feel. It effectively simulates a variety of aerodynamic effects, such as accelerated (high-speed) stalls, spins, pitch trim variations, and the torque effects characteristic of these high-powered warbirds. Performance and landing characteristics of different aircraft types also vary in a convincing manner.

Planes do not currently bleed as much airspeed as they should in hard turns, though that may change as the flight model continues to be tweaked.

Weapons and damage modeling—the biggest departure from the sim's FS98 roots—are excellent, accurately simulating ballistic drop from gravity, rates of fire, and hit location. Aim carefully enough, and you can literally saw a target's wing clean off with your shots.

Don't Call Us, We'll Call You

The sim's AI is still under development, but already seems fairly competent in dogfights. Unfortunately, there are no plans to support issuing commands to your wingmen. They will talk to you and tell you how they are doing, but your inability to respond gives the sim a somewhat sterile feel. You never really communicate with your wingmen, making it difficult to form any kind of attachment to them.

The simulation's linear campaigns and lack of wingman commands could disqualify it from the running to be the definitive European Theater WWII flight sim. Nevertheless, its sightseeing aspects, graphical splendor, potential expandability (as in FS98, you'll be able to add new planes to the sim), and quick-to-fly missions may constitute an appealing combination for many gamers. This sim could be just the ticket for all the FLIGHT SIMULATOR fans out there who have been searching for years for a new-yet-familiar outlet for their aggressions. GGTT



SWEET HOME CHICAGO FLIGHT SIM 98 scenery files can be imported for expanded sightseeing opportunities.

FLIGHT SIMULATOR Legacy

espite its martial bent, CFS retains much of the functionality of its general-aviation-oriented predecessor, FS98. This is a nice bonus. After all, how many other air combat sims let you set up sightseeing flights anywhere on the planet? A "slew mode" lets you cross long distances quickly, or you can jump to a location directly by entering its location in latitude and longitude. Though most regions use simple tiled terrain textures, they can be fleshed out with any FS98-compatible scenery files you have available. Aircraft and adventure files can also be imported. Unfortunately, dynamic scenery is not supported. Unless you hook up for some multiplayer, when you fly for fun, you fly alone.

Sim fans who enjoy delving into the nitty-gritty details of flying will appreciate CFS' handy pop-up checklists covering every phase of routine flight from manual engine starts to landings. Clickable cockpit controls let you operate most systems using the mouse if you forget the corresponding key commands. In addition to the typical throttle, flap, and landing gear settings, the sim also lets you twiddle magneto switches, fuel/air mixture settings, and prop pitch adjustments if you prefer not to relegate these to automatic control.

One thing the sim thankfully won't inherit from FS98 is an anorexic game manual. CFS will ship with a 200+ page paper manual in addition to a

large online help file.
Particularly impressive
in the beta's documentation are the profiles
of the flyable aircraft.
Each includes background information,
strengths, weaknesses,
and even technical tidbits like stall speeds
(clean or dirty) and flap
configurations for takeoffs and landings.





THERE IS NO SUCH THING AS FRIENDLY FIRE.

Myth II: Soulblighter is awash in fire: fire arrows and lightning bolts set terrain ablaze; explosions trigger white hot flames; sorcerers hurl fireballs. Fire plays no favorites and can wreak havoc on even the most sound battle strategies. Learn to use it or fear it. But learn to respect it.



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And he brings with him a wicked cast of characters not found in Myth: The Fallen Lords. To counter him, your forces have been bolstered with new characters and weapons in this mythical arms race.



IS YOUR ENEMY SMARTER THAN YOU?

Myth II: Soulblighter's AI puts the emphasis on intelligence. Levels of difficulty are not measured by number of troops but in how battle savvy those troops are. The higher you set the level of difficulty, the smarter the opponent. Wars may be fought on the battlefield. But they are won in the mind.



WINDOWS 50/38 & MacOS CO ADM SEQUEL T OF THE







SURVEY THE DAMAGE FROM EVERY ANGLE.

Myth II: Soulblighter's battlefield camera rotates 360 degrees and can zoom into extreme close-up and out to view the bloody carnag battle. Track your scouts behind hills and guard against sneak attacks on your flanks.



Find a way to take out the llagers to safety across a bridge.

BUNGIE

O GAME

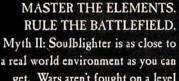
YEAR!



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The enemy is everywhere. It's as if the whole world has turned against you.

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get. Wars aren't fought on a level playing field, they're fought on unforgiving terrain. Use it to your advantage or suffer the consequences.

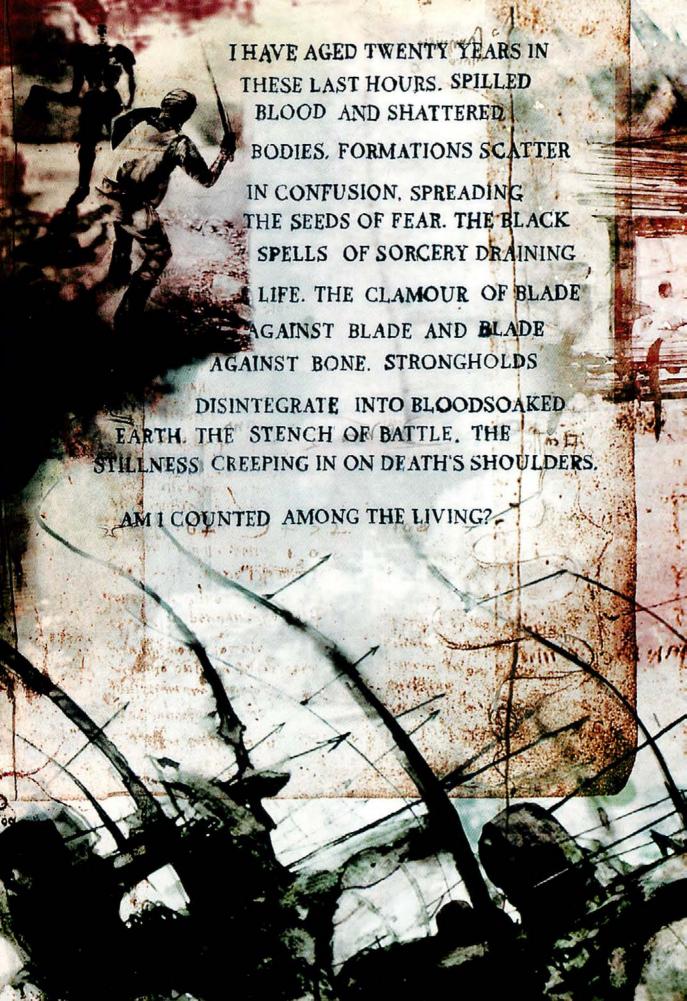


Never before has a 3D environment been so well integrated with game play. Archers shoot farther from hills and bluffs. Dwarven grenades can be rolled down hills. Rain douses fires. Trees block arrows. There's more to battle then the enemy.











Every time someone dies in Quake'II,



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things are gonna

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Parallax Software





STICKY WICKET, WOT? (Top) As Heinkel He-111 twin-engine bombers cross the English Channel, Hawker Hurricanes, based out of Tangmere, rise up to meet them.

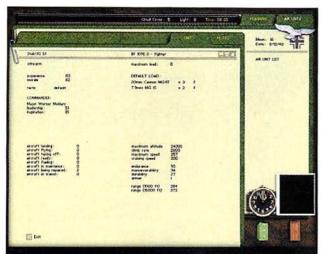
TAB FOR TEA (Below) BATTLE OF BRITAIN's strategic overview map employs a tab-based interface to give you access to all of the various game menus.

by Marc Dultz

y the summer of 1940, with the subjugation of France and the Lowland countries no longer in doubt, Adolf Hitler turned his attention further west, to the island-nation of Great Britain. At first, Germany attempted to negotiate a settlement with the British Empire in an effort to avert further armed confrontation. When he realized that a diplomatic solution to the crisis was out of the question, Hitler decided that the Wehrmacht would set about planning the invasion of Great Britain. As Hitler reasoned, once the British were defeated, he

could turn his invincible war machine to the east, where it could be unleashed against what he believed to be a far greater threat: the Soviet Union.

As German strategists pointed out, an amphibious invasion could be attempted only if the Luftwaffe could first sweep the skies clear of the Royal Air Force (RAF) and lay waste to much of the Royal Navy, thereby achieving air superiority over the English Channel and the proposed landing sites. On July 16, after dallying for several weeks to consider the situation, Hitler signed Directive No. 16: Seelöwe (Operation Sea Lion), the intended invasion of England. Over the course of the next few months, a pitifully small yet defiant band of



SAY, OLD CHAP, HAVE YOU A PEN? Players can call up information on every squadron under their command, mulling over their leadership ratings, aircraft performance data, and overall squadron readiness.

Royal Air Force pilots would be called upon to meet the Luftwaffe's challenge, setting the stage for one of the most monumental battles the world has ever seen-the Battle of Britain.

Air War Europa

In their upcoming real-time WWII wargame entitled BATTLE OF BRITAIN (BOB), renowned game designers Gary Grigsby and Keith Brors set about to recapture the sheer bravado and utter ferocity of this epic aerial campaign. BOB comes as a departure of sorts for Grigsby and Brors, who have, over the course of their careers, designed a multitude of games for SSI, more specifically devoting much of their attention of late to the STEEL PANTHERS armored warfare series. Not only is BOB their first endeavor with TalonSoft, but the game also represents an entirely new venue for the two, who have contented themselves over the past few years developing various ground- and naval-combat simulations.

Battle of Britain

GENRE: Wargame **RELEASE DATE: Q4'98 DEVELOPER:** Gary Grigsby

and Keith Brors **PUBLISHER:** TalonSoft

While BOB is being designed first and foremost as a real-time wargame, the game system is also broken down into phases aimed at segmenting each facet of day-today operations. Each game-day typically consists of six phases: a British movement phase, a British reaction phase, a second British movement phase, a German planning phase, a German reaction phase, and finally a German intelligence phase.

In the movement phase, the British player reviews the extent of the damage caused by the preceding German bombing missions. Moreover, the player can take this opportunity to review both sides' combat losses; examine the quality and condition of his pilots; redeploy antiaircraft guns, barrage balloons, and fighter squadrons; and generally realign his defenses to meet the enemy's next onslaught. Players get a fixed number of operation points, some of which are expended each time a battery or squadron is transferred or relocated. Bear in mind that AA guns are moved first to a transit pool, then a holding pool, and finally, depending upon the time it takes to move the batteries, to their new location.

In the reaction phase, German bombing raids are launched at military, industrial, and civilian targets located anywhere in England,

Wales, and Scotland. During this phase, the British player "reacts" to the incoming raids, setting the doctrine for each fighter squadron, creating patrol boxes, dispatching fighter aircraft, and, hopefully, attempting to intercept the bombers during the inbound leg of their mission before they can drop their payloads.

The British player must be sure to check the meteorological conditions, determining when sunrise and sunset occurs, and, if he's truly careful, watch for signs of enemy radio activity. Meteorological conditions fall into two categories: lighting conditions and cloud cover-although the game makes no apparent distinction between the altitude of different cloud layers. Generally, the Luftwaffe is much more likely to initiate an aerial attack if the lighting conditions are good and the skies aren't overcast. As the "day" wears on, these forecasts shift to reflect changes in the weather and available sunlight. In fact, the system even accounts for night actions, adjusting for the moonlight of each lunar phase.

Lighting conditions play a critical role in the game because the lower the available light, the harder it is for players to detect and locate enemy aircraft. Lower light levels may also affect navigators' performance, making them far less likely to find their targets.

In a similar vein, players must continually assess the enemy's radio activity, especially in the morning and early afternoon, noting any increase or decrease in radio communications. Generally, enemy radio traffic will increase as an enemy-formation begins to form up over their bases. Typically, this "chatterbox" phase is soon followed by a rapid drop in radio traffic, in an apparent attempt to maintain radio silence during the inbound portion of the flight.

I Flew for the Luftwaffe

During the German planning phase, the German player is responsible for determining the targets for each bomber squadron,

Bombing by the Numbers

he German mission planner is the heart of **BATTLE OF BRITAIN for** both players, because the direction and frequency of German raids will determine, to a large degree, the number and ferocity of British responses. The mission planner lets the player determine the objectives for each mission as well as squadron altitude, ingress and egress routes, shuttle flights, and proposed exit point.



Here, the German player begins selecting targets on the British southeast coast, because he expects clear weather there.



When we view in close-up, we can see that the German player is aiming at British industry in the city of Marck. He could choose either the airfield or the city itself as a secondary target.

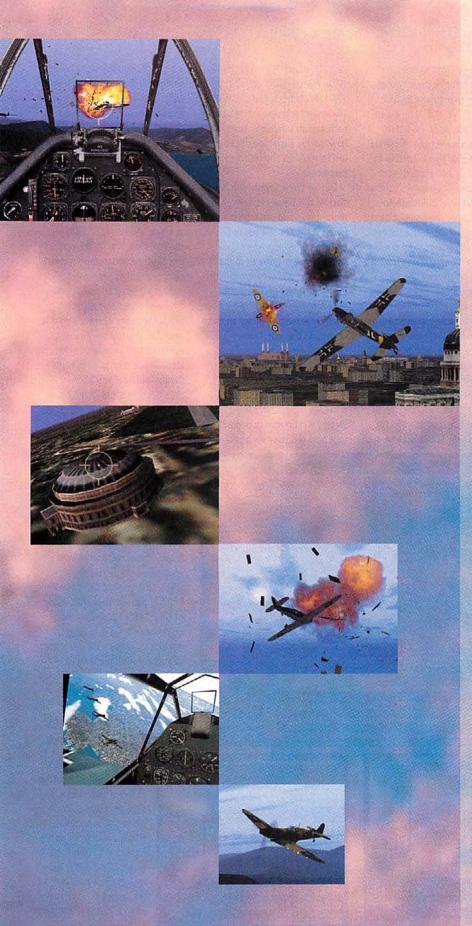


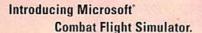
The German player finishes his planning for the turn. Though we see the pattern of his raids throughout southern Britain, the British player will become aware of these raids only as they occur in realtime, through his patrolling planes, observer corps, and radar installations.

Rediscover the romance and nostalgia of flying perfectly recreated WWII planes.



THEN BLOW THEM OUT OF THE SKY.





With the same stunningly realistic flying experience Flight Simulator is known for, only this time it's the 1940's and there's a war on. Join the Allied or Axis forces, choose your fighter, and fly missions in the Battle of Britain and the Battle over Europe.

But don't expect a sight-seeing trip.

Sure, the Eiffel Tower, Royal Albert Hall
and other historically accurate landmarks
are there in heart-stopping 3-D graphics.

Unfortunately, with black smoke pouring
through the shattered cockpit of your
P-47D you won't see much.

And if that isn't thrilling enough, bring in thousands of planes from the Internet and engage in deadly dogfights over scenery imported from Microsoft Flight Simulator.

That's not all. Combat Flight Simulator also supports multiplayer and force feedback technology. So when you pull 6's attacking the enemy, and the engine of your Spitfire cuts out, you'll know just how it feels.

After all, nothing beats the feeling of flying a historic WWII fighter. Except, of course, filling it full of lead and watching it plummet pitifully to the ground. Collect your orders and find out how Microsoft Flight Simulator owners can get a \$10 rebate at www.microsoft.com/games/combatfs







making sure to assign them fighter escorts to protect them against roving enemy fighters. During this phase, each bomber squadron is assigned a primary and a secondary target in case the weather may have changed for the worse. Furthermore, players must trace the ingress and egress routes for each flight, determining the optimum entry and exit points to and from a target in order to confuse the enemy and take advantage of any gaping holes in the British Air Defense System.

Players must also determine the altitude for each portion of the mission, select which group will serve as the lead bomb group, and, if they so choose, conduct night intruder missions in an effort to confound Britain's air defenses and further terrorize the populace. Lastly, the player must assign each flight an airfield in an effort to recover as many aircraft as possible. Like the British, the Luftwaffe may redeploy its air groups to different fields, but players are restricted by the group capacity for each air base.

During the German reaction phase, the German player is free to watch but cannot actually affect the progress of the mission. Ultimately, success or failure for each flight is determined by the computer, based upon the British response and the number of aircraft that actually make it to their destination. Finally, in the German intelligence briefing phase, the German player views various damage assessments for each target bombed, examines his fleet's overall readiness, and embarks upon the next day's missions, if

the next day's missions, if need be, ordering up reconnaissance overflights to better gauge the enemy's capabilities and level of damage.

Intelligence to the Max

Grigsby has long been known as someone who will spend an incredible amount of time researching and—wherever it's possible-replicating every conceivable facet of a military operation down to the most minute detail. BOB is certainly no exception. The records of more than 5,000 pilots have been examined and painstakingly modeled in the game, taking into account each man's experience, morale, combat record, and level of fatigue. In similar fashion, the game depicts every squadron that took part in the Battle of Britain, right down to where they were stationed, what types of aircraft they flew, and their alert status.

The list of aircraft modeled in the game is no less impressive. The RAF's steeds include the venerable Hurricane I and II, Spitfire I and IB, Defiant I and IA, Beaufighter IF, Blenheim IF, and Gladiator. The Luftwaffe flies an even wider array of aircraft, including the Bf 109E-1B, -3, and -4, the Bf 110C, C-4B, and C-5, Ju 87B, Ju 88A-4,

He 111H-4 and -P, Do 172-2 and -10, Ju 86P, Ju 88D-1 and C-2, DO 17P-1, Fw 200C-1, and Do 215B-5. The system addresses the extent of each aircraft's damage, including how quickly each type of plane can be repaired and returned to its aerodrome.

During flight, lightly damaged aircraft will break off from their flight group and attempt to head home. If they're still being engaged, pursuing aircraft will similarly break away from the main battle and attempt to finish off the stricken aircraft before they can make it back. If craft are severely damaged, pilots and air crews will bail out, but will subsequently return to their base only if they parachute over friendly territory.

Even the British countermeasures are realistically simulated. Players will be able to deploy barrage balloons over various targets, adjusting their altitude to prevent strafing by low-flying enemy aircraft. Antiaircraft guns come in two varieties and can provide either high or low flak cover, an important consideration if the enemy attempts to bomb the target from multiple heights.

BOB will purportedly contain two campaign games: one based upon historical events of late summer and early fall 1940 and the other set later in the war, during 1941. Although the second campaign is hypothetical, BOB includes it in an effort to portray a renewed strategic bombing offensive by the Luftwaffe that is aimed at destroying Britain's infrastructure instead of achieving local air superiority. Both campaigns will take into account the effects of terror bombing, designed to depict the effects of air raids over heavily populated areas. The historical campaign commences on August 13, Adlertag, "the Day of the Eagle," just days after Hitler has signed Directive No. 17, and concludes on October 31, 1940, after the fifth and final phase of the intensive aerial blitz. Each campaign, however, can be shortened to span just a single day or week.

It's evident that the BATTLE OF BRITAIN game engine, like many of TalonSoft's game engines, is being developed as a long-term gaming system, easily retrofitted to support multiple installments. In fact, Grigsby's planned follow-up product, BOMBING THE REICH—which is based upon the Allies' strategic bombing offensive over Europe from 1943 to

1944—has already been extensively researched and will purportedly take to the virtual skies sometime next spring. While it's too soon to tell if Grigsby and Brors have managed to drop "the pickle in the pickle barrel" the first time out, it's a safe bet that they've already got their target audience well within their sights.



STIFF UPPER LIP REQUIRED Heavily populated urban areas can be superimposed over the strategic map to give the player a better sense of where terror bombing may be most effective.



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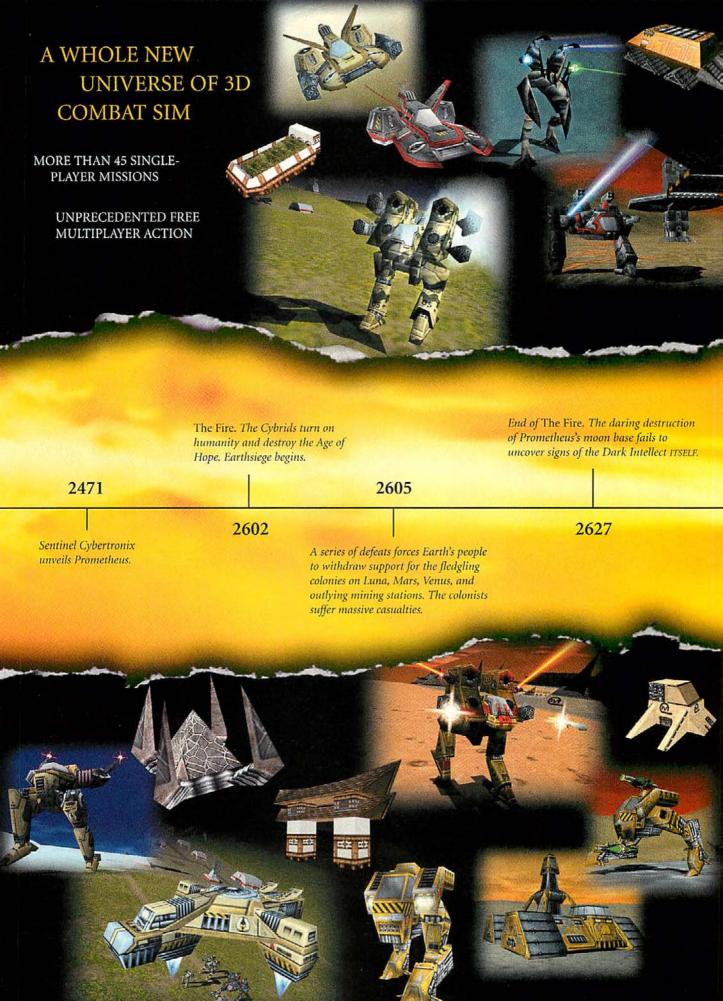


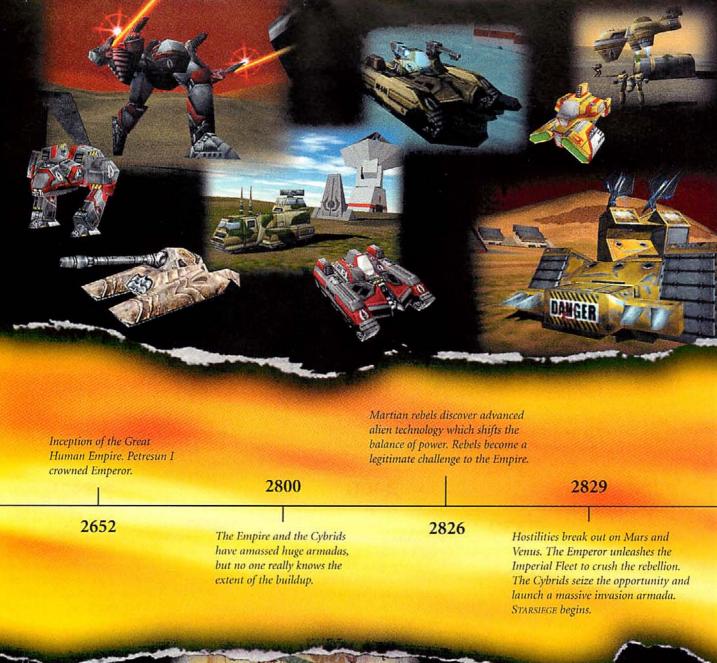
AFTER-ACTION REPORTS In typical Grigsby style, upon returning from a raid you'll get details and a status report on all of your planes and pilots.

ONE UNIVERSE

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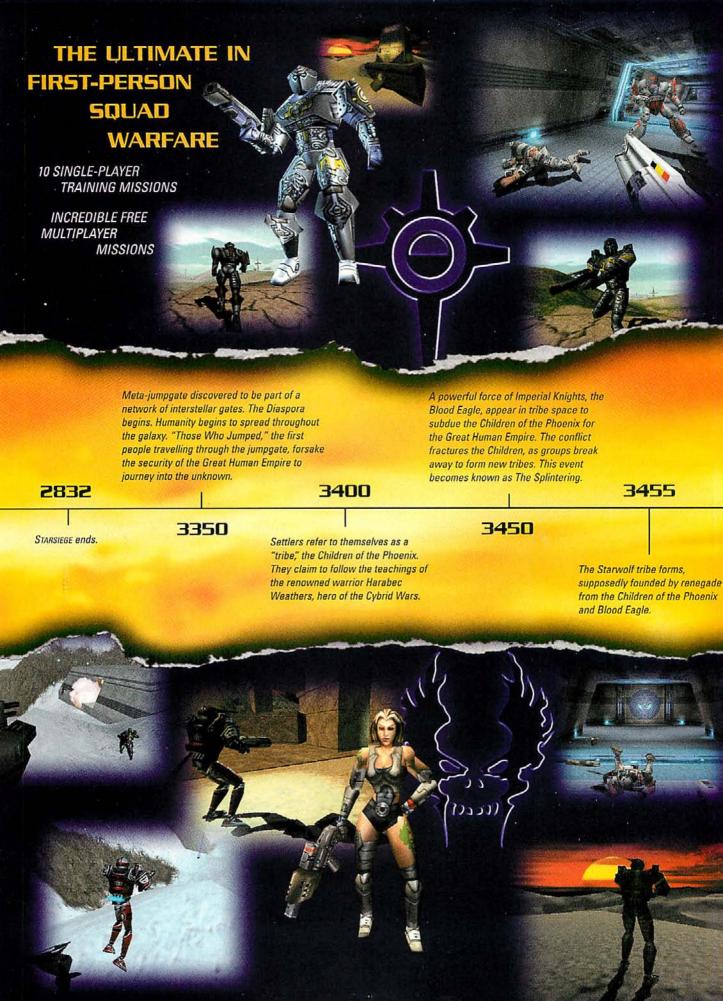


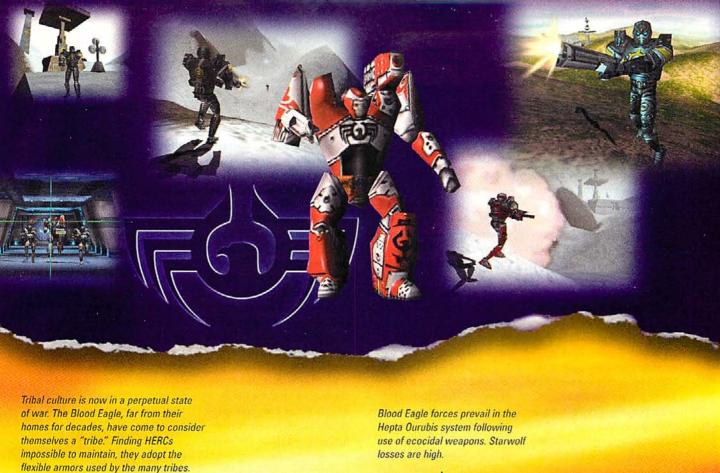
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3530

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3480

Formation of the Diamond Sword tribe under the tutelage of the Enlightened Master. Using innovative strategies and striking with precision and economy, the Diamond Sword rapidly carve out a large holding for themselves.

3932

Rough census by the Children of the Phoenix shows that of the hundreds of smaller, independent tribes, an "alarming number" have either allied with or agreed to nonaggression pacts with either the Starwolf or Blood Eagle. Already the skirmishes have increased, and bloodfeuds grow more common.



North vs. South

When I-Magic Comes Marching Home Again

by Marc Dultz

nquestionably, the darkest chapter in the annals of American history transpired more than 130 years ago, when the South sought its independence from the North in the fateful struggle known as the American Civil War. Initially arising over the issue of slavery, the brutal War Between the States would eventually pit brother against brother, American against fellow American in a ruinous conflict that would take five long years to resolve. When it was over, hundreds of thousands lay dead, over a million more were injured or permanently scarred, and a courageous president, Abraham Lincoln, had been assassinated.

In NORTH VS. SOUTH: THE EASTERN CAMPAIGNS OF THE CIVIL WAR, Interactive Magic revisits the topic of one of its earlier games. NORTH VS. SOUTH, however, has little in common with AMERICAN CIVIL WAR other than the epic subject matter.

More Great Battles—Sort of

With the release earlier this year of THE GREAT BATTLES OF JULIUS CAESAR, I-Magic had fulfilled its contractual obligations with Erudite Software to bring the critically acclaimed GMT-designed boardgame series to the PC. However, even as the game hit the retail channel, rumors began to give rise to increasing speculation that I-Magic wasn't ready to retire its eminently playable, if somewhat dated, game engine. As it turns out-and the company confirmed these reports only recently-I-Magic had indeed struck a new deal with Erudite to develop a new game that, this time around, doesn't trace its roots to a boardgame.

In NORTH VS. SOUTH, Erudite Software has crafted an all-new, turn-based operational-level wargame that steps out of the age of antiquity and onto the bloodied battlefields of American lore. Although the game stylistically portrays several of the most monumental battles waged in

the Eastern Theatre of Operations during the American Civil War, the system triumphantly captures the tempo and intensity of massed firefights and the incredibly chaotic nature of 19thcentury warfare.

All of the battles portrayed in the game follow a standard format. Each hex represents approximately 300 meters of terrain, while each game turn equals about one hour of realtime. Units are organized at the brigade level, with each brigade containing roughly 1,000 to 3,000 men.

In certain respects, NORTH VS.
SOUTH is similar to the GREAT
BATTLES trilogy: Every unit will be
rendered in 3D and will feature
fully animated effects that include
marching, charging, firing, and
routing actions. Cavalry will be
able to fight and move from
either a mounted or dismounted
position. Infantry and cavalry will
be able to deploy into various
close-order formations, such as
column and line configurations,
while artillery will transition from
a towed to an unlimbered state.

Shoulder Arms

Gone are the swords, shields, and spears that epitomized ancient combat and, by default, the GREAT BATTLES series. In NORTH VS. SOUTH, infantry units are armed with muskets, muzzleloading rifles, or breech-loading rifles, while cavalry units are armed with an assortment of repeating carbines and rifles. Several types of artillery are modeled, including short-barreled howitzers for close-range supporting fire, and smoothbores or rifled guns for long-range bombardment. In fact, rifled artillery can fire out to a distance of seven hexes, making them extremely potent weapons.

"The Civil War battle mechanics employ a totally new combat system to make firepower the major cause of hits," comments designer Craig Taylor as he explains the many refinements made to the original game engine. "A good bayonet or cavalry charge is just the thing to sweep a shot-up enemy from the field. However, charging prematurely can result in

Bloody Antietam

he Battle of Antietam—fought near Antietam Creek, at the town of Sharpsburg, Maryland—stands as the single bloodiest day in the annals of American history, costing some 20,000 men their lives and wounding tens of thousands more. The ensuing stalemate allowed General Robert E. Lee to extricate his imperiled forces from Maryland to Virginia, where they could be used to mount a second invasion of the North just one year later.



This zoomed-out view shows Lee's units with their backs to the river, defending the town of Sharpsburg.



A normal view shows Lee, mounted atop a white steed, west of Sharpsburg, making last-minute arrangements to repulse the Union onslaught.



Zooming in along the western edge of the Confederate position, we can see men from two North Carolina regiments making preparations to defend "Bloody Lane."



General A.P. Hill dispatches his forces to defend the lower bridge while keeping a close eye on Snavely's Ford. In the game, Burnside's troops can ford the creek at its shallowest point.



With more than 80,000 Federal troops at his command just west of Boonsboro Pike, Union General McClellan prepares to evict Lee from Maryland.



The Next Diffiension in 3D Realtiffie Tactical Combat.







CIRCLE THE WAGONS! The proximity of ammunition wagons plays an especially important role in determining the relative strength of each unit.

a painful clock-cleaning for the attacker." Since a unit's combat range and rate of fire is much greater, far more reactive and defensive fire will occur each turn in NORTH VS. SOUTH than in earlier games using this engine. In order to sustain fire, however, players must strive to position their allimportant supply wagons as close to the front lines as possible or risk running out of ammunition.

NORTH VS. SOUTH should have a randomized reinforcement schedule, which will vary the arrival times but not necessarily the locales of follow-on forces. In addition, the system will now permit you to redeploy your forces prior to battle within certain predefined zones. This should enhance not only playability, but multiplayer games as well.

A true line-of-sight/line-of-fire system has also been implemented that corrects for any obstructing terrain or other impediments during the sighting and combat phase. Because smoke would often obscure a battlefield, making command and control especially difficult for the typical commander, the developers were naturally compelled to somehow depict this situation in the game. Taylor discusses

North vs. South

GENRE: Wargame

RELEASE DATE: 04'98

DEVELOPER: Erudite Software

PUBLISHER: Interactive Magic

and Craig Taylor

how smoke has been handled: "Although smoke could pretty well obscure a battlefield, we won't put the player through this. We don't want all the artwork hidden. Effects of this close-range obscurity are built into the combat system. The game's fog-of-war rule restricts players from seeing any parts of the map or enemy units that the line-of-sight rules do not permit their units to see."

The command structure has been totally revised as well, and nicely reflects the sweeping organizational changes and general restructuring of armies into corps, first instituted during the French Revolution. Individual phases (impulses) occur on a random basis, largely determined by which leader is in overall command. Leaders such as Robert E. Lee, Ulysses "Unconditional Surrender" Grant, Stonewall Jackson, George Armstrong Custer, George Meade, James Longstreet, and so forth,

appear as separate figures all the way down to the divisional level.



Although the build I was previewing from contained only the Battle of Antietam scenario, I-Magic has indicated that the finished product will ship with 10 stand-alone scenarios, including Gaines' Mill, First and Second Bull Run, Cedar Mountain, Brandy Station, Five Forks, The Wilderness Campaign, and Gettysburg. Even a scenario for Cedar Creek will be included, which is one of the few instances during the Civil War that a full-scale cavalry charge was actually launched.

Several multiday battles will also be portrayed. In addition, NORTH VS. SOUTH will feature independent campaign games for both the Union and Confederacy. "The campaign game consists of a series of points on the campaign map," comments Taylor, "with

each point representing a battle that is connected to other specific points. Winning a battle will allow the player to select a connected point, which will then initiate the next battle. Therefore, it's possible, during the campaign, to fight some battles more than once and not fight others."

Campaign games can vary in length determined by your level of success. For the Union, the campaign ends with the capture of Richmond; for the Confederacy, victory comes if it can manage to seize Washington, D.C.

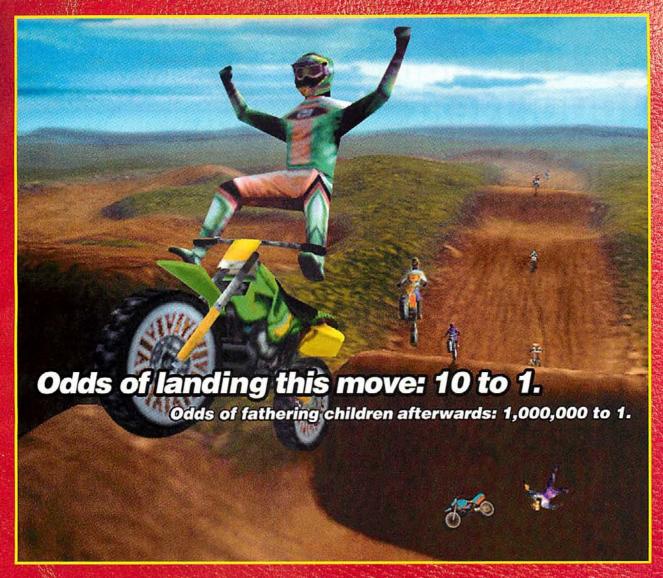
The game will also posit certain hypothetical events, such as "What if General Joe Johnston and his army had stayed in the Shenandoah Valley during the First Battle of Bull Run?" In the case of Antietam, Union General Ambrose Burnside learns that his forces can indeed ford Antietam Creek, and therefore they need not make a costly frontal assault against the heavily defended bridges to the east of Sharpsburg. Even treacherous night moves will be depicted, if the situation warrants. In all, more than 20 scenarios will be included, playable from either the Union or Confederate side.

Rebel Yell

NORTH VS. SOUTH, much like the GREAT BATTLES trilogy, will feature full multiplayer support (modem, hotseat, LAN, and Internet connections). It's not clear whether or not several players will be able to split up into opposing teams, whereby one player on each team acts as overall field commander—instructing their subordinates when and where to commit their forceswhile divisional commanders set about engaging the enemy.

What is certain, however, is that NORTH VS. SOUTH has all the makings of a classic wargame. And with a veteran game designer leading the charge and a powerful gaming engine under the hood, this is certainly one Civil War reenactment you won't want to miss. GTT







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VR Baseball 2000: Next Generation Baseball

VR Sports Sneaks in With a Great-looking New Baseball Game

by Tasos Kaiafas

he 1998 Major League Baseball season is undeniably one of the most exciting in years. The names McGwire and Sosa have been as pervasive in the press as Clinton and Lewinsky, and fans around the country are responding by revisiting their local ballparks. Unfortunately, the resurgent excitement of this year's Major League Baseball season has not permeated this year's crop of baseball games. Mediocrity at best is how most baseball gamers would describe what they've seen so far. But the year's not over yet, and there's one more game that's still in the on-deck circle.

The Postseason Advantage

Maybe it's not so important to release your baseball game at the start of the baseball season. Common sense would tell you that baseball gamers want to start their virtual seasons at the same time as Major Leaguers. But according to Major League Baseball, the postseason is when many casual baseball fans start to pay

VR Baseball 2000: Next Generation Baseball

GENRE: Sports **RELEASE DATE: Q4 '98 DEVELOPER: VR Sports PUBLISHER:** Interplay Productions closer attention, so they've been urging baseball game publishers to hold off on the release of their games until then.

That's what they told VR Sports, anyway. So the folks at VR Sports figured that since they needed time to convert the PlayStation's VR BASEBALL 99 over to Shiny's (a sister division of Interplay) MESSIAH 3D engine, they'd oblige. The result is the PC-exclusive VR BASEBALL 2000: NEXT GENERATION BASEBALL. We'll have to wait to see the consequences of this delayed release date, but the results of the extra development time and the conversion to the MESSIAH engine look good—very good.

With the MESSIAH engine, Shiny (the makers of MDK) has developed a 3D engine that renders characters with more natural movement, by allowing "skin" to stretch when body parts turn and move. When a player moves his arms or upper body, you can see the letters on the front of his uniform move as well.

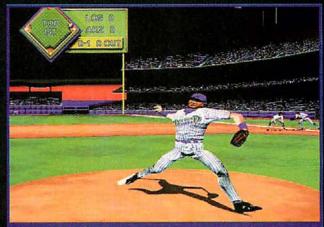
There are other performanceenhancement features in the MESSIAH engine, but the end result is one of the best-looking baseball games to come around in a long time. Although there are still some niggling animation oddities in the early version of the game we're playing, we hope they'll be ironed out before it hits store shelves. If they are, this could be the first baseball game to bat over .300 this year.



Looks Aren't

the Only Thing
Of course, the look of the game isn't the only reason we have such high hopes for VR BASEBALL 2000-it also plays as well as any computer baseball title we've tried so far. VR Sports seems to

have gone to great lengths to ensure a substantial amount of realism on the field. Unlike in most other baseball games, there is the requisite number of foul balls, pitches are easy to read, and fielders are easy to handle. Fielding assistance can be set on a scale



THE HEAT IS ON VR BASEBALL 2000's pitcher/batter interface is intuitive and easy to use without sacrificing any of the game's realism and strategy.





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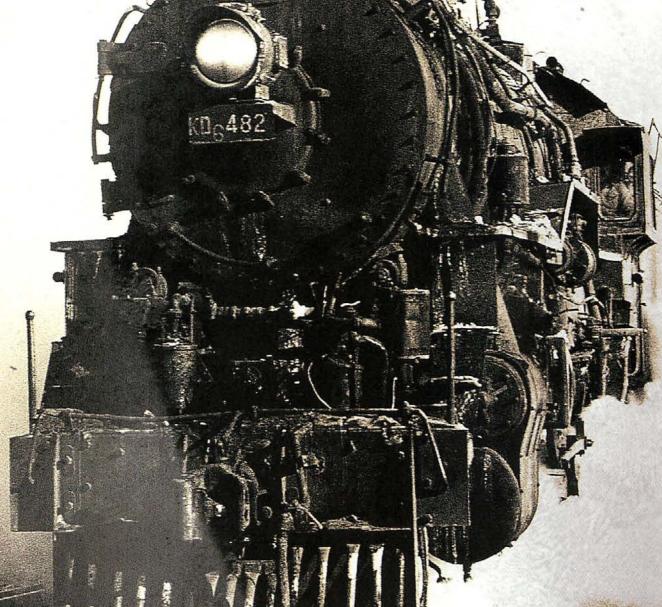
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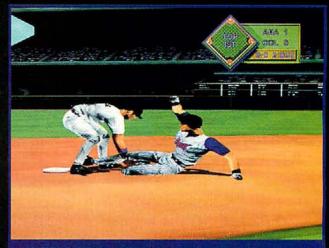
A STRATEGY CAME THAT RUNS ON A TOTALLY DIFFERENT KIND OF ENGINE



RENDER THIS VR BASEBALL 2000 uses Shiny's MESSIAH engine for what are the most realistic 3D characters yet in a baseball game. The only question we have here is, What ball game is this guy actually playing?

from zero to nine, which determines how long a player will head toward the location of the ball before you must take over control. Hitting can be set to arcade or simulation, with the latter requiring more input and better timing to make successful contact.

Off the field, team management is pretty standard, with the typical array of statistics and screens. But the arrangement of these screens thankfully breaks the recent trend of console-type interfaces in PC

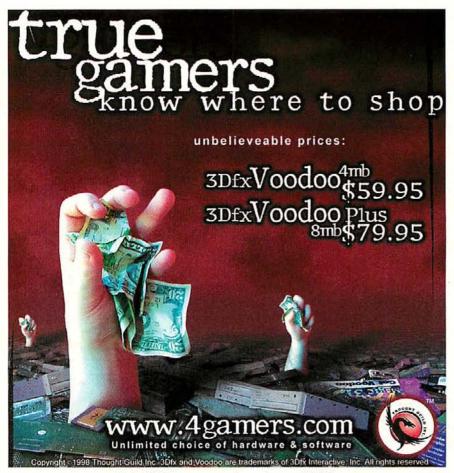


SIDDOWN! Just about every fielding interface in every baseball game released this year sucked, especially the one from Microsoft. But VR BASEBALL 2000 looks as if it's getting it right—along with everything else in the game.

sports games—an unfortunate byproduct of cross-platform development. Instead of forcing you to navigate through multiple screens to get to the one you want, VR BASEBALL 2000 arranges all of your options in a familiar tabbed interface so that everything you want to do can be brought up on the same screen by clicking on the appropriate tab.

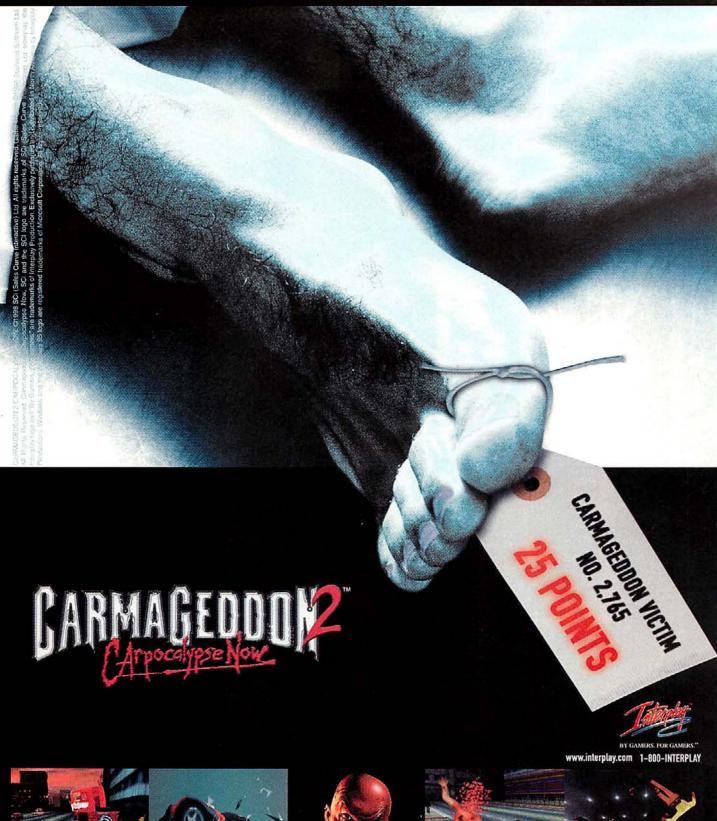
The One to Watch

It's obvious to us that there are real baseball fans making VR BASEBALL 2000. They say that they heard the complaints from users about last year's game and have worked hard all year to fix them. They also realize that with the new development cycle they've adopted-releasing in the fall instead of the spring-they'll have to release an update file for free download from their Web site each spring. Not only will the update reflect roster changes and statistics, but it will also modify player abilities based on their previous year's performance. And with the coming addition of DIAMOND MIND BASEBALL's statistics engine to VR BASEBALL 2001, this title could be the one to watch for again in 1999. EGW





Rigor Motorist









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Blood II: The Chosen

It's the Same Fountains of BLOOD, but With a New 3D Engine

by Thierry Nguyen

n early 1997, Monolith Productions used the Build engine to create BLOOD, its first title. BLOOD had strong level design and a great cult feel, incorporating quotes from just about every horror movie in the course of the game. Yet it never really caught on, falling short of the popularity of both DUKE NUKEM 3D and QUAKE, mainly because of the limitations of the Build engine. Now, with BLOOD II, Monolith is gunning for the same macabre feel, but with an up-todate engine that challenges the QUAKE II engine.

Once again you are cast as Caleb, squaring off against the evil Cabal, the cult that worshiped the evil Cthulhu-inspired Tchernobog. Since the last game, the Cabal has insinuated itself into the corporate world, exerting a malicious global influence. Caleb will need to recruit the help of three other ex-Cabal members, Ophelia, Ishmael, and Gabriella, in order to take on the strengthened Cabal.



WHERE TO, MA'AM? With such devices as ingame briefings (such as the one at the top of the screen) and cut-scenes, the single-player mode in BLOOD II should be great.

Blood II: The Chosen

GENRE: Action
RELEASE DATE: Q4'98
DEVELOPER: Monolith Productions
PUBLISHER: GT Interactive

Engines of Destruction

Rather than license the QUAKE II or UNREAL engine, Monolith has opted to develop its own. By committing to a modern-day, true 3D engine and shrugging off the shackles of older technology, Monolith should gain even footing in the crowded action field.

The new LithTech engine sports many of the standard 3D game features: colored lighting, particle effects, real-time shadows, fully modeled and animated enemies, and 3D acceleration via DirectX 6.0. Monolith is aiming to support up to 32 players in BloodBath (deathmatch) mode, and for all you mod-creators out there, the engine promises to be modular and easy to manipulate so people may create their own maps, character models, and Total Conversions.

When it comes to antagonists, the engine will model your enemies and their body parts appropriately. As in SIN, you'll be able to target different parts of the body, with the bonus that since each part is modeled separately, the grisly death scenes will differ depending on where and how

you killed someone. You can expect to see something other than the generic "gibbed" or "nongibbed" demises of other games.

Finally, for sound, since LithTech uses DirectX 6.0, there will be both 3D sound and Direct-Music. The 3D

sound is becoming standard in games, but with DirectMusic, BLOOD II will have music that responds to the current situation and heightens the mood, as in LucasArts and Origin games.



CARRYING A DRUDGE Enemies in BLOOD II: THE CHOSEN range from standard horror fare to equally terrifying new foes, like this Drudge Lord.



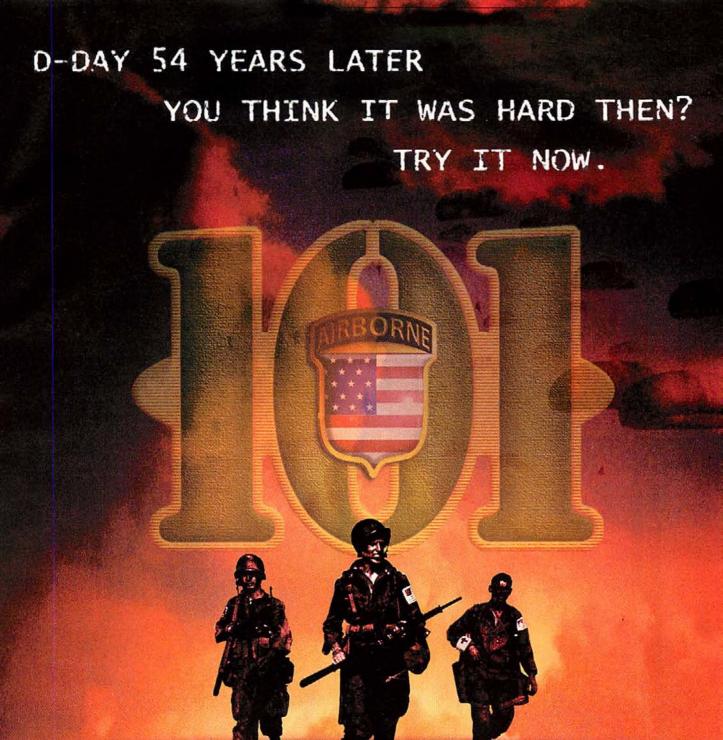
PULLING A HAMSTRING BLOOD II's hit-detection system will let you target specific body parts. In this shot, an enemy grabs his thigh and limps in pain after getting hit in the leg.

Blood-soaked Rags

Gameplay will be similar to that of the first BLOOD, but with more of everything. There will be more than 30 weapons, including the standard shotgun and voodoo doll featured in BLOOD, as well as the head-lopping Decapitator and some magic-based weapons. Enemies range from normal Cultists (the game's human enemies) to totally new and bizarrelooking monsters such as the Drudge Lord. The single-player game will have about 30 or so levels, all tied into the plot and

chock-full of the references to horror movies, both classic and cult, you've grown to know and love. Also, you'll get to play as any one of the four "Chosen" after you've successfully found and recruited each one. Caleb will let loose with original one-liners when appropriate, and, yes, you can expect plenty of blood. Buckets of it, in fact.

Monolith looks as if it has another solid shooter in the making; and given its new LithTech engine, we might see a new, third player in the "engine war" raging between id and Epic.



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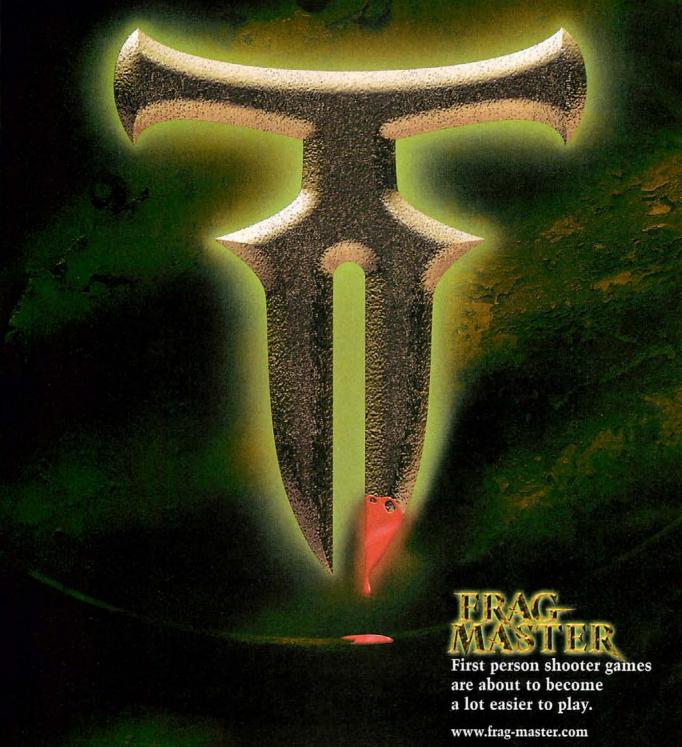








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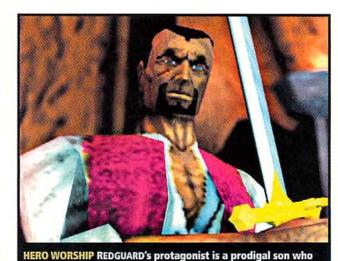
Swashbuckling in the ELDER SCROLLS Universe

by Johnny L. Wilson

he sibling rivalry ran deep. He'd killed his sister's husband and had wandered for years as an exile. Now his sister. Iszara, had disappeared. In spite of their estrangement, he feels the need to find her and find out why. The former soldier books passage on a ship, and the adventure begins. Pirates board the vessel and the action quickens to a pace feverish enough to excite the most cynical Errol Flynn fan. Using his swordin fairly close analog to the movement of your joystick-he dispatches both cutlass-wielding buccaneers before the captain of the ship can even retrieve his sword.

The dark-skinned prodigal-son hero is named Cyrus; the setting is 400 years before events in THE ELDER SCROLLS: ARENA; and this is not another first-person roleplaying game with loose plot and unlimited quests to ponder. REDGUARD is a focused, challenging action/adventure that may well be what some gamers were expecting in THE ELDER SCROLLS: DAGGERFALL. In terms of genre-blending, REDGUARD may have achieved what other multigenre games can only aspire to accomplish.

Somehow, you suspect that you'll need to solve some deeper mysteries before you get to rescue Iszara. As you learn about the history of this empire within the Tamriel gameworld, you sense that many of the events are converging on something called "The Dragon," the proud jewel of the Imperial Crown. Apparently, this jewel had something to do with the flight of a poison arrow that



has returned to an infamous port in order to rescue his sister.

killed the crown prince to whom your loyalty was pledged. Now, in the port city of Stros M'kai, a former haven to pirates, you'll have the chance to discover ancient technologies and magic, as well

as restore your position within your family.

So You Wanna Fight, Eh?

REDGUARD uses a keyboard/joystick combination to control the



PUBLISHER: Bethesda Softworks

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Your TEAM is dug in 5 miles west of the extraction point.

You HEAR the enemy

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cold, dog-tired, wounded.

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Welcome to Hell, ladies

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- A Premiering NovaLogic's Voxel Space 3 graphics terrain with 32-bit color.



combat sequences, as well as conversational sequences. The pace of combat is interesting, but not overbearing. It's particularly entertaining to learn the combat interface while attempting to take on two pirates at the same time. Turn your back on one and he'll hack at your stern while you're looking to berth your bowsprit in a vital organ of the varlet in front of you. Meanwhile, you can dance away while slashing with your sword, or you can jump onto higher or lower elevations using your best possible Douglas Fairbanks maneuvers. This ability to jump pays big dividends as you near the endgame and face one of the strangest and, potentially, most memorable physical logic puzzles I can remember in an adventure game.

The keyboard/joystick combination also serves you well during the conversations with nonplayer characters. Like many role-playing and adventure games, REDGUARD uses a keyword system in which you cycle through words and click to ask questions based on those words. The words gray out when you've gotten all the information you can get on that subject from your interlocutor. Unlike THE ELDER SCROLLS: DAGGERFALL, where, in medieval imitation of Cheers, "everybody knew your name" but little else about you, the characters in REDGUARD know quite a bit-information that can fill in spaces in the story and assist you toward a satisfactory conclusion. Also, unlike in DAGGERFALL and ARENA, the conversation is all handled via voice. But if the voices don't improve significantly from the placeholders used in the alpha version, it will be a bad thing. Should the final version feature professional voiceslike those used in RETURN TO KRONDOR-the atmosphere of the game will significantly improve.

Still, the voice-overs were not bad across the board; in fact, the placeholder voices for some of the humanoid races were as terrific as the human voices were awful. Bethesda opted to use an artificial language for these characters and subtitle the translations onscreen.



RICHTON MORTIS In this cutscene, we see the infamous Lord Richton, provisional governor of Stros M'kai and, potentially, the ultimate bad guy in this saga.

The results ooze with ambience and provide by far the most interesting and entertaining conversations in the game. As with any keyword system, you can interrogate the non-player characters for as much or as little information as you want. There is a limited database of responses due to the use of voice-over, but the conversations are positively sparkling compared to those in REDGUARD's older siblings.

Show Me What You've Got

The stores in REDGUARD are handled within the gameworld's 3D environment. The game displays a store's inventory as items on a shelf, and you get the option of examining these items as you traverse the interior. If you opt to buy the items, you'll click into a conversation with the shopkeeper or bartender and initiate a conversational sequence in which your transaction will be completed. The process maintains the sense of suspended disbelief in the game environment by keeping the same visual metaphor for all activities.

If you talk to enough people in the city of Stros M'kai, you'll



ZORRO'S GHOST? Cyrus takes on multiple opponents in this tavern brawl at the Dragon's Tale. REDGUARD may be second only to *The Mask of Zorro* as 1998's Swashbuckler of the Year.

eventually find out about the Dwarven Ruins. Lord Richton, the provincial governor and a key player in the assassination of the crown prince, has been doing a lot of archaeological work in those ruins; and as Cyrus, you need desperately to find out what he's up to. If Cyrus is successful, this will lead to a marvelous puzzle. Eventually, you'll be faced with a huge, quasi-Aztec-looking artifact. As you begin to explore it, you'll notice that different actions cause the artifact to change shapes. Now, you have a quasi-Aztec "Transformer" at your disposal. Figuring out what to do with it will be fun, frustrating, and fascinating-all at the same time. I personally predict that this will be one of the most talked-about puzzles in adventure-game fandom since the Babel fish.

The bottom line on REDGUARD is that it is a small, relatively contained portion of the Tamriel gameworld seen in former ELDER SCROLLS games. It features swashbuckling and puzzles such as we haven't seen in adventure games for years. If the voiceovers improve and the system gets more stable than it was in our version, this looks like the best product ever to come out of Bethesda's studio. In fact, it just might scare that female archaeologist we see wearing shorts on so many computer and console screens. 区石江



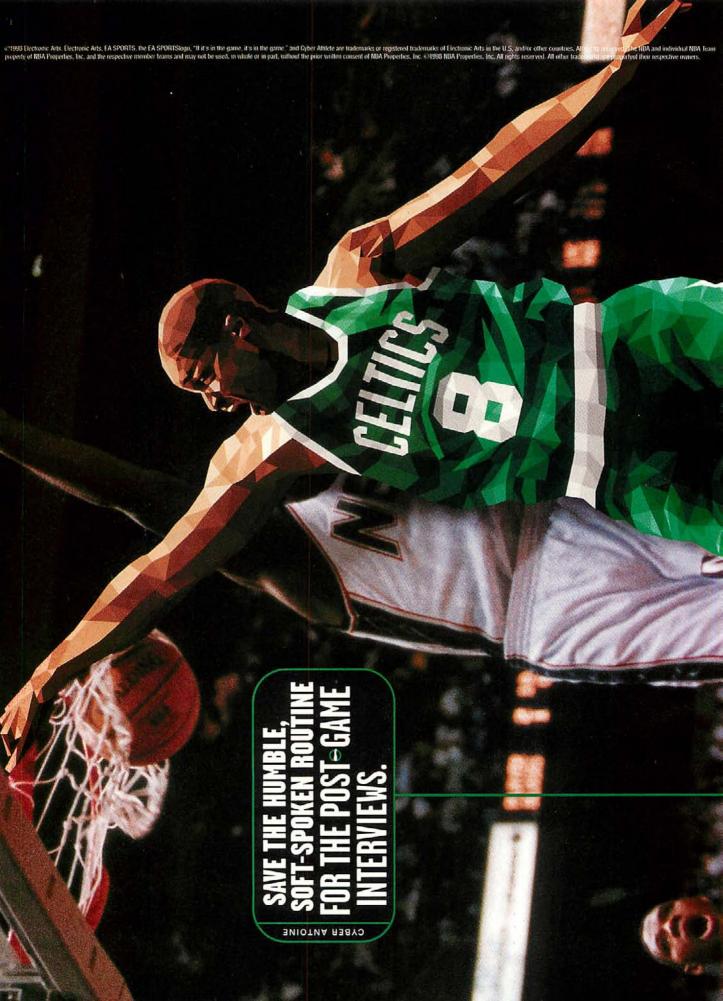
LOOK INTO THE FUTURE OF ROLE-PLAYING

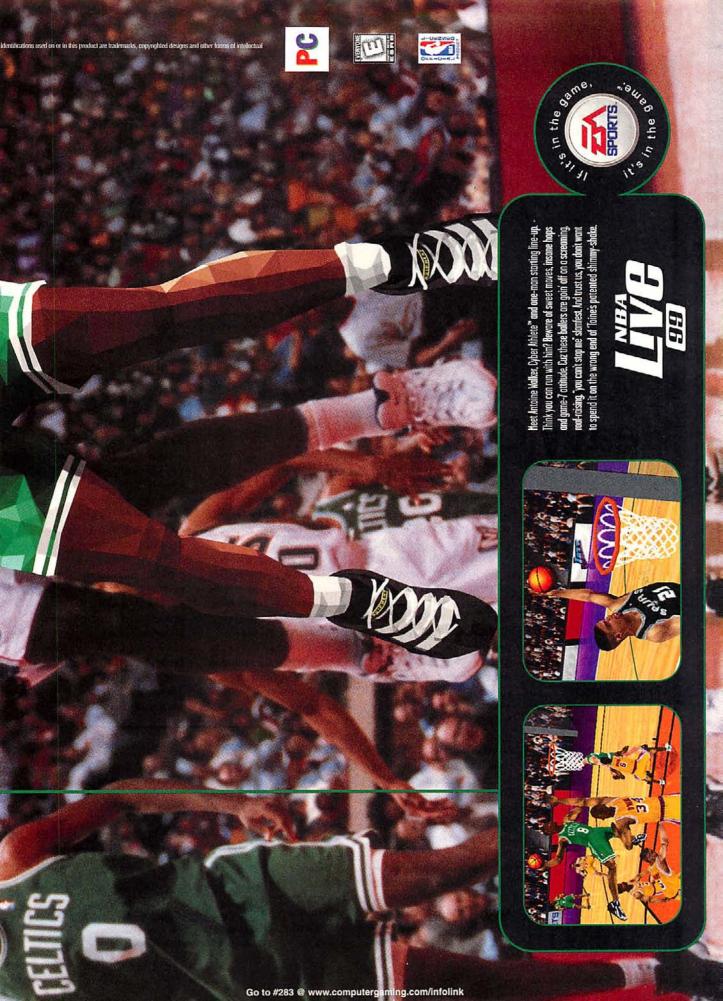
From acclaimed game designer D.W. Bradley, creator of Wizardry V, VI and VII, comes an adventure as infinite as your imagination. Swords and Sorcery - Come Devils, Come Darkness is about to change gaming forever.

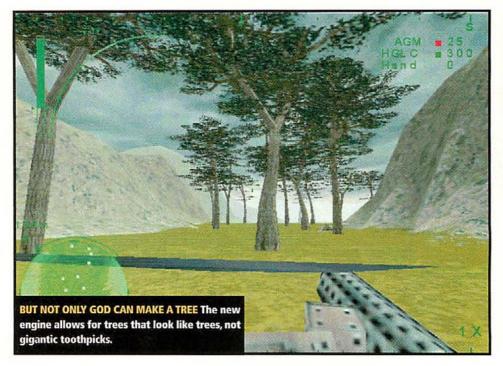












Heavy Gear II

A New Engine Puts This Giant Robot Series Into High Gear

by Thierry Nguyen

here's no argument that
Activision built the
"giant robot combat"
genre. The company distributed Dynamix's original MECHWARRIOR, and then truly jump-started the genre with the
release of MECHWARRIOR 2. While
MECHWARRIOR: MERCENARIES had its problems, it did well building on the franchise's successes.

Alas, Activision slipped off its pedestal with the release of HEAVY GEAR. After losing the BattleTech license, the company picked up the Heavy Gear license from Dream Pod 9 and cranked out HEAVY GEAR. Unfortunately, HEAVY GEAR was burdened with design problems and bugs that stemmed from its overuse of the

Heavy Gear II

GENRE: Space Simulation RELEASE DATE: Q4 '98 DEVELOPER: Activision PUBLISHER: Activision aging MECHWARRIOR 2 engine. Well, Activision has finally put that engine out to pasture and rolled out its replacement in HEAVY GEAR II; the all-new engine makes for not only a smoother gaming experience, but also some innovative new gameplay elements.

HEAVY GEAR II takes place after the Interpolar War depicted in the game's predecessor. While North and South were locked in arms against each other, Earth decided to come knocking down Terra Nova's door, The Confederated Northern City-States and the Allied Southern Territories called for a cease-fire and created an alliance to thwart Earth's attempts to invade and retake Terra Nova. The player is placed into an elite Special Ops Gear unit in order to conduct covert missions behind enemy lines. You'll engage in reconnaissance, sabotage, and outright destruction of enemy forces.

Shiny New Gears

HEAVY GEAR II's new Dark Side engine (also used in the upcoming

INTERSTATE '82) will require you to have a 3D card. Gone are the low-polygon-count Mechs and the trapezoids passing themselves off as hills. Now you get rolling hills, wispy fog, and, yes, real 3D trees, in an engine that is easily twice as fast as the 3Dfx version of MERCENARIES on the same machine. The terrain isn't just for looks, either. Your Gear will move at varying speeds on different surfaces—if you're moving across rock and your opponent is walk-

ing across sand, you'll be able to outmaneuver him. Objects on the terrain play critical roles in combat as well. Gears aren't heavily armored like Mechs, so you'll spend a lot of time dodaina shots behind buildings, crippled vehicles, and



SKATE OR DIE Animation for a wide variety of new Gear actions makes for much more believable movement through the new 3D terrain.

trees. Blow up a bridge and your opponents will have to wade slowly through the water—talk about sitting ducks. Force them to wade through lava and they'll take damage at every step.

The Dark Side engine also allows for better-looking Gears. No more stiff animation for the Gears as in the original. You can now see flaps and rivets of the Gears move about as you run or skate across the terrain. If you skate, your Gear will veer in the direction of your turn—imagine a really big Rollerblader.

Also, while you're admiring the new look in these screenshots, take note that these are from an alpha version; the currently sparse HUD is going through a major overhaul now. HEAVY GEAR II's producer Dave Georgeson told us that Jack Mamais (the project director) opted to create a livelier HUD after watching an anime film.

Gearing Up for Battle

HEAVY GEAR II won't just look different; it will feel different. While giant robot-sim elements



DOWN IN FLAMES Say good-bye to those boring bitmapped explosions. You'll now be treated to graphic acknowledgment of your Gear's marksmanship.



DEATH FROM ABOVE This early rendition of the Tactical Map actually uses the game's 3D engine, allowing you to give complex directions to your squadmates.

still abound, there's more than a nod to first-person action here. HEAVY GEAR II has shifted from a hard-core robot sim to a blend of first-person action and robot-sim. But from what I've seen so far, that's not a bad thing.

Remember, in the BattleTechbased MECHWARRIOR 2 games, you were a pilot at the controls of a 30-meter-tall walking tank. In the Heavy Gear gaming system, you're an infantry soldier in a 15foot-tall powered battlesuit. The first HEAVY GEAR game incorrectly kept that "pilot" feel. Here, you feel much more like the technologically enhanced foot soldier you're supposed to be.

Whereas earlier games in this genre required you to balance such factors as heat, armor, and ammunition levels even before you launched on a mission, HEAVY GEAR II seems a bit lighter on the micromanagement. You'll still have to watch your ammo count



GREAT VIEW OF THE BAY The action will take place in a variety of environments, ranging from this idyllic town to dark and gritty city streets.

Map (not just a 2D projection of the map, but a camera that pulls back from the game engine in realtime) and order your squads of Gears to perform a variety of tasks. You can tell one squad to scout toward the east, send another squad to flank the enemy up north from the west, and have the rest of the unit provide covering fire for the flanking squad.

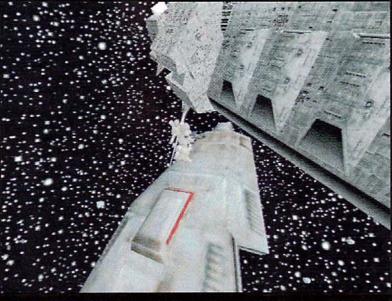
The AI will supposedly use team tactics and terrain and learn to adapt and react to your tactics. I saw the AI perform only a few of these functions (like tanks and Gears using terrain to mask themselves), but hopefully you in a dark and crowded city, trying to sabotage a spaceport.

One of the most noteworthy missions-much better than the famed space mission in GHOST BEAR'S LEGACY—has you attempting to disable the communications on an enemy spaceship. Because of the zero gravity, you have to use thrusters to orient yourself properly in space, and then let the magnets in your feet secure you to the enemy ship's hull. There was a better sense of weightlessness, and walking sideways and upside down on the hull made you feel as if you were in a scene from 2001: A Space Odyssey.

The game's multiplayer mode won't be a simple deathmatch experience. In addition to pure squadversus-squad combat, you can also play cooperative missions against computer-controlled opponents. The game will feature 40 singleplayer and 40 multiplayer missions, as well as a quick-combat mode. The importance of support structures such as repair bays and

ammo dumps will make strategy paramount even in deathmatchstyle multiplayer combat.

The original HEAVY GEAR came off as an ill-advised attempt to maintain Activision's presence in the genre by just getting a product out as soon as possible. HEAVY GEAR II takes a much more effective approach to securing market share by adding innovative new gameplay elements and pushing the technical state of the art. From what we've seen so far, gamers disappointed by the original will want to take a close look at HEAVY GEAR II.



OPEN THE BAY DOORS You won't always have your feet on the ground in HEAVY GEAR II; look for some missions to take you out into space, where you'll be able to execute some wild zero-G maneuvers.

and damage level, but you'll be able to pick up weapons on the battlefield, which will make encounters more spontaneous. You do basically run around the missions on foot, drop/pick up, and use the weapons at your disposal. Because of this, the game tends to have a faster and more frenetic feel.

But don't think this is merely QUAKE in the great outdoors. The sim aspect comes into play in squad management and unit Al. Your commands are no longer limited to mere menu options. You can now pull up a Tactical Activision will tweak it even further by the time the game ships. In the game's current state, the Al was smarter than that of most action games and could match the Al of previous robot sims.

Test Gears

The mission design will take advantage of the new terrain engine and the new gameplay factors, such as tactical management. In one mission in the version I tested, you had to stealthily tail a convoy, being sure to kill any Gear that did see you before it could radio for help. Another mission put

Discovery consists of seeing

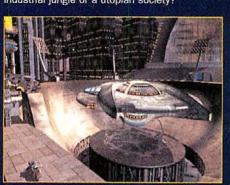
what everybody has seen

and thinking

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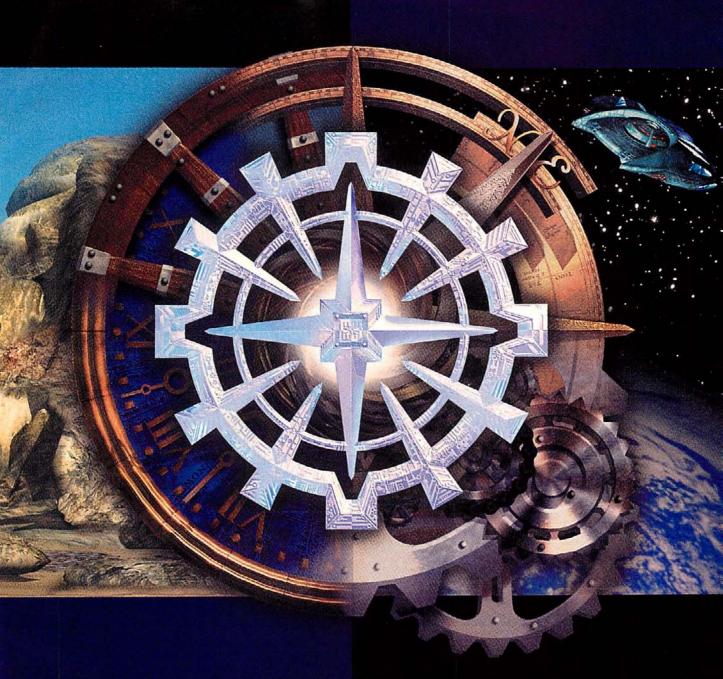
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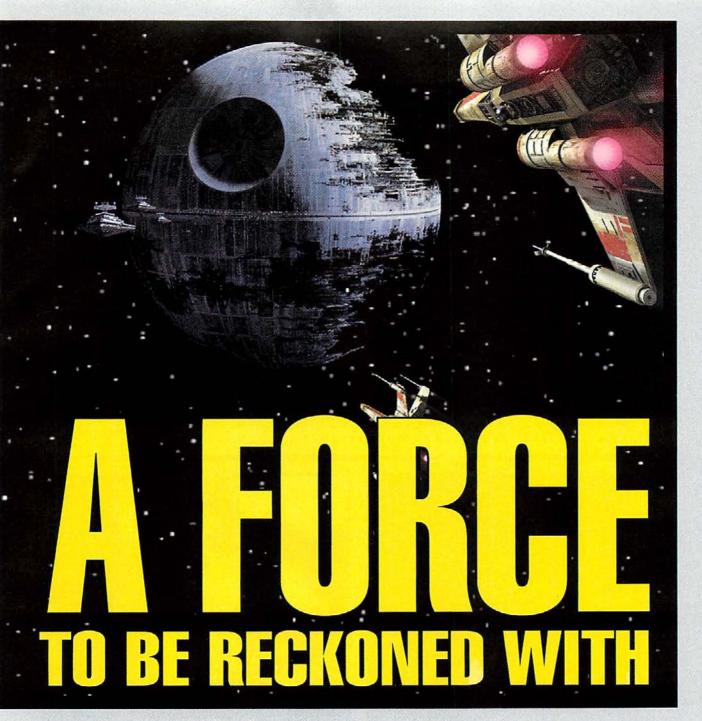
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As LucasArts Readies Games Based on the New Films, It Sends the Classic Series Out with a Death Star-sized Bang



ven as we draw closer to the release of one of the most anticipated movies of all time, *Star Wars: Episode I,* it's obvious that we just can't get enough of the original *Star Wars.*

George Lucas and his game gurus at LucasArts seem to know that, which is why they're readying two new *Star Wars* gaming titles to feed our space-opera addiction. This could be the swan song

for classic *Star Wars* games, as the other *Star Wars* titles in production are top-secret and are based on the upcoming *Episode I*.

The two new titles are fastaction, intense combat games that put you in the cockpits of the best fighters in the galaxy. The first game, which should debut this fall, is a shooter with great graphics, a simple interface, and loads of arcade action. It's called ROGUE SQUADRON, and it lets you don Luke Skywalker's jumpsuit to pilot X-Wings, A-Wings, and snowspeeders against the Empire's endless hordes.

The second game, which introduces a third element into the Rebel/Imperial struggle, is the main event. This is the space sim we've all been waiting for, and it should see the light of day in Spring 1999. At last, you'll get a chance to fly the Millennium Falcon in what could be the most immersive and rich Star Wars space-combat sim yet. This is one of the most exciting games we've seen all year, and we're excited to be the first to bring you news—and the first in-depth preview—of this title. This preview will show you why we can't wait to fly the Falcon into the may of the Death Star.

From all we've seen, LucasArts couldn't have picked a better way to say farewell to the classic *Star Wars* universe. If they have to end it, they're set to do it with a bang, not a whimper.

Star Wars: X-Wing Alliance

Follow in Han Solo's Footsteps in the Sequel to X-WING and TIE FIGHTER

by Elliott Chin

H

an Solo loves her, and Lando Calrissian wants her back. We've flown TIE fighters and X-Wings before, but if you ask any Star Wars fan what ship they'd most like to pilot, the answer would probably be the most famous piece of mismatched junk in the universe: the Millennium Falcon. She's the fastest ship in the galaxy, and finally you'll get to fly her. But before we mislead you into thinking LucasArts' next PC game is a Millennium Falcon sim, we must add that the Falcon is only the prize at the end of STAR WARS: X-WING ALLIANCE, Larry Holland and Totally Games' upcoming sequel to X-WING and TIE FIGHTER. From what we've seen of this third installment in the X-WING series,

however, the journey will be as amazing as the prize itself.

Holland, the primary creator of the X-WING series, as well as the WWII sims SECRET WEAPONS OF THE LUFTWAFFE and THEIR FINEST HOUR, says that STAR WARS: X-WING ALLIANCE (the name is tentative,

Publisher: LucasArts

Developer: Totally Games

Target Release Date: Q1 '99



OLD WAR, NEW BLOOD Two-thirds of the game is classic X-WING, as you fly various ships against the Imperials. This is a new type of ship—the planetary fighter.



AFTERGLOW While the engine is based on the X-WING VS. TIE FIGHTER engine, the special effects, the models, and the cockpits are being completely redone.

awaiting approval by Lucas Licensing) is closer to X-WING and TIE FIGHTER than to the multiplayer X-WING VS. TIE FIGHTER. Where X-WING told the Star Wars story from the Rebel side, and TIE FIGHTER did the same from the Imperial side, X-WING ALLIANCE should bring a third perspective into

the classic struggle: that of smuggler.

The galaxy's seedy underbelly has always been a component of the *Star Wars* mythology. Consider Mos Eisley, the bounty hunters, Jabba the Hutt, and Han Solo's smuggling runs. Says Holland, "We wanted to get a third perspective [on the war].

There's the Empire and the Rebels, and then there are the smugglers." Holland and Totally Games thus complete the X-WING series with X-WING ALLIANCE, a game that breathes life into that facet of *Star Wars*.

X-WING ALLIANCE is a spacecombat sim, similar in style to its predecessors but with a story and missions that are distinctly different. You play a smuggler, deeply involved in a trading war with a rival family but also caught up in the middle of the larger Imperial/Rebel civil war. The action in the game takes place after *The Empire Strikes Back* and ends with events from *Return of the Jedi*.



MILLENNIUM FALCON Chapter Eight in X-WING ALLIANCE features the Battle of Endor from Return of the Jedi. You'll even get to fly the Millennium Falcon into the Death Star.

Return of the Jedi Meets The Godfather

Plot drives the game in ALLIANCE, much more so than in TIE FIGHTER or X-WING. There are, in fact, two stories: the larger military drama we're all familiar with and a more personal tale that revolves around your character and his smuggler's background. "The story is Return of the Jedi meets The Godfather," quips Holland. The military story tracks the war between the Empire and the Alliance from just after the battle on the ice planet Hoth until the final conflict in Return of the Jedi. In fact, Holland says, "The main plot is the classic story that climaxes with the Battle of Endor. It's the climax to the movies and to this trilogy of games."

The "family business" storyline, as Holland calls the personal tale, is much less straightforward. But in many ways it is richer." The player is part of a trader family, in conflict with a second family. It's sort of a Mafia setup," says Holland. Your character is part of the Ozzameen family, principal rivals of the Viraxo family. Both families engage in legal trading and not-so-legal smuggling.

During the course of the game, you'll run contraband for the Ozzameen in the midst of the civil war. You'll also undertake missions for your family that drive the house rivalry story. As with all things Star Wars, both families will have no choice but to be dragged into the all-consuming conflict between Empire and

Alliance, and the story will focus on how each family relates to the two sides. You can guess which force your family sides with, but there will be questions and indecision about which would be best to support. There will be several plot twists, but if you're successful in the family business missions, you'll put an end to the Viraxo family's encroachment.

X-WING ALLIANCE seems to tie into the classic *Star Wars* movies and books even more than previous *Star Wars* games did. Holland wouldn't comment on all the tieins, but Black Sun and Prince Xizor will appear in the family portions of the game. For those who haven't read the *Shadows of the Empire* novel and comic books, Prince Xizor is Darth Vader's chief

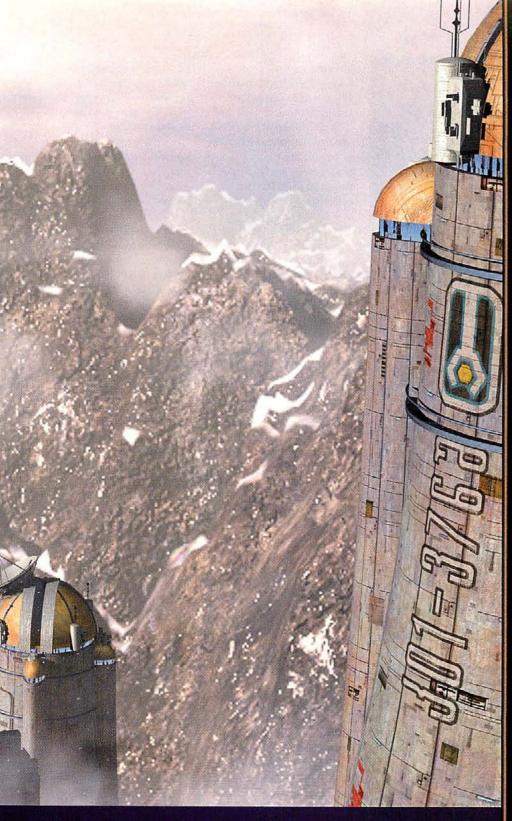
rival and the leader of Black Sun, the most powerful criminal organization in the galaxy. Jabba's holdings are just a drop in the bucket for Xizor. As members of the criminal underground, your family and the Viraxo inevitably have to deal with Black Sun, although Holland wouldn't elaborate on how Black Sun will figure into the game.

During the military story, you'll meet up with Luke Skywalker, Han Solo, Lando Calrissian, and Dash Rendar (another character from Shadows of the Empire). You'll recall that in TIE FIGHTER you got to fly with Darth Vader. In X-WING ALLIANCE, there is at least one mission in which you'll fly with Luke. Holland wouldn't say whether you'll get to fly with the other characters, but they will all





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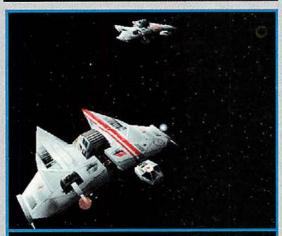
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MARRIED TO THE MOB Smuggling missions for your Mafia-like family business take up one-third of the game. During these missions, you'll pilot the family transport, a cousin to the *Millennium Falcon*.



PRICE OF POWER In LucasArts' latest *Star Wars* sim, you aren't flying for the Rebels or for the Empire—but for the money.



one of the many active objects, ships, and stations that

promise to make the 50 missions in X-WING ALLIANCE

come to life.

figure into the game's dual storylines—some characters more than others. And you can bet some famous bounty hunters will show up. Again, Holland was coy about who those bounty hunters might be, but since this game has a healthy dose of smuggling, expect the same troubles that Han Solo encountered.

Mission Briefings

Like its predecessors, X-WING ALLIANCE is mission-based, but with the addition of family business and smuggling missions to complement the military ones. There are 50 missions broken into eight chapters. The most exciting prospect is that Chapter Eight will be a full re-creation of the Battle of Endor. You'll actually be able to fly in that famous conflict, when the Rebels tried to attack an incomplete Death Star only to find that it was fully operational. Reeling from the trap, Admiral Ackbar, the Rebel commander, wanted to flee, but Lando Calrissian pleaded with him to maintain the mission. You'll get to reenact that battle from the first hyperspace jump to the final run into the tunnel. Chapter Eight will thus encompass several missions, ending with the final run against the Death Star. You'll get to give Lando the boot and pilot the Millennium Falcon into the Death Star with Wedge Antilles. Although we've already seen what happens in the movie, Holland points out that the size of the Death Star is so great that there is much we haven't seen. He assures us that "there will be a lot of surprises in the tunnel run."

Just thinking about being in an interactive Battle of Endor is exciting. The game will feature sights and sounds from the movie, and the battle should provide a thrilling conclusion to ALLIANCE. Says Holland, "The whole sequence will be a spectacular climax."

However, that is the last chapter. Before that you'll have to play through seven chapters of smuggling intrigue and Imperial-versus-Rebel confrontations. The game begins with you running several smuggling missions for the Ozzameen. Right away you'll be roped into the intrigue and mysteries of the family business and be introduced to several characters who will stay with you throughout the game: your sister and your sidekick droid. Your sister will fly a few missions with you and will play a pivotal role in the ongoing plot. Your droid is your co-pilot (Chewbacca to your Han Solo), and it's a wisecracking one, with plenty of information to throw your way when you need it.

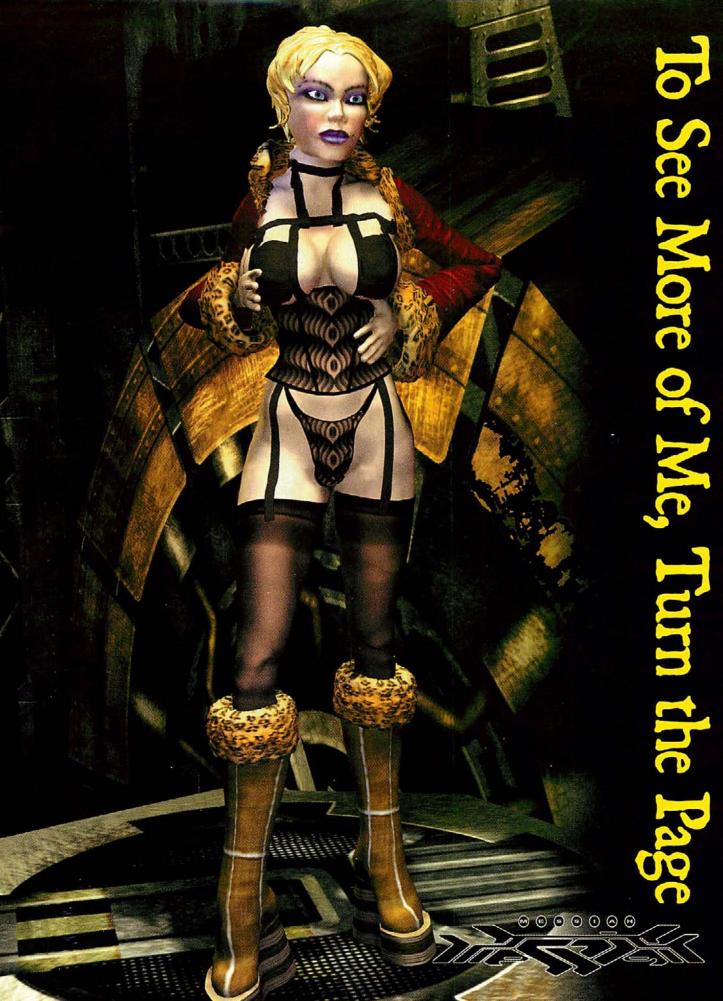
Family Business

Holland is mindful of the fact that some players just want to jump into the action and start shooting TIE Fighters. For those gamers, the family business storyline might not hold any interest. Thus, Holland plans to make that part of the game optional. Of the 50-plus missions slated for X-WING ALLIANCE, some two-thirds are military-based, while the remainder are family business missions.

But if that plot is optional, why play it? Holland is trying to make the story interesting and the missions so different that players will gravitate to it. Plus, if you skip the family business missions, you'll miss out on story information during the military track. The type of missions you fly will be very different for the family business. There will be smuqgling trips, rescue operations, stealth, and blockade-running missions. Says Holland, "[The family business gameplay] is a new type of game element. It will be compelling enough and different enough to make people play it."

The game design starts you on the family business track to give you a taste of how different and engrossing it can be. So, even if you decide to bypass the rest of those missions, you'll start with a vested interest in the family business because you'll be several missions into that portion before you get pulled into the conflict between Imperials and Rebels.

If you still choose to bypass the family missions, they won't just go







Possess a cop and impale his friends with a harpoon.



Light someone on fire, make them feel the burn.



Mingle with your enemies and pick 'em off one by one. But who are you hiding in?



Apparently, nightclubs of the future don't have problems with mind altering cherubs flying about...or do they?



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Injured enemies will try to escape by crawling away in agony.

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And he's the good guy...



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Behold, for I am Bob!



The power and the glory are yours, if you can keep from being consumed by the fires of Hell.



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JUST LIKE SHOOTING WOMPRATS When flying your family transport (or the Falcon) against enemy ships, you'll have to man the laser turrets (shown here on the bottom of the transport).



GATHER TOGETHER NOW During the military portions of X-WING ALLIANCE, you'll receive formal mission briefings. Family business missions are received via holo message.



INSIDE VIEW Flying the Millennium Falcon is different from piloting other ships: You've got to remember when you're flying through tight spaces that the bulk of the ship is on your left.

away. Along the way you'll be told that your family needs you for a certain task. You'll have a deadline to make your decision on whether or not to help. If you ignore the request, in a few days you'll get a message telling you the outcome of the mission. If you choose to help, you start that family mission.

The family business missions will be smuggling-oriented. You'll have to evade Imperial fighters and break blockades while moving contraband about the galaxy. However, Holland says it won't be in the style of PRIVATEER: "This is not an open-ended trading game." The focus is still combat, so even when you fly seemingly boring missions to drop off cargo, you can bet there will be violent surprises waiting in each mission. "There is lots of combat-more combat than flying and dropping something off," laughs Holland.

When you play the military missions, you'll get more conventional missions, of the type you've seen in X-WING, TIE FIGHTER, and X-WING VS. TIE FIGHTER. There will be escorts, dogfights, bombing runs, search and destroy, cargo ID, and a full gamut of military scenarios.

Four Times the Fun

What will really make the X-WING ALLIANCE missions stand out, though, is their scope. In earlier games, you would make a hyperspace jump to a location,

do your business, and then hyperspace back home. Now in every mission there will be four regions that you can fly back and forth between. They could be different sectors of space, different planets, or different orbits around a planet. Hyperspace will now be functional, rather than just a mini-cut-scene. When you want to jump to another sector, you'll have to find a nav buoy and make the hyperspace jump, whereupon your cockpit will be showered with streaking stars, just like in the movies.

On a family business mission, for instance, you might have to hyperspace to planet A, pick up your cargo, go to planet B to drop it off, head to planet C to pick up payment, and proceed on the way home through region D, where you'll get ambushed by Viraxo fighters.

Military missions could also be multipart. For instance, you might have to hyperspace to intercept an enemy fleet, use lasers to take down an enemy frigate's shields, and then hyperspace back to your base to pick up torpedoes to destroy it. Or, instead of switching weapons, you might be able to return to base and switch to a Y-Wing bomber after your X-Wing wipes out the frigate's shields. Imagine changing ships in midmission to suit the changing objectives. However, because all four regions in a mission progress simultaneously, you have to be prepared for the fact that the

enemy might have repaired its shields by the time you return.

The new setup for missions creates the sense of a dynamic, living galaxy. Now, while you're off in sector A doing business, things are happening in the other sectors. Some missions will give you choices of what to do. You might be flying an intercept mission for the military when you get a distress call to help your family. You could either hyperspace to the military target at point B or abandon the objective and hyperspace to point C to help your family. You won't be able to do both because the dogfight and your family's business will occur at the same time but in two different spaces. Says Holland, "You can decide to save the fleet or save your family, so you have to make a choice. By having four sectors, we can offer multiple goals and choice of goals."

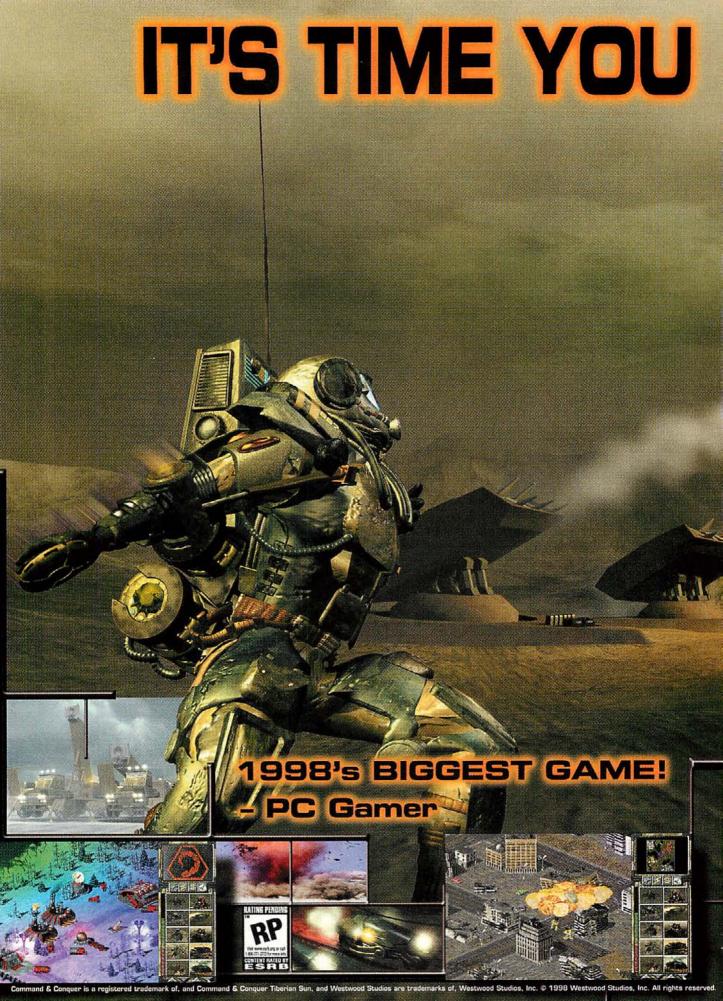
Holland says he is considering just how independent to make each sector. "We're aware of timing problems. We want the player to be pivotal in the combat, but we don't want the activity to stop when he isn't there." So expect the regions to have simultaneous action, and for events to move along even when the gamer isn't present. Wherever your character is, that region will have paramount importance.

Ship Ahoy

We alluded to the Millennium Falcon in the beginning of this article, so you're probably wondering what ships you get to fly. During the family missions, you will fly a modified Corellian transport. (The Millennium Falcon is a Corellian transport.) It doesn't look exactly like the Falcon, but you can see the "family" resemblance. The ship is thicker and the cockpit is centered (the Falcon's cockpit is on the right side of the ship). Unlike Han Solo (who modified the Millennium Falcon extensively), you won't get to tinker with your family transport (too bad). Over the course of the game, however, your ship will receive slight upgrades.

During the military mission, you'll be able to fly whatever ship suits the mission: X-Wings, A-Wings, Y-Wings, and perhaps other ships. So, when do you get to fly the Millennium Falcon? Well, not until the climactic Chapter Eight and the final famous tunnel run through the innards of the Death Star. The normal fighters will fly as they have done in previous games (the flight model is not changing at all, except that you'll now be able to move in reverse), but the family transport and the Millennium Falcon will definitely fly differently. Both will be fast and maneuverable. However, they aren't fighters, so when you fight, you'll have to jump to the ships' turrets, which look almost exactly like the laser turrets that Han and Luke manned on the















COMING FALL 1998

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Falcon in the movies. You'll aim the twin laser cannons and blast at TIE Fighters and other enemy ships chasing you.

X-WING and TIE FIGHTER had good wingmen commands, but their capabilities are being expanded for X-WING ALLIANCE. We didn't see the improved wingmen interface, but Holland says it will be more intuitive, similar to the unit commands in BATTLEZONE.

The Immersive Factor

One of the biggest appeals of TIE FIGHTER was the immersiveness of the game. When you played TIE FIGHTER, the story and missions made you feel as though you were really in the Imperial Navy and part of the Star Wars universe. X-WING ALLIANCE takes that feeling a huge step further.

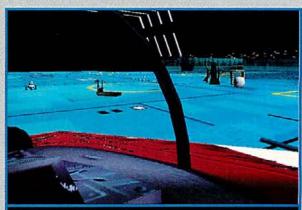
Now, more of the nonflight portions of the game will take place in the game engine. For instance, your ship selection, weapons loading, and mission briefings take place inside a hangar aboard your family's personal Mon Calamari cruiser. The hangar and all the ships inside are rendered in realtime with the game's engine. That will enable Totally Games to create ambient motion and action in that game screen. So while you're choosing which ship to fly, pilots might walk across the hangar, ships might fly in and out, droids might be lowered into X-Wings. And when you pick a payload for your fighter, you'll see technicians wheeling the ammo to install on your ship.

To get family missions, you'll enter your room in crew quarters and receive messages from your family. These will update periodically to give you the sense that things are happening even when you're otherwise occupied. The optional family missions will appear as holo messages (think Princess Leia's plea to Obi-Wan Kenobi in *Star Wars*).

During missions, there will be scripted events that will help make the universe come alive. You'll fly by drydocks where ships are being repaired, zoom past cruisers and frigates as they hyperspace to other locations, pass factories and processing plants churning out goods, and watch freighter tubs being linked together into trains. In one mission, you'll even see zero-G storm troopers swarming out of a troop transport to invade a friendly ship. Holland says that X-WING ALLIANCE will be able to pump out twice the number of ships per scene as X-WING VS. TIE FIGHTER. There could be literally hundreds of ships and objects moving around each location. In essence, each mission will have activity and life to provide the illusion that this universe is real.

The scripts and greater scene complexity will be vital if Totally Games really wants to pull off the interactive Battle of Endor for Chapter Eight, Hopefully, they'll succeed and make that final chapter as frenetic as it looked in the movie. There were swarms of ships in those space battles in Return of the Jedi, but Holland is confident that he can re-create the entire sequence on computer and make it even more visceral, enveloping you with the experience via scripted events, sights, and sounds.

Speaking of sights and sounds, X-WING ALLIANCE will support 3D positional audio, as well as 3D graphics accelerators via Direct3D. There will be Redbook audio, but also context-sensitive music to heighten the suspense and action. It was disappointing to discover that Totally Games is using a retooled X-WING VS. TIE FIGHTER engine, but Holland says that the old cockpits have been thrown out and new 3D virtual cockpits added. The turret cockpits in the Falcon and family transport will also have transparencies so you can see the ships as they pass by your guns and your meshlike cockpit.



HOW'S IT HANGING The immersion is even deeper in X-WING ALLIANCE. Your ship selection and weapons loadouts are now done in a Calamari cruiser hangar.

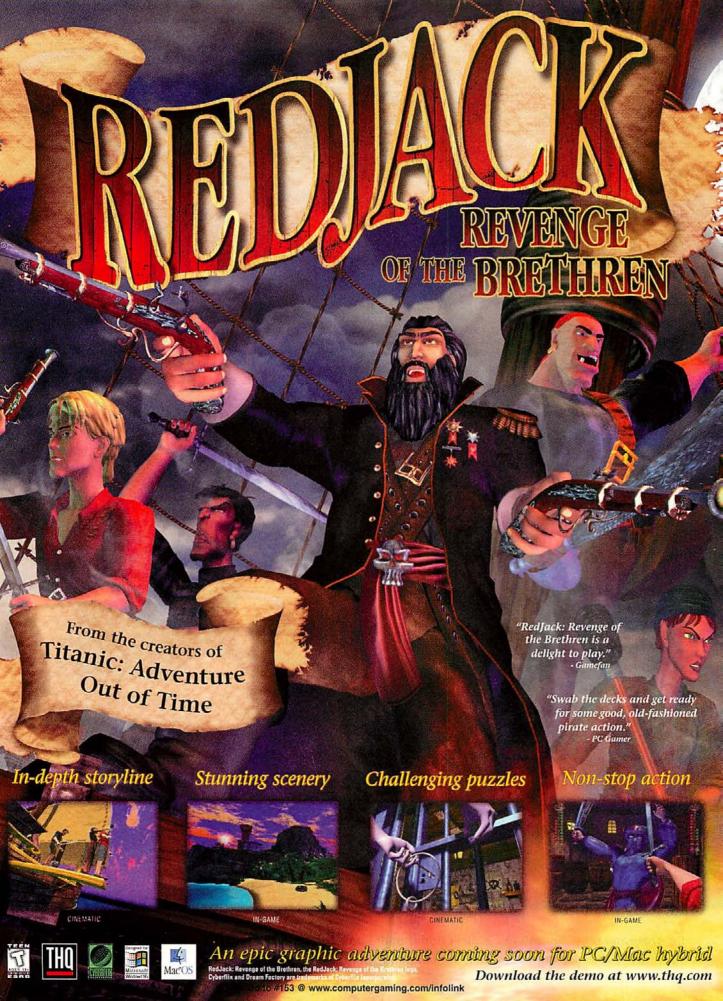
In addition, all the special effects and models have been completely redone, and everything has been retextured. Holland claims that the in-game objects will be doubled in complexity. We hope he can do at least that much, especially since WING COMMANDER PROPHECY and DESCENT: FREESPACE have raised the bar on graphics so high for this genre; gamers might not be so forgiving of a dated look. But Holland says he understands the need to pay careful attention to graphics and insists the engine will be live up to people's expectations.

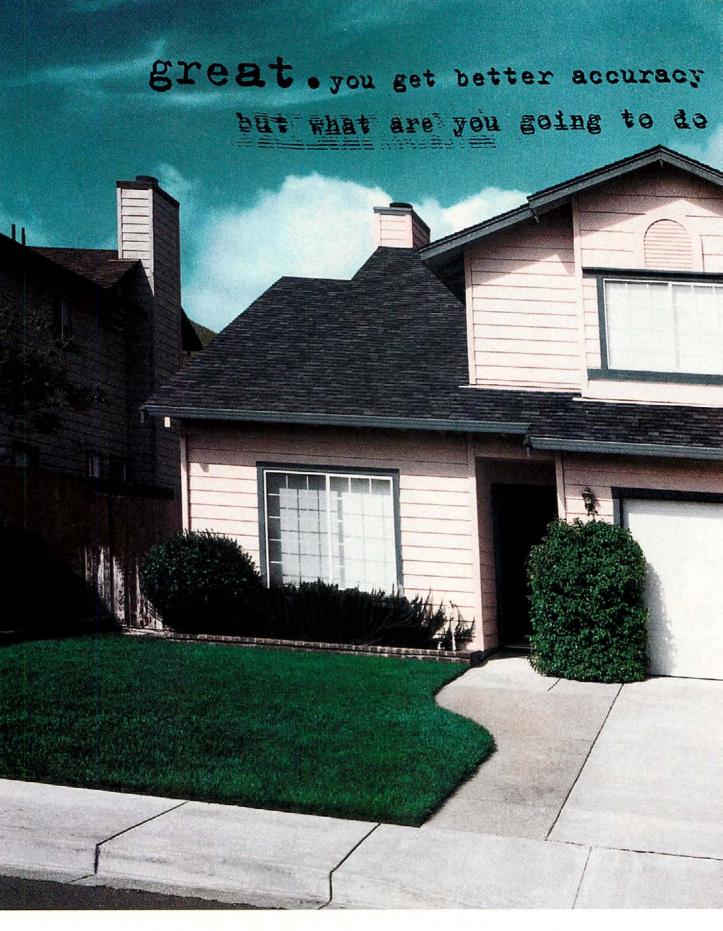
Totally Games and LucasArts definitely have their work cut out for them if they hope to release X-WING ALLIANCE before the *Star Wars* film prequel hits

theaters in mid-May. (To release the game after that might be too confusing for consumers, who'd face a classic Star Wars game mixed in with prequel film merchandise.) Holland's design specs are ambitious, but they signal a return to what made TIE FIGHTER so great. Not only that, but the mission designs-with the multiple regions, simultaneous action, mission choices, and dynamic objectives-and the unprecedented immersion and fascinating story just might make this game better than the five-star TIE FIGHTER. And the mere thought of piloting the Millennium Falcon into the Death Star and pulling the trigger on the core elicits nearly uncontainable anticipation from this Star Wars fan.

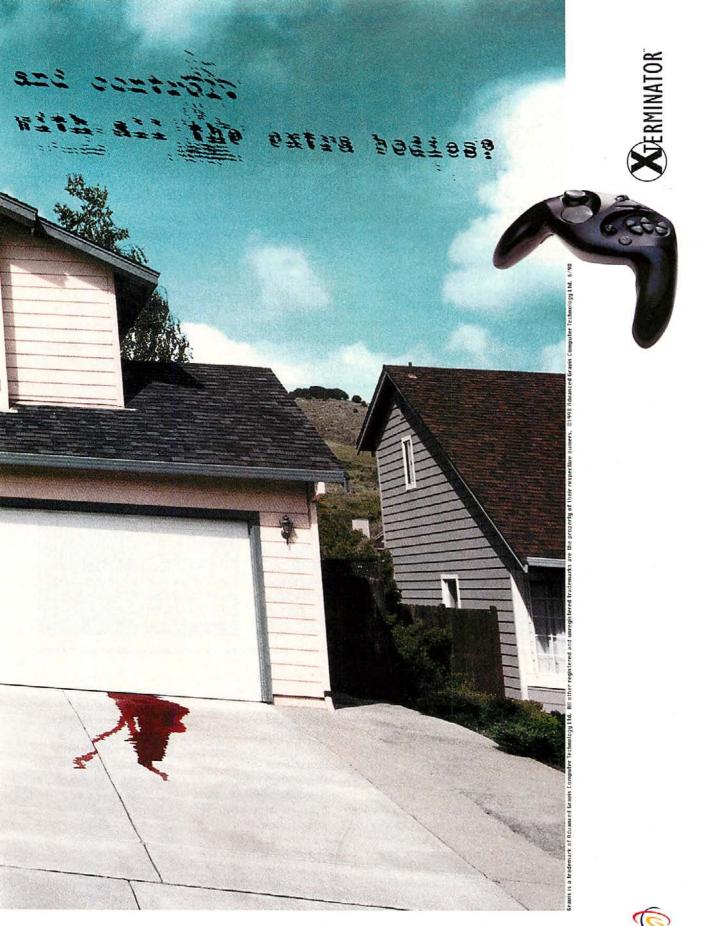
X-Wing vs. TIE Fighter vs. Millennium Falcon?

TAR WARS: X-WING ALLIANCE will ship with a multiplayer component (no word yet on whether you can fly the Falcon during dogfights). There will be about 10–15 multiplayer missions, as well as a mission creator that lets you specify the type of enemies, number of ships, and other options, and then hop into a quick user-defined game. Actual multiplayer matches will also take place in the new four-part levels, which should make for some interesting cat-and-mouse chases through hyperspace.





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Rogue Squadron

Shadows of the Empire: The "Good Parts" Version

by Elliott Chin

wo years ago, to help inaugurate the Nintendo 64, LucasArts launched SHADOWS OF THE EMPIRE with great fanfare, including a novel, comic books, and the N64 game itself. Later, a PC port was made. But despite the huge push by LucasArts, SHADOWS OF THE EMPIRE was only a moderate success.

Of all the half-dozen game types in SHADOWS, the first level, in which you piloted a snowspeeder in an open area on Hoth, was the most fun. Although the feel was definitely arcadish (it wasn't a sim), it was exciting to pilot a snowspeeder over the expanse of ice- and snow-covered hills while blasting at Imperial probe droids and tripping up AT-ATs with a harpoon cable. When the folks at LucasArts decided to create a follow-up to SHADOWS, they looked at what worked and what didn't. In

the process, they jettisoned everything else about the game and decided to create a new game that would play like the SHADOWS OF THE EMPIRE Hoth sequence. In essence, they turned the Hoth level into a full game. That game has become ROGUE SQUADRON, an all-new *Star Wars* title that will be released simultaneously this holiday season for both the Nintendo 64 and the PC.

Publisher: LucasArts

Developer: Factor 5

Target Release Date: Q4 '98



WHERE IS EVERYBODY? Those gamers who played the Hoth levels in SHADOWS OF THE EMPIRE will find ROGUE SQUADRON very familiar.



GIMME THOSE WIDE-OPEN SPACES In ROGUE SQUADRON, you'll fly in arenas six times larger than those in SHADOWS. This game isn't on rails.



FIVE BY FIVE The action is intense, with an arcade physics model. You have health, but also extra lives, as in other arcade-style games.

Rogue's Gallery

ROGUE SQUADRON is named after the X-Wing pilots made famous in the Star Wars movies and embellished in many official comic books and novels. The team is an assembly of the greatest hotshot pilots in the Rebellion. The action in ROGUE SQUADRON takes place between Star Wars and Empire Strikes Back, and fills in that period of time for Luke Skywalker. Since he didn't start on his Jedi training until The Empire Strikes Back, what was he doing? Well, we at least know that he was an ace pilot; Brett Tosti, ROGUE SQUADRON producer, says it's

conceivable that Luke spent that time flying for Rogue Squadron on behalf of the Alliance.

In ROGUE SQUADRON, you get to play Luke Skywalker, and you'll pilot not only his X-Wing but a host of other Rebel craft as well. Tosti says that ROGUE SQUADRON will be actionintensive, but the game will also have a story that spins out over the course of eight chapters. The story will track the progress of Roque Squadron during those critical months just after the destruction of the first Death Star, when a spark of hope was lit for the Rebellion. Whether that spark can be fanned into

the full flames of revolt is up to you and the Rogue Squadron.

Red Leader to Red One

You'll fly through 16 missions, divided among 14 classic *Star Wars* locales. The locations will be as varied as in the films, and terrain will run the gamut from forests to deserts to ocean surfaces to snowy plains. These environments will be sprinkled over a collection of *Star Wars* planets, including Tatooine, Endor, and Mon Calamari. There is also an ice planet that may or may not be Hoth (the Hoth scenario is unlikely, since ROGUE

SQUADRON takes place before The Empire Strikes Back). Another level will put you in an environment not unlike Bespin, the action occurring against the backdrop of a city floating amid orange clouds. One thing ROGUE SQUADRON will not have is spaceborne missions. Even though you'll fly an X-Wing at times, none of the action takes place in space. Tosti says it is easy enough to do, but they opted for ground missions, as in the Hoth sequence of SHADOWS. This makes not only for more interesting and varied environments, but also for a bigger variety of enemies and objectives.

All the levels, though, are free-flowing. You aren't flying on rails, but instead have the ability to soar around your surroundings. There will be a limit to the size of a level, though, so don't be surprised if automatic controls steer you back into the allowable arena if you start zooming toward no-man's land. This mechanic was in SHADOWS and it wasn't very intrusive, although it remains to be seen whether gamers weaned exclusively on PC games can get used to it.

The levels themselves in ROGUE SQUADRON will be six times as large as those in SHADOWS, so there will be plenty of space to fly around in. Mission objectives in ROGUE SQUADRON will be more complex than those in SHADOWS and will require flying to certain locations or around big areas.

Terrain won't be boring and flat; there will be plenty of hills, canyons, trees, trenches, and other natural formations. There will also be man-made objects, such as shield generators, idle troop transports, and landing pads. Some levels will also sport nice doodads to spice up the terrain. The Tatooine level, for instance, has Jabba's palace on a hill, while Krayt Dragon skeletons lay half-buried in the sand.

All the missions will have primary and secondary objectives that will pop up during the course of the action. Each mission opens with a brief cut-scene, which is rendered by the game engine, that sets up the action, and then it's time to get busy. For example, you might see a Tyderian shuttle lifting off from a shuttle bay and then start the scenario by flying by the shuttle as you attempt to escort it from harm's way.

The mission variation is fairly extensive. There will be rescue missions, search-and-destroy missions, and surgical-strike missions. Plus, your objectives may change as the mission wears on. In one instance, you might have to fly toward a shield generator to disable it for an incoming troop transport, and once that objective is complete,



(TOP) STAY ON TARGET This Y-Wing is good for bombing runs. Mission objectives vary, and will include escort, search and destroy, rescue, and heavy-duty bombing missions.



(MIDDLE) WATCH YOUR SIX As an arcade shooter, ROGUE SQUADRON throws a variety of enemies at you in great numbers. You'll face plenty of ground targets as well as various TIE aircraft.

(BOTTOM) LOW TO THE GROUND Each of the standard five ships in ROGUE SQUADRON (as well as the secret ones) has its own flight model. The speeder is highly maneuverable, but hugs the ground.



you'll be called upon to provide air support against a surprise attack by TIE Fighters.

Moreover, your progress in a mission will be recorded, and you'll be able to replay missions to get better results. Depending on your grade, you'll get commendations, rank increases, and, possibly, access to secret levels and ships. Don't be surprised if some very powerful and very interesting spaceships become available if you keep acing the missions. When other ships become available to

you, you can replay earlier missions with the new craft. For instance, you might start on an ice level with only the snowspeeder, but once you acquire the X-Wing, later in the game, you might want to retry the ice level to see how the AT-ATs deal with your new, improved ship.

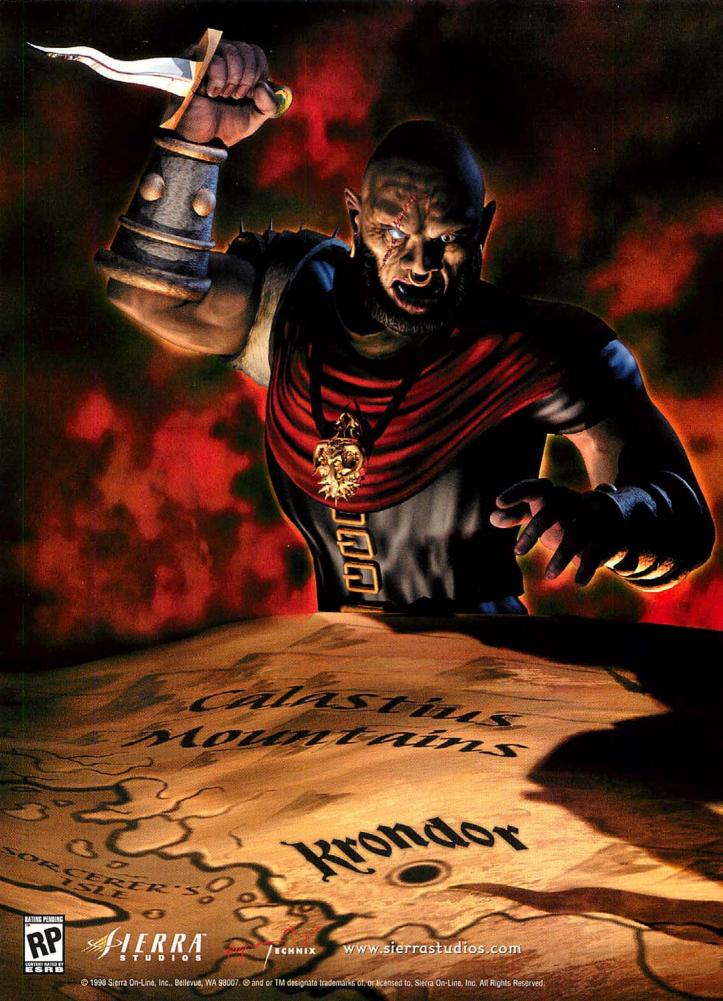
During missions, you'll get to fly with Rogue Squadron wingmen, and they won't always be cannon fodder. Sometimes you'll have different objectives. You might have to provide escort while your V-Wing buddy has to destroy a power generator. But if you fail to protect him, you'll have to take down the generator with your weaker X-Wing. As for taking down the enemies, though, don't rely on your wingmen too much. As we understand it, you will conduct most of the action. We'll just

have to wait until the final product ships to see how involved the wingmen actually will be.

Ship Shape

While SHADOWS OF THE EMPIRE let you fly only the snowspeeder, in ROGUE SQUADRON you'll be able to try your hand at several ships. You can fly the X-Wing, which is a good all-purpose craft; the A-Wing, which is a highly maneuverable and fast air-to-air interceptor; a Y-Wing bomber, which has powerful air-to-ground attacks; the speeder hovercraft, which also has a good ground attack as well as anti-AT-AT weaponry; and the experimental V-Wing, which is a prototype craft hinted at in Star Wars books. We'll have to wait for the game to learn its capabilities.

There will also be a few more secret ships, but LucasArts is currently keeping quiet about them.



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Each of the craft will have its idiosyncrasies. The A-Wing will be fast and maneuverable, while the Y-Wing will be ponderous and slow. The X-Wing will be able to achieve high altitudes; the speeder will hug the ground. Individual ships will be better suited for certain missions. For instance, if you were making a bombing run, you might want to pick the Y-Wing, but if you were flying escort for the bomber, you might pick the A-Wing.

Each ship will be equipped with only two weapons (it's an action game after all, not a sim): You'll get a primary weapon, such as lasers, and a secondary weapon, such as bombs or the speeder's tow cable. Although you're limited to two weapons per ship, you can find weapons upgrades by destroying certain special buildings, such as supply facilities or factories. Once you do that, you might get weapon upgrades that will apply to all your ships for the rest of the game.

Your enemies will be even more varied than the ships. You'll go toe-to-toe (or wing-to-wing) against other aircraft—TIE Fighters, Interceptors, Bombers—but you'll also match laser fire with ground-based enemies such as stormtroopers, land speeders, Imperial probe droids, AT-ST

walkers, AT-ATs, shuttles, tanks, and missile- and laser-turrets.

Return to Base

Both the N64 and PC versions of ROGUE SQUADRON will feature the same gameplay. However, there will be some benefits to the game being developed on the PC. While Nintendo 64 graphics are beautiful, they can get blurred and muddy. On the PC, ROGUE SQUADRON will support much higher resolutions and possibly more detailed models. That means the ships you fly and the enemies you face could look even sharper on the PC than they do on the N64. The fogging distance is also being tweaked on the PC version. Because 3D-accelerated PCs are more powerful than the N64, the PC version of ROGUE will draw fog farther into the distance, allowing you to see more of the terrain. At this stage in development, it remains to be seen whether the drawing distance will be increased for better terrain or whether the ships will be more detailed. Either way, the PC version will look better than the N64 version. ROGUE PC tentatively supports Direct3D and Glide. Again, we'll have to wait until the game releases to see which other APIs, if any, will be supported.

Music is one area in which the PC version will benefit from association with its console counterpart. ROGUE SQUADRON will use MIDI to provide context-sensitive music. When things get rough, the tempo will quicken, while an impending disaster might be heralded by an ominous score. This will make the levels that much more immersive, as the music, combined with the graphics, will really draw you into the game's universe.

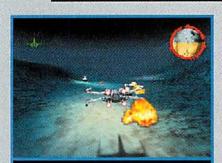
There will be no multiplayer support in ROGUE SQUADRON. When I asked about deathmatch, Tosti sheepishly replied that there was no time to implement multiplayer (the

N64 version won't have any multiplayer support either), so ROGUE will be strictly a singleplayer experience. As much as we'd like to see a deathmatch version, though, what we've seen of ROGUE SQUADRON has us feeling pretty happy. For action fans looking to jump into some intense dogfighting, ROGUE SQUADRON could supply a lot of mission-oriented but fast-paced arcade-style fun. It might not be a sim on the caliber of TIE FIGHTER, but it's definitely looking to be an action title that could be as fun and challenging as any of the other successful Star Wars titles. It's time to head back to Beggar's Canyon, Rogue Leader. GTII

Where's the Force?

ou may be wondering why FORCE
COMMANDER, the real-time Star Wars strategy game that was announced back in
April, isn't included in this feature. The title has slipped into 1999, with a release in the same timeframe as the first film in the new trilogy.
Our sources tell us that the game—which was originally slated to take place over a period between the destruction of Alderaan in Star Wars: A New Hope and the battle of Endor at the end of Return of the Jedi—is being redesigned, and will be set in the time period of the new films.

We do know that this real-time strategy game will require a 3D graphics accelerator and will feature more than 100 vehicles, personnel, droids, and buildings. You'll be able to fight for the Rebel Alliance or the Empire. We hope to have new details on the game's direction soon.



LIGHT ME UP The audio and visual quality in ROGUE SQUADRON should be high especially on the PC version—featuring dynamic lighting and lightsourcing and context-sensitive music.



PROBE THIS This Imperial probe droid isn't too tough. You'll find them in all the game's levels, which include locations on Tatooine, Endor, Mon Calamari, and other famous planets.

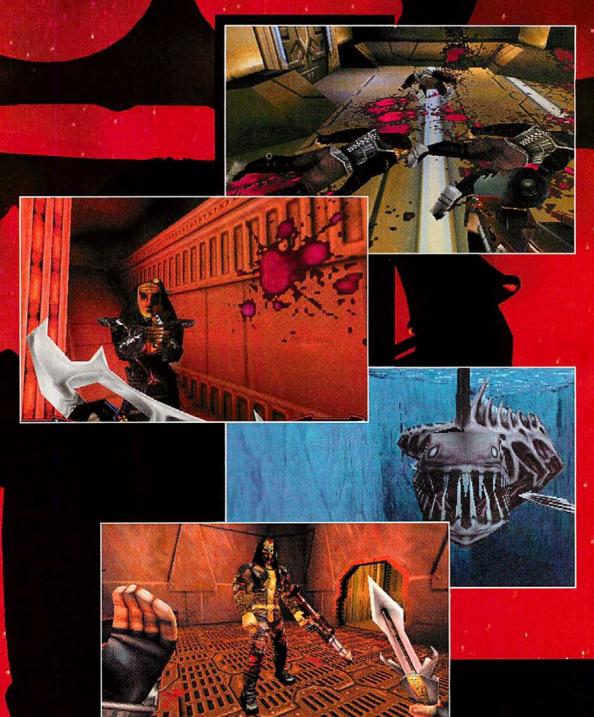


WHERE IT'S AT-AT Yes, you will get a chance to trip up AT-ATs with a tow cable during one of the levels in ROGUE SQUADRON, although not while you're flying the X-Wing.















Enjoy some klingon Family values

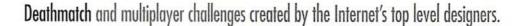
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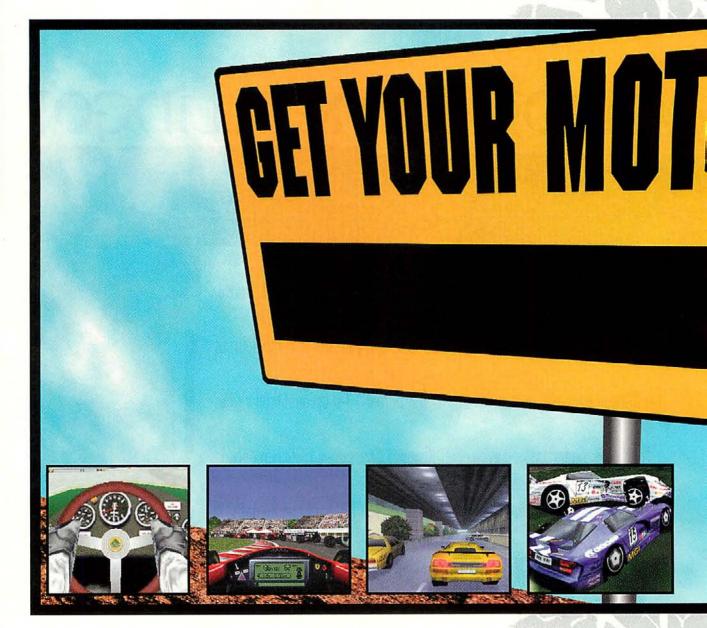


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"IT'S A GOOD DAY TO DIF"





This Year's Field of Racing Games Is Well tuned and Ready to Roll by Tasos Kaiafas



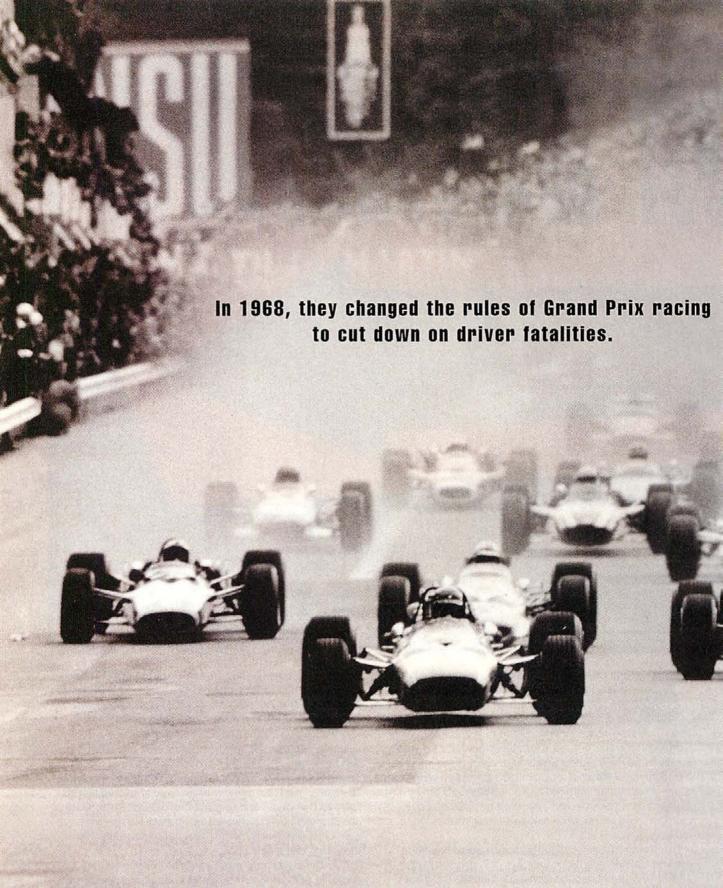
uto racing sure has changed a lot in the last 30 years, hasn't it? Just ask our resident auto racing historian and Editor-in-Chief, Johnny Wilson, and he'll start gushing about the days when his beard was still black and race-car drivers were fearless; you won't get away for at least an hour. But could you imagine driving those old, wingless Formula One cars? Aerodynamics? What aerodynamics? Just reduce weight and drag—that's what mattered most. And the early power plants in those cars packed a punch, too—400 horses (or more, in some cases). No wonder so many crashes led to fatalities.

Like the sport itself, computer racing games have also evolved considerably since the days of Papyrus' INDIAN-APOLIS 500 and MicroProse's WORLD CIRCUIT. The games back then were certainly a lot of fun, but a lot of depth perception was lost in the low-resolution graphics. Today, 3D accelerator cards have turned almost every game in the genre into a jaw-dropping experience. This is an exciting

time for racing game fans. Not only can today's CPU handle the floating-point math required to run the complex physics models in simulations, but they can do it while looking amazingly realistic and maintaining superb frame-rates.

It should come as no surprise that so many game publishers are getting into driving games this year, many for the first time, with releases that span the spectrum of the genre—from full-simulation racing to all-out arcade racing. There are superbikes and dirt bikes; touring cars and Vipers; Formula One of old and Formula One of new. Seems like just about anything with wheels is being modeled (except for a new CART sim; this is the first year in quite a while that there won't be a new one).

To better serve your racing needs, we've parsed the games in this racing cornucopia into categories: racing sims, arcade racing, sports car racing, and motorcycle racing. There's definitely something for everyone in 1998, so buckle up—the green flag is about to drop, and the race to the checkered flag is about to begin!













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RACING SIMS

or many years, when you talked about racing games on the PC, you talked about simulations. Oh sure, from time to time a console racing game would sneak over to the PC, but none of them was very memorable (how can you drive with a digital gamepad?). Papyrus continues to uphold the PC

simulation tradition, this time with a retrospective visit to the old days of racing in GRAND PRIX LEGENDS. With NASCAR 2000 delayed for a while, the only other auto sim of note is UbiSoft's already released hot new rookie, F1 RACING SIMULATION.

Grand Prix Legends

No Downforce, Few Safety Features, Lots of Power...Were These Guys Nuts?



THE MORE THINGS CHANGE The 1967 Monaco circuit is still basically the same; mostly the surroundings look different.

hink back to a bygone era of auto racing—circa 1967. Drivers like Jim Clark, Graham Hill, John Surtees, and newcomer Jackie Stewart dominated the sport, and stood atop the podium at tracks around the world: Watkins Glen in the U.S., Zandvoort in the Netherlands, and Kyalami in South Africa. Motor racing was coming into its own and gaining international appeal, and American TV viewers could tune in for the first time to watch the events on *ABC's Wide World of Sports*.

What remains of that era is mostly on display in museums, but there's enough statistical data, schematics, and information to give the veteran sim developers at Papyrus a chance to bring it back to life. For those unfamiliar with the era, there will be plenty of unrecognizable names, but for any racing fan, there's plenty you should know. Teams like Lotus, Ferrari, and Ford are still around today, but others like Brabham Racing Organisation and British Racing Motors are long gone. Places like Monza, Monaco, and Watkins Glen are still visited annually, but many of the other tracks are all but forgotten.

Racing fanatics know that 1967 was the last year before teams began to experiment with aerodynamics and inverted wings to create downforce.

RELEASE DATE: 04'98
PUBLISHER: Sierra Sports
DEVELOPER: Papyrus
MULTIPLAYER: Yes
3D HARDWARE REQUIRED: No

When you first get up to speed in one of these machines in GRAND PRIX LEGENDS, you'll know the meaning of the word "squirrely": It doesn't take much to land sideways in these cars. And without all of the safety features in today's cars,



DREAM TEAM Team Lotus, with its new Ford-Cosworth-powered car, signed Graham Hill to join Jimmy Clark in 1967.

squirrely back then would often lead to fatal, as many drivers lost their lives after short careers. These old Formula One cars can withstand some aggressive driving, but at full simulation, they also need to be handled delicately to stay on the road.

Also, the Ford-Cosworth engine was first used by Team Lotus in 1967, and that engine would dominate Formula One for years to come, because it had *power*. In fact, additional bracing had to be placed behind Jimmy Clark's head to support it under acceleration. The low rumble and heavy power of that Lotus 49 Ford-Cosworth machine comes through loud and clear in GRAND PRIX LEGENDS, but so does its sometimes incorrigible handling. After a few laps, you start to wonder how much courage it must have taken to race in those days—especially in the rain.

There's a certain romance to that era missing in today's multimillion-dollar auto sport leagues. (Maybe if Michael Schumacher grew a handle-bar moustache...) It was the start of something great in those nascent years. A couple years later, tobacco companies would start doling out sponsorship money, ending the era of privately owned racing teams. For those who wonder what it was like to race one of these machines, GRAND PRIX LEGENDS offers a realistic taste of the excitement.

Grand Prix History

If you'd like to find out more about the history of the Grand Prix, check out Grand Prix History at www.ddavid.com/formula1/. It contains information about the best-known drivers from the past and of today, the cars, the tracks, and more. The articles you'll find there are well-written and informative, with plenty of historical photographs.

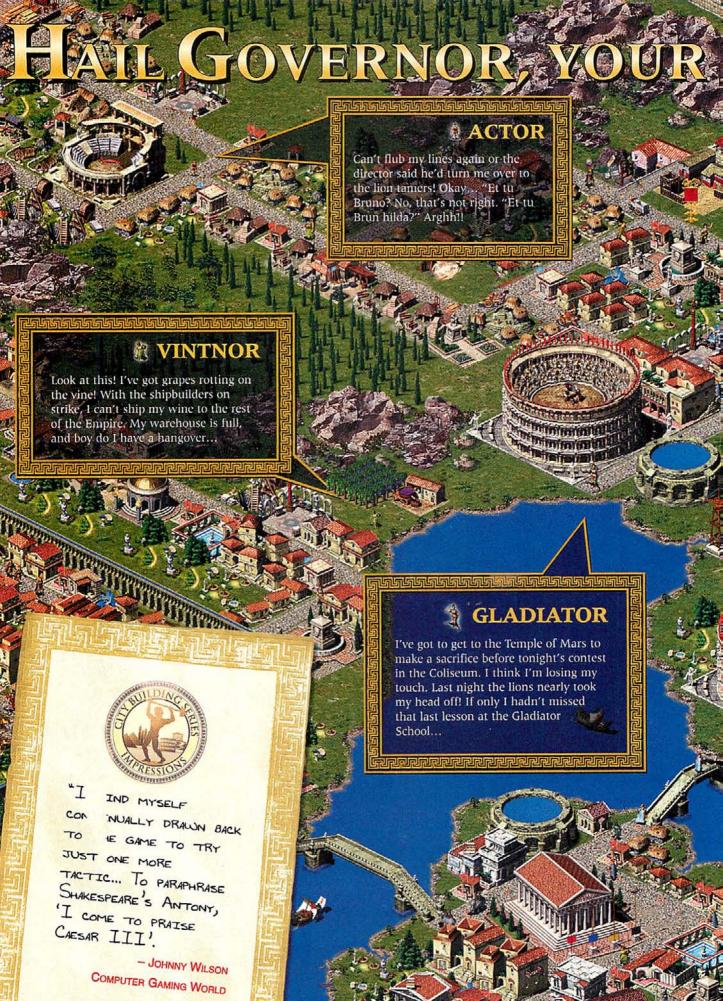


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DEAR FRIENDS, ROWNS, COUNTRIMEN:

face mean more exciting, longer lasting gamplay.

PC 21

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THE WORLD! BUT IF ALL THIS FUN AND EXCITEMENT STILL DOESN'T INTEREST YOU, THEN CONSIDER THE FACT THAT IN TWO NIGHTS YOUR CURRENT TOWN WILL BE

BURNED TO CINDERS BY MY PERSONAL ARMY. YOU WILL BE

ENSLANED, YOUR POSSESSIONS CONFISCATED, AND BROUGHT TO Rome ANTWAY.

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Rome, Italy



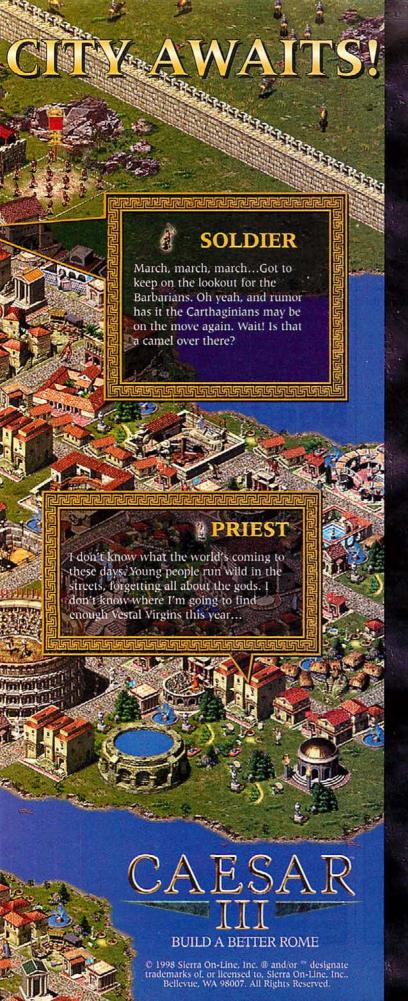
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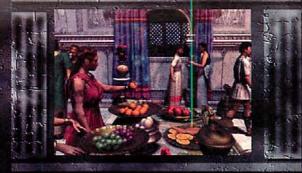
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NASCAR Racing 2000 Edition

NASCAR RACING Is Idling in Neutral

Ithough NASCAR RACING 2000 EDITION (formerly NASCAR RACING 3) won't be out until at least next year, and Papyrus is mostly unwilling to talk about the new design, here's a bit of what we do know. NASCAR 2000 will use a modified version of the GRAND PRIX LEGENDS engine, modifying it, of course, to the physics of the NASCAR automobile.

A new driver AI and new artwork will also add to the realism of the experience. It wouldn't be a stretch to say that the new game will also be built to support Internet play from the ground up, considering how popular this has become with NASCAR RACING 2. Watch for more in the coming months in CGW.

NASCAR Racing 1999 Edition

As a fond farewell to NASCAR RACING 2, Sierra Sports will release a compilation package of everything that is NASCAR RACING 2.

Due out later this year, NASCAR RACING 1999 EDITION will include the full version of NASCAR RACING 2, complete with updates to rosters and tracks reflecting the 1998 season, plus the Busch Series Grand National and the Craftsman Truck series. The package will retail for around \$29.95.

NASCAR RACING 2000

RELEASE DATE: Q2 '99
PUBLISHER: Sierra Sports
DEVELOPER: Papyrus
MULTIPLAYER: N/A
3D HARDWARE REQUIRED: No

NASCAR RACING 1999

RELEASE DATE: Q4 '98
PUBLISHER: Sierra Sports
DEVELOPER: Papyrus
MULTIPLAYER: Yes
3D HARDWARE REQUIRED: No

NOW AVAILABLE:

F1 Racing Simulation

Today's Formula One car barely resembles those from 1967—now they cost millions of dollars per season and run at much higher speeds. The thrill is still the same for the drivers and the fans, however.



UbiSoft's F1 RACING SIMULATION is the best F1 simulation—and one of the best racing games, for that

matter—to come to the PC since MicroProse's GRAND PRIX II. F1 RACING SIMULATION gives virtual drivers of all abilities and skill levels the complete package: easy startup with plenty of driving aids, solid but not overwhelming car control and physics, all the tracks in the F1 season, a full array of tune-up options, and more. A solid AI that reacts appropriately in most race situations makes computer drivers a challenge to race against.

RELEASE DATE: Available Now.
PUBLISHER: UbiSoft
DEVELOPER: UbiSoft
MULTIPLAYER: Yes
3D HARDWARE REQUIRED: Yes

Don't be discouraged by the twoyear-old team rosters and driver rosters. This simulation should be a welcome addition for any racing game fan. See our complete review in the July CGW.

Advice From the Experts

on't miss GameSpot's interview with CART's Scott Pruett and NASCAR's Bobby Labonte, as they give their advice on each and every track in their respective series. Both Pruett and Labonte talk about track characteristics and how to drive them, as well as how to set up your car for each one. You'll find it all and more at www.gamespot.com.

ARCADE RACING

Ithough arcade racing games model real cars, they don't model them with the accuracy and realism of a simulation. Arcade racing games also characteristically supply numerous cars (that's why they can't possibly model all of them realistically), a multitude of exaggerated roads and tracks, and pumping pop music. These games are designed for fun, not realism, and are for those who don't want to practice to compete. Just mash the gas pedal to the floor and drive away.

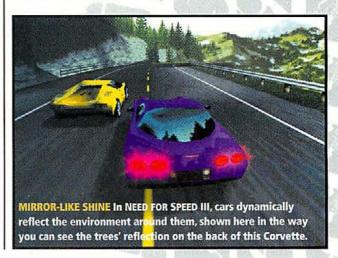
Need For Speed III: Hot Pursuit

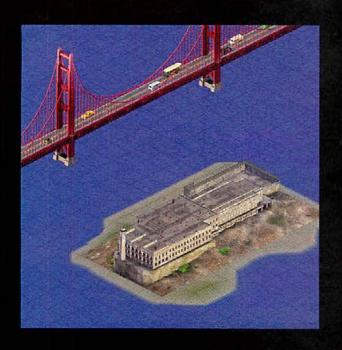
The Cops Are Back and They Brought Gameplay With Them

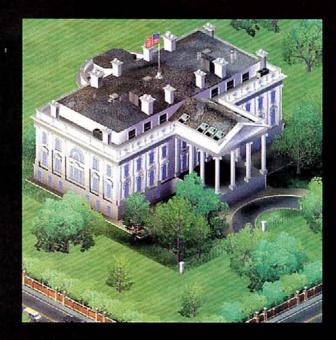
ure, it has plenty of styling sports cars and lots of winding roads.

And yes, there's nothing like zipping through traffic in a head-to-head race against another high-priced car like your own. But what makes NEED FOR SPEED III one of the most entertaining racing games to date is the highway patrolman who will try to rain on your speed parade. Surprisingly dropped from NEED FOR SPEED II, the cop cars are back in NFSIII, and this time they've brought backup.

If you haven't seen a screenshot of NFSIII, take a look. Yes, the game looks this good—if you have the 3D hardware to run it. Nine high-







INMATES OR INTERNS?

SimCity 3000TM is sure to be a landmark in PC games thanks to its dozens of real-life landmarks. From the halls of the White House to the cells of Alcatraz, it gives you everything you need to formulate your own fantasy of famous cities. So will your burg be the seat of power or the seat of the electric chair? Home to the Birdman or Bubba? Will tomorrow's hot topic be imprisonment or impeachment? We just give you the power. What you do with it's your business.











THE ROAD AHEAD Cones show you the proper line. Your performance is displayed in the lower-left corner of the screen.



THREAD THE NEEDLE Hit the gas to make it though this narrow opening. Crash, and you might fall prey to the cop up ahead.

performance sports cars with reflective surfaces, polished to a mirror-like shine, make it hard to choose which one to take out on the open road first. Should you choose the Corvette C5 or the Jaguar XK8? How about something with a little more horsepower, like the Ferrari 550 Maranello or the Lamborghini Diablo SV? You'll feel like a kid in a candy store. Each car is customizable through a selection of colors and tuning options, such as brake balance and gear ratios, which are tweaked with an easy-to-use but simplistic slide bar. EA will also offer more cars for download from its Web site (www.ea.com), making for a potentially limitless number of available cars.

There are nine different tracks in all, plus an Easter-egg track and a couple bonus tracks set in hill country, a red rock desert, along the seaside, high in the mountains, and two futuristic areas: Aquatica, in which you can drive underwater through a glass tunnel; and Empire City, a dark metropolis with an industrial motif.

These environments don't just look good, they're also more dynamic than those in any other racing game to date. Leaves are tossed as you blast by on a country road; water sprays in the air and droplets pelt the windshield (or your monitor screen) on rainy

RELEASE DATE: Q4'98
PUBLISHER: Electronic Arts
DEVELOPER: Electronic Arts
MULTIPLAYER: Yes
3D HARDWARE REQUIRED: Yes

drives; and snow billows from behind your car and sticks to the windshield. The lighting effects are also something to see, especially at night.

But cops in Hot Pursuit mode are where the fun is, and this time

"super-charged enhanced"

Dodge Charger.

cars and secret cars that bring the total number of

cars to 40. The licensed cars range from today's

high-tech sports cars to vesterday's muscle cars.

The 1998-model sports cars are the Dodge Viper,

Chevy Corvette, Aston Martin Vantage, TVR

428CJ, 1969 Chevrolet Camaro ZL-1, 1969

Cerbera, Jaguar XKR, Saleen Mustang S351-R,

Chevy Camaro SS LT4, and the Nissan Skyline. The older muscle cars are the 1966 Shelby Cobra

427SC, 1967 Pontiac GTO, 1968-1/2 Ford Mustang

Chevrolet Corvette ZL-1, 1970 Chevrolet Chevelle SS LS-6, 1971 Plymouth Hemi 'Cuda, and the 1969

tracks, for a total of 17. Race through traffic in

Scotland; Sydney, Australia; Munich, Germany;

such places as Moscow, Russia; Honolulu, Hawaii;

Blue Ridge Parkway, N.C.; Tokyo, Japan; Edinburg,

Next come the locations, 11 in all, plus six circuit

they're serious. Along with the radar detector, you also take a police scanner along for the ride, so you can hear when you're being pursued and where a trooper last spotted you. If the trooper catches up to you and makes you pull over,

he'll go easy on you for your first ticket. If they find you speeding again, they'll call for help, so you'll have more than one squad car coming after you. After ticket number two, they pull out the serious stuff: a roadblock and a spike strip.

If you choose to drive the squad car yourself, things can be just as much fun. Catch up to speeders, then flick on the siren and lights. A reticule targets the assailant, so you know who you're after, or use the spike strip to slow them down and pop out from your hiding place to apprehend them.

NEED FOR SPEED III has the potential to be the best one in the series, and could very well be one of the most fun arcade racing games to date, especially against others over a network.



California; Washington, D.C.; and Bern, Switzerland. The circuit tracks are Cheddar Gorge, England; New Castle, England; Maui, Hawaii; Jarash, Jordan; Montego Bay, Jamaica; and Courmayeur, Italy.

And if that's not enough, crank up the volume on your PC speakers to 10 licensed songs from five bands, including KMFDM, Gravity Kills, Pitchshifter, Fear Factory, and mix-master Junkie XL.

Like NEED FOR SPEED III, TEST DRIVE 5 brings back the cop, who will try to chase you down if you go too fast on the city streets. Or, be the cop yourself and do a little chasing of your own.

Night driving and weather effects add to the game's challenge and realism.

RELEASE DATE: Q4'98
PUBLISHER: Accolade
DEVELOPER: Accolade
MULTIPLAYER: Yes
3D HARDWARE REQUIRED: Yes





EXTRA CRISPY OR EXTRATERRESTRIAL?

With 64,000 colors, your SimCity 3000™ skyline will look better than ever going up. But wait till you see it crashing down—after you select today's devastating disaster. Why leave your city in peace when sometimes it's more satisfying reducing it to pieces? So what's your weapon of choice? Will it be a raging inferno or a ray-gun blast from above? UFO or BBQ? "Take me to your leader" or "take me to the burn ward"? We just give you the power. What you do with it's your business.



SimCity.com

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Test Drive: Off-Road 2

Get Back to Nature and Get In Touch with Your Masculine Side

he publicity for TEST DRIVE:
OFF-ROAD 2 boasts about
the game's exclusive license
for the AM General Hummer, so if
you've wondered what it would
be like to take one of these widebodies off-road, this is the only
game that will let you do it. But
the Hummer is not the only vehicle there is to drive in the game.

Like TEST DRIVE 5, TEST DRIVE: OFF-ROAD 2 has a long list of offroad vehicles to try. You can choose the Land Rover Defender

RELEASE DATE: Q4'98
PUBLISHER: Accolade
DEVELOPER: Accolade
MULTIPLAYER: Yes
3D HARDWARE REQUIRED: No

90, Dodge Ram V12 pick-up, Dodge T-Rex, Ford Explorer, Saleen Explorer (a specially modified version), the Chenwoth Desert Patrol Vehicle (used in Desert Storm), and the ol' Jeep Wrangler. Before you hit the trail, go to

the garage to adjust your vehicle's tires, suspension, brakes, and gear ratio to make it more competitive without sacrificing handling.

Six tracks set in various locations—such as the Santa Cruz Mountains in California, a volcano track in Hawaii, the frozen



ON-ROAD All of the tracks are very bumpy and bouncy, so you better hold on tight and not get sideways.

mountains of Mont Blanc in Switzerland, and the swamps of New Orleans, Louisiana—provide some variety for your off-road fun. Each environment will be somewhat interactive, so that you can run into logs, crash through fences and brush, and splash through mud puddles and shallow rivers.



TAKE A DIP TEST DRIVE: OFF-ROAD 2 lets you drive in locations you might only dream of driving in.

As in the first OFF-ROAD, however, you can't stray from the track or drive out to open terrain. Accolade says they had to make a compromise between more detailed roadside graphics and the freedom to drive...well...offroad. Accolade opted for the prettier graphics.

SPORTS CAR RACING

he three games in this group are similar to each other in that the cars are based on familiar production cars, which are much different from, say, a Formula One car. Both TOCA and the Professional Sports Car Racing GT Series are smaller, lower-budget racing leagues, and are almost identical (except that one is in Europe and the other is in the U.S.). VIPER RACING,

though not based on an actual sport, has a physics model also based on a production car, so it too best fits in this subgenre. What the games in this category provide are cars that are not overly powerful and can be handled fairly easily, yet are fun to race because they can take bumps and bruises without having to drop out of a race.

TOCA Touring Car

It Might Not Be Your Father's Honda, but It's Close

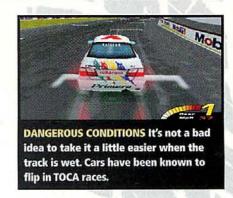
his series is probably unfamiliar to a lot of racing fans in the U.S., for no better reason than it's based in Europe. Touring cars are mass-produced 2.0-liter four-door sedans with high-performance packages added to conform to FIA rules. That means if one of them looks a lot like the Honda Accord, Audi A4, or Volvo S40 parked in your garage (if it were covered with a lot of sponsor stickers),

RELEASE DATE: Q4'98
PUBLISHER: 3D0
DEVELOPER: Codemasters
MULTIPLAYER: Yes
3D HARDWARE REQUIRED: No

that's because it is, just faster and safer. The other teams and cars in the game are Williams Renault's Laguna, Peugeot's 406, Nissan's Primera, Ford's Mondeo, and Vauxhall's Vectra.

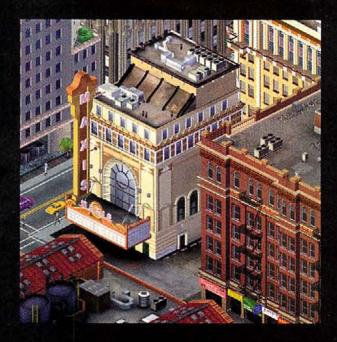
On the track, after the qualifying rounds, you'll be one of 16 drivers waiting for the green light. Get ready to drop the clutch and race to the first turn, and don't be surprised if you get packed in—these cars can take a few bumps. Don't drive recklessly either; TOCA doesn't tolerate dangerous driving and will issue you three warnings before taking off points. Races run on nine tracks with variable weather conditions: sun, rain, or snow.

Because these cars aren't being pushed by the 800-horsepower engines like the ones in CART,



Formula One, or NASCAR cars, they are quite a bit more manageable. But TOCA TOURING CAR still provides a lot of high-speed racing thrills for drivers of all levels. And because their chassis and suspension are somewhat protected by body panels, they can take a few bumps without limping off the track and calling it a day.





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We could rely on all kinds of sophisticated marketing angles to get folks excited about SimCity 3000. But we'd rather rely on sophisticated viewing angles. The vivid new levels of zoom let you pull back to admire your metro masterpiece from ethereal heights. Or push in to see the garbage truck that caused the gridlock that caused the Sims to call for your head. So will it be rose-colored glasses or X-ray specs? We just give you the power. What you do with it's your business.



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Actual gameplay screen shot



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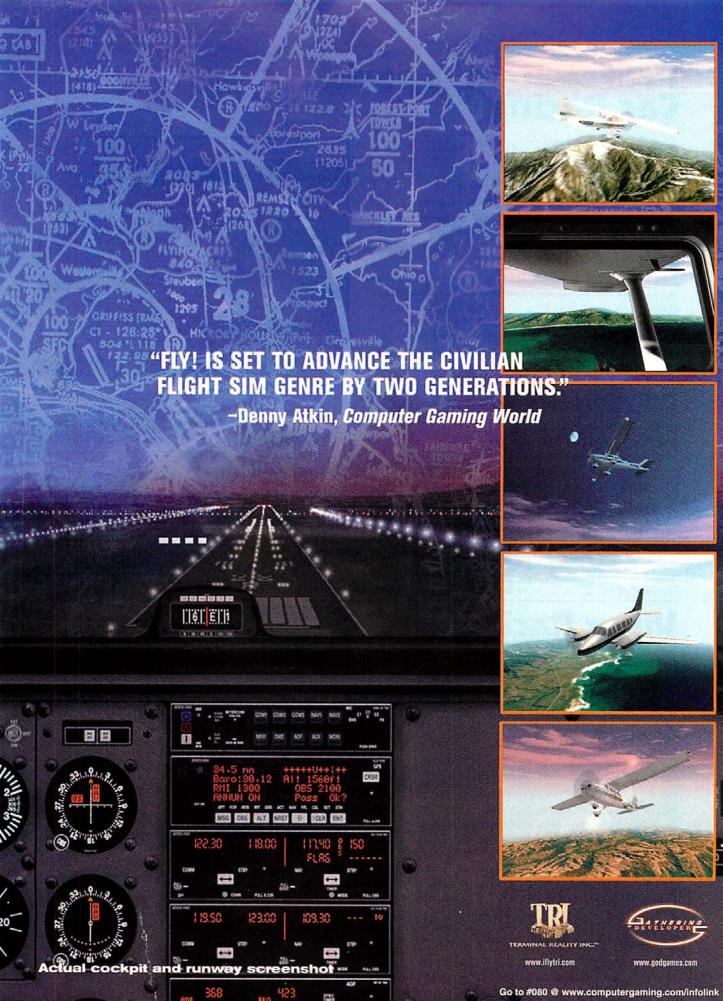












Professional Sports Car Racing

Virgin Promises Unprecedented Realism in This Series

he Professional Sports Car GT series is sponsored by Virgin Interactive, so it should come as no surprise that they've been given full access to all design and technical detail for the cars in PROFESSIONAL SPORTS CAR RACING. With so much information, Virgin should be able to model the cars quite accurately.

These GT-series cars are basically production cars with normally aspirated engines tuned for racing. They come from a number of manufacturers and custom shops, including BMW, Ferrari, Ford, Honda, Lamborghini, Mazda, Nissan, Oldsmobile, Panoz, Pontiac, Porsche, and Saleen.

The series races on some of the most popular locations in America, like Daytona International Speedway, Laguna Seca Raceway, Las Vegas Motor Speedway, Lime Rock Park, Pikes Peak International Raceway, Road Atlanta,

Sears Point Raceway, Sebring International Raceway, and Watkins Glen. All are closed-circuit road courses with plenty of run-off area if you make a mistake (or if someone bumps you out of their way).

Like TOCA TOURING CAR, the cars in this game are easier to handle and can take a few bumps without suffering any damage. Another fun feature in PROFESSIONAL SPORTS CAR RACING is career mode, in which you earn money from your races. You then use that money to upgrade your car between races.



LIGHT THE WAY Dynamic lighting effects, like the headlights from this BMW, give PROFESSIONAL SPORTS CAR RACING a realistic look and feel.

ALL ALONE The empty track looks so inviting as you prepare for a practice session at this track in Las Vegas.

Virgin also plans to create an AI that simulates the driving styles of the real drivers in the series. The operative word from the developers is realism, and if they deliver on that promise, this could be a refreshing change from the usual hard-core racing sims. See our complete preview in the October CGW.

RELEASE DATE: Q4 '98
PUBLISHER: Virgin Interactive
DEVELOPER: Virgin Interactive
MULTIPLAYER: Yes
3D HARDWARE REQUIRED: No

Viper Racing

Indulge in America's Most Aggressive Sports Car

ans of the Dodge Viper should delight. The name says it all—this game is all Vipers and nothing but. Even if spending \$70K on a car doesn't make sense to you, choosing to model only Vipers in a computer game does. Focusing on the Viper has allowed MGI President and Papyrus Co-founder Rich Garcia and his team at MGI to re-create a car beyond compare, and Garcia readily shows you how through an in-game cutaway view of the

RELEASE DATE: Q4 '98
PUBLISHER: Sierra Sports
DEVELOPER: MGI
MULTIPLAYER: Yes
3D HARDWARE REQUIRED: No

front suspension, which works to absorb the invisi-



ble bumps in the road as you drive.

The AI in an early build reacts much like

your friends would if they were in control of the other cars. Aggressive takeovers and a few spinouts would certainly occur from time to time. The good thing is that the computer drivers will also take out each other, instead of always following the perfect line.



NECK AND NECK Take out a couple of Vipers that are set up the same, and you should see some close races, in which the best driver wins. Realistic physics and car modeling mean that crashes look natural and body panels bend to show where the contact was made.

A career mode lets you join three different racing classes and earn money to upgrade your car. And with the paint kit, you can make your Viper look the way you want. If you get too good for your buddies, you can handicap yourself to level the playing field.

CRANK UP YOUR CRANIUM, SHAKE UP YOUR SYNAPSES.



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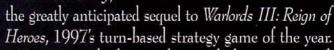
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Darklords, spread like a contagion across the land. Will you be able to stop their unholy juggernaut?

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- Bonus: Includes original campaign and scenarios from Warlords III: Reign of Heroes

In short, more adventure, deeper gameplay and fewer chances for survival.







MOTORCYCLE RACING

ong a big void in computer racing, motorcycle games are finally beginning to hit the track. No fewer than five motorcycle-racing games should be on store shelves by this Christmas, two of which are already available at the time of this writing. Collectively, they span most types of motorcycle racing, from street to dirt and from arcade to simulation.

One great feature in most of these next-generation motorcycle games is their use of separate objects for the bike and rider. Sure, this makes for more spectacular crashes, as you watch the driver go sailing through the air like a rag doll, but it also makes rider and bike seem to operate much more naturally when viewed in a chase camera view. For racers who prefer two wheels over four, 1998 should be a vintage year.

Moto Racer 2

Street Bikes and Dirt Bikes in One Sequel

ast year's popular motorcycle racer from EA is back for another go, this time with fun new features, more tracks, and better graphics.

As in the original game, MOTO RACER 2 lets you ride both high-powered street bikes and knobby-tired dirt bikes. Race any one track in a single race or start a season. The season takes you through both street and dirt bike racing, so you'll not only have to master braking and fast cornering on

street courses, but power sliding and jumping on dirt tracks as well. When you think you've mastered the game in arcade mode, you can test your mettle in simulation mode—not only does the competition get tougher and better, but the bike gets a lot



NIGHT RIDER MOTO RACER 2 uses dynamic lighting effects to light up the road in an evening race.

harder to handle.

This sequel includes 32 new tracks set in places like the Amazon rain forest and the Sahara desert. Besides the more detailed scenery around each track, the biggest difference in this

sequel might be found in the dirt bike races—most of them have more dramatic elevation changes and higher jumps.

In the beta version we've been playing, the bike's sound effects are the same, and the driving model is only moderately

improved from the original. But this is still an arcade driving game, and it's still a lot of fun if that's what you're after. You don't crash too often, but you slow down quite a bit if you hit the side of the road (you can't go off the road as in MOTO RACER).

MOTO RACER 2's best new feature might be the new 3D track editor, which allows you to modify an existing track or create your own from the ground up. And if you try to do something to the

track that the bike can't handle, like make a hill that's too steep or a turn that's too sharp, the track editor will mark it with a flag (although you can still try to ride it). It's a fairly versatile track editor and should be fun to play with.



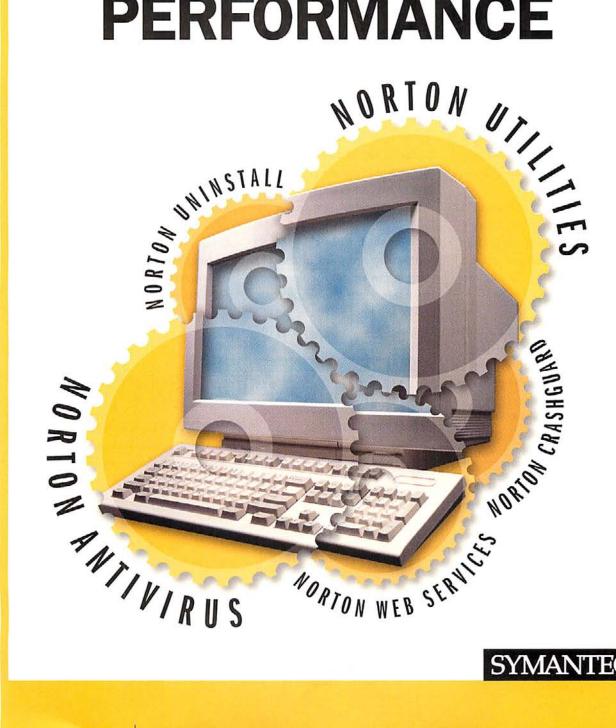
tain the crowd, but don't forget the landing.

RELEASE DATE: Q4 '98
PUBLISHER: Electronic Arts
DEVELOPER: Delphine Software
MULTIPLAYER: Yes
3D HARDWARE REQUIRED: No



RELEASE DATE: Available Now
PUBLISHER: Microsoft
DEVELOPER: Rainbow Studios
MULTIPLAYER: Yes
3D HARDWARE REQUIRED: Yes

GEAR UP FOR TOP **PERFORMANCE**



Norton SystemWorks™: The smartest way to keep your computer working

Whether you're an experienced PC user or new to the world of computing, you need utilities. Your computer needs constant maintenance — from optimizing your system to keeping your hard drive clean. It needs protection against viruses and infections. And ways to safely remove programs and files you no longer want, prevent crashes and resolve conflicts.

That's a lot of utilities. So many that they duplicate functions, sucking up system memory and precious space on your hard drive. Sometimes they even conflict with each other!

Of course, computers ought to function well these days. But since they sometimes don't, you need a single, comprehensive solution that will keep your computer working. A solution that's affordable. A solution that's easy to use.

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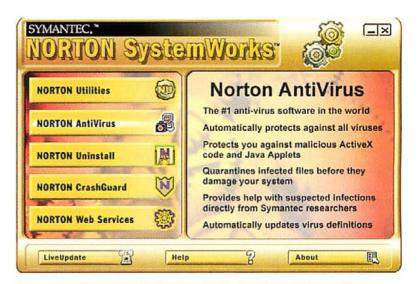
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leader in detecting, repairing
and preventing major and
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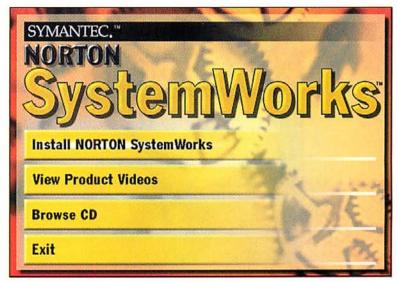
that's three times as effective as any other program. Using award-winning Norton technology to find and solve your disk problems, Norton SystemWorks includes software that detects and solves software problems behind the scenes without slowing you down.

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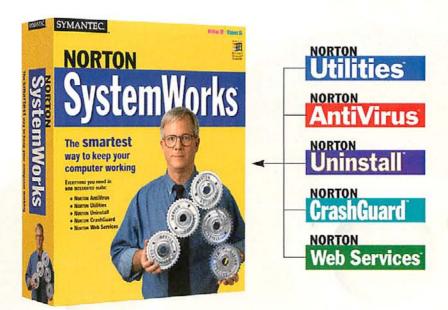
And if you're already using other Norton products, it's easy and affordable to move up to Norton SystemWorks.

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*Manufacturer's suggested retail price.



Superbike World Championship

The Only Motorcycle Game With the Full Superbike License

Ithough its name is very similar to Intense Simulations' CASTROL HONDA SUPERBIKE WORLD CHAMPIONS sim, this game has the full Superbike World Championship series license, so you get the full array of 1998 teams, riders, tracks, and motorcycles. (Intense's game simulates only the Castrol Honda team bike and doesn't race on the actual tracks in the series).

Hop on the motorcycle of your choice: the Ducati 916, the Honda RC 45, the Kawasaki ZX7R, the Yamaha YZF, or the Suzuki GSXR. All of these bikes are built for quick acceleration and fast top speeds. Only the most skilled riders can handle them-or even have the guts to race them. Many of the actual riders from the series will be featured in the game, including world champions Carl Fogarty and John Kocinski.

SUPERBIKE will let gamers race all over the world at some of the most popular tracks in each country, including Monza, Italy; Nurburgring, Germany; Laguna Seca, USA; Sugo, Japan; Donington, UK; and Phillip Island, Australia. There will be 14 tracks in all, each

one accurately re-created using topographical and geometric data.

As is the case with many of the other motorcycle games, riders are polygonal objects independent of their machines, so you will see them go hurtling through the air in a crash, pick up their bike, and get back in the race (if they can).

RELEASE DATE: 02 '99 PUBLISHER: Virgin Interactive **DEVELOPER:** Milestone **MULTIPLAYER:** Yes 3D HARDWARE REQUIRED: No

Redline Racer

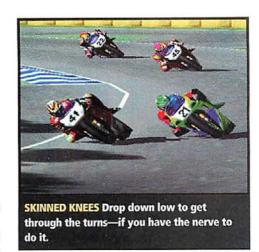
Action-packed Arcade Racing With Lightning-fast Graphics

EDLINE RACER doesn't hide the fact that it's made for fast-paced arcade action. You'll realize that as soon as the light turns green and you shift your way up to sixth gear in a matter of seconds. Even if you choose to let the automatic transmission do the work, it won't slow you

point of arcade racing games is

down, since the usually to get up

MAKING WAVES It might seem silly to ride a high-performance street bike along a sandy beach, but not in this arcade racer.



NOW AVAILABLE:

Castrol Honda Superbike World Champions

f you're looking for something other than the more arcade-type motorcycle racing games currently available, check out CASTROL HONDA SUPERBIKE WORLD CHAMPIONS. This game is about as realistic a simulation of the Castrol Honda team's motorcycle as you can get. Control is smooth and linear, and bike performance is realistic yet predictable. A thoughtful garage setup interface makes tweaking these high-performance machines a snap, even for the mechanically challenged driver. See our review in the October CGW for more.

RELEASE DATE: Available Now **PUBLISHER:** Interactive Entertainment **DEVELOPER:** Interactive Entertainment MULTIPLAYER: Yes **3D HARDWARE REQUIRED: No**

to top speed as fast as possible. There's plenty of action in this game, too, since a lot of the tracks are set in some ridiculous places—imagine racing a street bike on sand-but they look really great.

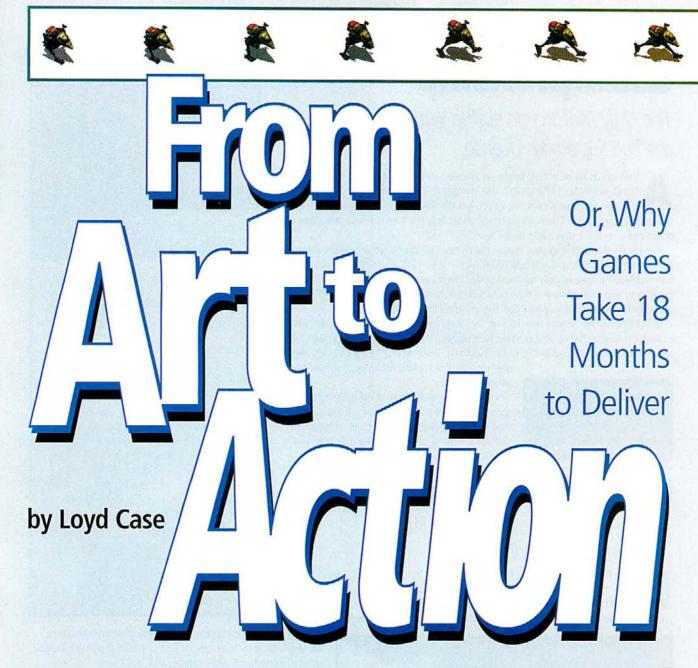
The game requires a 3D card, and the payoff is worth it. The detailed dynamic scenery flashes by at lightning-fast frame-rates. Along the track at the beach, you can even watch the tide ebb and flow. You'll also see animated objects such as helicopters and birds, as well as other special effects, including weather and sun glare that will hinder your visibility.

Only a few of the tracks and bikes are available to you right away. You have to unlock the others by placing in the first three races. (See our full review this issue.)

REDLINE RACER will have a full range of multiplayer support, so

you can easily race against friends who may not be as race-savvy as you are. There's also support for force feedback control devices, if you're into feeling the road beneath your wheels. Gall

RELEASE DATE: Available Now PUBLISHER: UbiSoft **DEVELOPER:** Criterion Studios **MULTIPLAYER:** Yes **3D HARDWARE REQUIRED: No**



ean forward. No, closer—I have a secret I want to share. I love 3D graphics. No, I'm not talking about APIs, hardware accelerators, or even UNREAL. I mean, I love 3D graphics creation tools. Although I qualify as only a dilettante, I fool around with applications like 3D Studio Max, Lightwave 3D, and Bryce 3D. But creating a simple model in 3D Studio is not the same as getting hundreds of models and texture maps into a game. So I thought it would be fun to get game developers to reveal how they did it.

GENRE DICTATES STYLE

If you've ever watched a high-quality 3D shooter and a sophisticated flight sim side-by-side, you may have been struck by the differences in appearance. Both use 3D graphics, but with markedly different results, because of the different trade-offs that designers have to make to get good performance out of each type of game. There are also games that have a 3D look but aren't true

3D—many real-time strategy games fall into this category. In these mini—case studies, we'll take a look at several genres and how they handle 3D art.

Of the genres, 3D corridor shooters, such as QUAKE II and UNREAL, have some definite advantages. The design challenges are still there, but shooters have smaller environments than flight sims, for example. It's a lot easier to render a handful of characters running through a corridor than two squadrons of fighters, multiple ground vehicles, and 50 square miles of realistic-looking terrain. Early in the history of 3D acceleration, flight-sim designers resisted using 3D accelerators because they often had huge texture sets in any given scene.

Driving games fall somewhere in the middle: They feature larger environments than a corridor shooter, but the vehicles generally run within fixed tracks. Even racing games that seem to have a more open environment make some trade-offs, as anyone who has driven underwater for an extended length of time in MONSTER TRUCK MADNESS can attest. Let's take a look at the workings of three different games.















MechCommander: Not 3D—but a Living World

ECHCOMMANDER falls into that special third category I mentioned: It has a fairly strong 3D feel, but it isn't really a 3D game.

What MECHCOMMANDER definitely is, however, is one of the most graphically complex real-time strategy games ever shipped. Each map has huge numbers of "live" objects. For example, forest squares have five different states: standing, fallen, undamaged, burned, and burned and fallen. All the buildings are similarly live, as are fences, walls, and gates. The BattleMechs themselves are even more complicated. Each Mech comprises four different 2D sprites. Legs are rendered at 16 distinct angles, while torso and arms are rendered at 32 angles. There are 150,000 frames of animation for each Mech. Because of the artistic complexity of the world, designers had to make trade-offs; one was the removal of the "save anywhere" feature. With so many live objects and states in any one map, saving a game could take several minutes. Contrast this with the original DOOM, in which there were only eight single views of any live monster (DOOM used 2D sprites for creatures and wasn't "true" 3D).

This brings me to an important point: Animation is an illusion that creates the appearance of realistic motion. Even 3D action games tend to have limited amounts of real animation for each creature or character. More on this later.

If 150,000 frames of animation for each Mech seems like a lot, you're right. So the tools used to create these effects need to be quite sophisticated. FASA Interactive used Alias Poweranimator running on Silicon Graphics workstations for the Mech animation. Buildings and vehicles were built using Newtek's Lightwave 3D, a popular 3D modeling and animation package

that harks back to the The seemingly simple running motion of this Mech can only be accomplished through long hours of programming and testing. Compound this by thousands of animations for a standard 3D game, and you can understand why development takes so long.

Amiga but now runs on a wide range of systems.

All the art was created in 24-bit true color. The animations themselves were rendered at the zoomed-in game size. The zoomout images were size-reduced from the final rendering. Getting all that game animation into the game proved to be very challenging and required concerted cooperation between the artists and the programmers, along with a lot of sweat and time, to pull it all together.

Rendering, in the case of generating animation from a series of static images, can take a long time. Most 3D cut-scenes you see in games are rendered this way. The rendered animation can take hours using multiple networked systems—realtime it ain't.

One of the trade-offs the MECHCOMMANDER team made was to use 8-bit color (256 colors) for the shipping game. They chose the color palettes carefully, and the result is one of the prettiest 256color games I've ever seen. However, the decision to go with 8-bit color meant making a significant compromise in the game itself. FASA Interactive originally built in a fog-of-war option, but couldn't get it to work well graphically with 8-bit color. The compromise in the final game is that an area, once exposed by exploration, is always visible. Trade-offs like this happen every day in game programming.

MECHCOMMANDER has more animation and more live objects and terrain than any other realtime strategy game. This attention to artistic detail makes the game



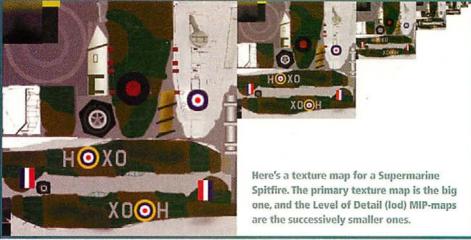


Confirmed Kill: Gravity and Ground

ims are another story altogether when it comes to 3D graphics, and there are major distinctions within the genre. Space sims have it relatively easy. Games like TIE FIGHTER, FREESPACE, and WING COMMANDER: PROPHECY don't have to worry about rendering terrain or the constant effect of gravity. Flight sims, however, have to render real-world gravity and miles and miles of terrain, all of which tends to suck up either graphics accelerator cycles or CPU cycles, resulting in sacrifices that have to be made in image complexity.

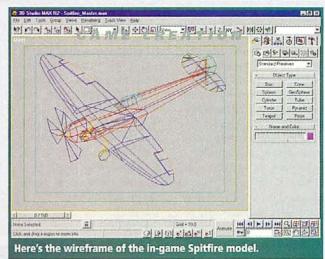
I spent some time at Eidos with the design team for CONFIRMED KILL, an upcoming WWII flight sim, to find out how they deal with such rendering challenges. One way that flight sims can manage levels of detail is through MIP-mapping, which uses a series of texture maps, each one slightly larger than the previous one. As an aircraft gets closer, a larger texture map with increased complexity gets applied to the now-larger aircraft. The programmer who writes the game engine decides at what point the new MIP-map is applied. The original texture map is created in Adobe Photoshop, but Eidos has a proprietary tool that automatically creates the smaller MIP-maps

from the full-size original.



Each "world" or mission typically has a set polygon budget. Even in the era of third-generation 3D accelerators and 450MHz CPUs, there is still a limit to what can be rendered at 30 frames per second. So tradeoffs get made here, too. For example, the gamer's plane consists of roughly 500 polygons. However, each enemy plane is rendered with only about 200 polygons. The CK team's thinking here is that most flight simmers will spend time in external views, looking at their own planes, but they're not going to spend a lot of time closely examining an enemy plane that's shooting at them.

Ground texture maps in CONFIRMED KILL consists of terrain tiles that are laid out at run time, rather than the huge photorealistic textures of some sims.

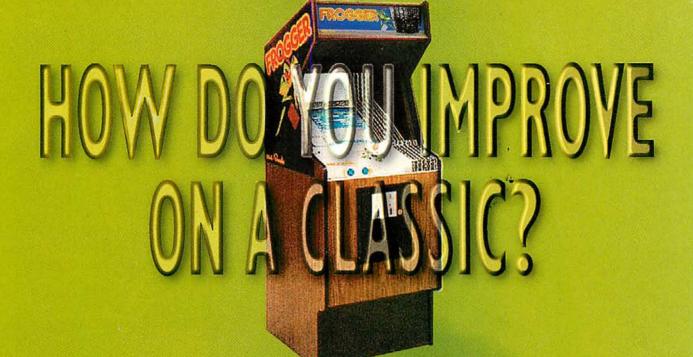


This yields better performance, but at the expense of terrain accuracy. The minimum distance between defined terrain points is roughly 20 meters. Some sims have more precise terrain; others, less. Even so, the texture

maps for terrain can become quite large. CONFIRMED KILL loads up to 8MB of textures at a time but, interestingly enough, doesn't make effective use of AGP. According to assistant producer Mike Weksler, this is an



Ever wonder how they create those nifty "virtual cockpits"? You guessed it—it's just another 3D model, only it surrounds you. Panning around the cockpit in realtime is just like flying around in a smaller world. Even the tiny gauge needles are small polygons that move in realtime.



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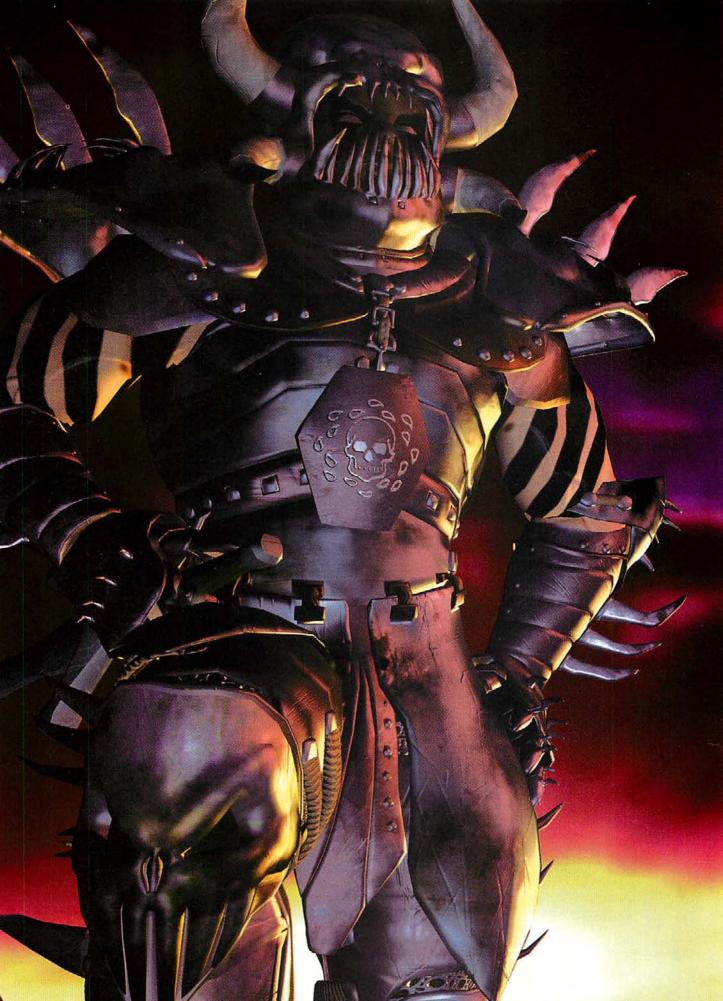






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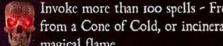
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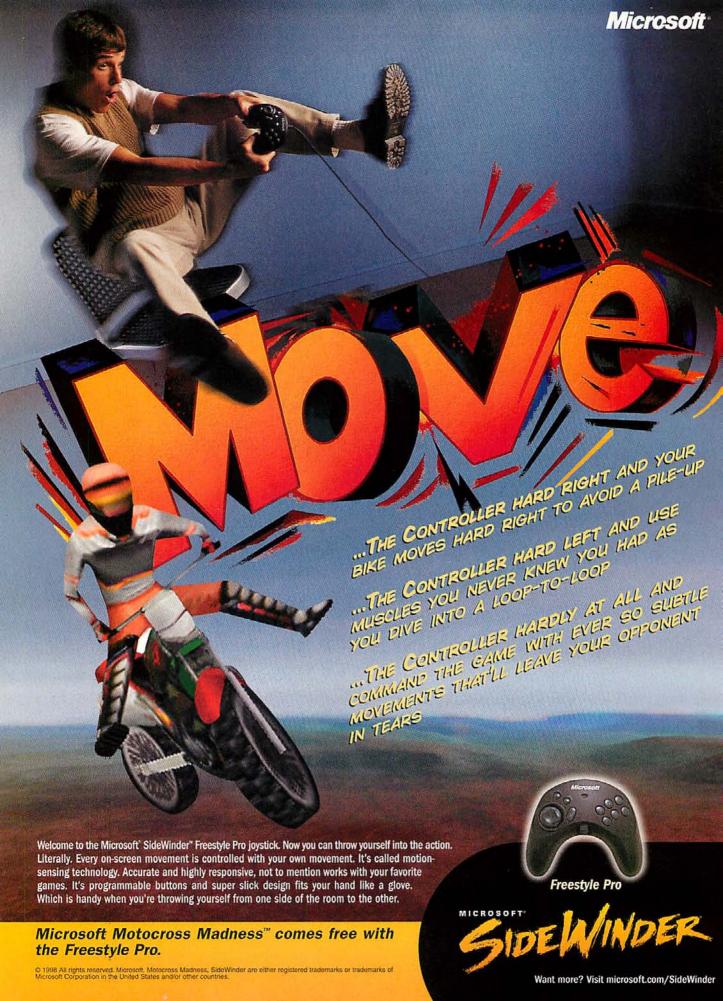






Dûngeons& Dragons





BUDGETING FOR PERFORMANCE

f art was all there was in a game, it wouldn't be much of a game (no MYST jokes, please). Graphics is only one piece of the action. There's also AI, physics modeling, game controllers, and audio, each of which has an impact on performance. Game designers and programmers wrestle with these issues all the time—essentially, they budget for performance.

The first step is usually to determine a baseline CPU. At Eidos, according to CONFIRMED KILL producer Mike Gilmartin, the goal is to pick the CPU that will be mainstream by the time a game ships. The CONFIRMED KILL team is shooting for decent performance on a Pentium 150. Andrew Lunstad of Fenris Wolf said the company is aiming for good performance with REBEL MOON REVOLUTION on a 166MHz Pentium with MMX and a 3Dfx (Voodoo¹) card.

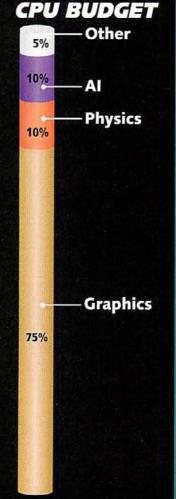
But performance budgeting is really the art of estimation. "We try to keep these things a little bit rough, since they vary with game action," Lunstad said. Both producers agreed that the biggest chunk of the performance budget these days is graphics—as much as 75–85 percent in the case of REBEL MOON REVOLUTION (this includes both geometry and rendering chores). Al accounts for 5–20 percent; physics, 5–10 percent; and whatever is left is allocated for audio, networking, and other chores.

Another issue that is fairly new is budgeting bandwidth. "If we have to load 200MB of data to get at all the vertices, our game will stall on the memory bus," Lunstad added.

The polygon counts for the final game are then decided based on the target CPU and budget for graphics. In CONFIRMED KILL, the player aircraft consist of 500 polygons, while the enemy planes are roughly 200 polygons. Of course, buildings and ground objects also use some of the polygon budget. REBEL MOON RISING budgets roughly 3,500 polygons for the environment and 250 polygons for each character—and there can be as many as 16 characters running around at any time.

Networking issues can sometimes result in trade-offs. Eidos' Gilmartin pointed out that the single-player game tracks every bullet fired, whereas in network play the bullets are calculated as groups of five. Trying to track every bullet fired on the network would result in unacceptable network traffic. Tracking state changes also uses up some of the CPU: Is a building standing, partially damaged, burning, or completely destroyed?

Still, it's clear that with modern games, graphics and animation account for the lion's share of the performance budget. So the next time you're running down a corridor in your favorite 3D shooter, remember that the graphics are eating more CPU horsepower than the Apollo lunar missions.



artifact of the 3D engine that the CK team is using, which was developed in the pre-AGP era and which forces complete copying of texture across the bus. Weksler pointed out, however, that the extra bandwidth and absence of bus contention resulted in better performance in CONFIRMED KILL.

The design team has used two different tools to create the game's aircraft models. To create the ingame models the designers used a modified version of Flight Sim Toolkit, an old modeling package designed by Simis specifically for creating flight sims. But to create the complex models used for cut-scenes, the designers turned to 3D Studio Max by Kinetix, a highly sophisticated package widely used by game companies for a variety of 3D art. The CK team is also working on tools that would allow 3D Studio Max to export files for ingame models. As a result, noted 3D artist John MacKay, designers would need to create only a single model for use in both cut-scene animation and in the game. But, McKay added, it wouldn't be that simple. The cut-scene models can have up to 500,000 polygons; the in-game model, only 200-500. Getting from 500,000 polygons to 500-a 1,000X reduction in polygon count-isn't easy if you want the low-count model to look good. Gary LaRochelle, another Eidos artist, noted that working with programmers was a give-andtake process. In fact, this negotiation between artist and programmer was a common theme. The programmers want to add more features and increase performance, while the art team wants their stuff to look good. It all has to come together in the middle somewhere.

Action Games: Where They Are

ction games offer yet another set of challenges for 3D design. In any game, one of the biggest challenges is how to keep track of all the objects and their various states. The console gaming world has often made use of Multigen, and that tool is now finding favor among computer game developers.

Graeme Devine of Trilobyte uses Multigen to aid the development of EXTREME WARFARE, a real-time, team-based 3D wargame. "Multigen has a publicdomain format, which allows easy creation of level and game objects," Devine says.

In fact, Trilobyte wants people to actively develop levels and new objects. Multigen also allows the Trilobyte programmers to easily set trigger points, which can range from doors opening to spawning points for new players.

Like many other game developers, the Trilobyte programmers use 3D Studio Max as their primary

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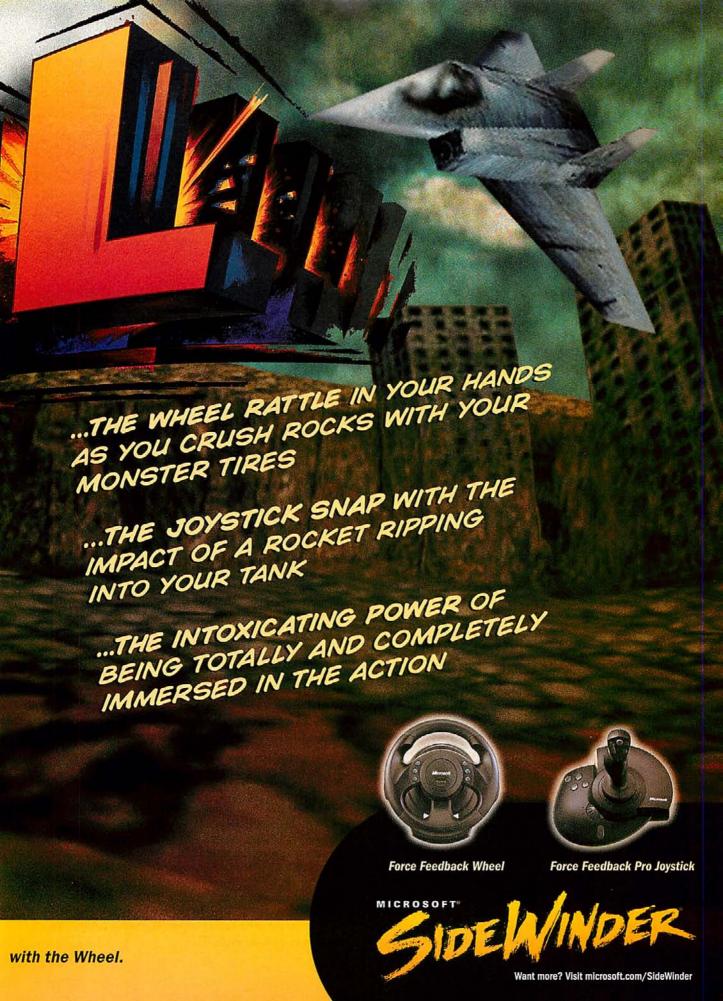
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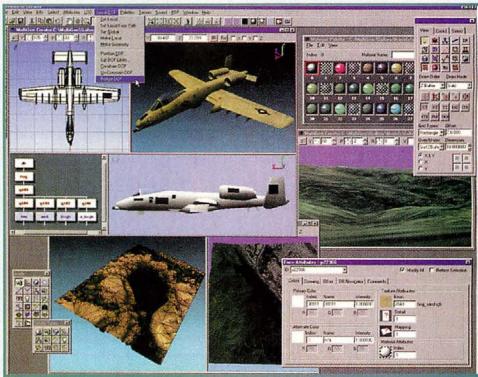
modeling tool and Photoshop to create texture maps. But Multigen is used to bring all the disparate parts together. Underlying Multigen is a complete scene database, which allows relatively easy management of game data. Games are very data intensive, and being able to find and retrieve game data efficiently is critical. In an interesting artistic trade-off, distant vehicles are simply rendered as texture-mapped boxes-after all, you can't really make out any detail at longer range. The close-up texture maps are 256x256 pixels—a size commonly used by many 3D games. Devine suggested that Trilobyte's next effort would use some kind of scaleable mesh format to better manage polygon counts dynamically.

Fenris Wolf's REBEL MOON REVOLUTION (RMR) is the third and final game in the REBEL MOON series. The series has a relatively coherent storyline throughout the series, but the technology has evolved significantly over time.

One choice that Fenris Wolf made for its 3D animation engine was to use OpenGL. Fenris Wolf CEO Theodore Beale noted that, because of the game's schedule, it couldn't be dependent on Microsoft's schedule for DirectX 6. The game engine is already well under development and uses features that are only available on the just-released DirectX 6.

The 3D art in RMR is created in 3D Studio Max. Fenris Wolf has developed a plug-in for 3DS that exports models directly into the 3D engine's format. The artists also use 3D Studio Max as their texture map design tool, but Beale acknowledges that they are shifting to Photoshop for object and terrain textures. Character textures are designed using 4D Paint, a tool for interactively painting textures onto 3D models.

Using OpenGL has created its own challenges. Despite lots of work on the part of 3D hardware makers to create OpenGL drivers,



Multigen handles modeling and animation tasks, but is also a scene database manager and can perform many other functions.

they don't always work as advertised. The RMR team was careful to write compliant OpenGL code, yet the engine still had problems with some OpenGL drivers.

One of the harder parts of designing a 3D action game is designing the environment.

Because of the squad-oriented nature of the game, many of the areas are larger than that of a more traditional corridor shooter like QUAKE II. Yet the polygon budget for the entire environment is 3,500—compared to 250 polygons for each soldier. There's also much more detail in each character than in the entire environment.

The characters in REBEL MOON RISING use a bones-based animation system. It starts out as a kind of 3D stick figure, with connections between the joints.

Joints can be defined as bending joints, rotational joints, or both; and limits can be set for how much each joint can move. An arm, for example, might have three joints—shoulder, elbow, and wrist, with defined motions for each joint. Polygons are then "wrapped" around each segment

of the arm individually. Bonesbased animation can look fluid and realistic, and it has the benefit of using less data. Each soldier in RMR has about 500 frames of predefined motion. The character is rendered in realtime, but the visual behavior is predefined. Running, for example, will look the same for a particular character every time he runs.

The problems with the 3D environment are exacerbated by other design trade-offs. For example, the squad AI (artificial intelligence) is quite extensive. At one point, it got so complex that Fenris Wolf had to cut it back. One step the company took to help solve pathfinding difficulties was to eliminate elevators. Instead, it included numerous ramps and stairs throughout the levels. But switching to ramps and stairs increased the polygon budget—another delicate design balance decision.

The RMR teams manage level of detail partly by rendering each room of a building separately, and rendering the outdoors separately, then linking them together in the level file, which reduces the memory needed to load a level and helps to manage the polygon budget.

Lights, Camera...

he next time you're tempted to lament the long time it takes for game development, consider the complexity of dealing with just the art. It requires enormous amounts of time and artistic effort to create and perfect models and texture maps. And since no good game consists solely of art—there's also Al, sound, game controller interfaces, user interface design, mission design, and a host of other issues—game development, by necessity, is a long, drawn-out affair.

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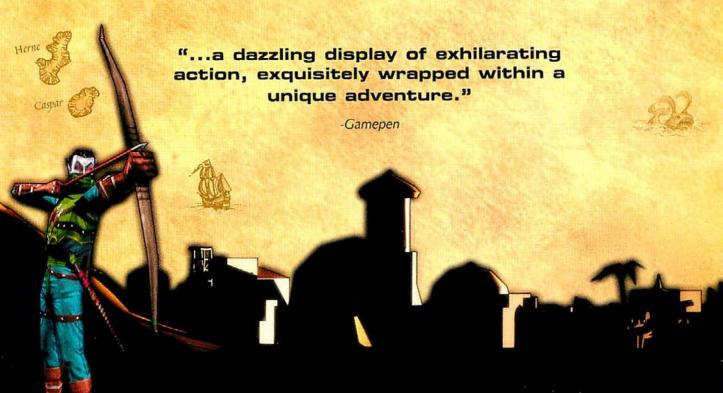


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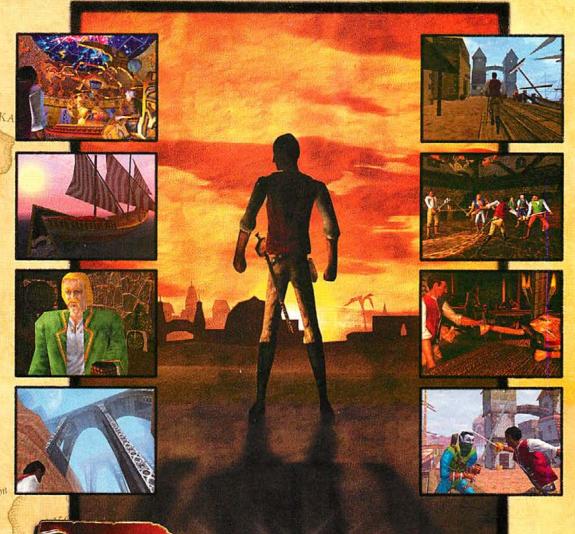
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Pankor



by Dave Salvator

New Levels of Performance Present Exciting Possibilities

othing has shaken up the PC gaming universe so much as the arrival of 3D graphics accelerators. No other single piece of hardware has made more jaws drop or generated more fervor, hype, speculation, excitement, or frustration—not to mention some unprecedented stupid marketing tricks. But spin-doctoring aside, 3D graphics accelerators have come a very long way indeed. From the agony of Creative Labs' disastrous 3D Blaster and S3's ill-fated ViRGE line, to the ecstasy of 3Dfx's original Voodoo accelerator, many graphicschip makers have had to sprint up the 3D learning curve just to stay in the game.

3D HARDWARE

Hot Potato

Dfx's Voodoo2 was heralded at arrival, and there are several new chips (from nVidia, ATI, and S3, among others) that hope to equal Voodoo2's performance. How many actually will is the subject of much debate; and where multitextured games are concerned, Voodoo2 is still very tough to beat. But imagine for a moment a world where just about every new 3D accelerator had performance approaching that of a Voodoo2 board; where almost every chip was at or near 100Mpixels/sec of fill rate (the measure of how fast a chip can blast pixels onto a scene's polygons). What would game developers be able to do with that much performance? Well, a number of things, including more detailed models, greater resolutions (like 1024x768 and higher), multitexturing, full-scene antialiasing, and enhanced filtering effects.

New accelerators are only part of the overall 3D pipeline in a PC, of course. Other system compo-

> nents—the CPU, system chipset, system memory, and AGP or PCI—will also play a

crucial role in making the performance of new 3D titles either fly or flounder. 3D graphics is an ongoing game of "hot potato" as to which system component will be the bottleneck, and the 3D pipeline can be only as fast as its slowest component. Where is the bottleneck now? Turns out that. for the most part, the new class of 3D accelerators is host-bound, waiting for the CPU to feed them more triangles. But CPU makers are laboring to increase their triangle output, and there are some interesting, lower-cost alternatives

Each new generation of games seems to up the performance ante. For the most part, game developers pine for five things: higher triangle counts, more textures with higher detail, multitexturing, better filtering, and higher resolutions. But how do these new demands tax your system? And which system parts should you consider upgrading to get ready for this holiday season? For the answer to these questions—and as a prelude to our 3D graphics roundup juggernaut next month-let's travel the 3D pipeline to understand the role played by each part of the system

in making 3D graphics happen, and see what changes are looming on the horizon.

First Things First

Consider, first, how the 3D graphics workload is divided. The CPU still handles the early stages of the pipeline, namely, translation and clipping, and transformation and lighting (T/L). Translation is the moving of a 3D object along one of the three axes (x, y, z); clipping involves determining which polygons from the 3D world are visible in the scene, keeping those for further processing, and discarding the rest. Transformation is the "free" moving of objects in 3D space; and lighting, as the name suggests, is the application of lights-specular, spotlight, ambient, colored-to the objects in the scene.

After leaving the CPU, 3D graphics arrive at the accelerator via AGP or PCI. The accelerators handle a lot of the rendering work, and this stage of the pipeline is sometimes called the "rasterization" portion. A few years ago, games were "fill-rate-limited," meaning that the 3D accelerator was the bottleneck. But those days are gone, and many newer chipsets are bound

by the slower rate of triangles being fed to them by the CPU.

The whole subject of 3D graphics is a complicated one, and oversimplification can be misleading. But two metrics (and their relationship to each other) emerge that game developers care about: triangle-rate (the number of polygons a 3D system can produce and draw) and fill-rate (the speed at which an accelerator can blast pixels onto the rendered triangles). Although game performance doesn't correspond directly to these rates, there is pretty good correlation. So, you need both good triangle-rate and good fillrate to make games look better. Right now, we have more of the latter than the former, so let's take a look at how the CPU contributes to making 3D happen, and what will be happening to that part of the 3D pipeline.

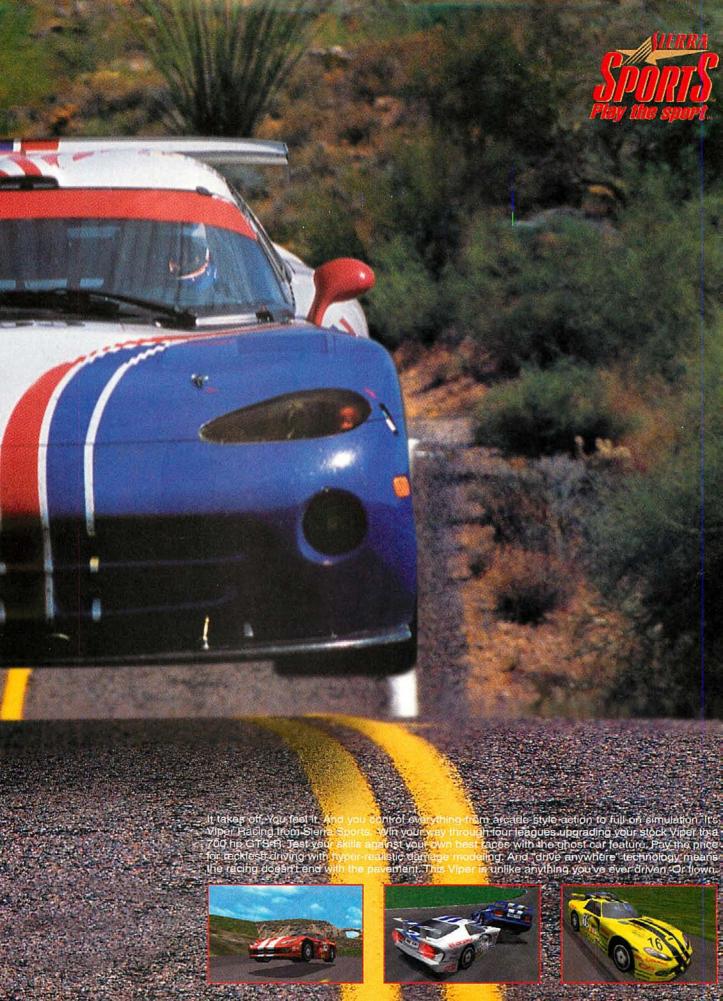
CPU: Giver of Triangles

Most of the 3D pipeline rendering work occurs in the floatingpoint unit (FPU) of a CPU, so that part of the chip needs to be able to move things along quickly. Better floating-point performance translates into more triangles being fed to the 3D accelerator.

3D Graphics Pipeline Transformation Translation (x,y,z) Lighting Clipping (Rotational) Alpha Antialiasing Fog Gouraud 3D Card Texture Perspective (Transparency) Shading (Jagged to Smooth) Correction

Movin' On Down the Line: As you can see, the 3D accelerator handles a great deal of the rendering work and, step by step, is taking on even more pipeline tasks. One very important step (not illustrated) is triangle setup, which many first-generation 3D chips didn't do. During setup, polygons are put into a data format that the 3D accelerator engine can understand. Setup also can involve the calculation of slopes of polygon edges, and incremental values for pixel interpolation across scan lines.









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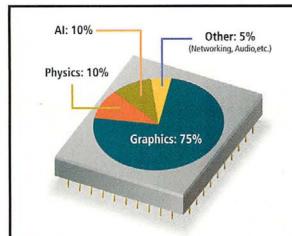
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3D HARDWARE



Budget Impasse: Despite the many advances in 3D accelerators, CPU budgets haven't changed all that much from the days of software-only 3D engines. The graphics work still gets the lion's share of the CPU, with the other tasks getting whatever is left over. But because CPUs have gotten faster over time as well, the "leftovers" not used for graphics work allow other game-related tasks to get more processing power.

Traditionally, Intel has been the dominant performer in this area, because of deeper pipelining in its FPU. But that story may be changing, at least for a while. AMD, with support from IDT/Centaur and Cyrix, has established a single set of floating-point instruction extensions, dubbed 3DNow!, which is designed to make 3D rendering work move faster through each company's CPU. In our recent review of AMD's K6-2 (formerly known as the K6-3D+), a 333MHz K6-2 fared well against Intel on floating-point performance, actually outpacing a 350MHz Pentium II running QUAKE II.

But the success of 3DNow! is far from a slam-dunk. There are several hurdles it will have to clear before AMD or its supporters can really declare any kind of victory: First and foremost, games don't get the performance boost from 3DNow! "for free." A game must be written using either the Direct3D transform and lighting (T/L) engine, something very few game developers have opted to use, or custom assembly code. Ironically, in wooing game developers to use Direct3D's T/L engine, AMD, Cyrix, and IDT/Centaur may actually have a friend in Intel. Intel's next processor, code-named Katmai, will have its own set of

instructions for accelerating Direct3D transforms and lighting if D3D's T/L engine is used. Given that both Intel and its competitors will have ways of accelerating the CPU portion of Direct3D's pipeline, game developers may find D3D's T/L engine enticing. Additionally, the DirectX 6.0 version of the D3D T/L engine has undergone a substantial rewrite, and should outperform its predecessor. Another downside for AMD is that aside from adding 3DNow!, it made no other enhancements to K6-2's floating-point unit, so games that aren't 3DNow!-aware will still trail Intel's performance. Plus, game developers tend to be very houseproud about writing their own T/L engines: They might be willing to do transforms using D3D's built-in engine, but they're likely to continue doing their own lighting to give their games a unique look and feel.

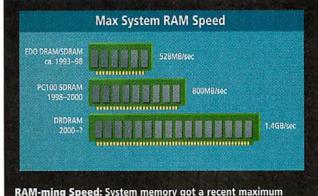
About a year and a half ago, people in the industry were talking about clearing the one-million-polygon-per-second hurdle. Now, a 400MHz Pentium II system with a Voodoo² board can top 1.7 million polygons/sec, assuming you don't want to do anything else. Of course, there are other minor details to consider, like, say, actual gameplay code: Al, physics, colli-

sion detection, audio, controller I/O, and networking overhead for multiplayer games. The actual max triangle count, therefore, would probably be more in the range of 300–500K polygons/sec, still leaving the graphics card waiting for more triangles. Even at this "reduced" rate, games could have approximately 6,500 triangles per scene at 60fps, far better than the few hundred polygons per scene we've seen in games past.

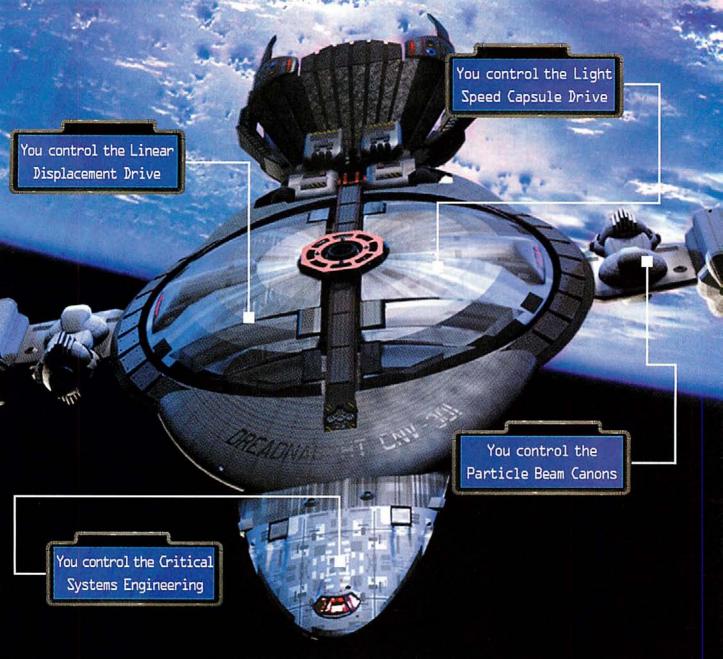
In DirectX 7, the next version of DirectX, the capability to accelerate transform and lighting data with a dedicated geometry processor instead of the CPU will be exposed. This could open up intriguing possibilities, as it would radically alter how the CPU budget gets divided among parts of the game. In theory, rather than having a great-looking game with dim-witted AI, plain-Jane audio, and questionable physics, you could have much smarter bad guys, much better physics for things like recoil, explosions, and ambient physical effects, as well as more 3D audio streams to further immerse you in the game. But this is still a ways off.

Memory and System Buses

From the CPU, the 3D workload makes its way across either AGP or the PCI bus to the 3D accelerator. About two years ago, Intel and the graphics-chip makers began to see that the PCI bus would eventually be unable to handle the growth in polygon counts and texture sets. Intel responded with a new place for graphics to live, the Accelerated Graphics Port (AGP), which currently offers from twice to four times PCI's maximum data rate and lets a graphics chip use system memory as an extension of its local frame buffer memory. Almost all new parts shipping this fall will feature AGP 2X, meaning they will move data out of system memory at 528MB/sec maximum. In addition, system memory bus speed has increased to 100MHz in Intel's 440BX and 440GX chipsets, which ups the system memory's maximum rate from 528MB/sec to 800MB/sec. There aren't any other imminent changes to main memory speed, although Direct RDRAM (DRDRAM) is on the distant horizon. DRDRAM can be used in channels, and the likely configuration will be two channels, each with a top-end speed around 700MB/sec, yielding a top-end data rate of 1.4GB/sec of peak system memory bandwidth. DRDRAM will arrive with Intel's next-generation 64-bit Merced processors, due sometime in the year 2000. In the interim, Intel is planning on revving AGP to what will be called AGP 4X, which will up its maximum data rate to around 1GB/sec, hopefully allowing 3D accelerators to get at data in system memory even faster.



RAM-ming Speed: System memory got a recent maximum speed boost of about 50 percent (from 528 to 800MB/sec). When Intel ships its next-generation Merced CPU, the system memory's maximum data rate will nearly double to 1.4GB/sec, mostly to accommodate hungry 3D applications.



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AGP is not without its critics. nor its shortcomings. In fact Voodoo2, the fastest-shipping kid on the block, achieves its industryleading performance on the PCI bus, which goes to show that a chip's architecture determines its performance more than which bus it runs on. But 3Dfx has seen the future, and it is AGP, with Ouantum3D doing an AGP version of its X24 board (SLI on a single board), and 3Dfx's new 2D/3D part, Voodoo Banshee, which may already be out as you read this.

In the AGP gospel according to Intel, game developers should be using AGP memory-system memory reserved by the graphics card for texture storage-as the primary storage area for textures for game engines. And while AGP is much faster than PCI in moving data from system memory to local video memory, AGP's peak data rate is much less than that of local video memory itself. That aside, AGP is still quite a step up from PCI: It allows textures to be processed in system memory and it enables side-band addressing, which lets the graphics chip talk directly to system memory.

In terms of new chipsets, Intel should now be shipping its 440GX chipset, which 440GX increases the addressable memory from 1GB to 2GB. But the company designed the chipset for its Xeon processor,

AGP vs. PCI Intel's Accelerated Graphics Port (AGP) allows game developers to use more textures and higher polygon counts without sacrificing speed. It does this with higher bus speeds and texture management. Here's how it works: Life on PCI PCI slots (132MB/sec. bus speed) Games are becoming so demanding that the 33MHz PCI bus can't handle the volume of information that needs to move across it. Graphics Card on PCI Bus Front System RAM Texture BREESESE CPU

When present-day graphics cards run out of onboard memory, they store texture data in System RAM. When needed, data is copied to the card's local memory for processing.

Life on AGP PCI slots AGP System norm CPU AGP (264 or 528MB/sec. bus speed) AGP gives the graphics card its own dedicated 66MHz, higherhandwidth hus AGP Graphics Card on Dedicated Bus Memory buffers Front PCI slots Back 2 Texture CPU

AGP's "Execute" mode allows the chip to grab texture data directly from a specially allocated portion of System RAM, without first having to copy it to the card's local texture memory.

which is intended to compete in high-end workstation and server spaces. So unless you feel that your system is really dragging with a "measly" 1GB of system memory, you probably won't need to seriously consider a 440GX upgrade for a while.

3D Accelerators

There's a maxim in the computer industry known as Moore's Law, which states that CPU processing power will double every 18 months. That law has pretty

much held true in years past, though the rate of increase in CPU performance has slowed somewhat. But in the 3D graphics business, Moore's Law is alive and well. Some 18 months ago, the peak performance from 3D accelerator chips hovered in the 40-50Mpixels/sec range (this from 3Dfx's Voodoo chipset). Today, every new chip coming onto the market has at least 80Mpixels/sec of peak performance, with some chips being specced at close to the 100Mpixel/sec mark, and nVidia's RIVA TNT chip specced at 195Mpixels/sec peak fill-rate.

What's also interesting to note is that 3D accelerators are becoming increasingly complex chips: nVidia's RIVA TNT, for example, has about as many transistors as a Pentium II CPU. Between the increasing complexity and horsepower of these 3D chips, and the possibilities that AGP will create, the PC is starting to look a little like a Silicon Graphics workstation, with the graphics chip ceasing to be merely an "accelerator" and becoming almost a second CPU. It's still a faint resemblance, however, since most SGI boxes clearly outgun even well-equipped PCs for sheer performance.

"A Fool and His Fill-Rate Are Soon Gaming"

Even though many new chips can achieve triple-digit framerates on some games in our 3D GameGauge tests, any frame-rate over 60fps is gratuitous. A 140fps score may make for bragging rights (though it's more meaningful as an indication of headroom the chip has left for rendering), but when your frame-rate is much over the 60fps mark, your emphasis should switch to improving image quality. For now, you can do either or both of two things: Dial up the resolution or turn on additional rendering effects, like trilinear filtering. Future games will use such new DirectX 6 features as multitexturing, bump mapping, antialiasing, and anisotropic filtering, all of which are fill-rate-hungry ways to improve image quality.

Why is higher resolution a good thing? Two words: pixel density. When you shift from, say, 640x480 to 1024x768, your monitor does not magically get bigger, you just cram more pixels into the samesized area. The primary net effect is to clean up "jaggies," the stairstepping that occurs when a diagonal line falls between pixel boundaries. Higher pixel density cleans up these diagonal lines and

Glossary

very time we think we've got our brains around the lingua technica of 3D graphics, those design guys come up with a new set of rendering features. Here are some of the biggies to look forward to in DirectX 6:

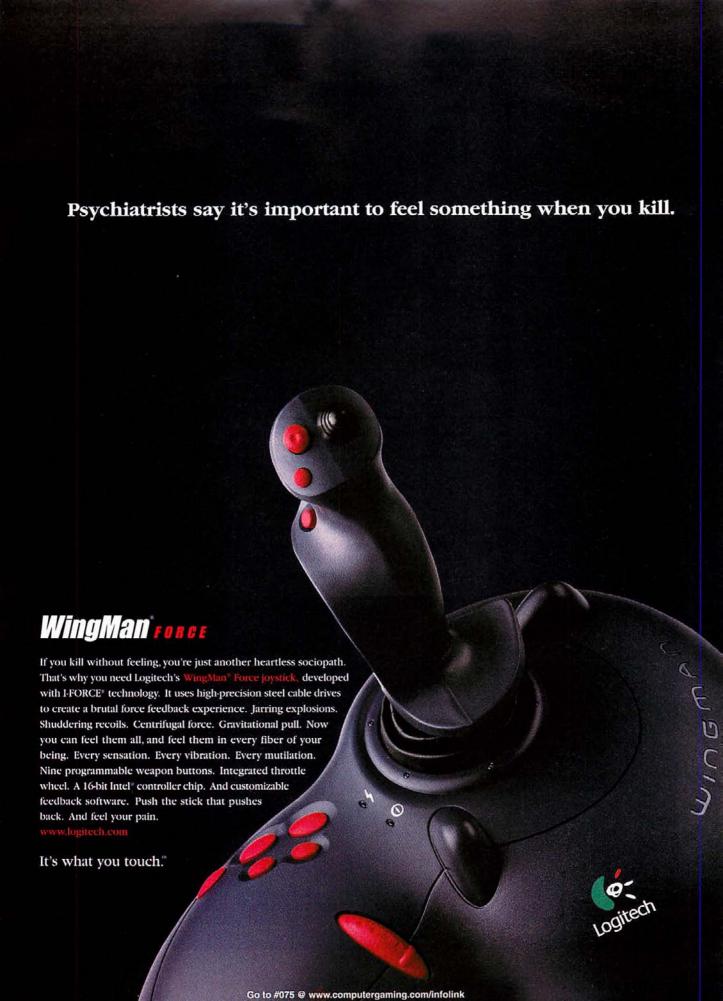
Anisotropic Filtering: An advanced type of filtering that cleans up the distortion of a 3D object whose surface is at an angle with respect to the plane of the screen. This is very computer-intensive.

Antialiasing: A method of cleaning up the stair-stepping effect visible in diagonal lines that fall between pixel boundaries. It also cleans up some texture pixelation.

Multitexturing: The ability to render two or more texture maps onto a surface, thus creating composite texturing effects. **Bump Mapping: A multitex**turing effect that allows a game developer to give a surface a "tactile" look, such as an embossing effect. Stencil Buffer: Used to create

lighting effects; very useful in making shadows more realistic.

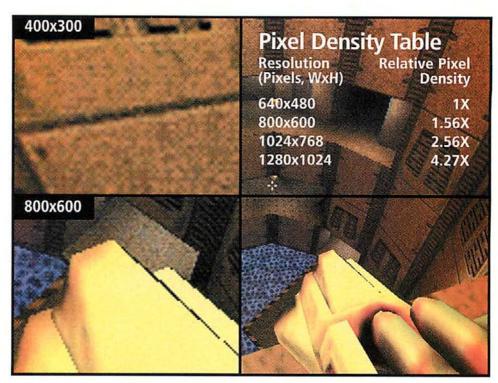




3D HARDWARE

reduces stair-stepping (see the table and diagram). Another way to achieve a similar benefit is to enable full-scene antialiasing; several cards currently use a technique called supersampling to do this. This takes the 640x480 (or, in some cases, 800x600) image, "blows it up" to a higher resolution, and uses a downsampling algorithm to clean up stair-stepping on lines and some texture artifacts that are normally visible at lower resolution. Which approach nets the better image quality depends on the game.

Gamers are accustomed to making frame-rate/image quality trade-offs. As chip performance increases, these decisions should become less painful, and we'll be able to run games at 800x600 with all rendering goodies on and still get good frame-rate. Of course, nothing in 3D graphics is guaranteed. One reason is that game developers seem to follow a sort of Parkinson's Law when it comes to processing horsepower. Their rule appears to be, "We'll find a way to use every MIP you can feed us." This makes for newer, better, and better-looking games, and it pushes the technology forward. But it also keeps us



Are You Dense? Greater pixel density at higher resolutions can clean up "jaggies," and also improve texture image quality, especially in "busy" textures that have a lot of detail. Full-scene antialiasing can also achieve a similar effect. As to which one will look better, that depends on the individual game.

returning to the computer store for upgrades every 9–18 months.

What Next?

Because of DirectX 6's arrival date (late July), you probably won't see very many DirectX6–aware titles that take advantage of its latest bells and whistles this holiday season, but those titles should proliferate in the first half of 1999. A look at our "Glossary" (page 219) gives you DirectX 6's highlights. What can you do now so your rig won't run out of gas when these new titles hit? Tune in next month when Loyd Case and I exhaustively test the latest boards from Diamond, STB, Matrox, Guillemot, ATI, and Quantum3D, among others.

Intel Aims Low

ntel has a way—intentional or not—of making competitors nervous. The company has recently taken a strong interest in the "low end" of the computer market: sub-\$1000 PCs, and even some that dip below the \$800 price point. This is the one market segment where Intel faces stiff competition for price/performance from AMD, Cyrix, and IDT/Centaur. Intel's entrant here is the Celeron, a Pentium II with no Level 2 (L2) cache. Intel pulled the L2 to get Celeron's price down enough to compete with the non-Intel CPU makers, but its next lowend part, code-named Mendocino, will be a Celeron with an integrated 128KB L2 cache in the chip, running at the CPU's core clock-rate.

To make these low-end systems even cheaper, Intel is working on a new chipset, code-named Whitney. This new chipset, still unannounced at press time, will integrate an i740 graphics core into the north bridge (which connects the CPU to the main memory bus). Whitney will also integrate an audio controller; Ultra/ATA EIDE controller; USB; and a new bus called LPC (low pin-count), which will handle legacy devices such as serial and parallel ports, keyboard, and mouse. Gone is ISA functionality, meaning that all devices in a Whitney-based box will connect via PCI or USB. These systems can be configured to give the i740 its own frame buffer, or the graphics accelerator can use system

memory. Whitney will have a 100MHz system bus and will likely be paired with Intel's new 330MHz Mendocino Celeron.

Other chip-makers have developed similar products, such as Cyrix's MediaGX processor and SiS' 530 chipset, but with Intel entering the fray, should third-party graphics-card makers be nervous? Probably. With Whitney, Intel hopes to build competitive low-cost systems, which of course involves making trade-offs. But Whitney will also take business away from graphics-chip makers in low-end systems. So while Intel will hit its desired price points, these systems are not likely to deliver top-end performance. All of which begs the question: Does Intel want to take this strategy into mid-range and high-end systems?

Intel has been very mum about future plans, but system makers such as Dell, Micron, Gateway, and Compaq like being able to pick which graphics chips they use. They also like being able to change chips on short notice. Even if these makers offered a system using a "new and improved" Whitney aimed at the \$1500—\$2500 price-range segment, it would probably be only one of many offerings. It's this desire for design flexibility on the part of the system makers that is the graphics-chip makers' ace in the hole. Choice is good. More than that: When you're putting together a killer gaming rig, choice is essential. And while integration works well for low-cost PCs, its dictated-by-cost rigidity isn't likely to lead to an optimal gaming box.

Yamaha Speakers Sound Better, Even On Paper.



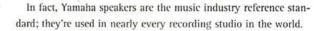


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IN SEARCH OF THE ULTIMATE GAMING MACHINE

Creative Gets Back Into the Game

s audio has migrated to the PCI bus and sprouted a third dimension, a lot of pekple have been asking, "Where's Creative Labs?" It seems that over the last several years, Creative has been milking its Sound Blaster brand with incremental upgrades to the original Sound Blaster 16.

Creative recently acquired Ensonig and a major interest in speaker maker Cambridge SoundWorks. But despite these incremental moves, the company that pioneered audio in PCs in the DOS days (the late '80s) needed to reinvent itself in the PC audio space if it wanted to

stay competitive. And it would

seem that it now has.

Creative recently unveiled its new, longawaited Sound Blaster Live!, a PCI-based sound card based on E-mu's 10K1 chip, a beefy audio processor capable of 64-note wavetable polyphony, DirectSound and

DirectSound 3D acceleration, hardware mixing, and acceleration of Creative's own Environmental Audio Extensions (EAX). It's this last feature that is probably the most noteworthy. In response to Aureal Semiconductor's A3D 3D positional-audio API, Creative has delivered EAX to developers as an extension of DirectSound 3D. The main selling point of EAX versus A3D, according to Creative, is that EAX allows for acoustic characteristics of rooms to be modeled and applied. Say, for example, in a game environment, you move from a small room

> with many sound-absorbing surfaces into a much larger room with

> > more ambient reverb. This effect would be applied to all sounds, and also applied to 3D audio as it is rendered.

The effect was very apparent when I tested a demo of a tweaked, bundled special version

of UNREAL that uses EAX. The results

were impressive. General MIDI sounded solid as well, and because Sound Blaster Live! uses system memory to store its wavetable patch sets, you can pick and choose which patch set you want to use via Creative's SoundFont technology. We should soon be getting a test unit, so look for a full review next month. - Dave Salvator

TechWatch

nVidia RIVA TNT This is nVidia's next-generation 2D/3D graphics accelerator, which may well outperform two, yes two, Voodoo2 boards running SLI. The company anticipates that the TNT will have a fill rate of 200-250Mpixels/sec, as compared to twin Voodoo²s, which are generally in the 180-200Mpixels/sec range. ETA: Q3 '98

FireWire This part, also known as IEEE 1394, is a high-bandwidth bus (400Megabits/sec, or 50Megabytes/sec) that will support high-quality digital video, hard drives, and other storage devices. All FireWire devices will be hot swappable, which means that you can attach/detach devices and immediately be able to use them without rebooting your machine. ETA: Q4 '98

Intel IA-64 Intel's next generation of processors will be a substantial departure from its traditional X86 CISC-based architecture. This new 64bit CPU will use a new set of Very Long Instruction Word (VLIW) instructions and use a technology termed EPIC (Explicitly Parallel Instruction Computing) to enable execution of instructions in parallel. ETA: Q4 '99

53 Savage3D Since the 3D performance for S3's ViRGE part faltered, S3 realized that it needed to produce a competitive 3D part, and so it is working on the Savage3D. This part should have a fill rate of around 125Mpixels/sec drawing trilinear filtered pixels, which should make it competitive with nVidia's RIVA 128zx, Matrox's G200, and Intel's 1740. ETA: Q3 '98

Rendition and ATI Begin Touting New Chips

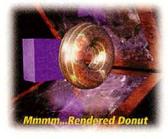
he PC 3D graphics market has become just about the most competitive market space in the entire computer industry. This fall is shaping up to be yet another showdown, with nVidia, S3,



Matrox, 3Dfx, Number Nine, and 3D Labs all announcing upcoming parts. Two more players, Rendition

and ATI, are also starting to make some noise.

ATI is planning on releasing two chips based on its Rage 128 architecture, the Rage 128 GL and VR. The GL



will have a 128-bit asynchronous memory interface, while the VR. aimed at more cost-sensitive markets, will have a 64-bit memory interface, which will yield less performance. The Rage 128 will be able to support up to 32MB of onboard memory, and will have an embedded 250MHz RAMDAC that will allow for higher refresh rates at higher resolutions. ATI's new part will be DirectX6compliant, supporting full-scene antialiasing, stencil buffering, bump mapping, and multitexturing. Because ATI has a dual-pipeline architecture that allows for what ATI calls "superscalar rendering," the Rage 128 will do single-cycle two-pass multitexturing, with each of the two pipelines handling a separate texture.

Rage 128 will do single-cycle trilinear filtering at 125Mpixels/sec. The

3D guys call this shape a torus. This is an example of Rendition's RRedline drawing environment, which maps on the surfaces above and below a horizon to simulate a reflection.

Rage Fury, a Rage 128 GL-based board with 32MB of onboard memory, will ship around November, and will be priced aggressively at \$299. The Xpert 128 will be a 16MB version using the same chip, and will be priced at \$199. Both parts will ship with a full OpenGL ICD in the box.

Meanwhile, Rendition is working on its RRedline Accelerator and has started divulging some details on its Web site (www.rendition.com/ FOWI) on a page called "Fact of the Week." At press time, Rendition had announced that RRedline will feature dual rendering pipelines, and was promoting the fact that its chip can actually support dual-textured trilinear filtering. The chip will also support full-scene antialiasing and environment mapping.

We'll have more information next month on both of these parts. Meanwhile, check out this month's 3D graphics features, in which Loyd Case takes a look at how 3D games are created. - Dave Salvator

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Looking for Trouble New Tools Help Troubleshooting Woes in Windows 98

hen I originally set out to write this month's column, I was going to talk about the trials and tribulations of installing Microsoft's latest OS. Somewhere along the way, however, I got sidetracked. While I was rooting around in Windows 98's directory, I came across some really handy stuff that I feel compelled to share. In fact, some of it makes the upgrade to Windows 98 more appealing.

Information Overload

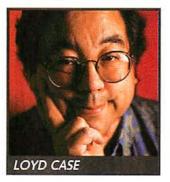
One of the problems you run into when trying to troubleshoot oddball problems in Windows is that you have to check multiple places. Usually, you start with the system control panel's device manager, but that's usually only a start. You can also use MSD (Microsoft System Diagnostic), a DOS-based tool that offers a lot of information that doesn't prove very useful for Windows troubleshooting.

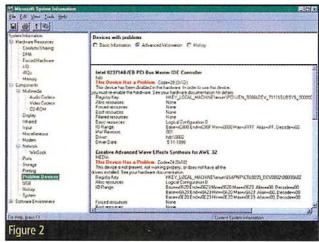
Then I found MSINFO32. Oh. Lord, I was in heaven.

Figure 1 shows the main window for MSINFO32. It looks vaguely like Windows Explorer, except that the entries are a peek right

into the system registry-and are a lot more understandable.

Okay, this is fairly interesting, but at first glance it doesn't appear revolutionary. But if you start digging into the meat, you'll find some great surprises, indeed. There's an entry for Conflicts/ Sharing, but you can get that out of Device Manager. My eyes immediately zeroed in on an entry





surprise there; I've got all SCSI devices. As I looked farther down, I noted the big red letters for Creative Wave Effects Synthesis. Actually, I'd known about this, but never cared, since I have a MIDI

There it was (as shown in Figure 3), the history of every change I'd ever made to the AWE-32 device, in stark black and white. That information is captured in the registry, but to have it presented

It was **fascinating** to scroll down and see the driver revision and names, which are all in one place.

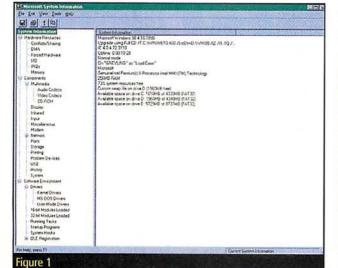
far down under the Components list: Problem Devices. You can see what I found in Figure 2.

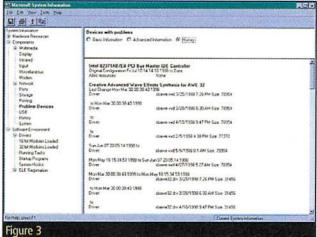
Well, the program figured out that I'd turned off the IDE IRQ. No daughtercard. Still, it was fascinating to scroll down and check the driver revision and driver nameswhich are all in one place.

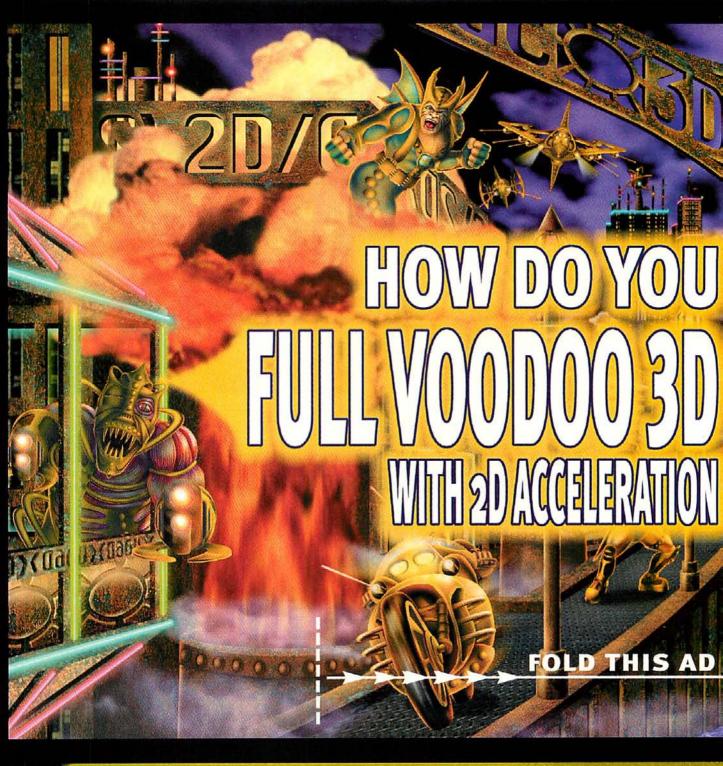
I then noticed the evocative checkbox labeled History. My jaw dropped, and I heard myself mutter, "Holy hack and kludge!"

there for the world to see is a wonder to behold. It would also help enormously in troubleshootingyou'd have a history of all the things you attempted, and it might prevent useless, repeated efforts.

Continued on page 230







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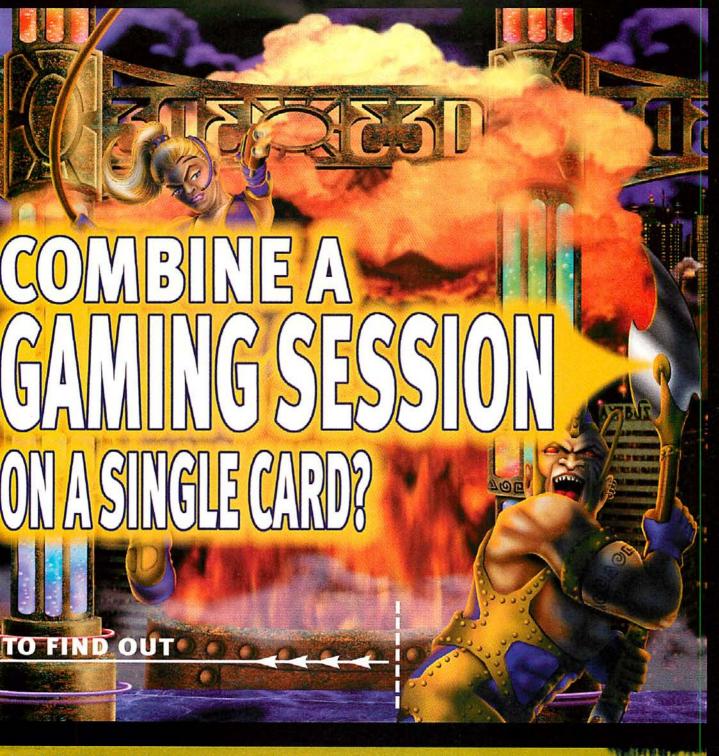
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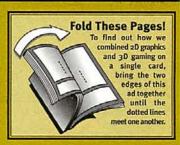
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Windows 98

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Continued from page 227

Tech Tips

Removing the Airbag

In an attempt to protect unsophisticated users, Windows 98 manages to annoy technically astute users. You may have noticed that when you click on the Windows folder or the system folder, you get a warning message that tells you deleting or altering files here is dangerous. Then you have to click on a hyperlink to actually get *into* the folder.

If you do spend time rooting around the Windows or system folder, and you find this protection annoying, just rename the file folder.htt to something else, like folder.old. The "htt" stands for "hypertext template," and it's essentially a file that tells a folder how to behave. Next time you enter that folder, you won't be presented with that annoying message.

Windows 98 Resource Kit

Deep in the bowels of the Windows 98 CD resides the Windows 98 resource kit. It's in \tools\reskit. If you peruse the folders therein, you'll find the latest version of TweakUI, and some nifty utilities under the \tools\reskit\folders directory, like Quiktray (puts any program in your system tray) and Chklnks (removes broken links).

The Utility Company

By this time I was scratching my head. What exactly have we got here? Wait, there's a menu entry called "Tools." I wonder what's there....

Quite a bit, as it turns out. The list of items include intriguing titles such as System File Checker, System Configuration Utility, and Version Conflict Manager. All of these are really stand-alone utilities launched by MSINFO.

The SFC lets you scan for altered or corrupted Windows system files and repair or replace them. The Version Conflict Manager (VCM) is a similar tool, only it tracks what happens when older versions of some files replace newer ones. Again, it's a very handy thing, especially with the way some applications can

System Configuration Utility

disable a startup item

File View Help

be bad citizens about happily overwriting key files.

Then there's the system configuration tool. At last, at long last, there's a standard way in Windows to take a look at what gets loaded on startup and to *turn off* things you don't want!

In Figure 4, you can see checkbox lists for all the important system files, such as CONFIG.SYS, AUTOEXEC.BAT, SYSTEM.INI, and so on. In some ways, it's a more flexible and easier-to-use version of the old SYSINFO tool. But it takes SYSINFO one step further. Many programs are now set to start up automatically in the Windows registry. Until now, there hasn't been a standard way to manage this. I've used the Startup Manager that comes on the ZD benchmark CDs, but it wasn't perfect.

- (D) ×

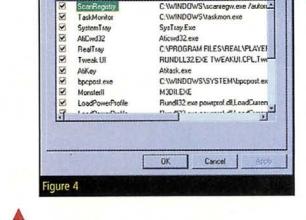
Now, in Windows 98, you can once again be master (or mistress) of your own system destiny. Feel the power.

Other Goodies

There's other nifty stuff hidden in the Windows directory and in MSINFO32. Dr. Watson, the somewhat arcane troubleshooting tool, is now a bit more friendly, and can even live in your system tray. It's really useful for taking a snapshot of your

Continued on page 373





General Config.sys Autoexec.bat System.ini Win.ini Startup

Select the check box to enable a startup item, or clear the check box to



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THE INTENSOR" SURVIVAL GUIDE

(Because we're not always going to be there to hold your trembling, sweaty little hand.)

PART ONE

Be warned: this is technology with a real "punch-you-in-thegut-while-you're-not-looking" brand of sensitivity. There's never been anything like Intensor. So in order to survive it, you need to understand a few things. Like to begin with, you need to know what a Sensory Gaming Experience is. It's complete immersion. It's intense tactile

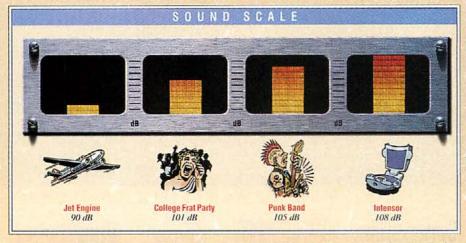
feedback. It's being able to see, hear and feel the game you're playing like never before. All you have to do is hook it up to the audio jack of any system, play any game and hold on. You may also want to say a little prayer.



#	ITEM			
1	Left 2" Mid-Range Directional			
2	Right 2" Mid-Range Directional			
3	5.25" Center Mid-Range			
4	5.25" Low Frequency Tactile Driver			
5	High-Range Tweeter			
6	Sound Volume			
7	Tactile Intensity			
8	Electronics Unit			
9	Heavy-Duty Single Cord Connector			
10	Optional Office Chair Base			
11	Optional Subwoofer			
12	Headphone Jack			

PART TWO

Remember, in this chair no one can hear you scream. Not everyone will have what it takes to handle Intensor's patented audio system. After all, we're talking 5 high-performance built-in speakers with 108dB output. Technically speaking, that means it's really loud. So for the neighbors' sake, you may want to use the headphone jack — which you can do without losing any tactile feedback. But keep in mind — if your ears start bleeding, you should probably turn the thing down.



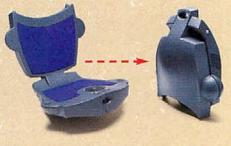


Fig. 2. At 19 pounds, Intensor is designed for quick evacuation in the event things get ugly. (Shaky hands will appreciate the built-in molded carrying handle.)

PART THREE

Ducking, dodging, whimpering and other useful gaming skills you might want to perfect. Be advised. With Intensor, you'll not only hear your games like never before, you'll also feel them. In your back. In your legs. You'll feel sensations in places you never even knew you had. Which means every

engine rev, every explosion, every kick will seem more real than you may want it to. So it's important to note that under this type of extreme duress, screaming in high-pitched tones for one's mormy is quite common.







Fig. 4. Artist's conception of Sensory Gaming's effect on the human heart. Those with heart conditions should proceed at their own risk.



Fig. 5. Note: Players attempting to negotiate Intensor on anything less than a good, stiff spine may be reduced to a vegetative state.

PART FOUR

Any game. Any system.
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Fig. 6. Intensor has been known to induce shock. In such cases, place victim flat on back, elevate legs 8 to 12 inches and call for help. (If victim begins vomiting, place him or her on one side to allow fluid drainage.)



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NO HOLDS BARRED

COMPONENT	PRODUCT	PRICE	WEB ADDRESS
Motherboard	ASUS P2B-LS	\$312	www.asus.com
CPU	Pentium II/400	\$549	www.intel.com
Memory	128MB PC100 SDRAM	\$158	N/A
Disk Controller	Built-in Ultra2 SCSI	\$0	N/A
Primary Graphics	Canopus Total3D/128V AGP	\$199	www.canopuscorp.com
Secondary Graphics	Quantum3D Obsidian X24	\$599	www.quantum3d.com
Hard Drive	Seagate Cheetah 9LP	\$569	www.seagate.com
CD-ROM/DVD	Plextor Ultraplex	\$139	www.plextor.com
Monitor	Sony 500PS	\$1,225	www.sony.com
Primary Audio	Diamond Monster Sound MX200	\$130	www.diamondmm.com
MIDI	Roland SCD-15	\$188	www.edirol.com
Secondary Audio	AWE-64 Gold	\$136	www.soundblaster.com
Speakers	LFT-11	\$599	www.eminent-tech.com
Modem	3Com ImpactIQ	\$186	www.3com.com
Networking	Built-in Intel 10/100 chip	50	N/A
Case	In-Win IQ500	\$115	www.in-win.com
Power Supply	Turbocool 300	\$125	www.pcpowercooling.com
Keyboard	MS Natural Keyboard	\$59	www.microsoft.com/hardware
Mouse/Pointing Device	Logitech Mouseman Plus	\$43	www.logitech.com
Action Game Controller	ThrustMaster Rage 3D	\$20	www.thrustmaster.com
Flight Joystick	Saitek X-36	\$129	www.saitek.com
Rudder Pedals	ThrustMaster RCS	\$91	www.thrustmaster.com
Driving Controls	TSW	\$375	http://soli.inav.net/~thomas/
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TOTAL: \$5,946

LEAN & MEAN

COMPONENT	PRODUCT	PRICE	WEB ADDRESS
Motherboard	ABIT BX6	\$123	www.abit.com.tw
CPU	Pentium II/300	\$230	www.intel.com
Memory	128MB SDRAM	\$147	N/A
Disk Controller	Built-in UDMA/33	\$0	N/A
Primary Graphics	Real3D Starfighter	\$170	www.real3d.com
Secondary Graphics	Diamond Monster 3D II 8MB	\$161	www.diamondmm.com
Hard Drive	Seagate Medalist Pro 6.5	\$153	www.seagate.com
CD-ROM/DVD	Pioneer DR504s 32x CD drive	\$80	www.pioneerusa.com
Monitor	Optiquest Q71	\$212	www.optiquest.com
Primary Audio	Turtle Beach Montego	\$80	www.voyetra.com
Secondary Audio	N/A	\$0	N/A
Speakers	Boston Acoustics BA635	\$99	www.bostonacoustics.com
Modem	US Robotics V.90	\$78	www.3com.com
Networking	N/A	\$0	N/A
Case	Elan Vital T10AB	\$90	www.elanvital.com.tw
Power Supply	Built-in, 230W	\$0	N/A
Keyboard	MS Natural	\$59	www.microsoft.com/hardware
Mouse/Pointing Device	Logitech Mouseman Plus	\$43	www.logitech.com
Action Game Controller	ThrustMaster Rage3D	\$20	www.thrustmaster.com
Flight Controls	CH F16 Combat Stick	\$34	www.chproducts.com
Driving Controls	N/A	50	N/A

TOTAL: \$1,779

^{*}We have made every effort to ensure that this information would be timely and

accurate. However, new hardware is constantly being released, and magazine production and distribution involves an 8- to 10-week delay. In cases where new products were close to release at press time, we have kept our current top choice so that we recommend only finished products we have tested. Lists compiled by Dave Salvator and Loyd Case.

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something goes tracking these words. Which means now it suddenly INCONCEIVABLE VELOCITY





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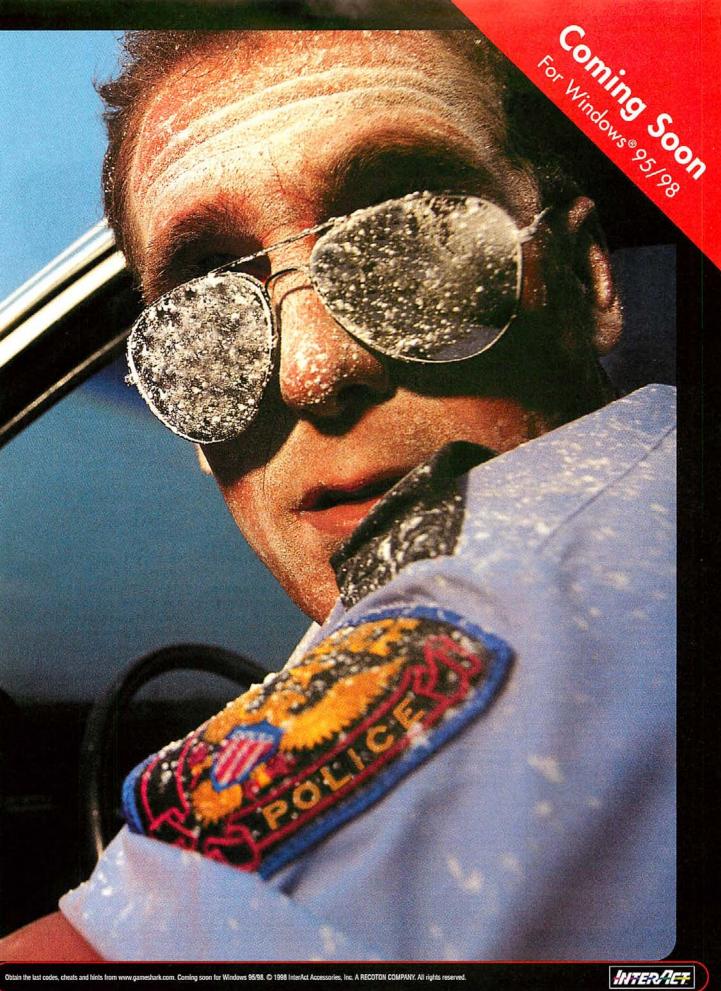






windows 95/98 nintendo 64° sega saturn playstation game boy pocket /game boy





The New Millennia

Solid Performer Marred by Small, but Noticeable, Flaws

by Dave Salvator

icron is another one of those top-tier system makers who don't build a gaming rig specifically, but happen to make a box that turns out to be good for gaming. Micron's latest is its Millennia 400 MiniTower, which, for the most part, has solid components that come together to deliver solid gaming performance, albeit with a few glitches. At press time, Micron was working on a new gamer's box, which will include a Voodoo2 board to beef up the 3D graphics.

Setup is by and large painless; the system is up and running in about 10 minutes. It turns out that Micron and Dell have apparently found the same case supplier; both system makers' boxes have identical cases. The good news is that these cases are easily accessed once a single thumbscrew is removed. But it also happens that the similarities don't end there. These systems have the same motherboard, the same CPU, the same amount of memory, the same graphics chipset, and the same DVD-ROM drive. And-surprise, surprise-the two turn out to

APPEAL: Gamers looking for a solid basic box to build on.

PROS: Good components; easy-open case.

CONS: Speakers are not great; benchmark-tweaked Direct3D driver produced drawing errors in test games.

Price: \$2,499

Manufacturer: Micron
Nampa, ID
(800) 209-9689

although Micron does clearly beat out Dell in several tests.

Although both systems use the same chipset, Micron's driver for the RIVA 128 chipset was well ahead of Dell's in 3D WinBench. although in 3D GameGauge the difference was in the noise, only about 1fps per game. But it seems that in tweaking its driver for better 3D WinBench performance, Micron sacrificed something in the area of Direct3D compliance, which became evident during game testing. In FORSAKEN, the Micron had drawing errors on the weapon-fire tracers; the two-triangle squares on which these tracers were being drawn and alpha-blended were visible. And when running INCOMING, I saw incorrect shadowing during the helicopter sequence. Diamond's newest driver fixed the errors in INCOMING but not FORSAKEN. Image quality in TUROK, F22 ADF, QUAKE, and QUAKE II was fine.

When we look at benchmark scores, Micron has an edge in most tests, with the most noticeable advantage being the CD-ROM CPU usage, which was a scant 2.68 percent on the Micron versus Dell's 73.1 percent. The Dell's tweakedout hard-disk controller driver accounts for its unusually high score on the Business Disk WinMark score.

The Micron ships with a 2x Hitachi DVD-ROM drive and Diamond DVD decoder board, and a quick visual inspection of playback of the movie Goodfellas showed solid image quality and good AV synch.

As for other considerations, because Micron uses Intel mother-boards, this system arrived with a Phoenix BIOS, which allows for basic system tweaks but lacks the granularity provided by Award BIOSes. The system arrived with DirectX5 pre-installed, although a copy of the DirectX "redistributable" drivers wasn't on the system. Also, Windows 98's CAB files weren't copied onto the hard disk, although it's easy enough to copy them over yourself.

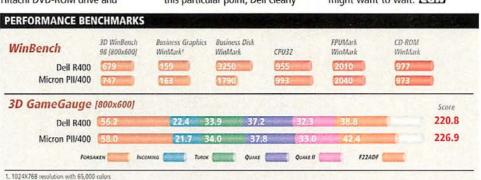
Micron opted to use a motherboard-down implementation of Crystal Semiconductor's Sound-Fusion PCI audio accelerator chipset. The chipset sounds fine, and has a convincing General MIDI wavetable patch set. Despite the SoundFusion's ample capabilities, the bundled Advent AV390PL speakers are only adequate. On this particular point, Dell clearly

What's in the Box

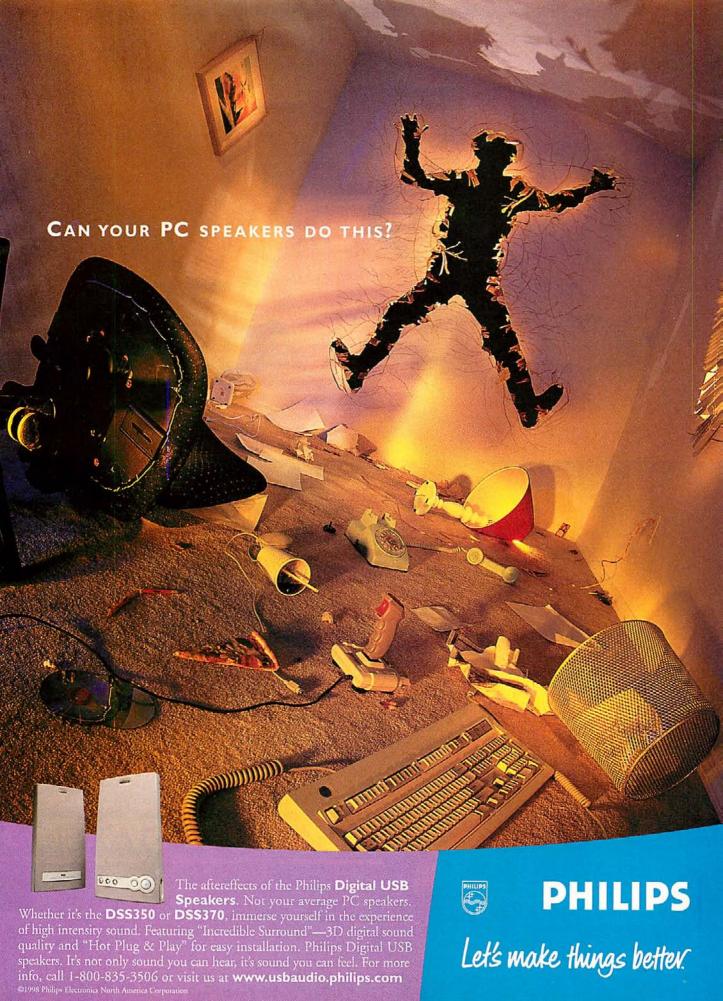
400MHz Pentium II w/512KB integrated L2 cache; Intel motherboard with 440BX chipset; 64MB SDRAM (running at 100MHz); Diamond Viper 330 4MB AGP (uses RIVA 128); Micron 17-inch monitor; Diamond DVD Decoder Card; IBM 9.4GB Ultra ATA Hard Drive; 2x DVD-ROM Hitachi GD-2000; Crystal Semiconductor SoundFusion PCI Audio Accelerator; Advent AV390PL speakers; 56K USR Fax Win INT modem; Microsoft SideWinder Joystick.

has an advantage with its Altec-Lansing AC-495s.

We don't like seeing benchmark-tweaked drivers that eat into actual game performance, and this rig arrived with one. That aside, the system is otherwise solid, and at \$2,499, it offers a lot in one box. But given that Micron will most likely be shipping a Voodoo²-equipped box by the time you're reading this, you might want to wait.



How We Tested To test a gaming system, we put it through a wide array of tests, starting with WinBench 98, which tests each sub-system's performance: 2D graphics, CPU (integer and floating point), hard disk, and CD ROM. We then run 3D WinBench 98 to test the system's 3D performance and see how well rendering features are implemented. Finally, to see how well a system surring 3D games, we not on or own 3D GamesGauge a Collection of six games—from DirectQB, town OpenGL. The GameGauge score is the sum of the six games framer-actor.







MILLENNIA 333

- Intel Pentium II processor 333MHz
- 512KB internal cache
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- 17" Micron 700Vx monitor (15.9" display)
- . 32X max speed CD-ROM drive
- nVidia Riva 128, 4MB SGRAM 3D AGP graphics
 • PCI 64-voice Wavetable sound
 • Microsoft* Windows* 98

- Microsoft Office 97 **Small Business Edition**

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- WinModem**
- 104-key enhanced keyboard
- Microsoft IntelliMouse
- 3.5" floppy drive
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MILLENNIA 350

- Intel Pentium II processor 350MHz
- * 512KB internal cache
- 64MB 100MHz 5DRAM
- . 8.4GB Ultra ATA hard drive
- 17" Micron 700Vx monitor (15.9" display)
- · 32X max speed CD-ROM drive
- nVidia Riva 128, 4MB SGRAM 3D AGP graphics
- PCI 64-voice Wavetable sound
- Microsoft Windows 98
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Add Microsoft SideWinder Precision Pro Joystick for *59 Add subwoofer for *59









MILLENNIA 450

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- 512KB internal cache
 64MB 100MHz SDRAM
 10GB Ultra ATA hard drive
- 17" Micron 700Vx monitor
- (15.9" display)

 32X max speed CD-ROM drive
- nVidia Riva 128, 4MB SGRAM 3D AGP graphics
 PCI 64-voice Wavetable sound
 Microsoft Windows 98

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MILLENNIA 450 MAX

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- · 128MB 100MHz SDRAM
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- · 19" Micron 900Lx monitor (18" display)
- · DVD-ROM drive and decoder card***
- · Real 3D Starfighter 1740, 8MB AGP
- graphics
 64-voice Wavetable 3D stereo sound
- Microsoft Windows 98

- Microsoft Office 97 Small Business Edition
- Micron MiniTower case
- · Advent AV390PL-70 watt 3-piece sound system
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Windows98

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Muscle Car

by Loyd Case

t one point, while testing the UP-300 force feedback racing wheel, I had to yank my hands away when the wheel pegged over to one side and refused to budge. That shows you how strong this wheel really is—so strong that you



PROS: Very strong forces; standard Immersion 2.0 force feedback implementation.

CONS: Default force settings are almost too strong; wheel canted at odd angle.

Price: \$199 MSRP Manufacturer: SC&T International (800) 408-4084

www.platinumsound.com

sometimes find yourself actually wrestling with it. (You can dial down the force effects in the control panel if they're too much for you.)

Regardless of how strong the wheel is, it just doesn't deliver a very realistic driving experience. To be fair, part of the problem isn't the maker of the wheel, but the relative infancy of force-effects design. The forces just don't feel real in some titles. The only vehicle that feels right with the UP-300 is the big bus in INTERSTATE '76, and that's because the plane of the UP-300 wheel is canted about 30 degrees, making it feel more as if you're driving a bus or truck than a svelte Indy car.

It's a bit of a chore to do the initial setup. The wires from the power brick and pedal base are strung through channels (like those on the back of a wall-mounted telephone), and the



You have a choice of suction cups or screw brackets, but the suction cups proved more than adequate and much easier to install. You do need an available 9-pin serial port—this is not a gameport device. SC&T is readying a USB model for those with newer systems and Windows 98.

I fired up MONSTER TRUCK MADNESS 2 and Sega's RALLY game, which is bundled with the wheel, along with Sega's DAYTONA arcade racer. The force effects worked quite well and didn't seem as severe as the test forces in the SC&T control panel.

SC&T has also reduced the number of buttons from its previous Per4mer. Now if the designers would move two of the 11 buttons to the back for a paddle-shifter effect, it would be perfect. And then there's the angle of the wheel....

The cosmetics are much more subdued than those of SC&T's past wheel. The floor pedals are large and work very well. But overall, there's an unfinished feel to the controller, and I couldn't help thinking that with just a few more hours spent on prototyping, this could have been a great wheel.

If you need to have your gear look like a Momo wheel right out of a European Formula 1 racer, then this wheel is not for you. On the other hand, you might consider the UP-300 if you want a decent wheel that delivers amazingly strong force effects.

REVIEW • MICROSOFT SIDEWINDER FORCE FEEDBACK WHEEL

Microsoft's Driving Force

by Loyd Case

his will be the year of force feedback. Uh-huh, sure. In fact, there will be a lot of force feedback controllers coming out and quite a few games with force feedback support, but every force feedback



APPEAL: Casual to moderate drivinggame fans who want to feel the force.

PROS: Compact size; smooth force feedback implementation; quick and easy installation.

CONS: Force feedback in games still immature; not USB; no support for DOS games.

Price \$199 Manufacturer: Microsoft Redmond, WA

www.microsoft.com/hardware

game I've tested leaves me feeling like I've eaten French fries without a burger. I don't think it's a problem with the controllers (at least, not this one), but with the immaturity of the game implementations.

That said, Microsoft's Sidewinder Force Feedback Wheel (FFW) is a polished product with a smooth, balanced force feedback implementation. It's compact and installs quickly, and after you set it up the first time, you can just pop it off the desktop with a single clamp—sorta like a giant vise grip. And because it's relatively small, I didn't need to push my monitor back more than a couple of inches.

FFW is fully DirectInput-compatible in both DirectX 5 and 6, so I took it for a spin through several force feedback games, including MONSTER TRUCK MADNESS 2, Sega's DAYTONA, and CART PRECISION RACING. Of the three, implementation seemed less gimmicky and contributed more to the actual feel of a race than the other two, but wasn't perfect. Running off the track onto the grass yielded a nice, bumpy effect, and going around turns at high speed seemed to generate additional force.

On non-force feedback games, the FFW retains an even tension with the geared motor. I played MOTORHEAD quite a bit with the FFW, and it seemed to handle as well as most lower-cost, non-force feedback devices. You can adjust the force level in the well-designed



The Microsoft Sidewinder Force Feedback Wheel is a smooth performer, and feels more polished than the SC&T wheel. The angle of the wheel is more like that of a true race car, and the rubberized covering feels more comfortable. It works well with non-force feedback games, and some force games actually feel pretty good. The hard-core racing sim crowd won't like it, but most of us don't have \$700 or more for wheels anyway. At \$200, the MS wheel with force feedback makes for a pricey but fun wheel for the casual driving set. ISTI

242

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Good Looks, Bad Sound

by Loyd Case

ometimes in this business, I get to listen to peopleoften very smart peoplewho are unjustifiably proud of some of their product's features. Usually this pride



APPEAL: Users with limited desk space who prefer big screens to big sound.

PROS: Solid 21-inch monitor with USB hub; good monitor specs.

CONS: The speakers, oh, God, the speakers; large footprint.

Price: \$1,100 (street) Manufacturer: ViewSonic (800) 888-8583

www.viewsonic.com

is very sincerely felt-but it's still wrong. It's always a little disheartening to have to let them down. Such is the case with the folks from ViewSonic, and their MB110.

First, the high points. The MB110 is a fairly high-bandwidth (200MHz) monitor capable of running 1600x1200 at a 76Hz refresh rate and 1024x768 at a rock-solid 110Hz. The MB110 looked fine running most test images, although there was a minor amount of moiré pattern noticeable and a bit of misconvergence at the corners. These very minor visual problems weren't noticeable in Windows 95 or in gameplay. The MB110 also has a four-port USB hub, something very handy for the upcoming generation of USB peripherals.

The speakers are designed by the folks at Nakamichi, who should

hang their heads in shame for having put out such a terrible-sounding set of speakers. There's a small bass unit ("sub-woofer") built into the swivel base, which also contains the USB hub. Two small satellite speakers are built into the front bezel. Viewsonic is pretty honest about the specs at least, rating the low-end roll-off frequency at better than 100Hz. Even that's a stretch. The speakers had no real bottom that I could hear. Worse, they sounded tinny, even with content lacking in bass. The worst thing, though, was an incipient 60-cycle hum that I could not make disappear no matter what I did. All in all, I was relieved to turn off the speakers (easy to do, thank goodness) and use the unit as the

GAMING

highly capable monitor that it is.

So what I would really like to do is give this monitor two scores: 4.5/5 for the monitor and hub, and 1/5 for the speakers. But I can't do that, so I'll just have to split the difference. But you may want to check it out anyway, because it's a very good monitor at a reasonable price, with the bonus of a four-port USB hub. Just don't plug in the speakers. GTT



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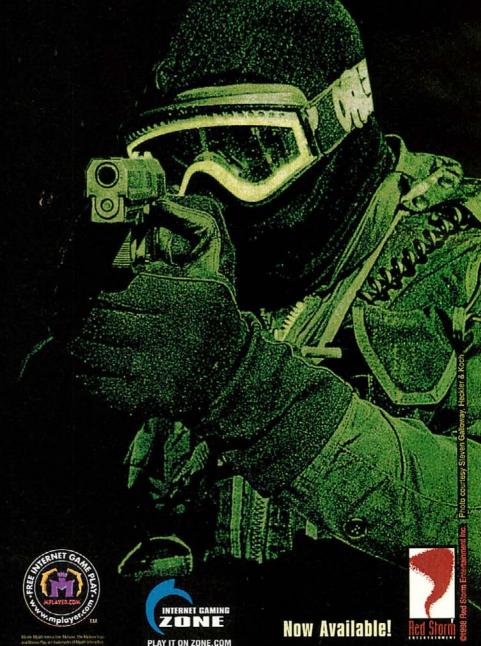
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by Loyd Case

Intelogis is one of those rare parts that gives you a fully functional LAN that you can have up and running in about 10 minutes.

The hardware is pretty simple. You plug one end of the cable into your computer's printer port.



You plug the other end into the PassPort. You then take the PassPort and plug it into any nearby 110V AC power unit—it doesn't even need to be grounded, though it should be polarized for safety.

You may be wondering about your printer, but Intelogis is ahead of you—the company also gives you a special PassPort unit for your printer. So you think, "Okay, I've now used up three AC outlets—two computers and the printer. I'm running out of outlets." Well, then, just plug in the handy six-outlet surge suppressor that Intelogis thoughtfully includes in the package. The PassPort works with single-, dual-, and triple-phase power, so most of the U.S. is covered.

When you boot the system, Windows 95 (or 98) detects the PassPort; it's a Plug-and-Play device. You pop in the driver CD, point it to the right place, and you're off. A few questions and a reboot later, and everything is running. During the installation process, a TCP/IP

address is assigned to each

system; IPX is installed and con-

sharing are automatically turned

PCs-a 400MHz Pentium II and a

figured. Even file- and printer-

on. Within minutes, I had two

200MHz Pentium MMX-com-

municating nicely.
Intelogis won't win any performance sweepstakes, though. The PassPort system is rated at a paltry 350Kbits/sec—much faster

than a modem, but a lot slower than Ethernet. Ping times seemed unusually high, too—anywhere from 200 to 400 milliseconds.

These ping times initially raised a red flag: As anyone who has played games over the Internet knows, 400ms ping times turn multiplayer gaming into the cruelest of tortures. Curiously, real gameplay showed no perceptible lag playing QUAKE II or MECHCOMMANDER.

The printer connector worked, too, but keep in mind that some printers require the PC's CPU for rasterization chores, and those won't work well as an independent network node.

The PassPort is an astonishingly simple product that works out of the box. If you've been hankering to connect a couple of PCs in your house for some deathmatch action, the PassPort may well meet your network needs.

hoto: Michael Falconer



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Games

Action, Simulation, RPG, Card games, Board games, blah, blah, blah... Anyways we got a lot of games.



Chui

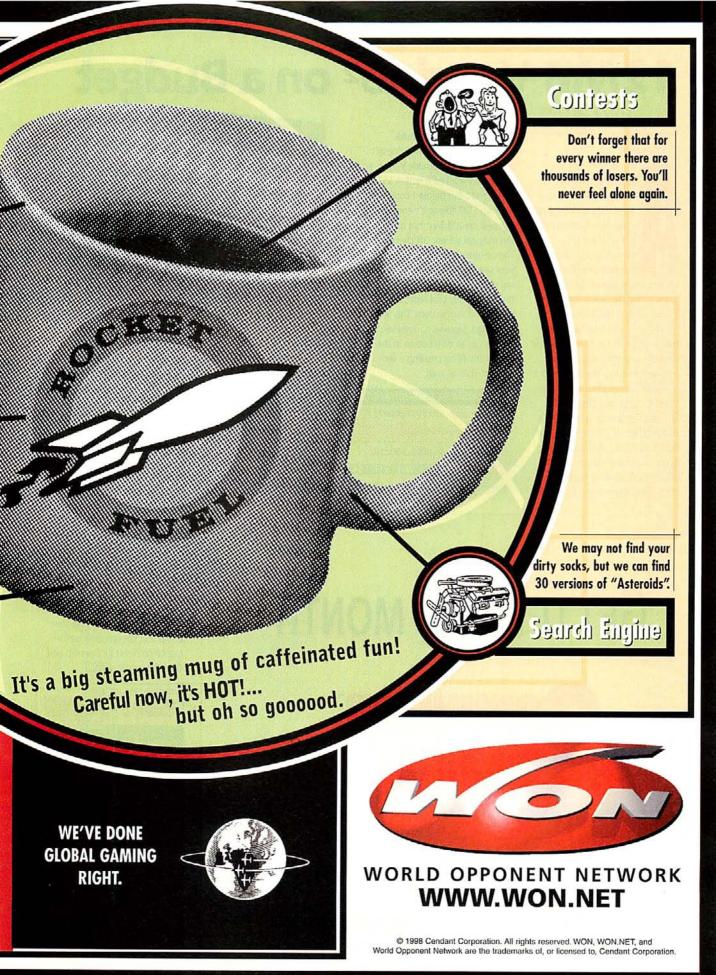
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We won't call it cheating... but...um...well, it is.

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12MB Voodoo² on a Budget

Even You Can Do Voodoo2

by Loyd Case

few months ago, we looked at Skywell's Voodoo board. It had a couple of problems. First, it was nearly impossible to find in the U.S., though it did have some distribution in Canada.

Second, it was one of the last

Voodoo cards to be released; so all it really offered was low cost.

Skywell is still a bit late this time around, but only because the field of contenders became so crowded so soon. The Magic 3D II is a solid implementation of the Voodoo² reference design. It's also the first board to use 3Dfx's WHQL driver out of the box. That WHQL certification is a plus for users, because it means that the drivers have at least passed Microsoft's stress tests; but it did

present me with a dilemma. because the WHOL driver doesn't have a setting to disable V-Sync. I could have hacked together SST commands, but before I could boot up EDIT, Skywell's engineers shipped me a driver that did have the magical V-Sync Off checkbox. The company turned around drivers several times during the testing of the board-not because there were any problems, but to implement suggestions. This is a good sign. Skywell is, however, committed to distribution in the U.S., and will be creating a tech support staff as well.

Magic 315

Get Voodoo

The board

DirectX 6.

The board itself pretty much tests the same as most Voodoo² boards. It's right in the middle of the pack for 3D GameGauge scores. The 3D WinBench 98 score seems high, but it's actually in line with other Voodoo² boards when tested under

DirectX 6.

Skywell doesn't build a clock-rate slider into its fairly generic control panel, but the company's engineers suggest that the board can run at 100MHz; savvy users can use shareware control panels or just set the SST environment variable to test clock rate. I briefly ran it at 95MHz to run FORSAKEN, which will often lock up on overclocked boards, but it didn't happen with the Magic 3D II.

The software bundle is pretty standard fare: INCOMING and G-POLICE. Still, for users who are just now dipping their toes in the Voodoo² waters, this bundle will show off their new cards beautifully. Skywell is also thinking about offering a special SLI bundle, though pricing and availability weren't available at press time.

The Magic 3D II is a fairly solid, reasonably priced 12MB Voodoo² board that boosts game performance on Direct3D, OpenGL, and Glide 3D games. ISCIT

PERFORMANCE BENCHMARKS 3D WinBench 98 (800x600x16) 972 3D GameGauge (800x600x16) 98.2 57.4 84.1 54.7 55.4 44.5 394.3 FORSAREN ROCKING OUAK PROPERTY OF THE PROPERTY OF THE

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for a relatively inexpensive 12MB Voodoo² card.

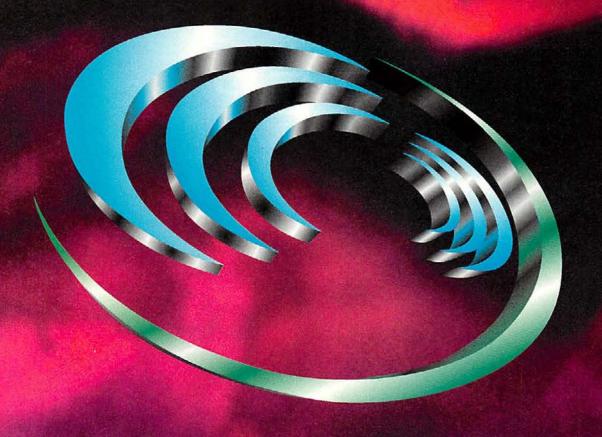
PROS: MSRP is lower than some other cards; solid reference-board design.

CONS: Not cheaper than some mailorder bargains for 12MB boards; average bundle.

SYSTEM REQUIREMENTS: PCI 2.1 compliant slot; Windows 95 or Windows NT 4.0.

Price: \$249 (MSRP) Manufacturer: Skywell Technologies (909) 468-5535

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- Environmental Audio Speaker Systems work well with two-speakers, but Environmental Audio will deliver its full potential with Creative's new line of multi-channel systems.

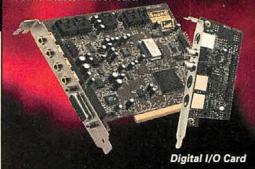
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- Creative Environments—user-selectable DSP modes that simulate acoustic environments like Hall, Theater, Club, etc. on any sound source

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THE MOST RESPECTED GAME REVIEWS IN THE INDUSTRY FOR 17 YEARS



This Wonth CGW Editors' Choice Games Are Indicated in Red **GAME** RATING PAGE 3D Hunting: Trophy Whitetail **☆☆☆☆☆** 299 Final Fantasy VII 286 *** Fox Sports Golf '99 *** 290 Get Medieval *** 282 **Heart of Darkness** *** 269 264 Incoming ☆☆☆☆☆ Jetfighter: Full Burn *** 305 Jewels II: The Ultimate Challenge *** 328 Mortal Kombat 4 *** 277 NAM 280 *** Police Quest: SWAT 2 ☆☆☆☆☆ 314 WarGames *** 324

The Game Genres

Our reviews are categorized by genre. Not every game fits neatly into a single genre, but here's how we define the categories in general:

Action Games that emphasize fast gameplay over story or strategy.

mphasize fast gameplay gameworld tends to be large, the plot less linear.

Adventure Games Simulations Highly realistic games from a

first-person perspective, including flight sims and space simulations.

Sports/Driving A broad genre encompassing action sports games, such as NBA LIVE; strategic sports games, such as FPS FOOTBALL; and driving games with no combat, such as CART PRECISION RACING.

Strategy Problem-solving and planning are the keys here. These games emphasize resource and risk-management. Includes conflict-based sci-fi and fantasy games as well as construction programs like SIMCITY.

Wargames A subset of strategy games, these re-create historical conflicts from a command perspective.

HEART OF DARKNESS After five years of development, it emerges as one of the best PC arcade scrollers ever.

low a story. Role-Playing

that require you to

through a storyline.

Classics/Puzzle

MONOPOLY. Puzzle

lem-solving without requiring gamers to fol-

solve puzzles to move

Classics are old stand-

bys such as Chess and

games emphasize prob-

A subset of adventure games, these stress character development through attributes. The

How Do We Rate? We review only finished products, not prerelease versions. The ratings are as follows:



Outstanding The rare game that gets it all right. A must-play experience.



Very Good Worthy of your time and money, but there are drawbacks.



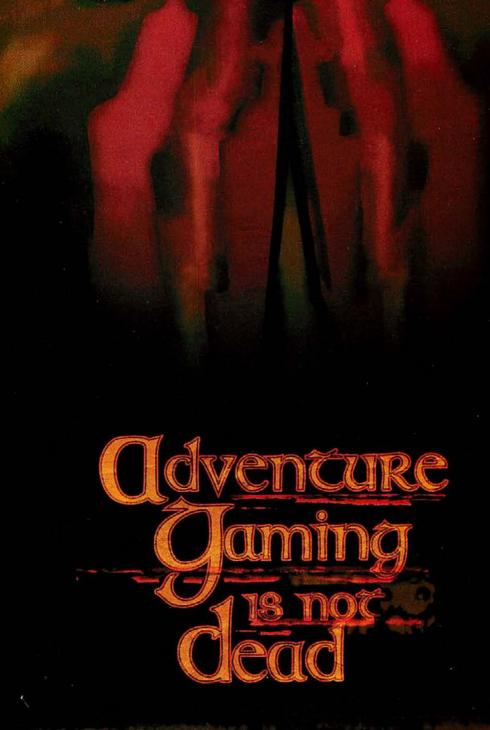
Average Either an ambitious design with major flaws, or simply vanilla.

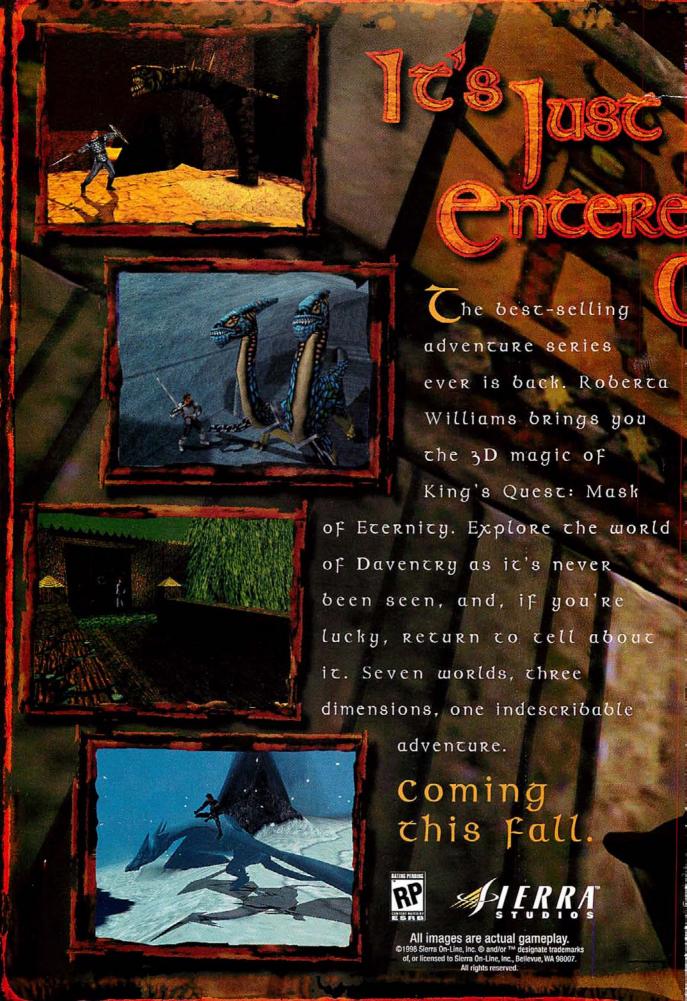


Weak Seriously lacking in play value, poorly conceived, or just another clone.



Abysmal The rare game that gets it all wrong. Pathetic. Coaster material.





mocher finersion

KINGS QUEST

MASK OF ETERNITY

adventure gaming. born again.

CGW Reviews Index These Are the Games We Have Reviewed in the Last Three Months

	Game	Publisher	Month	Page	CGW Rating
	Addiction Pinball	MicroProse	October	233	****
1	Army Men	3DO	September	229	****
THE RESERVE OF THE PERSON NAMED IN	Beast Wars: Transformers	Hasbro Interactive	October	233	☆ ★★★★
DUMBER OF THE PARTY OF	Die by the Sword	Interplay	August	174	***
2000000	Forsaken	Acclaim	August	178	*****
	Jazz Jackrabbit 2	Epic Megagames	October	233	***
20000000	Outwars	Microsoft	August	176	***
	Quake II: The Reckoning	id Software	September	224	****
1000000	Rampage World Tour	Midway	October	230	女女女女女
100000000000000000000000000000000000000	Redneck Rampage Rides Again	Interplay	October	230	****
100000000	Spec Ops: Rangers Lead the Way	Ripcord	September	225	****
TARREST CO.	Terra: Battle for the Outland	Kaon Interactive	October	230	***
	Unreal	GT Interactive	September	220	*食食食食
	Vangers Control of the Control of th	Interactive Magic	October	224	会会会会会
	Might & Magic VI	3D0	August	180	*******
	Sanitarium	ASC Games	September	238	*****
5	Starship Titanic	Simon and Schuster	September	236	***
,	K-Files	Fox Interactive	September	230	*****
V 1.22-1/1	Bridge Deluxe II with Omar Sharif	Interplay	August	224	会会太大太
A	Kuba	Patch	August	224	****
	Leisure Suit Larry's Casino	Sierra	October	287	***
W 2502-01	Mastermind	Hasbro	August	224	****
S feet	Mega Solitaire	Palladium Interactive	October	290	AAAAA
	Monopoly World Cup '98	Hasbro	September	266	2222×
	Sorry	Hasbro	September	267	***
	Ultimate 3D Puzzle	GlobalStar Software	September	267	****
000	Ultimate IQ Test	Virtual Entertainment	September	267	****
	A Charles Control of the Control of		1 3 4 4 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1	100000	AAAAA
	747-400 Precision Simulator	Aerowinx/High Flight	September	247	* 宋宋宋宋
100	Comanche Gold	Novalogic	September	247	****
100	Descent: Freespace	Interplay	October	236	* * * * * * * * * * * * * * * * * * *
	F-22 ADF Red Sea Operations	Infogrames/DID	September	247	****
1993	M-1 Tank Platoon II	MicroProse	August	185	***
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170	Feam Apache	Mindscape	September	240	* 大大大大
)	K-COM Interceptor	MicroProse	October	241	***
	Castrol Honda Superbike World Champions	Intense Entertainment Interactive	October	250	***
	Fox Sports Soccer '99	Fox Sports Interactive	October	264	****
1	Front Page Sports Ski Racing	Sierra	August	214	卖卖★★★
(Game, Net & Match	BlueByte	September	264	会会会会会
2	The Golf Pro	Empire	August	211	女女女女女
	HardBall 6	Accolade	August	208	****
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RECORDED ON	Dominion	Eidos	October	280	2222
FIXEDOR	Extreme Tactics	Piranha	September	262	****
STATE OF	ncubation: The Wilderness Missions	BlueByte	October	284	计分类类型
	ndustry Giant	Interactive Magic	September	261	****
	nsurrection: Campaigns for StarCraft	Aztech New Media	October	284	表表表系统
I	WAX 2	Interplay	October	276	****
1	WechCommander	MicroProse	October	267	20 20 20 XX
	Wedieval	Incredible Simulations	October	282	****
THE REAL PROPERTY.	Operational Art of War	TalonSoft	September	250	न के के के के के
100000000	Soldiers at War	SSI	August	216	大大大大
SHIPMING	Total Annihilation: Core Contingency	Cave Dog	August	217	2222
100000					



Engage in the most powerful Lands of Lore experience yet.



Immerse yourself in a 3D role-playing world populated with savage beasts and a huge cast of cunning characters.

JANDS OF JORE III

COMING WINTER 1998

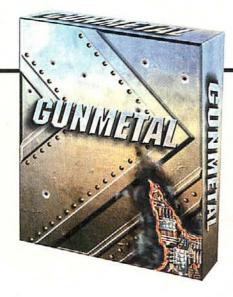
Explore vast new worlds including the Ruloi Homeworld, the Shattered Desert, and for the first time, the entire city of Gladstone.

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FUSION POWER PLANT delivers smooth running power at temperatures up to 700 degrees Kelvin



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ARMOR FACINGS of renewable ceramic polymers protect your vehicle from adverse conditions such as plasma bolts and autocannon fire.

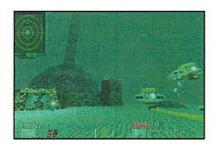
ELECTROMAGNETIC REPULSOR DRIVE with gyrostabilization and inertial dampers goes from 0 to 180km/h in 0.0014 seconds

The Argus Overlord

Armor Trend netmagazine's 2219 Assault Vehicle of the Year









All Nataka Remotely Piloted Vehicles ship with version 56.9 of BattleHelper, Nataka's award-winning operating system. Some vehicles not exactly as shown. All performance specifications given for unencumbered vehicles in 1 G of gravitational force and 101.9 kPa of barometric pressure unless otherwise indicated. BattleHelper is a registered product of the Nataka Corporate Empire. Unauthorized use of the BattleHelper name is a violation of applicable treaties and will be met with military force. Gunmetal" and Mad Genius Software" are trademarks of Mad Genius Software Ltd.





Gloss in Space

INCOMING Sets a New Standard in Arcade Graphics, if Not Gameplay

by Scott A. May

est known for DARKLIGHT CONFLICT, another jaw-dropper of a space-combat title, Rage attacks 3D arcade gaming with a style and attitude not seen since Psygnosis premiered on the Amiga back in the late '80s. If INCOMING is any indication, the future of arcade-style 3D gaming on the PC is bright indeed. This game alone will justify the purchase of a 3D card; so if you don't already own one, prepare to pull out your wallet.

Space Opera

Set in the near future, the game's back-story offers pretty



APPEAL: Arcade fans looking for fantastic 3D blasting.

PROS: Mind-blowing graphics rendered at breakneck speeds; thundering 3D sound; frenzied

3D sound; frenzied action with just enough strategy elements; the perfect game to show off your 3D card.

CONS: No real alien AI to speak of; repetitive action.

DIFFICULTY: Intermediate.

REQUIREMENTS: Pentium 133 or AMD K6-2 with 3DNowl, Windows 95/98, 16MB RAM, 50MB hard-drive space, 4MB or AGP-compatible 3D card, 4x CD-ROM drive, 16-bit sound card.

3D SUPPORT: Virtually all 4MB or better 3D accelerator cards; DirectX 5; AGPcompatible 3D cards.

MULTIPLAYER SUPPORT: Split-screen mode (2–8 players), modem or serial link (2 players), LAN (2–8 players); 1 CD per player.

Price: \$39.99 Publisher: Xicat Fort Lauderdale, FL (954) 522-3900

www.xicat.com



BLAST OFF You'll have to defend this space shuttle in order to take the battle against the aliens from Earth to outer space.

standard fare: Alien forces have attacked the Earth's international base on the Moon, forcing an emergency evacuation of all personnel stationed at the site. Next, the aliens begin attacking orbiting space stations, while establishing their own base on Earth in the remote Arctic. In response, a consortium of governments has begun constructing a sophisticated Anomaly Detection and Tracking Array (ADATA) in a barren region of Africa. But the aliens have already detected the ADATA and are preparing to attack. Full-scale war is about to begin. Here's where you come in.

INCOMING unfolds as a campaign of six scenarios, each consisting of 10 phases that must be completed sequentially in order to win the game. Each scenario takes place in a unique location, including Kenya, the Arctic, the North Atlantic, Vandenburg Air Force Base, the Moon, and, finally, the alien home planet in the Crab Nebula.

INCOMING charges you with controlling several different types of equipment, including fixed-gun turrets, attack helicopters, fighter jets, tanks, and hovercraft. The multiple phase objectives all boil down to "blow everything up," but since you're constantly hopping from one defensive unit to another, often several times within the same phase, the otherwise repetitive arcade action doesn't become tedious.

Blows Up Real Good

INCOMING's gameplay focuses squarely on frenzied fun, but the 3D graphics are the icing on this as good as they come in an arcadestyle shooter. Rage has managed to push the envelope on almost every 3D trick in the book, with staggering results. Alien bombers don't just explode, they shatter in a series of fiery, bone-rattling concussions, finally vaporizing with a blinding shock wave. Fatally hit alien saucers burn, teeter on their axes, and then plunge into the landscape.

cake, and they are

And that's only the beginning the further you go into this game, the better it gets.

The alien vessels attack in a constant swarm, but they don't exhibit much offensive intelligence; so at times the action plays like SPACE INVADERS on steroids. In fact, you can frequently wipe out hordes of enemies just by fixing your guns on the one spot from where the attacking waves launch their strikes.

Luckily, the scenario and phase variations help keep the challenges fresh, and INCOMING fea-

tures five distinct game modes. Singleplayer Arcade mode lets you choose from almost any craft and scenario; Campaign Action requires the sequential completion of all scenarios and includes four bonus





ers blast it out on the same machine, or eight players at four

single-phase scenarios involving alien virus warfare. Campaign Tactics mode breaks up the mindnumbing arcade action with simplified real-time strategy. Here the

display switches to an overhead

view of your base facilities, defen-

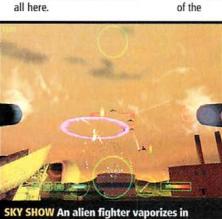
machines on a LAN.

sive units, and attacking alien craft. You use the mouse to click on icons to zoom in/out, track selected units, accelerate/decelerate time, and give specialized orders to individual units. Granted, it's no TOTAL ANNIHILATION, but it's a fun change of pace. It also gives you a chance to rest your throbbing trigger finger.

Network mode allows up to eight gamers-individuals or teams-to compete via LAN, serial cable, or modem link. Finally, Split Screen mode lets two gamers compete head-tohead on a single machine, or up to eight on a LAN. Split Screen mode, as expected, slightly distorts the game graphics to accommodate a dual display. Otherwise, the animation framerates don't appear to suffer in this mode.

INCOMING's documentation is surprisingly thorough for an arcade shooter, describing HUD and tactical-display features in great detail, and providing excellent screenshots of all allied and alien units. There's

also a great technical glossary of most of the terms used in today's 3D game designs. If you've always wondered what nerd terms like alpha blending or bilinear filtering mean, it's all here.



midair, leaving behind only a telltale concussion wave and flaming debris.



TWITCH TACTICIAN Combat Tactics mode breaks up the synapse-scorching action with brief bursts of light real-time strategy.

In the Cards

The game supports virtually all 4MB 3D cards; however, not all chipsets support the advanced features utilized by INCOMING. The Matrox Mystique, for example, uses a textured stipple effect instead of alpha blending. The few unsupported cards, such as Creative Labs' 3D Blaster, produce equally good graphics, but the frame-rate suffers substantial hits, causing the animation to jerk and sputter. As added enticement for those still stuck in a 2D world, Diamond actually bundles a copy of INCOMING with its Monster 3D II card.

Music and sound effects are both exceptionally well done. In fact, this is one of the few games in recent memory that didn't send me screaming to the options menu to kill the generic heavy metal soundtrack. Instead, you're treated to a moody techno-symphony.

Despite the high quality soundtrack, you'll still want to turn it off, or at least down, so that you can enjoy the fantastic sound effects in all their thundering, 3D stereo glory. From the popcorn bursts of the rapid-fire AA turrets to the Doppler effect of swarming alien craft, this is the kind of game that cries out for subwoofers and surround-sound speakers.

The game claims full forcefeedback joystick support, but it failed to detect my CH Force FX device, which uses Immersion's I-FORCE protocol. Microsoft's SideWinder Force Feedback stick worked fine.

Overall, INCOMING is one of the most immersive arcade experiences to hit the PC, deeper and more gripping than any coin-op machine could hope to be. For white-hot action with graphics to die for, it doesn't get any better than this. Gar

INCOMING Cheat Codes

MAD COW DISEASE Type oldmacdonald to access this hidden gameworld, where you defend a farm from incoming exploding cows.



Like any good arcade game, INCOMING has cheats aplenty. Hold down the Shift key and enter these codes at the title screen:

Wirewewaiting Masteroftheuniverse Toggle textures Whatsthepoint Solidasarock Flatbroke Gouraud Haveall Superdaisy or Supershot Infinitelives

Disable shading Gouraud shading enabled All items One shot kills **Unlimited lives Unlimited weapons**

Disable textures

Point graphics

Invincibility

There are two special cheats that will whisk you away to alternative gameworlds. Enter in the same manner as above:

Oldmacdonald

Protect your farm from exploding cows

Flymetothemoon

Infiniteweapons

Combat racing on the Moon

You can also type the following code (no need to hold down the Shift key) to obtain an onscreen cheat menu:

numberonedacrestreet

A Classic RPG*

*Minus the faeries, spells, and other crap.

Sequel to the 1997 Role Playing Game of the Year.



Bigger Game World.



Improved Combat AI.



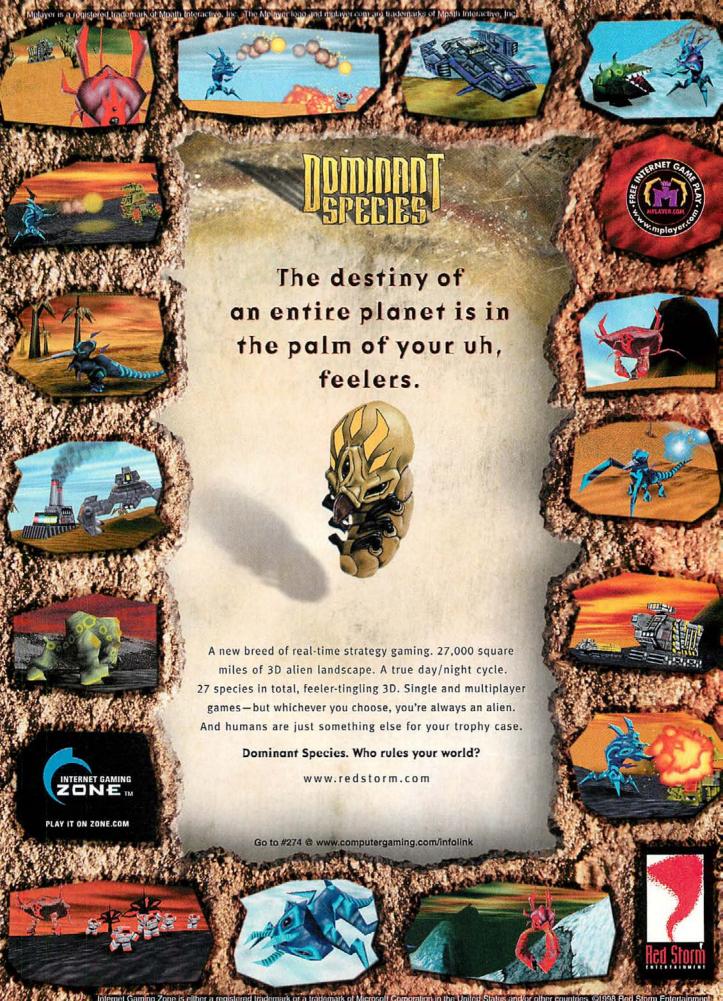
Comprehensive RPG System.





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Short but Sweet Heart

Arcade Adventure Like OUT OF THIS WORLD, Only Better

by Thierry Nguyen

ong development cycles coupled with huge amounts of hype are nothing new in this industry. But even considered on the BATTLE-CRUISER 3000 scale, HEART OF DARKNESS is a unique case: Announced in 1992, it's had little buzz since. After waiting six years for its release, you might wonder: How does it play? Very well...but briefly.

HEART OF DARKNESS is based loosely on the Joseph Conrad novel of the same name. Both deal with a protagonist journeying into dark and unknown territory in search of someone. The game, however, takes a lighter approach, casting you as Andy, a boy with a lot of imagination. During an eclipse, Andy's dog, Whisky, is mistakenly



enhance the mood of the game.

kidnapped in Andy's place by shadowy forces of darkness, leaving Andy to find his dog while overcoming his fear of the dark.

The Heart of the Matter

HEART OF DARKNESS can be described as a thoughtful sidescrolling platform game—no big surprise, as the design team is packed with veterans from the surreal OUT OF THIS WORLD (particularly wonderful on the Amiga). Anyone familiar with that cult gaming classic will be delighted to find that HEART's gameplay presents you with a number of



ART AS PLAY HEART's beautiful background art blossoms with detail and sometimes provides the key to solving a puzzle.

APPEAL: Platform game fans, actionadventure gamers who want a change of pace.

COMPUTER

PROS: Greatlooking back-

ground art; well-designed puzzles; great animation; good use of sound; goodlooking cut-scenes; more generous save

CONS: Way too short; game takes up only 80 percent of screen; traditional console save system; puzzles may frustrate some.

DIFFICULTY: Hard.

REQUIREMENTS: 486/66, Windows 95, 16MB RAM, 90MB hard-drive space, 2x CD-ROM, DirectX 5.0-compatible sound and video cards.

3D SUPPORT: None.

MULTIPLAYER SUPPORT: None.

Price: \$49.95 Publisher: Interplay Irvine CA (949) 553-6678

www.interplay.com

puzzles, some contained on one screen, others spanning several screens.

These puzzles come in many different flavors and are seldom repeated. In the first level. for example, you must simply run away from a large, powerful monster. As you explore the third level, you must cross a lake by planting seeds in the correct places. In the seventh level, a series of pillars is manipulated by pressing a number of buttons, which

seems simple enough...until you find you must bait a monster into pushing the buttons in the proper order for you.

As in many platform games, these problems can require uncanny reflexes. You might walk into a room and find a pack of Shadows (as every kid knows, they lurk in the dark) itching for you, forcing you to duck quickly into an alcove. Alternately, you might have to dodge hordes of fireballthrowing Shadowbats

as you cross a bridge. Lest you think there isn't enough action, rest assured that you get to blast away at various beasties throughout the game.

Game controls are simple and customizable. By using the arrow keys for

movement and four action keys, you can remap at any time. And unlike in other platform games, a gamepad is not implicitly required for success.

A Heart of Gold

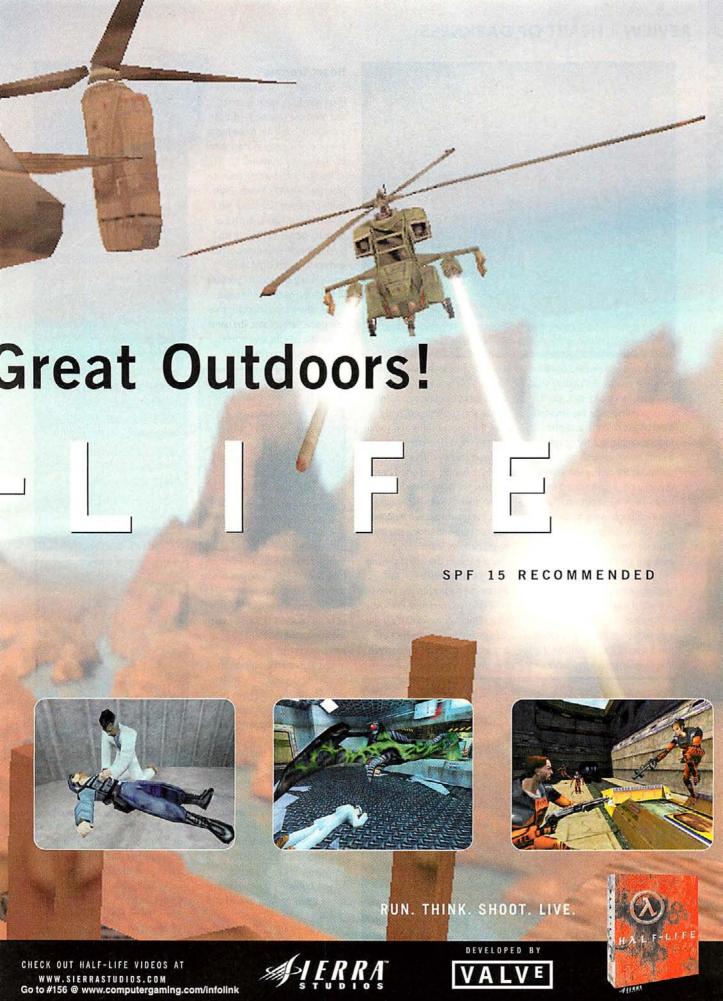
Like many side-scrollers, HEART OF DARKNESS uses sprites set on top of prerendered backgrounds. Even so, it's done quite beautifully, with the well-drawn background art rivaling that of MYST at times. The background screens aren't static, either: They feature

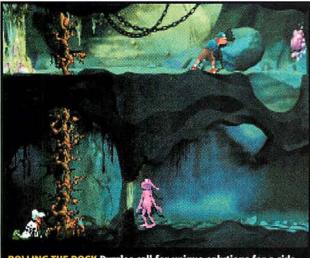


Shadowbats blend smoothly into

the cut-scenes.







ROLLING THE ROCK Puzzles call for unique solutions for a sidescroller. Here, Andy uses growing vines to break free, then gets rid of the guard by pushing a rock down the tunnel.

such details as seaweed floating on water and leaves casting shadows over rocks. At times, you'll have to manipulate the environment: Walls collapse and platforms crumble, but the graphic quality never suffers.

Though the sprites sometimes appear a bit jagged around the edges, the silky-smooth animation shines through every time Andy runs, jumps, climbs, or tosses aside Shadows. You have to admire the work put into the characters when you see Andy and a pursuing Shadow tiptoe across a high beam in the first level.

The cinematic scenes are also very attractive. While they lack the drama of FINAL FANTASY VII, these presentations are *extremely*

well integrated with the game. For example, you're knocking down rocks when you suddenly realize you can't control Andy; then the camera shifts and you're in a cut-scene. The scenes between levels achieve that mix of fright, humor, and good clean fun that the game aims for.

The sound works harmoniously with the graphics. Even with average computer speakers, you can hear Shadows scurry about onscreen, with the sound coming from the proper channel. In another sequence, as you swing on a vine, you can hear the rustle travel from left to right. It's a simple system, but it's the best utilization of sound for atmosphere I've heard in a while.



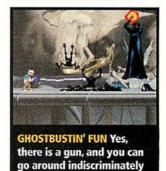
various sprites gives HEART OF DARKNESS a great sense of life-

Heart Trouble

So, HEART OF DARKNESS has great gameplay, great graphics, and great use of sound—is there a downside? Yes. The game has a few problems, ranging from minor to significantly annoying.

The first and most unfortunate problem is HEART's length. Eight levels of varying size make this essentially the FULL THROTTLE of platform games. Granted, each level is unique, with new puzzles and enemies, but eight levels aren't nearly enough. It's possible to finish the game in one night.

Then there's the infamous console game save system. The game designates specific save screens, and whenever you die you're



thrown back to them. The designers have been slightly generous, in that the save screens are generally three to four screens apart, so HEART isn't as brutal as ABE'S ODDYSEE (which sometimes spanned nine screens between saves).

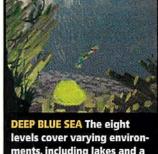
shooting Shadows.

The remaining problems are minor and depend more on individual taste. It would have been nice to see the game full-screen instead of taking up only 80 percent of the screen, with the rest bordered in black. Both cutscenes and gameplay are shown in this box format. Finally, some gamers may just get frustrated. Andy can die at any moment, and I often got stuck in one area for a while. The game will try to give you hints if it notices that you die repeatedly in one particular screen, but less-tolerant gamers might easily get aggravated and give up.

Overall, HEART OF DARKNESS is one of the best games I've seen in

TWO OF HEARTS
If you're prepared
to experience
some retrogaming and do

some bargain-bin hunting, you might be interested in two earlier games from the **HEART OF DARKNESS team. The** classic OUT OF THIS WORLD is now part of Interplay's Signature Series, and you can order it directly from Interplay for about \$10 if you can't find the original in stores. FLASHBACK: THE QUEST FOR IDENTITY is a bit harder to track down. Its publisher, U.S. Gold, was acquired by Eidos, and there seems to be no info available on purchasing a new copy; you'll probably have to scour the bargain bins at your local software store. FADE TO BLACK, EA's official sequel to FLASHBACK, went the 3D route and focused more on action, so be warned before you buy that title.



levels cover varying environments, including lakes and a river of volcanic lava. If only they were all as long as this one is deep.

a while. It's bug-free, has great gameplay, and achieves all this without 3D-accelerated graphics or multiplayer mode. Maybe it's nostalgia or the lack of a good side-scrolling platform game for the PC, but HEART OF DARKNESS ranks up there with great 2D games such as SUPER MARIO BROS. 3 and the recent CASTLEVANIA: SYMPHONY OF THE NIGHT. Too bad it's such a brief ride. ACCITI

but not at the expense of gameplay.

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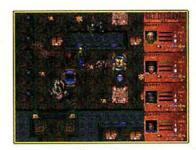
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Darkness Calls Again

But After MORTAL KOMBAT 4, Will Even Rabid Fans Care?

by Kenneth Johnson

ears ago, on a console platform far, far away, a battle raged against the evil Elder God, Shinnok, wherein the Dark One was defeated and banished to the Netherealm. Like most truly bad guys, Shinnok and his minions have escaped from their confinement to once again threaten the forces of light in yet another sequel.

MORTAL KOMBAT 4 (MK4) brings the famed fighting series into the realm of 3D for the first time, as the 2D characters and arenas have been replaced by shaded polygons-a definite improvement over MORTAL KOMBAT III. Unfortunately, MK4 still lags about a generation behind the rest of the PC pack. The character models look nice enough-until you notice the visible seams along arm



33% DAMAGE

TIE A RED RIBBON Buckets of blood in MK4 notwithstanding, the effect is dated and cheesy.

MK4's 3D environments are basically square arenas differentiated by various background graphics that have a decidedly 2D look. The character animation is simplistic and lacks a sense of fluid motion. Moves and attacks still have the look and feel that characterized the earlier-generation MORTAL KOMBAT games. Even though the game is fully 3D, the animation conveys the impression of a 2D arcade fighter, even when you play the game on a 3Dfx card.

Battle Cry

MK4 does bring some new twists to the series. Each character has a unique weapon, which

FROZEN STIFF Sub-Zero succumbs to Tanya's formidable charms.

can be dropped and retrieved; you can even pick up your opponent's weapon and use it against him. For the first time, you can take hold of objects in the environment, such as boulders, and hurl them at your enemy. Another nice touch is that, when executing special moves,

each character voices a unique battle cry for striking terror into the heart of his foe. The infamous

> fatality feature is even gorier than usual, illustrated by a short and sanguinary cutscene. This would be fine, except that the blood spurts out in oversized 2D drops, and it looks really cheesy compared to the 3D characters and arenas.

The game has excellent support for the Microsoft SideWinder gamepad, and the developers recommend one for optimal performance. You use the directional keys on the gamepad to advance, retreat, crouch, and jump in typical fighting-game fashion. Any of the basic character moves-block, run. high and low kicks, and high and low punches—can be mapped to any of the gamepad's buttons. In addition, each character has a number of special moves that are achieved by rapidly combining the basic moves. It would have been nice if the control configuration options allowed a series of moves to be assigned to a single button.



PICKUP ARSENAL You can finally use weapons in MK4-and you can even use your opponent's weapon against him.

This would enable quick execution of special moves. Character control is very responsive, with a short time span between making one move and executing another. Regardless of how fast and furious the action became, I always felt in complete control of my character.

Although MORTAL KOMBAT 4 is still fun, it lags behind other 3D action games on the PC. Die-hard MORTAL KOMBAT fans will probably find enough new here to warrant buying the game. The rest of us, however, can only hope that Midway brings the next MK up to current technology and gameplay standards. GTT

Price: \$44.95

Publisher: Midway Corsicana, TX

(903) 874-2683

www.midway.com

MULTIPLAYER SUPPORT: LAN.

modem (2 players); 1 CD per player.

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URBAN ASSAULT

Spittoon Platoon

Lousy Gameplay Leaves Enjoyment M.I.A. in NAM

by Tim Carter

n axiom of military history is that leaders plan for the last war, not the next. The downside to this is that the poor saps on the ground often end up fighting the next war with planning and equipment designed for the last. I'm not sure if this applies to the U.S. experience in Vietnam, but it certainly is true of GT Interactive's NAM.

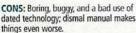
Run Through the Jungle

Slapping the Build engine onto a Vietnam setting, NAM's first-person action is technologically out of date in almost every respect. It's tough to shoot enemies with a screen resolution so bad you can't distinguish a tree branch from an enemy soldier. Then again, many enemies magically appear when



APPEAL: Anyone who craves Vietnam action courtesy of the Build engine.

PROS: Different from the standard 3D shooter; strives for realism.



DIFFICULTY: Intermediate.

SYSTEM REQUIREMENTS: 486-100, 16MB RAM, 60MB hard-drive space, 2x CD-ROM; supports Sound Blaster 16—compatible sound cards.

3D SUPPORT: None.

MULTIPLAYER SUPPORT: LAN (2–8 players), modem (2 players); 1 CD per player.

Price: \$19.99 Publisher: GT Interactive New York, NY (800) 469-5961

www.gtinteractive.com



BUSH LEAGUE The real jungle is thick, but the impenetrable walls of forest in NAM force you to take preset paths to your destination.

you cross certain "threshold" points, so there's often no point in looking for them anyway. Additionally, NAM's installation routines are completely archaic: The game refused to install on my D:/ drive and wouldn't let me use my default Sound-Blaster IRQ settings.

As you work your way through NAM's missions, you gain momentary assistance from friendly computer-controlled grunts and occasionally get to fire from helicopters and immobile APCs. But everything is plagued with annoying bugs, glitches, and design flaws. For instance, while the four grunt types have unique abilities and can give you considerable assistance, all are dumb as nails, even by computer AI standards. Ordered to follow you, they will often have trouble

DEAD AGAIN Be prepared to see this screen often.

turning corners or maneuvering through doors.

They don't have much trouble entering buildings, however, which is a problem if you walk down a narrow corridor with only one way out. Your faithful companion will dutifully

follow you, then stand there like an idiot blocking your only exit. At this point you can restart the game from your last save or resort to "friendly fire," if you catch my drift.

Fighting the Bad Fight

Speaking of friendly fire, I suffered a lot of it during my tour with NAM, particularly from lowflying aircraft that bombed or rocketed me. According to the dismal manual, there are rare occasions when you might be attacked by North Vietnamese MiGs, but, given the frequent, deadly air attacks, I'd say NAM's designers feel the U.S. Air Force menaced more troops than it supported.

Air strikes aren't the greatest risk to players in NAM, since just about all facets of the environment are deadly and can strike without warning. Wounds I sustained from running onto barbed wire killed me at least three times, and I can't count the number of times I was shot, blown up, or otherwise killed by unseen assailants with little or no warning and absolutely no opportunity to react. This may reflect the realities of jungle warfare, but it makes for a lousy game.

The battlefield lethality in NAM emphasizes the need to achieve mission objectives as quickly as possible with minimal fighting.



standing in the middle of a road.

Under other circumstances, this could be a refreshing change from the drearily repetitive shoot-until-they-stop-moving gestalt of most first-person action games. In NAM, however, I got the distinct feeling that this was an unintentional side effect of bad play-balancing rather than a conscious design decision.

All these problems seriously reduce the gameplay value of NAM. Those absolutely desperate to play a DOOM-like Vietnam game may still enjoy it, but if you're more interested in cutting-edge action and fun, you may want to look elsewhere.



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URBAN ASSAULT

(Re-)Running the Gauntlet

Hack-and-Slash in Monolith's GAUNTLET Rip-off

by Charles Ardai

ack when pizza cost 75¢ a slice and represented two out of every three meals I ate, there were a couple of coin-op games dear to my teenage heart, and GAUNTLET was among the dearest. Here, at last, was a game three friends and I could play togethernot alternating turns, but fighting side by side against the minions of evil. Here was some of the Dungeons & Dragons flavor I'd always wished would turn up in a video game. And here was an action game I could actually play for more than 90 seconds at a throw. Though the bad guys mobbed my character with all the ferocity of the enemy robots in ROBOTRON, something about GAUNTLET's controls and game design allowed me to make it



PROS: GAUNTLET for the '90s.

CONS: Sticky controls too often fail you in a crisis; lame humor

DIFFICULTY: Easy.

SYSTEM REQUIREMENTS: Pentium 90, Windows 95, 16MB RAM (32MB recommended), 40MB hard-drive space (100MB recommended), 4x CD-ROM drive, Sound Blaster 16 or equivalent, 28.8 connection for Internet play; supports gamepads and joysticks

3D SUPPORT: None.

MULTIPLAYER SUPPORT: Hotseat, LAN, Internet (2-4 players); 1 CD per player for Internet and LAN.

Price: \$39.99 Publisher; Monolith Productions (425) 739-1500

www.getmedieval.com



YOU SLAY ME Sure, you can play GET MEDIEVAL by yourself, but to have the best chance against the scores of monsters you'll face, you should take full advantage of the game's multiplayer options.

through level after level before my luck ran out.

Although they don't seem to have asked for or gotten anyone's permission, Monolith has done a reasonable job of reproducing GAUNTLET for the PC in GET MEDIEVAL. Unfortunately, while the look and feel are remarkably faithful, the gameplay isn't: You'll still get through many levels before your luck runs out, but not before your patience does.

DIABLO Jr.

As in the old arcade game, you have four characters from which to choose: an elf archer, a barbarian warrior, a breastplated warrior-ess, and a wizard (here also a woman,

for the sake of adding some extra cleavage). Up to four players can be on the screen at the same time, two using the keyboard and two using gamepads. Controls are simple: You move in the four basic joystick directions and use your weapon at the press of a button. Another button launches a magic spell that obliterates all enemies on the screen. A third button opens doors, chests, and the like. You wander around a series of dungeon levels viewed from a top-down perspective, collecting gold and artifacts (weapons, armor, magic) and killing monsters. It's sort of like a dumbed-down version of (or, to be fair, a precursor to) DIABLO.

While the ultra-basic gameplay

might not satisfy some gamers, oldtimers would enjoy this game if it weren't for the fact that it's a pain in the rump to play. You are forever not quite lined up to hit the monsters in GET MEDIEVAL, yet they're always in a good position to hit you. You are forever trying to change

positions and then use your weapon, only to find that you've accidentally used your weapon and then moved. You keep finding yourself stuck trying to maneuver between two closely spaced obstacles and not quite able to make the necessary turns. (This is just annoying when it keeps you from getting to a treasure chest, but it's disastrous when the game gives you only 20 seconds to carry a magical skeleton key through a maze of narrow passages.)

If GET MEDIEVAL lacks the smooth, irresistible gameplay of the arcade game, it does have some good qualities, including somewhat

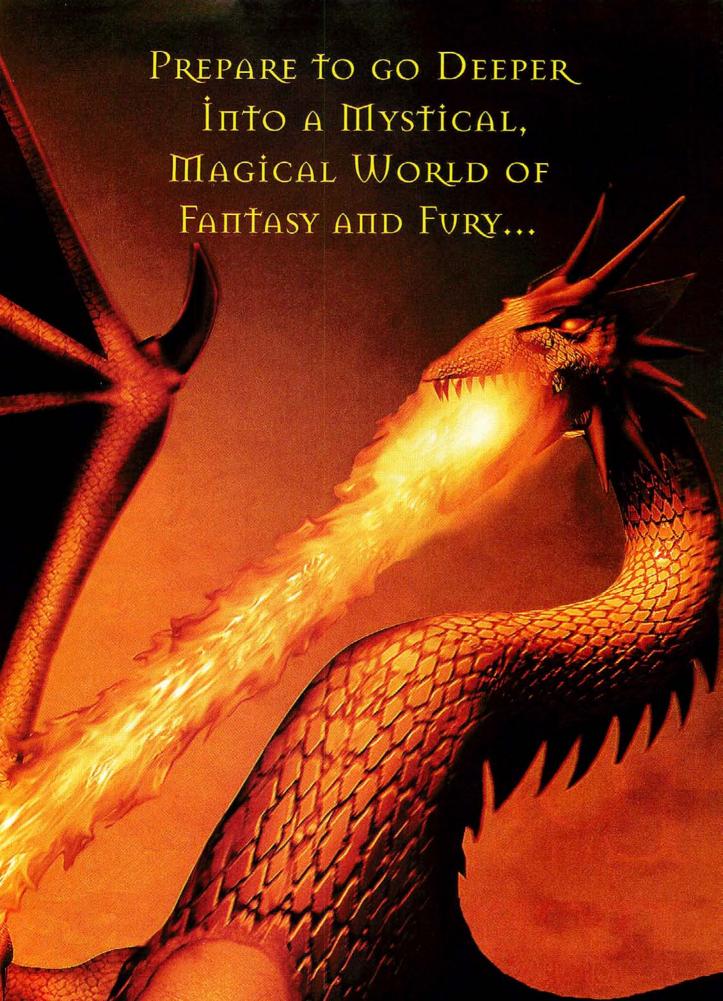


better graphics than the original and a semblance of a storyline to hold your interest through the game's 40 levels. Unfortunately, it also has a postmodern sense of humor that manifests itself in the characters making anachronistic pop-culture references. I suppose I could live with the anachronisms if they were funny, but mostly they are sophomoric.

There is some fun to be had here-try playing two characters at once, one with each handbut not enough to overcome the poor gameplay implementation. Fond memories aside, however, GAUNTLET deserves a better memorial than this. Gara



BIG BAD VOODOO DADDY Powerful artifacts and spells help power your way through the game's dungeons.





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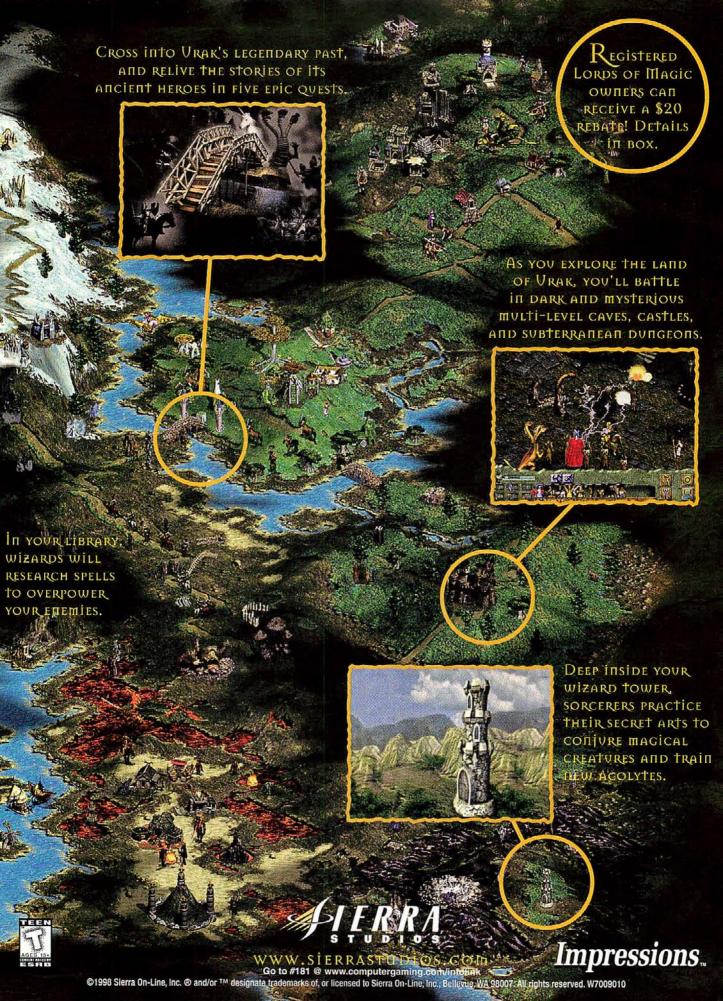
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Funky Fantasy

FF VII Is a Wild Ride, if You Can Put Up With Tech Hassles and Console Sensibilities



by Thierry Nguyen

guy wielding swords with a serious case of repressed memories. Cat puppets riding on gigantic stuffed animals. A martial-arts expert whose measurements put Lara Croft's to shame. These are just some of the wild characters you will portray in the PC port of SquareSoft's successful PlayStation role-playing game FINAL FANTASY VII. Now it's been polished up a bit and has entered the PC arena, but how does it fare? It's a prime example of console-style gameplay, which is both good and bad.



APPEAL: RPGers who want a great story and lots of combat, and who can put up with console design.



PROS: Amazing plot and character development; great cinematics; good battle engine; refreshing perspective on RPG design.

CONS: Uneven save system; technical nightmare at times; music has been diluted and sounds are substandard.

DIFFICULTY: Intermediate.

REQUIREMENTS: Pentium 133 (with 3D accelerator), Win 95, 32MB RAM, 260MB hard-drive space, 4x CD-ROM, DirectX 5–compatible sound and video cards.

3D SUPPORT: 3Dfx, Permedia2, ATI Rage Pro, PowerVR Extreme, Intel 1740, RIVA128 (after patch).

MULTIPLAYER SUPPORT: None.

Price: \$49.95 Publisher: Eidos San Francisco, CA (800) 617-8737

www.eidosinteractive.com



OFF WITH HIS HEAD The effects for summon spells, such as Knights of the Round, look great on the PC.

Attempting to summarize the plot is simply futile, since it is truly immense-which is one of the highlights of this game. There are many complex layers, subplots, and bouts of symbolism scattered throughout. It starts off with the protagonist, a mercenary named Cloud Strife, taking part in an act of eco-terrorism against the evil Shinra Inc., which is drawing power straight from the planet's natural energy stores. Through an incredible series of twists and turns, involving things such as an ancient prophecy, a so-called Holy Land, and a gigantic meteor, the plot becomes significantly more complex. Secrets are revealed, betrayals are committed, and revelations are made. While it all boils down to "Kill Foozle," it's one of the best implementations of that style of story I've seen.

Character development is equally strong. You control a total of nine characters (seven main characters plus two optional ones that you must recruit on your own), and each has his or her own back-story, motivations, and habits. As you play the game, these characters intrigue you, and you get so attached to them that you might

jump as a reaction to a shocking event on the first disc. FINAL FANTASY VII evokes that kind of emotional response.

Standard Fantasy Fare

Gameplay is vintage console-RPG, in that you progress linearly through a storyline while engaging in combat that is both random and predetermined. That is to say, it's almost like a graphic adventure game with loads of combat thrown in.

A leader (usually Cloud) represents your entire party as you journey in either 2D-prerendered locations or the 3D-rendered exterior gameworld in an isometric

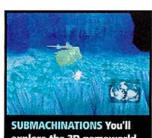
perspective.
These locations range from the dark and gritty city streets of Midgar to the beautiful Temple of the Ancients to the vast plains outside the Chocobo farm.
The gameworld is quite

large, featuring several cities and dungeons.

The game is entirely story/dialoque-driven, in that you progress by going to certain locations, talking to certain people, and winning certain battles. The amount of dialoque is staggering, so using voice acting would have required many more discs. Gamers will have to settle back into actually reading the text, as in the old days. The dialogue itself is uneven, and sometimes downright silly. Yet, at other times it works at tugging at your emotions as well. I'm not sure whether to blame the translators or the writers for the mixed bag of content quality.



TRIPPIN' USA You never expected to fight a house sprouting arms and legs, eh?



SUBMACHINATIONS You'll explore the 3D gameworld in subs and airships, and on the backs of Chocobos.

Console Combat

Combat consists of mostly random encounters, with a few preordained matches thrown here and there. You get into battle without warning, and most of these fights are for level pumping, so if you don't feel like it, you can just flee.

The combat system is one of the game's distinguishing characteristics. It's a workable mix of phased-turn and realtime. You give your characters their commands, they carry them out, and then you wait for their time-gauges to fill up. It feels turn-based, because you tell them what to do and wait for the result and another chance to give commands, but the enemies are able to attack you while you're waiting or making a decision.

The magic system is even harder to explain. Magic is tied to the substance "materia," and different materia casts different spells. Anyone can cast any spell, as long as he or she possesses the proper materia. Materia also gains experience, so that you can cast higher-level spells contained within the

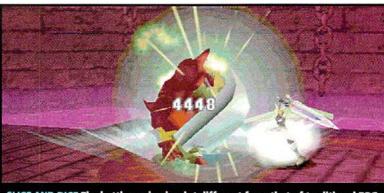
materia; a lot of the strategy is figuring out which materia to develop.

The enemies are wonderfully imaginative and are pulled from many fantasy and sci-fi sources. You will fight traditional dragons, futuristic soldiers, and

even giant houses sprouting arms and legs. The enemies are portrayed with shaded polygons rather than textures, but are, on the whole, more varied and imaginative than the enemies in traditional role-playing games.

Final Rites

Unfortunately, this port is kind of a technical letdown. Yes, it uses 3D acceleration, but this is dubious at best. The initial release didn't support certain 3D-accelerator cards, such as those using the RIVA chipset, so it was mostly restricted to gamers with 3Dfx cards. On top of that, the port didn't work with Cyrix processors, and it generally behaved very badly during installation. While I personally had no trouble running and installing it, one CGW editor gave up after hours of installation mayhem, and Usenet forums have been filled with horror stories about FFVII installation problems.



SLICE AND DICE The battle engine is a lot different from that of traditional RPGs, and tends to be more cinematic with the use of the 3D camera as you fight.

The 3D acceleration affects only the character models, the battle engine, and the overworld map. The prerendered backgrounds are a bit washed out, probably due to monitor-versus-TV resolution problems. And unfortunately the stunning cinematics of the PlayStation version are diluted and blurrier in the PC conversion. They still convey most of the epic feeling and cinematic technique; it's just not as powerful as it is on the TV screen.

The game's sound is also a letdown. The sounds range from average to downright abysmal (an important event is accompanied by sounds that seem to be from the Atari 2600 era). The music, while beautifully composed, is butchered by being dependent on your sound card. The software synthesizer is barely adequate, and unless you have a SoundFont-capable sound card (such as the AWE32/64), then One-Winged Angel, perhaps the best battle music ever composed for a game, is a pale imitation of its PlayStation counterpart.

The save system is uneven. When you explore the outdoor world, you are able to save anywhere, anytime. But in specific areas, such as Midgar or in other cities and dungeons, you can save only in predetermined spots. Since you start in Midgar and don't get out for a while, this could be disconcerting to gamers. And while saving anytime in the overworld was fine. the save-point in the last dungeon was annoying. A

couple of spell mishaps meant I had to go through several battles all over again. One final annoyance in the save system is that you can reload only after you die; otherwise you have to exit and restart the game to reload a saved game.

Recommended, with Caution

Despite the technical problems and other troubling legacies inherent in console ports, I can't help but recommend this game. It is so radically different from other RPGs, and it presents such an intriguing story, that I was compelled to play more. However, if you're a die-hard "traditional" CRPG fanatic who cut your teeth on games like WIZARDRY VII and ULTIMA IV, and you don't have a high-end Pentium with a 3Dfx card, you might want to pass. If you're fairly confident in your hardware, are open to new experiences and perspectives in role-playing, and can put up with idiosyncrasies from console game design, then take the chance and experience some of the best storytelling ever found in an RPG. GGTT



GOTTA FIX UP MY HAWG The mini-arcade sequences provide a decent change of pace during the game. Just be sure you have a gamepad.



THIS AIN'T SHAKESPEARE The dialogue ranges from truly goofy and funny lines like this to boring clichés, and all the way to emotionally moving monologues.



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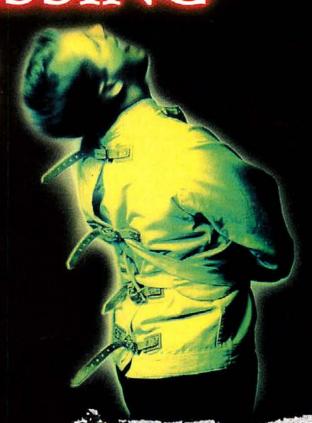
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FOR DINNER?







Big Whiff

In a Genre Overcrowded With Great Games, GOLF '99 Just Can't Compete

by Tasos Kaiafas

he JACK NICKLAUS and LINKS series of computer golf games have almost unanimously been considered the industry standard for years now, and for good reason: Both enjoy a long legacy and a programming foundation that has been reworked and refined with each new release. As long as those two franchises continue to excel, any golf game, especially a newcomer like FOX SPORTS GOLF '99, has to match their quality to win over gamers. This newcomer pulls off a couple of new tricks, but that's about it.

Into the Rough

FOX SPORTS GOLF showcases several never-before-seen graphical effects, and they are probably the best of its all-new features. For the



APPEAL: 3D accelerator card owners who will only buy games that support it.

PROS: Swaying trees are a first; you can putt from

you can putt from way down the fairway...and sink it.

CONS: Practically nothing new; short putts are too difficult; coarse graphics; aged in-game interface; no pro players.

DIFFICULTY: Intermediate.

REQUIREMENTS: Pentium 100, Windows 95, 16MB RAM, 87MB harddrive space, 4x CD-ROM drive.

3D SUPPORT: Direct3D and 3Dfx.

MULTIPLAYER SUPPORT: Up to four via modem, serial connect, or LAN; 1 CD per player.

Price: \$44.98 Publisher: Fox Sports Interactive Los Angeles, CA (900) CALL4FOX

www.foxsportsgames.com



first time, trees sway naturally in the wind, bringing to life the environment around the course. Water also moves, and the reflections add a nice touch. To make more use of its real 3D engine, Gremlin (the game's developer) makes the camera pan around a lot, which at times shows off another dramatic effect: translucent trees. If a tree is between the golfer and the camera, it looks as if you're peering through it.

But are cool tree effects enough to make you want to uninstall LINKS LS or JACK NICKLAUS 5? Of course not. In fact, the graphics overall in FOX SPORTS GOLF are not nearly as picturesque as those in LINKS or NICKLAUS. The edges of the polygons used here to render the terrain are visible at times, and like an old lady with her slip showing, they are both embarrassing and unpleasant to look at. The texture art filling in those polygons is too sharp in contrast and doesn't blend well when repeated across an expanse of ground. Worse yet is the lower resolution of the interface graphics and the golfers.

Putting Woes

So, FOX SPORTS GOLF '99 must be strong when it comes to gameplay, right? Well, its physics are passable, but less than realistic. On the greens, your ball will sometimes glide as if on Plexiglas; anywhere else your shot bites as if the sprinklers had been left on too long. In the sand, the ball gets

"plugged"
too often,
even in fairway bunkers,
which
means you
have to use
a short iron
to get out. If
you're still
200 yards
from the
green,
there's nothing you can

do to get there until the next shot. And if you don't hit it almost perfectly, you'll be lucky if the ball travels 20 yards.

You can play with a traditional two- or three-click interface as well as the trendy mouse swing (here called the "Fox Sports Swing"). Each one works satisfactorily until you have to putt from a short distance. Putt with ease from as far as 80 yards out on the fairway, but be prepared for the worst if you're within three feet of the cup. The problem is the swing meter doesn't adjust for the shorter length, so you have to do some fast clicking to get it right. If you really blow it-say you barely give it enough power and you completely miss



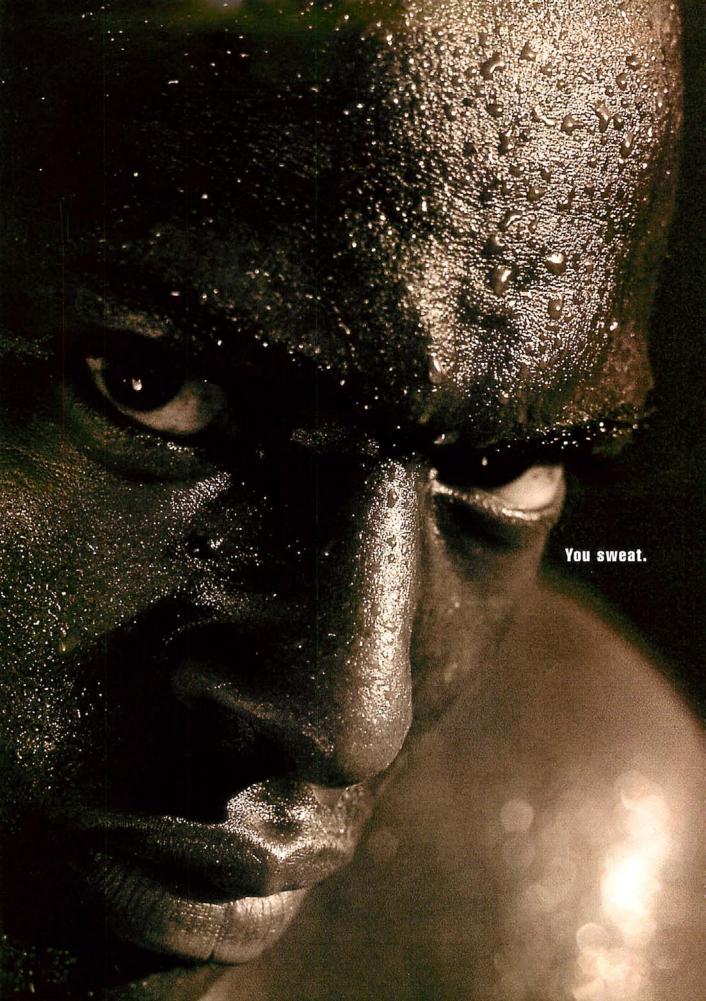
the snap mark—you'll probably whiff. That's right, you completely miss the ball...putting!

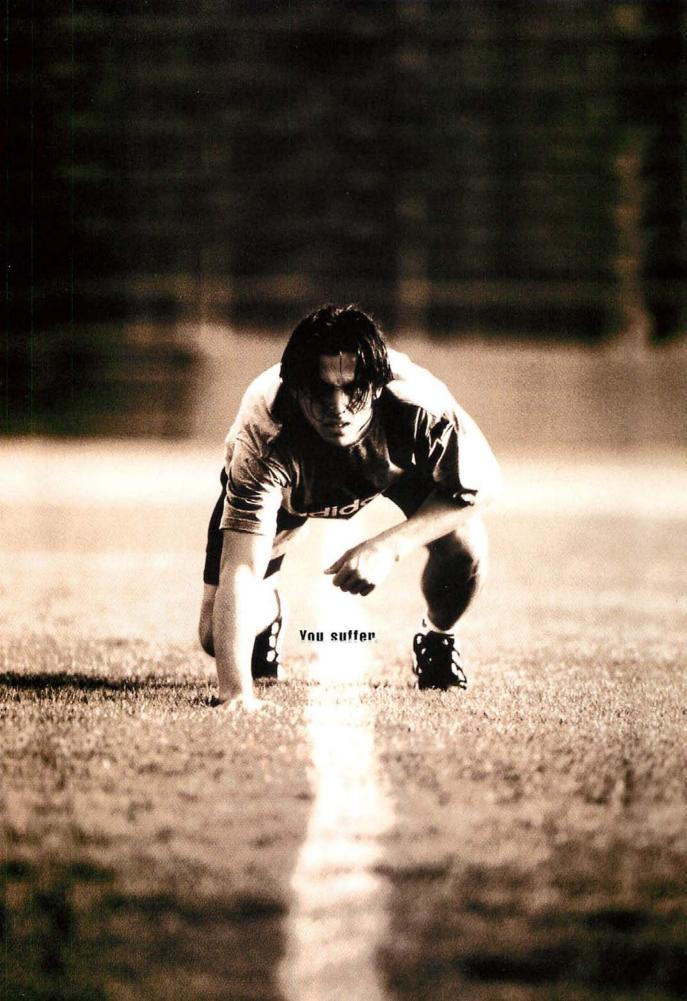
FOX SPORTS GOLF '99 doesn't feature any PGA golfers, but it does have a fun amateur tournament. The game includes eight courses, so there actually is a nice variety with the game.

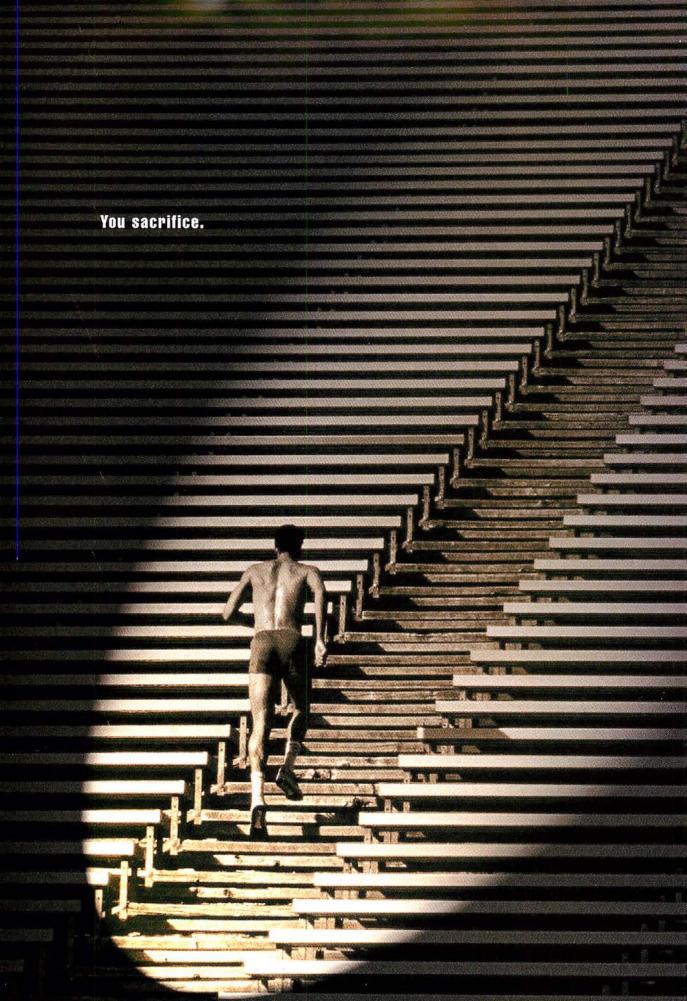
In the end, the question you have to ask is, What does FOX SPORTS GOLF offer that LINKS LS and JACK NICKLAUS 5 don't? Not much. Even if the other games hog a lot of your hard-drive space with all the courses you've collected over the years, don't uninstall either of them just yet—not unless you absolutely have to have those translucent trees. ICCLY

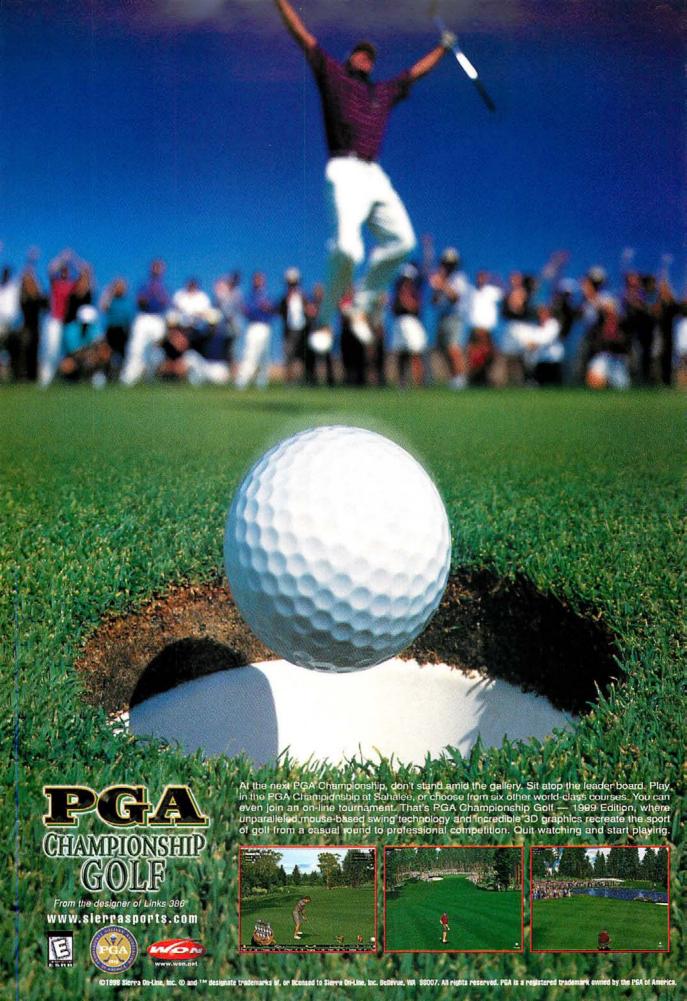


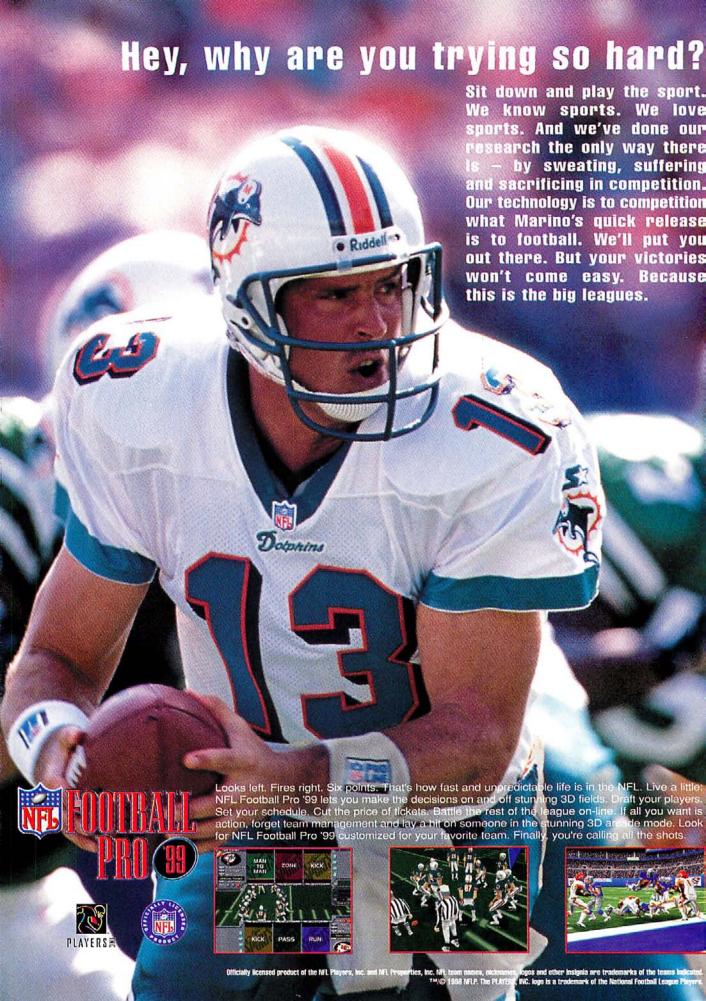
GOLF SPY Translucent trees are one of the best all-new features in the game.















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This Bubba Is Butt-ugly

This "3D" Hunting Game Takes 1 Step Forward, 10 Steps Back

by Joe Vallina

ince becoming CGW's de facto hunting-games editor (due to my past real-life deer hunting exploits), I've been deluged with clone upon clone of the surprisingly successful DEER HUNTER model. In all that time, I've leveled the same basic criticism at almost all of them: You can't walk around in the game environment. This is not the case with 3D HUNTING: TROPHY WHITETAIL. As advertised, you can trudge through the wilderness while trying to stumble upon an unsuspecting whitetail; but, unfortunately, the game's graphics are so ugly that you won't want to explore much further than the "Exit" button.

Yo' Hunting Game Is So Ugly...

The game uses an engine similar to the Build engine, which, in this



APPEAL: Hunting-game fanatics who want to walk through the virtual woods.

PROS: You can walk through the environments.

CONS: This game isn't just ugly, it's

DIFFICULTY: Easy.

REQUIREMENTS: Pentium 100, Windows 95, 16MB RAM, 100MB harddrive space, 4x CD-ROM drive, SVGA 256-color graphics.

3D SUPPORT: None.

MULTIPLAYER SUPPORT: None.

Price: \$19.95 Publisher: Macmillan Computer Publishing Indianapolis, IN (317) 581-3833

www.3dhunting.com



MORE OF THE SAME 3D HUNTING: TROPHY WHITETAIL'S interface is basically the same as that of every other hunting game.

QUAKE II- and UNREAL-dominated gaming world, looks incredibly dated. Sure, you can use the arrow keys to wander throughout the game's levels, but it's impossible to look up or down (mouselook, anyone?), and the graphics are so pixelated that anything remotely resembling a real-life object is transformed into a blob of brown and gray blocks whenever you venture anywhere near it.

Of course, the deer in the game look equally bad, and it is almost impossible to distinguish a deer from the hill it's standing on if you don't use the binoculars. (Even then, the deer is a very unrealistic representation of a real-life animal.) You can forget about being able to make out the scrapes on tree trunks when tracking the deer. The graphics in the DEER HUNTER-based hunting games, as primitive as they are, are still miles beyond anything in 3D HUNTING: TROPHY WHITETAIL. To make matters even worse, the game runs very slowly, even on a Pentium 166, which is well above the game's minimum system requirement of a Pentium 100.

Other than the fact that you can walk around the environment, 3D HUNTING: TROPHY WHITETAIL is pretty much just a

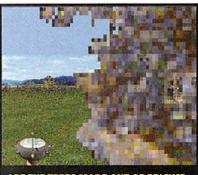
rip-off of every other hunting game out there. At the start of

the game, you pick a weapon (.357 magnum, bow, 7mm bolt-action rifle, or 30-30 leveraction rifle, pick a hunt location (Oregon, New York, Arkansas, or Kentucky), and click on the "Hunt" button to begin your hunt. A score window shows the number of deer killed in each region. One twist on the old

theme is the GPS (global positioning system) feature, which shows your position in the gameworld on an onscreen map overlay.

Turn In Your License

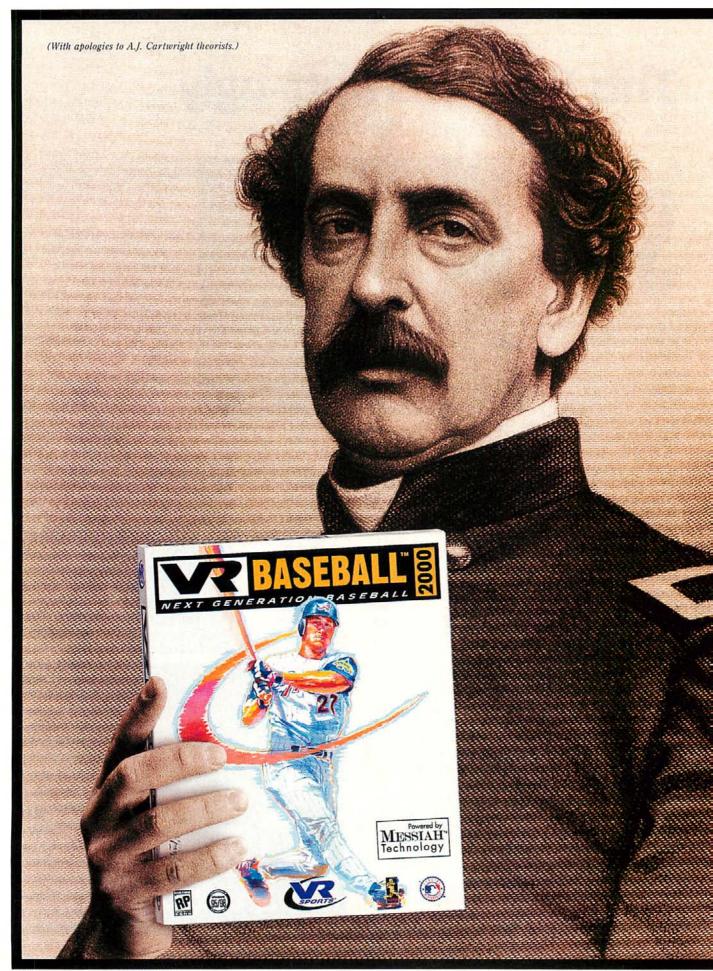
This game tries to remedy one of the biggest problems in the hunting-game genre, the lack of movement, and it somewhat succeeds. But in the end, this game is just not fun. If you're a die-hard hunting-game fanatic, I'd suggest waiting for the true second generation of hunting games, which will be based on the QUAKE and UNREAL engines. They will play better, look better, and be much more fun than 3D HUNTING:



ARE THE TREES MADE OUT OF BRICKS? They sure are blocky enough.



WHERE'S BAMBI? Pixels are about the only thing you can really hunt in 3D HUNTING: TROPHY WHITETAIL I mean, can you find the deer in this picture?



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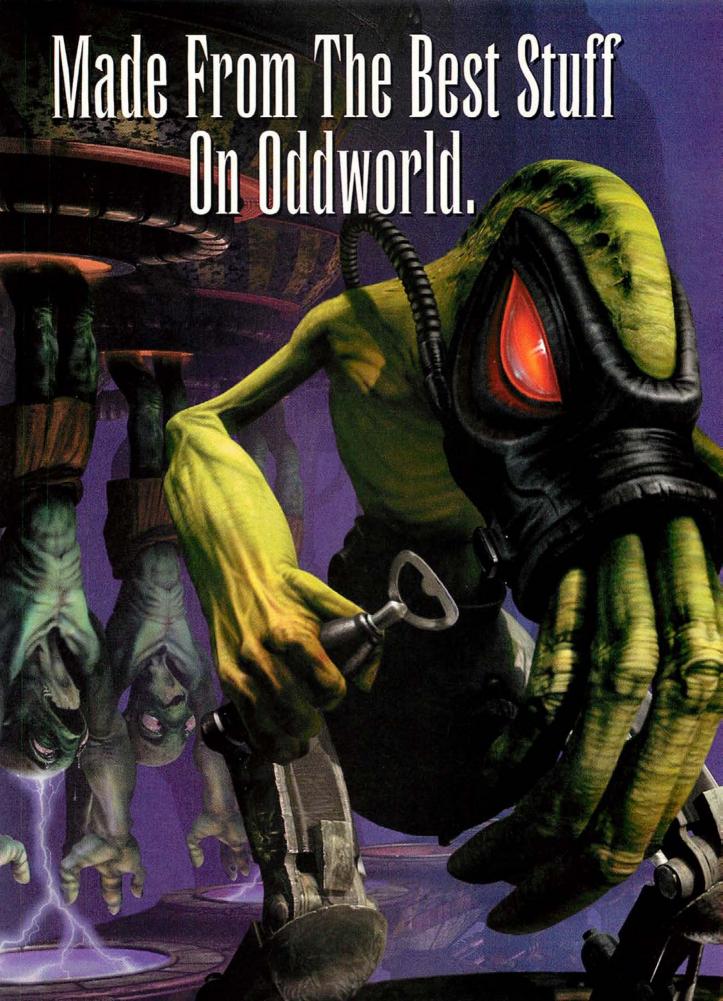


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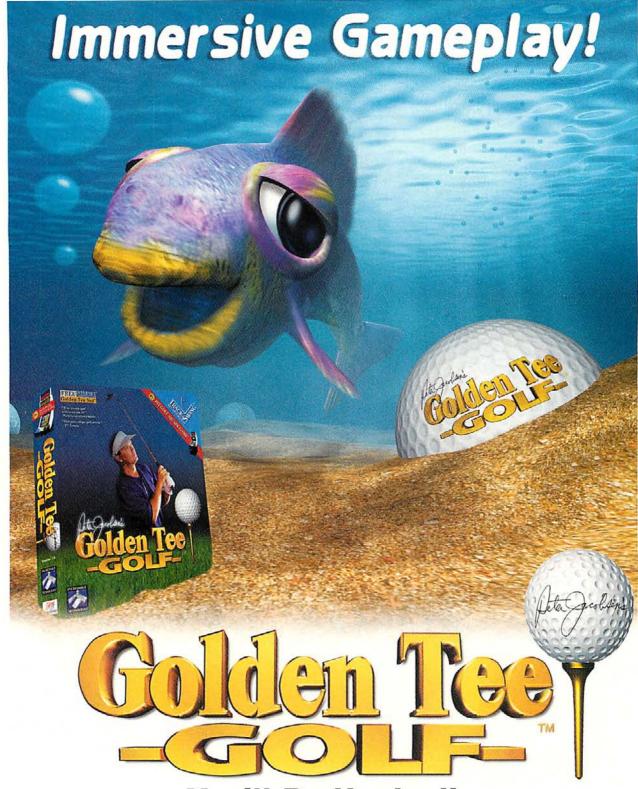








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Jetfighter Goes Hollywood

Top Gun (the Movie) Meets WING COMMANDER

by Jeff Lackey

f you're designing a flight sim for hard-core fanatics, making it appealing is pretty simple (although it's not easy): Make sure you have the most detailed, accurate representation of every aspect of the aircraft's operation and environment. But what if you're after the casual gamer, the guy who thinks it would be cool to be Tom Cruise and be a fighter pilot in one of those F-something jet planes?

Mission Studios aims JETFIGHTER: FULL BURN squarely at the fighterjock/movie-star aspirant by wrapping the JETFIGHTER flight-sim engine in a full-motion video narrative. A conflict between Russia and NATO has erupted over (what else?) oil fields in the waters off Norway. You play the part of either



of-the-art realism. PROS: Immersive

learn to fly and fight.

FMV storvline playable from both sides of the conflict; great low-altitude feeling of speed; easy for novices to

CONS: Linear campaign with no branching, no degrees of damage to your plane; some missions may be too difficult for skill level at which sim is aimed; Internet play requires utility program (e.g., Kali).

DIFFICULTY: Easy.

REQUIREMENTS: Pentium 133, 16MB RAM, 250MB hard-drive space, 2MB graphics card.

3D SUPPORT: 3Dfx.

MULTIPLAYER SUPPORT: IPX/LAN (2-16 players); 1 CD per player.

Price: \$54.95 Publisher: Interplay Irvine, CA (949) 553-6655

www.interplay.com



PAY ATTENTION, KIDS Briefing sessions precede each combat mission, with descriptions of the targets, threats, and other relevant information.

a brash young U.S. Navy pilot or a veteran colonel in the Russian Air Force. Videos set up the story from the perspective of the side you have chosen to play, and they're interspersed between your combat missions to advance the storyline.

The "movie" aspect of the game actually works surprisingly well. The acting is not terrible (it's about soap-opera-quality), and, although the side plots are a bit thin, you still find yourself wanting to complete your combat missions successfully to advance the story. Scenes occur in several locations on your air base or carrier, such as the mess hall, rec room, your quarters, your CO's office, the hangar, and the briefing room. You can "walk" from location to location, but the novelty of this quickly wears off. Luckily, there is a dropdown menu that offers instant movement to any location.

The story includes the progress of the conflict, of course, but you will also become involved in scenarios involving rivalry, personal conflicts, and a few surprises. Playing the U.S. and the Russian sides gives you completely different perspectives on the war. While you are in the role of the eager U.S. Navy pilot, the Russians appear to be war-loving monsters, while as the grizzled Russian veteran pilot, you hope that by retaking the oil fields that are rightfully yours, the economy might recover to the point where you can buy your small children decent food again. Although the collection of video clips that make up the stories won't make you forget Saving Private Ryan, the two sides of the same conflict are presented in a more thoughtful manner than one might expect in a casual, actionoriented sim. Unfortunately, you

don't have any real interaction with other characters and there are no decisions to make within the video sequences: You merely observe the action until it's time to stop yapping and start flying.

Cleared for Takeoff

The videos move the background story along, but the core of JETFIGHTER: FULL BURN is its flight simulation. If you've played JETFIGHTER III, the sim will look very familiar. The commands, graphics, flight models, damage models, and the like are all identical to the previous release. If that means that the simulation is somewhat dated, it doesn't mean it's bad. In fact, it's a pretty good system for flight-sim novices and even offers a few thrills for the hardcore PC pilot.

You'll fly the F/A-18 and F-22N on the U.S. side, and the fictitious MiG-42 (loosely based on the MiG-1.42 stealth prototype) on the Russian side. There are some small differences in the flight characteristics between the planes. However, controls are simplified to the point that once you've learned to fly one of the planes, you can fly them all. The cockpit instrumentation is a weak point: There is very little of it (just a very simple radar, waypoint information, and some basic armament and aircraft info), and the instrument graphics are so crude



FJORD ESCORT The hills and valleys of Norway provide a handy way to hide from the massive numbers of SAMs you'll face.

CARRIER OPS As the U.S. player, you'll call this aircraft carrier home and fight to keep it safe from Russian attacks.





CUTTING THE LIFELINE Air-toground missions include attacks on naval assets, which means everything from cargo ships to major warships.



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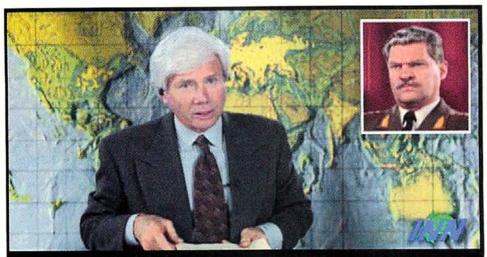
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www.melbourne house.com/kknd2



IS THAT DONAHUE? Periodic newscasts will provide background information on the progress of the conflict.

and blocky that they are almost impossible to read. Fortunately, all the information you need to fly and fight is available on the HUD (heads-up display).

The flight-model physics feel simplified, but there are some nods to realism. For example, fly above your plane's maximum ceiling and your engines will die from compressor stall; flying at very low levels will result in ground-effect buffeting. JETFIGHTER: FULL BURN provides a downright exhilarating rush when you fly down in the weeds: It really feels like you're moving at 500 knots when your plane is a few hundred feet off the ground.

You'll fight in the skies over Norway, a gorgeous part of the world filled with hills, valleys, and fjords, which are all beautifully rendered. The effect is startlingly realistic when you're flying a dawn sortie and you see the coastal mountains suddenly appear out of the early morning mist. Those hills and valleys also provide a great place to hide from SAMs.

Fight Like You Train

You're not in the sky for sightseeing, no matter how scenic the view, so what's the combat like? It can be fun, but extremely hairy. There's a nice feeling of being part of the bigger picture, as you see

and hear other flights completing their missions, and the missions themselves are varied and interesting. Although the game is clearly targeted at casual gamers, some missions will be very difficult for novices to complete, as the air is filled with seemingly endless SAMs, AAA, and

enemy fighters. This is made more difficult as the damage modeling on your plane is very simple—either you're fine, or you've been shot down. There's no limping home with a leaky fuel line or a disabled HUD. Failure is not an option, as the campaign is completely linear, so you must replay a mission until you win before you can move to the next one.



CUTTING EDGE The U.S. player initially is equipped with F/A-18s, but be patient—a shipment of F-22Ns is on the way.

STRATEGY SESSION Playing from the Russian side reveals a perspective on the war that is very different from what is seen on the U.S. side.

Fortunately, the storyline is interesting enough to keep you hammering away, and the challenge provides an extra sense of satisfaction when completing a mission.

A famous jazz musician, when asked his opinion of rock music, said it was like a candy bar—not very complex or sustaining, but still quite enjoyable. That describes JET-FIGHTER: FULL BURN pretty well: Hard-core sim fans may find it lacks the meat they crave, but casual gamers may find it to be just what they're looking for.

DOS Multiplayer in a Windows World

ETFIGHTER: FULL BURN is a rarity these days, in that it is a DOS program. The result is that multiplayer support is only provided for IPX/LAN networks. If you have access to an IPX/LAN setup, you're ready to rock. But the casual gamer JETFIGHTER: FULL BURN is aimed at probably does not have a home network. Those players will need to check out a program called Kali (available at www.kali. net), which fools the game into thinking you and your multiplayer partners on the Internet are running on a network. Kali comes in two versions, DOS and Windows 95; you should download the Windows 95 version if that's your operating system (DOS games will run just fine). Once downloaded, follow the included instructions and you'll soon be chasing your buddies over Norway.

While you won't be able to play the campaign, JETFIGHTER: FULL BURN's multiplayer mode does allow you to fly with up to 16 players in either team play or "every man for himself" furballs. Options include time limits, kill limits, ordinance packages, any of the three planes in the game (F/A-18, F-22N, or MiG-42), and re-supply rules. Testing for this review was done with two players, using Kali 95 for Internet play; games were extremely simple to set up and resulted in very smooth gameplay. For a real adrenaline blast, try playing with guns only and an agreed-upon ceiling of 500 feet. With the hills and valleys and the superb feeling of speed at these levels, this is intense stuff!



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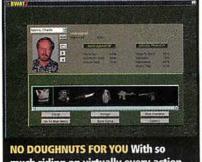
Is Your Number Still 911?

Despite Flaws, SWAT 2 Is the Best Police Game in Years

by Dennis McCauley

eginning with the primitive adventures of 2D lawman Sonny Bonds, Sierra's POLICE QUEST series has been around in one form or another since the 1980s. The franchise underwent a significant change in direction, however, with the 1996 release of POLICE QUEST: SWAT. Unfortunately, SWAT proved to be a poorly realized FMV adventure that only served to tarnish the reputation of Sierra's series.

As Sierra unveiled PQ: SWAT 2 at last year's E3 conference, gamers were pleasantly surprised to learn that the new version would be a real-time strategy sim. Alas, it would take over a year for SWAT 2 to hit the street (talk about slow response time). In the



NO DOUGHNUTS FOR YOU With so much riding on virtually every action SWAT takes, it's important to whip your troops into the peak of conditioning. The terrorists train too, mastering their own weapons and combat skills.

end, however, despite some annoying flaws, SWAT 2 has proven itself worth the wait.

Practical Political Realities

SWAT 2 employs a missionbased campaign system in which players command either LAPD SWAT forces or a bizarre terrorist group, The Order of the Five Eyes. Each campaign-length game consists of 15 progressively more difficult missions. LAPD, for example, starts out with a pair of training scenarios before advancing to a live-fire mission involving a demented attorney who has barricaded himself inside his home.

LAPD chopper, it'll cost you.

Subsequent missions include robberies gone sour, high-risk warrants, an assassination attempt, and even a mission in which you are defending LAPD's Metro Division HQ from a terrorist siege. The police missions bear at least a passing resemblance to some real event in SWAT's storied past. Last year's North Hollywood bank robbery and the famous 1974 shoot-out

with the Symbionese Liberation Army, for example, are just two of the better-known incidents that serve as the basis for SWAT 2's missions.

Veteran gamers should find SWAT 2's focus refreshing. Unlike the build-and-fight cycle that drives most strategy games, SWAT 2's cops place their emphasis on preserving life. The scoring system penalizes players who allow inno-

pens to be a white Bronco.

cents or police officers to be killed. Even shooting a threatening suspect is a neutral event for scoring purposes. What does count, however, is rescuing hostages, recovering evidence, and arresting bad guys. Points translate into a public-confidence rating, and, ultimately, into municipal funding for SWAT. In this respect, the game is an excellent simulation of the practical political realities of modern law enforcement.

In another gesture of realism, SWAT 2 places a heavy emphasis on training. Both police officers and terrorists can improve their skills as they progress through a campaign. Cops are rated for marksmanship with a pistol, an MP-5 sub-machine gun, a shotgun, and a sniper rifle, as well as on their first-aid, dynamic entry, explosives, and hand-to-hand combat abilities. Officers may also achieve certifications that allow them to function as element leaders, EMTs, K-9 handlers, or explosives experts.



THERE GOES THE BUDGET While you can call on the powerful

Struggle for Containment

SWAT 2's graphics are serviceable by today's standards. The scenes impart a sense of reality through the use of small details, such as graffiti on buildings. The game uses a standard isometric, high-angle view to portray a variety of urban, suburban, and rural ter-

rain types. The mission area is static, with clearly defined boundaries—perhaps overly defined. A suspect or freaked-out hostage who manages to bolt past the assault elements has merely to run to the edge of the screen to evade the long—or in this case short—arm of the law. Your pursuing SWAT members cannot follow. It's as if the suspect dropped off the

APPEAL: Anyone interested in anti-

interested in antiterrorist actions who'd rather not dodge real bullets.

PROS: Authentic police tactical flavor; emphasizes preserving life

(what a concept!); clever management features involving personnel and budget.

CONS: Veteran officers act like raw recruits. Perimeter? What perimeter?

DIFFICULTY: Intermediate.

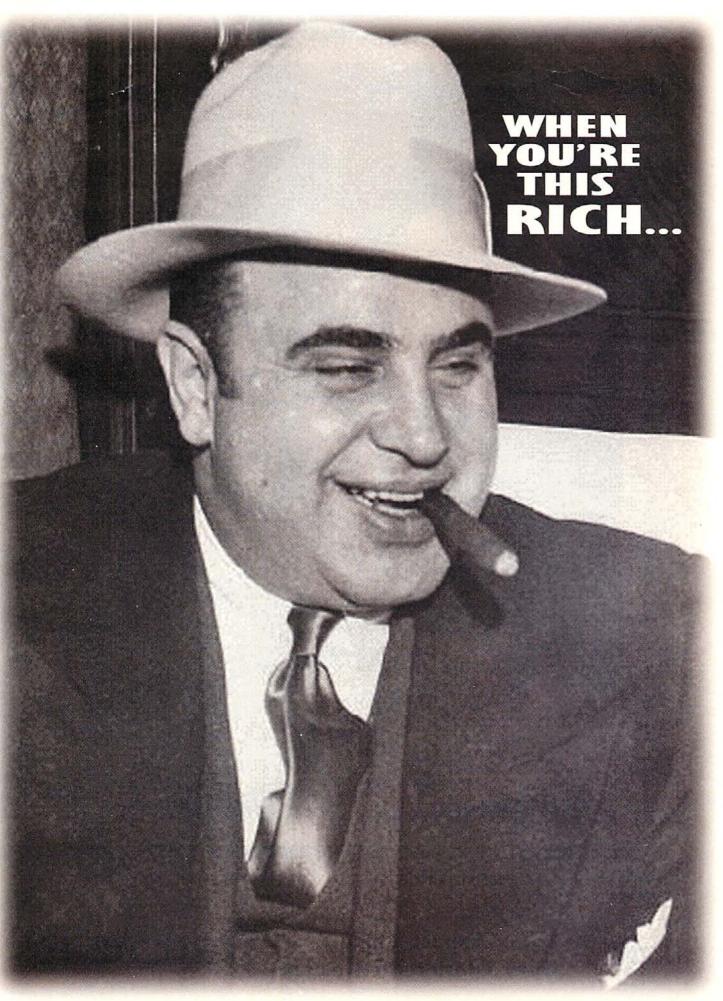
SYSTEM REQUIREMENTS: Pentium 133, Windows 95, 16MB RAM, 4x CD-ROM, supports Windows-compatible sound cards.

3D SUPPORT: None.

MULTIPLAYER SUPPORT: LAN, Internet (2-4 players); 1 CD per player; also available on WON.

Price: \$49.95 Publisher: Sierra On-Line, Inc. Bellevue, WA (800) 757-7707

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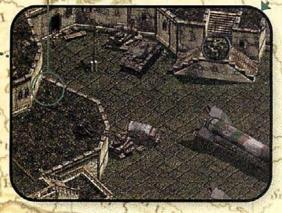


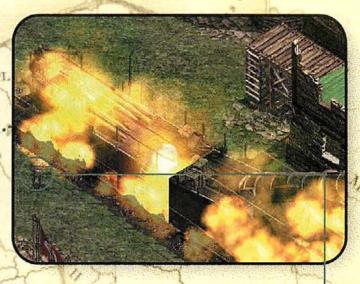




Play the DEMO! Buy the game! www.eidosinteractive.com DUKE

Call in your sniper to weaken enemy fortifications and expose this Nazi stronghold to a weapons raid. To him every Nazi looks like the one that took out his family.

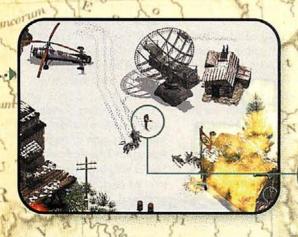




You send in your pyro lovin' munitions expert to take out enemy mobile missile capability. Apparently, there's plenty of dynamite to go around.



a b INFERNO



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TINY

When the going gets tough, you send in your fiercest warrior to finish the job. Tiny takes out a communications center without the usual supporting cast. GO THI

E M

"A real-time strategy sleeper."—Computer Gaming World. "Excellently rendered terrain and brilliant Al make this a fantastic combat simulation."—Gamespot
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edge of the earth. This unrealistic game event is a major annoyance. Worse, it can take a huge bite out of your mission score.

Although containment is certainly a problem for real-life SWAT personnel, it's a double whammy in the game. While a typical highrisk operation would feature a perimeter manned by uniformed patrol officers, SWAT 2 has none, even though we can clearly see the LAPD black-and-whites. Where did all the cops go?

And that's not the only place where SWAT 2's badge is a little tarnished. The individual unit Al needs work. Picture this: A fiveofficer element of highly trained SWAT troopers executes a textbook room entry. Inside they confront a pistol-waving lunatic. We know who's going to win this confrontation, right? Not so fast, teargas breath. Without careful micromanagement, the suspect just might shoot a few officers and run out the door. Will your officers shoot back? Will they give chase? Not if you don't order them to. This is very strange, and detracts



from the simulation. After all, these are veteran police officers we're deploying, not robots.

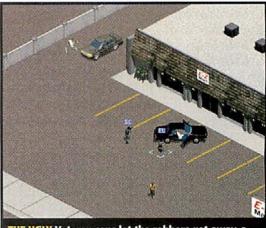
Perhaps the oddest design decision is SWAT 2's treatment of wounded officers. When a unit member goes down, you can order another officer to do first aid-if he's equipped with a medical kit. If not, the wounded officer oozes life until the mission's end conditions are met. There's nothing more frustrating-or artificial-than watching a cop's health drain away while you desperately search for that last missing hostage in order to trigger the ending. Actually, this is just another side of the missingperimeter coin. In a real officerdown situation, surrounding police personnel would absolutely find a way to evacuate the wounded.

Big Bertha

Despite these glitches, there's a lot to like in SWAT 2, once you accept the requisite level of micromanagement. In addition to team members, you're in control of an LAPD

helicopter, which is used for surveillance, or to insert personnel. Big Bertha, an armored car equipped with a battering ram, is on call to punch through barricades. Careful, though, as she has an annoying tendency to run over anyone who gets in her way, including children and SWAT personnel. Snipers are another critical asset. Given a green light, they can normally take out a suspect with one shot.

SWAT 2 has good but not great replay value. In subsequent games the bad guys may behave differently and pop up in different locations, which is nice. Upon closer look, however, you realize that the same number of bad guys appear, and the obstacles remain the same. This inevitably gives you an edge as you equip for the mission. Since you know what to expect,



THE UGLY Veteran cops let the robbers get away, a too-frequent occurrence in SWAT 2.

you can buy just what you need, artificially preserving your budget.

SWAT 2 offers a variety of multiplayer options, including free Internet play on WON, but I found that latency rendered Net matches unplayable. I hope that Sierra will patch this soon, since the multiplayer options are an exciting mix of team play and head-to-head action. An included terrain editor allows gamers to design their own maps for head-to-head multiplayer gaming. Give Sierra extra credit for a terrific printed manual. SWAT 2 is one game that won't force you into buying a hint book just to learn the game.

SWAT 2 is exciting, challenging, and different from any other real-time strategy game on the market. Although its flaws are significant, SWAT 2 is the best law-enforcement sim yet. SECT

iven the fact that LAPD's elite need to be told to execute even the most basic police survival skills, how can you command your personnel? A button-bar running vertically along the right side of the screen lets you pass orders along to the selected element or individual officer. After a little practice, using the bar becomes second nature, allowing your officers to crouch, rescue hostages, issue verbal challenges, disarm booby traps, and the like. A "cover" command directs your team members to go into an overwatch mode, monitoring a suspect, officer, or hostage, and taking action against any threats. This helps alleviate the stupidity level somewhat, but strange things still happen, even with cover employed. This appears to be a directional problem. Officers assigned to cover turn and face their subject. If that happens to be a

fellow police officer who's to their left, and a bad guy opens fire from the right, things can get ugly (see screen shot).

A feature that's especially useful is the "initiate" command, which, when turned on, executes your orders immediately. When it's off, however, you can issue a string of orders that will only be executed on command. This comes in handy if, for example, you wanted three officers to enter a building simultaneously.

A DUESTION
OF FAGING
The scout (SC)
is covering his
element
leader (EL).
Unfortunately,
the bad guys
are in the
store.
dy
ted
build-





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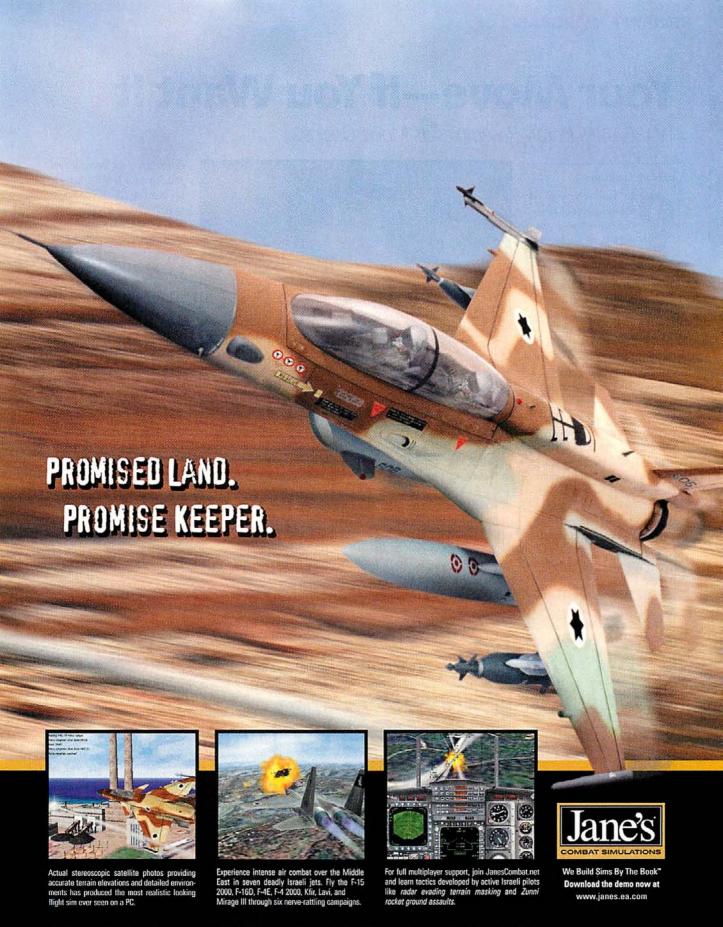
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Your Move—If You Want It

WARGAMES Hardly Resembles Its Movie Origins

by Mark Clarkson

hall we play a game?" To any moviegoer of my generation, that phrase instantly recalls the 1983 film *WarGames*, in which Matthew Broderick breaks into the experimental NORAD computer, WOPR, and almost torches off a global thermonuclear war. Oops.

Ironically, MGM Interactive's new game, WARGAMES, has little to do with the movie, instead deriving its inspiration from the real-time strategy game fad of the last few years. Elements of the film are grafted on here and there, like text email messages from "Joshua" (the computer) and a DEFCON indicator that shows the progress of your current mission, but this is pretty standard fare. And the back-story—to achieve peace, the WOPR computer is out to crush



APPEAL: Realtime junkies desperate to justify their new 3D card.

PROS: Cool 3D environment; hacking your opponent's computer is a nice twist.



DIFFICULTY: Intermediate.

SYSTEM REQUIREMENTS: Pentium 133, Windows 95, 16MB RAM (32MB for hardware 3D support), SVGA graphics, 2x CD-ROM

3D SUPPORT: Direct3D.

MULTIPLAYER SUPPORT: IPX, TCP/IP, modem, serial, and through Mplayer; 1 CD per player.

Price: \$49.95 Publisher: MGM Interactive Santa Monica, CA (310) 449-3000

www.wargamesmgm.com



missile truck, and the explosion is pretty impressive.

the human military machine—is more evocative of *The Terminator* than of *WarGames*.

A Real Hack Job

There are 30 single-player missions, 15 for each side, as well as multiplayer support. Gameplay is pretty basic. Playing as either man or machine (NORAD or WOPR) you gather resources; use construction units to build basic and advanced structures; produce infantry, armor, air, and sea units; and take the fight to the other guy (or computer).

Resources come in the form of money, which you obtain locating computer centers and sending in specialized hacker units. Your hackers can also hack for technology, advancing your technology and upgrading your units. In addition to upgrading the speed, armor, and firepower of your own units, your hackers can also downgrade your opponent's speed, armor, and firepower—a nifty twist.

Mission orders usually direct you through a series of objectives in a particular order—step one: go north; step two: take the bridge; step three: go east; and

so forth. I often obtained my best results, however, by ignoring the prescribed sequence and doing things in my own order—which was, at times, backward.

WARGAMES uses Direct3D to provide textured, true-3D terrain. You can even spin the terrain around 360 degrees, à la MYTH, to better see over that hill or behind those trees. The 3D models are all right, and the explosion visuals are impressive, if a bit much at times. But the sounds, especially the explosions, are simply terrible.

A WOPR It Isn't

Sadly, WARGAMES' most exceptional feature is its movement AI, which is easily the worst I've seen in years. Your troops literally cannot find their way out of their own bases. Units constantly get stuck behind each other when there's plenty of room to go around. Tell them to attack an enemy and they



YOUR TAX MONEY IN ACTION
A NORAD guard tower zaps this
MkIII walker in a battle over a
satellite launching facility. Of
course, we saw similar effects
years ago in RED ALERT.

stop dead. Tell them to jump on a transport and they turn around and flee the area. I once saw three tanks milling around endlessly, completely stymied by a single enemy infantry unit whom they were unable either to run over or find their way around. If you could set waypoints, a lot of the frustration could be avoided, but the designers evidently thought this simple solution was unnecessary.

Ultimately, although WARGAMES offers some things we haven't seen before, it's still not half the game that either STARCRAFT or TOTAL ANNIHILATION is. How about a nice game of chess?



IOWN

them in paperwork.

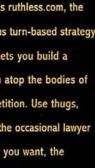
ruthless.com

Or just drow

them.



Tom Clancy's ruthless.com, the simultaneous turn-based strategy game that lets you build a corporation atop the bodies of your competition. Use thugs, hackers or the occasional lawyer to get what you want, the way you want. It's your empire. You decide.









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Dark Side Of The Moon is a deep-space sci-fi adventure that will immerse you in 360° of completely seamless, incredibly realistic, motion picture-quality gaming.







Gaming at Tiffany's

JEWELS II Has a Few Rhinestones, but Most of Its Gems Glisten

by Petra Schlunk

here's nothing quite like a good puzzle game for making you feel completely stupid one moment and idiotically pleased with yourself the next. Bardworks' JEWELS II: THE ULTIMATE

CHALLENGE is set in the mysterious City of Ancients, where a pre-Sumerian culture has left 24 rune tokens for you to find amidst two dozen puzzles. These tokens are necessary for solving a final puzzle that opens a door leading to the treasure of this ancient civilization.

While the interlinking story is thin—as is true for virtually all puzzle games—the atmosphere is a welcome change from the standard puzzle-game setting. And the care taken to make this game

COMPUTER



enjoyable for anyone with even an iota of interest in puzzles makes it all worthwhile. Most of JEWELS II's puzzles are essentially pattern-recognition/logical puzzles, and they require no special knowledge to solve. A map of the ruins lets you jump to each puzzle room by merely clicking on that puzzle's symbol. An in-game journal provides hints for all but the last of the game's puzzles. The professor in charge of the dig offers additional hints. There is no time limit for solving any puzzle, nor are you required to solve puzzles in any order; so you can sample puzzles and tackle them at your leisure. Each puzzle can be played on either a hard or an easy difficulty setting that is adjustable within the game, so



PUZZLE PEREGRINATIONS Just click on a rune on the game's map to go straight to a new puzzle.

you're not stuck playing all the puzzles on hard or all on easy. Many of the puzzles have several variations, of which you can play whichever you choose to obtain the necessary token. You can come back to solve a puzzle or its variants as often as you like.

Make No Mistakes About It

Aside from occasional logical oddities, JEWELS II has few failings, and these are noticeable only because of how well the rest of the game is designed. First, all except one of the puzzles has a mousedriven interface. It comes as a rude shock to find a puzzle that requires keypad input (which you are not told about at the time but must discover on your own). Second, there is no way to save within a puzzle and there is no way to take

back your last move in any puzzle. Many of the puzzles must be restarted from the beginning if you make a mistake. This can be very tiresome, especially in the longer

puzzles, in which a momentary mental slip can force you to start all over again. Third, because almost all the puzzles are self-contained, it is surprising to find a puzzle in which the "keys" required for solving it are supposedly scattered throughout the ruins. Thankfully, a careful scanning of the entire journal produced the necessary solution.

JEWELS II: THE ULTIMATE CHAL-LENGE doesn't always live up to its lofty subtitle, but it's a very good game, with plenty of fresh, interesting puzzles. The apropos graphics, evocative sound, simple interface, and thoughtful design (which allows players to determine for themselves how challenging the game will be) really make this game worthwhile for anyone with a penchant for puzzle solving.



adjustable difficulty
settings; no time restrictions for puzzle
solving.

CON5: No mid-puzzle saves; no way to take back your last move; occasional logical inconsistencies within puzzles and within the game's overall design.

DIFFICULTY: Intermediate.

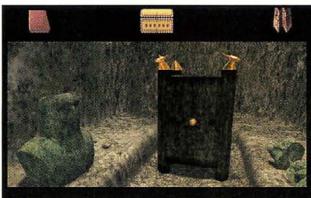
REQUIREMENTS: Pentium, Windows 3.1/95, 16MB RAM, 16MB hard-drive space, 2x CD-ROM drive, 16-bit SVGA graphics; supports Sound Blaster-compatible sound cards.

3D SUPPORT: None.

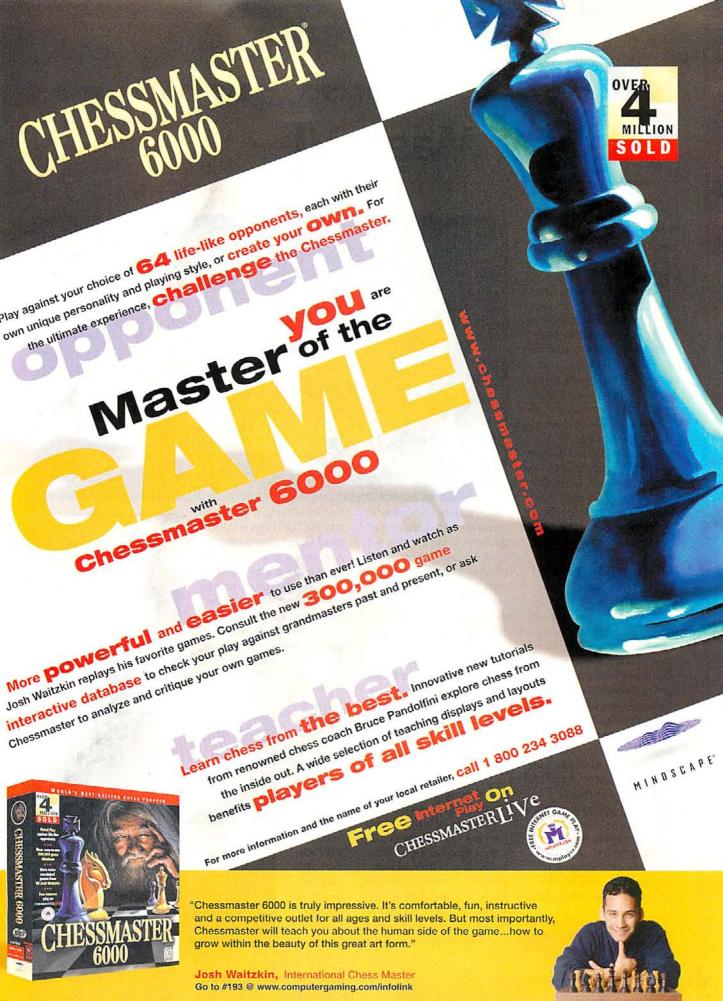
MULTIPLAYER SUPPORT: None.

Price: \$39.99 Publisher: Hoffmann and Associates Toronto, Canada (416) 977-2368

www.h-plus-a.com



A GLINT OF GOLD Although it's set in the ruins of an ancient city, JEWELS II avoids appearing drab through a judicious use of color.



STRATEGY • CHEATS • WALKTHROUGHS

Might & Magic VI

How to Make Sure Your Party Is a Smashing, Spell-casting Success

by Petra Schlunk

f you're just starting (or restarting) a campaign in MIGHT & MAGIC VI, the thought that you may have to develop characters to Level 70 or beyond to complete the game is a bit intimidating. Before you rush head-on into another group of Goblins, spend some quality time fleshing out your party-this will save you a lot of aggravation later on.

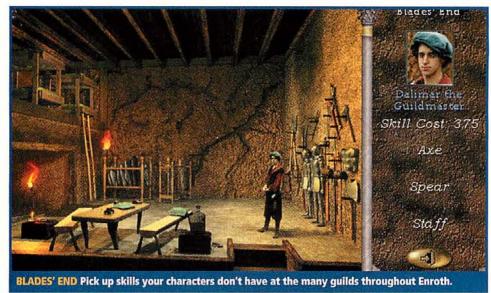
So, how does one go about crafting a proper party? For starters, it should be well balanced, with at least one character that can cast elemental spells, two characters that cast clerical spells, a cleric or sorcerer that can learn both light and dark magic, and, of course, someone with fighting skills.

Elemental, My Dear Elf

Of all the skills possessed by party members, having elemental spellcasting abilities isn't just useful, it's often devastating to foes when elemental spells are cast in the right situation. As a result, at least one member of your party (and preferably two) should work toward achieving Water Mastery: The nearly permanent Lloyd's Beacons and Town Portal spells they gain thereby are invaluable time- and sanity-savers. Also, make sure someone can cast Wizard Eye, which is an essential spell.

Light and dark magic spells are also great, especially if you have a lot of characters that can cast such spells. In particular, dark magic offers the Armageddon spell, which can wipe out all magic-susceptible monsters in an

> See the Review AUGUST ISSUE • 4.5 STARS



area. A high-level dark master's Shrapmetal, cast up-close (so all the shards hit one monster), will nearly kill even the most powerful monsters in one shot. Clerical spells are mostly useful for healing, although Psychic Shock can do tons of damage against susceptible critters.

If you don't want a balanced party-or just feel like trying something different—an all-spellcaster party can be exceptionally powerful. Just be sure to build up everyone's might, accuracy, and combat skills so they can fight when necessary, or you'll be going back to many saved games.

See Sunny Sorpigal!

To get your party off to a quick start, visit the inn in New Sorpigal and speak with everyone, no matter how inane they might seem. Afterward, go to the stables and travel to Castle Ironfist. Talk to the people in the local castle up the hill to complete a quest. Just north of the stables, purchase a Berserker's Fury Guild membership and get the

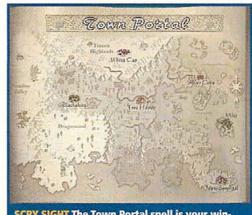
bow skill for everyone at the guild next door. Don't forget to buy some bows! Return to New Sorpigal and train everyone up to Level 3. Now with everyone at a fair level and with bow skills to boot (a must for real-time ranged combat), you're ready to take off.

The following order of suggested quests is based on what your party is likely to be skilled enough to handle at any point:

1. In New Sorpigal, finish with the outdoors and then the dungeons on the mainland, Go to Mist and complete the outdoors. Visit Castle Ironfist, kill everything outside, and tackle the Shadow Guild, Temple



LLOYD'S OF LIGHT A water master can place five longlasting Lloyd's Beacons throughout the game's many areas.





ENOUGH TO GO AROUND As soon as you transact some business at the inn in New Sorpigal, hop on a coach to Castle Ironfist to complete another quest and go to the nearby guild to acquire bows and bow skills for everyone.

of Baa, and Dragoons' Caverns (you can ignore the oozes).

- 2. Visit Bootleg Bay and clear the outdoors and most of the dungeons (save the Temple of the Sun for later). Return to Mist and finish off Silver Helm Outpost.
- 3. Visit Free Haven; kill everything outside and explore all dungeons. Explore the Temple of the Sun now, as well as any remaining dungeons in Castle Ironfist. Travel to Silver Cove and explore everything there (skip the Warlord's Fortress if it's too tough). Go to the Eel-Infested Waters (skip Castle Alamos).
- **4.** Travel to the Mire of the Damned (skip Castle Darkmoor), Blackshire, and the Frozen

Highlands (in any order). After completing the dungeons and monsters in these areas, you're ready to tackle Kriegspire, its dungeons, and any remaining dungeons in the previous areas.

5. By now, your party should be able to handle all of the remaining areas (Sweet Water, Paradise Valley, Hermit's Isle, Dragonsand).

Make sure that your party completes all quests. Keep in mind that you won't destroy anything by completing a quest dungeon before getting a quest; you'll still find the quest items. Later, when you're given the quest, simply click on "Quest" again to get your reward. The only exceptions are that you can't complete Snergle's Caverns before completing



TIME TO PARTY A well-balanced party should cover all major spell areas and have some fighting power, too.

Your Skill Is Like Magic

hen creating a party, always select magic skills first.

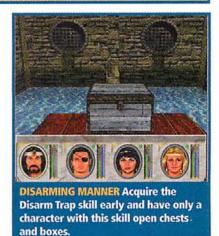
Magic skills tend to be expensive to buy later in the game, but cost nothing to add when you create a party. After filling up on magic skills, add weapon skills or armor skills where you can. Once you've begun the main part of the game, you can pick up additional skills at guilds. Some of these skills are more valuable than others.

	game, you can pick up additional skills at guilds. Some of these skills are more valuable than others.			
	Skill	Is It Worth It?		
i i	Body Building	Unless you have a Conan fixation, save this for later.		
	Diplomacy	It's fairly useless; don't bother.		
	Disarm Trap	This is a must, as a Level 7 master can open most chests without setting off traps.		
	Identify Item	One person should quickly get this skill. A Level 7 master can identify every item.		
	Learning	This is valuable—and worth getting after beefing up on weapons and spells.		
	Meditation	This can wait until you have skill points to burn.		
	Merchant	At least one person (but the more, the better) should purchase this skill for store, skill, and training discounts. A Level 12 or 13 master will get the best rates. Buy this skill before buying others and it will pay for itself almost immediately.		
	Perception	Later in the game, have one person become an expert or master in this skill. You'll need it to get through one of the dungeons.		
	Repair Item	Later in the game, have one person learn this skill. A Level 7 master can repair any broken item.		
	Spells	Work someone up to water master as fast as possible (for Lloyd's Beacon and Town Portal). Someone should also become an air master for flying and a long-lasting Wizard Eye. Eventually work someone up in fire and earth. Clerical healing spells can be kept at a low level and still be effective. As soon as possible, have someone learn light and dark magic and work those skills up quickly.		
	Weapons	Concentrate on one or two weapon skills in addition to the bow skill. Don't generalize. Bow		

skill is invaluable for everyone.

Snergle's Iron Mines; you won't find the Prince of Thieves until you get the quest to find him; and you should *not* visit the Hive until you have gotten the quest for this and you've acquired a special scroll.

I hope these tips will make your next game of MIGHT & MAGIC VI more than just another "kill the Goblins and wander around" adventure. Happy questing!



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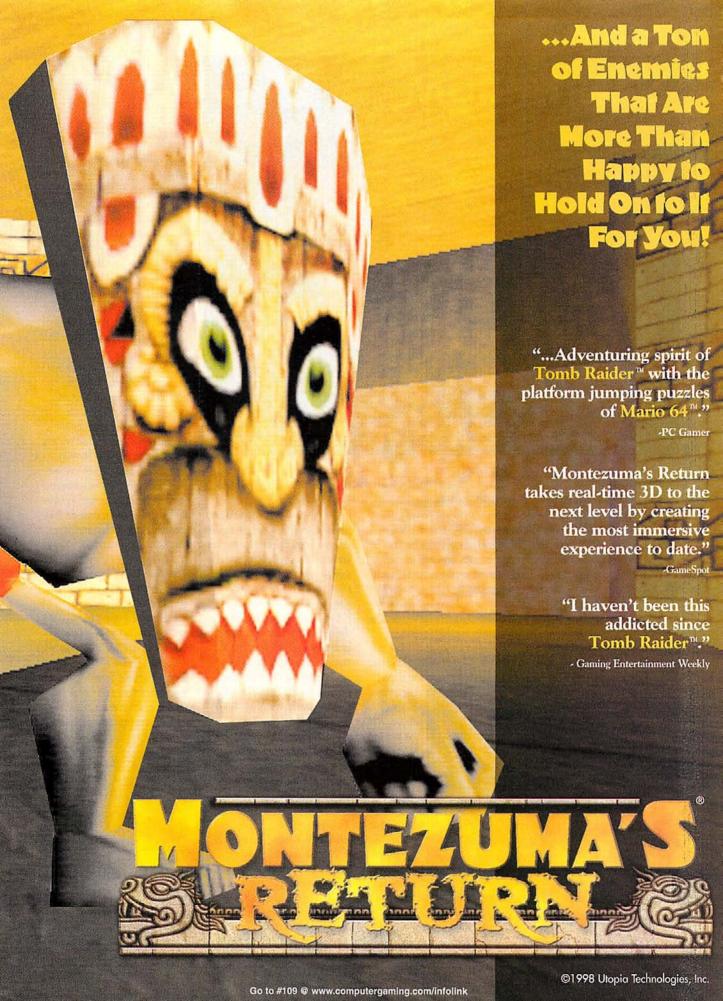
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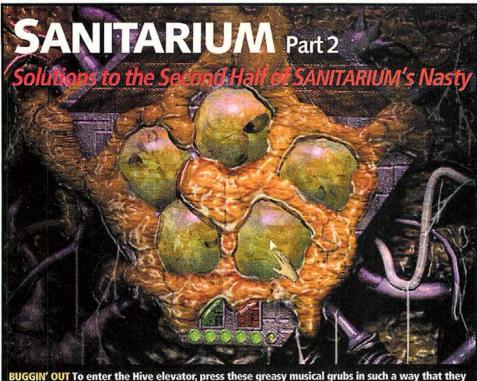
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* Bump Mapping requires 3Dfx Voodoo 2 card.

Actual Gameplay Screen





BUGGIN' OUT To enter the Hive elevator, press these greasy musical grubs in such a way that they mimic the song of the captive children.

by Robert Coffey

till going crazy trying to finish SANITARIUM? Fear not. We pick up this month with the second half of our walkthrough, beginning with the Hive chapter. Warning: We're being very explicit with the answers here, so read only if you really want to know.

The Hive

Take the security harness from the dead bug; then find Gravin before entering his pod to take his tools and sledgehammer. At the furnace use the sledge on the patched pipe. Take over the bellows and overheat the furnace. Snatch the mechanized arm left over from the vaporized bug and then solve the control panel puzzle (see "The Dragonfly Puzzle" sidebar).

Talk to the big bug at Gravin's post; then talk to Gravin in his hut. Try to enter the Queen's chamber and then return to the big bug and request an upgrade. Talk to Gravin once

more and

then return to Chik-Tok for the upgrade. Use the arm from the furnace on the scanner behind the

bug to prove your age. Grab the claw from the wall and head for the Queen's chamber.

Use the claw to cut down a bottle and take it to Gravin. He'll open Gromna's pod for you. Use the key under Gromna's pillow to open the safe and get the sound generator. Use it on the dripping transport tube in the Queen's chamber.

Listen to the children's song in the hive; then match it on the grub control panel to open the elevator. Use the tools on the machine by the mutant Cyclops. Remove the machinery and take it back to Gravin, who's working near his original post. Toss the machinery to him and return to the hive. Climb the rope and use the machine attached to the cables to activate the portal.

The Morgue and the Cemetery

Turn the upper right wheel on the morgue door three times and then pull the lever below it to the left. Do this three times. Then repeat the process, pulling the lever to the right each time. With the

Little Mind Games

gears now in place, pull the left side of the center wheel.

Grab the bust, urn, and matches in the office. Throw the bust at the cracked wall twice. Walk through, turn the valve, and retrieve the U-joint. Get the wrench from the toolbox in the crematorium. Start the oven, open the door, and toss in Corpse 7. Shut the door, reopen it to get the glass eye, and fill the urn with ashes. Use the wrench on the pipes in the hallway and install the U-joint.

Rescue the guy in Drawer 5 in the morgue. Climb in Drawer 7, light the matches, and then use the glass eye to decipher the scratches. Use the ashes on the broken headstone in the cemetery. Find the tree with the blinking face and talk to it. When you get the prism, use it on the sunbeam to open the Aztec temple. To solve the calendar puzzle, arrange the symbols in this order: mountains, sun, star, eye, pyramid.

The Lost Village

Go up the stairs by the sacrificial altar and talk to Quetzalcoatl. Knock over the statue blocking the flow of lava. Talk to all six ghosts. One ghost, Tepictoc, challenges you with a test. In the village, grab the copper bowl and then talk to everyone. Return to Tepictoc and push over the totem. Cross the



to work your way methodically

from left to right until the

images line up.



See the Review

SEPTEMBER ISSUE • 4.5 STARS

totem, remove the boulders, and rescue the girl. Return to the Temple of Wind and bang the gongs from largest to smallest to get the wind totem.

Examine the panels on the Temple of Water and then talk to the witch behind the Temple of the Jaguar. Revisit Tepictoc, his wife, and then the chieftain to recite the warrior lineage: Xilonen, Ometoch, Tepictoc, Centeotl, Huitzilop, Mixcoatl. Go press the Water Temple panels according to the order in the Creed and retrieve the water totem and fish from inside. Deliver the Pod of Might from the tree in the lava to the witch.

Collect the witch's blood in the copper bowl and get the crystal

heart from his hut. Use the blood and heart to enter the temple; then spin the wheels on the wall to match the order of the symbols on the outside steps. Take the totem. Place the totems in the base of the blasted statue of Quetzalcoatl, their positions mirroring the temples' locations in the village, and solve the maze (see sidebar) to enter the next chapter.

The Gauntlet

Use inventory items to switch identities in order to complete this chapter. First, cross the thorns to the pumpkin patch as Olmec, copying the pumpkin song to enter the patch and get the skull. Examine the nearby headstones and place



The object is to match the images on the wings to the images along the left edge. Press the green buttons along the dragonfly's back to move its wings over the lenses. Use the dials to change lens color and, therefore, the images on the wings. When you get a matched pair, slide the far left control arm to the pair matching the wings and press the two buttons in the lower right. If you've succeeded, the written pair will turn green. Do this for each set of symbols. Note that the lenses need not be the same color.

MAZE

From your starting point, walk straight, dodging the electricity that will bedevil you throughout the maze. Turn right at the corner, take a few steps, then descend the stairs to your left. Go left to the next flight of stairs and go down.



Follow the path around the right of the stairs. Jog to the right at the T intersection and follow the walkway to the stairs leading to the control panel. Press only the end buttons on the panel, then

Walk into the nearby electric patch and you're back where you began. Pull the arm on the statue to your left, then turn around and follow the path, passing your starting point. Take the stairs down just before the corner. Follow this path to the large pillar and pull the lever there.





Climb the nearby stairs and descend the second staircase right by it, making sure to pull the floor lever before trying to pass through the gate. Enter the large mouth and retrieve Quetzalcoatl's mask. the skull on the headless spirit. As Grimwall, open the coffin and get the head of the angelic statue.

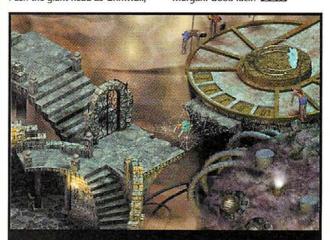
Cross the thorn bridge as Olmec, switching to Grimwall to play the carnival game. As Olmec, press the red, yellow, green, and blue clown teeth before climbing through the clown nose as Sarah for the angel wing. Return and cross the wooden bridge to the tower.

Still as Sarah, cross the spiderweb. Change to Olmec and depress the second, fifth, third, first, and fourth floor plates in that order. Push the giant head as Grimwall,

then pull down all the impaled bodies to the other angel wing.

Leave as Sarah and then enter the hive, operating the controls there as Grimwall. Get the mandible from the honeycomb, lift the grate, crawling through as Sarah. Use Olmec to cross the thorns and cut the cord with the mandible before returning as Sarah. Claim the last piece of the statue and return to the tower.

Reassemble the statue and go into the portal upstairs. You're now ready for your showdown with Dr. Morgan. Good luck! GTZ



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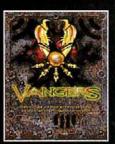
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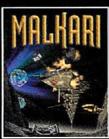
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StarCraft

Protoss: the Few, the Expensive, the Powerful

While the Zerg are prolific and the Terrans versatile, the Protoss troops are few in number and expensive to field. But the Protoss makes up for numeric inferiority with raw power and some very useful special abilities.

by Elliott Chin

he Protoss player always needs to be thinking ahead, as the main problem with the Protoss is that their development tree is designed such that you have to make hard choices that set you on rigid paths. If you decide you want to build air power right away, you have to build a starport for scouts, but you temporarily sacrifice your ability to build shuttles at a robotics bay or to move toward high templar via the Citadel of Adun and the Templar Archives. However, by scouting out your enemy and making sure you have enough key units-such as reavers and high templars-you'll be in good shape to handle most rushes and mount some devastating attacks.

All Protoss players should beware the ghost's lockdown abili-



ZEALOT A powerful melee unit that should compose the core of your ground forces. Research its speed and attack upgrades.

ty and the science vessel's EMP shockwave. Every unit except for the zealot and high templar is vulnerable to the lockdown ability, and all Protoss units will be shieldless after a confrontation with a science vessel's EMP missile. Watch diligently for those two units. For tips on how to stop specific rushes

See the Review
JULY ISSUE • 5 STARS



finally useful. They are now good deterrents against marines and mutalisks, and tough against hydralisks and zerglings. Use them for defense.

(such as those of the hydralisk and mutalisk), read our September strategy guide, which dealt with race-neutral advanced strategies and rush defenses.



Strengths: The zealot is an extremely powerful melee attacker and gives the Protoss an early game advantage. Just sending two or three zealots into a Terran or Zerg camp in the first five minutes of a game can often spell victory. Research their speed upgrade at the Citadel of Adun as soon as possible, as it makes the zealot able to close the distance with

melee attackers faster, a necessity when facing siege tanks and hydralisks. Zealots in numbers are great for taking down siege tanks in siege mode, since they can survive a few shots and then close to melee range, where the siege tank can't fire back.

Research zealots' first attack upgrade if you are facing Zerg, because then a zealot can take down zerglings with only two hits (as opposed to the standard three).

Weaknesses: Terran firebats are a perfect counter to zealots: Beware them. If forced to face them, you'll want dragoons around to lend support, since dragoons suffer only quarter damage from firebats. Against hydralisks, you'll also need some artillery support either in the form of reavers or psionic storms. Keep in mind that zealots *cannot* attack air units.



Strengths: While the dragoon is the only early air-defense available to the Protoss, it is a pretty good anti-air unit against the Terran and Protoss forces. A dragoon deals explosive damage, so it can make short work of wraiths and provide punch against scouts. On the offensive, dragoons are best used in conjunction with zealots and high templars. In those instances, they are often decoys to draw

fire while the other two units deal the real damage.

If you are going down the reaver path, then you need dragoons around for early air defense. In large groups of eight or more, dragoons can be useful, but don't try fielding a small force of them.

Weaknesses: Dragoons have a slow rate of attack and are easily destroyed by marines, zerglings, and zealots (all small targets that can swarm the dragoon). Dragoons are also highly vulnerable to mutalisks and hydralisks, so you need support when facing those two units. If you are building dragoons in response to a sudden and massive mutalisk or hydralisk attack (in which case you are pumping them out one at a time), they will fail you. With STARCRAFT

patch 1.02, you are better off building several photon cannons early to protect your base.



Strengths: The high templar has few hit points, no direct attack, and requires zealots for protection. Nevertheless, the high templar is the one unit that can save the Protoss. High templars are great for taking down hordes of units quickly with their psionic storm ability. One great way to employ high templars is to drop four of them off at your enemy's base via shuttle and then subject his workers to a psionic storm. Once high templars expend all their energy, they can then merge into two archons and



ARCHON While extremely powerful, the archon suffers from poor acceleration and limited range. It's also highly vulnerable to EMP shockwave. Use shield batteries to keep archons at full shield strength.

start directly attacking the enemy base. High templars have the following special abilities:

Archon Warp: The high templar starts with this ability, which lets you select two high templar units and merge them into an archon, the Protoss' most powerful unit. The merger is irreversible. The archon warp is a fairly quick procedure, but the archon is vulnerable to attack while forming, so don't merge in open battle.

Psionic Storm: Psionic storm is an area-of-effect spell that deals a total of 128 points of damage over four seconds in 16-point increments every half-second. One psionic storm can lay waste to a group of hydralisks, mutalisks, or marines. While guardians can survive a single psionic storm, they are highly vulnerable to the spell due to their slow speed. In fact, psionic storm is the ideal Protoss counter for the Zerg air units, especially guardians and mutalisks.

Against ranged units, psionic storm is great. You simply wait for the cluster of ranged units to target on a decoy unit and then lay down a psionic storm on that cluster. All but the hardiest enemy units will die before they can move. Casting multiple storms on the same area of enemies will not aid you; only one psionic storm can be in effect at a time in the same region.

If you suspect cloaked wraiths in an area, you can cast a psionic

storm as a last-ditch defense. If you guess the right spot, you can kill the enemy wraiths, even though you can't see them.

Hallucination: This underrated spell lets you create two faux units per hallucination spell cast. The hallucinations last for roughly one minute and have the full hit points of the copied unit. They will fire at enemy units, but do no damage. Also, they suffer double damage from all attacks, regardless of damage type. Hallucinated units gain no special abilities; carriers have no interceptors to launch and hallucinated arbiters cast no cloaking field. Hallucinations can be used as excellent reconnaissance units, allowing you to scout with ease and without wasting any valuable troops.

Hallucination is also useful for creating decoys. Before you drop off a few shuttles' worth of troops, hallucinate some shuttles and send them in first. Any enemy defenses will start firing at the fake shuttles first, allowing you to drop your troops off with little interference. You can also use hallucinations to soak up enemy attacks. Say you observe your Zerg enemy building lots of scourges to counter your scouts. Simply hallucinate your scouts, send in a fake attack force, and draw out the enemy scourges. When the scourges expend themselves killing the hallucinations, send in the real scouts. You can





abilities are absolutely vital to Protoss success.

DRAGOON These units are weak when used in small numbers and without zealot support. Make sure to use them in large numbers near shield batteries.



your opponent off balance. probes; four zealots or high tem-

> plars; or two reavers, dragoons, or Weakness: Unless you upgrade their speed, shuttles are outclassed by enemy flyers.



also use this strategy to draw the fire of siege tanks so your high templars can move to within range to cast psionic storm without getting attacked.

Lastly, hallucination can also be used to simply puff up your forces and scare your enemy. The sight of a dozen carriers and archons can be very intimidating. Alternatively, you could use hallucination to feign certain attacks. For example, you could hallucinate some scouts to fool your opponent into thinking you are going to mount a huge air attack and then send in a load of zealots.

Weaknesses: High templars are slow and have few hit points. Two shots from a siege tank will usually take one down, and hydralisks and marines can rip a templar to shreds while it tries to run away. Because the high templar has no attack, it really needs some support once it spends all of its energy. High templars are also vulnerable to the Zerg queen's broodling ability and the science vessel's irradiate ability.



Strengths: The shuttle starts out as a slow transport, although



not as sluggish

as the overlord

After you

research its

speed upgrade

at the robotics

support facility,

the shuttle will

be able to out-

run both wraiths

and mutalisks. A

shuttle can carry

either eight

without upgrade.

Strengths: The archon is the Protoss' most powerful unit. Because most of its durability is contained in its 350 value shields, archons can regenerate their "hit points" almost instantly. Several archons stationed near shield batteries constitute a very tough defense for the Protoss. Archons can attack both ground and air targets for normal damage. Their attack also does limited splash damage (half damage to all surrounding targets). Archons simply melt zerglings and Terran infantry and can neutralize mutalisks. Archons in great numbers are extremely powerful. Archons are also immune to irradiate and broodling abilities.

Weaknesses: The problem with the archon is that it's slowso slow that many ranged units can get in a few good hits before the archon even closes to striking distance. Although the archon does have a ranged attack, the actual range is very short. Archons also suffer full damage from every attack since most of their "hit points" are shields (which suffer full damage regardless of the attacker's damage type). Be wary of science vessels and their EMP shockwave, which can reduce an

archon to a 10-hit-point weakling. Keep in mind that in order to create archons at a steady pace you need multiple gateways. Even with four gateways, you are producing only two archons, as opposed to six ultralisks that a Zerg player could create with just two hatcheries.



Strengths: The reaver is a powerful unit that fires scarabs that deal 100 or 125 damage (depending on whether or not you have the damage upgrade). The attack also does splash damage, but it only harms enemy troops; even zealots standing in the middle of a scarab

explosion suffer no damage. Each scarab has to be built, but the build time is quick and the cost is a mere 15 minerals. When the reaver runs out of scarabs it cannot attack. Thus these units require babysitting. Use your reavers to demolish ground units. One hit from a scarab can tear up a cluster of hydralisks, zerglings, or Terran infantry.

Reavers are best used to stop early hydralisk rushes. If you suspect a hydralisk rush, and your recon confirms that a mutalisk rush is not imminent, rush with reavers: They'll be able to put a stop to any hydralisk attack with only a few zealots for support against zerglings.

Reavers are a terrific destructive force when they are backed up by



OBSERVER Recon is key, so build plenty of observers to compensate for the relatively poor Protoss reconnaissance ability. Keep observers near your scouts when facing cloaked wraiths.

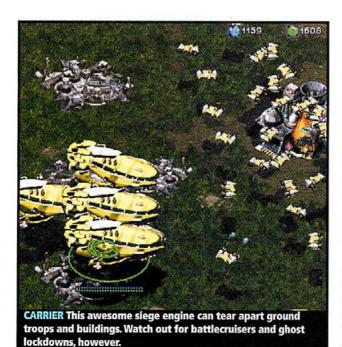


SCOUTS Like dragoons, these are best employed in large numbers, escorting carriers and hunting down overlords. Pair scouts with observers to eliminate enemy wraiths.

Where Technology Meets [F. A. T. A.







archons and psionic storms. Drop a reaver into an enemy base's resource area early in the game to wreak havoc on your foe's supply lines and resource gathering.

Weaknesses: Not only are they expensive, but reavers also cannot attack air units. Reavers need dragoons around at least, and preferably high templars and archons, to lend air defense. If you notice your foe is building toward mutalisks, don't build reavers.



Strengths: Observer units are vital when playing against Terrans. Without the observer, cloaked wraiths can be very deadly to your troops. Observers have low hit points, but they count as small targets and are permanently cloaked. Even so, don't rely on a single observer for detection purposes. Attach two or three to your scout squadrons or troops so that if one is destroyed you still have back-up detectors.

Weaknesses: Observers are pretty slow, so you should upgrade their speed. They have no attack and will die easily when detected and attacked.



Strengths: The scouts are the basic flying unit of the Protoss. One-on-one, they are superior to the Terran wraith and Zerg mutalisk. They will cut down wraiths, but have a harder time

against the mutalisks. If you plan to use them, be sure to upgrade their speed first and then their attack and armor.

Also, use scouts in great numbers, in which case they become powerful hit-and-run attackers. With their speed upgrade, scouts can run in to do some damage and then retreat to base to replenish their shields. The right combination of shield batteries and judicious retreat to use them can make scouts an annoying and effective attacker against your enemies.

Because they do explosive damage to air units, scouts are great against wraiths, battlecruisers, science vessels, carriers, arbiters, guardians, and all transports. With their speed upgrade, scouts achieve the fastest acceleration of all air units and can move as fast as wraiths and mutas.

Scouts make good escorts for carriers, since they can fire off their missiles faster than a carrier can muster its interceptors against incoming scourges.

Weaknesses: Without their upgrades, scouts are slow and vulnerable to scourges and mutalisks. Keep in mind that scouts do only half damage to mutalisks. Also, they are fodder for cloaked wraiths, so always accompany your scouts with observers if you foresee engagements with Terrans. Their ground attack is weak, although it deals normal type damage. Still, marines and hydralisks will cut down scouts unless you have a large group of them. Like dragoons, scouts are best used in numbers.



Strengths: Carriers are amazing siege weapons with good range and a devastating attack. Fully upgraded, the carrier's eight interceptors can combine for 64 normal damage. Carriers are best used in numbers and can decimate all ground troops with ease. These massive ships also make quick work of missile turrets and photon cannon and can take down buildings as fast or faster than zerglings. If you plan to use carriers, you must research their capacity upgrade.



PSIONIC STORM It's the key against the Zerg and Terrans, and it's particularly good when you cast it against massed mutalisks, hydralisks, and marines.





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Quick Counters Even good Protoss players can be ambushed by rushes from some low-level units like marines, hydralisks, or mutalisks. Here are some ways to counter the following units. COUNTERMEASURE Archon Psionic storm/archon Cloaked wraith Observers Firebat Dragoon Guardian Scout/psionic storm High templar Zealot/scout Hydralisk Reaver/psionic storm Marine **Psionic storm** Mutalisk Psionic storm/ archon/cannon* Reaver Scout Scourge Hallucination Siege tank Carrier (in siege mode) Zealot More zealots Zergling Zealot *An earlier but less effective defense is multiple dragoons/shield batteries.

With their default capacity of four, carriers are a waste of money, but with their upgraded capacity of eight they become a force to be reckoned with.

Weaknesses: If you are fielding single or low numbers of carriers, hydralisks and marines will cut them down. Also, battlecruisers win in a head-to-head match because of their heavy armor. Remember that armor on enemy targets mitigates the attacks of every interceptor, so with each point of armor, the target is suffering four or eight less damage (depending on your carrier capacity upgrade). Carriers are highly vulnerable to a ghost's lockdown ability. They are also expensive, so you'll need to have several expansion bases going in order to support a carrier fleet.



Strengths: The arbiter is a great unit that, unfortunately, doesn't come until late in the game. However, if you can get it, the arbiter will give you some excellent abilities. Even though the arbiter is a spellcasting unit, it does have an attack. The arbiter's natural ability is a cloaking field that cloaks all of your units except for other arbiters. As long as that arbiter is alive, all units under it are invisible. The arbiter's two abilities allow it to transport more troops more quickly than

a shuttle, and give it the power to neutralize masses of enemy troops. Once you build an arbiter and research recall, you can instantly teleport a large group of troops to the location of the arbiter. In this way, you can drop troops anywhere onto the map or pull troops out of battle instantaneously.

The arbiter has the following special abilities:

Recall: Recall allows you to teleport a 3x3 matrix worth of troops to the arbiter's current location. As many as 16 zealots (that's four shuttles' worth) can thus be dropped into an enemy base with the click of a button. The recall takes about a second to occur. and if the arbiter is destroyed before the recall is complete, the troops will simply stay at their original location. The obvious use of recall is to transport troops into enemy territory, but it can also be used to pull your own troops out of losing situations. Locked-down units can be recalled, although units in a stasis field cannot be.

Stasis Field: This ability is a great way to neutralize enemy hordes. It basically freezes an area's worth of troops for one minute. Although you cannot attack units in stasis, neither can they attack you. A stasis field affects troops only and won't freeze missile turrets or other tower-type buildings. Use stasis fields prior to attack to freeze enemy guards, then recall your troops into the





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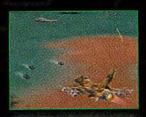
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enemy base to attack with impunity (an arbiter with the full energy upgrade can get off one stasis field and one recall at full energy). You can also use a stasis field to protect your own troops from damage (from a plague, irradiate, or a nuke). What's more, units in stasis cannot be affected by special abilities, so if you place a plagued unit in a stasis field, it will not lose any hit points, and when the stasis wears off, the unit will no longer be plagued.

If you are caught off-guard by a massive hydralisk or marine attack (or

these tactics and persecute them mercilessly.

any large group of units, for that matter), simply place the enemy units in a stasis field until you can bring your high templars to bear. Right after the stasis field wears off, cast a psionic storm to tear them apart.

Weaknesses: The arbiter is a target of opportunity and thus always gets shot down first. It is also extremely expensive at 500 gas. You need air support and defense for your arbiter or you will basically be throwing away 500 gas. Forget using an arbiter to launch attacks; focus on its special abilities instead. Gay



MAX 2

Master Your Economy, Then Your Opponent

by Samuel Baker II

hile MAX 2 shares many of the same units and structures with MAX, there are several changes to the game that render counterproductive the old style of "build until you drop" common to most real-time strategy games. In that spirit, all the hints and tips in this article were developed while playing MAX 2 in simultaneous turn mode, rather than in real-time mode.

Tomorrow Never Comes

In the original MAX, units required little support and resources were plentiful, leading to vast numbers of units and tightly clustered bases bolstered with massive defenses. MAX 2 is a plaid unicorn by comparison. At best, resources in MAX 2 are barely up to the "scarce" level of the parent

> See the Review OCTOBER ISSUE • 2.5 STARS

game. If you build like there's no tomorrow, you'll generally find yourself stuck with units that you don't need, and lacking buildings that you do need.

Each power plant you build produces 80 power points. While light units, such as scouts, require only three or four power, most combat units will drain 12 or more. Aircraft consume great amounts of power,

and Concord units, in particular, really suck up the juice.

As a result, you must keep an eye on that power gauge. Once

you drop under the 40-point threshold of free power remaining, start building new power plants if you haven't already done so. Power plants don't cost anything (except time and an engineer) unless they're running, and they

STRENGTH

very heavily

defended mine

has two artillery

turrets in front and

IN NUM-**BERS This**

turn on only as they are needed.

Another thing to watch if you're running out of "free" material when crossing the 40-point threshold is which units will be the last to be completed before your power limit is reached. If you're building several units and structures at once you may want to shut down the light weapons plant, instead building an extra engineer or scout so that any assault gun or ground attack aircraft will be completed on schedule.

Build only what you'll need and plan ahead. Having multiple factories and constructors working at once is difficult to support, given the stringent economic/power model of MAX 2. Every unit you produce puts you that much closer to needing another power plant, which will drain eight more of your material stores. Each unit and structure has a power cost. The amount of power you have determines how many structures and units you can support. Power plants have to have material

directly from the mines-you can't run them two antiaircraft turrets in Mk II Anti-Ai from stored material. back. Note the engineer to the When you're sure you no longer northeast, building another turret. need a building, don't be skittish:

> If you're in a defensive position, go ahead and build fixed radar towers and turrets, which are much cheaper to run than their mobile counterparts. On the other hand, if you're on the offensive, build a minimum number of AA and radar units to cover your base and make the rest of your force mobile.

Destroy it to free up power.

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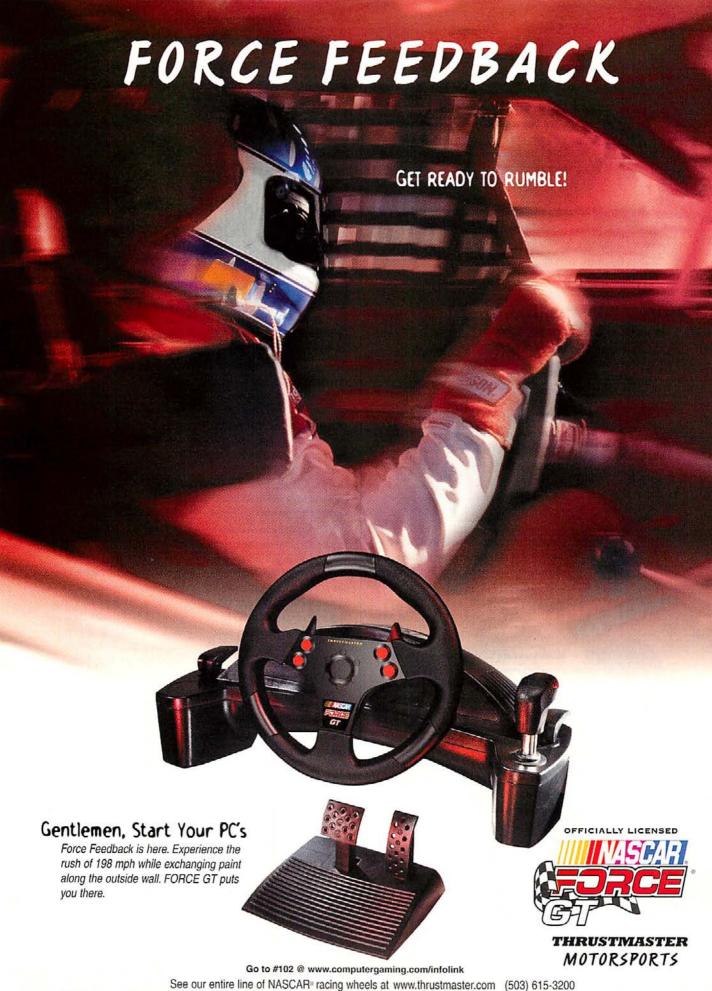
When attacking, try to preserve half of your movement so that your units will have shots left during your opponent's move. During an advance, move every other unit half of its movement allowance. This way, half of your troops will have all of their potential firepower available at any one time-a tactic known as overwatch. When the advance units reach the desired position, the supporting units in overwatch advance; each group then reverses roles.

The More You Know

Research works differently in MAX 2 than in the original MAX. As you build gold refineries, a pool



FIELD OF FIRE Don't drool too much over the attack radius of this rocket launcher. Keep in mind that your rocket launchers can move only three spaces in clear terrain while still retaining their ability to fire.



A Sheevat for Every Occasion



Bio-bomb Pods (with scrubbing bubbles!) offer the perfect defensive complement to EW Pods. Fire them at units the EW Pod disables and watch their bio-cloud do its thing turn after turn.



No Sheevat defense should be without EW Pods. The first unit (including aircraft) entering their range of effect will be disabled. Back them up with Bio-bomb Pods for a double whammy.



Build at least two or three Incubators any time they're available. They are the only way for you to get Spawn infantry.



The backbone of the Sheevat army. Build lots of them. Their long range and multistrike ability let them carve wide swaths through enemy troops.



These are like gold. They project a ring of invisibility to hide their Spawn brethren. Resist using their attack since it exposes them to fire.



Shock tanks are hard to kill. It pays to run these into massed enemy formations as kamikazes, especially infantry. They're great on defense, making rushes less appealing.



They are faster and more durable than their infantry counterpart. Like infantry, Spawn may be used to spot invisible units.

Remember to keep Spawn together. They gain strength in numbers.



Great for shutting down missile crawlers, mobile AA, and other special targets so that your air or ground assets can close in.



DEAD TURRETS SOCIETY For the cost of two of my infantry, I killed two enemy artillery turrets, two AA turrets, and a mine. The infantry can be replaced in four turns. The turrets and mine will take my opponent 30 turns to rebuild.

of gold accumulates. This pool is spent to buy a selection of upgrades. Once you have set the type and extent of the upgrades you want, those upgrades that do not require research are purchased, starting with the cheapest.

If you decide to custom-pick your upgrades, you could almost re-create the old MAX system by only buying upgrades that don't require any research, and limiting your choices so you don't spend more than you have. Anytime you see a "Yes" appear in the research column under custom upgrades, that level of upgrade won't be available until vou've researched that category, though any upgrade "steps" before then will be available. You can tell how much gold is in your pool by selecting a gold refinery (the number to the left of the slash is how much you have, and the number to the right is how much you've spent so far).

The Concord

Concord units are hideously expensive in both power and material. They can neither be repaired nor upgraded, but they do learn and improve as they kill. Building a few Concord units to serve as a backbone for your forces is a good idea, but their cost does make it difficult to field a full army of them.

Concord tanks are great units to

send on kamikaze runs to draw fire from artillery and missile turrets. They're so tough that they may actually survive to fight another day.

The Sheevat

Most Sheevat units do not kill directly. They cripple, disable, or impregnate the enemy. They get the job done eventually, but the more you plan ahead, the more likely you are to get the kill.

You should build at least two incubators immediately, if the scenario setup allows you to. Send them out to "harvest" any alien life-forms quickly. Incubators give you a way to get lots of free troops that are cheap to maintain. The downside is that your supply of spawn is limited to the other life-forms and enemy infantry/infiltrators you can reach. Also, computer players will go after any neutral life-forms they find, so the clock is effectively ticking as soon as the scenario starts.

On a one-to-one basis, Sheevat units are more durable, and their direct-attack units are more potent, than those of their human/Concord counterparts. The negative is that Sheevat units have weak armor, and they can't be repaired, although they do heal rapidly. They also have strong shields that reach full strength a few turns after hatching, so keep





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Too often overlooked, the Mark I command unit is a powerful force in the struggle against the oppressive Concord race—and not



just because the command unit is a direct extension of the Sheevat will. The command unit is not only useful for facilitating communication among nearby Sheevat forces, but is also essential for coordinating any offensive. As a result, you should build several command units and position them at all potential avenues of attack along the front lines. Each command unit provides the following advantages: boosts attack strength of friendly Sheevat units by one-third; increases shields by two-thirds; improves hits by 10 percent; boosts speed by 25 percent; reduces power requirement to only four.



Since command units are relatively weak in terms of their own combat effectiveness, it would seem obvious that you should leave them well behind the front

lines. This overly safe strategy, however, robs you of the added offensive punch they give you by leading from the front lines. Take your chances, and just make sure that you have some AA batteries around.



As the Concord player, don't panic if the Sheevat get a little aggressive with their command units. Remember that MAX 2 rewards those gamers who know how to use combined arms, and be sure to plan your attack accordingly. Note that the infantry shown here are thrown into the breach and are taking heavy losses—but they're cheap, so why worry? After the Concord tanks take out the enemy antiair umbrella, all those wonderful Aven units at the bottom of the screen will fly in and take out the Sheevat command units.

—Terry Coleman and Samuel Baker II



RECYCLING FOR PROFIT Always build at least one bulldozer and use it to recycle wreckage and trees for a significant boost in material. With two bulldozers working, you can even operate at a moderate material deficit.

newborn units out of battle until their shields have been able to harden completely.

Use the higher Sheevat durability to your advantage. You can take Sheevat fighters up against humans knowing you'll win; just be sure to move the victors away to a quiet area to heal.

Tanks Check In but They Don't Check Out

When you're playing against the computer, you can pull several tricks. Computer units will always shy away from player units that can hurt them, even if those opposing units have no shots left. They also run away from detection by radar so long as you have combat units in the vicinity.

Computer opponents also look for and will seize upon any opportunity to cause mischief. They love the quick raid. If you have built lots of ground units and are lacking in antiaircraft defense, you can expect to see lots of groundattack aircraft. They will try to slide around your AA defenses until they find a breach, close in and destroy as much as they can, then disappear as soon as any mobile AA or fighters appear.

Knowing this, you can set traps for the computer. Deliberately leave an area uncovered by AA and let the computer's aircraft in. Then, close the door on them with spare fighters or AA units that you've kept just outside of the AI's detection range.

You can pull a similar trick with ground units. First, have all your long-range shooters—assault guns, rocket launchers, and missile crawlers-advance just half their movement. (You can even cheat a little and move some missile crawlers and rocket launchers their full allowance.) On the next turn, move your radar scanners or scouts forward quickly. Because Al units like to lurk just on the edge of your radar range, they may cozy up to an assault gun or rocket launcher's radar horizonmaking them roadkill when your radar units move forward and surprise them. Since the scan and weapon ranges are the same for both tanks and infantry, this tactic doesn't work nearly as well against those units.

Not to beat this tactic to death, but you can also clear out mobile AA units by sending an assault gun or two toward them. They will flush before you get in range. While they're scurrying away, the AA guns are no match for your ground-attack aircraft.

Prepare to Assault

Assaulting prepared positions is difficult in MAX 2. You will likely have fewer units than in MAX, and any losses you incur take IN STORES IN OCTOBER!

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Manfred Von Richtofen
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remain well out of the reach of your guns.



Taking advantage of the relative lack of enemy long-range firepower, I set my trap, keeping my mobile scanner well back.



Then, it's a simple matter of technique to take apart the enemy formation, even though I have only two assault tanks. This approach lets you get the most out of minimal heavy firepower, and works well with small to medium forces.

much longer to replace, since you generally have fewer factories. When you must break through to take out an enemy facility you have little choice but to sacrifice units. Good volunteers for this heroic action would be scouts,

infantry, and tanks, in that order. Infantry are cheap and can be replaced quickly. Tanks are more durable (though still cheap compared to aircraft and assault guns) and are somewhat faster. Scouts are perhaps the best choice as



Structure	Cost Per Turn	
Power plant	8	
Factory	2/4/6	
Constructor	2	
Engineer	1.	

sacrificial lambs. They are almost as cheap as infantry, move faster than tanks, keep their shots when moving (if they should live so long), and, most important, have a large scan range. By sending a scout in first, you often discover another set of enemy turrets out of range of your scanners that would julienne your assault.

Prepare your forces for the attack by carefully positioning them just past the range limit for your target. Turn on the fog option, so that you can clearly see which squares are in range. When everyone is in position, let one turn pass, so that all units will have their full movement allowances available.

Make sure you have fully reconnoitered the area. AWACS play a key role here, letting you scout behind the offending turrets to check for hidden traps. The computer loves to build turrets with interlocking fields of fire. Trying to clobber one position may put your forces in range of another.

Assault guns are the best units to use to take out turrets because of their high speed and long range. After the sacrificial infantry

or tanks have died you can move in several assault guns to kill the turrets. Figure on using at least four assault guns for every turret you're taking out. Use any fewer and you can't be assured of a kill.

Rocket launchers can be a reasonable second choice, depending on the circumstances. They have greater range and a large blast effect, but poor mobility. They can move only three squares and still fire in clear terrain.

Air units are just too expensive in terms of time and material to trade for enemy AA turrets. So, the best technique for removing enemy AA turrets is to sacrifice ground units. While it may seem expensive at first, burning several tanks or scouts to take out a single AA turret is a good trade, because it almost always lets you immediately destroy several missile and artillery turrets with your ground-attack aircraft.

The same tactics may be applied to sea warfare, using subs as both scouts and sacrificial offerings. Build lots of escorts, subs, and corvettes, along with a few missile boats and gunboats for backup. The escorts protect the subs and scan for targets; the corvettes protect the escorts from subs; and the subs do most of the dirty work. Missile boats and gunboats are needed for shore bombardment, and they're just plain fun, besides. GTT

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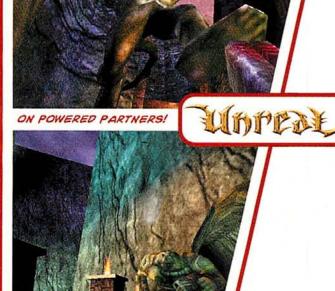


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Age of Empires

Spreading the Gospel and Conquering the World

by Joe Vallina

o-lo-lo. For AGE OF EMPIRES players, these three syllables can be the most dreaded sound imaginable. Why? Because it means that your

army has just been invited to an old-time revival—and these evangelists are intent on crushing your soul, not saving it. There's nothing quite as frustrating as spending all your precious gold, wood, and stone on units and buildings, only to watch powerlessly as they slowly, inexorably become somebody else's. Of course, if it's you who's doing the preachin', you'll be singing hallelujah.

Since the original AOE is still high on our "Playing Lately" charts (see this month's READ.ME), and given the fact that the AOE expansion pack THE RISE OF ROME is due out pretty soon, we thought now would be a good time to overview that most insidious of strategies: the war of conversion.

MC 900 Foot Moses

So how do you go about mounting a successful religious attack in

THANKS, THOSE ARE EXPENSIVE! Here, my priests have converted the middle war elephant in this group of enemy units. While it occupies its former allies, I can have other priests convert the rest of the group.

an AOE world full of belligerents? First off, you have to pick the right civilization for the job. For my money, the Choson are where it's at when it comes to priest-based conquest. There are three reasons to make this choice: First, the Choson have a 30 percent discount on priest cost (a Choson priest

> costs only 85 gold); second, they have heavy cavalry; and third, they can research monotheism, which allows you to convert enemy priests and buildings.

> The key to a successful priest attack is speed in advancing through the ages. Basically, if you can make it to the Iron Age, you're in business. Have two vil-

lagers start mining gold the minute you begin your upgrade to the Tool Age. In the Tool Age, focus all of your efforts on gathering food and wood, and don't research any technologies except cavalry armor and gold mining. I don't even bother with towers if I can help it. (This depends on where you are on the map. If you're in a game with many players, and feel like you are surrounded, it may be prudent to build a few towers around your base.)

When you enter the Bronze Age, immediately build three cavalry units for protection, then build a temple and an academy. As soon as the temple is finished, begin your temple upgrades. You should be completely upgraded by the time you are ready to advance to the Iron Age. Your primary goal is to get to the Iron Age as quickly as possible, so build only the minimum number of defensive units you think you'll need to stay alive. Then, only build priests after your upgrades are complete. Also, don't forget to research the wheel, as this makes your villagers gather gold more rapidly.

In the Iron Age, build another temple first thing and finish your temple upgrades (except Jihad, which is not very useful), beginning with monotheism. With two temples, you can upgrade twice as fast. Again, only build priests after your upgrades are completed. Finally, upgrade your cavalry armor and gold production (coinage).

If you've made it this far, you're ready to begin your conquest in earnest. Put all your villagers on gold and food detail, and start pumping out priests and cavalry.

Didn't You Have Two Elephants Before?

Remember that your primary goal is to use your cavalry to protect the priests. For your expedition, group about four or five cavalry units together (using Alt+[number key]) and three groups of two priests. (You should always use groups of two priests. If one is killed, the other still has a chance of converting the unit. Plus, the



towers is to have military units (cavalry,

in this case) keep the tower occupied

while your group of priests converts it.

See the Review
JANUARY ISSUE • 4.5 STARS

COMPUTER GAMING WORLD • NOVEMBER 1998

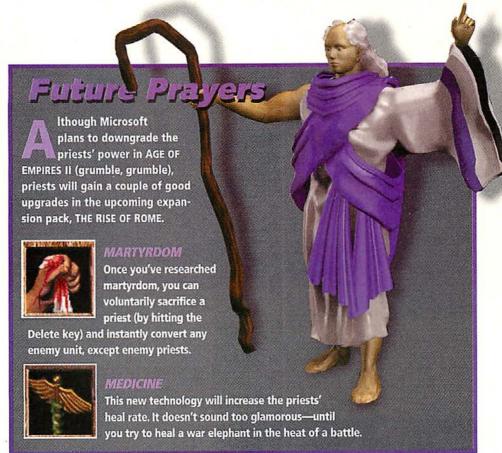


THESE SHOULD COME IN
HANDY Once you've killed or
converted all of a town's
defenses, don't raze it to the
ground. Instead systematically
convert it for your own use.

priests' attacks are cumulative, which means that two priests acting together will convert an enemy unit twice as quickly.) When you engage a group of enemy units, have your cavalry occupy them and have your priests convert the strongest enemy unit. If the enemy is tightly grouped, convert a unit in the middle of the pack. He will immediately start attacking his former comrades, and vice versa.

Your priority for conversion of enemy units should be as follows: elephants (a must!), followed by academy units, siege weaponry, cavalry, archers, and, finally, barracks units. When employing priests, pray that your opponent uses elephants. They are easily converted, are really hard to kill, and do an incredible amount of damage to surrounding enemy units.

When you're going out to confront enemy ships, use twice the number of priests at once (four) to increase your chances of converting them. This is necessary because ships are twice as resistant to conversion as other units.



My Tower, Mine, Mine, Mine

If there are any towers in the area, have your cavalry units attack them to draw their fire, and then send your priests up to convert them. The towers will fire on the heavily armored cavalry and ignore your priests. When you enter the enemy's town, have groups of two priests (accompanied by cavalry or hoplites) go to military buildings and convert them. Now you can use those buildings for yourself, and you don't have to spend an

ounce of resources to get them. If you have defeated an enemy, don't destroy his village; instead, convert it all for your own use. This tactic saves your resources and has the benefit of adding insult to injury.

Don't forget that your priests can heal your other units. After you convert that hard-core elephant archer, heal him to full strength before sending him back into battle. Healing does not deplete a priest's conversion energy, and if you tell a priest to heal an injured unit in a group, he will continue to heal the rest of the group, including siege weaponry.

Stupid Chariots

Chariots and chariot archers are a priest's mortal enemies. These damned units have a very high resistance to conversion and, respectively, have a double and triple attack versus priests.

However, they are very weak defensively and are easily dispatched by your cavalry. Also, keep in mind that it is easier to convert the buildings of a highly resistant

culture than it is to convert that culture's units. Buildings (except towers) don't fight back.

Beware the Egyptians. They have a high conversion resistance and +33 percent hit points for chariots and chariot archers; so if you go up against them, you'll have to deviate from the normal strategy outlined before. In the Bronze Age, as soon as you can produce cavalry, be sure to find the Egyptian player and take him out early (or at least cripple him) with your cavalry. If an Egyptian player gets to the Iron Age unimpeded and makes an army of chariots, you're toast.

Saving the Heathen Hordes

Other than that, though, high-level priests are tough to beat when used in a combined-arms offensive that includes heavy cavalry. Your opponents will curse you, they will hate you, they will scream that the game is unbalanced and that building conversion is unfair, they will bitch, they will moan—and you will win. Wo-lo-lo.



58 Million SNUBS is way too many



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Sports

CASTROL HONDA SUPERBIKE WORLD CHAMPIONS

f the admittedly few motorcycle racing games available for the PC, Intense Entertainment's CASTROL HONDA SUPERBIKE WORLD CHAMPIONS most realistically conveys the feeling of controlling a real bike on a real track at really high speeds. Granted, it doesn't quite sport the terrifying reality of, say, a NASCAR RACING 2, but there's enough sim here to test the will of any racer. Here are a few tips to transform you from an average rider into a feared front-runner.



- 1. SUPERBIKE is a momentumbased, rhythmical thing, and you must learn every nuance of a given track before you can be successful upon it, including exact turning and brake points. This way, you can also ignore directional and brake indication aids, which can be late and misleading.
- 2. A twitchy joystick is not the ideal instrument for controlling a twitchy bike, and it certainly doesn't help when you have to move it forward, backward, and side-to-side. So, in lieu of PC handlebars, get a steering wheel and pedal set.
- 3. Even in Ace mode, a good start can give you a good position by the first turn. While in neutral, give it some juice-about 2/3 up the powerband-and hold it there until the starting lights dim. Then, shift immediately into first gear and gun it. If

you rev too high you'll have wheelspin; rev too low, and you'll come out like a slug.

- 4. There's just one fast way to get motoring again, and that is by duplicating your starting procedure.
- 5. As an added measure against slow midrace start-ups, apply moderate throttle if you go offcourse, keep the speed up, and quickly turn to get back onto the pavement.
- 6. If you're too deep into a given corner with brakes locked, feather the brake to unlock it and then try to steer through the turn.
- 7. Wheelie the bike by accelerating hard in first gear, and lift the rear

Simulation/Space

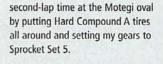


DESCENT: FREESPACE

ur cheat code this month for DESCENT: FREESPACE is one we always wished for in WING COMMANDER. If you type freespacestandsalone, the cheat lets you see all the cinematic movies in the Tech Room. Please note that this cheat must be typed within a mission in order for it to work. Once enabled, you will receive a HUD message in the upper left-hand corner of the screen indicating that the cheat is in effect. Be advised that the GTA doesn't take kindly to cheaters. You may have to repeat a mission without the cheats enabled, but you're pilot enough to handle anything, right?-Mark Dultz

wheel off the ground by braking hard to a standstill. Neither trick will help you win, but at least you'll look cool in defeat.

8. It's not described very well in the manual, but you have the choice of two bikes (selected from the Bike Setup menu), both of which can be used for mechanical experimentation



10. SUPERBIKE has shortcuts. You'll find one at the Allerton GP circuit just at the end of the pit lane on the left, and another on the North Allerton village circuit just before the hairpin and to the left. You will be hit with a stop & go if penalties are turned on.

Don't fret if you can't wax the competition through a season in the higher difficulty levels. Instead, take solace from the fact that the game has been designed to make such an event an extreme hardship, and consider a championship even at the lower levels a true accomplishment. Gordon Goble



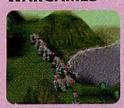
and racing. This effectively gives you one qualifying and one race setup for each track, though you should make separate notes (yes, with a pen and paper) of each alteration and how it performed before you modify again.

9. Speaking of the garage, I nailed a pretty danged fast 21.02



Strategy/War

WARGAMES



Half the battle in multiplayer games is keeping enough hackers on the job upgrading your units to overcome your opponent's hacker activity in downgrading your units. - Mark Clarkson Exploration is the key to success. Not only is there frequently a back door or alternate path, but there's also cash and units you can find hidden in out-of-the-way map areas.



Use terrain wisely. High ground gives you offensive and defensive bonuses, and obstacles not only give cover, they also can channel attacking units into a narrow zone where your entire force can fire on them

one at a time.

CYBERSTORM 2

The biggest choice in the game is whether to play in turn-based or real-time mode. Still, there are certain general principles that will help you, regardless of which style of play you prefer:



You are likely to meet superior forces at many points during a campaign. Make sure your units are fast enough to run away in the face of overwhelming firepower. A running battle can stretch out the enemy, allowing you to take on his faster units first and the slowpokes later. When you are in a posi-

tion to destroy a strong enemy unit, make sure that your second and third units fire through shields that were overloaded during the first attack.

Many bigger **HERCs** start the game vastly underpowered and relatively immobile. Upgrading is essential if these big boys are to survive on the battlefield. -Tim Carter



Action

OUTWARS

f you want to get out of the more linear game path, just type: Jump together with the name of the level.

For example, if you want to go immediately to the Juggernaut level, type the following code:

Jumpjuggernaut. — Terry Coleman

BEAST WARS: TRANSFORMERS

If you read our BEAST WARS review last month, you know that our first bit of advice is to finish this game and get on with your life. In that vein, here are some helpful hints:



- 1. The autosave feature in BEAST WARS is even lamer than in most console-to-PC conversions. Make sure to save your game after every episode, or when you die you'll have to replay all of the levels since your last save.
- 2. Rockfalls aren't invincible (unless you're in beast mode). Just make sure to get a red weapon power-up before attempting to clear the rockfall.
- 3. While it seems that you usually choose your Transformer based on little else than looks, you should select one with higher energon resistance, especially when you are learning the game.
- 4. It doesn't matter which beast you change into: Even as a powerful polygonal dinosaur, you're a wimp, defenseless against death rays from above. Find somewhere to hide, and maybe you'll live long enough to play some more.

The Buying Game

Earnings and purchase prices for some of the companies in this story.

Avalon Hill	'97 Sales \$2.8M	Profit/Loss -\$1.7M	Bought By Hasbro	Purchase Price S6M
Berkeley Systems	*	*	CUC	19.8M
Blizzard	*	*	Davidson & Ass.	6.75M
Broderbund/Red Orb	\$190.8M	-\$25.6M	The Learning Co.	\$420M
MicroProse	\$100.2M	\$8M	Hasbro	\$70M
Mindscape/SSI	\$130M	\$8M	The Learning Co.	\$150M
Sierra On-Line	*	*	CUC	\$1,060M
Westwood/Virgin	\$241.3M1	-\$43.5M¹	Electronic Arts	\$122.5M
Hasbro	\$3,100M	\$135M		1221
The Learning Co.	\$392M	-\$475M		

* Financial information is not available due to accounting irregularities at Cendant Corporation. Restated reports are expected in September 1998.

1 Viacom annual report aggregates Viacom Interactive, Westwood Studios, and Virgin Interactive.

1998YTD

Continued from pg. 55 of \$8 million, mainly because megahits CIV II and GRAND PRIX II accounted for 51 percent of total revenues. The company's 1997 Annual Report indicated that it required a fresh infusion of money to remain in business.

So, why did Hasbro pay a steep \$70 million for it? According to Tom Dusenberry, president of Hasbro Interactive, "You can't win in today's competitive PC gaming market without a broad-based line. We were buying into internal

MicroProse 1996-98

1997

Sales......\$59.7M\$100.2M\$60M

Profit-\$39.8M\$8M.....-\$33.1M

1996

development." Dusenberry stated that Hasbro was "committed to having four development locations" in Hunt Valley, MD,
Alameda, CA, Chapel Hill, NC, and Chipping Sodbury in England.
Hasbro will very likely hire new studio heads for these locations, including the former MPS head-quarters in Alameda. Gilman Louie, founder of Spectrum HoloByte and Chairman of the Board for MPS, has been named Chief Creative Officer, to "emphasize his value in the design phase of a project." We

interpret this to mean Louie's involvement will be limited to the early stages of projects rather than controlling the day-to-day studio operations. Louie had developed a reputation for delaying projects in which he took a personal interest, such as FALCON 4.0, his most recent hands-on project.

Dusenberry insisted that Hasbro wants niche products in addition to mainstream hits: "For every type of game, there is a proper place, audience, and distribution." He also stated that MicroProse products would not be force-fed into the existing Hasbro distribution scheme.

Certainly, Hasbro gives MPS the financial stability to finish products such as FALCON 4.0, BIRTH OF THE FEDERATION and KLINGON HONOR GUARD. Whether Hasbro has the discipline to do so, rather than ship to meet a sales quarter, will go a long way toward determining the future success of Hasbro Interactive and the MicroProse brand. —Terry Coleman

TLC Buys Broderbund For \$420M

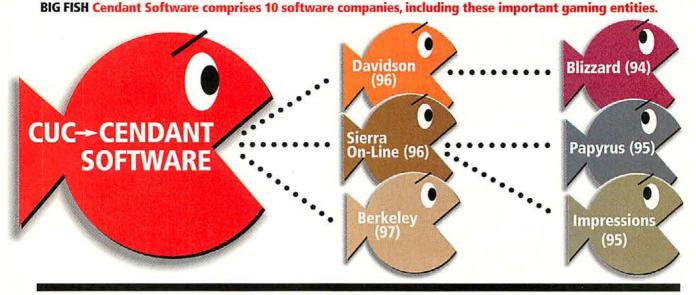
t's a given that mainstream publishers will continue to try and diversify their product lines by acquiring software entertainment companies. Even so, few companies have been so successful in this endeavor in such a short time as has The Learning Company (TLC).

This spring, TLC completed its purchase of Mindscape. Coveted such titles as MAVIS BEACON TEACHES TYPING. SSI (a division of Mindscape) came along as a bonus, and TLC, to its credit, continued to let the company produce titles such as PANZER GENERAL II and SU-27 FLANKER—even though

Broderbund/Red Orb 1996-98

1996	1997	1998YTD
Sales\$186.2M	\$190.8M.	\$230.3M
Profit\$44.4M	\$25.6M .	\$11.8M

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the TLC folks stated publicly that they weren't interested in socalled "niche" games.

But they are interested in some games, because TLC purchased Broderbund in August for \$420 million, including the Red Orb games division. This seems like a fairly generous amount, considering that Broderbund's more than \$607 million in sales for the past three years have resulted in a mere \$31 million in profits—a return of less than 5 percent. The

lure of being the publisher of MYST and RIVEN along with CARMEN SANDIEGO probably swayed the execs at TLC.

As yet there hasn't been a decision whether Red Orb or Broderbund will survive as brand names. In the meantime, production continues on PRINCE OF PERSIA 3D and other Broderbund/ Red Orb titles. WARLORDS III: DARKLORDS RISING just shipped prior to press time. —Terry Coleman

For Sale: Cendant Software

Troubled Cendant Puts Sierra, Blizzard, and Berkeley on the Block

midst the late summer corporate feeding frenzy, one of the biggest game-publishing conglomerates suddenly found itself up for sale. Giant consumerservices company Cendant Corporation announced its intention to either sell Cendant Software (including Sierra On-Line, Berkeley Systems, and Blizzard Entertainment), or take the company public with an initial public offering (IPO). Both possibilities appear remote right now, since most game companies don't have the resources to purchase Cendant Software, and recent stock market volatility drastically reduces the chances of a successful IPO.

That's the short version on what's up with Cendant Software. The future of its game companies doesn't appear to be in jeopardy, and the eventual takeover or IPO probably won't have a significant effect on projects in development. However, such situations often make personnel nervous and we've already seen key Blizzard employees leave for more stable situations. Since Blizzard has launched three million-plus sellers in a row, that's a key consideration in any valuation. To understand more about the convoluted history that led to this point, and how Cendant's future may affect your favorite games, read on. It's a rather strange and complicated story.

You are probably aware that CUC acquired the interactive game companies comprising Cendant Software during 1996–97. CUC's purchase of Davidson & Associates for \$1.15 billion included Blizzard Entertainment, which Davidson had acquired in '94 for only \$6.75 million. CUC then acquired Sierra On-Line for \$1.06 billion and Berkeley Systems for \$20 million. CUC's total software companies holdings totaled roughly \$2.316 billion.

The game companies weren't a perfect fit for CUC, which offered direct-mail membership discounts for travel, shopping, auto, dining, and other services. However, CUC was probably interested in the game companies' potential for capturing thousands of new consumers

online via game registration, as well as fueling their vigorous e-commerce site. CUC, in essence, markets directly to consumers, and new consumers like John Q. Gamer are like vast natural resources waiting to be tapped.

Last year, CUC changed its name to Cendant Corporation when it merged with Household Finance Services. (HFS owned Century 21 and offers mortgage services to home buyers.) The company was experiencing strong growth, the economy was good, and everything was going swimmingly. Then, all hell broke loose: On April 15, Cendant Corporation announced that it had discovered "potential accounting irregularities" and undertook an investigation. Auditors discovered that more than one-third of the total income reported by CUC during the period from 1995-97 was "deliberately and fictitiously manufactured," to the tune of \$500 million. The investigation discovered that CUC's former CFO and Controller were guilty of fraud, and they were terminated. (Charges are pending against them.) Meanwhile, the company's stock fell like a stone, plunging to depths from which it has yet to recover.

Since then, Cendant has undergone the accounting equivalent of a wire-brush enema. Despite the company's intention of refiling its squeaky new financial statement in August, the SEC still wasn't satisfied and decided to use Cendant as a case study in how to refile formerly cooked books. Now the company plans to refile in September.

So Why's the Games Division up for Sale?

When a company's stock takes the kind of beating Cendant's did, it looks for ways to improve its basic financials. The fastest was to do that is through the sale of assets. Cendant Software was never part of Cendant's core business, and the company probably perceived it could recoup at least \$1 billion by divesting itself of our beloved game companies.

Which finally brings us to the two key questions facing Cendant Software. What is the

Cendant Software

Units Sold As of July '98:9,500,000 Sales Revenue as of July '98\$215M Source: PC Data

division worth, and who would be the likely candidates in an acquisition?

In the two most recent game company acquisitions, The Learning Company's acquisition of Broderbund and Hasbro's purchase of MicroProse, buyers used a multiple of between 1 and 1.3 times current revenue. By this method, some industry insiders have estimated Cendant Software's net worth at \$700–800 million—one third of its original purchase price.

At that valuation, it is unlikely that Electronic Arts, GT, Activision, or any other single interactive entertainment company has the resources to purchase Cendant. Which leaves Microsoft and other large software companies. Even here, though, suitors aren't plentiful; except for Microsoft, most software companies have little experience or interest in gaming. Many are struggling desperately to retain market share and keep their margins up, and the recent stock market turmoil has limited their stock swap options and eroded their overall values.

"There are fewer numbers of buyers than there were in the old days," observes Larry Marcus, financial analyst with BT Alex Brown in San Francisco. "Many of the more traditional companies—more media companies and not technology companies—have realized that you really do need a lot of focus to be successful in this business."

Which leaves an IPO as the most probable outcome of Cendant's interest in divestment. It's difficult to speculate on when an IPO might occur, but it's unlikely to take place in the foreseeable future. Which leaves Blizzard, Sierra, and Berkeley with the prospect of a very uncertain future. —Ken Brown, with assistance from Johnny Wilson in the role of Ben Bradlee.

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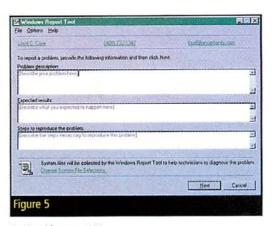
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LOYD CASE



Continued from page 230

system and sending it off to tech support—and here's hoping that tech-support staffers everywhere come up to speed on these tools.

Figure 5 shows one utility that may generate some controversy. It lets you easily send Microsoft (or any tech-support group) information about *you*—but only your address and phone number. Interestingly, it pulls this information out of your Internet Explorer settings.

At any rate, it does *not* send any information about your system that you don't want sent, and most of the data in the list are system files. All of the reports you generate get stored with cryptic file names in the windows\helpdesk\ winrep folder. The file format is the .CAB format, just like Windows installation files.

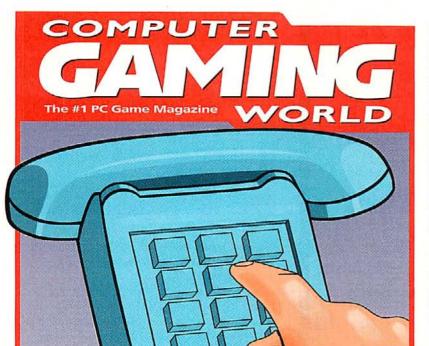
In Figure 6, we see the Desk Cleanup utility. This is a fairly easy way to reclaim disk space that's been taken up by temporary files, such as your Internet cache and files that linger in \windows\temp. In truth, this is probably one of the more limited utilities. There's no way to specify other locations or file types, but at least it's quick and dirty.

Worth the Upgrade?

If you consider that a utility package like Norton Utilities costs around \$60-\$70, the Windows 98 upgrade becomes a good deal. Throw in the fact that it has full support for USB, new chipsets, AGP, and FireWire, and Windows 98 suddenly looks very interesting. If you're thinking about making the move, keep in mind that Windows 98's diagnostic tools are definitely a step up from those in Windows 95. Meanwhile,



if you have already upgraded, or you have a newer system with Windows 98, pop up MSINFO32 and do a little bit of exploring. You never know what vou might find. 3727



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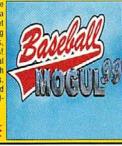


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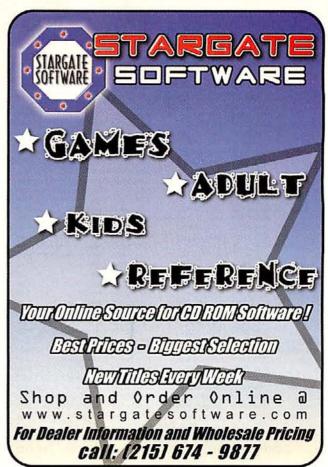
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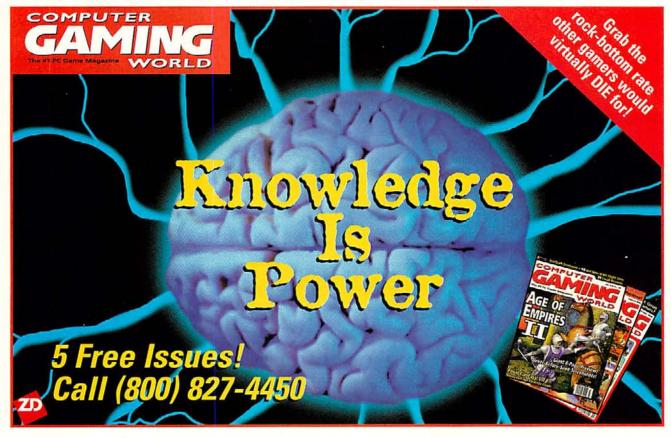
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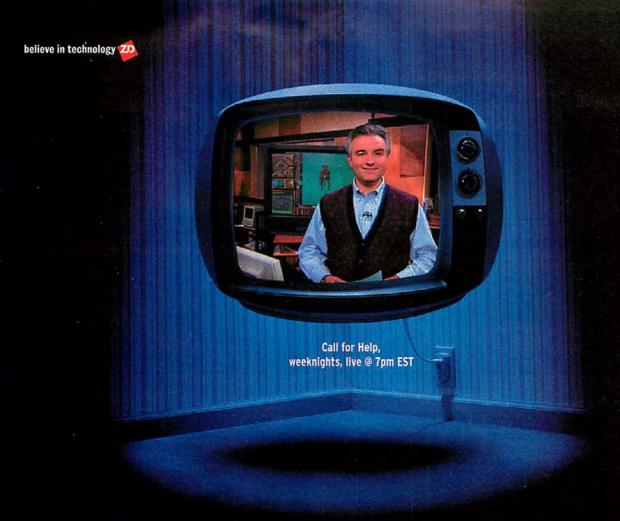
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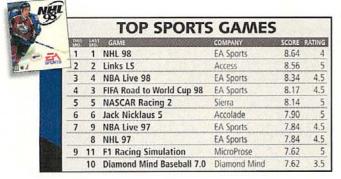
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¥ 14	2	1	Unreal	GT Interactive	8.56	4
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100	4	4	Quake Pack 2: Dissolution	id Software/Rogue	8.52	5
	5	5	Jedi Knight: Dark Forces II	LucasArts	8.49	4.5
100	6	6	Jedi Knight: Mysteries	LucasArts	8.31	4
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	TOP ADVENTURE GAMES						
The second	I str	LAS	GAME	COMPANY	SCORE	RATING	
	1	1	Curse of Monkey Island	LucasArts	8.27	5	
The state of the s	2	2	Blade Runner	Westwood/Virgin	7.72	4.5	
	3	3	Twinsen's Odyssey	Activision	7.70	5	
500	4	4	Zork Grand Inquisitor	Activision	7.52	N/R	
5.0	5	7	Last Express	Broderbund	7.42	4.5	
403		5	Realms of the Haunting	Interplay	7.42	4.5	
A S	7	6	The Neverhood	DreamWorks	7.40	4	
- 8	8	8	Rama	Sierra	7.38	4.5	
100	9	9	Circle of Blood	Virgin	7.34	4	
W 10.7	10	13	Leisure Suit Larry 7	Sierra	7.19	3.5	









		T	OP ROLE-PLA	AYING GA	MES	
4	THUS	143	GAME	COMPANY	SCORE	RATING
票	41	1	Might and Magic VI	New World	8.75	4.5
1	12	2	Diablo	Blizzard	8.54	4.5
N.	3	3	Fallout	Interplay	8.33	4.5
	4	4	Hellfire	Sierra	7.96	4
	5	5	Daggerfall	Bethesda	7.03	4.5
Ш	6	6	Shadows Over Riva	Sir-Tech	6.54	N/R
4	7	7	Lands of Lore II	Westwood	6.16	N/R
9	8	8	Meridian 59	3DO	5.41	3.5
ď.	9	9	Ultima Online	Origin	4.82	1.5
	10	10	Battlespire	Bethesda	4.53	N/R



Games on unnumbered lines are tied with game on line above. \approx = Top game of genre. Red = New Game, AD = Adventure, RP = Role-Playing, SI = Simulation/Space Combat, ST = Strategy, WG = Wargame, AC = Action, SP = Sports, CP = Classic/Puzzle. Games are retired after two years and become eligible for the Hall of Fame.

HIS NO.	MO.	GAME/ PUBLISHER	GAME GENRE	POLL SCORE	RATIN
1	1	Heroes II: Price of Loyalty New World Computing	ST	8.98	5
2	3	StarCraft Blizzard	ST	8.85	5
3	4	Total Annihilation: Core Contingency Cavedog	AC	8.84	4.5
4	2	Might and Magic VI New World Computing	RP	8.75	4.5
5	7	NHL 98 EA Sports	SP	8.64	4
6	6	Quake II Activision	AC	8.60	4.5
7	8	Heroes II New World Computing	ST	8.59	5
8	9	Links LS Access	SP	8.56	
	9	Longbow 2 EA	SI	8.56	
T	5	Unreal GT Interactive	AC	8.56	- 1
11	13	Diablo Blizzard	RP	8.54	4.5
12	9	Quake Pack 1: Scourge id Software/Ritual	AC	8.53	4.5
13	Marie Is	Quake Pack 2: Dissolution id Software/Roque	AC	8.52	
14	14		ST	8.51	4.5
15		Jedi Knight: Dark Forces II LucasArts	AC	8.49	4.5
16		Steel Panthers Campaign Disk SSI	WG	8.41	
17	19		WG	8.37	4.5
		Wing Commander: Prophecy Origin	SI	8.37	4.5
19		Panzer General II SSI	WG	8.35	
20	21		SP	8.34	4.5
357	-34		RP RP	8.33	1
21	100	Fallout Interplay	1	10000	4.5
22	22	Jedi Knight: Mysteries of the Sith LucasArts	AC	8.31	2.0
23	7-	Quake II Mission Pack: The Reckoning	AC	8.28	3.5
24	No.	Curse of Monkey Island LucasArts	AD	8.27	
		Total Annihilation GT Interactive	ST	8.27	4.5
26		You Don't Know Jack 2 Berkeley Systems	CP	8.26	4.5
27	26		51	8.23	- 4
28	16		SP	8.17	4.5
29	28	NASCAR Racing 2 Sierra	SP	8.14	
30	31	Sid Meier's Gettysburg Firaxis	WG	8.03	4.5
31	32	F-15 EA/Origin	SI	8.02	4.5
32	34	Steel Panthers II SSI	WG	8.01	4.5
	29	You Don't Know Jack 3 Berkeley Systems	CP	8.01	4
34	35	Age of Empires Microsoft	ST	7.99	4.5
35	38	Quake id Software	AC	7.97	
36	38	Tomb Raider Eidos	AC	7.96	4
	33	Hellfire Sierra	RP	7.96	- 1
38	36	You Don't Know Jack Movies Berkeley Systems	CP	7.95	4.5
39	42	Civilization II: Fantastic Worlds MicroProse	ST	7.91	4
	41	Civilization II: Scenarios MicroProse	ST	7.91	4
41	30	Jack Nicklaus 5 Accolade	SP	7.90	
42	42	F-22 ADF NovaLogic	SI	7.87	4.5
43	48	NBA Live 97 EA Sports	SP	7.84	4.5
V		NHL 97 EA Sports	SP	7.84	4.5
45	-	Battleground: Napoleon in Russia TalonSoft	WG	7.79	4.5
	200	Moto Racer EA	AC	7.79	4
47	-	Tomb Raider II Eidos	AC	7.78	4
48	1111	Worms 2 MicroProse	CP	7.77	4
49	100	Smart Games Challenge 2 Smart Games Inc.	СР	7.76	5
_	-	Battleground: Antietam TalonSoft	WG	7.75	5

THIS L MO. N	AST GAME/ NO. PUBLISHER	GAME GENRE	POLL SCORE	CGI RATIN
	5 Battlezone Activision	AC	7.74	5
52 5	1 Blade Runner Westwood/Virgin	AD	7.72	4.5
53 4	7 Battleground: Bull Run TalonSoft	WG	7.71	4
54 6	0 Twinsen's Odyssey Activision	AD	7.70	5
55 6	iO Fighters Anthology EA	SI	7.66	3.5
-	O MechWarrior 2: Mercenaries Activision	SI	7.66	4.5
57 5	8 Tigers on the Prowl II HPS	WG	7.65	4
	3 F1 Racing Simulation UbiSoft	SP	7.62	5
	2 Diamond Mind Baseball 7.0 Diamond Mind	SP	7.62	3.5
0.00	33 You Don't Know Jack TV Berkeley Systems	СР	7.57	2.5
	9 Crusader: No Regret EA/Origin	AC	7.55	4.5
200	6 Tripleplay 99 EA Sports	SP	7.55	2.5
	7 Triple Play 98 EA Sports	SP	7.54	3
	77 Zork: Grand Inquisitor Activision	AD	7.52	N/R
	55 M1 Tank Platoon MicroProse	SI	7.51	3.5
-		SP	7.51	3,,
	1 Jack Nicklaus 4 Accolade	ST	7.51	4.5
(a) a	77 Myth Bungie			-
-	4 Jagged Alliance: Deadly Games Sir-Tech	ST	7.50	
	75 Flight Unlimited 2 Looking Glass	51	7.50	4.5
	66 You Don't Know Jack Sports Berkeley System		7.46	4.5
	/8 Interstate '76 Activision	AC	7.45	4.5
72 8	O Last Express Red Orb	AD	7.42	4.5
The same	78 Realms of the Haunting Interplay	AD	7.42	4.
74 8	30 The Neverhood DreamWorks	AD	7.40	3
75 7	11 Virtual Pool 2 Interplay	SP	7.38	4.5
	33 Rama Sierra	AD	7.38	4.
8	33 Dungeon Keeper EA/Bullfrog	ST	7.38	4.
9	1 Baseball Mogul Infinite Monkey	SP	7.38	1
79 8	7 Power Chess Sierra	CP	7.35	N/i
4	19 Forsaken Acclaim	AC	7.35	. 4
81 9	Of Dungeon Keeper Expansion EA/Bullfrog	ST	7.34	4.5
8	S5 Circle of Blood Virgin	AD	7.34	. 3
B3 9	22 Tripleplay 97 EA Sports	SP	7.30	2
84 8	88 PGA Tour Pro EA Sports	SP SP	7.28	3.
	O Achtung! Spitfire Avalon Hill	ST.	7.28	
36 9	2 Flight Simulator 98 Microsoft	SI	7.27	3.
37 9	4 Age of Rifles Campaign Disk SSI	WG	7.24	
7	O Shanghai Dynasty Activision	CP	7.24	
89 8	32 Steel Panthers III SSI	WG	7.23	
90 9	06 MDK Playmates/Shiny	AC	7.20	4.5
91	Leisure Suit Larry 7 Sierra	AD	7.19	3.5
9	8 Lords of the Realm II Sierra	ST	7.19	- 8
93 1	00 X-COM: Apocalypse MicroProse	51	7.18	
	88 Black Dahlia Interplay	AD	7.15	
1	8 Close Combat: A Bridge Too Far Microsoft	WG	7.15	4.5
96	X-Wing vs. TIE Fighter LucasArts	SI	7.14	3.5
97	FIFA 97 EA Sports	SP	7.11	4.5
	Imperialism SSI	51	7.11	4.5
	1 Monster Truck Madness 2 Microsoft	AC	7.11	3.5
	I III OHISTOL HUCK MINUTESS & MINUTESS	MC	1911	20

HALL OF FAME

WELCOME TO THE COOPERSTOWN OF COMPUTER GAMES. Games that broke the records, established the benchmarks, and held gamers in delighted trances for hours untold.

Alone in the Dark (I-Motion, 1992) Lovecraftian horror goes 3D, with shifting camera angles adding to the creepy atmosphere.

The Bard's Tale (EA, 1985)
Pioneered three-point animation, 3D color mazes, and auto-mapping.

Battle Chess (Interplay, 1988)
The Franklin Mint of computer chess games, with violent and funny animation disguising a solid chess engine.

Betrayal at Krondor (Dynamix, 1993)
As rich and imaginative as Raymond Feist's world itself.

Chessmaster (Software Toolworks, 1986)
The Cadillac of castling, it gets better with each version.

Command & Conquer (Virgin/Westwood Studios, 1995) Moved beyond Dune II with innovative features and multiplayer play, ushering in the current real-time strategy game explosion.

Day of the Tentacle (LucasArts, 1993)
Offbeat sequel to Maniac Mansion; the interactive equivalent of a classic Chuck Jones cartoon.

DOOM (id Software, 1993)
Revolutionized PC action games and network gaming; now surpassed in technology, but not in gameplay.

Dungeon Master (FTL Software, 1987) Trend-setting graphics, digitized stereo, and great hackand-slash from a decade ago.

Earl Weaver Baseball (EA, 1986) Revolutionary physics-based baseball game pleased both action and statistics fans; still unsurpassed more than a decade later.

Empire (Interstel, 1978)

WWII in space, this mainframe transplant brought elegant mechanics, depth, and unending replayability to the PC.

F-19 Stealth Fighter (MicroProse, 1988) A "thinking man's" sim, with great missions, in which sneaking around is as fun as dogfighting.

Falcon 3.0 (Spectrum HoloByte, 1991) Tough, detailed jet sim with ambitious AI, graphics, and connectivity to match its realism.

Front Page Sports Football Pro (Dynamix, 1993) Physics-based system, good AI, and unmatched career play make this the ultimate in pigskin play.

Gettysburg: The Turning Point (SSI, 1986) First variable order of battle changed the look of all American Civil War games on the PC.

Gunship (MicroProse, 1989) Great character continuity, R&R for fatigued pilots, and even sick leave; best chopper fare until Jane's LONGBOW.

Harpoon (360 Pacific, 1989) In-depth modern naval battles in realtime, based on the world's Cold War fears.

Kampfgruppe (SSI, 1985)
Its WWII East Front armor battles were a success on multiple platforms.

King's Quest V (Sierra On-Line, 1990) Redefined the graphic adventure with new parser and VGA graphics.

Lemmings (Psygnosis, 1991)
The lovable cartoon Lilliputians were hits on every platform.

Links 386 Pro (Access Software, 1992)
Topped the leader board in graphics and realism for its era.

M-1 Tank Platoon (MicroProse, 1989)
Realistic sim that properly focused on armored formations rather than on single vehicles; good mission designs.

Master of Magic (MicroProse, 1994)
The atmosphere of Magic: The Gathering with the sophistication of Civ.

Master of Orion (MicroProse, 1993) Remarkable diplomatic Al; deep and varied technology tree; aliens required radically different playing styles.

Mech Brigade (SSI, 1985) Improved KAMPFGRUPPE system for modern armored battles

MechWarrior 2 (Activision, 1995)
A serious treatment of Mech design and resource management, combined with complex and addictive battles, legitimized "giant robot simulations."

Might & Magic (New World Computing, 1986) First-person, maze-based RPG with huge environment and tough combat.

M.U.L.E. (EA, 1983)

A landmark multiplayer strategy game that had no weapons of destruction, just cutthroat competition that made economics fun.

Panzer General (SSI, 1994) Entertaining wargame with an elegant interface, great campaigns, strong AI, good graphics, and impressive sound.

Red Baron (Dynamix, 1990) WWI air combat with great graphics, incredible realism, and a versatile replay feature.

The Secret of Monkey Island (LucasArts, 1990) Comedy that set new standards in writing quality and social sensitivity.

Sid Meier's Civilization (MicroProse, 1991) CGW's #1-rated game of all time; indescribably addictive world-conquest/exploration game.

Sid Meier's Pirates (MicroProse, 1987) Combines pirate adventure, action, RPG, and strategy to make the most successful hybrid of all time.

Sid Meier's Railroad Tycoon (MicroProse, 1990) SIMCITY meets 1830, with robber barons for emphasis.

SimCity (Maxis, 1987) Urban planning with fascinating consequences and challenges; the first great software toy.

Starflight (EA, 1986)
Depth, great characters, and a good sci-fi storyline set early RPG standard.

Their Finest Hour (LucasArts, 1989) WWII sim with great campaigns, realism, and many crew-member options.

TIE Fighter (LucasArts, 1994)
Most satisfying *Star Wars space-combat* game to date; lets you live on the dark side.

Ultima III (Origin Systems, 1983)
Coherency and surprising subtlety emphasized roleplaying, and set the tone for later ULTIMAS.

Ultima IV (Origin Systems, 1985)
High-concept RPG explored meaning of virtue and put the role in role-playing.

Ultima VI (Origin Systems, 1990)
RPG as morality play, replete with moral choices and realistic environs.

Ultima Underworld (Origin Systems, 1992)
The first truly 3D RPG, and still the most convincing; its dungeon walls are nicely "painted" with texture-mapped graphics.

War in Russia (SSI, 1984)

More realistic than EASTERN FRONT, it captured the essence of the largest land campaign in history.

WarCraft II (Blizzard, 1996)
More cerebral than most real-time strategy games, it offered deceptive depth and personality to spare.

Wasteland (Interplay, 1986)
Derived from Mike Stackpole's Mercenaries, Spies, and Private Eyes, this is the definitive postapocalyptic RPG.

Wing Commander (Origin Systems, 1990)
A hot spaceflight engine, unfolding story path, and great characters.

Wing Commander II (Origin Systems, 1991) Darker story, grittier feel, sound card advances, and tougher AI made this a sequel of sequels.

Wing Commander III (Origin Systems, 1994) Surprisingly satisfying FMV space-opera didn't lose the essence of the space-combat game.

Wizardry (Sir-Tech Software, 1981)
Defined the computer RPG with maze-based viewpoint and atmospheric spell names.

Wolfenstein 3-D (id Software, 1992) Smooth-scrolling action blastfest cleverly updated the original, and put shareware back on the map.

X-COM (MicroProse, 1994)
Premier tactical squad-level engine combined with alien tech research and pop culture for a sci-fi game nearly as addictive as CIVILIZATION.

You Don't Know Jack (Berkeley Systems, 1996) Fresh and irreverent, JACK turned trivia gaming on its collective ear to become the first mainstream CD-ROM with a gleeful gameplay bite.

Zork (Infocom, 1981)
The progenitor of adventure games on the PC; its humor and challenging puzzles seem timeless. The game has since spawned a number of sequels, none of which has equaled the original.

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Special Reports

TOTAL ANNIHILATION: The Story So Far

Geoffrey Keighley gives you the inside scoop on one of the most innovative strategy games in recent memory, with new details about TA's past, present, and future.

GAMEGUIDES.COM

e sure to make GameSpot's
GameGuides.com your one-stop
shop for strategy guides on the
Web. Just enter www.gameguides.com in
your browser to find strategies, hints,
tips, and walkthroughs for these games:

Sybex's Unofficial FINAL FANTASY VII Strategies and Secrets

Check out this Sybex guide for a complete walkthrough; game-breaking strategies, hints, and tips; incredible tables for every monster, weapon, item, and materia; and advice for breeding chocobos!

STARCRAFT

Whether you play Terran, Protoss, or Zerg, our gigantic guide can help you. It includes comprehensive race overviews, multiplayer strategies, walkthroughs for all 30 missions, and all the cheats!

UNREAL

Get the best path through each level, puzzle solutions, the locations of secret rooms, strategies for defeating all the toughest foes, and game-breaking cheats.

Other Strategy Guides: Age of Empires QUAKE II RIVEN

The Sid Meier Legacy

Terry Coleman examines the career of one of gaming's true legends—from Solo Flight to Civilization to Gettysburg and beyond.

1998: The Year of the RPG?

Will 1998 finally be a year to remember for computer RPG fans? Desslock takes a look at the plethora of titles currently in development, proving that the drought might finally be over.

The Making of UNREAL

Four years ago, the developers of Epic MegaGames began the story of UNREAL. Check out our exclusive interviews and never-before-seen screenshots to find out how this 3D action game became a reality.

Designer Diaries

Have you ever wondered what goes on behind the scenes while those much-anticipated games are in development? GameSpot's Designer Diaries follow the progress of game designers like Jane Jensen, who is embarking on her third Gabriel Knight game for Sierra On-Line, and Tim Schafer, designer of Grim Fandango for Lucas Arts. Tom Hall also gives GameSpot readers regular updates on his new game at ION Storm, Anachronox, and Lead Designer Brian Reynolds writes about Sid Meier's Alpha Centauri. And there's more, so check out the Designer Diaries on GameSpot.



Demos

GameSpot has the most thorough and regularly updated game demo libraries on the Web. Here are demos you'll find to some of the games reviewed in this issue: FINAL FANTASY VII, INCOMING, POLICE QUEST: SWAT 2, WARGAMES, and more.

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•	3Dfx Interactive	Voodoo 2	35
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The Demo Deli

Sample Some Meaty Specialties From CGW's Kitchen

his month's disc lets you try out 15 new games that are now available or are soon to be released. The feature demo is NovaLogic's F-16 MULTIROLE FIGHTER, the latest sim developed in cooperation with Lockheed-Martin. This exclusive version of the demo lets you fly both a standard combat air patrol and an interception mission.

Military buffs should crack open the demo for TalonSoft's WEST FRONT, the sequel to EAST FRONT. The demo takes you back to Bloody Omaha, the beach portrayed in Saving Private Ryan, fighting from either the Allied or German perspective. See how long you last.

We definitely recommend the demo for JAGGED ALLIANCE 2, which appears to be a solid sequel to a great strategy game. You'll control a team of mercenaries who have to check out a "factory" that is troubling the town of Demoville.

If you just want to get down and dirty, check out SIN, the new first-person shooter crafted by Ritual (makers of the acclaimed Scourge of Armagon mission pack for QUAKE). You'll get to man a helicopter turret and blast your way into a bank robbery in progress.

For more realism, check out DELTA FORCE, Fans of DIABLO and WarCraft II will want to see Rage of Mages. Moto Racer 2 is there for the bike racing fan, and you can fly into space with the ARES RISING demo (and tank commanders who like the multiplayer experience might want to check out TEN and its companion game, WULFRAM). Gamers who remember GAUNTLET can play GET MEDIEVAL, and if you want to try your hand as firefighter and paramedic, try out EMERGENCY: FIGHTERS FOR LIFE. Strategy gamers will want to try both WARGAMES and 101st AIRBORNE, and gamers who like a bit of both strategy and action should load up URBAN ASSAULT.







The CD is Autoplay-enabled and should begin upon loading it into the CD-ROM drive. Otherwise, from the Start Menu in Windows 95, type D:\STARTUP.EXE (where D is the letter of your CD-ROM drive) to run it straight from the CD. Additional help is in the README.TXT file in the root directory. Many demos require the disc to be in the CD-ROM drive in order to run; therefore, we recommend installing the demos from our disc.

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November CD Titles

PRODUCT NAME	PLATFORM	DIRECTORY/DEMOS	EXECUTABLE
Ares Rising	W95	ares rising	ardemo2.exe
Delta Force	W95	delta	setup.exe
EarthLink	W95	earthlink	/win95/setup.exe
Emergency: Fighters for Life	W95	emergency	emergency demo.exe
F-16 Multirole Fighter	W95	f16demo2	/setup/setup.exe
Get Medieval	W95	getmedieval	gmdemlns.exe
Jagged Alliance 2	W95	ja2	setup.exe
Moto Racer 2	W95	motoracer2	setup.exe
NFL GameDay 99	W95	gameday99	gameday'99.exe
Rage of Mages	W95	rage	romdemo.exe
SiN	W95	sin	sin_demo.exe
SoftwareForPCs.com	W95		
TEN/Wulfram	W95	ten	setup.exe
101st Airborne in Normandy	W95	101	setup.exe
Urban Assault	W95	urban assault	msusdemo.exe
WarGames	W95	wargamesdem	setup.exe
West Front	W95	west front	setup.exe





WEST FRONT not only looks better than its predecessor, TalonSoft's EAST FRONT, it plays better, too.

Top 10 Games of 2001!

We Up the Ante With One Steaming Pile of a Scoop

biggest gaming scoop of all time and I am standing here, shovel in hand, to lay it on you. Here, for the first time ever, in a world-premiere exclusive scoop, are the Top 10 Games of 2001. Remember, you read it here first. (Memo to the competition: Top this, hosebags!!!)

1. Sid Meier's Chernobyl

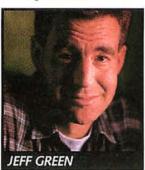
The gaming industry's resident genius is hard at work on his next strategy masterpiece, which puts you in charge of everyone's favorite Soviet nuclear power plant. Supercharge the revolution or radiate the masses: The choice is yours! To appeal to newbies, the game will also boast a number of "power-ups," such as the radiation-deflecting Borscht Belt. Although we've only seen one preliminary pencil sketch on a napkin, we can safely predict that this will be the strategy game of the year, if not of all time.

2. Tomb Raider XII

Eidos is hard at work on the next nine installments of TOMB RAIDER, all to be released in the coming two years. We got an early look at number 12, and though it's still in the conceptual stage, Eidos is promising that Lara Croft will have much bigger breasts and shorter shorts than ever before.

3. Interstate '92: Baby on Board

Groove, Taurus, Skeeter, and the rest of the auto-vigilantes are back, only now they're a lot older, they're married, and their kids keep losing their pacifiers. Can Taurus maneuver his minivan through rush-hour traffic before his kid bursts his bladder on the new upholstery? Will Skeeter be able to replace his cup holder with one that can hold his nonfat double decaf latte without spilling? The road's still rough for the vigilantes—and we want to be along for the ride!



6. Pong 3D

Activision continues its 3D updating of classic arcade games of the '80s with PONG 3D. This version reinvents *Pong* from the ground up, with four hours of noninteractive cut-scenes sprawled across seven CDs. Unlimited camera angles and a first-person "be the ball" view round out this promising title.

there will be aliens, and you'll

er a crystal. Beautiful preren-

acted video sequences are

the voice of "The Crystal."

among the highlights of this

have to go back in time to recov-

dered graphics and wonderfully

ground-breaking adventure game.

Look for Ashley Judd to provide

jump-pass-pivot keys, all new actions have been programmed for modern-day basketball mania, including Choke Coach, Blame the Media, Hold Out on Contract, Kick the Cameraman in the Crotch, and Sue Everybody.

9. Heroes of Unreal Tomb Raiding Jedi Mechs

This revolutionary genrebender from Sierra is a combination turn-based/real-time action role-playing strategy game, with a realistic flight model and the most beautiful 3D graphics we've ever seen. Plot details are sketchy, and no actual work has been done, nor has a design team been chosen, but we're sure that this is destined for nothing less than

Can Taurus maneuver his minivan through rush-hour traffic before his kid bursts his bladder on the new upholstery?

4. Quack

id Software capitalizes on the still-popular hunting craze with this duck-hunting simulation that uses a version of the QUAKE II engine. The 3D polygonal ducks are astounding, and the programmers are promising the most intelligent duck AI to date. Best of all will be the game's arcade mode, called Duckmaggedon, in which hordes of ducks will be lined against a wall with no means of escape while you mow them down with all the original QUAKE II weapons. Eat it, Donald.

5. Sacred Ark of Time

This original adventure game will be just like MYST, only it will be set in Ancient Egypt, and

7. Jane's EXF903iX20 Flight Sim

In what promises to be the most realistic and difficult flight sim ever created, you will be responsible for first discovering gravity and then designing and building an airplane from the ground up. This entirely text-based game comes complete with a five-volume, 10,000-page manual and a slide rule. For flight-sim aficionados, this promises to be the party game for 2001.

8. Latrell Sprewell Hoops 2000

EA Sports attempts to breathe new life into its basketball franchise with this brand new title, which promises much greater realism than ever before. Now, instead of the standard shootgame of the year—or at least a really big ad campaign in the coming months.

10. Daikatana

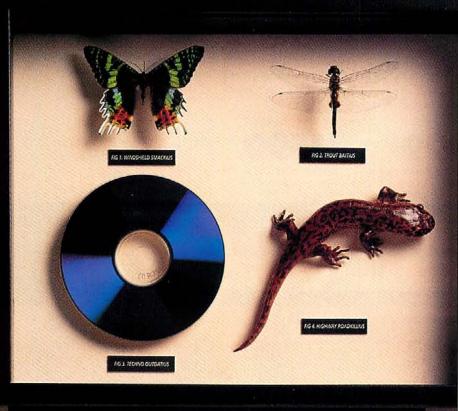
John Romero's long-delayed 3D game looks as if it might finally make it out the door in 2001, though Eidos says that ongoing fine-tuning of the engine may push it back a little longer. Since this is lon Storm's first game since DOMINION, hopes are high. We don't care how long it takes, John, we still want to "be your bitch"!

What Jeff doesn't realize is that only half these games are jokes—the other five are really in development. Guess which five are real and win a copy of TEMUJIN, at jhgreen@zd.com.

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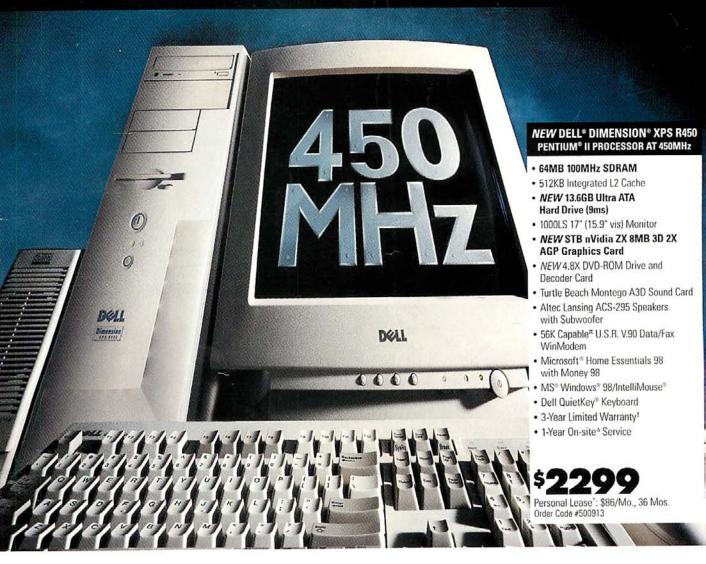
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