May 1999

COMPUTER
GAMING
WORLD

The #1 PC Game Magazine

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EPISODE I
GAMES

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Klingon Academy, and More

HOT STRATEGIES
Including Alpha Centauri,
Brood War, and Thief

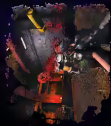## BUILD YOUR OWN
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INTRO

DUAL-ENGINE GA

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AND UNLESS YOU REACH THE FINAL BATTLE, IT WILL STAY THAT WAY.

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A rival family imposes peril on the future of your livelihood. The evil Empire's presence is looming. Your only hope for survival is to join the Rebel Alliance in epic *Star Wars* conflicts. As full-scale galactic battles begin, you will be called upon to command Rebel starfighters, including X-wings and other new spacecraft. You and up to seven other Rebel players will clash with Imperial fighters in spectacular 3D missions. Finally, if you're worthy, you will find yourself in the cockpit of the legendary *Millennium Falcon*, flying against the massive Imperial fleet in the climactic Battle of Endor. Ultimately, it will be your agility, resolve and combat skills in these maneuvers that will determine your destiny. Not to mention, the fate of the entire galaxy.

Star Wars: Episode I Games

The most successful movie franchise ever has had its share of great games as well—JEDI KNIGHT and THE FIGHTER, to name only a couple—but LucasArts wants an even bigger share of the gaming galaxy. Can games from *Star Wars: Episode I: The Phantom Menace* suck the space from our hard drives as often as the new movie makes us stand in long lines and eat popcorn with petroleum-based buttery products? Check out our exclusive looks at RACER and STAR WARS: EPISODE I—THE PHANTOM MENACE and decide for yourself!

86

COVER STORY

52

Star Wars Cover and Poster Designed by Clint Young RACER Team Artist, LucasArts

Build A Home LAN!

Does network cabling remind you of giant serpent horror films? Are you thinking of getting a cable modem, but concerned about its reliability? Or maybe you're considering a wireless home network, but worry that your TV remote might affect your HALF-LIFE connection? Don't despair: CGW's experts untangle the wires and arrange the alphabet soup acronyms into something decipherable, so that you can find the network gaming setup that's right for you.

106

42
READ.ME
• Quake III: Arena
• Behind the scenes at Microsoft's *Gamestock* event.
• KISS' Gene Simmons buys our managing editor lunch in Finland!

178
GAMER'S EDGE

Sid Meier's Alpha Centauri
Terry Coleman, our own turn-based guru, shows how life is better on another planet with more diplomacy and fast-breeding mind worms in your back-yard fungus.
178

StarCraft: Brood War
Elliott Chin stops playing just long enough to show us how he beats us all in BROOD WAR multiplay. His advice will probably help you more than it did us.
186

Thief: The Dark Project
Lance Larka helps out with the less savory aspects of being a cut-purse—such as where to hide the bodies.
190

CG Tips
• Heretic II
• F-16 Multirole Fighter/MiG-29 Fulcrum
• Fallout II
• Darklords Rising and more!
192

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DESIGN, DEPLOY AND DESTROY.

WARZONE 2100

STRATEGY BY DESIGN

JOHNNY WILSON

Patch Adams Syndrome

Why Do the Opinions of Critics and Gamers Diverge?

My 16-year-old son gets really annoyed over my attention to film reviews. "How do those guys know any more about whether it's a good movie or not than you do?" he asks ingenuously. "You should just make up your own mind." I have tried to explain that I don't read reviews for the "thumbs up" or "thumbs down," but he feels that I pay too much attention to a bunch of clowns who claim to know more than I do. He's in pretty good company with his skepticism. He agrees with Irish author Brendan Behan who said, "Critics are like eunuchs in a harem. They're there every night, they see it done every night, they see how it's done every night, but they can't do it themselves."

About two days after our last such conversation (he was annoyed that I had enjoyed *Shakespeare in Love*), I read a fascinating piece by Shawn Levy of the NewsHouse News Service. Levy asked why critics almost universally panned *Patch Adams*, but audiences almost universally loved it. Not only did the piece give me some arrows for my continuing debate with my son, but it also resonates with my experience as a game critic.

Levy's first point is that critics are more in touch with technique and approach than the average film viewer. He points out how the techniques used in both the screenplay and direction of *Patch Adams* are contrived to wring superficial and maudlin sentimentality out of the audience. It reminded me that I like film reviewers who are well-versed in the bodies of work belonging respectively to director, screenwriter, and major star. I like reviewers who tell me why a certain soft

focus is used in the camera absoca scenes in *Addicted to Love* or a brown filter is used in *The Godfather*. It helps me enjoy the film more.

This translates pretty well into the game business. At CGW, we like to share a little about some of the tools and the techniques being used in various games. We love to

talk to design teams about AI philosophy and look at the artistic development of a game from concept sketches through prototyping to finished characters and backgrounds. We think this information assists in the enjoyment of the game, as well as in helping gamers decide if the game meets their preferences or not.

Second, Levy cites the scope of the critic's view. He observes that critics see close to 10 movies per week. Naturally, this is a double-edged sword. They get a broader perspective than the average moviegoer, but they are also particularly susceptible to the kind of freshness that breaks up conventions which have become cliché. This is fine if the audiences, too, are tired of the conventions, but can be bad when the critics are too far out in front of the audience in declaiming that which is passé.

The upside is that these critics can compare elements of films or techniques in films with those of other films. Comparison helps me make up my own mind. In game criticism, I particularly like critics

who are willing to learn about underlying physics models, lighting models, AI schemes, sound technology, art techniques, and engine design. They just add more to the discussion of the elements.

Due to deadline pressure, reviewers also tend to have very low thresholds of patience with poor interfaces, prepatch bugs, and

repetitive sequences. Gamers who have plenty of time to tweak their setups or find workarounds may be more forgiving. Hence, our readers sometimes perceive us as whining or being overly picky. Yet, someone needs to hold game publishers to a higher standard. If we reviewers let them slide, who will get the publishers' attention.

Levy suggested that the thoughtful and thought-provoking observations of film critics helped both the film-going public and the professionals to think about movies differently. It is certainly to be hoped that game critics offer some of the same kinds of leaven to the design process.

So, in answer to my son's question, critics may not be any smarter

than the general public, but they have access to more information and are exposed to a broader scope of the gaming horizon than the average viewer or gamer. I also have to admit that they aren't "right" all the time. Yet, right or wrong, reviews provide a fascinating starting point for discussions and debates. CGW

Critics are like eunuchs in a harem.... —Brendan Behan

The Big Trade

Because I've been identified in the same breath with CGW for so long, I feel a little bit like an athlete who's been playing every day and suddenly got a chance to move into a coaching role. I'm still putting shots on goal, but I feel like I need to start coaching before I start laying that infamous slap shot from the blue line.

Of course, new coaches need new talent. We already have a great team of editors, but we needed the right guy to center our first line. We got our first choice. Everybody knows George Jones. The one-time Sports and Action editor at CGW managed to move his way into the editorial version of the Big Scorers list after moving to CNet's Gamecenter and showing what he can do. George is a terrific gamer. He loves this industry and he loves this magazine. He's got some bold new ideas and he knows our playing style. He wants a championship ring. He's hungry. He's already proving himself as a great team leader. He's awesome!

Computer Gaming World will change under George's leadership, but it will be because he takes it to another level. Meanwhile, you'll still have to put up with my ugly mug in these pages and, if you're in the industry, you might see me standing behind the bench as I occasionally whisper a few ideas in George's ear in spite of this change, one thing will stay the same. *Computer Gaming World* is and will continue to be the best computer game magazine in the business. We are the champions—even if the highest-priced player moves behind the bench.

"GAME OF

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HλLF

PLAY THE DEMO

www.game of the year.com

DENNY ATKIN

Wire Head

You Can Have My Cable Modem When You Pry It From My Cold, Dead Hands

If you live in Contra Costa County, California, there's nothing to interest you in my column. Really. Just turn to Terry Coleman's treatise on the potential of turn-based 3D shooters, or skip to the back and read Jeff Green's cathartic realization that he wishes he was a booth babe. Nothing to read here. Move along, please.

Okay, now that those guys are gone, I can tell you about a piece of technology available now to some of you that will redefine the way you game in the future. Envy you, in Concord, I see you still reading. Quick, turn to page 86! There's a secret tip there that will show you how to find the free copy of FALCON 4.0 hidden on the TOP GUN: FIRE AT WILL disc.)

Good. Now that we've gotten rid of 'em—and a few dozen other gullible people—let's talk about cable modems. A few weeks ago the friendly folks from TCI @Home came by my place and installed this wonderful piece of new technology. They just attached a splitter to the cable behind my TV, hooked in the cable modem they provided, and connected an Ethernet cable to my PC's network card. After configuring a few TCP/IP settings on my network card, I had a direct connection to the Internet.

And what a connection! When downloading files on my 56K v.90 modem, I'd average a little over 4KB/sec on a good connection. At work, where we have a T1 connection, I'd get what I thought was an impressive 20KB/sec file transfer. Now, I know cable modems are fast, but I was unprepared for the transfer rates I got: more than 500KB/sec from some servers!

There are numerous benefits to this kind of speed. The most obvious is file transfer. I was able to download the 28MB demo of TRESPASSER in about a minute—not much more time than it took to

uninstall and erase it. Web browsing is a whole new experience. Many Web pages just appear, complete with pictures, rather than stream in. And gaming is greatly improved, not just by the faster speed but also by the reduced latency. I hosted a five-player COMBAT FLIGHT SIM game, and it ran far smoother than when it was played over a 56K connection.

you share bandwidth with other users. That's why I didn't want anyone in my local area to read this column—the more people who get cable modems, the slower the connection for everyone. If everyone on your cable line hits the net at the same time to download TOMB RAIDER XIV: THE SAGGING, you'll see an appreciable decrease in performance. So sign up, but don't tell all your friends. My neighbor apparently had his cable modem installed the week before mine—I'm going to start blaring Stanford Vocal Band 8-tracks at night to drive that bandwidth-sucker away!

There are different types of cable connections in different areas. Some are bidirectional, so there's no need for a separate phone line for your Internet

sheer number of users trying to grab it may slow your download to the same speed that others get via phone modem. And really busy Web sites that are dog-slow on a phone modem probably won't be any faster over cable.

Cable modems are putting the pressure on the phone companies to introduce high-speed technologies such as xDSL, which will offer similarly amazing Internet access. No matter what high-speed connection you choose, once you've tried it, there's no going back. For more on cable modems and other high-speed communications technologies, check out our networking feature on page 106 of this issue.

So if you don't live in Contra Costa County, beg your local cable provider and see if cable modem

Sign up for a **cable** modem, but don't **tell** all your **friends.**

Short ping times will also give 3D shooter players a decided edge. GameSpy, for example, showed more than a dozen QUAKE II servers with ping times under 30ms.

So what are the disadvantages of cable modems? The most significant is that the connection works like a local-area network, in which

connection. But in other locales, you receive data over cable and send via modem. That's still fine for Web browsing and file transfer, but it can significantly increase your gaming ping times.

Also, no cable modem will speed the Internet itself. The day a new 50MB demo hits the Web, the

service is available. If you do live there, I can get you a great deal on a slightly used 56K gem... **CGW**

What Denny doesn't realize is that everyone else in Contra Costa County has direct neural links to the Internet via MicrosoftBrain. Set him straight at denny_atkin@aol.com.

KEYBOARD NIRVANA

It seems like such a simple idea: Take those protective flexible plastic keyboard covers found in auto, office and print shops—perfect for flight sims on them, making it dramatically easier to find the right key in combat. It actually took two years of engineering to design a cover that would fit multiple keyboard sizes, with ink that wouldn't rub off. The result, though, was well worth the effort. Cockpit Collection Keyboard Control Covers come

designed for a variety of sims, including the LONGBOW series, COMBAT FLIGHT SIMULATOR, and F22 ADF. Templates are also in the works for FALCON 4.0 and other recent sims. At $14.95, they're reasonably priced, and they can be life-savers when you suddenly forget which key is used for flares in the sim you're flying. During sessions with the LONGBOW 2 template, I actually found myself using functions I'd previously ignored. For more information, check out www.cockpitcollection.com.

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-PC Games

"...you couldn't ask for more"
-Computer Gaming World

"A real innovation"
-Next Generation

"Best of E3"
-GameSpot

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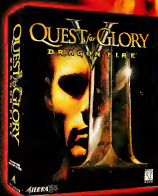
World Turned Upside Down

Controversy and Untimely Death Are the Order of the Day

SSG's WARLORDS II was the best fantasy game available until WARCRAFT II, and both WARLORDS III and its sequel, DARKLORDS RISING, showed that there was still plenty of life (and unit sales) left in turn-based strategy.

So, it's definitely a bit of a bombshell that SSG's upcoming WARLORDS PROPHECY game will be real-time strategy.

The situation was not, I've been assured, brought about by any pressure from Red Orb/Broderbund/SSI/The Learning Co/Mattel/Barbie & KenKim Stam/Mindscape, or anyone else. The SSG folks just feel that there are lots of avenues in real-time strategy gaming that have yet to be explored. And while SSG hasn't mentioned specifics, certain obvious improvements come to mind. For example, it would be great to play a real-time game with a master like SSG's Roger Keating doing the AI, instead of the usual "Gee, my unit actually

found its way past the one—this AI isn't too bad" state of computer opponent. Plus, the WARLORDS universe has been nicely fleshed out over the past decade, so we'll certainly have a nice back-story for the campaign. Whether it'll equal STARCRAFT's remains to be seen.

In any case, the SSG folks are hedging their bets by continuing the acclaimed turn-based WARLORDS franchise as well, though this game will be a year 2000 project at the earliest. Imagine the cross-promotion possibilities: "When the well-mercenance raises skeletal soldiers from the ranks of the dead, cast a Y2K spell to freeze his hapless minions in place! Only on the Intel Pentium III processor! (Coming soon for the

G3 Macintosh!)"

According to producer Gregor Whiley, "WARLORDS PROPHECY is the natural extension to the WARLORDS game system. The hero system, magic system, group bonuses, and underlying combat system all meld well in a real-time

system. Obviously some features change to accommodate the pace of play, including the scale and combat, but the WARLORDS game-play translates well. In WARLORDS, the heroes and allies combine to produce powerful stacks or squads. We will maintain this important gameplay feature as well as increase the depth of some features like the hero and magic system."

The Revolution Is Dead

Fenris Wolf is a small company that likes to follow its own muse, whether it's designing an MMX-only game or employing voice technology to control game units—both of which they accomplished in REBEL MOON and its sequels. Fenris' latest project was REBEL MOON REVOLUTION, a hybrid sci-fi affair that had the potential to bridge the gap

strategic vision and verbally killed the project. Afterward, Fenris shopped the game around and was in discussion with Wizardworks (ironically, an affiliate of GT) to use the REVOLUTION engine for a Vietnam squad-level 3D game. However, as GT had never signed documents legally freeing Fenris from its obligation, the folks with Wizardworks stalled.

Months later (February '99), Fenris sued GT, claiming breach of contract. The only official response from GT thus far has been to ask that the trial take place in Minnesota Federal Court. Our inside sources at GT, however, informed me that GT was concerned about the graphics and general polish of the game. If true, it seems odd that GT couldn't have provided a few more art resources—a common practice with most publishers—to

> It's a bit of a **bombshell** that WARLORDS PROPHECY will be **real-time** strategy.

save what seems to have been for years a good publisher/developer relationship.

The worst part, of course, is that, regardless of the outcome of the lawsuit (assuming there's any substantial money left after the lawyers take their share), another game with great potential has vanished from sight, due to all the time lost. And every time something like this happens—regardless of whose fault it is—the chances decrease that a publisher will take a chance on a small developer with a fresh idea. C'est la vie.

Terry Coleman amuses himself by conquering the world with the tree-hugging Gaians in SID MEIER'S ALPHA CENTAURI.

Planned features for WARLORDS PROPHECY:

- More the 60 fully animated sprites
- Expansive engine system featuring over 60 sq. ft.
- Extensive hero development system
- Seven races
- Four broad classes, with 15 specialty classes
- 20+ levels of advancement
- Four basic stats and 10 skills
- Four resources with no micromanagement
- 12 ways to win the game

between 3D shooters and tactical wargames like *Squad Leader*. For a number of reasons, REVOLUTION is dead.

It seems that after approving several milestones, the publisher, GT Interactive, decided that the game no longer fit within its

STRIKE HARD
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F-16 AGGRESSOR

F-16 AGGRESSOR

is the closest anyone outside the
military will get to experiencing
flight in the cockpit of an F-16
Falcon. No other combat flight sim
comes close to the real Falcon's
sophisticated fly-by-wire system.

- World class technology featuring a
  flight model so realistic military-only
  secret features had to be removed

- Fly over 40 geo-political missions over
  destabilized regions of Africa

- Beautifully accurate landscapes from
  Madagascar, The Rift Valley, Morocco,
  and Ethiopia

- Powerful AI controls tanks, planes,
  helicopters, ships, trucks and other
  vehicles with stunning realism

- Engage opponents in simultaneous air
  combat in target-rich environments
  over the Internet or LAN

LETTERS

WRITE US, DAMMIT! CGWLETTERS@ZD.COM

THE VAMPIRE COVER

We received your April issue today, and both my husband and I were appalled at what we saw. If we wanted our children to be exposed to *Playboy*-type magazines, we would buy them for them. But we choose magazines that are appropriate for them. Did anyone in your editorial department think that maybe this is not good for kids? I am so tired of women being used to sell things, and I am so tired of businesses not really caring about what is good for our youth. I am disappointed in you.

*Joy Nadeau,
Middle School Teacher
Via the Internet*

We received more letters concerning our April cover than any previous issue. Most were from angry parents who thought the image wasn't suitable for children. Since none of the parents said violent images in CGW were inappropriate, we assume it's okay for children to see disfigurement but not the female form.

Given the magazine's predominantly male, 30-year-old readership, we thought the cover image was appropriate for our audience. Apart from the blood (she is a vampire), it's no different than what appears on the cover of other popular men's magazines (or women's magazines). Still, if it shocked you, you weren't alone. Here's what some other readers had to say:

Your cover for the April 1999 issue was...daring, to say the least. I had hoped that CGW would not stoop to the level of certain other sophomoric, smash-in-testosterone game magazines. Now, I enjoy looking at magnificent expanses of luscious female flesh just as much as the next guy, but not in my hardcore, serious, and dare I say it, mature computer game magazine.

If you want to compete with those other locker-room dwelling game magazines, do it with intelligent, honest reviews, more in-depth coverage of the game and the gaming industry, and insightful commentary from knowledgeable editors...not with the size of your cover model's breasts. (Of course, this issue will probably be your best selling ever, so what do I know?)

*Scott Sampiero
Via the Internet*

I don't want my children exposed to scantily clad females with fangs, demonic eyes, and bleeding vampire bites on the neck.

Bill Liskell

I was forced to keep my April issue rolled up as I walked from my school mailbox to my room. Usually I can flaunt my CGW with such geekish pride, but this issue's cover belongs on a Leroy Flynt publication. After careful...er, analysis...of the cover (ahem) I realized that the lady's cleavage was as big as her face! Granted, these pictures have their place (under pillows, etc.), but not on the cover of a respectable gaming magazine.

*Dan Maran
Via the Internet*

I just wanted to say that April's cover is THE BEST EVER!!! Now I realize that we must fight the "Bimbo Factor" in computer games and view women as equals, but you guys

As a Hematologist it was certainly the blood on the cover that caught my attention...yeah right!

Eldon D. Andersen, M.D., Portland, Oregon, Via the Internet

make it so darn difficult by placing that nocturnal beacon on the cover. I think it should win the cover of the year award for magazines, if there is such a thing. Oh and the inside stuff was good too.

Eric the Unready
Via the Internet

SOON TO SWEEP THE WORLD

I am an active curler in Winnipeg, Manitoba, Canada and very disappointed that the major computer software vendors have not yet developed a curling game. Curling is one of the major sports in Canada and is played by many people all over the world. I'm sure that with the development of a PC curling game, the sales would be high.

Steve Schneider
Winnipeg, Manitoba

Yeah, EA's sure to hop on that one, right after they finish Laura Bonners and Lost Runner.

BOTH LEAVE HIM LIMP

Somehow, we have allowed computer games to become like television—all flash and little content. I prefer games that require a modicum of thought rather than a large dash of reflexes. First-person shooters are as exciting as my ex-wife.

James Rozhon
Via the Internet

KALI THE DESTROYER

I was disappointed that your article on online gaming ("Dying to Play Online," March Read Me) failed to include one of the best—and most popular—online gaming services, Kali. Kali has been around since before most of the services in your story were even a gleam in someone's eye, and allows a much larger base of games to be played on line, including games that were never designed for Internet play.

A one-time registration fee of $20 gets you this terrific program and a lifetime of free upgrades. I still consider it the best $20 I've ever spent on software. For more information, go to www.kali.net.

Cory Hug
Des Moines, Iowa
Via the Internet

We apologize for overlooking Kali in our survey of online gaming services. Kali enables Internet play of more than 150 multiplayer games, and has registered more than 250,000 gamers worldwide. Kali software runs like an IPX network, enabling local-area network games to be played over the Internet. You'll need your own copy of the game, though, since Kali only provides the connection between users.

GAMESPY

In your article "Dying to Play Online," you neglected to mention my favorite one, Gamespy. Gamespy is free and handles just about every action game on the market today. It is also part of a network of fan sites devoted to those action games, which is where I get my action game news. Even though it is only a server finder and not really a bona fide online gaming service, I doubt that the Quest online explosion would have been as great without it, and I continue to use it every day.

C. Mulder
Via the Internet

GETTING ZD BENCHMARKS

In your March issue you state that one can purchase a CD version of WinBench 99 for a nominal fee, but where? The ZDNet Web site makes no mention of the CD version of WinBench, and I find it impossible to download anything so large, because I keep getting timed out or otherwise cut off by my ISP.

Andrew Heffton

Technical Editor and Chief Grunt-Head Dave Salvator responds: Each month, CGW uses ZD's benchmarks to review gaming hardware. Win-Bench, 3D WinBench, CD WinBench, and now Audio WinBench, are the industry standard benchmarks, and you can use them to put your rig through its paces. Head over to ZD Benchmark Operations' Web site (www.zdbop.com), where you can download all the ZD benchmarks directly. Or, if you want any of the benchmarks on CD, you can order them for $5 each from www.zdnet.com/zdbop/reqfrm.html

DEPT. OF CORRECTIONS

One last thing about that April cover: Seems there was this little mix-up and we printed a Hectoris shot which... We mean: Tis-A DEMO it was supposed to be. DOH! Yeah, not too big of a mistak... We blam-T-mind Really for giving us such a cool render we felt compelled to use it.

Remember, if you get the wind knocked out of you,
stay down so I can examine the color of your face.

¡FUTBOL

© 2009 3dfx Interactive, Inc.

Guess you could say we like to go out of our way to make sure stuff looks real.
Why? Because we can. Our 3D graphics accelerator performs over 100 billion operations a second.
And considering our chip is compatible with a ton of games and software, maybe it's time to upgrade
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EACH
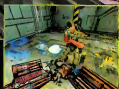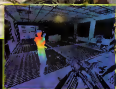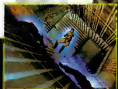
ALIENS
VERSUS
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- **SCALE WALLS** and elevator shafts as an Alien and advance with frightening speed as you attack to devour your opponents.
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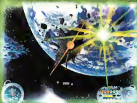
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Quake III: Arena Will Bring Multiplayer Carnage to the Masses

Chunks of Bloody Meat

After some heartfelt quality time mowing each other down at id's Dallas offices, we are happy to report that the multi-player focus of ARENA seems to be paying off. Its inventive level design, bruising action, and sense of blistering speed are more in line with the original QUAKE than QUAKE II. Slipping free of the shackles of traditional single-player game design has let the team focus on creating some of the best DeathMatch maps we've ever seen. One head-to-head map was choked with opponent-concealing volumetric fog, giving the cozy killing ground an even tenser, more claustrophobic feel. Larger levels are even wilder. One standout featured a slew of player-accelerating bouncing pads that fling combatants across vast stretches of bottomless space onto hovering platforms—all the better to frag the targets below.

With the focus squarely on DeathMatch, id is designing the game to ease newbies into the online war-zone that is the QUAKE community. To that end, games will battle daunting armies of bots as they gun their way through the game's maps, hopefully developing the skills to compete against other humans along the way. The bots will adjust to each player's skill, thus offering a significant challenge while still allowing dedicated, if mediocre, gamers to finish the game. The bots we saw were pretty tough, but programming guru John Carmack thinks they could be better and is clearing his schedule to focus on bot AI—that's a scary thought

QuakeCon 99, which is sponsored by id, will be showcasing QUAKE III

QUAKE III: ARENA's new engine permits curved surfaces and more organic environments such as this

ARENA with two tournaments. One tournament will be exclusively for media-types, and the other will let the general public into the act. QuakeCon 99 will be held in Mesquite, Texas from August 6–8.

Look for more on our exclusive, hands-on playing experience with QUAKE III: ARENA in our July cover story. —Robert Coffey

www.computergaming.com

Our Managing Editor's Shameless KISS Fan-Worship

Gene Simmons
Bought Me Lunch in Finland

My job rocks. I just returned from a trip to Finland where I met KISS and had a personal interview and lunch with Gene Simmons. And the whole trip was paid for by Uncle Ziff. Ah, the life of a gaming journalist.

How, you may ask, did I pull this off? Well, I had a little ace in the hole: MAX PAYNE. MAX PAYNE is a game being developed by a small developing house called Remedy (see my full hands-on preview next month), who just happen to be located in Helsinki. Also, KISS is planning to have a PSYCHO CIRCUS game released by year's end. So by bundling the MAX PAYNE demo and interviews with the KISS thing, CGW Executive Editor Ken Brown and I were able to convince the powers that be that the trip was worthwhile. Woo hoo!

Left to right: Ace Frehley, Samuli Syvähuoko (from Remedy), Gene Simmons, Petri Curk, Joe Vallina, Paul Stanley

Meeting the Band

One 15-hour plane ride later, I'm standing with two Remedy guys at the Helsinki hockey arena in a tunnel leading from the backstage area to the stage.

After a tense 10 minutes, I see the band. I first exchange hellos with Gene, then Peter (Paul is off talking to some roadie—what a jerk). But then comes my personal moment of truth: meeting Ace Frehley.

This is the man that made me want to play guitar. And not just any guitar. It *had* to be a Les Paul. I used to think there was nothing cooler than Ace, in mid-solo, on his knees with his back on the floor while smoke and fire poured from the pickups of his Les Paul Custom. In fact, I'm still hard pressed to find anything cooler. This man was my own personal guitar hero…and I was standing here shaking his hand. I can't tell you how cool this was.

Yet, as soon as they had appeared, they were gone. (If this CGW gig doesn't pan out, I'm going into Harlequin romance novels.) The Remedy guys and I then ran back out to the arena to see a great show, which included blood spitting, fire breathing, guitars that shot rockets, fire, and sparks, huge columns of flame; and some of the best rock and roll ever written.

The Interview

My interview with Gene Simmons was scheduled for the next day. Gene showed up sans make-up but wearing an outrageous outfit nonetheless: a loose, button-down blue oxford shirt (presumably to cover his gut), the mandatory rock-star shades, and, get this, black spandex pants. I kid you not.

Gene has a reputation of being a completely egotistical bastard, but he turned out to be a nice guy. He was very open and answered all of our stupid fan questions (Q: How much do your outfits weigh? A: About 40 pounds. Q: What are your favorite KISS albums? A: Destroyer, Creatures of the Night, and Revenge).

He also talked about some touchier subjects, such as when I asked about how it was touring with Ace and Peter again. This question brought a pause: "It's great, it's family—the way it should have been. Now Ace and Peter are fantastic, perfect gentlemen. He continued, "It still leaves a bitter taste in my mouth to think that they selfishly threw everything they had away [with their drug and alcohol abuse]. I can forgive, but I won't forget."

Gene has a hand in everything that has the KISS name on it, which is a lot of stuff. Just on the short list, there are the *Psycho Circus* comics, an upcoming Saturday morning cartoon series, a new movie called *Detroit Rock City*, and even the KISS Warriors, four pro wrestlers in KISS make-up. Oy vey.

And let's not forget the upcoming PSYCHO CIRCUS computer game being developed in conjunction with the Gathering of Developers (GOD). The game is very early in development, but Gene said that he and Mike Wilson of GOD are now hard at work on the project. (Watch for more about PSYCHO CIRCUS in upcoming issues of CGW.)

At the end of the interview I had Gene sign everything in sight, and the Remedy guys and I hit the road. It was only as we were driving to the Remedy offices that we realized we had skipped out on the check. Thanks for lunch, Gene. And thanks for the rock and roll, too. —*Joe Vallina*

CGW's
Reality ✓ Check

Everyone's a critic—but darn anyone (other than us, of course) know what they're talking about? You be the judge. Here's a roundup of 10 recent games and their corresponding review scores in the major gaming mags and Web sites. All scores use each publication's own scoring system.

	CGW (OUT OF 100)	PC GAMER (OUT OF 100%)	PC GAMES (OUT OF 100)	GAMESPOT (OUT OF 10)	IGN.COM (OUT OF 10)	GAMESPOT GAMESPOT (OUT OF 10)	GAMECENTER (OUT OF 10)
Falcon 4.0	3.5 stars	69%	A	3.5 stars		7.6	2 stars
Fallout 2	3.5 stars	91%	B+	4 stars		8.5	4 stars
Grand Prix Legends	4 stars	89%	B+	4.5 stars		8.9	5 stars
Half-Life	5 stars	97%	A+	5 stars		10	5 stars
King's Quest: MOE	4 stars	80%	A-	4 stars		8.0	4 stars
NBA Live '99	4.5 stars	93%	A-	3 stars		6.9	4 stars
Populous: Beginn.	4 stars	78%	B	3 stars		7.5	3 stars
Return to Krondor	2.5 stars	88%	B	3 stars		7.8	4 stars
Sin	2.5 stars	86%	C+	3 stars		7.7	3 stars
Tomb Raider III	4.5 stars	49%	C	3 stars		6.0	4 stars

*no rating available at press time.   ✓ red indicates editor's choice games

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A-10 Warthog (Activision)	Q3 '99
Age of Empires II (Ensemble/Microsoft)	Q3 '99
Aliens vs. Predator (Fox)	Q3 '99
Anachronox (Eidos)	Q2 '99
Army Men II (3DO)	Q2 '99
Babylon 5 series (Sierra) P/K	Q3 '99
Battlezone II (Activision)	Q2 '99
Baseball (Infogrames)	Q2 '99
Braveheart (Eidos)	Q2 '99
Civilization II: Test Wars (Firaxis/Hasbro)	Q4 '99
C squad (Microsoft)	Q2 '99
Daikatana	q Games (G's)	Q3 '99
Dark Reign II (Activision)	Q3 '99
Diablo II (Blizzard)	Q3 '99
Descent Freespace (Interplay)	Q2 '99
Devil Inside (Cryo/Take-Two)	Q3 '99
Front Command (Sony) P/K	Q4 '99
Flight Unlimited III (Electronic Arts)	Q3 '99
FLY! (Gathering)	Q3 '99
Full Auto (Microsoft)	Q2 '99
Gabriel Knight 3 (Sierra Studios)	Q4 '99
Giants (Interplay)	Q3 '99
Heavy Metal F.A.K.K. 2 (GOD)	Q3 '99
Homeworld (Sierra Studios)	Q3 '99
Imperialism II (SSI)	Q2 '99
Indiana Jones Infernal Machine (LucasArts)	Q3 '99
Interstate '82 (Activision)	Q3 '99
Jane's USAF (Jane's/Electronic Arts)	Q2 '99
Jazz Jackrabbit 2 (Gathering)	Q2 '99
Kingpin (Interplay)	Q2 '99
Klingon Academy (Interplay)	Q2 '99
Legend Factory (Interplay)	Q3 '99
Lego Rock Raiders (Lego Games)	Q2 '99
Loose Cannon (Microsoft)	Q2 '99
Machines (Acclaim)	Q2 '99
Magic & Mayhem (Bethesda)	Q2 '99
Max Payne (3DO)	Q4 '99
Mech Warrior 3 (Hasbro/Microprose)	Q2 '99
Metal Fatigue (Psygnosis)	Q3 '99
Midtown Madness (Microsoft)	Q2 '99
Might & Magic VII (3DO)	Q2 '99
MechWarrior II (MicroProse)	Q3 '99
Myth II (Bungie)	Q2 '99
Nations (Hasbro Interactive)	Q2 '99
NHL Glory (Sierra)	Q3 '99
Might & Magic VII (3DO)	Q2 '99
NASCAR Racing III (Sierra Sports)	Q2 '99
Nation WWII Fighter Command (Psygnosis)	Q4 '99
NBA Drive 2000 (Microsoft)	Q4 '99
Nocturne (GOD)	Q3 '99
Oddworld (Oddworld)	Q3 '99
Operational Art of War II: Team (SSI/Take-2)	Q2 '99
Outlaws (Infogrames)	Q2 '99
PGA Championship Golf '99 (E. Arts Sports)	Q4 '99
Planescape: Torment (Interplay)	Q3 '99
Populous III: The Beginning (Bullfrog)	Q2 '99
Quake III: Arena (id Software)	Q3 '99
Prince Caspian Tycoon (MicroProse)	Q2 '99
Septerra Core (Monolith)	Q2 '99
Sensa Kingdoms II (Interactive Magic)	Q2 '99
Shadow Company (Interactive Magic)	Q3 '99
Shadowman (Acclaim)	Q2 '99
Shadowgod Ultra Byte	Q3 '99
Shadowzon Anaconda (HLA)	Q3 '99
Slingshot (Total Pat G)	Q2 '99
Sierra Deerstalker Online	Q3 '99
Star Lancer (Digital Anvil/Microsoft)	Q2 '99
Star Trek: Birth of the Fed (MicroProse)	Q2 '99
Star Trek: Klingon Honor Guard (MicroProse)	Q2 '99
Star Trek: New Worlds (Interplay)	Q2 '99
Star Trek: Starfleet Command (Interplay)	Q2 '99
Starship Troopers (MicroProse)	Q3 '99
Star Wars Ep1 Phant. Menace (LucasArts)	Q2 '99
Star Wars: Episode One—Racer (LucasArts)	Q2 '99
Swords & Sorcery (Verb/Jupiter)	Q4 '99
System Shock 2 (EA)	Q3 '99
Taskitics (Interplay)	Q2 '99
Team Fortress 2 (Valve/Sierra)	Q4 '99
Total Annihilation: Kingdoms (Cavedog)	Q2 '99
Trophy Bass 3D (Sierra Sports)	Q2 '99
Ultima Ascension (Origin EA)	Q3 '99
Vampire: The Masquerade (Activision)	Q3 '99
UnrealII Evolutions (Epic)	Q3 '99
Warhammer 40k: Rites of War (SSI)	Q2 '99
Warzone 2100 (Eidos)	Q2 '99
Werewolf (EA/Sierra)	Q2 '99
Wages of Destiny (Psygnosis)	Q3 '99
X-COM Alliance (MicroProse)	Q3 '99

Microsoft Lets the Love Flow at Its Annual Gaming Event

Gamestock 99

It was a hippy love-in, Microsoft style, this February as the gaming press flocked to Seattle from around the globe to attend "Gamestock 99."

This was to be the industry behemoth's official rollout of its 1999 lineup of games. Billed as a festival of "peace, love, and games," Gamestock attracted no less than three CGW editors, who traveled to the event in hopes of rolling around naked in the mud, but instead found themselves sitting through long game demos eating floor Krispie treats, and avoiding the Seattle rain.

The event did succeed, nevertheless, in reaffirming Microsoft's rising status as a major player in the gaming world, as they unveiled a host of promising titles.

Age of Empires II

As expected, this was one of the highlights of the event. Senior Designer Bruce Shelley and the rest of the team at Ensemble Studios are crafting what looks to be a worthy sequel to the immensely popular AGE OF EMPIRES. AGE OF EMPIRES II: THE AGE OF KINGS will feature 13 new civilizations—including the Mongols, Japanese, British, French, and more—that you'll command through the Dark, Middle,

The Good

- **BALDUR'S GATE #1** The appearance of Interplay's hard-core role-playing game BALDUR'S GATE at the top of the PC Data bestseller list officially put to rest the notion that RPGs can't break out to a mainstream audience. Presumed dead two years ago, the genre is now hotter than ever. And homing on the horizon: DIABLO II.
- **HALF-LIFE MAP FEVER** The instant community of creative map-makers who've been immensely designing deathmatch levels since the game shipped have helped ensure that the CGW editors will remain unproductive for months on end. Check out our very own CGW/GameSpot HALF-LIFE contest at www.gamespot.com!

The Bad

- **PENTIUM III HYPE** There's no them there. Look, Intel, we just forked over all our cash for Pentium IIs, okay? How about if we're allowed to enjoy those for at least a year before making us upgrade again? Sheesh.
- **BARBIE ASCENDANT** And when are we getting used to the hunting games clogging up the charts, now we have to contend with Barbie games. No offense to the fetching plastic blonde, but—get lost.

The Ugly

- **SIERRA CLOSURES** As big a bummer as the gaming community is likely to see all year. In February, Sierra abruptly closed down four development studios, including the venerable Yosemite Entertainment, the 20-year-old development house in Oakhurst, California that was Sierra's founding studio. Truly the end of an era. R.I.P.

Age of Empires II: The Age of Kings

Fearful, and imperial-types. Everything that made AGE OF EMPIRES cool is still there, but a number of enhancements are making this game a fresh experience. These include better production queues, gathering points, a global trade system, troop formations, and the ability to put defensive units inside towers and other buildings. Due this Fall, AGE OF EMPIRES II is the clear con't-miss hit in Microsoft's cable.

Conquest: Frontier Wars

Another crowd-pleaser among the gaming press, CONQUEST: FRONTIER WARS is one of the first games coming from Daes Roberts' GT WING COMMANDER-famed Baptist Amol development house. The game is a 3D real-time strategy game set in outer space. You'll play one of three unique races set on the usual course of exploration and combat. In the eye candy department, the developers showed off some truly stunning special effects, while also demonstrating a very sophisticated

Conquest: Frontier Wars

"Fleet Admiral" AI, which you can assign to instruct your fleets to attack or defend while you're taking care of business elsewhere in the somewhat "HOMEWORLD is f****ed," mattered one press guy during the demo. "I just sorted myself," said another. How's that for a recommendation?

Microsoft Football

Presumed dead or at least missing in action for over a year now, Microsoft's first football game is in fact still alive and kicking—and actually looks good. Fully licensed with all the NFL teams and stadiums (including the "new" Cleveland Browns), MICROSOFT FOOTBALL (a working title) is emphasizing arcade play over simulation, and the game's developers are talking the good talk about dealing with some of the perennially weak aspects of PC football games the poor running game. Fluid 3D animation and a clean, accessible interface made this look good on a purely aesthetic level—we'll get back to you later on to see just how well it actually plays.

Freelancer

The big eyebrow-raiser of the show, FREELANCER is a Chris Roberts (the same Wing Commander guy) design that grew as a glimpse as to what the future of gaming will be like. An outer-space action/adventure in the grand tradition of ELITE and PRIVATEER, FREELANCER casts you as an intrastellar mercenary as the far-flung future and challenges you to make like Han Solo... or Boba Fett. You'll buy merchandise low, sell it high, and cover your back the whole way.

If our initial impressions hold true, this sci-fi game will have the sense of style and cinematic flair rarely seen in computer games— the opening sequence of the demo we saw depicted an impressive cityscape boasting shots that dart back and forth across the screen. In an interesting departure from the normally joystick-jockey mode of this genre, FREELANCER will be a primarily mouse-driven game, with an emphasis on cutting to the fun parts of the game

NBA Drive 2000

NBA Drive 2000 is another sports title that we thought had simply vanished but pleasantly surprised us at Gamestock. NBA DRIVE 2000 looks like an intelligent, fairly realistic basketball game with a nice feel. The game's big problem, of course, is the fact that it must compete with EA Sports' humongous, and so far unchallenged, NBA LIVE franchise. To that end, Microsoft is playing it smart by pricing it at a bargain-bin $19.95 in hopes of attracting casual sports fans. (The same strategy is being used for MICROSOFT BASEBALL 2000.)

NBA Drive 2000

Loose Cannon

Another game from Digital Anvil, LOOSE CANNON is a futuristic action/adventure game being designed by Tony Zurovec, creator of the now-classic CRUSADER: NO REMORSE and CRUSADER: NO REGRET games. This time around, you play a bounty hunter named Adee in pursuit of a criminal overlord named Bishop over the course of about 20 long missions. The game's tag selling point, besides Zurovec's track record, is the ability to choose at times whether to pursue your prey on foot or in one of 15 customizable vehicles. The drawback? It's not slated for release until Spring 2000. Ugh!

Loose Cannon

And More

Other games were also on display. The list includes the massively multiplayer RPG ASHERON'S CALL and action-strategy ALLEGIANCE; FULL AUTO, a 3D auto-combat game formerly known as INERTIA; MOTOWN SMOKERS, the latest in Microsoft's driving series (previewed in our April issue); PANDORA'S BOX, a collection of puzzle games legendary Tetris designer Alexey Pajitnov; STARLANCER, a space simulation from the same team at Digital Anvil also creating CONQUEST; and MICROSOFT SOCCER, being developed by Rage Software, makers of the popular STRIKER line of soccer games.

Hardware

Finally, Microsoft also gave us a peek at two new peripheral devices. The first, the Sidewinder Game Pad Pro is the next evolution of the popular game pad, the most notable feature being a directional pad that won't actually destroy your thumb. Besides a better ergonomic design, the

Microsoft's "Zula"

d-pad was also redesigned to allow for both proportional and digital control.

Microsoft also unveiled a contraption tentatively called "Zula," which is a gamepad designed for 3D shooters. The pad offers the standard d-pad and buttons, but also includes a rotating ball mechanism called the "Perspective Control" attached to the controller's right side, which allows for freelooking. Even those of us married to our mouse and keyboards had to admit that the Zula was easy to use. —*Jeff Green and George Jones*

accurate and informative PC hardware sites on the Net. We'd still like the future Loyd Case, but he's young enough that he still has hope for a life outside geekdom.

George's Pick www.ebay.com Meme another Web site where you can buy a Fordy, Palm Pilot accessories, and the Commodore 64 version of SEVEN CITIES OF GOLD

Jeff's Pick www.oldmanmurray.com OldManMurray.com may be the funniest gaming Web site in existence, with biting, nasty, hilarious reviews that say all the things we're not allowed to say.

Jon's Pick www.file 99.net Downloadable movies, kits, and more for teams you won't find anyplace else.

Johnny's Pick www.grogward.com A great place to find oracle infobox, magazine game lore, and astounding links about board wargames.

Ken's Pick www.aoek.com Wicked social satire and hilarious cartoons for the witty, the bitter, and the bored.

Robert's Pick www.priordtellife.com The essential one-stop shop for everything HALF-LIFE related.

Scooter's Pick www.humpasterdanen.com We don't know what Scooter was smoking when he picked this site, but we do admit that it is oddly soothing.

Tom's Pick www.trucking.com One of the funniest Web sites we've found. It's updated weekly with crazy columns like *My Little Pony or Porn Star?*

TC's Pick www.leedorders.com Leedorders offers small ploy and tournament ladders for over 40 different strategy games and wargames.

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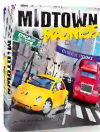
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Sci-Fi Sneak Spectacular

Klingon Academy

Is This the Star Trek Game We've Been Waiting For?

by Robert Coffey

Quick—what was the last decent *Star Trek* game you played? GENERATIONS stunk, DEEP SPACE NINE felt, KLINGON HONOR GUARD wasn't quite so honorable, and THE SECRET OF VULCAN FURY is currently shopping for something in a nice granite headstone. Sometimes it seems as if the *Star Trek* license is heavily perfumed with the stink of death.

That dubious record may all change with the release of Interplay's KLINGON ACADEMY later

this year. It looks as if it could be the rare *Star Trek* game that gets it right.

Really Deep Space

The simple, almost arcadelike gameplay of Interplay's previous capital ship simulation, STARFLEET ACADEMY, alienated gamers who were thirsting for the challenge of commanding an enormous starship and its crew. To their credit, the design team from Interplay has taken many of the suggestions of gamers to heart, crafting a deep game with a host of options. While the focus of KLINGON ACADEMY is still squarely on the blowing up of enemy ships, options ranging from the simple charting of a course to reach your next engagement to the potentially complex allocation of ship resources among the seven ship systems provide a welcome degree of gameplay depth.

One of the most conspicuous areas of improvement will come in the increased interaction with your crew members. Work successfully through the missions and your crew becomes more effective; stumble through the challenges you face and your crew won't gain the experience necessary to deal with the more daunting missions in the game. You can almost think of the crew as another vital ship system, affecting your ship's performance and requiring your care and attention. If you're bombarded with radiation you'll need to shift system resources to your medical team, since dying crew members will impair your ability to fight. As you gain prestige and glory you may attract elite officers that will provide bonuses in their specialties.

The juggling of ship systems is not limited just to the crew—gamers will have to contend with several systems, including engineering, communications, security, and weapons. While micromanagers will relish the opportunity to tweak every ship setting, Interplay rightly recognizes that most gamers won't want to tinker in the midst of a raging battle. To that end, you'll be able to save engineering settings as hot-keyed macros, letting you bolster your shields at the expense of other systems with a single keystroke. Additionally, a streamlined, menu-driven "Verbal Order System," complete with voice responses, will let you issue orders without switching to the big interface screen; instead, you'll just simply punch keys on the numpad.

Shooting Stars

While all the system modeling holds real appeal, the guts and potatoes of the game lies in the

combat, in mammoth warships ripping each other apart with photon torpedoes and phasers. While you can take a traditional, head-first approach to attacking, you'll want to use the Gunnery Chair to really get the most out of your starship. Appearing as a segmented band across the screen, the Gunnery Chair allows you to fire from any point on the ship, simulating the tendency of spacefaring war vessels to bristle with guns. Hot-keys will let you instantly shift the targeting reticule to any zone in the Gunnery Chair interface, letting you quickly attack enemies above, below, and beside you.

The most intriguing new attack option is the ability to use boarding parties to take over other ships. Every vessel travels with a contingent of marines that can be beamed aboard to seize the bridge of an enemy starship. Should they succeed, you'll be able to command the captured ship as an additional wingman, though it will perform

less effectively than a true Klingon starship. Unfortunately, the enemy can also board you. To stave off such invasions you can dispatch marines to defend your ship as well as shift more power to security in order to set up localized force fields and decompress key parts of the ship. Of course, the boarding option will be available as a particularly infuriating tactic in multiplayer games.

STARFLEET ACADEMY was properly officized for capital ships that handled more like fighters, and the design team has taken pains to make sure that the ships in KLINGON ACADEMY move with the deliberation appropriate to such hulking vessels. However, it does create an interesting gameplay issue: How do

you keep the gunners from becoming frustrated by slow-moving ships and quitting the game altogether? To that end, the designers introduced emergency maneuvers (purists, don't be alarmed—these were in some episodes of the original series). Consisting of an emergency stop, full reverse, and emergency turn, these maneuvers—which are triggered by holding down a hot-key—should cut down on potential frustration. However, with the stress such tactical moves generate, a cumulative chance exists to overstress your ship, lose control, and tumble helplessly through space.

KLINGON ARMADA These three Klingon ships show off the impressive level of detail in KLINGON ACADEMY's ship modeling. The game will include more than 50 vessels from seven different races.

BROKEN WING Fires ripping through its decks, its saucer chewed up from heavy phaser fire, this Federation starship will soon be history.

Mission Briefing

KLINGON ACADEMY takes place just before the sixth *Star Trek* movie, with Christopher Plummer and David Warner reprising their roles as General Chang and Chancellor Gorkon, respectively. As a young recruit under Chang's tutelage, you'll spend the first half of the game's 25 missions in a simulator, preparing for actual combat in the civil war that comprises the second half of the game. You'll command seven ships during the game; however, all of the more than 50 Klingon, Federation, Romulan, Gorn,

Star Trek: New Worlds
The Prime Directive Is to Wipe Out the Other Guy

I n a sense, STAR TREK: NEW WORLDS sets itself up as the Away Team of the *Star Trek* games—it leaves the infinite vastness of space to beam down to solid ground. Taking place entirely on the surface of various planets, NEW WORLDS is charting new territory in a genre blessed thus far

heretofore been primarily used in adventure and space games.

Boldly going into places where no *Star Trek* game has gone before is admirable but risky; hopefully, proper execution will prevent NEW WORLDS from falling into the end that awaits those ill-fated memoirs

of the Away Team in the please-kill-me red shirts.

Based on the classic *Star Trek* universe, NEW WORLDS will embrace pretty much every convention of your standard real-time strategy title. Gamers will have up to 10 resources to collect and scads of units to build across three separate races (Federation, Klingon, and Romulan). Battles will take place across six different worlds uncovered during a failed Romulan experiment and will include volcanic planets, ice worlds, and sweeping deserts. A full 3D engine will power the game, and gamers will be able to control the camera à la MYTH.

Since this is the first land-locked *Star Trek* game, the design team from Interplay has enjoyed a fairly free rein, in that they've been able to create a whole slew of never-before-seen units. But rest assured, purists, the new units will all be in keeping with *Star Trek* continuity, so that only the Romulans will enjoy the advantages of cloaking tanks. Missions will be race-specific and will ask gamers to both battle and ally with the opposing races. —*Robert Coffey* CGW

and Tholian vessels modeled in the game will be available for multiplayer action.

Most missions will be offensive assaults, but there will be some that ask you to do more. For example, Chang will send you on a spy mission, asking you to warp a small cloaked ship near a space station and then use specialized equipment to eavesdrop on an important meeting. With proper timing and strategy the mission can be accomplished without firing a single shot.

Missions won't necessarily be hard-and-fast things either; in fact, the game encourages exploration by letting players investigate space sectors that are not strictly part of their mission assignment. Depending on your proximity to enemy territory and other factors, these little forays will randomly result in combat that will season your crew as long as you still accomplish your mission within a generous allotment of time.

Interplay is taking great pains to add to the strategic portion of the game through generous use of terrain. Nebulae, black holes, asteroid belts—all will have separate and distinct effects on every ship system. For instance, nebulae can cause transporter mishaps (bad for boarding parties), severely disrupt sensors, and simply obscure vision. Battles fought in nebulae will be tense cat-and-mouse affairs, with ships effectively cloaked from each other—until a plasma leak betrays your enemy's position or you collide with a vessel emerging from a thick orange cloud.

A new 3D engine delivers a game that is graphically stunning, with shifting, colored nebulae; brilliant explosions; cracking lightning; and ships that show visible damage right down to the layers of interior decks revealed as another precious chunk of hull is blown off. Suns are handled as light sources for the star systems, illuminating ships and casting shadows. More than just an eye-candy gimmick, the lighting will actually affect gameplay—battles on the edges of star systems far from suns will take place in inky darkness, with only the shipborne lights providing any illumination.

By freeing gamers of the namby-pamby Federation and its Prime Directive and serving up a slew of gaming options and challenges, KLINGON ACADEMY may well be the first *Star Trek* game since JUDGMENT RITES to merit gamers' attention. We'll just have to wait until autumn to find out. **CGW**

Robert Coffey watched Star Trek *every night in college but is proud to report that he never wore an "I Grok Spock" T-shirt.*

Conquest: Frontier Wars
Digital Anvil Enters the Real-Time Space Race

by Robert Coffey

I t seems to you that the vast reaches of outer space are getting half seat and a little more crowded, you can blame the loss of intergalactic elbow room on the sudden increase in real-time strategy games set in far-off galaxies. Hoping to rise above the burgeoning pack is CONQUEST: FRONTIER WARS from Digital Anvil. While its epic starship battles may seem to echo HOMEWORLD, CONQUEST is actually more similar to World War II naval battles by way of STARCRAFT.

With its emphasis on exploration, resource gathering, and building, CONQUEST follows the standard RTS model. In the game, four different races (Terrans, the insectoid Mantis, the high-tech Solarians, and the bruising Vyrium) are battling for space supremacy, with the two single-player campaigns telling the game's story from the

FOUR-WAY FRACAS With each of CONQUEST's four races represented, this battlefield shows the typical scope of the game's combat.

unique perspectives of the Terran and Manus races. Don't worry about being limited; alliances will be struck that will allow you to employ the units of all four races through the course of the game, and all races will be available for multiplayer contests.

Fighting Smart

So where does CONQUEST break away from the rest of the real-time copycats? For starters, there are the Fleet Commanders. Fleet Commanders are experienced units that you'll gain over the course of the game, allowing you to avoid aggravating micromanagement and to execute more nuanced tactics. In essence, the Fleet Commander is a player-friendly AI that will follow your orders and manage whatever ships you assign to their fleet, with mixed units automatically falling into strategic formations. Digital Anvil is putting a lot of time into refining the Fleet Commanders so they'll act intelligently, picking off weak targets and fleeing from battles if they're outgunned. In addition to attacking, your virtual admirals will also be able to conduct raids, patrol regions, and defend your interests. The hope is that you'll be able to trust the Fleet Commanders so that you can shift your attention away from your base to conduct operations in other parts of space; to that end, the Commanders will verbally report to you, letting you know if they've got a situation under control or if they need your help.

THIS DREAD IS DEAD Its hull pocked with fires started by kamikaze attackers, this Terran dreadnought is about to explode.

And you'll need to shift your attention, because the space in CONQUEST should be huge and crying out for exploration. Instead of the standard, single large map, battlefields consist of several sectors (up to 16) linked by jump-gates. You feel the effect this has on gameplay almost immediately,

Conquest: Frontier Wars

GENRE:	Real-Time Strategy
RELEASE DATE:	Q4 '99
DEVELOPER:	Digital Anvil
PUBLISHER:	Microsoft

Terran Units

AEGIS CORVETTE / *Assault Recon Class*
Quick on the fly, corvettes are easy to control in close-combat situations and are great for scouting hard-to-reach and heavily protected areas. Inexpensive, fast, but lightly shielded, corvettes attack with two laser turrets and can provide air cover with a Barrage Class flak cannon.

GOLIATH TANKER / *Auto Harvesting Vessel*
The only unit that can harvest resources (planets, debris, mineral fields), the tanker has no attack or defensive capability. However, Goliaths are a vital part of your fleet in battle, since they keep your fighting ships stocked with supplies.

TITAN MISSILE DESTROYER / *Medium-Range Striker*
Capable of making quick strikes on the enemy's perimeter and opening the door for slower heavy assault ships, the Titan enjoys good standoff range, dual missile pods, and great control. Its medium-range attack knows it weak against heavy ships, but a limited cloaking ability balances the odds a little.

with the mace gates creating vital choke points as well as ambush opportunities.

Each of the races will have different strengths

JUMPING THROUGH HOOPS Fleets will move through the wide open space of CONQUEST via jump-gates such as this. Expect lots of heavy defenses and sneaky ambushes to center around these interstellar portals.

and weaknesses. The Terrans will be most effective in mid-range battles, relying on their carriers; the Mantis have devastating power at long range, but they are easy targets up close; the Solarians lack any large ships, but they are deadly sneaky with their small, fast-cloaking vessels; and the Vyrium have lumbering hulks that can pound you up close but are next to worthless at long range.

Each race will have about 10 different ships, with each ship having both a standard and special attack. The special attacks are being used to enhance game balance by addressing the shortcomings in the races. The Vyrium, for example, will have powerful tractor beams to pull

enemy ships toward them and their brutal short-range guns, while Terran carriers will erase the tug-of-war by launching probes that can scout even through jump-gates.

There's one more thing to add to the mix—artifact weapons. There are 30 such weapons in the program, though just a few will be available during the campaign game; the rest will see action in multiplayer games when four or five are randomly sprinkled in. The artifact weapons are a tantalizing deck of wild cards, including holo-projectors for creating phantom fleets, a jump-gate creator, and our favorite: a super bomb that destroys everything around it. Just load it onto a helpless corvette and launch a suicide run against your enemy.

Supply and Demand

CONQUEST adds a layer of strategy not seen in other strategy games with its use of supplies. Don't confuse supplies with resources—think of supplies as a ship's store of ammo. Once a ship's supplies are depleted, the ship functions much less effectively until it receives fresh supplies. While you'll be able to shuttle supplies directly to specific ships, a tanker kept in a battle group will restock the ships in that group—at least until the enemy blows it up. It's Digital Anvil's hope that the supply system will counteract rushing and force players to do some actual strategizing.

This type of decision-making is indicative of CONQUEST's focus on alleviating some of the more annoying aspects of many RTS games. Ships placed in formations will stay in those formations and move at the speed of the slowest fleet member—no more unit groups dribbling single-file across a map. In order to encourage gamers to actually fight, survivors of battles will be rewarded with the salvageable supplies of their conquered adversaries. You'll be able to share resources with allies in multiplayer games, and all multiplayer games will take place on randomly created maps to minimize the advantages that come from map memorization.

CONQUEST boasts an ambitious game design, so it should be no surprise that it looks great, too. Destroyed ships are ripped apart polygon by

Homeworld
HOMEWORLD Is Getting Close to Completion

W e've been waiting to get our grubby little paws on HOMEWORLD ever since we named it our Game of the Show at last year's E3. And while the game is undergoing some last-minute tweaking, it looks as if those long months of waiting are nearing an end.

The game is fundamentally complete, but Relic Entertainment CEO and HOMEWORLD designer Alex Garden felt that more needed to be done with the single-player campaign in order to fulfill the game's promise. To that end, the game's story has become more interactive courtesy of some new, in-engine cut-scenes that move the plot out of the manual and onto gamers' monitors. More important, every single-player mission is undergoing intense scrutiny and fine-tuning in order to ensure players are adequately informed on how to play—no small task considering the importance of tactics and formations in a game that takes place in a truly three-dimensional world. The overall goal is to make the learning curve more of an integral part of the game than just a straight tutorial.

Graphically, the game is just getting better and better, supporting eye-popping resolutions up to 1600x1200 for owners of TNT cards. Look for the HOMEWORLD demo in an upcoming issue of *CGW*. —*Robert Coffey*

Homeworld
GENRE: Real-Time Strategy
RELEASE DATE: Q2 '99
DEVELOPER: Relic Entertainment
PUBLISHER: Sierra Studios

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INDICATOR FLEET CARRIER
Mobile Fighter Attack Squad

With two squads of heavy attack fighter wings and a design that provides power and control, the Indicator can execute long-range strikes, the keystone of any Terran attack. The Indicator's sluggish movement and high shielding, however, leave it vulnerable to close-range attacks.

ACHILLEAN DREADNOUGHT
Flagship Battle Cruiser

By far the biggest of the Terran attack ships, the Dreadnought has four heavy shock cannons, making it unequaled in close combat. Though this slow-moving bruiser has no flak defense, it can generate a temporary shield to protect itself and nearby fleet members.

Starlancer

The Creators of WWII-style Space Sims Return to Their Roots

by Thierry Nguyen

I t has been said that Chris Roberts created the WING COMMANDER (WC) games as a response to being turned down for a *Star Wars* game. Regardless, he did a fine job with the WC series, making four solid games before moving on to create his own company, Digital Anvil. STARLANCER, a part of the opening lineup from Digital Anvil, is another space sim that refines the solid design that Roberts laid out for space sims way back in WING COMMANDER.

Which World War Is This?

In STARLANCER the conflict is entirely human-based; no weird bugs or cats will suddenly appear in the system. There is a WWII influence throughout the game, and there are missions that have goals such as retrieving the Enigma deciphering device. The one non-WWII aspect is the style of the two enemies: They're similar to the sides of the Cold War, with the NATO-like Western Alliance squaring off against the newly formed Eastern Coalition (Russia, China, and the Middle East).

The Eastern Coalition executes a daring, Pearl Harbor-style attack that severely weakens the Western Alliance's military capabilities. The player is placed into the 45th Volunteers, a ragtag squad that has a bad reputation and gets little respect. The regiment also tends to get the most dangerous assignments (since they're considered expendable). The game's goal is to rise within the ranks and to eventually earn for the 45th the respect it deserves.

In Space, No One Can Hear You...

Associate Producer Eric Peterson says of STARLANCER, "One of the things we [the designers] are focusing on is the detail. We noticed that in other space sims, the little things tend to be cut out, and that tends to make these games a bit empty. For us, the details help make the game more compelling." To show this attitude in

FOURTH OF JULY, 2002 The game was originally slated to have a more traditional HUD, but the team retooled it to give more of a true 3D feel.

action, Peterson demonstrates a fighter-ship's Vulcan Cannon rotating and ejecting shells as seen from a side-view.

The more profound details-oriented element is the sense of "living space" wherever you're on a mission. As you fly a mission, you'll notice little things happening all around you, such as other ships flying their own patrols, seeing mine fields, or creating jump-gates. This idea of having ships other than your own occupying the area is something more reminiscent of the PRIVATEER games rather than of other traditional space sims. This should come as no surprise: The main development team here is the same one that did PRIVATEER II: THE DARKENING.

Your cockpit will also be very detailed. While the HUD-only view is still available, you'll default to the virtual cockpit. Your (virtual) hands will grip and manipulate the ships controls, and you'll see your cockpit shake as you fire a particularly powerful gun. This virtual cockpit will also bring about something flight-sim fans have long

polygon, snazzy lighting effects accompany weapons, and ships feature moving parts and fires that break out whenever a kamikaze fighter has struck the ship's hull.

With most of the game in place, the CONQUEST development team has set aside the next several months for play balancing and designing the missions and sub-missions that make up the campaign games. If those factors live up to the high ideal that Digital Anvil has set, CONQUEST: FRONTIER WARS should be a real-time standout when it's released late this year. ᴳᴱᴺ

Robert Coffey whupped fellow editor Denny Atkin in a multiplayer game of CONQUEST thanks to a devastating minefield—a minefield that Denny couldn't see because the art hadn't been completed yet. Robert, however, has no qualms about cheating.

STEALING THE KILL The development team's last game was *PRIVATEER II: THE DARKENING*, so don't be surprised if the ships in *STARLANCER* have a similar dark, gritty look and feel to them.

appreciated: a tracking view similar to the pad-lock view in *FALCON 4.0*. Your HUD displays are also 3D. Your radar is represented with a globe, and your ship's power distribution and navigation are represented with a 3D cube. Damage is represented on a 3D model of your ship.

The single-player campaign structure is linear and will have somewhere between 28 and 35 missions. Rather than go with the traditional branching campaign, the development team is

going for a degrees-of-success type model. The missions will have multiple victory conditions, and how many you accomplish will determine your rank and prestige. You'll start as a lowly first lieutenant, and can eventually become a wing commander who will call the shots in terms of initial wing deployment, and say what the various wings will be doing in the course of a mission.

As far as multiplayer goes, the focus is on co-op campaigns. There will be a few deathmatch duels, but the real fun will come when you team up as one squad squaring off against another in a massive fleet battle. You can form specific squads, complete with pilots of differing ranks. All of your ships will fly under the same logo banner, and multiplayer action will be via a LAN or the MSN Gaming Zone (not a surprise, since Microsoft is publishing *STARLANCER*). The development team wants to make multiplayer *STARLANCER* compelling, and it hopes that the players will band together and go through an entire campaign. *[Continued on page 68]*

Tachyon
NovaLogic Focuses on Exploration and Freedom

Looking for a space combat game in which you're not locked into an immutable series of scripted missions? Searching for something offering a little more control over which path your space gunning experience travels down? NovaLogic's TACHYON may be just what you've been waiting for.

TACHYON will let gamers choose to play on one of two sides: either the ragtag Bora or the enormous GalSpan Corporation. While each side has a core campaign of 15 to 20 missions, gamers won't be forced to tackle them one after the other. Instead, we'll see lots of variation in the form of tons of mini-quests. These will provide not only expanded game-play but also the opportunity to upgrade your star-ship and uncover some plot subtleties as well. Not just one-off affairs, the miniquests will frequently string several missions together as a similar substory unfolds. Both the mini- and main quests will be assigned at various space stations, where new reports will provide pertinent information.

Early in its development, TACHYON's combat doesn't look all that different except in the way debris is handled. Chunks of destroyed enemies can collide with and damage your vessel, as can fragments of exploded asteroids.

The design team from NovaLogic is really shooting for an open, expansive feel, a sense of freedom they believe is lacking in other sims. To that end, gamers will have to open and explore vast new regions of space, transporting themselves through jump-gates scattered across the game universe. An enormous sense of scale adds to the overwhelming size of the gameworld, with behemoth battleships and space stations the size of Luxembourg. Add to that an ambitious goal of hosting up to 100 players online, and TACHYON may be the biggest space sim on the block when it's released late this year. —*Robert Coffey*

Tachyon
GENRE: Space Sim
RELEASE DATE: Q4 '99
DEVELOPER/PUBLISHER: NovaLogic

ANTILOCK BRAKES NOT INCLUDED Depending on your clearance, your choices for which ship to configure for the mission come from a pool of 20.

Starfleet Command
Tactical Starship Combat in Realtime

by Denny Atkin

S TARFLEET COMMAND may just be the *Wrath of Khan* to STARFLEET ACADEMY's *Star Trek V*. A mix of strategy, simulation, and the best elements of paper-based games. STARFLEET COMMAND realizes the promise of a tactical starship combat game. Far from the WING COMMANDER feel of the earlier title, STARFLEET COMMAND feels as if you're controlling a huge, heavily armed starship. Billed as a strategy game, it feels in many ways like a third-person starship simulation.

Moving On Up

Before getting into combat, moving about on the ship is a bit like movement in THE QUEST; that is, you go from room to room via prerendered moving sequences. Your personal chamber is complete with a fish tank (you can even feed the fish—a cute little "for fun" detail), but the most important feature in your room is the information database, which tells you everything you need to know about guns, ships, and the current battle situation.

You can then go to the bar and chat it up with fellow pilots, or get to the briefing room. If you're of high enough rank, this is where you add decide how the squads are deployed; otherwise you go straight to outfitting your ship. There are 12 basic fighters and a host of miscellaneous craft (like harvesters or mine-layers) to fly; the ships are divided into classes such as gold and silver, with the gamer starting with only bronze-level clearance and the best ships being at platinum level.

The game puts aside traditional FMV, going for prerendered cinemas and 3D-rendered characters. If you thought the space-battle scenes in the WING COMMANDER movie looked slick, well, the same effects team that did those is doing the cut-scenes for STARLANCER. As for the real space battles, they'll be taking full advantage of Direct3D on your rig. One very nice effect we saw was when two ships rammed each other; both shields lit up and created a very nice light show. We tested this build on a low-end system (a Pentium-Pro 200 with a Voodoo2), and it still ran smoothly. The developers aren't neglecting the 3D-accelerator holdouts: there will be a software-rendering option.

All in all, STARLANCER will retain the old-fashion gameplay of the WING COMMANDER games, but will add enough tweaks and refinements to make the new game compelling. CGW

Thierry Nguyen is torn between naming TIE FIGHTER or WING COMMANDER II his "favorite game ever" (much to the chagrin of his CIVILIZATION-loving coworkers).

TORPEDOES AWAY! Mission victory isn't always through destruction; you may have to disable a ship, or safely escort a diplomatic contingent.

Shields Up

STARFLEET COMMAND isn't your typical "build many vehicles and hoard the resources" strategy game. Rather, you're put in command of a single starship, one simulated in far more detail than the typical RTS vehicle. As you explore strange new worlds, you'll oversee your ship's systems, targeting individual weapons, launching probes, handling damage control, and managing your ship's energy levels. During some missions you'll be able to give tactical orders to other ships or swap control to another starship.
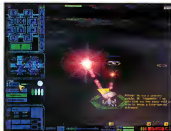
The game's designers drew their starship and weapons technical data from the *Starfleet Battles* paper-based game. This gives STARFLEET COMMAND the foundation of a game system that has more than a decade of play balancing. But the command and control system was designed from the ground up for the computer game. So you won't see any of the odd conversation artifacts here that make you feel as if you're playing a paper game on a computer.

Your Five-Year Missions

STARFLEET COMMAND will include skirmish, campaign, and multiplayer missions. The skirmishes are pure starship combat—select your fleet, choose your enemies, and slug it out. The only goal here is complete destruction of the bad guys—Prime Directive be damned.

The meat of the game is the campaign mode. Here you'll find a story arc by JUDGMENT RITES scripter Scott Bennie, with missions that advance the game's storyline. There's also a mission generator that takes the makeup of your fleet, looks at the tactical situation, and creates a mission from a pool of seed missions, modifying the makeup of the enemy fleet to provide an appropriate level of challenge.

We're most looking forward to multiplayer. Each player can command a race, or players can team up. You'll be able to play from the perspective of at least five sides: the Federation, Romulans, Klingons, and two races brought over from *Starfleet Battles* the Lyrans and the Hydrans. If the development team has time, they'll add the Gorn as a playable race; they'll at least be in there along with Orion Pirates as computer-controlled ships. The developers also hope to add cooperative multiplayer missions.

Beam Aboard

The alpha version we've been playing has dazzling 3D-accelerated special effects and explosions. Tactics play a big part—you can hide in nebulae or use cloaking devices to lose enemies. Our big concern, though, is long-term playability. However, if the missions are varied and the engine lends itself to enough creative strategies (our favorite was using a tractor beam to slam a Federation ship into an asteroid), it could be a trek worth taking. CGW

Denny Atkin learned to talk in the mid-'60s by watching Star Trek *and* Batman, *and can probably blame that for his being nearly as big a geek as Jeff Green.*

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System Shock 2

The Underrated Original Gets What Looks to Be a Worthy Sequel

by Thierry Nguyen

1994 was the year that Looking Glass went digital. After quietly defining the first-person RPG with its ULTIMA UNDERWORLD games, the Looking Glass team, influenced by William Gibson's groundbreaking cyberpunk novel *Neuromancer*, produced SYSTEM SHOCK. Hailed as a classic melding of action and adventure by gamers and critics alike, the game somehow got lost in the big action flood and was regarded largely as a cult hit. Well, it's five years later, and Irrational Games (a development house composed of ex-Looking Glass employees) has partnered up with Looking Glass to answer fans' desire for a true sequel, named, aptly enough, SYSTEM SHOCK 2.

Rickety Rickenbacker

Because of the "Citadel Incident" from the first SYSTEM SHOCK, the TriOptimum Corporation has been reduced to nearly nothing, and the Unified National Nominate (UNN) has become the government in charge. The last chance TriOptimum has for glory is faster-than-light travel, and to this end it has constructed the starship *Von Braun*. On its maiden voyage, the *Von Braun* is to be escorted by the *Rickenbacker*, a UNN heavy destroyer commanded by Captain William Diego, son of Edward Diego (the TriOptimum executive who set into motion the events in SYSTEM SHOCK). During the journey, the two ships intercept a distress beacon and proceed to investigate it. Mayhem ensues.
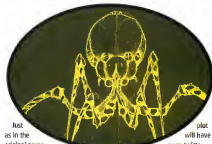
Just as in the original game, SHOCK 2 starts with the "You're waking up from cryogenic sleep" premise. Again, you have several cybernetic implants installed in your body, but this time, you don't even remember why. You're on the medical deck of the *Von Braun*, and, well, a lot of people around you are dead. The AI and its robot minions are acting a bit wacky, and your last living contact is Dr. Polito, a scientist on board. You can see the *Rickenbacker* from a window, but it's just floating out there in space.

With the two starships as the setting for the game, the designers are going for a feel similar to that of James Cameron's movies (*Aliens* in particular). While SHODAN, the malevolent AI, is indeed back, the plot will have more twists, turns, and shifting alliances this time around.

Since SHOCK 2 is billed as an RPG, there has to be character generation. Don't expect to be looking at a stable screen and fumbling with die rolls, however, SHOCK 2 borrows its character generation from the pen-and-paper game *Traveller*: in the beginning, you view flashbacks about your training. The branch of government that you join determines your general skills and statistics; the three branches are the Marines (weaponry), the Navy (hacking), and Black Ops (psionics). For your character growth, you need to use stat-increasing stations, periodically, you will receive upgrade points, and you can then spend these upgrade points on increasing stats

SAID
THE RENDERED
SPIDER TO THE FLY Creation of enemies differs on a case-to-case basis: Some enemies look almost unchanged throughout the course of development (such as this Arachnimen); others go through numerous revisions between concept and final, in-game rendering.

and skills at said stations. One station modifies base stats, while another will modify all technical skills, all weapon skills, or all psionic skills. SHOCK 2 is a skills-based system, and it has a wide variety, ranging from weapon proficiencies to repairing and research. One criticism of SYSTEM SHOCK was that it didn't really have a feel for character development. Irrational Games, inspired by FALLOUT's skills-based system, hopes that players will feel closer to their characters in SHOCK 2.

Plugging the Port

"The main problem with the original game was its interface; when you began the game, we literally threw a screen full of text at you on how to use the interface. One of our main goals was to make the interface more intuitive and easier to learn for the newbies," says Ken Levine, the lead designer for SHOCK 2. Since the game uses an enhanced version of

GHOST OF FUTURE PAST
Psionic "ghosts" are a new story element; using psionic energy, they'll reenact a recent event in the area.

MECHWARRIOR 3

Putting Aside
Rationality

MY HEART BEATS FOR YOU

One of the skills—research—was inspired by X-COM. When you pick up an alien artifact or other mysterious item, you can research it in the background; your skill determines how long it takes to figure it out.

the THIEF engine, the interface is similar to that game, at first. The general THIEF system of keyboard for movement and mouse for looking around and using things is retained, but there is an additional step now: A single right-click brings up a pointed interface that allows you to manipulate the environment. With the interface off, you have full-screen view of the action, and right-clicking on certain objects carries out automatic actions like opening doors or pushing buttons. Going into interface mode adds your complete inventory, your various NPCs, and whatever relevant skill windows you need to see. While the interface doesn't have the complete, total control of body posture that the original game did, it's a good compromise between QUAKE simplicity and ULTIMA UNDERWORLD complexity.

As in the original, you will discover plots and "quests" by reading emails and audio logs. Plot points will also be told through "ghosts"—psychic apparitions that are visible to you because of your enhanced psionic powers (this is dark sci-fi, not cheesy horror), in another nod to the original, you will need to keep watch of security cameras; you'll want to destroy them and hack security computers to lower the security rating.

Interestingly enough, in this alpha of the first deck, hacking was more like a die roll than a puzzle or a weird cyberspace affair. When you select the "Hack" option, you're presented with relevant stats and a bar graph indicating the chance of hacking it. The three outcomes are success, failure, and failure while breaking the machine. Perhaps in the final version some of the hacking

We took some time to speak with SHOCK 2 lead designer Ken Levine and lead programmer Rob Fermier. Most of what they said is incorporated into the main article, but they also touched on a few other topics.

CGW: SHOCK 2 borrows quite a few elements from other genres. How did that come about?

Ken: Well, most of our meetings were solutions-based. We gathered together, looked at any problems or issues, and worked on resolving them.

Rob: Since all of us are avid gamers, we were able to draw upon our past experiences and say, "Hey, X-COM had a cool research system...," and worked on implementing them.

CGW: Hypothetically, let's say SHOCK 2 does extremely well. SHOCK 3, anyone?

Ken: We'll never do a SHOCK 3, no matter how well it does [*said with heavy sarcasm*]. Of course, we plan on leaving a few plot hooks unresolved...

Rob: But it won't be an obviously open ending. It'll be a closed story with a few loose threads. Even THIEF has a really wide-open ending compared to what we plan....

Ken: Trust me, this won't be like *The Empire Strikes Back*.

CGW: You're ending not only skills, but psionic powers this time. How is that being handled?

Ken: We're still thinking those. As you saw, they're not all done. Psionics is a big challenge because we didn't want them to feel like magic spells that you find in every other RPG; we wanted something cool that felt right.

Rob: So for now, we're focusing on making the psionics very scientific, and making them feel more like mechanical enhancements to your character, rather than random spells.

MASHING MECHANICAL MINIONS SHOCK 2 will have the same style of weapons and enemies as in the previous game, such as the EMP Rifle being used against this (mostly) unsuspecting security robot. Note the fact that the ship is on red-alert status in the corner.

Shock It to Me

You probably noticed that I haven't discussed enemies or weapons. This is because I only got to play the first deck of the first ship for myself. Irrational plans to have about 14 weapons total; your weapon skill will let you modify the weapons for firing rate and so forth. Enemies will be the same mix of cyborgs, robots, and weird mutated persons/critters, and will use an enhanced version of the THIEF AI (doing things like investigation and movement). Finally, a feature long neglected in action gaming will be added: cooperative multiplayer. That's right, you and up to three other SHOCK heads can go take on SHODAN together.

All in all, Irrational (contrary to its name) seems to be making a good compromise between grognard-level complexity and DOOM simplicity. SHOCK 2 retains the atmosphere and gameplay of the original, while tackling that game's intimidating interface and lack of character development. So keep a lookout, as there's a good chance SHOCK 2 will garner the fame that its predecessor missed. **CGW**

Thierry Nguyen's experience with eye surgery led him to eschew the idea of cybernetic implants a long time ago. Instead, he reads stuff like The Diamond Age *and is still playing* BALDUR'S GATE.

NEEDLE OF DEATH Your psionic powers will require that you enter this psi-amp to channel your psionic energy. Hacking into computers is treated like a die roll, in which the light-green bar indicates your chance of success, dark green is failure, and red a critical failure.

EVICTION NOTICE
YOU ARE NOW ON MY LAND

Feeling constrained by limited lands and resources in Europe, you've staked a claim in the New World. If the natives rebel, your next message will be pinned to their backs.

Ultimately, your goal is to become Europe's greatest power. To do this, you'll have to parlay New World resources into Old World dominance. Develop what you can, trade for the rest. Deploy spies to help stay ahead of the technology curve and build a formidable military.

And that arrogant queen who wouldn't acknowledge your land claim? It won't be long before she's serving you tea in the morning.

* The richness and depth of game play is reflected in 40 military and civilian units and 100 technologies from over 300 years of history (1500s-1800s)

* Advanced artificial intelligence considers nation-specific personalities, strategies and diplomatic agendas

* High-resolution graphics set in an engrossing baroque style

* Intuitive interface and extensive game play tutorial makes it easy for first-time players to get up and running

* Go head-to-head against other world leaders in multi-player mode supporting up to 6 players

* Begin with global economic and diplomatic policies to gain power and prestige at home and abroad

* Fully exploit the New World on unlimited historically based and randomly generated maps

* Immerse yourself in tactical battles with an engine that enables greater player control

IMPERIALISM
the age of exploration

Shogun: Total War

Redefining the Art of Wargaming as We Know It

by Alan Dykes

The Japan of SHOGUN: TOTAL WAR is divided into 50 regions on Honshu and its neighbor islands, Kyushu and Shikoku, where 16 Daimyo compete for the title of Shogun—through a heady mixture of political powerplay, assassination, and outright war—over a period of 150 years. During that time (16th-17th century), you will be succeeded by sons or nominated successors rather than continuing on in a godlike manner.

Each Daimyo will control several territories, gaining or losing more according to his success. The difficulty level will be set according to where you are placed on the map in Japan; the central plains will yield high productivity at the cost of being harder to defend, while the north is easier to defend from, but poorer.

The standard measure of wealth in this era was known as Koku, which was the amount of rice needed to feed one man for a year. The more Koku you command in SHOGUN, the greater your wealth and the larger your armies. In addition to land fertility, some regions in Japan were famed for their specialization in the martial arts. So, one of your territories might be particularly good at producing Ninja or Heavy Cavalry.

Banzai Samurai

At the strategic level, political and resource issues are dealt with from a distance, but sooner or later you're going to have to go to war. That's where the real-time tactical element

comes in. Your army features units such as samurai archers, pikemen, arquebusiers, light samurai cavalry, heavy cavalry, Nodachi swordsmen, ninjas, scouts, and more. Each type of unit has its own advantages and disadvantages, and it is only by using combined arms that you will succeed.

Starting a fight is just a matter of moving your army icon from your territory to a rival territory. Before the battle the defending troops will have an opportunity to set themselves up in proper defensive positions, while those on offense will be able to select from a number of preset formations taken from

MY PIECES ARE PRETTIER SHOGUN's strategic game looks a bit like the old Milton Bradley Shogun tabletop game, but a lot better.

historical Japanese situations. Then you'll get into the actual 3D engine.

The troops are set up into block units of 60-100 men of the same type, which can be manipulated deftly using the mouse to select units and drag them into shape. Formations play a huge role here; for instance, you can spread a column of archers two men deep over a hill crest, using wide spacing so that spearmen can suddenly march through and in front of them to stymie a cavalry assault. Likewise you can shape your heavy cavalry into a tightly packed wedge to smash through a gap in the enemy's front. The interface is not final at the moment and my first attempts at manipulating formations were somewhat confusing, but it didn't take long to get the hang of it. Unusual shapes can also be created, like a circular

MAINTAIN FORMATION, MEN Whether it's a group of archers loosing a volley of arrows, or the 3D splendor in SHOGUN in the next best thing to being in a Kurosawa epic.

Buddhist or Christian?

You start out as a Buddhist Daimyo. But you can show that you are receptive to Christianity by building a trading post around 1542, along with a few Jesuit churches, and the Portuguese will gladly begin selling you firearms. This certainly gives you an advantage over Buddhist lords with archers. Once you build a certain number of Jesuit churches on your territories you will qualify as important enough to build a Cathedral. Then you'll receive one of the most powerful units in the game, the Father Visitor. He is the Pope's emissary and a valuable political tool You

can use him to order other Christian Daimyo to ally with you instead of battling them.

Should you instead continue down the Buddhist route, you don't get firearms as early as the Christians, but you do retain the use of ferocious Warrior Monks. Eventually (19 years later), the Dutch arrive and sell guns to anyone that can pay, so military balance is restored—if it's not too late. Although the Christian Father Visitor is a powerful unit, the Buddhists have their own equivalent, known as the Legendary Gelshe, who is an unstoppable spy.

or semicircular one that allows you to protect flanks or encircle a smaller enemy completely.

Each unit of your army will also be represented by a icon at the bottom of the screen, giving you immediate access without having to scroll all over the battlefield. These icons contain information such as the amount of troops in the unit, what they're doing (marching, charging, fighting...), and what their morale is like. The latter is very important since demoralized soldiers will retreat en masse, leaving you up the creek without a sword, as it were. Reasons for low morale range from you simply losing a battle to sending troops unprotected on an impossible mission. However, this isn't the 20th century, so if you lose a battle or your men desert you, you will probably have to regain honor at the palace by ordering your general to perform *seppuku* (ritual suicide). In extreme situations you might have to perform *seppuku* yourself, handing over the reins of power to one of your sons.

As each individual soldier within a unit actually fights his own battles, each soldier gains experience points. Your army does not disappear after each battle; instead its remnants return to your castles and form part of the next army

alongside fresh recruits. Experienced soldiers become unit leaders, and having them in a unit will increase that unit's overall effectiveness.

To further complicate matters, plans are afoot to use ninjas and spies in the real-time scenario to assassinate generals in the field (thus demoralizing the whole army) or infiltrate an enemy's army and turn a particular unit against its master by having a spy as its leader.

Sun Tzu Says...

The AI is very advanced and SHOGUN has one of the best routing mechanisms I've seen in a RTS game. Because soldiers are banded together into units of 60 or more and do everything together within this unit, you will eventually be able to have over a thousand troops moving about with a sense of order. Ask them to go across a bridge, and they will queue up to do so in a scene reminiscent of the Tokyo underground, rather than bugger off in the wrong direction trying to find another way over like most RTS games. In terms of its battle tactics it also acts realistically,

SILENT FOOTSTEPS OF DEATH If you remain Buddhist, you get ninja instead of guns—a fair trade-off.

using the basic principles of Sun Tzu's *The Art of War.*

It's surprising that the Samurai era hasn't been more extensively covered by the games community, but SHOGUN: TOTAL WAR should serve to draw attention to it again. Despite the beauty of its graphics, this is not a lightweight game; it looks likely to tax the gray matter as well as tantalize the eyeballs. If The Creative Edge squeezes in all of the features it intends, on top of what we have already seen, they could easily win some battles with this game. *CGW*

Alan Dykes is the managing editor of PC Gaming World. CGW's counterpart across the pond in England

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Strategy and Religion

The two elements to SHOGUN involve overall strategy and battlefield tactics, the former being played in turn-based RISK-style, the latter in a gorgeously rendered real-time environment. The strategy element has two main playing screens. The first, the throne room, is your inner sanctuary and contains up to five characters, all seated around a map table. The characters represent your Military, Political and Economic advisors, a Scribe (your save-game mechanism), and a variety of Emissaries who represent your dealings with the other Daimyo. As your empire progresses, you'll have to leave more and more general administration up to the advisors

as the amount of territories you control increase. Rather than just being statistical icons, these advisors will apparently have a personality—some aggressive, some passive and wise—and they will all dispense anecdotes and whine about how little budget they have.

Clicking on the table accesses the second strategy screen, a close-up version of the map of Japan, realistically textured like a silk print. Your territories include an upgradable castle/keep, and there will be around 16 additional buildings, such as a Horse Dojo, and specialist buildings like the Ninja House, or the Tranquil Garden (where spies are trained).

Braveheart

Not Just a License to Kill on the Battlefield, This One Looks Good

by Joe Vallina

Just to make sure there's no confusion, let's say it right up front: BRAVEHEART will *not* be MYTH in skirts. However, comparisons to MYTH will abound, due to BRAVEHEART's three-quarters viewpoint, rotating cameras, and vivid 3D models. Those who choose only to jump straight into the real-time tactical combat will miss out on what looks to be a very rich, complex, and intriguing game-world. In addition to forming and fielding armies, you will need to control a number of villages, much as you would in CIVILIZATION II or LORDS OF THE REALM II. It will be essential to balance units of production, handle diplomacy with your neighbors, and manage your armies and three locations if you want to win this game. Taking a formation of troops into battle after battle just won't cut it here, kith-boy.

THOSE FIENDISH SPELL FUNNY
You can customize your leaders to do your bidding.

IF IT'S *NAE* SCOTTISH, IT'S *CRAP* In your own pursonal version of the "All Things Scottish" store, your villagers produce many fine goods.

On the Homefront

BRAVEHEART will focus on civilization building as much as on combat—perhaps more. If you fail to manage your home territory effectively and efficiently, the chances are great that you won't do very well on the battlefield either. There is an autormanage option in the game, but the auto-manager will not manage the clan as well as a human can, and it will be a major handicap to winning the game.

Clan management itself is divided into two levels: the clan overview level and the town level. The clan overview

level will let you play the overall scope of how you choose to run your clan. The town level is where you micromanage what your clan produces from its armies, and other aspects of daily life in 13th-century Scotland. You'll need to decide what to produce in your towns, which ore materials and goods to acquire (through building or trade), what kinds of armies to garrison, and the like. On the town level, there will be an automanager who keeps things rolling according to your overall plan, but you'll still need to override the auto-management at times to keep things running as smoothly as possible. Town workers include builders, farmers, quarriers, miners, foresters, tailors, armorers, tailors, and jewelers. You will have to manage them all to do well. Did we mention that this game was deep?

Braveheart

GENRE: Strategy/Wargame
RELEASE DATE: Q3 '99
DEVELOPER: Red Lemon Studios
PUBLISHER: Eidos Interactive

THE BACKGROUND THAT WASN'T

If you've seen the Mel Gibson movie, then you already know the history of BRAVEHEART. If not, here's a crash course. In the 13th-century, the king of Scotland died without a son to take his place on the throne. The English (who were nothing if not opportunists) claimed the Scottish throne as theirs and invaded the Scottish lowlands to seat that claim. Some Scottish holdouts (the holds of Scottish clans) fought the English, while some killed the English boots; the bootlickers won.

However, all was not well in Scotland. The English king,

Edward the Longshanks, ruled Scotland more with an iron fist than a velvet glove, which annoyed many of the Scottish nobles. They (a hero, fought against that king which, as you might guess, lies served only to annoy him. Of course, in the way these things usually play themselves out, the most annoyed were the common folk, who got ignored, swords, and other weapons in various body parts on a regular basis. William Wallace (Mel Gibson's character in the movie) was among those who fought the English, and you can enlist his services in the game, if you so choose. Which, of course, most gamers will.

BRAVEHEART will feature lords of combat, of course, and if you manage your clans and armies well, you will be a force to contend with on the battlefield. You can also assign your armies to execute a variety of missions and sub-missions.

Moves your army to another of your towns or to non-owned territory (only spies and scouts can move into enemy land).

Lines your army to attack the enemy. In a neat twist, enemy castles won't become yours until you've taken the capital of their territory.

Leave your leader (and his army as an escort) into a hostile territory to initiate diplomatic talks. If the hostiles start something, you'll have to take them out.

Ambushes are conducted in non-owned territories and are also used to raid trade caravans; patrols keep watch for bandits and enemy armies in your own territory.

Used to pacify conquered towns.

Night watch in your territories or guards for your caravans.

Small unit (50 soldiers or less) night missions into enemy territory. There are several covert action sub-missions, including: Raid Stores, Raid Armory, Rescue Prisoner, Destroy Stores, Destroy Armory, Bribe Leader, and Assassinate Leader.

THE LEADERS OF MEN

Without effective leaders, your armies are useless. Each clan has its own leaders, and each leader has his strengths and weaknesses. It is very important that you keep tabs on your leaders' characteristics. Using ineffective or weak leaders will spell your doom in the combat portions of the game. On the leader screen you will see a portrait of your leaders along with relevant information: name, clan affiliation, location, and wages. You'll also see each leader's statistics for leadership, combat, brawn, brains, stealth, diplomacy, and loyalty. Finally, you'll be able to access a leader's current force, current morale, current armies (and number of troops under his command), his armies' ranks, and his current orders.

EAT IT, WALLACE! NO, YOU EAT IT, WALLACE! This William Wallace-versus-himself photograph (talk about your split personalities!) shows the combat portion of BRAVEHEART.

THEY'RE SORT OF CLANNISH AROUND HERE

BRAVEHEART gives players 16 clans from which to choose, each with its own attributes regarding training, belligerence, availability of resources, and the like. The clans are anchored around the men of Scotland, and some that y'all have varied strengths and weaknesses, you should choose carefully so that your personal strategy isn't undermined by your clan's weaknesses.

Clan	Description
Bruce	Intelligent, diplomatic close ties to England.
Balliol	Political, honorable; will fight to the end for a good cause.
Comyn	Warlike; brave warriors, but inefficient during peacetime.
Cunningham	Powerful, political; adept at deception and intrigue.
Ferguson	Peaceful, political; train superior archers.
MacDougal	Fierce leaders; poor inland clan.
Keith	Deadly fighters; produce possibly the best swordsmen in all of Scotland.
Lamont	Good sailors, big thinkers; not adept at war, but clever.
MacDonald	Powerful navy; powerful blusterers.
MacGregor	Very aggressive; great warriors with poor diplomatic skills.
MacKenzie	Rational, organized; great tacticians.
MacKintosh	Very political; very adept at espionage.
MacLeod	Fierce, warlike; have strong defenses.
Munro	Militaristic; have fierce, powerful armies.
Scott	Scholastic, shrewd; a peaceful clan that, with a poor army, relies on diplomacy.
Wallace	Balanced, diplomatic, with a good army to boot.

Joe Wallace refuses to admit that wearing his Scottish clan garb around the office involves anything other than research. His fake Scottish accent has become more than annoying to anyone within earshot.

Flight Unlimited III

Night Skies and Stormy Weather Over Seattle

by Denny Atkin

S creaming toward the target at 450 knots, the pilot scanned for unknown aircraft. This was new territory, and he didn't want any surprises—things were about to get tense enough. The weather was rough, but he was flying one of the hottest jets around. It was time to make his ingress. He scanned his panel one more time and made the fateful call.

"Tower, this is

Beechjet 443 Bravo. Request clearance," he said, as he throttled his corporate jet back to idle and began his descent. Now the real action started—a hot approach, sliding in between a way-too-big mass of airliners on approach to SeaTac airport. He envied his old buddies flying F/A-18s. Sometimes it seemed even corner landings weren't as harrowing as trying to enter the busy landing pattern on a stormy Seattle evening.

FLIGHT UNLIMITED III aims to bring some of the excitement found in military simulations to the civilian arena, while at the same time bringing the series even closer to reality than ever before. While the sim is clearly an evolution of its predecessor, FLIGHT UNLIMITED II, that's not a bad thing. By starting with a solid foundation, the development team at Looking Glass has

been able to fine-tune the options that were present in the original, addressing user requests and complaints while adding a host of new features to this version.

Sight Unlimited

The most noticeable update in FLIGHT III is its graphic depiction of Seattle, using satellite imagery down to four meters-per-pixel resolution. While FLIGHT II's terrain graphics have been hard to match, FLIGHT III's are quite a bit sharper. You can make out much smaller structures: Apartment buildings

used to be the smallest distinguishable structures, but now you can see individual homes—and things don't begin to blur out until you reach a very low altitude.

In addition, there's more detail in the polygon mesh that the terrain is mapped on, so hills have a more curvy look to them. Buildings are sharper, with more polygons and better texturing than in the earlier title. (And yes, Linux fans, Bill Gates' mansion will be there for your kamikaze enjoyment.) Ground objects, such as ships, will now move throughout the world. All of these additional details work together to create an environment that's strikingly detailed—I was able to spot all the landmarks I usually notice when flying into

SeaTac. This is helped by the sim's support for 1024x768 resolution, complete with instrument panels.

Of course, one of the biggest complaints about FLIGHT II was that you had a very limited area in which to fly. FLIGHT III again models only a single geographical area—Seattle/ Tacoma—with approximately 10,000 square miles of satellite terrain data. However, if you own FLIGHT II, you'll be able to fly all the way from Seattle to the San Francisco Bay Area. There are some compromises to pull this off without requiring a DVD to hold all the texture maps. The older terrain will still be at FLIGHT II levels of detail, and the area between the two cities will have accurate terrain elevations and navigational aids but only generic landscape textures.
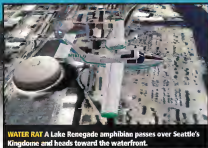
Instrumental Changes

The FLIGHT III update isn't just about looks. The underlying engine has seen a number of improvements as well. If you're interested

LOOK, MA, NO PROP The Stemme S10-VT glider has a retractable propeller, so it can take off and cruise to altitude under its own power.

WATER RAT A Lake Renegade amphibian passes over Seattle's Kingdome and heads toward the waterfront.

RENEGADE PILOT The cockpit view of the Lake Renegade as it cruises over downtown Seattle—don't try this at home, kids.

in instrument flying, you'll be happy to know that there's now a complete set of navigational aids, including nondirectional beacons and global positioning system support. Instrument panels sport more detail than those of FLIGHT II, but at this stage of development they weren't as detailed as those seen in betas of Terminal Reality's R1!

Flight models, although still works in progress, are already noticeably improved. At times, although the general performance was correct, FLIGHT II could make you feel a bit like you were flying on a rail. Controls have a more fluid feel here.

FLIGHT III will feature 10 flyable aircraft. New additions are the Beechjet 400A, the Mooney TLS Bravo, the Lake Renegade 270 Turbo Seaplane, a harbor biplane, and the Stemme S10-VT glider. This last plane is particularly interesting—it's essentially a glider with a small engine and a retractable propeller in the nose. You can cruise to altitude under power, fold the prop, and then soar the thermals. Cool idea, especially if you find yourself running out of altitude and you'd like to spend more time soaring, but some gamers may miss the challenge from the original FLIGHT UNLIMITED of riding the tow rope. The FLIGHT III aircraft response here, including the Piper Arrow, the Beechcraft Baron, and the P-51 Mustang. The DeHavilland Beaver is back, but it has apparently joined the "Trainer 172" (really a Cessna 172) in trademark hell, as it's now inexplicably known as the "DeHavenet Maskout."

Night Moves

FLIGHT III has full support for time-of-day changes now—you can take off in the late afternoon and watch the sky gradually transition to dusk and night. Although night flying wasn't implemented in the build I flew, Looking Glass promises that it will be much more authentic. You'll now see lights on the ground, and the phase of the moon will affect ambient lighting.

Weather has been enhanced as well. Instead of fixed weather types, FLIGHT III will feature actual moving weather fronts. This gives budding pilots the chance to face real-life weather decisions: Do you divert to another airport or do you try to wait out the storm and hope conditions clear up?

While weather was still being worked on in the version I flew, I did see some awfully moon-looking cumulonimbus clouds. And of course the impressive rain effects from FLIGHT II will be back. Air Traffic Control will hopefully come in handy for avoiding those weather fronts. Looking Glass promises that its controllers have been smartened up, and you shouldn't see the sometimes wacky altitude changes that plagued gamers in FLIGHT II.

In a welcome addition that should be present in all sims, civilian and military, FLIGHT III

will feature a flight recorder. Now you'll be able to relive those frightening near-misses with 747s when you bust your altitude clearance around a busy airport.

Alas, it appears that collisions will still affect only your plane. If Looking Glass isn't going to put guns in this sim, the designers should at least give us the opportunity to bring down airliners using kamikaze tactics. It may not fit with the realism of the environment, but then again, many gamers fly sims to do things they would never attempt in real life. (Note that guns are in the works in FLIGHT COMBAT, a World War II sim due in the fourth quarter.)

Mission Critical

Those looking for a little structure in their flying will be happy to know that FLIGHT III will feature "adventures," which will include both flights with goals (like the "get the rock band to the

concert in time" adventure in FLIGHT II) and emergency situations. Wannabe pilots will appreciate the flight instruction section, which will feature an instructor demonstrating maneuvers and then passing the controls to you.

All in all, FLIGHT III promises to be an impressive update in the series. For general flying, the sim will face stiff competition from R1! and Microsoft's upcoming FLIGHT SIMULATION 2000. But for those sim pilots interested in visual flight rules navigation and sightseeing, FLIGHT UNLIMITED III's appreciated graphics detail looks to be unmatched. —**CGW**

Denny Atkin thinks that anyone who doesn't grasp the appeal of civilian flight sims should head to **www.beapilot.com** *and get a coupon for an introductory flight.*
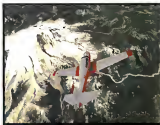
RAINIER DAY Cruising over Mount Rainier in a Mooney will give you a taste of the variety of terrain that Seattle has to offer.

NIGHT FLIGHT In FLIGHT UNLIMITED III, you'll now see city lights during night flights, as well as ambient lighting from the moon.

DEEPER SPECIAL OPS STEALTH-SQUAD COMBAT IN 40 INDOOR/OUTDOOR MISSIONS.
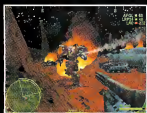
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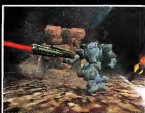
HEAVY
PRAISE

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— *3D GAMING WORLD*

ACTIVISION.

"[HEAVY GEAR II'S] GRAPHICS ENGINE. . . SOLICITS
COMMENTS THAT START WITH THE PHRASE, 'OH MY GOD!' "
—ADRENALINE VAULT

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That's ancient Hebrew for
"bad ass mother".

Requiem: Avenging Angel™ immerses you in the ultimate battle between good and evil, with 3D first-person action so intense it transforms "fire and brimstone" into "fire and reload". Grab your high-powered weapons and blast through lurid, sordid and futuristic cities. Encounter bizarre characters from all over creation. Turn enemies to salt, boil their blood, then unleash a flesh-eating plague. Get *Requiem: Avenging Angel*. Because you're a messenger of God. With a high-caliber message.
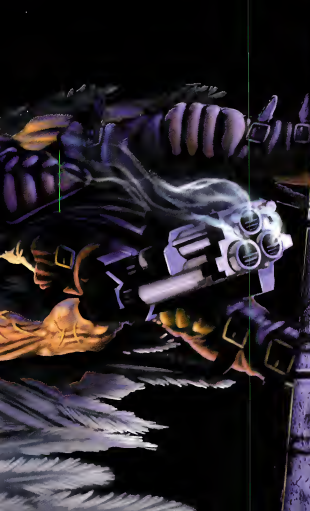
EPISODE I

STAR WARS

Twenty years ago, George Lucas released *Star Wars* with very little fanfare. Today, the new *Star Wars* film looks to be the biggest media event of the decade. The release this spring of *Star Wars Episode I: The Phantom Menace*, one of the most anticipated movies of all time, is being heralded by a true multimedia blitz that includes magazines, books, action figures, and of course, computer games.

LucasArts, under the auspices of LucasFilms, held a media event to give us a sneak peek at the two upcoming *Episode I* games that will coincide with the movie's release. These games will try to capture the very essence of the movie and distill it into digital form for *Star Wars* fans and gamers. The first, RACER, takes a visceral and blisteringly fast 15 minutes of the film and extrapolates it into a full gaming experience. The second, STAR WARS EPISODE I: THE PHANTOM MENACE, attempts something far more grand: to create an interactive version of the movie. Each game takes a different approach to the same goal: capturing the magic of *Star Wars Episode I* and bringing it home to the gamer. *The Phantom Menace* is as close to a sure thing as you can get, but what about the games? We'll tell you if the Force is with them as well.

Image.

GAMES

falcon [fal•kun,fôl•kun]

n. Birds of prey of the family Falconidae,
distinguished by powerful talons and
long, powerful wings adapted for swift flight.

v. To hunt with falcons (see: falconry;falconer)

falconry [fal•kunrE,fôl•kunrE]

n. The sport of taking game by means of falcons

Redefined.

Falcon Northwest

New look.
New systems.
Proven history.

Episode I:
RACER

The Phantom Menace Hits the Ground Zooming With a Turbo-Charged Arcade Racing Game.

by Robert Coffey

Accccording to LucasArts, "For generations, the Galactic Podracing Circuit has thrilled citizens of the Outer Rim Territories with its dangerous contests of repulsorlift-driven vehicles; amid the ruffian and racing elite, one champion stands above the rest—his name is Sebulba." Okay, odds are that sheds about as much light for you as it does for me, but that's the story behind RACER, and LucasArts is sticking to it. The bottom line is that it doesn't really matter, RACER is about raw speed, thundering power, and head-snapping action—the setup is just window dressing.

Rocket Jockeys

RACER will let gamers re-create what promises to be one of the most exciting moments in the new movie, the podracing sequence featuring Anakin Skywalker. Now, before you jaded gamers glaze over at the idea of yet another arcade racer, even with a *Star Wars* license, understand something: Podracers are not your everyday, run-of-the-mill racing vehicles. Podracers are made up of three parts: a tiny, somewhat vulnerable hovepod

Episode I:
THE PHANTOM MENACE

*LucasArts and Big Ape Productions
Bring the Movie to Your Desktop*

by Elliott Chin

If you've ever watched a movie and wanted to yell at the protagonist to do something differently, here's your chance. STAR WARS EPISODE I: THE PHANTOM MENACE is essentially a digital version of *Star Wars Episode I: The Phantom Menace,* the movie. Big Ape Productions, the developers of THE PHANTOM MENACE, read the screenplay and started work on the game just as LucasFilms began shooting. When a scene was added to the movie, Big Ape went back and added it to the game. Big Ape hopes to re-create the movie, putting you in the roles of up to four major characters and allowing you to relive "the adventure."

That's not to say you won't need to play the game because you've already seen the movie. The game will mirror the movie, but it will flesh out all the worlds and events in between the scenes on the big screen. For instance, Obi-Wan Kenobi and Qui-Gon Jinn spend five minutes escaping from the Trade Federation's spaceship in the film; the game will allow you to spend hours there, visiting every nook and cranny and battling both the enemies Obi-Wan faces onscreen and those he doesn't. And while Obi-Wan might spend only a few scenes in the port of Mos Espa, you'll be able to guide him throughout the entire city, exploring its many side streets and talking to dozens of characters.

Hard-core fans take note: Several of the sequences in THE PHANTOM MENACE

THE PHANTOM MENACE (continued)

are based on scenes that LucasFilms cut out of *The Phantom Menace*.

Games should not expect to see a traditional LucasArts adventure game in the GRIM FANDANGO or CURSE OF MONKEY ISLAND vein. Gameplay in THE PHANTOM MENACE is more of a cross between a third-person lightsaber/shooter action game and a platform game, with lots of dialogue and a mix of characters thrown in to advance the storyline.

Faraway Tales

The plot, of course, follows that of the movie (for details, see *The "Story Begins"* sidebar). The unfair taxation of trade routes is precipitating a huge civil war in the Galactic Republic. The Jedi Knights have been dispatched to investigate matters. The two sent—Obi-Wan Kenobi and his mentor, Qui-Gon Jinn—go on an interplanetary mission, visiting queens, senators, Hutts, and others as they try to keep the peace.

OIL CHANGE Anakin Skywalker waits for his podracer to be prepared for the next race.

RACER (continued)

strapped to a pair of enormous (20- to 34-foot) engines. Leash yourself behind a couple of rocketsleds and you'll start to get the idea. Forever flirting with breaking the sound barrier, podracers whip through tracks 20–30 miles long in less than two minutes. It's a sport that requires confidence, consummate control, and fearlessness—neck braces are optional.

Since the game's design team includes veterans of SHADOWS OF THE EMPIRE, X-WING, and JEDI KNIGHT, *Star Wars* aficionados can be assured that the license won't be mishandled. Actually, the biggest hurdle facing the designers is having to accurately depict the complicated physics of the three-piece vehicles. Tenuously tethered to the powerful engines, the pod will be whipped around corners during turns and will swing up and down wildly through stomach-churning drops and daring jumps. It's

For about half the game, you play Obi-Wan Kenobi, although Qui-Gon will be by your side for much of the time. Later, you will be able to switch characters and become Qui-Gon Jinn, Queen Padme of the planet Naboo, or her bodyguard Panaka. You'll generally control only one character at a time, and whom you play will be dictated by the storyline. Big Ape claims the experience will be different, depending on which character you control. Obi-Wan and Qui-Gon, for instance, wield lightsabers and the Force as their primary weapons. Queen Padme commands a retinue of bodyguards; and the queen's chief bodyguard, Panaka, with no Force or minions to command, will have wide access to more conventional weapons.

For most of the game, you'll control only one character, but in the last few levels, as the game draws to a climax, you'll actually jump between control of two characters. We assume it will be Obi-Wan and the Queen. So you may guide Queen Padme for a few minutes, and then jump to Obi-Wan as he approaches a lightsaber duel. Then you might cut back to Queen Padme as she faces imminent danger. The game's plot will dictate the switching of characters, in an attempt to re-create the Star Wars penchant for cutting to different character climaxes in the final moments of the film.

(LEFT) SHIELDS UP Obi-Wan can block frontal laser fire, but he's vulnerable to rear attacks.

(BELOW) USE THE FORCE, BEN Obi-Wan is having an easy time deflecting laser bolts and tackling droids and battle- tanks in the depths of the Naboo swamp.

Struggles of the Force

No matter which character you play, however, the basic structure of gameplay remains the same. You explore the environment, encounter a hostile situation, a puzzle, or a character, and then deal with it. In most cases, you'll resort to violence

PUT THAT SABER AWAY The 3D environments and structures are light-years ahead of those in JEDI KNIGHT.

an entirely new racing dynamic that seems certain to challenge even experienced gamers—especially if they opt for the added complexity of controlling each engine with its own joystick.

Track of Your Tears

When it came to designing the various tracks, the development team focused on taking gamers out of the standard, funnel-vision, painted-line mentality that seems to rule most racing titles This is easier said than done, since you still want gamers to know which way to go. Plus the mammoth size of the podracers prohibited the extensive use of restricted spaces. In the end, RACER wound up with an organic, natural-looking environment that uses visual cues to nudge gamers in the right direction.

Taking place across seven worlds, with at least three tracks per world, RACER should offer a variety of daunting courses. The first race will take place on Tatooine, and should mirror the actual sequence from the movie, with the added attraction of a few surprises. Other tracks include an ice planet course that speeds across

ROCKET RACER Piloting a three-piece, speed barrier-busting racer is hard enough. Having to dodge enormous rock formations while you jockey for position, well, that's just plain mean.

SERVANTS OF THE FORCE

Obi-Wan Kenobi: Obi-Wan Kenobi (Ewan McGregor) is a much younger version of the man we all know from the original Star Wars—and more of a rogue. A fully developed Jedi, Obi-Wan starts the game with his lightsaber and a small arsenal of Force powers. With his lightsaber, you can block a barrage of frontal laser fire, although you'll still get caught by side or rear fire. Big Ape says that lightsaber attacks won't be as complicated as in fighting games. There will be various attack types, like quick jabs, jump attacks, and sweeping slashes, but you'll execute them with no more than the attack, move, and jump buttons. As a Jedi, Obi-Wan will sometimes have the option to "persuade" characters to say things they might not otherwise agree to. You'll control Obi-Wan for the first half of the game, and during the final levels.

Qui-Gon Jinn: Qui-Gon (Liam Neeson) is a wiser Jedi than Obi-Wan, but in the movie, there is little discernable difference in their powers. Thus, in the game, they are pretty much identical, although their lightsaber attacks will look different. You'll control Qui-Gon for two or three levels.

HOME PORT This is the port of Mos Espa, home to the soon-to-be-famous Anakin Skywalker.

THE PHANTOM MENACE (continued)

to deal with the hostile threat, which could be a number of enemies or some sort of deadly trap.

The game opens, in fact, with you being lured into a gas trap. With a protocol droid distracting you, you have to figure out what that strange mist rolling into your wafting room is. The droid says that it's just steam from a leak in the pipes, but your Jedi senses might tell you otherwise. As for the puzzles, most of

them are simply errands and inventory swaps. You might need help from a certain character, but he won't talk to you until after you've helped him fix his vehicle. So you first have to go get a spare part from a shop owner, but before he gives it to you, you have to help him with a favor. Most of puzzles throughout THE PHANTOM MENACE involve some variation of this theme: Give an item to get an item or barter a service for a favor.
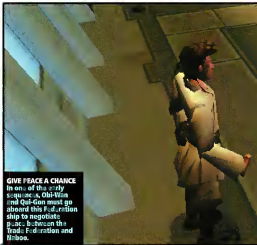
GIVE PEACE A CHANCE In one of the early sequences, Obi-Wan and Qui-Gon must go aboard the Federation ship to negotiate peace between the Trade Federation and Naboo.

ROCKET RACE This shot is taken from the podracing sequence in *The Phantom Menace*. LucasArts is betting that this sequence will be so exciting that audiences will want to relive it in *RACER*.

Besides the traps, action, and inventory puzzles, there are nearly 70 characters for you to meet—there are dozens in Mos Espa alone. Some of these characters are just there to add ambience and will greet you with a "hello" or with indifference. Others might even try to pick fights with you. Some characters are there to offer you side quests. Most of the time, they'll ask for a favor. For instance, an alien in Mos Espa asks you to find her son. In return, she'll give you valuable items that you might not otherwise acquire.

These side quests are entirely optional, but they can really influence the gameplay. In one of the early levels, you'll make your first trip to Theed, where you will encounter a jailed Naboo citizen who asks you to free him. If you ignore him, he'll still be in jail when you return to Theed. But if you do help him, the next time you

RACER (continued)

glaciers and through twisting ice tunnels (LucasArts won't confirm, but it sounds a lot like Hoth to me); a track set high in the clouds on an abandoned gas mine with large chunks of missing track making for some harrowing jumps (can you say...Bespin?); and a track that takes racers through a mountain village and across a swamp, until they pass through the heart of a volcano. One particularly interesting track is set upon an asteroid used as a prison. Your podracer will leave the ground to whip around the walls and ceilings as you pass through zero-G tubes.

To make things even more dangerous, most tracks will feature a variety of hazards, including lava tunnels, burning methane lakes, falling meteors, cyclones, and sniping Tusken raiders. The maneuverability of the podracers will allow gamers to vertically to pass through narrow canyons and avoid other physical obstacles.

Ben Hurts

With so many impediments, you can expect to see lots of crashes. While RACER's 3D game engine
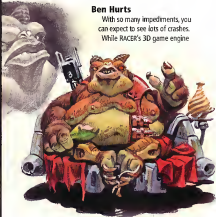
BIG TROUBLE The bosses you'll have to beat are an impressively diverse lot, as the concept sketch of a Jumbo-sized fon shows.

THE PHANTOM MENACE (continued)

DYNAMIC DUO Obi-Wan and Qui-Gon on their way to visit Queen Padme.

are in Theed, he'll repay the favor with information and perhaps some weapons you wouldn't otherwise get.

Aside from providing flavor and side quests, characters also help advance the plot There are more than 4,000 lines of dialogue, but you might not hear all of them, depending on your decisions in the game. If you insult characters or betray their trust, you might close avenues of communication and cut yourself off from side quests. Among the many characters you'll meet in the game are Anakin Skywalker, Shmi Skywalker (Anakin's mother), Jar Jar Binks (the prequel's version of Chewbacca), and Darth Sidious (the main villain). Most of the movie's actors will reprise their voice roles for the game, although Natalie Portman (Queen Padme), Ewan McGregor (Obi-Wan), and Liam Neeson (Qui-Gon) most probably will not.

RACER (continued)

will deliver the requisite eye candy, special care is being paid to the crash animations. Expect to see colliding racers, flame-outs, and more. Just hope you won't be the unlucky charioteer spinning wildly in your pod, bounced through a ravine by a single wrecked engine before exploding in a big, fat fireball

Fortunately, you'll have some ways to avoid such mishaps. For one thing, each track will feature multiple paths and shortcuts. Plus, every podracer is self-repairing—provided that you don't utterly trash the thing—but the self-repair process slows you down.

That's all well and good, but probably the best approach will come in using your winnings to purchase racer upgrades courtesy of Watto, a slightly shady character who sells podracer parts. If you don't have any money, don't give up;

SERVANTS OF THE FORCE

Queen Padme
Queen Padme (Natalie Portman) is the queen of Naboo and a pivotal figure in the game. Obi-Wan and Qui-Gon must protect her and then escort her to the capital world of Coruscant, where she will petition the Galactic Senate for aid for her people. When you control her, it will be for the last few levels of the game. She is physically weaker than the Jedi and Panaka, but she commands up to four body-guards who follow her throughout a level. When a hostile situation presents itself, you'll be able to issue a variety of commands to your lackeys. They'll scout for you, fight for you, cover you while you perform some action, or run interference for you.
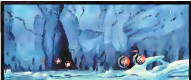
Captain Panaka
Panaka (Hugh Quarshie) is Queen Padme's chief bodyguard, and you control him for only a brief level or two. He has neither the Jedi's Force nor Queen Padme's entourage, but he will probably have access to the largest conventional arsenal in the game, including laser guns and other futuristic weapons.

you can salvage spare parts from the junkyard. Unfortunately, salvaged parts are much less reliable and are apt to blow out under the stress of a full-blown race.

With seven categories of system performance to tweak, and six parts available for each system, players will have plenty of decisions to mull over when it comes to customizing their podracers. Do you boost your repulsorlift at the expense of acceleration? Do you upgrade your vehicle's self-repair ability two levels, or just opt for better turning ability and a higher top speed?

Games will undoubtedly upgrade their cooling systems the first chance they get. That's because racers can turbo-boost their engines, charging them up slowly before blasting away past the competition. But there's a danger: Too much boosting will burn out your engines and help you clinch that prestigious last-place finish. Upgraded cooling systems will let

RUNNING HOT AND COLD This concept art shows two of the different worlds on which you'll race: One is a wide-open desert planet with towering rock spires; the other, an ice planet honeycombed with frigid tunnels.

THE PHANTOM MENACE (continued)

Yes, I'll want that T-14.

I will give you 9000 Credits for a T-14.

Wait... You want a Portable Fusion Lightship to charge up to subspace for the T-14.

Never mind.

GREETINGS By speaking to many NPCs you'll get various quests and information.

Star Wars: The Experience

The most striking things about THE PHANTOM MENACE are the ambience and sense of immersion in the game. While the action and puzzles didn't seem extraordinary, the level of detail and immersion were impressive. In the swamp level on Naboo, there are flocks of alien birds flying overhead, strange alien creatures grazing in the marsh, and battle droids on STAPs zooming by on patrol runs. On the capital world of Coruscant, lines of traffic streak across the sky and space ships come and go in what obviously depicts a busy megametropolis. In Mos Espa, vendors stand near doorways, kids play on the street, and bystanders add a bustling aura to the city.

You'll be able to kill characters if the mood strikes you, but if you do that, expect a change in citizens' attitudes toward you. In the demo we saw, when Obi-Wan killed an innocent person, the kids playing in the street cried out, "Who ya gonna murder next, mister?" Big Ape says the game's ambient characters will react

RACER (continued)

you really push your podracer to the limit without the threat of an embarrassing explosion.

Chariots of (Rocket-Fueled) Fire

There will more than 20 vehicles in the game, though only six will be available at the start of the game. New podracers are unlocked after you beat the boss races of various tracks. As more podracers and bosses are made available, you'll be able to pick and choose the vehicle or character that best suits the particular race. Expect lots of variety in vehicle types, from nimble smaller craft to gargantuan engines that are long on speed and power but woefully short on turning ability.

Unlocking those additional podracers won't be easy, since there's a reason why most of these bosses are

IT TAKES ALL KINDS

Podracers come in all shapes and sizes. The first racer is young Anakin Skywalker's and will be among the very few available at the start of the game. The second podracer will be unlocked during the course of the game and is notable since it is the only vehicle that lacks an unobstructed view of the track—the solid front of the circular pod effectively blinds the pilot. Fortunately, this podracer is equipped with a unique scanning device that will display a virtual view of the track ahead. The last podracer is that of Sebulba, the last boss to beat in the game and Anakin's chief racing rival in the

movie. Beat Sebulba and you can then play as him in multiplayer matches, thus alerting opponents that you're good enough to beat the game.

THE PHANTOM MENACE (continued)

WHERE'S THE QUEEN? On your way to the Queen's Palace on Theed, the story will pick up. What is the connection between the Dark Lords of the Sith and the Queen's enemies at the Trade Federation?

to violence in different ways. Some might run from you in fear, others might goad you to more violence, and some might call for help. Armed guards will also come to apprehend you. You could fight them off, but the body count would only escalate. Unfortunately, Big Ape said it won't add any provision for turning to the Dark Side (It's not in the script), but senseless violence will definitely make your life more difficult. Certain characters will refuse to talk to you, making it harder for you to accomplish your goals.

Level Playing Field

The game will have 11 levels, set on 6 different worlds (not counting secret areas). The environments we saw in the game included the hallways of the Federation spaceship (reminiscent of the halls of Cloud City); an underwater domed city; the palace of Queen Padme; the swamps of Naboo; skyscrapers on Coruscant that seemed to float in the clouds, and the desert markets of the port city of Mos Espa on Tatooine. All have their own distinct look, ambient characters and sounds, and enemies, which include new droids and alien thugs.

RACER (continued)

champions. In a word: cheating. Rival racers will run you into walls, drop mines to blow your vehicle off course, and freeze or overheat your engines. The most distantly apparents will disrupt the magnetic beam that locks your engines together and prevents them from shooting off in different directions. Once that magnetic bond is broken, you'll be lucky to keep yourself from being ripped in two, let alone have a chance of completing.

Should you survive long enough, you'll eventually face Sebulba, the top-ranked champion and a character from the movie. Beat Sebulba and you can then play as him—perhaps granting you a psychological edge in multiplayer games. Even if you can't play as Sebulba, you will be able to save and use custom-configured podracers in multiplayer games.

RACER should support up to eight competitors over a LAN or the Internet. While LucasArts fully intends for some online entity to serve as a host for RACER games, a concrete deal had not been struck at press time. Still, finding someone to host games should be pretty much of a slam-dunk, I mean, really, think about it—this is

Star Wars for Pete's sake. It's not like an online host would really be taking a chance on whether there's an audience for this game. RACER should be hitting shelves right about the time the prequel lights up movie screens. With its unique take on the racing genre and the tidal wave of hype and publicity accompanying the film, RACER looks well positioned to enjoy a very nice summer. CGW

Robert Coffey is currently standing in line to see Star Wars Episode I: The Phantom Menace. *He should actually enter the theater sometime early this September. Please don't tip off the plot as you pass him on your way out.*

The Story Begins (Warning: Huge Spoiler!)

W e've managed to piece together the plot of the movie—and the game—from a variety of sources. If you still want to be surprised when the movie premieres in theaters in May, stop reading now. Not all of these details are confirmed, but to the best of our knowledge this is the official story.

The game begins as the movie does, with Obi-wan and Qui-Gon meeting with Trade Federation officials aboard a spaceship orbiting the planet Naboo, asking them to lift a blockade they've erected around Naboo. However, the Federation has no intention of negotiating in good faith, and reveals its alliance with the Sith Lords—the same order that later calls Darth Vader master.

Obi-Wan and Qui-Gon manage to escape from the Federation ship and make their way to Theed, the capital of Naboo. There they meet Queen Padme and offer to escort her to Coruscant, where she will petition the Galactic Senate for aid. Details are sketchy, but it appears that the party leaves Naboo for Coruscant, stopping along the way and meeting Anakin Skywalker, who joins them. Events escalate, and Naboo comes under direct attack by the forces of the Trade Federation and Darth Sidious, the movie's main villain. Anakin, Obi-Wan, and the rest of the Jedi rally to Queen Padme's defense.

That's all we know at this point. For the rest of the story, you'll just have to see the movie.

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THE PHANTOM MENACE (continued)

The game's levels proceed more like chapters in a book than like the traditional levels of other action games. Each level will end with a prerendered cut-scene that will wrap up that level and lead into the next. The cut-scene for the end of Level One, for example, shows Obi-Wan escaping the Federation's grasp and landing in a swamp, separated from Qui-Gon, and being hunted by Nimoudian troops. The second level opens with Obi-Wan knee-deep in swamp water. Armed with the knowledge provided in the cut-scene, you are charged with exploring the swamp, looking for the city of Theed and for any signs of Qui-Gon.

STAR WARS EPISODE I: THE PHANTOM MENACE is scheduled to release simultaneously with the film. Right now Big Ape is polishing play balance, differentiating the four characters, touching up graphics, and adding music and voices.

THE PHANTOM MENACE doesn't lend itself to multiplay, so it will be a single-player game only. However, it's Star Wars, so it probably won't need multiplay to attract immediate attention. The trick will be keeping gamers' attention once they do pick up the game. We're concerned about some aspects of the game, such as how Big Ape plans to balance the four characters so that each is compelling, and whether it can reach out to newbies while still incorporating enough gameplay to satisfy core gamers.

Still THE PHANTOM MENACE re-creates the entire movie on your computer, a movie many fans have been waiting 20 years to see. While it's not likely to break technological or gameplay barriers, its ability to explore new aspects of such a popular universe virtually guarantees the game's success. CGW

Elliot Chin's subconscious has replayed the Star Wars Episode I trailer more often than the Mann County Brau Theater.

YOU WANT IT, WE GOT IT Face it—you and everyone you know are dying to know about the movie. Here's a couple of gratuitous film shots to tide you over while you're standing in line.

Whatever Happened to FORCE COMMANDER?

In addition to the two Star Wars Episode I games featured in this feature, three more unannounced titles should ship by year's end. But what about FORCE COMMANDER, the real-time strategy Star Wars game unveiled at 1998's E3 show?

Since that time, LucasArts has put the wraps on any publicity and pushed back the FORCE COMMANDER release date. Rumors circulated that it was being rescripted and folded into the Episode I lineup, or that it was now dead. Neither rumor is true, according to LucasArts. Indeed, it is still in development, but probably won't be out until the end of this year or best. It will take place in the classic Star Wars time frame, and appears to be the last such Star Wars game for the immediate future.

The last time we saw it, FORCE COMMANDER was a hand-based real-time strategy game featuring nearly a hundred Star Wars vehicles, including speeder bikes, AT-ATs, and stormtroopers. A mission-based tactical game in the same vein as COMMAND & CONQUER, it uses a new 3D engine with a top-down perspective. Its two campaigns (one Rebel and one Imperial), were slated to take place throughout the original Star Wars trilogy timeline and jump from world to world, including Tatooine and Hoth. Of course, some of this may change, but FORCE COMMANDER seems to be very much alive.

Alas, LucasArts isn't prepared to talk about it, as the company wants to keep attention focused on the upcoming Episode I games.

ONLINE

Visit www.gamespot.com to see more preview coverage of THE PHANTOM MENACE and RACER. You'll also find interviews with the games' design teams.

"91%... If there is such thing as a definite hit, this is it..." -PC Gamer (UK)

"5/6... Roller Coaster Tycoon will be a smash hit..."
-PC Gaming World (UK)

"...gameplay is here in spades..."
-Gamepower

"...not only fun, it's addictive..."
-Happy Puppy

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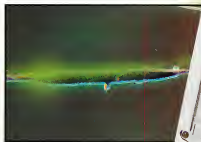
- ■ The Best Home LAN
- ■ The Best LAN/Internet Connection
- ■ The Best Internet Connections
- ■ The Best 56K Modem

Networked Gaming

ONNECTED?

by Dave Salvator, Denny Atkin & Loyd Case

home network is in your future. You may already have one, but if you don't, there's a herd of companies betting that it's something you'll soon want. And why not? With PC prices dropping by the day, multiple PC households are becoming more common. And what's the point of having multiple PCs in your home if you can't play multiplayer games on them? Oh sure, there are the spousal selling angles of all those "work-related" applications, like file sharing and printer sharing, and having multiple boxes share an Internet connection, and all the rest, but come on, the real reason to get networked is to invite friends over, and doog-six 'em (virtually speaking, of course).

The home network is not a new concept. A couple of network cards, a hub, and some cabling and you're in business. That method will work just fine, especially if all you want to do is network together a couple of machines in your basement. But what if your rigs are in different rooms? Or, what if one of those machines is a laptop? That's where these new networking kits come in, because they'll enable you to connect machines together in a variety of ways. These new networking options include wireless, USB, phone lines, and electrical wiring as ways of making the connection. Each has its upsides and downsides, but among them there's probably one that's a good fit for you.

Of course, once you've got your home network together and have had a bunch of regulars over for multiplayer mayhem, it won't be long before you're going to want to go looking for trouble online. But to make the most of the experience, especially with multiple machines sharing the line, you should consider a high-speed Internet connection like XDSL or a cable modem.

"Egads," you say. So many options. So many considerations. Not to mention a ton of techno-twaddle to shovel through. What's a poor gamer to do? Simple, dear reader, leave it to us. On the following pages, we'll get you straight on what's the best home network for gaming, what's your best Internet connection choice, and how to get the whole contraption humming like a well-oiled machine.

The Best Home LAN

Before considering any of the kits in this feature, stop to consider a few questions: How many computers do you want to connect? Where are they in the house? Will friends be bringing their rigs over, hoping to quickly patch them into your network? Do you mind going through your existing copper (phone lines or house wiring), or do you want the whole deal to be wireless? Cutting a handle on these kind of questions will help you figure out which of these kits makes sense for you.

Among the contestants, you've got a wide variety of speed offerings. Some are very fast (10&Mbits/sec) and some are pretty slow (384Kbits/sec); most are somewhere in between. But three things matter more than top-end data rate: latency, latency, and, uh, did we mention latency?

What is latency? Simply put, latency is the amount of time it takes to get a "packet" of data from Rig A to Rig B, and for Rig B to send back an acknowledgment. Admittedly, superspeedy ping times (techno-speak for latency) matter most in twitch-type games—shooters, sports, driving, flight sims—but it follows that if these types of games run smoothly on a network, then less-taxing titles should also run without a hitch.

Several of these kits ship with some kind of connection sharing utility, also called a proxy server. This utility is the gateway between your local area network

(LAN) and the Internet, and the machine running it routes traffic for the other nodes on your LAN to the Net. A key consideration for you here is whether the proxy server software can route the User Datagram Protocol, or UDP. Games whose multiplayer modes use TCP/IP tend to use UDP, so it's important that your home LAN's proxy server be able to route UDP traffic to and from the machines on your network. Otherwise, you'll have no online gaming for your network.

With home networking kits, it turns out that one size does not fit all. Because nearly all of them deliver acceptable ping times, your decision should be based more on connection method, quality of proxy server software, and price.

Diamond HomeFree Wireless
★★★★★

If you need to set up a home network in a situation where it's not feasible to run network cabling, Diamond's HomeFree Wireless is just the ticket. This networking system uses a 2.4GHz wireless frequencies to transmit data at up to 1Mbit/sec—which is fairly slow for file-transfer purposes, but plenty fast for gaming.

HomeFree cards are available in three formats: ISA and ISA for desktop use, and PC Card for notebook computers. Installation is fairly painless: just plug in the card and install the drivers. HomeFree's

software shields you from the details of Windows networking. The installer also installs WinNat Internet sharing software, allowing you to share a single Internet connection between machines.

The HomeFree connection is reliable, if not perky. Our 10MB file-copy test took more than 4 minutes—compare that to 17 seconds for a typical wired 10Base-T network. However, ping times between computers were very good (even better than some wired solutions), so you can count on smooth gameplay in networked games. The WinNat software lets you transparently share a single Internet connection for gaming—we had no problems running games, including HALF-LIFE and YOU DON'T KNOW JACK: THE NETSHOW, over a HomeFree connection to a cable modem-equipped host.

Be warned that HomeFree Wireless can be sensitive to metal objects, and metal desks or wall beams, or even an ironing board, can cause your connection to slow. Any glitches that do occur can generally be cleared up by slightly reorienting the system.

HomeFree truly shines if one of your gaming systems is a notebook computer. Because you're untethered by wires, you can easily game

and browse the Net from the comfort of your couch, from out on the patio, or from just about anywhere within 150 feet of the host computer.

Inteligis PassPort AC LAN

★★★

The Inteligis PassPort networking kit might seem like the answer to your home networking prayers. It consists of three modules, each of which plugs into a wall outlet. Two modules are for connecting computers, the third is for a printer. Intelogis supplies all the cables, a pair of surge suppressors, and installation software. Installation of the PassPort is incredibly simple. You plug a module into the wall power outlet,

connect the cable to the parallel port on the computer, and run the installation software. The installation is highly automated—you don't need to know anything about protocols, IP addresses, or network adapters. It couldn't be simpler.

The performance picture, however, isn't so pretty. PassPort is indeed simple, but it's also the slowest of the home networking solutions. Its ping times for HALF-LIFE ranged from 30-50 milliseconds (ms), and POPULOUS' DirectPlay ping times were 20-35ms. While this is fine for gaming (especially compared to Internet ping times), it was slower than the other solutions we reviewed. In addition, its data-transfer rate is extremely slow—it took almost 10 minutes to move our 10MB test file from one system to another.

The final straw in the WinProxy proxy server software. HALF-LIFE couldn't see any servers from the second system, while GameSpy could catalog servers, but all of them had infinite ping times.

If all you want is simple installation, local network gaming, and limited file and print sharing, the PassPort may be a good answer, but it's not a good all-around gaming solution.

EZ-Link USB Networking

★★★★

If USB were a person, it would probably need a good therapist, given the rough-and-tumble coming of age it has had on the PC. But technoneurosis aside, USB products have arrived in earnest, and now include

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WHAT'S THAT YOU'RE SAYING?

10Base-T: See Ethernet.

Broadband: The technology used for cable TV, and also used to bring cable modems into your home.

DSL: Digital subscriber line, the local phone company's answer to cable modems. DSL is a fast, always-on connection to an ISP or other network provider.

Ethernet: One type of local area networking technology. It comes in both 10MBit/sec (10Base-T) and 100MBit/sec (100Base-T) flavors.

GameSpy: GameSpy is a software utility that allows you to find game servers on the Internet. It supports a variety of game types, but they must be TCP/IP capable. Checkout **www.gamespy.com**.

Hub: Also called a concentrator, a hub connects multiple computers together in a network. Each PC connects via a cable to the hub, forming a "star" topology.

ISP: Internet Service Provider.

K56flex: Proprietary 56Kbps technology used by modems with certain chipsets made by Rockwell.

LAN: Local Area Network.

LPB: Low-Ping Bastard, an online name for those graced with fast Net connection.

Net: The Internet.

NIC: Network Interface Card. You install one of these in one of your PC's expansion slots to connect to a local area network.

Peer-to-Peer Networking: Most home networks are peer-to-peer, which means that each system on the network is considered equal to the others, and there is no central server that all other machines have to connect to.

Ping Time: Originally a Unix utility for measuring the latency between computers on a network. It's now a more generic way of describing lag time over network connections.

TCP/IP: Transport Control Protocol/Internet Protocol. TCP/IP is a suite of networking protocols, and it is the underlying "language" computers use to communicate over the Internet. It can also be used in local area networks.

Telco: Your local phone company, also called Regional Bell Operating Companies (RBOCs).

UDP: User Datagram Protocol. Unlike TCP, UDP doesn't guarantee delivery. But it's faster than straight TCP, which makes it handy for games and technologies like zero-config video.

V.90: The current ITU standard for 56K modem technology. It is still in the process of being deployed by individual ISPs.

Web: The World Wide Web.

X2: The proprietary 56K modem technology from 3COM/US Robotics.

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printers, game controllers, and yes, even networking hardware.

Anchor Chips produces EZ-Link, a USB device with a very straightforward installation. But what's very cool is that once EZ-Link is installed, you can dynamically enable/disable networking in Windows by simply plugging in or unplugging the EZ-Link device. In an OS notorious for "Change one little networking detail and reboot so it'll take effect," this is no small feat.

EZ-Link installs its driver, Microsoft's IPX/SPX protocol, its own EZ-Link Manager that shows active connections, and Microsoft

File and Print sharing to allow the connected machines to share resources. You'll have to manually add TCP/IP, which can be a bit daunting for the uninitiated. But once installed, EZ-Link runs like a champ. All ping times were on par with a typical 10-Base-T Ethernet LAN (in the 17–32ms range). Also, EZ-Link achieved a 1.8Mbit/sec data rate in our 10MB file-transfer test, close to its claimed top-end data rate of 2Mbit/sec. In past tests using USB game controllers, EZ-Link was a well-behaved bus citizen, allowing Logitech's WingMan Force joystick to operate hiccup-free.

EZ-Link is ideal for point-to-point connections between two machines because of its ease of setup and its relatively cheap price. And while you can network many more than two rigs, you'll need an EZ-Link device for each additional box, so it can get pricey. If you're looking to hook up more than two systems, consider other "name-room" home LAN options. But with EZ-Link, for about $90, you get easily installed networking between two boxes without having to crack open either one's case.

Diamond HomeFree Phone Line

★★★★

After the PassPort AC Outlet experience, we were reining in our expectations for telephone

wire networking. However, we wound up being pleasantly surprised, even though the HomeFree Phone Line isn't completely without flaws. Installation requires popping open each system and inserting a PCI card. The hardware installation instructions are fairly well written, though they are a little lame for our tastes. We hit one installation glitch: Our "test-bed" has two phone numbers coming in, so

we mutually plugged the wires into two separate jacks, each with a different number. Neither system could see the other. According to Diamond, this is a fairly rare occurrence—most dual-line installations should work properly. Nonetheless, such a pitfall should be documented in the manual (it wasn't). Attaching a splitter to a single phone jack solved the problem.

Software installation was pretty easy, and the defaults picked by Diamond worked well. In fact, the installation software did a great job of visually walking you through the hardware installation of the first and second systems. The HomeFree Phone Line

    www.computergaming.com

LAN ping times were quite good, equaling 10Base-T Ethernet ping times. HALF-LIFE's ping was 28–34ms, while ping time for POPULOUS was 13–13ms. Diamond uses Deerfield Software's WinGate Pro in its Internet sharing. WinGate is a little more complex than WinProxy, but it worked well with some games. We could never get the second system to see servers directly from within HALF-LIFE, though QUAKE II servers were visible using GameSpy, with decent ping times. WinGate added a little overhead; its ping was about 16ms slower than the direct connection to the Internet. STARCRAFT also ran well over Battle.Net, so HALF-LIFE seems to be a bit of an oddity. Our 10MB text file copied in a minute and a half—close to the maximum rated transfer rate of 1Mbit/sec. That's a testament to the efficiency of the telephone networking gear, but it's still fairly slow.

ADS USB to Ethernet

★★★★☆

USB devices are wonderful solutions for those of us who are expansion slot-challenged—a problem all-too-common for serious gamers, especially those of us with 3D cards. USB's Plug-and-Play nature also makes it attractive to those don't want to dive into the hell of opening a PC and trying to get a plug-and-pray expansion card working. Given that network cards can be especially troublesome, we found ADS Technologies' USB to Ethernet adapter idea very appealing.

The good news is that the device works without a glitch. Plug it into one of your PC's USB ports, attach a cable to your network hub (or a crossover cable to another 10Base-T adapter), pop in the included floppy disk, and you're ready to rock. You will need to configure your networking protocols in Windows (as is the case with most network adapters), but the included manual does a good job of walking you through the process.

Hot plugging is handled well: Attach the adapter and Windows will bring up your network connections automatically; remove it and your network resources go away. The ADS unit worked reliably when it was connected directly to desktop and notebook USB ports, as well as when it was connected to a four-port

ADS USB to Ethernet

Ethernet hub. It also functioned properly when simultaneously doing a scan on a USB scanner attached to the same link.

The downside to going the USB route is speed. Ping times were a bit high in games, but not enough to affect smooth performance in HALF-LIFE. However, file copies over Ethernet were half the speed of internal network adapters.

Notebook users, don't believe the box's claim of faster speeds than PCMCIA network cards—a 10MB file that took 17 seconds to copy using a PCMCIA connection took twice as long, 35 seconds, on the USB device. Still, it's a fairly fast solution, and it would be hard to find a network adapter that's easier to connect or install

From Mythos Games, the creators of the legendary X-com series, comes another addictive real time strategy game that will take you beyond human limits...

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SUMMON YOUR POWERS

THE BEST LAN/INTERNET CONNECTION

Gaming on the Internet can be a gas, but it's somewhat anonymous. Even when you play online with friends using some kind of speech communication kit, it's not the social experience of having a good friend nearby. But hosting LAN parties can get to be a big chore, too. Finding big blocks of time to set up PCs and a network is a pain, so those happen pretty infrequently. On the other hand, now that you have your twin-PC home LAN, you can play locally—but having only two players limits your options somewhat. Wouldn't it be cool to be able to go Internet game-crawling with a buddy? Here's one inexpensive way to get that party started.

It's called a proxy server. This technology has long been used by large companies as a sort of buffer between a company's network and the wild, wooly Internet. But lately, there have been low-cost alternatives for small LANs. Several of the home LAN packages ship with proxy software, including WinProxy and WinGate. Kali, a package designed to make IPX network games work over the Internet, also has a proxy server available, though it works only with Kali-approved games.

Of the three proxy options, WinGate is probably your best bet, though even it is not perfect. We were able to connect to QUAKE II servers and Battle.Net servers (on the Internet) from a second system through another computer using a single user account. In both cases, games played fine, and there was no noticeable lag (beyond the normal lag you encounter playing games over the Net). However, we never got HALF-LIFE to directly connect to servers.

Despite repeated tries, we could never get connected to any game server using WinProxy. The proxy server from Kali works fine for Kali-approved games. At $69 for a three-user license, the home version of WinGate ranks as the cheapest way to take a couple of friends out on the Net looking for trouble. —Loyd Case

D-Link 100-Base-T Networking Kit

★★★★½

When the folks at D-Link told us they had a 100Mbit Ethernet kit for $100, we couldn't help being impressed. For your mere hundred simoleons, you get a tiny, four-port hub, two PCI Ethernet cards, a pair of 20-foot Category 5 Ethernet cables, drivers, and a CD with a couple of shareware games—not a bad deal.

The downside is that you have to know a little more about setting up hardware than with the other home networking kits. If you go with the default Windows 95/98 installation, the setup isn't too bad, but you end up with dynamically assigned TCP/IP addresses, which can be problematic. For best performance, you need to go into the network control panel and make some adjustments—something not for the faint-of-twevk. Making all the connections is pretty easy, though you should consider carefully where you place the hub—it has a tiny fan that is relatively quiet, but

can be annoying if you place it right next to your desk. The other problem comes from the wiring. If your systems are in the same room, you're all set, but wiring multiple rooms with Category 5 cabling can be unsightly (if you run cables across the floor) or a real chore (if you pull wire through the walls).

Still, for $99, you get 100Mbit performance. As an example, our 10MB test file moved from one system to another in 2.6 seconds. Contrast that with the minute and a half on the Diamond HomeFree Phone Line kit. Ping times were about the same as with HomeFree: 20-32ms for HALF-LIFE and 12-15ms for POPULOUS.

All in all, the D-Link Home Networking Kit is a real bargain if you don't mind the limitations of the cabling and having to be a little network-savvy.

D-Link 100-Base-T Networking Kit
PROS: It's really fast; good ping times; fairly easy to install.
CONS: Multiroom setups are a chore; you have to know a little about Windows networking.
SYSTEM REQUIREMENTS: System with two PCI slot, Windows 95/98, $99 (MSRP) • D-Link, Irvine, CA; (800) 326-1688

How We Tested

Home LAN Kits

To shake down the home LAN kits, we focused primarily on ping time, since that factor more than any other will determine the quality of your networked gaming experience. For starters, we tested each LAN kit using Windows 98's PING.EXE utility, which measures the round-trip time it takes for a packet containing 32 bytes of data to move over TCP/IP. We took 50 samples and then averaged them.

Next, we did a file-transfer test in which we copied a 10MB file using Windows' peer-to-peer networking, and we timed the transfer. From that we calculated the sustained transfer rate, which is often less than the data rate the product vendor claims.

We then fired up HALF-LIFE (version 1.08), which uses TCP/IP for its multiplayer games, started a server on one machine, and then had the second machine connect to it.

We measured the ping time reported by the game after connecting. We also did some extensive play-testing (okay, it was a good excuse to play a lot of HALF-LIFE) to check to see if the ping times would spike during some of the heated battles. Next, we booted up POPULOUS: THE BEGINNING, started a server over DirectPlay's IPX, and connected the second machine. We then measured the ping times as reported in the lobby screen you see before the game begins.

If the LAN kit came with Internet connection sharing or proxy server software, we tested to see if a machine on the LAN (one that wasn't directly connected to the Internet) could connect and play HALF-LIFE. This tested whether the bundled gateway software could route UDP traffic, a key feature to allow all boxes on the LAN to game on the Internet.

Our thanks to ZD Labs' modem sage David Burdes for his help in modem testing.

Home LAN Data

	Timed 10MB File-Transfer Test (min./secs.)	HALF-LIFE Ping Time (in milliseconds—ms.)	POPULOUS Lobby Ping Time (ms.)
AOS Technologies USB to Ethernet	00:35	85.0	24.0
D-Link 100 Base-T Home Lan Kit	00:03	27.0	14.0
EZ-Link USB Network	00:43	32.0	24.0
HomeFree Phone Line	01:32	31.0	14.0
HomeFree Wireless	04:03	32.0	24.0
PassPort AC LAN	09:35	44.0	28.0

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Internet Connection Options

Once again, the ping is the thing. We focused on the first hop—often called the Terminal Server—that 56K modems, ISDN, DSL, and cable modems all make. If you know the ping time to that first hop, you can get a good idea as to how much of your total ping time to anywhere else on the Internet is due to the connectivity device.

For testing 56K modems, we trekked down to ZD Labs, the mothership of testing labs for all of ZD, and got in the labs' TAS line simulator, a device that can simulate different line conditions that you find on the Public Switched Telephone Network (PSTN).We ran the modems through three common line conditions, ranging from clean to moderate to dirty. The quality of a phone line is determined by a number of factors, including line noise, the type of routing equipment the signal passes through, and the distances the signal has to travel. We took 20 ping time samples at each line condition, and then averaged the 60 samples to come up with an average across the three conditions. What we saw, not surprisingly, is

that as the line condition worsened, initial connect speeds went down and ping times went up. We then connected to MindSpring, a well-known national ISP, and looked at initial connect speed and ping-time to terminal server as a "reality check" of our lab numbers.

Finally, using GameSpy, we measured the ping times of several specific HALF-LIFE servers and took an average. You should keep in mind that as soon as the Internet becomes part of your test-bed, results can vary wildly. But since this is how you'll be using these modems, it made sense for us to conduct these tests. So the GameSpy ping-time numbers we present here are a reasonable indicator, but not the be-all-and-end-all, and should be taken with a grain of salt.

For IDSN, DSL, and cable modem, we again measured ping time to terminal server and took an average of ping times on several HALF-LIFE servers via GameSpy. These numbers are much lower than 56K modems, and most gamers report a correspondingly better gaming experience online, but again, don't forget that grain of Net salt.

Connectivity Data

	Average Ping to Terminal Server (ms.)		Average of GameSpy Server (ms.)	
Cable Modem	13.5		138.8	
DSL	19.8		132.6	
ISDN	35.0		134.6	
Shark NM USB		318.7		518.8
Diamond SupraExpress	95.0		256.8	
MultiTech USB	99.0		284.8	
USR V.90 External	99.8		261.0	

Lower numbers are better.

Line Simulator Tests

	Average Ping of Three Conditions (ms.)		Average Connect Speed of Three Conditions (bits/sec.) ✴	
Cable Modem	N/A		N/A	
DSL	N/A		N/A	
ISDN	N/A		N/A	
Shark NM USB		409.0	39555	
Diamond SupraExpress	179.2		38800	
Multitech USB	185.7		36800	
USR V.90 External	190.1			41689

✴ Higher number is better.

Turn Page for **Outside Connections**

The Best Internet Connections

The "World Wide Web" may finally be over. If you've become an expert thumb-twiddler waiting for Web pages to load (and for online multiplayer games to start), we feel your pain. But two new technologies—cable modems and XDSL—could well change your Net connection from a cocktail straw to a high-pressure garden hose. Both offer much faster data rates than 56K modems, and, more important, both offer much lower ping times than most of us have had to endure up to now. But because different cable and local phone companies enjoy their little regional fiefdoms, the kind of service that may be available to you very much depends on where you live. Some system makers, like Dell, have programs through which they'll sell you the compatible equipment you'll need to make a high-speed connection in your area. If you're close to a major metropolitan area, chances are you've got one or both services either available now or becoming available within the next year. But if you're in a more remote area, then you may just have to hurry up and wait. Check with your local phone and cable companies to see what services they offer, or plan to offer.

The race for the hearts, minds, and dollars of Internet users is in full swing, and it would seem that cable modems have the upper hand, for now anyway. Cable modems have data rates ranging from 8–10Mbits/sec, whereas XDSL, depending on the type of DSL, can deliver around 1.6Mbits/sec. In addition, cable modems are well ahead of XDSL in deployment. It also turns out that, in most cases, cable modems are cheaper for now (most cable companies are pricing their services aggressively at about $40–$50 per month).

The dark side to this brave new world of high-speed connectivity is whether or not current Internet service providers (ISPs) that operate over the Public Switched Telephone Network (PSTN) will be locked out. Cable companies have made it plainly clear that they don't intend to allow third-party ISPs access to their "last mile" of copper that goes into your home. The telephone companies, who are more heavily regulated in this area, probably won't be as stingy with their infrastructure. A group of ISPs and concerned Netizens have formed the OpenNET coalition (www.opennetcoalition.org) to try to keep access to these new digital avenues open and competitive. The fear is that if cable companies and Telcos can shut out third-party ISPs, competition would be greatly stifled and the rates we pay for Internet access would head north.

If neither of these services is yet available in your area, you may be using a 56K modem for a while yet. If you haven't yet made the move to a 56K modem, then now's the time. Most 56K modems, in addition to posting

higher data rates, have about a 40-50 millisecond ping-time advantage over older V.34 modems. And with the arrival of the V.90 56K standard, you get a broader choice of modems, provided your ISP supports V.90, which most do (or soon will).

Here then, we present "A Tale of Three Connections," as recreated by Denny "Cable Guy" Atkin and Loyd "DieSeL" Case. These two have had different rides on the bumpy road to high-speed connectivity, and while theirs are just two stories, we've heard many like them from readers. Again, appreciate that we're in the San Francisco Bay Area, and must deal with TCI's @Home and Pacific Bell. You may have a very different experience from those of our two adventurers. We'll also take a look at four 56K modems that will still get the job done if no high-speed options are available yet in your area.

INTERNET CONNECTIONS

WHAT MATTERS:

- Low ping times
- Fast data rate
- Low monthly costs
- Network security

Loyd: Waiting for DSL

There are apparently more flavors of digital subscriber line (DSL) than there are jelly Belly flavors. You've got SDSL, ADSL, UADSL, and IDSL—among others. On top of that, you have carrier issues: Do you go with the local phone company or do you pick an alternative carrier, sometimes called Competitive Local Exchange Carriers (CLECs). Welcome to the wild world of telecom.

How xDSL Works

Keep your friends close, but your Telco office closer. One of XDSL's limiting factors is how far you live from your telephone company's central office. If you live more than three miles away, only a slower variant of DSL may be available to you

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DSL is a purely digital connection that works over standard copper telephone lines. All the flavors of DSL are sensitive to the distance between the telephone switching office and your home. DSL is easier to implement than ISDN, because the switching hardware doesn't need to be replaced—the phone company just needs to add extra gear.

When I found out that cable modems wouldn't be available in my area for the better part of a year, I began exploring DSL. Late in 1998, Pacific Bell announced that the prices for home DSL would drop dramatically, and I got pretty excited. After roughly a dozen calls to Pacific Bell (apparently they view customer service as an oxymoron), I was told that my location was too far away from the switch, and would not be DSL-capable for a few months because of the need to upgrade switching hardware.

I then contacted my current ISP, Best Communications (a division of Verio). They told me that I could have DSL, but the best they could do for me was 144Kbps.

Finally, I contacted @Work, a division of @Home. The @Home folks told me that I could get DSL service that would achieve up to 384Kbps.

At this point, the story comes to a grinding halt. I signed up for 192Kbps service with @Work (for cost reasons more than anything else). My DSL router is here, but it's not scheduled for installation until late in the month as I write this. Looks as though I'm all dressed up with no place to surf.

As a side note, I was able to test a 144Kbps IDSL (a sort of DSL/ISDN hybrid) line at ZD Labs, whose DSL service comes from NorthPoint. We found its ping times both to terminal server and to various GameSpy servers to be about on par with cable modem, despite this implementation's lower data rate.

DSL
ALPHABET SOUP

SDSL:
Symmetric digital subscriber line (upstream/downstream speeds are the same).

ADSL:
Asymmetric digital subscriber line (upstream/downstream speeds are usually different).

IDSL:
Symmetric DSL over an ISDN line (limited to 144kbits/sec).

UADSL (G-Lite): Universal asymmetric digital subscriber line. The new flavor of DSL; less complex and slightly less capable than full ADSL.

How Cable Modems Work
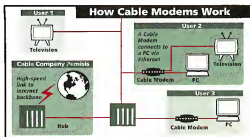
Won't you be my neighbor? Although cable modems offer higher top-end data rates and larger availability of service, they could possibly bog down if too many people in your neighborhood get the service and are all connected at once.

Denny: On the Cable Autobahn

Once you've had a cable modem, there's no going back. Blazing file transfers, near LAN-speed Internet games, and an always-on connection to the Internet are perks that are very easy to get addicted to. Web pages just magically *appear*, pictures and all, and playing a game against other cable modem users is like having them in the same room.

The technology does have a few pitfalls, however. You're essentially on a network with everyone in your neighborhood, and there have been incidents of people hogging bandwidth and causing performance problems for others, not to mention some digital voyeurism (remember to *turn File Sharing off*). Also, while cable providers do give you firewall protection, there are obvious security issues if you leave your PC connected to a public network 24/7. The biggest snag, of course, is that cable modems are still available only in seemingly randomly scattered markets.

That said, if this technology is available where you are, get it. Get it now.

For gaming, make sure that your provider offers bidirectional cable modems. There are some services using more primitive equipment that uses cable to receive data and a phone line to transmit—the lag introduced by this technology makes gaming performance really suffer.

I've been using @Home's cable modem service for about three months now with nary a glitch—there was a single day when the network went down for a few hours, but that's something that has happened with every dial-up ISP I've used. Installation was a snap. The installers visit your house, put a splitter on your television cable (you don't have to have cable TV service active to use a cable modem, but you must be wired for it), plug in the cable modem, and attach it to a network card in your PC. TCA, our local cable provider, includes a free network card with installation and includes the cost of cable modem rental in the flat $40 per month bill. The only potential caveat is location—if your computer isn't near a cable TV outlet, some additional wiring may be necessary.

While Web browsing can be inconsistent—your connection remains fast, but popular sites can still seem slow because they feed you the data slower than your cable modem can accept it—gaming is pure bliss. Low ping times and fast data transmission make multiplayer gaming a silky-smooth experience,

especially if you find other players with high-speed connections. I had no trouble doing tight formation flying in WWII FIGHTERS, and for the first time I've found Net play is 3D shooters like HALF-LIFE not only tolerable, but enjoyable.

Loyd: ISDN—Still Maybe After All These Years

Currently, I'm using Integrated Services Digital Networks (ISDN) for my Net connection. ISDN is purely digital, which is a great advantage over even dual modem technologies like Diamond's Shotgun. In California, at least, ISDN is expensive because there's a per-minute charge during normal working hours and a 200-hour limit on free time in the evenings and weekends. Each minute is fairly cheap, and you get some time included in the base rate from Pacific Bell, but it adds up very quickly if you work out of your house—especially since the charge is doubled if you use both lines.

ISDN is a great story of missed opportunities on the part of all the phone companies. If they had priced ISDN the way they price standard phone lines, ISDN would be much more prevalent. Each ISDN line is actually two phone lines with discrete data channels (called B-channels). They can actually be paired up (bonded) when higher speeds are required, though some services (CompuServe, for example) support only a single B-channel. The maximum speed for each B-channel is 64Kbps (or 128Kbps when the two channels are combined).

Because ISDN is digital, ping times are quite low. While

ISDN Architecture

	3 Channels
Twisted Pair Cable	B channel 56/64 Kbps
	B channel 56/64 Kbps
	D channel 16 Kbps
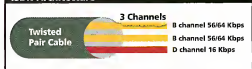
Faster, yet slower. Although a good deal slower than cable or XDSL, ISDN may still be a better choice than a 56K modem, depending on pricing and availability in your area.

GameSpy, I see ping times as low as 70–80ms. WorlNet (the site that hosts HALF-LIFE death-matches on the Net) servers' ping times are a little higher. Running directly from HALF-LIFE, I see ping times that are as low as 50–60ms. That's definitely an edge in deathmatches—and someone as reflex-impaired as me needs every edge he can get.

The bottom line is that if ISDN is the only digital alternative in your area, it may be worth investigating. Check the rates, though. But if you can get DSL or cable, go for one of those instead.

The Best
56k Modem

Modems have come a mighty long way from the days of premelky V.34 28.8 modems that you were lucky just to get connected. Now, 56K is the order of the day. And with the arrival of the V.90 standard, you no longer have to flip a coin as to which kind of 56K modem to get. While 56K modems pale in comparison to their high-speed cousins, there's still some online gaming fun to be had driving in the 56K lane. We wanted to look at 3Com/USR's PCI WinModem, but the company was unwilling to send us a unit, citing "performance concerns" with its current firmware [read: it's currently not a great performer]. In fact, you should probably avoid WinModems altogether because they have less onboard processing horsepower, which means they have to use more CPU cycles than other modems do. This is why WinModems are less expensive. We still recommend external modems for their ease of installation and lack of configuration headaches.

What we've seen, in most cases, is that performance among 56K modems has become pretty consistent. That fact helps shift your buying decision over to price, form-factor, or, in some rare instances, bundled software. Still, we went looking to something a bit different, and even among the "ho-hum" 56K modems we came across two that connect via USB and pull power from the USB port—eliminating the much-loathed wall-wart power supply.

Shark Leopard Pocket USB Modem

★ ★ ☆ ☆ ☆

Modems the size of credit cards are old hat. But how about a modem the size of a pack of gum? Shark Multimedia's new USB Leopard impressed us with its compact size and USB connection, and with the fact that it pulls power from the USB port. This modem seemed like it could be just the trick for corporate road-dog types looking for a modem for their laptops. It

www.shadowcompany.com

draws only 5 milliamps of current in idle mode and only 45 milliamps when connected online, less than a quarter of the power required by typical PC Card modems. A pretty impressive offering, or so we thought. Then we saw its ping times.

Despite good initial connect speeds and decent line emulated line conditions, the Leopard had very high ping times, with the result being very poky online gameplay. Just how high were they? The three other modems' average ping times ranged from 170-190ms across different line conditions, whereas Leopard averaged 310ms, well in excess of any other modem tested. And the story didn't get any better in GameSpy tests.

If you spend a lot of time on the road and are looking for a compact 56K modem for getting email and surfing the Web, Leopard might be a candidate. Gamers can do much better.

MultiTech
MultiModem USB

★★★★½

We recently gave MultiTech's MultiModem USB high praise for its competitive performance, USB connection, and lack of wall-wart. And while not as inexpensive as Diamond's SupraExpress 56e, it's still competitively priced versus USR's

V.90 external modem. We still like the MultiModem USB for its ease of installation and overall performance, though Diamond's SupraExpress 56e edged it out in performance tests. The MultiTech supports both V.90 and K56Flex 56K standards

After connecting the modem to your USB port and finding the computer a driver disk, this one's ready to roll. Across the three simulated line conditions, the MultiTech nipped at Diamond's heels for best ping times, and was within 1ms of Diamond in our tests connecting to MindSpring. In our GameSpy tests of HALF-LIFE servers, the MultiTech was about 15ms slower on ping times to servers than Diamond. Another low point was that the MultiTech had the lowest initial connect speeds across the drive and mediocre line conditions.

For about 520-550 more than the Diamond SupraExpress 56e, MultiTech gives you a clean USB implementation of a modem that achieves solid performance. The lack of wall-wart is an added bonus. If you're someone who's socket-challenged and you're looking for a 56K modem, you should consider the MultiTech.

3Com/USR V.90
External Faxmodem

★★★★

U.S. Robotics is a long-time veteran in the modem business. It was acquired by 3Com, but continues to make solid modems. Its V.90 External Faxmodem is a stock 56K offering,

and aside from its generally stout performance, it is otherwise unremarkable.

The first annoyance is that the modem doesn't arrive ready to roll straight out of the box. This modem doesn't ship with a serial cable, which you need to connect the unit to your PC. And given that U.S. Robotics pioneers tend to be on the pricier side, this goes from annoying to inexcusable. The mid does itself painlessly and is up and running (sans reboot) within a few minutes. Performance is generally solid across the board, and this guy achieved the highest initial connect speeds across our three simulated line conditions. When

connecting to MindSpring, USR's ping times were again right in line with the other units tested, as were its ping times to GameSpy servers.

All told, U.S. Robotics delivers a solid, if unexciting offering in its V.90 External Faxmodem. But because the US Robotics doesn't arrive ready to use and costs about $30 more than Diamond's SupraExpress 56e, Diamond gets the nod. And because the US Robotics unit still connects via

---

Shark Leopard Pocket USB Modem
PROS Compact size; very low power consumption.
CONS Hands-down the worst ping times of any device tested in this roundup. SYSTEM REQUIREMENTS System with free USB port; Windows 98. $79.95 (MSRP) • Shark Multimedia, Susie Clem, CA, (800) 800-2321 www.sharkmm.com

MultiTech MultiModem USB
PROS Easy installation, no wall-wart; USB. CONS Not quite the performance leader; slightly more expensive than other offerings. SYSTEM REQUIREMENTS System with free USB port. $129 (street) • MultiTech, Mounds View, MN, (800) 328-9717 www.multitech.com

3Com/USR V.90 External Faxmodem
PROS Easy install/setup and performance. CONS Doesn't include serial cable, well-wart; slightly more expensive. SYSTEM REQUIREMENTS System with free serial port. $129 (street) • 3Com/USR, Rolling Meadows, IL, (847) 262-5000 www.3com.com

Diamond SupraExpress 56e
PROS Easy install/setup; low cost; 56e/gan modem bonding technology. CONS It's still an analog modem; permanently attached serial cable. SYSTEM REQUIREMENTS System with free serial port. $105 (street) • Diamond Multimedia, San Jose, CA, (800) 468-5846 www.diamondmm.com

traditional serial port and has a wall-wart. MultiTech gets the nod for USB innovation.

Diamond SupraExpress 56e

★★★★⯪

The SupraExpress 56e is a solid, low-cost, no-frills modem. The 9-pin serial cable is permanently attached to the unit, so if you have a 25-pin port, you'll need to get an adapter. (it's not supplied). Most PCs these days have 9-pin ports, though, so it may not affect you. The device is smaller than a paper-back book, but it does require a power brick (albeit a small one).

The Supra 56e is a Plug-and-Play device, so setup is quite easy. Attach the modem, turn on your system, and install the driver from the supplied CD-ROM. The SupraExpress 56e supports both K56flex and V.90 standards, but check your ISP before you speed your dough on this device. The software bundle is limited, but it does have a cool feature in the included Shotgun software. If you have another Supra, you can pair them up for a total bandwidth throughput of 112Kbps. The gotcha is the word *theoretical*. With the voltage limitations of current phone lines, you're really limited to a maximum of 2x53Kbps, or 106Kbps. And that's the downstream speeds under *ideal* conditions. The Shotgun technology doesn't seem to affect ping times, though. It's still an analog modem at heart. Be aware that your ISP has to support the Shotgun technology, so check with your provider before you rush out and buy a second modem.

DAVE SALVATOR

Rumor has it that Dave ("Captain GearHead") Salvator recently wired the office's junk-food vending machines into his LAN's network, so he can reject the dollar bills of anyone using the Skeletns skin in HALF-LIFE.

DENNY ATKIN

Denny Atkin hopes there's a special place in hell reserved for the eggheads who designed PC networking protocols, with an extra-hot corner for the genius who decided that Windows 98 didn't need any real network troubleshooting capabilities.

LOYD CASE

After spending way too many hours on the Net lately, Loyd Case has decided to seek a little isolation. You can find him holed up in his office reading the manual to SID MEIER'S ALPHA CENTAURI.
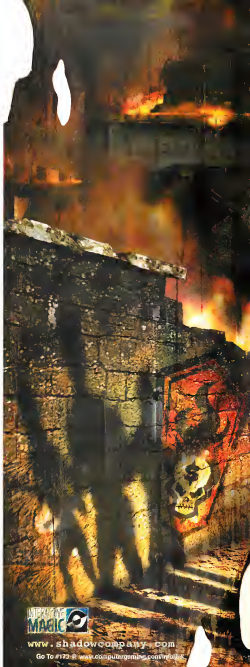
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The Next
Internet Is Born

First Trial for Internet2 Gets Under Way

by Dave Salvator and
John Rendleman,
senior editor, PC Week

N etworking is a game
of bottleneck bot-
tleneck, in which every
time you speed up
one part, the network becomes
only as fast as the next bottle-
neck. The holds true from the
smallest local area network to
the Internet. Currently, the
main bottleneck to a bet-
ter Internet experience
is most likely your
modem. But as high-
bandwidth connec-
tions become more
commonplace for con-
sumers, the Internet's bot-
tleneck is going to move to
other parts of the network, such
as slow servers or routers.

Addressing this problem, a
consortium of 141 universities
across the United States is cur-
rently working on Internet2, a
very high-bandwidth large net-
work that will allow things like
large numbers of real-time video
streams and faster overall net-
work performance. As you read
this, Internet2 developers have
most likely begun the first trial,
flipping the switch on a new
high-speed backbone network.

The Abilene project, the key
subnetwork that makes up the
backbone for Internet2, will con-
sist of a 13,000-mile, 2.4-Gbps
research network—240 times
faster than 10-Mbps ethernet—
connecting 150 universities and

three corporations. It will serve
as a testbed for next-generation
Internet applications such as IP
multicasting, advanced security,
and differentiated service levels

My, What Big Pipes You Have
The Abilene network provides
an environment in which
researchers and industry partici-
pants can test new technologies
to solve the bandwidth
constraints, quali-
ty-of-service
problems, and
security issues
that plague
the public
Internet. The
fruits of that work
will eventually trickle
down to corporate Internet
users. In fact, the goal of the

10-month-old Abilene project is
to make the Internet as widely
available and as reliable as the
conventional telephone network.

Quality of service is a very
important aspect of Abilene.
"We have to figure out how to
provide QOS if we want to make
the Internet a ubiquitous medi-
um," says Brian McFadden, vice
president and general manager
in the Carrier Packet Solutions
group at consortium member
Nortel Networks, in Brampton,
Ontario. "Abilene allows the
development of the next genera-
tion of Internet applications and
takes the speed issue off of the
table."

For more on Internet2, go
to **www.internet2.edu.** For
more on networking, see this
month's feature on networked
gaming, on page 106.

Matrox and S3 Fresh From the Foundry

M icrosoft's Windows Hardware Engineering Conference (WinHEC) is looking more like D-
Day for graphics chipmakers. 3Dfx, nVidia, 3D Labs, and new S3 and Matrox are all aim-
ing to have their wares on the shelves of WinHEC, which is slated to take
place in Los Angeles in early April.

S3 announced its Savage4, as well as its Savage3D, which was the chip maker's new value for its dis-
appointing Virtual line. Savage3D offered good performance and S3's DIRC texture compression, which Microsoft
licensed as the standard texture compression for DirectX 6's Direct3D. Although other chipmakers have been loath
to adopt the standard, S3 has been singing its praises, showing Unreal TOURNAMENT demos using huge textures
that show off S3TC's main benefit: letting developers use very high-res textures without completely eating graphics
card memory bandwidth.

S3's next chip, the Savage4, will come in two flavors: the Savage4 GT and the Savage4 Pro. The Pro will offer a
peak fill rate to 143Mpixels/sec. But S3 says that the Savage4 will maintain that level of performance running single-
pass multitextured games using trilinear filtering, a feat few other chips can match. The Pro will offer AGP 4x support
and 32MB onboard memory support. The GT, a more "mainstream" part, will be an AGP 2x part with 16MB onboard
memory support and a peak fill rate of 125Mpixels/sec. When running single-textured games, Savage4 may not fair
as well as other parts, but as multitexturing titles proliferate, Savage4 may be more of a contender.

Matrox has been at work on its new G400 accelerator, an AGP 4x part that will feature 32MB onboard memory
support, a 300MHz RAMDAC, and Matrox's new 256-bit DualBus internal architecture, which is two 128-bit buses
operating in parallel. Matrox doesn't offers discrete many performance specs, but the company expects the G400 to
be about three times as fast as its current G200, with a peak fill rate in the neighborhood of 250Mpixels/sec. G400
will also support stencil-buffer and "true" hardware bump-mapping, which looks better than the embossing effect
some other chips use. We expect first silicon from S3 and Matrox very soon, so stay tuned to 3D HardWare to see
how these chips fare. —Dave Salvator

www.computergaming.com

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Audio's Voice Is Changing

The Evolution From Sound Cards to Audio Accelerators

by Loyd Case

I know it sometimes seems as if we're speaking in tongues when we talk about technology, especially when it comes to the area of 3D graphics. Anisotropic filtering, trilinear mip-mapping, stencil buffers. Sheesh, enough already. Well, guess what? Sound cards are undergoing a similar sea change.

Last month, I tried to clarify some of the language we use to talk about 3D graphics cards, so this month, it made sense to try to make sense of some of the verbiage you'll hear when we review the latest sound cards.

The first change is that sound card makers no longer call their products "sound cards." The new term bandied around now is audio accelerator. And though the term seems a little fluffy, it's not entirely inaccurate. Consider the graphics card analogy.

In the distant past (more than two years ago), graphics cards were really just "dumb frame buffers" in

LOYD CASE

3D games, and your trusty CPU performed all of the 3D heavy lifting to render a scene and write it to your graphics card's memory. Now, of course, we have 3D accelerators, some of which rival the complexity of your main processor at the chip level.

Audio is moving steadily in that direction too, and it's actually making for some exciting and immersive gaming experiences.

If you've played THIEF, you know what a difference the positional audio cues can make as to whether you're fit to move on or fit for a coffin.

To Stereo and Beyond

Back in the 1930s, Alan Blumlein patented the first electronic method for creating stereo sound. Most of us have two good ears. Much like the ability to perceive depth that a pair of eyes gives us, two ears allow us to perceive the direction and distance of a particular sound. Stereo was the first step along the way, creating a sense of 2D space, or a "soundstage," for audio.

Like 2D graphics, 2D audio is limited. Unlike with 3D graphics, though, the technology is there to actually add a feeling of space to the sound field. Except for limited solutions like LCD shutter glasses

Also like graphics, it's relatively easy to create the impression of a static 3D audio world. For example, using a 3D-modeling tool like Lightwave 3D, we can (relatively easily) create a "movie" that looks like it's moving through three dimensions, but isn't at all interactive. Similarly, solutions like Dolby Prologic or AC-3 are great at being able to reproduce 3D audio effects from a canned playback (the movie or TV), but the effect will be exactly the same every time you play it, because it's canned. And don't even get me started on "interactive movies."

It's All Calculus to Me

Like real-time 3D graphics, 3D audio has a lot of underlying math. And like 3D graphics, there are a number of ways of doing it. One way is the use of a head-related transfer function (HRTF),

Anisotropic filtering, trilinear mip-mapping—sheesh, enough already.

and weird VR headsets, we're really trapped by our computer monitors in trying to create a graphical 3D world. That's where 3D audio can make all the difference. There's nothing quite like the click of a submachine gun bolt being cocked behind you to get your juices flowing. But if your audio is only 2D, you won't know that the bad guy is behind you.

which is a mathematical function that models the way your ear hears sound. As a particular sound source moves around you, an HRTF has to calculate the position and effect of the sound on your ear. But before you even get to that step, the sound stream has to have emanated from a 3D world.

Right now, in many games, there's a lot of "cheating" going on. A game designer might say, "The dripping water sound comes from the right rear." And when you turn your character around in the 3D game, lo and behold, the dripping water sound is still coming from your right rear. For ambient sounds, it's not a big deal, but if 3D audio is to become a critical component of game-

Speak Into My Trumpet Sensaura uses digital ears to model the way we hear 3D sounds.

play, the location of

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the sound has to remain constant as you move through the virtual world. Thus, the sound environment has to be every bit as interactive as the visual environment. In fact, companies like Sensaura (which evolved out of EMI Records' research labs), Aureal, and Creative Labs have been hard at work on this problem that it goes beyond just doing a bit of math. Sensaura, for example, has built digital "ears" (pictured on the previous page) to better model how the ear actually works. Using these ears, Sensaura has studied and modeled how humans localize a sound in 3D space.

The latest generation of 3D audio cards allows game designers to create a reasonably fluid sound 3D environment Again, as with 3D graphics, the 3D sound designer has to have tools to allow the audio streams to change as you move through the game's virtual world. Interestingly, much of this information can come right out of the 3D graphics environment. A 3D sound designer can look at the layout of, say, an UNREAL level and know that if a particular monster is in room A, then a player in room B will hear it off in one direction, whereas a player in room C might hear it from a different direction.

Creating 3D audio in two speakers is tough, though. Remember our HRTFs? Those little math algorithms cause CPUs to work pretty damned hard to get any kind of realistic audio out of two speakers. Even then, it's not perfect. Tests of fairly sophisticated HRTF setups show that there's always a quiet zone that's directly behind the center of our heads. Vertical cues can be equally tough to perceive (though a good set of headphones can be better than speakers). Four speakers are better, but many of us don't have the space or want the hassle of adding a second set of speakers. But even with four speakers, calculating changes in direction and motion involves some pretty serious math. So the solution is to create 3D audio accelerators, much like 3D graphics accelerators.

Testing, Testing, 1-2-3

So on a very simplistic level, that's a "picture" of what's going on under the hood with 3D audio. But like 3D graphics, 3D audio now can have a serious impact on the performance of your computer game. In the past, any attempt at 3D audio was handled by the CPU, and if a game attempted to do serious positional audio (very few did), you'd see your frame rate tank.

At CGW, we've begun doing CPU usage tests of this new generation of 3D sound cards using ZIFFDavis' Audio WinBench 99, which gives a solid, empirical number. The percentage

of CPU used when a sound card is trying to "render" audio on DirectSound3D. For more information about Audio WinBench, go to **www.zdbop.com.**

Another parallel in the 3D graphics/audio evolution is the sometimes aggravating area of drivers. Having the latest set of drivers for your sound card is now as critical to system performance and game compatibility as having the latest graphics card drivers. For example, the beta drivers for the Diamond Monster Sound MX300 chewed up 12 percent of a 400MHz Pentium II in a particular Audio WinBench test. Later, with shipping drivers, the CPU usage on the same system

with the same test dropped to a bit under 7 percent.

Also like 3D graphics, 3D positional audio is somewhat subjective. In the same way that some people like the image quality of one 3D accelerator or game better than another, some people can hear positional 3D effects better than others.

The bottom line is that you now have a third sophisticated processor under the hood of your gaming rig. That, of course, makes it even more confusing in some respects. But it will make games all that much more immersive, and in some ways, it's even more exciting than 3D graphics. **CGW**

The Cone of Silence

3D Positional Audio
Audible Effect Curve
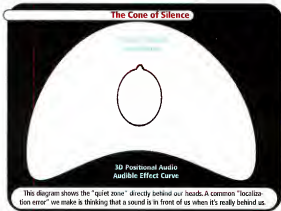
This diagram shows the "quiet zone" directly behind our heads. A common "localization error" we make is thinking that a sound is in front of us when it's really behind us.

Sound Offering

by Dave Salvator

He isn't Yamaha's first time around the bend making a PC sound card. The first WaveForce 192 was a solid sound card whose difficult install kept us from recommending it for games. But now Yamaha has come back with the WaveForce 192 Digital. This guy's got a no-brainer install, killer wavetable patch sets, and good positional 3D audio support, all of which made this card a contender.

Yamaha has wisely decoupled the card's driver install from the installation of its bundled apps. WaveForce Digital's driver install is about as easy as it gets. Plug the card into a free PCI slot, boot up your system, feed it a driver disk, and the card initializes and works—without a reboot. From there, you can pick and choose which apps (wave editor, MIDI sequencer, or others) you want to install. The card also ships with partial versions of JEDI KNIGHT and DESCENT, FREESPACE and a full version of FINAL FANTASY VII.

In close-listening tests using headphones, WaveForce Digital's audio output is clean, with no audible hash even with all mixer faders wide open. The card's mixer also has a fader called "3D Wide" that adds/removes a more ambient 3D effect to two-channel audio. The effect works well and is easy to adjust to taste. About the only blemish was some "ratcheting" noise when adjusting the Master fader during waveMIDI playback.

Audio WinBench reported that WaveForce Digital accelerates eight streams in DirectSound 3D. Its 13 percent CPU usage (on a Pentium II-400) was about on par with Diamond's MonsterSound MX300 (using Aureal's Vortex 2 chip) streaming 16 voices at a resolution of 22KHz, 8 bit. WaveForce Digital renders 3D positional audio using CRL's Sensaura technology, which does a good job of rendering both DirectSound 3D and A3D audio, although to my ears the MX300 does a somewhat better job.

WaveForce Digital brings a very solid card to the market. It offers a lot to dabbling musicians, including great General MIDI, Yamaha's own XG sounds and effects, DLS, great-sounding real-time effects processing, and SPDIF digital audio output. For gamers, WaveForce offers legacy SoundBlaster support for DOS titles, and DirectSound3D and A3D 1.0 support. And while its 3D audio quality might not be quite on par with Diamond's MonsterSound, Yamaha still brings a gob of great features together here.

So, if you're a gamer with a musical proclivity (can you say that in print?), then maybe the WaveForce Digital should be your next sound card. CGW

photo Michael Falzone

Sporty, But Not Super

by Loyd Case

The Super Sport is billed as ThrustMaster's full-function budget wheel. Unlike the Sprint, with the Super Sport you can use the pedals while the paddle shifters act as shifters.

Unfortunately, the pedals are the weak link in the Super Sport. Both the brake and throttle stand nearly vertical, but the base is fairly light. The result is that the pedals slide all over the floor when you apply any pressure to them. I had to shove a large box behind the base to keep it from shifting, but even then it shifted sideways occasionally.

The driver installation was very odd. The software warns you to make sure the wheel is not connected before installing the drivers. Then it prompts you to connect the wheel partway through the setup process. The wheel itself installs easily, and there's a sort of "vise grip" clamp that attaches the wheel to the tabletop. All you need to do is adjust it once, then it pops off and on fairly easily, making it a snap to set up for casual driving.

And it's casual driving that this wheel is really designed for. When I ran NEED FOR SPEED III, cars seemed to respond sluggishly when I turned the wheel. The smallest adjustment of direction required a fairly coarse wheel motion, and it was very easy to overcontrol. GRAND PRIX LEGENDS was even worse, since the cars are very touchy as it is. Worse than that, no matter how often I turned the wheel, braked, the return to center never seemed to quite center the wheel. This was probably a result of cheap springs inside the wheel that generate more than any electronic issues. In fact, much of the time, I felt like I was turning a big spring rather than a steering wheel.

The bottom line is if you're on a tight budget, the Super Sport may be a decent choice. But there are other low-cost wheels available, such as the ACT Labs RS, that are better. CGW

photo Michael Falzone

DEMONSTRATION #2:

(1) Tear out your old sound card.

(2) Smash into pieces.

(3) Toss over your shoulder.

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A 3D

BELIEVE YOUR EARS™

Thrusty Does Force

by Dave Salvator

With damn near every hardware vendor who can log the mirror coming out with a force-feedback wheel, a lot of racing gamers have lately been asking, "Where the #@%! is ThrustMaster?"

Long a leader among game controller makers, Thrusty has arrived fashionably late to the force-feedback controller orgy with its NASCAR Force GT. This new wheel offers Thrusty's renowned solid construction and delivers adequate, though not outstanding, force-feedback performance. So given a very crowded field of products, is the GT worth considering? The answer comes back a definite "maybe." Here's why:

Installation is fairly straight-forward, although there's one annoying quirk that's all too familiar in Thrusty wheel installs: You have to begin the install with the wheel unplugged, then connect it midway through the install for it to be detected. For traditional joystick-port devices this practice was annoying, but for a device that connects via USB and is auto-detected, this goes from annoying to, well, um... really annoying. That one glitch aside, the rest of the install is uneventful.

The GT uses Thrusty's two-clamp system, with each clamp having a quick disconnect lever that makes mounting or dismounting the wheel a snap. The system works well, but because three cables connect underneath the wheel's housing, and because two of the three wires have bulky ferrite cores on them, mounting the wheel is a clumsier process than it needs to be.

As a driving wheel the GT is solid. The unit's construction and ergonomics are good, as is typical for ThrustMaster. But the GT is billed as a force-feedback device, and on that score the news is very mixed. In NEED FOR SPEED III, VIPER RACING, and SPEED BUSTERS—all force-feedback titles—the GT's performance is at times pretty good, but for the most part it's unrequited. Notably, in NFS III the GT doesn't always render skids

when you try to rip through a turn with too much speed, and having that feedback really helps you react to a skid. I also fired up Immersion's iForce Studio force editor and took the GT through the editor's sample wheel forces. Here it fared better, rendering most of the sample forces pretty well.

In short, Thrusty has delivered yet another solid wheel to add to its line. Problem is, this one's billed as a force-feedback wheel, and on that score, its performance is adequate but not equal to that of wheels from Logitech, Microsoft, or ACT Labs. With improved force rendering, the GT could be a serious contender, but until then, this probably isn't your best choice. **CGW**

Big Sound for Small Dollars

by Loyd Case

There have been a host of sub-$100 speakers hitting the streets recently, and the real surprise is that most of them

sound pretty darned good. Add Jensen's JMP-S7 model to that mix. It makes the job of choosing speakers that much harder, but it's certainly preferable to the flatulent-sounding gear that's been littering the low end of the budget scale.

The JMP-S7s bear some resemblance to the Advent line of speakers—no real surprise there, since both companies are subsidiaries of Interact. The JMP-S7s are the newest members of the Jensen line and are clearly targeted toward more cost-conscious users. The bass unit is identical to the midrange Advent speakers, and the satellites are similar looking, though with a more rounded shape. The volume knob/power switch and a headphone jack are right there on the front of the right satellite. Setup is easy, as the power transformer is in the bass unit,

there's no power brick. The bass unit is meant to be mounted on a wall or the side of the desk, but it won't stand on its side without support, thus making things a bit inconvenient if you prefer a less permanent mount.

The JMP-S7s pump 15 watts into the bass unit and 2.5W into each satellite. Despite the relatively low power, musical material could be played pretty loudly—certainly loud enough for a small home office—but on particularly "hot" tracks, the drivers distorted badly. They also sounded pretty bright, as if the high midrange had been emphasized. During gameplay, the speakers fared much better. Game audio could be cranked up to pretty high volume without any distortion. The stereo imaging is very good, which helped A3D playback quite a bit.

If you're looking for a decent set of inexpensive speakers with some nice conveniences, and you don't mind having to mount the speakers on a vertical surface, you could do much worse than the Jensen JMP-S7s **CGW**

Double Vision

by Loyd Case

When I finally got the Wicked3D Eyescream stereoscopic glasses going, my jaw dropped. And therein lies the rub: Getting these puppies working requires more tweaking than it did to tune up my old 1960 Plymouth Valiant.

The Eyescreams are an antialias accomplishment made all the more impressive by the fact that they work at all. That's not a slam on the product. The engineering may be impressive, but ultimately, it's a bolt-on.

The Eyescream uses the same shutter glasses that were originally sold by the now-defunct H3D Corporation. H3D's problem was trying to get game developers to build stereoscopic support into games—too few games, too little business. Wicked3D attacked the problem from the other angle: It made a set of universal Voodoo² drivers that would work with any Voodoo² card and add stereovision to the games without the game having to be stereo aware. Writing those drivers was an amazing engineering feat. Getting it to work on your system would be an amazing feat, too: I tried the Eyescream with Guillemot's Maxigamer3D II.

Wicked3D puts out a lot of games that work—with varying results—with the Eyescream. The problem is that you can't always rely on the list. TOMB RAIDER III suffered truly awful palette corruption, which made the game unplayable. Many of the listed games lock up when switching to or from the stereo mode. Also, many Glide games require you to manually copy a configuration file to the game directory.

The physical setup is something of a chore, too, though it does only need to be done once. The software control panel is complex, but the manual does a good job of guiding you through the complexity.

When the Eyescream glasses did work, the results made for an amazing experience. UNREAL, for example, took on a whole new sense of depth, marred only by the need for you to turn off volumetric lighting.

So if you're really looking for that special something to make your games sparkle, the Wicked3D Eyescream is worth a closer look. But be aware that getting to stereoscopic Nirvana may seem like the road to Purgatory. **CGW**

Interact's Surprise

by Loyd Case

After the debacle that was the V3 wheel, I was prepared to be underwhelmed by the V4. The V3 felt rickety, and it just didn't work in many systems. Interact learned its lesson, though, and when the company decided to do a force-feedback wheel it went after proven technology and licensed Microsoft's force-feedback implementation.

The Florida company then added a few bends of its own. The V4 can be set to a variety of angles and heights, accommodating different desk heights and users. Getting the adjustment knobs to lock properly is something of a chore, but you usually have to do it only once. Initial setup is a pain, too—especially attaching the mounting brackets. You only have to do this once, however. After that, you just twist a couple of knobs, loosen the suction cups, and pull it off. The power supply is the "snap-on-a-rope" type, going one better than the original Microsoft wheel, which featured a massive power brick.

It's gameplay that matters, so I was off to the races with NEED FOR SPEED III and SPEED BUSTERS. The cool thing about this wheel is how well it renders the absence of forces. Push too hard around a corner in NFS III, and you feel the wheel flop loose in your hand. Positive forces—the now familiar bumps and crashes—are also rendered to good effect. The pedals are pretty good too—large, and with a fair amount of travel, allowing for relatively precise braking and throttle.

Overall, this wheel gets a strong thumbs-up. The only serious negative criticism goes to Interact's placement of a couple of buttons on the wheel right under the heel of the thumb, where they get pressed accidentally and often. It was easy either to move the games or the software to move the button assignment, though.

There is no force either per se, so you have to go with what the game provides. While the manual is clearly written, some of the syntax in the online help can only be described as tortured.

The V4 can be found for well under $130, and at that price, it's nearing the price of stock analog wheels. So if your wallet's light and you have a hankering to feel the force, check out the V4. **CGW**

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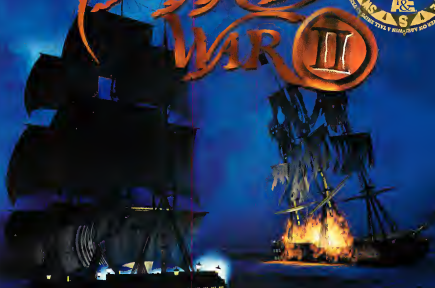
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This Month's Reviews

Game	Rating	Page
3D Railroad Master	★ ★ ★ ★ ★	176
Civilization II: Multiplayer Gold Edition	★ ★ ★ ★ ★	173
Close Combat III	★ ★ ★ ★ ★	164
Cydonia	★ ★ ★ ★ ★	156
Dead Reckoning	★ ★ ★ ★ ★	151
Extreme Tennis	★ ★ ★ ★ ★	162
Lego Loco	★ ★ ★ ★ ★	158
Monaco Grand Prix	★ ★ ★ ★ ★	158
S.C.A.R.S.	★ ★ ★ ★ ★	151
SimCity 3000	★ ★ ★ ★ ★	166
Speed Busters	★ ★ ★ ★ ★	161
Thunder Brigade	★ ★ ★ ★ ★	151
Top Gun: Hornet's Nest	★ ★ ★ ★ ★	155
Wargasm	★ ★ ★ ★ ★	149
War of the Worlds	★ ★ ★ ★ ★	170

3D Railroad Master

CGW COASTER OF THE MONTH!

A nice idea gets totally derailed.

The Game Genres

Action Games that emphasize fast gameplay over story or strategy. **Adventure** Games that require you to solve puzzles to move through a story line. **Classics/Puzzle** Old mindbye such as Chess and Minesweeper. Puzzle games emphasize problem-solving. **Role-Playing** These items character development through attributes.

The game world tends to be large, the plot less linear. **Simulations** Highly realistic games played from a first-person perspective. **Sports/Racing** A proven recipe pressing action sports games, such as NBA Live, strategic sports games, such as FPS Football, and driving games.

Strategy These games emphasize resource and risk management. Includes conflict-based war-R and fantasy games as well as construction programs like SimCITY. **Wargames** A subset of strategy games, these recreate historical conflicts from a conceptual perspective. They may be tactical, operational, or strategic.

How Do We Rate? We review only finished products—no betas, no patches.

★ ★ ★ ★ ★	★ ★ ★ ★ ★	★ ★ ★ ★ ★	★ ★ ★ ★ ★	★ ★ ★ ★ ★
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 ambi- 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.

HOMEWORLD

Actual Game Screen

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A C T I O N

Gamus Interruptus

Lack of Control Makes WARGASM a Less Than Earth-Moving Experience

by Mark Clarkson

WARGASM, a combination of third-person RTS and first-person shooter, seems to offer much more than just a goofy name. It includes a mixed battlefield in which you can jump into tanks or helicopters or play as an infantryman. And it delivers—but barely

First the good news. The game's engine is a tour de force. The sun actually blinds you if you look into it; wrecks explode and burn, throwing off rolling black smoke; your gun hurls MESH, HEAT, and Sabot rounds at enemy units with impressive muzzle flash, smoke, and recoil; tank treads throw up dust and even deform to follow the landscape. You'll experience day and night, clear weather, thunderstorms, and fog.

And, if anything, WARGASM sounds better than it looks, with grand orchestral music and enemy shells whistling past in glorious stereo. WAR-GASM even incorporates the speed of sound: You'll see faraway muzzle blasts and explosions before you hear them.

The environments are pretty, if a little spartan. Watching a large force of tanks rumble across the desert past burning wrecks, treads churning up moonscapes of sand, does arouse a certain amount of Desert Storm déjà vu. But, somehow, the rest of the game doesn't live up to the engine.

Miss-Conception

You must win a series of missions, offensive and defensive, to conquer each continent. Units are limited, and losses carry over from one mission to the next. Conquered continents replenish and update your forces. You can order units and groups to move, guard and attack from map mode, or drop into first-person mode and "commandeer" individual units. The RTS play is more reminiscent

ZOOM AND BOOM A zoomed-in turret view lets you take out enemies then savor smoking wreckage from afar.

of, say, ARMORED FIST than of TOTAL ANNIHILATION or STARCRAFT.

While units will often take good care of themselves, blasting enemy forces out of the sky and off the landscape, they will sometimes allow themselves to be chewed up by a pillbox or by a few ground troops. Turn your back on five tanks, and you're down to one when you look up again.

The missions themselves are pretty basic, if sometimes demanding. My most effective strategy was to start with a small force of tanks, commandeer one, and drive toward the objective, blowing up resistance as I went. When that tank was destroyed, I commandeered the next in line. Unfortunately, such an approach dilutes the strategic element.

The tanks and helicopters are all surprisingly similar, despite slightly varied attributes and ammo loads. You'll see maps more than once, too, but with different environmental settings, objectives, and

numbers of enemy forces. For example, instead of a clear day (like the first time you saw the map), it's nighttime in a thunderstorm in your second go-round. Or, instead of moving north to south as you did before, this time you're going west to east.

Uncontrollable WARGASM

The biggest problem, though, is that you can't customize your controls. The unpatched version of WARGASM offered a choice of five preconfigured setups, some of which seemed impossible for a two-handed player with only one keyboard, and none of which suited me. Controlling infantrymen was easy if unrealistic, and driving tanks wasn't that hard, but I found the helicopters to be virtually unflyable, especially with my favorite tank control setup. (Try flying a helicopter using ALT for up/down, +/- for forward/backward, and the joystick to turn. I dare you.) In fact, the only way this game works, for me at least, is as a "lite" tank sim. Third-person control is clumsy and while the turret on my Micro-soft SideWinder changed the game's views, those on my CH joystick didn't.

The game would be fun if it weren't for its interface. (Luckily, Infogrames has issued a patch to allow configurations to be customized.) Multiplayer mode (surprisingly *not* called "Multiple WARGASM") is fun. WARGASM may fade fast, but look for its engine to make a comeback. **CGW**

Mark Clarkson can usually be found trying to finesse his '67 Lotus-Ford through one more turn at Silverstone. (Thanks Papyrus!)

TORCH ME IN THE MORNING A few grenades lobbed into the treeline stops some pesky small-arms fire, and delivers some nifty explosions to boot.

Vehicular Manslaughter

Steer and Shoot in These Vehicular Combat Games
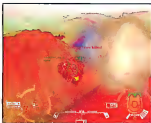
Thunder Brigade

★★★

Publisher: Interactive Magic
Price: $29.95
www.imagicgames.com

THUNDER BRIGADE is a straightforward, heart-pumping, seat-of-your-pants hovertank arcade shooter. Similar to BATTLEZONE and HAVOC in style if not depth, THUNDER BRIGADE allows you to fly a variety of tanks in 30 search-and-destroy missions on 12 unique planets and moons.

The story in THUNDER BRIGADE focuses on three interstellar powers colliding in a struggle for supremacy in the Krilean System: the ruthless Halon Empire, the disciplined Earth People's Army of the United Systems. You can play any power in instant action, single-scenario missions, or multiplayer action over Internet or LAN, but the campaign game offers only the United Systems for play. In either case, a ratings system scores your performance after missions while the campaign game has the added bonus of decorations and rank increases for successful missions.

Not only does the game offer fantastic stability and minimal PC requirements, but its AI plays very well. Enemy taunts stick to objectives, while your AI wingmen lock butt when called into action. One of the strongest features is the built-in mission editor, which lets you modify single-player scenarios or multiplayer maps.

Unfortunately, THUNDER BRIGADE does not allow for the remapping of keyboard controls, instead begging you to use a joystick. Graphically, the large fractal voxel maps are nicely rendered, but they lack the crisp detail seen in 3D-accelerated games.

Bottom line: THUNDER BRIGADE is fun and offers long-term playability thanks to its built-in editor. If you're itching for futuristic hovertank action, this should do the trick.

—*Raphael Liberatore*

S.C.A.R.S.

★★½

Publisher: Ubi Soft
Price: $19.99
www.ubisoft.com

I suppose I have to explain what S.C.A.R.S. stands for, but that means explaining the back-story of this game, the weakest element in this otherwise moderately entertaining arcade action racer. Oh well. SUPER COMPUTER ANIMAL RACING SIMULATION, if you must know, takes place in the year 3000 when Super Computers rule the world. For amusement, the computers race each other on endowed tracks peppered with weapons and obstacles

in cars with monster-truck tires. Cars that look like animals. Don't worry, I don't really get it either.

S.C.A.R.S. does actually sport some nice graphics and fast-paced gameplay that provides some fun moments, but you'll need a decent 3D card to enjoy it, and supported cards are very limited. But on the right system, the game runs at a smooth 30 frames per second.

Among the better aspects of S.C.A.R.S. are the tracks. They're very well designed, with shortcuts that sometimes turn out to be longcuts, varied environments that include an underwater level, changing weather, and the option to play at different times of day.

One serious beef I have concerns the cars themselves—in a word, they're ugly. The polygon count is very low, textures are amateurish, and the sprite-based wheels look very out of place. Plus, except for the shark and rhino models, the cars don't look anything like the animals they supposedly represent.

Even if the racing shooter has been done better before (the WIPEOUT series comes immediately to mind) S.C.A.R.S. is an inexpensive provider of a few hours of mindless diversion. —*Tom Price*

Dead Reckoning

★★½

Publisher: Piranha Interactive
Price: $49.95
www.deadreckoning.net

Here's a recipe for Spinoff Soufflé: Take a good-sized portion of DESCENT, add a pinch of 3D hair, half bake, and pop DEAD RECKONING. Now consume it or use it as a doorstop—it's your call.

Essentially a remake of the designers' 1993 DOS-based title CYLINDRIX, DEAD RECKONING

sounds like a nerd's dream: You've been abducted by a group of aliens known as the Master Race and forced to play deathmatch games with other intergalactic captives. If you win, you get to play more challenging opponents; if you lose, Earth is history.

A few years ago, a game like DEAD RECKONING would have caused jaws to spontaneously drop. But in the wake of such recent 3D blastfests as INCOMING or BARRAGE, a good yawn is about all I could muster. Granted, the 360-degree action here is brutally fast and unforgiving, which is perfect for players who are all nerve endings and no brain stem. But if you desire more depth in your action gaming, keep looking.

Despite the variety of 15 massive cylindrical combat arenas, ranging from punk-industrial to downright hellish, the gameplay is terribly repetitive, especially in single-player mode. Multiplayer action fares a bit better, with support for up to six players via Internet, modem, LAN, or serial connection.

The graphics are serviceable, but they fail to take full advantage of optional 3D acceleration, and level designs are uninspired and redundant. The game's biggest kicks are

the excellent sound effects and support for Microsoft's SideWinder Force Feedback joystick, which integrates well with the action

Best suited for die-hard blast maniacs, DEAD RECKONING is simply too dated and derivative for its own good. —*Scott A. May*

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Off Target

Obscure Solutions and Overwhelming Odds Mar This Puzzles/Action Sim

by Jeff Lackey

I gnore the fact that TOP GUN: HORNET'S NEST features F/A-18s, MiGs, and Hind helicopters; it's probably got more in common with the action/strategy game COMMANDOS than with most flight sims. The sound-track and opening video introduce tray a fast-paced, interactive-movie type of experience. The subsequent gameplay, however, reveals a curious mix of features that may cause some unpleasant surprises for the casual gamer.

In the Navy

The setup for the game has nothing to do with the kiln, other than your character's name and the presence of James "Hornto" Tolkan as your commander. You're the star pilot of an elite task force, sent to police hotspots around the

world. Three 10-mission linear campaigns involve military/political flare-ups in Russia, Iraq, and Central America. Your job is clear: Reestablish truth, justice, and the American way.

TOP GUN: HORNET'S NEST makes no pretense at being a serious flight sim. Flight models and avionics are clearly arcade, although the F/A-18 you pilot is nowhere near as responsive as a real plane. Air-to-ground missiles can't lock onto stationary ground targets, while air-to-air missiles are great against everything. No problem—it's an action game, after all, a chance to vicariously be the star of your own movie, right?

Campaigns are introduced by videos including faux news reports and briefings by your commander, but you won't use any additional videos between missions. Players looking for an interactive-movie style of game will be disappointed when they complete a heroic, against-all-odds mission and find their reward is a brief audio comment, such as "You may not be such a screwup after all!"

Mission: Possible?

The missions are the best and the worst aspects of the game. Most are cleverly crafted, with premises that are both intriguing and immersive. Steal an advanced fighter jet; delay a convoy that is carrying kidnapped embassy

A BRIDGE TOO FAR One mission requires you to delay a convoy carrying hostages; the solution is frustratingly obtuse.

officials; escort a bomber that's conducting a strike right off the last page of Tom Clancy's *Executive Orders*. Unfortunately, for a game that appears to be aimed at novice gamers wanting an entertaining dose of fighter ace role playing, many of the missions found here can be frustratingly difficult.

Only a masochist will try to complete the game using realistically limited fuel and weapons, as missions require buzzing hordes of enemy forces. In spite of a squad room filled with pilots, you appear to be the only one capable of flying a plane; Wingmen regularly fly into the ground

Some of the missions will prove maddening to the game's casual-gamer target audience. There's a strong puzzle element to many, requiring quite a few attempts before figuring out the right way. Some of these are actually quite clever, but at least one defies common sense and would be considered unfair even if it were plopped into the middle of ZORK III. Others are just incredibly difficult, including the most bizarre mission I've ever seen in a combat flight game,

HORNET QUAKE One of the most difficult missions in the game has you slowing sneaking through an underground maze.

requiring you to slowly sneak around an underground maze in your F/A-18, peeking around corners as if you're playing QUAKE while piloting your jet.

OBSTACLE COURSE You'll often find your-self flying through canyons, narrow valleys, and underground tunnels.

Caveat Emptor

TOP GUN: HORNET'S NEST is clearly not targeted at the hardcore (or even medium-core) flight sim buff. The difficulty of many of the missions may also prove unsatisfying to the novice looking for an easy-to-play flight-oriented game. The person most likely to enjoy this game is someone looking for a fast-paced action game with a strong dash of strategy and puzzle solving. But even those folks will want to keep MicroProse's hint-line phone number handy. **CGW**

Jeff Lackey is still trying to get MicroProse to admit that FALCON 4.0 is broken because it won't run smoothly on his PalmPilot.

Martian Chronicles Revisited

A Promising Tour of Mars Turns Sour

by Charles Ardai

Y our first impression of CYDONIA, if it's anything like mine, will be amazement. The combination of a lengthy and beautiful opening movie, a stunning game interface, and a set of opening puzzles that is deeply satisfying will leave you feeling like you've just eaten a great appetizer and are ready for a delicious entrée.

What follows, however, is far from the gourmet feast you've been primed to expect. CYDONIA turns out to be more visually appealing but otherwise no more engaging or rewarding to play than earlier science-fiction adventure game disappointments such as THE MARTIAN CHRONICLES.

Cast as the only crew member to walk away from the crash landing of the first manned mission to

LOOKING GOOD The interior of Mars is worth visiting, and not just for the opportunity to solve its puzzles.

MYSTERY TOUR Your transportation on the red planet allows for some interesting sightseeing.

OPEN WITH A FANG Inside your home ship is where the game may just reach its climax.

Mars, you have to explore the red planet in an attempt to turn off the electromagnetic force field that caused the crash of your ship.

The opening is the fun part of the game. None of the early puzzles is very hard, but suspense is maintained by means of a time limit. The interface you use to solve the puzzles is just a plea-

sure to work with: You simply look around by moving the mouse, move from place to place by following arrows, and put items into your inventory by clicking on them with a single mouse-click.

Alas, once you're out of your ship the rest of the game begins, and the rest of the game is more

than a slight letdown. From the good, solid, plot-driven puzzles of the opening, the designers now veer into territory reminiscent of Rubik's Cube, and worse. In a room with five gongs, you have to figure out the correct order in which to bang them. In a room with a miniature pyramid, you have to rotate layers of the pyramid until the symbols on each line up in a certain order. There is no sliding-tile puzzle, but there might as well be. This is simply 101 Classic Puzzles masquerading as an adventure game.

Making matters worse, the game was not thoroughly fumigated prior to shipping, and bugs lurk to torment the unwary player.

To top it all off, CYDONIA revels in a sort of New Age consciousness that may appeal to some but simply annoyed me. From the trinkly wood chimes on the soundtrack and the opening narrator's admonition about ecological disaster to the Martians' talk about "gateways to enlightenment," it's all too granola-and-Birkenstocks for me.

CYDONIA is a sneaky game built on the back of a strong game engine. The good news is that DreamCatcher intends to market the game engine to other designers in the hands of a Ron Gilbert or a Hal Barwood, the CYDONIA engine could be the basis for an excellent adventure game. Until someone of that caliber is inspired to use it, however, the results are bound to be gorgeous but vapid, as they are here. CGW

Raised by a lost tribe in the Amazon, Charles Ardai keeps an apartment in New York merely to get games from CGW to review.

The Chessmen of Mars

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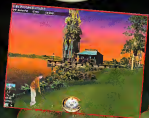
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Formula for Success

MONACO GRAND PRIX Keeps Ubi Soft's Racing Sim in the Pole Position

by Gordon Goble

There are certain substantial thrills that come only through playing a competent racing simulation. The thrill that comes from dualbrating actual racing maneuvers. The thrill of knowing, deep down, that the posture starts really mean something. And, through success, the thrill that comes in realizing you just might make a pretty decent real-life driver if you only had the guts, the money, and the snooty upbringing.

When Ubi Soft unveiled its F1 RACING SIMULATION last year, it took Formula 1 racing further

FOLLOW THE LEADER Two teammates pass by the start/finish line in Australia in a tight battle for the lead. Note that the game prominently displays authentic associate sponsorship, while the real F1 teams have been replaced by generic monikers such as "Team 1" and "Team 2."

down this road than any other previous title had. It bulldozed aside the previously unchallenged Geoff Crammond one-two punch of WORLD CIRCUIT and GRAND PRIX II, and, many gamers would contend, was the racing sim of the year. It even compared favorably with Dave Kaemmer's renowned glimpses into North America's own open-wheeled series, INDYCAR RACING and ICR II.

And now, less than a year later, comes the inevitable F1 sequel, MONACO GRAND PRIX RACING SIMULATION 2. What new surprises does Ubi have in store for us this year? The answer is, unfortunately, not much, though that's not to say that this is a bad game. Hell, it's a great game—as long as you don't already own F1, that is.

Rough Road Ahead

Despite the misleading title, MONACO is indeed another look at the rarefied realm of Formula 1 racing. This time around, however, it doesn't have "F1" in the title, it doesn't have authentic driver or team names, and (though several

SINGLE FILE PLEASE Monaco's narrow, technical track is no place to mix it up, so these three cars proceed through yet another tight turn in a polite, orderly manner.

associate sponsors are present and accounted for) it doesn't sport authentic team colors or sponsorship. That the game does include

THIS TRACK AIN'T BIG ENOUGH FOR THE TWO OF US A downhill dice at Monaco, with gobs of juicy detail all around.

utilities to rename drivers and teams and alter some of the graphics doesn't change the fact that it would have been much better had it been able to resolve whatever licensing issues that may have proved problematic.

Nevertheless, this is Formula 1 racing at its computerized best. The MONACO car seems to be slightly more spirited, a bit truer, and more complex on the track, than those found in F1, and

that only makes it even more involving for the game's target audience, the serious racer.

I took a car through the swirling confines of F1's Monaco track and then took the same car with an identical setup through MONACO's Monaco track, only to have a more unforgiving racing experience, which forced me to marginally rethink my approach. With less maneuverability at low speeds, certainly this already narrow circuit suddenly seemed that much tighter. But toss in the probability of more wheelspin, a more slippery all-round feel, and the horrifying possibility of wet weather, and you have one challenging ride.

As a matter of fact, MONACO, like its predecessor, is miserably difficult when all driver's aids have been deactivated. It's great, then, that the game's four levels of difficulty, realism, and AI aggression are augmented even further with a copious quantity of assists such as antiskid, antispin, ABS, and steering help, making MONACO a rigorous yet approachable environment for everyone from first-timer to veteran. Remember, though, that a full season at the top levels requires near-perfect drives, a complete knowledge of each turn of each circuit, and a mastery

COMPUTER GAMING WORLD
★★★★

APPEAL: Anyone who wanted the first F1 game but didn't buy it. Anyone reluctant about waiting patiently for the next Geoff Crammond F1 sim. Anyone who's into open-wheeled simulations and/or high-end racing graphics.

PROS: Amazing sound effects and wonderful graphics; complicated racing model; startling AI collision avoidance; big grids; and lots of options; car-o-matic driver-name customization; and a small but efficient mini-model.

CONS: Ghastly crash modeling; annoying track-reloading procedure; strange announcer; not enough upgrades from F1 RACING SIMULATION.

DIFFICULTY: Intermediate

REQUIREMENTS: Pentium 133, Windows 95/98, 24MB RAM, 4x CD-ROM drive. 16-bit sound card.

3D SUPPORT: Direct3D, 3Dfx

MULTIPLAYER SUPPORT: Modem (2 players), LAN or Internet (2-6 players), 1 CD per player

Price: $39.99

Publisher: Ubi Soft Entertainment Montreal, Quebec

(800) 486-0097

over the game's massive and frightfully complex garage facilities and telemetry readouts.

Rookies meanwhile, will be particularly appreciative of MONACO's "Training" option. With a ghostlike driving instructor who patiently waits when you screw up, it's a great place to learn the rudiments, and just one of several modes MONACO has in store. Paramount among these is the "Career," a massive and stats-laden undertaking that's made even more intriguing because the game now permits you to drive as yourself, tracking all your personal stats along the way.

Crash Course

One thing that truly set apart F1 was the collision avoidance of the AI drivers, and this is perhaps even more pronounced in the sequel. I can't begin to tell you the number of times my tailbite human idiosyncrasies put both my own car and those around me in dire straits, only to have the inevitable wailing-for-the-collision terror replaced with thank-God-he-missed-me relief. Granted, should you chuck

realism and believability of the artificial opponents. Simply put, if you pass a slower car in MONACO and then drive smoothly thereafter, you won't see him bizarrely creep back up on you as you might have in F1. Sadly, you can still outbrake these dudes with ease and, as in every other racing game I've played, there's no urgency to the AI opponents' actions as they approach the end of a race. And, yes, the game still does a shabby job of conveying the visual fen and brimstone and physical dipping and diving of a real F1 start.

Nor have MONACO's designers come to grips with the fragility of the F1 car. Danged if I didn't hurtle my car straight into a wall at 200 mph only to snap off just my front wing and a few artificially concocted polygons. No smoke, no flames, no wanton destruction, no authenticity. In other words, no fun.

Fans of old-time racing, meanwhile, will be pleased to note that MONACO offers a retro mode that harks

RECCE CORP
DAMPERS

DETAILS, DETAILS Though it's exhaustive, the MONACO garage area offers lots of online help and a very polished setting.

back to those days. Sure, the accidents are poorly portrayed and that the cars' cockpits still don't feature steering wheels, but MONACO has got just about all the other bases covered.

And though most sim fans will agree that the only real way to race a car is by sitting in the cockpit, Ubi has gone to great pains to equip MONACO with a number of viewer perspectives, some of which are actually quite useful when learning a new track. But most are purely for the affargkow, adding a dash of panache to the otherwise short, silent, and sometimes graphically challenged replay.

Audibly, Ubi has put some work into creating a more realistic engine buzz, though it still seems

A GDDD DAY FOR RACING Here, at the particularly beautiful Österreich circuit, Teams 6, 8, and 2 dice for eighth position as the sun beats relentlessly down.

distraction and a wholly different, downright antique ride.

Fine-Tuning

Visually, MONACO adheres to the high standards set in F1 without going much beyond them. And though that may rightfully be a disappointment to fans of the original game, newcomers should prepare for arguably the best race-sim graphics on the market. Granted that accidents are poorly portrayed and that the cars' cockpits still don't

steeped and is a bit too digital. The squeal is excellent, hitting just when it should and offering a perfect indication of drifting rubber, while ambient sounds such as flattened tires, wet turns, and ground-ing body shells are convincing and distinctive. Yet, as in the original, the game's announcer/advisor is most often speechless and sometimes off the mark.

Another annoying carryover is MONACO's need to completely reload tracks every time you move from one session to another or venture to the garage for a quick modification. That makes things real slow when working on a new setup, though menuing and track loading times are thankfully quite a bit faster here than in F1. And if your hard drive is overflowing, you can play the thing, albeit slowly, right from the CD.

MONACO comes packaged with a beautiful and fairly comprehensive full-color manual, topping off what is a majestic and sweeping yet at times unfinished journey into the world of Formula 1. A fine exercise for racing elitists, but perhaps not fine enough for those already schooled in the ways of its predecessor. CGW

Gordon Goble, survivor of another rain-swept Vancouver winter, kept his water-logged brain occupied by taking lap after lap after lap after lap after F1's favorite racing games.

SKIDDING IN THE RAIN Like F1 racing, MONACO portrays water and its effects as no other racing sim does. This spray-filled shot, at Brazil, is a particularly stunning example of extremely murky conditions.

the replays allowed you'll see anticollision maneuvering that goes well beyond the laws of physics, but I'd rather have it this way than be forced to battle the unthinking drones that inhabit so many other racing games.

What's new this time around, however, is the increased level of

even further back to the past than Papyrus' GRAND PRIX LEGENDS does—right back to the 1950s. It's a tiny component, to be sure, with one track and almost no options, and it must in no way be misconstrued as being the same caliber as GRAND PRIX LEGENDS, yet the cars and course make for an enjoyable

Vehicular Abuse

Odd Premise, Carnage Detract From a Great Racing Game

by Gordon Goble

A great racing game is a terrible thing to waste. With SPEED BUSTERS: AMERICAN HIGHWAYS, Ubi Soft had that very thing—a truly great racing game complete with a splendid car model and some extraordinary graphics—but for reasons unknown decided to confuse the issue by hitting it behind a bizarre premise, too much speed, and crash-mongering AI competition. The result is a title not nearly as enjoyable as it should have been.

The system-heavy SPEED BUSTERS pits you as one of several drivers competing in a series of events that span the North American continent. The seven fantastical tracks may be

far from realistic—"Nevada" covers the Hoover Dam, the mysterious Area 51 airbase, downtown Las Vegas, and lots of red rock areas in just a couple of minutes—but they leave no doubt about their origins. That Ubi Soft's art department went overboard in its depictions of said environments only enhances the experience.

Though the cockpit view is curiously bereft of cockpit or hood, all around you is a detailed backdrop that would make any NEED FOR SPEED III designer envious, with killer animations of avalanches, snow plows, hang gliders, and mountain climbers moving about impressively and with purpose.

Wheel Life

The physics model behind the drive is no slouch either. Granted, '50s-style muscle machines racing alongside futuristic sports cars is an, umm...interesting idea, and the latter type are a might touchy. Yet SPEED BUSTERS cars accelerate,

SWAMP BUGGIES Since it pays to drive fast rather than smart, it doesn't take much to trigger a multiple-car collision in SPEED BUSTERS, especially along the sloppy roads of "Louisiana."

CLOSE QUARTERS Four unique vehicles vie for the lead in SPEED BUSTERS' snow-laden and oh-so-slippery Colorado track.

decelerate, turn, drift, spin, flip, jump, accrue damage, and reflect adverse weather with aplomb. Adding to the fun, the actual roadways are just wide enough for some serious passing opportunities and feature an assortment of tricky shortcuts, some of which are more useful than others.

Yet all is not well in Busterville. You see, the game works off the

somewhat amusing idea that turbo highway cops are suddenly rewarding, not penalizing, drivers who achieve their peak speeds as they pass through the cops' radar traps. Why? That's not important right now. What is important is that the fastest speed at radar locations garners far more money and vehicle upgrade potential than a strong final result, and that makes for very convoluted racing.

For a number of reasons, you never get a chance to race full bore. Because those radar locations are often set in the midst of a turn, where you should be mashing the brakes instead of the throttle; because your AI peers are unthinking machines who'd rather hit than pass; because animated obstacles such as slowing manhole covers, flaming T-Rexes, and alien saucers seem to consistently thwart your progress. Unless you go into Time Attack mode or crank the number of AI opponents down to 0, you don't get a chance to drive at a calmer pace and discover how good this game was before all the pottery hopped about.

Mixed Bag

A final couple of words about the manual: It sucks. Never does it

really spell out for you what you should be doing out there, and in some places (the description of hot keys for instance), it can be flat-out wrong.

LOOKIN' GOOD SPEED BUSTERS' cars, lighting, and scenery leave little to be desired—too bad the gameplay isn't quite as good as the game's looks.

Nevertheless, SPEED BUSTERS still gets a fairly high star rating for the assets that it does have, including excellent engine and ambient audio, tons of great options such as multiplayer, reverse track, and mirror racing; weather variables; and way-cool car upgrades. In addition, Ubi Soft should be congratulated for at least attempting to inject some fresh elements into an arcade racing title; even if some of those new wrinkles don't work so well. **CGW**

Gordon Goble has played every single computer racing game ever made, and he still can't get enough.

Bjorn Borg, Where Have You Gone?

EXTREME TENNIS Lacks Personality, Defining Gameplay

by Terry Coleman

During a recent convalescence I brought about through the blessings of the CGW flu, I eventually got tired of watching yet another tractor pull on ESPN. So, I fished out my tape of the 1980 Wimbledon final between Bjorn Borg and John McEnroe, which, for tennis, is somewhere up there with the third Ali-Frazier fight and Secretariat setting speed records in the Triple Crown that have yet to be broken.

One thing that struck me while watching the match—in addition to how well both men moved around the court and how articulately they set up winning shots, like a Willie Mascaro on grass—was how much tennis in the real world has changed since 1980 and how

LAY BACK AND WIN EXTREME TENNIS has a less-than-firm grasp on reality. The more aggressive you are, the more you're likely to lose. So whatever you do, don't rush the net.

tennis on your computer hasn't changed much at all.

When you first boot up EXTREME TENNIS, you get the impression that maybe, finally, someone is taking the sport seriously. When you enter the virtual pro shop (an idea they obviously got from playing PC golf games, but that's OK), you select everything from the kinds of tennis shoes and attire you wear to the racquet you use. Sorry, but those of you into cross-dressing are out of luck—you can wear a dress only if you're playing a female tennis pro. Whatever would Dennis Rodman say?

"You can *not* be serious!" —J. McEnroe

All of these options sound great in theory, but in terms of gameplay, the only significant difference in actually getting to and hitting the ball comes from the various racquets. And as you get used to the pace of the game, these differences become so subtle as to matter hardly at all.

To say that the game has a gen-tle learning curve is a masterpiece of understatement. After installing the game, without taking any practice swings, I played my first match, although I lost a close first

set, I came back to win in three. Even though I will admit to playing every PC tennis game out there, the ease of my victory bothered me, especially since I wasn't doing anything other than running from side to side and hitting the ball back.

So, as a test, I turned to doubles. Not only did I fail to miss a shot for four straight games, but my partner was a blanket at the net. He wasn't hitting thundering overhead smashes or deep, firm volleys. No, we were winning because he was hitting these fuzzbary drop shots nearly every point—even off our opponent's lobs! I couldn't help thinking that if some AI opponent had tried this tactic on me in the unfortunately named TENNIS ELBOW (released last year), I would have reduced him to silicon tears with the devoted *Lab d'Attaque*.

In fact, the more aggressive you are at the net, the less likely you are to win the point. I could understand this on clay but on faster surfaces, this is a joke—one that seriously compromises any thrill you might get from playing the entire circuit. For instance, I actually won the English championship on grass coming in to net maybe a

DO YOU KNOW ME? Graphics are one of the game's nicer touches, but they're hardly spectacular, and the players are strictly generic.

dozen times the entire event. I'm sure John Newcombe wouldn't give me the time of day now.

"I volley big and tough now." —B. Borg

It's a shame that one of the nicest touches in EXTREME TENNIS, the graphics, are a bit of a let-down—mainly because it's a crap-shoot to get the game to recognize your 3D card. The controls are more of a problem, because they cry out for a gamepad (as opposed to the keyboard defaults); yet, when you install a pad, you still have to use the keyboard for some functions—huh? Worst of all, the players are all cut from the same mold. "Pret Xampros" uses a two-handed backhand, just like any baseliner from Balleva. Oh well, looks like it's time to dust off GAME.NET AND MATCH, where you can kid yourself that you're actually playing tennis.

Having undergone exercise therapy to free him from the curse of the Nastase, Terry Coleman no longer asks his wife for a subscription to the Classic Sports Network.

COMPUTER GAMING WORLD

★★ ☆☆☆

APPEAL: For those who feel they must buy every tennis sim.

PROS: Decent 3D graphics; campaign-mode.

CONS: Weak chromatic pro players; shaky 3D performance; poor controls; decent docs, and very repetitive.

DIFFICULTY: Easy

REQUIREMENTS: Pentium 166, Windows 95/98, 16MB RAM, 39MB hard drive space, 4x CD-ROM drive.

3D SUPPORT: 3Dfx, Direct3D.

MULTIPLAYER SUPPORT: LAN, IPX, TCP/IP

Price: $24.95
Publisher: Head Games
Eden Prarie, MN
(612) 942-3292
www.headgames.net

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Pro 18's 3rd hole, Coeur d'Alene

Actual 3rd hole, Coeur d'Alene

" Honestly, if you're playing the course and you're playing the game, there is no difference! "
—Bill Reagor,
General Manager,
The Coeur D'Alene Resort

The Best Yet? Nyet!

The Russian Front Conquers the CLOSE COMBAT Series

by Patrick Miller

T he four-year war between the Fascist German invaders and the Communist defenders of the Soviet Union on the Russian Front was so brutal that historians today can only make educated guesses about how many millions of people died in it.

CLOSE COMBAT III: THE RUSSIAN FRONT, the third in a series of real-time wargames designed by Atomic Games and published by Microsoft, makes a valiant attempt to cover this massive conflict. However, given the scope of the Russian Front, some might rightfully question whether it's a good fit for the CLOSE COMBAT system, which is designed to simulate the

microcosmic bits of combat between individual squads and vehicles.

More Is Less

CLOSE COMBAT III focuses on small-scale actions fought in close terrain. Games play the role of an operation commander who also takes part in the battlefield action to command infantry teams and vehicles in battle.

CLOSE COMBAT III is certainly different from the previous two CLOSE COMBAT games and is improved in many ways. But is it better overall? No. From a gaming perspective, CLOSE COMBAT III is less challenging, is less realistic, and lacks the replay value of CLOSE COMBAT II. That's not to say CLOSE COMBAT III isn't fun—only that it's not as good as its predecessors.

Shuttle Warfare

CLOSE COMBAT III covers battles from the beginning of Operation Barbarossa in 1941 to the Soviet assault on Berlin in 1945. Because you take on the role of commander of a hypothetical few-team that shuttles from battle to battle throughout the war, the emphasis changes from being able to influence history to becoming a mere participant in it. This gives CLOSE
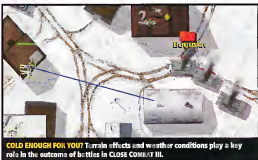
COLD ENOUGH FOR YOU? Terrain effects and weather conditions play a key role in the outcome of battles in CLOSE COMBAT III.

COMBAT III a stronger role-playing feel and requires that players spend more time managing and customizing their force.

To its credit, CLOSE COMBAT III is a very stable, high-quality product. Its vivid, detailed graphics and fantastic sound effects drive home the brutality of war. Improvements include larger maps, artillery barrages, hundreds of weapons and units spanning the entire Russian Front campaign, a more user-friendly interface, leader units, greater terrain variety, and a scenario editor that enables players to create custom scenarios and operations. The ability to move units using waypoints is welcome, and units can also be grouped for both orders and movement.

The heart of the game is the grand campaign, a series of chronologically linked operations (groups of scenarios) that make the action a good deal easier to follow this

time around. The 24 scenarios and 14 operations can also be played individually. Through text, maps, and videos, you are provided with information that helps place each operation and battle in a proper historical context.

BY THE NUMBERS You can now set waypoints for single units or a group.

History Reinvents Itself

On an individual level, live troops and their weapons are, for the most part, accurately represented, though fanatics will find some inaccuracies to grumble about. But these are nothing compared to frustrations with the campaign game, where results sometimes fly in the face of historical reality. For example, when I started my first grand campaign as the Russians, I expected the early battles to be extremely difficult and the later battles to be easier as the Soviets gained strength and better

FLAME ON! A Wehrmacht halftrack char-broils a Russian infantry team attempting to sneak up on a German-held objective.
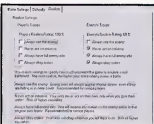
Ain't It Tough Enough?

Experienced CLOSE COMBAT players will probably find the default settings for CLOSE COMBAT III less challenging than the default settings of the previous games in the series. If you think you're winning too easily, especially in the campaigns, crank the difficulty level up to the hero level. This will give you fewer unit requisition points with which to work, and the computer more.

Placing a time limit on battles is a good idea simply because it helps avoid stalemate situations, which do occur. As the clock ticks down, the AI will make a grab for whatever objectives it can get. Because the objectives are

weapons. But the exact opposite occurred. The war became more difficult for the Russians as it progressed, not easier.

The Russians have a saying: Quantity has a quality all its own. Unfortunately, in a game where both sides are limited to a maximum of 15 units, the Soviet edge in quantity almost becomes a non-factor, even though Russian armor tends to be cheaper and its

worth more at this time, losing or gaining them can influence the battle's outcome. Also consider using the option that ends the battle when all objectives are captured.

If you need an even greater challenge, tweak the Options settings. You can allow the AI to cheat by letting it see where all your units are and how they're rated while you play with limited information on enemy units and their whereabouts. You can also make enemy units act like robots by having them rigidly obey orders, never acting on their own.

infantry units larger.

What's more, on CLOSE COMBAT III's highly tactical battlefield, the presence of a single superior weapon system can seriously unbalance the game, leading to distinctly nonhistorical results.

On top of that, players must contend with CLOSE COMBAT III's play balance system, which is designed to prevent campaigns from becoming too lopsided and

dull. While the intent is good, the overall result is that players are punished for exemplary performance. The larger and better equipped your force becomes, the fewer requisition points you receive to replace losses. The outcome can sometimes appear downright absurd.

More Rubles, Comrade?

To illustrate, after I successfully completed the Kharkov operation during the winter of 1943, my fire team's next assignment was the Kursk operation in July that year. Despite the passage of several months and the fact that the Soviets engaged in a huge buildup before Kursk, I received a paltry 10 points with which to replace losses suffered in the previous operation.

Battlefield success causes your rank to rise, but this is a two-edged sword. If your computer opponent's rank remains low while yours rises, you will have to win by increasingly larger margins to impress the virtual generals at HQ. It becomes possible to rout the enemy from the

battlefield and capture all objectives with minimal casualties, only to be told that the result of your efforts was a draw or minor defeat.

Antitank guns are now more difficult to spot, which means they have a fighting chance of ambushing armored vehicles when deployed in good cover. While this increases the value of these weapons, it also creates an odd situation. A large-caliber, crew-served antitank gun firing from under cover will sometimes remain unsquatted while a two-man antitank rifle team hiding in a building—without having fired a shot—will be spotted and destroyed by a tank.

Attack at All Costs

The game's greatest disappointment is a computer opponent that knows only one strategy: attack. No matter how outnumbered it is or how sound the defensive terrain, the AI will consistently leave good positions and move toward the enemy. When combined with the larger maps, more open terrain, and increased lethality of the new small-arms-fire model used in CLOSE COMBAT III, enemy infantry doesn't stand a chance.

Long-range replay value is also an issue with this game. Less than three weeks after receiving CLOSE COMBAT III, I had played through the grand campaign on both the Russian and German sides, as well as several operations and numerous single scenarios. In comparison, it took me more than a month of play in CLOSE COMBAT II to complete one side of the campaign.

CLOSE COMBAT III has much to recommend it, and I can't say that I didn't have fun playing it. However, I can say that I have little desire to continue playing it, at least as a single-player game. Unfortunately, rather than concentrating on a single battle such as Stalingrad, the latest installment of CLOSE COMBAT stretches the engine beyond its limits and suffers as a consequence. CGW

Patrick Miller has reviewed every CLOSE COMBAT game for CGW.

END OF THE LINE Playing the grand campaign as the Germans won't change the outcome of World War II. However, the briefing screen in CLOSE COMBAT III will provide a running tally of how your campaign is progressing.

Current Victory Level:

Mr. Smith Builds His Dream City

SIMCITY 3000 Proves Great Games Don't Require a Deathmatch
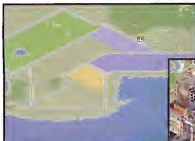
THE GENESIS OF TOOMSUBA Initial zoning of a potential seaside utopia.

by Jeff Lackey

A lot of unpleasant things have happened in the five years that fans of the SIMCITY series have been waiting and watching for the sequel to SIMCITY 2000. Things like less-than-stellar

variations on the SIM theme (can you say "SIM-TOWER"?) and ugly rumors that SIMCITY 3000 would allow players to zoom all the way to first person, effectively becoming one of the Sims that inhabit the city. After all, 3D-accelerated, first-person viewpoints, however inappropriate, are the things that sell games, right?

But somewhere in the design process the street-level plans were tossed in the shredder. The SIMCITY 3000 that's been released relies on the tried-and-true urban planning model of its predecessors, resulting in a product that is more of an upgrade to SIMCITY 2000 than a radically new game. Whether that's worthy of jeers or cheers is a matter of taste and expectations.

Déjà Vu All Over Again

At first glance, SIMCITY 3000's changes from its forebear seem minor enough to be inconsequential. Graphics are more detailed, offering such touches as buildings having true discrete sides (SIMCITY 2000 buildings looked the same from all angles), 400 building types to choose from, and some 100 distinct vehicles and Sims who traverse

your city, and numerous little picturesque additions. You're now responsible for finding an outlet for your city's garbage, which might

URBAN BLIGHT Mismanagement transforms Toomsuba from a utopia to a nightmare.

involve building landfills or shipping it (at a cost) to a neighboring city. Other interactions with your neighbors include buying or selling water and buying or selling power. Cities can be 400 percent larger (100 square miles) than those in SIMCITY 2000. The last obvious difference in SIMCITY 3000 is its interface: A "ticker" scrolls across the bottom of the screen, continuously providing the kinds of information and bits of humor that were previously displayed in pop-up newspapers.

You could argue that the

changes from SIMCITY 2000 to SIMCITY 3000 are superficial, but spending in-depth game time with the new game reveals that the improvements are significant. The graphic enhancements produce cities with more of a feeling of life—a change that can only truly be appreciated by going back and playing the older version. Suddenly you realize how much better this game looks and feels, with its wider variety of buildings and with Sims going about their lives on foot or bicycle, or on the roads and highways. A plethora of animations bring the recreational and business aspects of your city to life, all combining to create a dynamic vibrancy that makes its predecessor feel as flat as two-day-old hot Pepsi.

Likewise, the ability to create cities four times larger than before initially seems nice but trivial. However, it allows dramatically different city designs, with residential neighborhoods, farms, industrial zones, and commercial centers far more separated than before. (Accordingly, Sims are now willing to travel farther than the next block to shop and work.) There appears to be one drawback to the larger cities and enhanced graph-

BUMPER TO BUMPER The new graphics make it easy to see the reason for traffic jams.

STRATEGY/WAR

OUT WITH THE OLD Here's a seaport from SIMCITY 2000.

AND IN WITH THE NEW Here's a seaport in SIMCITY 3000.

ics: Even on a PII400 system with a fast video card and 128MB of memory, some larger cities exhibit what has been described as "ice cities"—graphic placeholders that appear briefly before turning back into their proper form. These are more prevalent the first time a section of a large city is displayed at higher zoom levels.

The seemingly cosmetic change from the newspaper headlines to the ticker for news and status reports removes about interruptions and maintains game flow. While many messages are purely humorous, actionable items are clearly marked and a quick click produces a decision dialog. Very simple, very elegant. The rest of the interface can be a click-fest, requiring you to traverse several layers to accomplish routine tasks. But a

quick perusal of the reference card reveals that many (though not all) common actions can be initiated with a keyboard shortcut.

Nothing Is Given So Profusely as Advice

As mayor of your city, you'll have the services of a staff of department heads, all with distinct backgrounds and agendas. They

will advise you on the pros and cons of the myriad decisions you'll face, generally providing sound counsel. However, they can be realistically parochial, delivering self-serving advice.

The petitions that special-interest groups will present are another entertaining and authentic touch. From tenure citizens and environmental groups to Shriners and bowling clubs, everybody wants something from you. You'll find that the sanest road to failure is trying to please everyone. But if you don't please enough people, your city will start to fail. Nobody said life at the top was easy.

HIGHWAYS AND BYWAYS SIMCITY 3000 features divided highways with signs, on-ramps, and overpasses.

Such balancing acts are the heart and soul of SIMCITY 3000. When you first start your city, you'll be strapped for cash and can easily find yourself facing a negative cash flow. Raising taxes seems like an easy way to get back in the black, but it can also cause citizens and businesses to leave. Do you accept a lucrative contract to place a toxic waste processing plant in your

budding utopia? How about agreeing to take your neighbor's garbage for extra revenue? Or will you take the high road... straight to bankruptcy?

This Land Ain't My Land

SIMCITY 3000 isn't perfect. While a few minor features from its site are missing or less functional, the most glaring step in the wrong direction is the loss of ability to precisely design the initial topography. No longer can you simply place lakes, mountains, and so forth exactly where you want them when setting up the terrain.

However, SIMCITY 3000 is a wonderful toy, an open-ended game in which you make the rules. The significant progression of gameplay from SIMCITY 2000 is appreciated only after extensive time with the game; SIMCITY 2000 veterans will have to decide whether the changes are worth the asking price. But by staying true to its roots, the latest version ensures an addictive experience.

Starting up your own Mayberry and turning it into a major megalopolis provides a satisfaction unusual in computer gaming. And it doesn't require full body armor and a BFG. [CGW]

Jeff Lackey has three children, Daniel, Jennifer, and Melissa, who think it would be very cool to see their name in CGW.

3D or Not 3D: That Is the Question

There's been a lot of bewilderment about whether SIMCITY 3000 utilizes 3D hardware acceleration. The Internet newsgroups have been debating the issue, and there have even been reviews published that tout this as a feature. The confusion comes from several sources. First, back when Maxis was targeting a game with a first-person style of perspective, it was clear that a D3D and/or Glide API would be required to avoid an Agile II frame rate. Further muddying the waters is the fact that, if you have a 3D accelerator in your system, SIM-CITY 3000 asks if you'd like to use it.

Here's the truth, directly from Maxis: 3D hardware acceleration is not used. In fact, if you select your trusty 3Dfx Voodoo2 you will be rewarded with very slow performance. Why the video selection routine allows you to select 3D accelerators is pretty baffling; it's hard to come up with another non-3D-accelerated game that will allow this option. The bottom line: For the best performance you need to select your 2D video card.

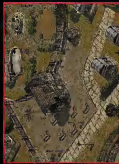# REAL SOLDIERS DON'T FIGHT LITTLE PLASTIC MEN.

Enlist the aid of the **Dirty 1/2 Dozen** as you venture behind enemy lines in COMMANDOS: BEYOND THE CALL OF DUTY, an engaging stand-alone game with the same popular gameplay as the original hit.

This eight-mission mini-epic spans Europe, from the East to the Mediterranean, immersing the user in the thrills of WWII tactical action.

- Improved photo realistic graphics
- New weapons like the Enfield Rifle
- New Panzer and Luftwaffe enemy units
- Locations include a zoo and Luftwaffe airbase
- Added decoys like the rock toss and cigarette distraction
- Two skill levels to indoctrinate new Commando recruits
- Enjoy multi-player mode over the Internet

GO TO WAR AND GET THE DEMO AT:
WWW.eidosinteractive.com

COMMANDOS
BEYOND THE CALL OF DUTY

Wayne's World War

Promising Alien Invasion Crippled by Brain-Dead AI

by Jim Cobb

H.G. Wells' classic *War of the Worlds* novel makes good points about technology and hubris, but the original storyline—one side simply falls dead—makes for a lousy game. However, by excluding the book's Earth-saving microbes, JEFF WAYNE'S THE WAR OF THE WORLDS really spices up the action. What's more, this game (based on Wayne's 1978 musical, surely a first for a strategy game) captures the flavor of a Martian invasion of late-Victorian Britain—a nice change.

To the Lorries, Mate!

In an approach that's worked well since X-COM, play occurs on two maps. The strategic map covers Britain with districts and counties

for humans and sections for Martians. Three toggled overlays show resources that set such variables as construction speed, types of facilities (including factories and military establishments), strategic movement, avenues of research, and time scale.

The tactical map has 3D terrain, illuminated appropriately for time of day, construction, and continuous-time combat. Units represent up to five human vehicles or three bug-like Martian machines. Humans operate vehicles and ships that were in enterprise stages in 1898 (lorries, subs, and balloons), each improvable by research. Martians have the more exotic heat rays, presser gas, and pulweapons, which are also developed during the game.

Command posts are the key to both sides' strategies, as they are necessary for movement, construction of vehicles and defenses, and resource management. Humans start with several command posts, but Martians begin with only one,

NOCTURNAL RECRIMINATIONS
Martians stage a night attack on a fortified human base. The inset (above, left) shows a Martian base in daytime.

more than offsetting the aliens' technical edge. Although their posts fall all over Scotland, Martians must use their limited number of vehicles and resources to build a chain of command posts. Humans use this time to build defenses and improve weaponry. The resulting war of attrition sees each side managing resources (iron, coal, and oil for humans; heavy metal, copper, and human blood for Martians) and researching weapons and facilities to build toward one decisive strike. The research choices are limited, forcing you to decide between offensive, defensive, and management projects. Roads to shake up the enemy make this building more interesting, and even exciting at times. So far, so good.

Drag-a-Martian

Tactical combat is the usual real-time clickfest, though the game does a good job of showcasing the differences between period British steam vehicles and eerie Martian machines. Even so, you won't mistake this for STARCRAFT.

After a promising start, however, things begin to fall apart. Flipping between multiple screens to construct defenses and facilities gets tedious quickly. Raiding with ships alone causes either the game to halt or the Martian side to unnecessarily destroy its own command post. Using units' special abilities tends to crash the game, worse, these abilities have no impact on the game in any case. There is no save system other than at the exit point. And while a bit of mystery is fine, you get so little information on units and resources that you are forced to learn by trial and error.

The computer AI attacks in perky packets with no coherent tactical plan. As a result, the game becomes a cakewalk for you, albeit a drawn-out one. This makes all the subtleties of the strategic game, the cool differences between the two sides, and the dynamic campaign game almost meaningless.

IF WAR OF THE WORLDS offered a multiplayer system to provide some challenge, it would be worth your time. As it stands, it's a curiosity to be picked up months from now in the bargain bin—after GT Interactive patches the AI. **CGW**

Jim Cobb is waiting for War and Peace: The Musical, but only if Stephen Sondheim writes the songs.

ROLL ON, STEAMSHIPS A view from the strategic map of the British push to retake Scotland.

It's the World As We Know It

And After Three Years, That's Not Enough in CIV II MULTIPLAYER GOLD

by Terry Coleman

hough CIVILIZATION II's legend is fabled and its armor perhaps doesn't quite possess the gleam of its stoned youth, still there are those that anticipated the return of the king to his rightful throne. But alas, that regal monarch—good King Meier—and his able chancellor, Sir Brian of Reynolds, have founded another kingdom in distant lands. And while they might still carry on the fight to fulfill the dreams of the turn-based faithful, it is not they who now vow to drive the usurpers from our lands of strategy.

Who, then, are these new warriors, who carry a three-year-old war engine into the multiplayer fields of battle? Are they incredibly brave, simply foolhardy, or merely mercenary, milking the memory of our fair king for a few sullied coins? Read on, and discover . . .

> **"All that glitters is not gold."**
> —William Shakespeare

As it stands, CIVILIZATION II MULTIPLAYER GOLD is a vile concoction of bizarre notices and incantations: an eye of WinG, toil of Inteo, combined with the entrails of DirectX and the spew of Windows 95. Sometimes the mixture doth go down well, whilst upon the PCs of other stalwarts it may well afflict a certain lockjaw-like condition. Ne'er in the civilized days of good King Sid did we suffer such indignities.

And what of the poor peasants? In truth, even the stauntest knights wander aimlessly about the lands, often unable to follow a simple "go to" order—vexing indeed is the spell that hath been cast upon their pathfinding attributes.

The worst, I fear, is than when challenging other humans, not all campaigns can be effected simultaneously, but must (forgive my common speech) occur in standard turn-based mode. Thus, to complete a single turn of events taketh five to six times as long as it should. Are we not past the Dark Ages? Can we not all operate simultaneously? Moreover, now you are to be rewarded for betrayal. When breaking a treaty, troops are not returned to the land of their forebears, according to the laws of King Meier, but may treacherously attack even when they have been welcomed as guests! Why would any monarch e'er consider a treaty? Whence came such lunacy?

Still, most transgressions could be forgiven—yea, verily, had the infidels not forsaken King Meier's cause and tarnished the memory of the wonders of our world (see the "Wonders No More" table).

> **"He coude songes make, and wel endite."**
> —Chaucer, Canterbury Tales, line 95

Mark me, 'tis certain that much goodness hath survived from the original. The beauteous strains of music e'en now fill mine breast with joy and sadness, fervor and contemplation. The homunculi (that some call AI) that one must vanquish in solo quests are still a challenge to any who would be king.

THE GREEN HILLS OF EARTH From the main game screen to the informational screens, it's the same CIV II visually—take it or leave it.

More learned are the many ways of diplomacy with many subtleties to be appreciated. And yet I do feel a thirst for that golden age of CIVILIZATION, which this latest vessel, though adequate in many ways, cannot quench.

If you yearn for the challenge of history—and have not yet been exposed to FANTASTIC WORLDS or challenged by CONFLICTS IN CIVILIZATION—it is worth issuing your purse strings. But if you expect a multiplayer epic with the grandeur of the original, mayhap one's coin might better be spent on a good translation of Homer's *The Odyssey*, for a strange three-year journey this has been.

After watching restored Star Trek *episodes,* Terry Coleman *couldn't resist dusting off his old copy of JUDGMENT RITES—the "talkie" version with Shatner and Nimoy, of course.*

WONDERS NO LONGER

WONDER	USED TO DO	NOW DOES
EIFFEL TOWER	ALL CIVS LIKE YOU BETTER.	ALL CIVS LIKE YOU BETTER.
GREAT LIBRARY	TWO OTHER CIVS DISCOVER SOMETHING, IT'S YOURS.	DOESN'T ALWAYS WORK.
GREAT WALL	FORCE OTHER CIVS TO OFFER PEACE.	ONLY AI'S MUST OFFER PEACE.
UNITED NATIONS	FORCE OTHER CIVS TO OFFER PEACE.	ONLY AI'S MUST OFFER PEACE.

WARHAMMER 40,000

RITES OF WAR

CLASSICS/PUZZLES

Trains Passing in the Night

Two Very Different Trains of Thought and Action

Lego Loco

★★★

Publisher: Lego Media
Price: $29.95
www.lego.com

There are advantages to using the computer for playing with a construction toy like Lego. You never run out of the pieces you need to create large layouts or space to lay them out, and you can bring them to life with more animation than a motor and a few AA batteries can provide. You can save your creations without disassembling them, and cleanup is a snap if you do choose to take them apart. On the flip side, you don't have the pleasure of holding the pieces in your hands, snapping them together, or following simple, step-by-step instructions to create complex three-dimensional models, which is what Lego is really all about.

LEGO LOCO plays to the strengths of the computer. More a miniature train set than a traditional Lego kit, the game asks you to lay out huge quantities of track, surround it with one-piece buildings and other landscape details, and finally send animated trains chug-chug-ging around.

You pick the track sections, buildings, and shrubbery from a graphical menu tucked away inside a plastic briefcase. When you close the briefcase, the trains start running.

Clicking on any train, building, or character calls up a magnifying glass interface that allows you to interact with that object. You can speed up or slow down the train, for instance, or hear what's going on inside a building.

There is one inspired twist. In addition to the plastic Lego people you remember from your childhood, the trains can carry colorful postcards you create, either to characters living on the CD-ROM (Santa Claus, for example) or to other LEGO LOCO players around the world. The concept of having your train "leave" your computer and pull across the Internet to the computer of some unknown child living in Denmark or France, carrying gen pal–style postcards back and forth, is irresistible.

Training

The game's chief shortcoming is that its interface has oceans of graphical icons but no text labels, requiring the player to learn by trial and error to an extent that children especially will find intolerable. A tutorial intended to help newcomers bedeviled for me. Although I chose "English (United States)" as

my language when I installed the game, the helpful stationmaster spoke to me in a squeaky-voiced cross between Japanese and that gibberish Furbies speak. You're left to your own devices when it comes to figuring out what all the different types of buildings are, and while it is nice from an "Easter egg" point of view to discover the abundant hidden animations, it is something of a barrier to getting started. Figuring out how to play a multiplayer game or connect to the Internet is even worse. There is no way a child will know what to do when faced with an "IP:" prompt.

The postcard editor, on the other hand, is a joy. You get to build pictures out of component pieces, Coloforms-style, and there are enough pieces and tools to keep any child happy for hours. What does this have to do with trains, or with Lego for that matter? Not much. But it is what kept me playing long after the train section of the game had run out of steam.

—*Charles Ardai*

3D Railroad Master

★★ ½

Publisher: Abracadata, Ltd.
Price: $59.95
www.abracadata.com

Running a *real* model railroad (as opposed to the fake kind) takes intelligence, persistence, and a 3D RAILROAD MASTER lets you climb into the cab of a diesel or futuristic engine and, hopefully, find out if you have what it takes.

Play consists of running one or more engines

around one of the rail layouts, some of which are quite complex; dealing with cargo, and trying to meet a schedule. Falling behind schedule will cost you points, just as making scheduled stops earns them. The difficulty level affects, among other things, the complexity of the layout.

The game includes 20 track designs, and for the most part they are open to modification. However, you are also referred to Abracadata's companion product, 3D RAILROAD CONCEPT AND DESIGN. This includes instructions for integrating other layouts or creating new ones, along with some sample missions.

3D RAILROAD MASTER has an unfinished and bug-ridden feel. Nearly every menu has text disappearing, missing buttons, and misaligned entries. The layouts are loaded in two steps, and this can take anywhere from 30 seconds to more than a minute.

The game's problems might be tolerable if the program were in any way enjoyable. However, play quickly degenerates into tedium. Most annoying is the cargo interface, with far too many steps required in what should be the simplest process in the game. The program's lackluster graphics help complete a very bleak picture. —*Samuel Brown Baker II*

www.computergaming.com

Sid Meier's Alpha Centauri

Making the World Safe for Mind Worms and Diplomats Alike

by Terry Coleman

rying to encapsulate the range of possible strategies in a game of SID MEIER'S ALPHA CENTAURI in a single article is like trying to discuss the collected works of Duke Ellington on one page. So consider this a starting point, and rest assured that we'll follow up with additional hints and tips in the months to follow.

THRESHOLD OF TRANSCENDENCE

FREE-FOR-ALL Once you build the Voice of Planet, everybody can build the Ascent to Transcendence and win the game. Why give up your edge? For my money, you're better off at least trying for a diplomatic victory first.

SELECT RESEARCH GOAL

Centauri Ecology — EXPLORE 1

Biogenetics — DISCOVER 1

"By studying the Xenofungus we can learn how to survive"

"Understanding the Xenoviral Messengers of Planet"

Unit Formers
Recombining Unit (E.6)
The Weather Paradigm ...
Ecological Engineering
Centauri Ecology

The Human Genome Project
Recycling Tanks (Base Facility)
Gene Splicing
Secrets of the Human Brain

GREAT GALACTIC LIBRARY After you've played a few games, choose your own specific research path.

See the Review
APRIL ISSUE • 5 STARS

On a Diplomatic Mission

GAIANS - MAGNANIMOUS

"You mean a gift? I like gifts. What did you have in mind?"

"Never mind."

THE GIFT THAT KEEPS ON GIVING Just because a faction is already in your pocket doesn't mean that you should stop offering them gifts. Besides, she might be free Saturday night.

You can ignore diplomacy in ALPHA CENTAURI, but you miss a lot of the game's flavor if you do. Plus, if you keep your reputation unsullied, you can gain a lot of favors later in the game. For example, I made a point in my last game in which I was playing the University faction to ruthlessly secure my borders and to placate everyone else.

I first got Morgan on my side by using a Free Market economy (money talks) and then set up a trade agreement with him. The Techs I gained from Morgan helped me to crush Santiago's faction. Meanwhile, I kept giving Tech gifts to the Gaians to keep them fairly neutral. As a result, when I changed over to Green economy, the Gaians, nearly rhapsodic over my environmental savvy and generally magnanimous nature, signed a Blood Pact with me.

But I didn't stop there. I kept on giving gifts of Tech and Energy to keep the Gaians happy. When they needed help against the Hive and the Lord's Believers, I sent my forces off to war (I never liked either of

the sanctimonious bastards, anyway). My benefits from this included the following:

1. The Gaians sent me more than a dozen military units to help "defend my borders" against the Hive.

2. I liberated a Gaian base and gave it back to the rightful owner. In return, Lady Deirdre gave me a captured Believer base on my border.

3. I managed to convince the Morganites to call off a vendetta against the Gaians, which freed up Gaian forces to concentrate on the Believers.

4. The Gaians and I combined our research and tapped the Hive's Tech efforts, which was ultimately why I won the game.

You can never be too nice in ALPHA CENTAURI, your former enemy may eventually turn out to be your best friend—strange bedfellows and all that (if this concept confuses you, just think of the French).

I Got a Secret, Honey (That You Oughta Know)

In CIVILIZATION II (Brian Reynolds' previous game), you eventually run out of Wonders of the World to build. Part of the reason for this is the decelerated turn structure, whereby each turn initially represents 50 years, then 20, then 10, and eventually gets to the point at which each turn equals only one year. So while you have the same number of Wonders in each era of history, there are proportionally fewer Wonders in the modern era per turns that you play.

Reynolds wanted to have the design of ALPHA CENTAURI avoid a similar problem. You'll often find, especially on higher difficulty settings, that all of the Secret Projects (Wonders of the Alien World) won't be built before someone wins or the game ends. This gives you at least more freedom in choosing what Secret Projects both suit your style of play and fit in the specific game situation. Keeping that in mind, here are my recommendations for Secret Projects that work well regardless of what faction you play.

1. The Weather Paradigm
Terraform Rate +50 Percent

This is an obvious choice for those who wish to "walk with Planet," like the Gaians, and those who use a more balanced approach, like the University. But it's an even better choice for factions who don't give a mind worm's underside for the environment. If you are a militaristic leader, like Colonel Corazon Santiago, the ability to make major changes to your surroundings with this Secret—without having to discover the prerequisite technologies—helps you increase your energy supplies.

Still, the time tends to benefit the most from the Weather Paradigm. Just drill a few boreholes into Planet's crust, raise a mountain to the skies, and pop a reflection mirror (surrounded by solar collectors) on top of it. But be ready for the inevitable mind worm rush from hell.

2. Hunter-Seeker Algorithm
Immunity to Probe Team Activity

Tired of unwanted Probe Team activity? The new Hunter-Seeker Algorithm (brought to you by the same folks who invented the Planet Buster) has a lifetime guarantee to seek out, find, and eradicate all, and we mean all, enemy Probe Team activity—it even works with SID MEIER'S ALPHA CENTAURI version 2.0! Don't leave the excursion pod without it!

3. Planetary Datalinks
Gives You Any Tech Already Discovered by Three Other Factions

My first thought when deciding to build the Planetary Datalinks was, "The Great Library in CIV II gives you a Tech discovered by any two other factions."

Why does this have to be *three?* Two words: game balance. As you move into the middle game, there is generally an explosion of new Tech discoveries, conveniently in time for you to reap the benefits without handing it to you on a silver platter.

4. Cloning Vats
Create Permanent State of Population Boom for All Bases

Eliminates Power and Thought Control Negatives

Even if, with Cloning Vats, a particular base grows larger than you can optimally handle, that will be balanced by the number of cities that stay incredibly productive. Plus, you can always combine this with...

5. Telepathic Matrix
Ensures That Drones Never Revolt

Probe Team Morale +2

Is your Nerve Staple Gun starting to wear out? Don't punch through any more tough drone skulls! With the new Telepathic Matrix, all your drones can be easily thought-controlled with the touch of a button. Best of all, this handy device frees you to do the work you should be doing, like becoming the dominant faction on Planet. Why wait? After all, you know what's best for drones—you're their leader.

6. Dream Twister
Psi Attack +50 Percent

7. Pholus Mutagen
Grants All Human Units Alien Life-Form Advantages

Reduces Negative Ecological Effects of Industry

Gives Alien Life-Forms That You Breed +1 Life Cycle Bonus

8. Neural Amplifier
Psi Defense +50 Percent

Whether or not you choose to breed mind worms, these Secrets—numbers 6, 7, and 8—form an almost unbeatable combination against indigenous life-forms. If you choose to breed life-forms, you can attack technologically superior forces on an even footing. For once, the science fiction actually adds to gameplay rather than just providing color.

9. Living Refinery
+2 Decreases Minerals Required to Support

*Military Units*

Social Modifier +3

Even if you don't plan on winning militarily, this Secret lets you afford to garrison your cities adequately as well as keep a mobile force together in case trouble breaks out (and in ALPHA CENTAURI, it always will). Moreover, by this time in the game, the extra social engineering support can be a lifesaver.

10. Universal Translator
Grants Two Free Techs Upon Completion

By this point in the game, regardless of what faction you are playing, it's a given that you are embroiled in a "research war" with at least one or two of your town enemies. The Universal Translator serves the same function that Darwin's Wonder did in CIV II, and it can put you over the top technologically. When you start this Secret Project, make sure that you allocate *nothing* to research—you'll get the next discovery free via the Secret—and use this time to maximize your economy and make your populace happy.

Got Dem Ol' Demon Boil Blues
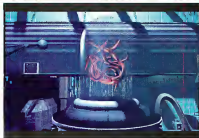
Ever wonder why, no matter how much you pump up your defenses, those nasty old mind worms just won't let you be? It's because mind worms and their brethren are supposed to be an alternative to the normal Tech tree—psi attacks are always based on 3:2 odds and morale, regardless of the usual technological modifiers.

Actually, it's easy to turn this to your advantage, provided that you approach the disgusting creatures with an open mind. Here are some tactics that will help:

1. Make sure that you attack mind worms and their brethren before they attack you, because

the attacker always has that edge in psi combat Choppers are the best for this, because of their multiple attacks per turn.

2. Allying with the Gaians helps to keep mind worms off your back, as the Gaians tend to capture the beasties before they can hit your bases.

3. You should strive to discover the technology that will allow you to capture or control mind worms (which you already have if you are Gaian). Obviously, you can also trade for this ability.

4. Breed indigenous life-forms yourself. Mind worms are excellent for harassing enemy bases,

and locusts of Chiron make for great interceptors, even against the latest high-tech aircraft.

5. Build the Dream Twister, Pholus Mutagen, and Neural Amplifier Secret Projects (see the "I Got a Secret, Honey" sidebar below).

6. Build a Centauri Preserve improvement at every base where you're building mind worms. It's generally a good idea to do this anyway for the ecological effects.

7. When you get a chance to take out a wimpy or crippled enemy unit, let your mind worms do it. After a victorious combat, mind worms tend to advance in life cycle faster than standard units advance in morale/training levels under similar circumstances. When you get up to Demon Boil status (especially with some of the enhancements listed above), mind worms are just about the toughest attackers in the game.

Let's Make a Deal

Finally, don't give up on a diplomatic victory. I tend to go for this, especially in games where it's obvious I'm going to eventually win anyway; it's a heckuva lot faster than grinding out a military win by conquering every last enemy base on the map. Here are a few ways to better your chances:

1. First, get yourself elected Planetary Governor, so that your vote counts double. If you can't manage this, how can you plan on becoming Supreme Leader?

2. Be realistic when assessing your chances. Factions with a vendetta against you won't vote for you, even if you manage to get them to agree to a cessation of hostilities.

3. Allies will vote for you for Supreme Leader more often than not, despite their posturing, so don't waste a lot of Energy or Tech bribes on them.

4. Match your bribes to the faction "on the fence" from

which you are trying to elicit votes. Morgan likes energy, for example.

5. Keep in mind that a Planetary Council can be called only once every 20 turns, and you will not be warned of that crucial fact until *after* you've cut all your deals and mortgaged off your first-born. So don't get embarrassed, and be sure you pay attention to the number of turns since the last diplomatic action.

6. If you fail to get yourself elected Supreme Leader, it adversely affects all factions' relationships toward yours. Of course, if you really want practically everyone gunning for you, this method offers a lot less hassle than building and launching a Planet Buster (though it's not nearly as fulfilling).

Jerry is a huge fan of Sid Meier's entire stable of games.
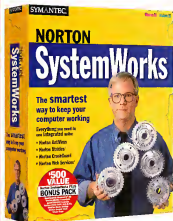
The smartest way to keep your computer working

Whether you're an experienced PC user or new to the world of computing, you gotta have utilities. Your computer demands constant maintenance.

All this maintenance means you need a lot of utilities. And that can add up to a lot of hassles. Like applications that duplicate functions. Memory tie-ups. Wasted space on your hard drive. Even program conflicts.

There's a smarter way: just a single, comprehensive solution that keeps your computer healthy and working. A solution that's integrated and easy to use as well as affordable.

That solution is Norton SystemWorks from Symantec. Because it has the very best and most current version of everything you need, Norton SystemWorks will:

- *optimize your system*
- *keep your hard drive clean*
- *prevent damage from viruses and infections*
- *protect your data when your system crashes*
- *update your software and hard drive*
- *resolve software conflicts*
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ADVERTISER INDEX

Star Craft: Brood War

The Intergalactic War Heats Up With New Units and New Strategies

by Elliott Chin

A hard as it is to believe, STARCRAFT is now even better. The expansion pack, BROOD WAR, not only introduces six new units but also makes several changes to existing ones. The result is a better-balanced game and a wealth of new strategic options. The patch.txt file details all the specific changes and should be in your STARCRAFT directory. But we'll summarize the changes and the new units here.

Zerg

SPIKED The lurker's splash damage makes it a deadly antipersonnel weapon.

Lurker

- **Damage Type:** Normal, splash-friendly
- **Size:** Medium
- **Strengths:** Can attack while burrowed; does splash damage; powerful attack of range.
- **Weakness:** Vulnerable while above ground; slow to burrow; can't attack air.

Lurkers morph from hydralisks and are available in the midlevel of the game, they attack while burrowed, which means that enemies need a detector in order to fight back. You should definitely use lurkers for base defense or to guard expansions while your hatchery is building. Enemies that fail to send detectors with their attack forces will be destroyed.

The lurker attacks with a line of spikes, and all enemy targets in or around the path of the spikes will suffer damage. Lurkers are the perfect unit for ripping apart supply lines and weak infantry units like marines, firebats, and zerglings.

Lurkers are vulnerable above ground and while burrowing (which takes two seconds), so be sure to escort them with hydralisks. Also, lurkers aren't good against long-ranged defenses (siege mode tanks, sunken colonies, or photon cannons) because they need to be close to be effective. An early lurker rush can destroy Terran and Protoss players if they have no detectors.

Devourer

EATEN ALIVE Use the devourer to greatest effect as support for mutalisks

- **Damage Type:** Explosive + acid
- **Size:** Big
- **Strengths:** Did spores slow and weaken enemies; high amount of damage; high hit points; relatively cheap.
- **Weakness:** Very slow rate of attack; can't attack ground; targets aren't slow on units alone.

Devourers should be used with mutalisks. Their attack does a base 25 damage, but it also releases acid spores that then splash onto the target and any nearby enemy units. Each spore reduces the target's rate of fire by 1/8 and its armor by 1. A unit can have a maximum of 9 spores on it at once. After a unit's armor has gone negative, each point below 0 translates into an extra point of damage accrued from an attack. A battlecruiser (with a base armor of 3) hit with 9 spores would thus suffer 15 damage from a follow-up

attack by a mutalisk that hasn't been upgraded.

A combination of devourers and mutalisks is extremely powerful because the negative armor bonus also applies to the mutalisks' secondary and tertiary attacks.

Attach a group of six to nine devourers to your 12 mutalisks and you'll be able to tackle heavy ships like scouts, battlecruisers, and carriers. The devourers' high armor makes them well suited to take on corsairs and valkyries. Plus, they are relatively cheap because they don't require a lot of gas

New Units

See the Review
APRIL ISSUE ★ 5 STARS

Zerg

Spore Colony: Now deals normal damage; more effective versus scourges and mutalisks. Cheaper and faster to build.

Sunken Colony: Cheaper and faster to build. Deals 40 explosive damage and attacks faster. Should now be built more often for defense.

Larva and Hatcheries: Cheaper (300 mineral), but take longer to build. Larva production has slowed down significantly so you have to build second and third hatcheries much earlier to match the production speed of original STARCRAFT.

Defiler: More expensive to produce, but it should remain a mainstay of your late-game arsenal.

Scourge: Now have 25 hit points. A good counter to the carsair, the devourer, and the valkyrie.

Hydralisk: Build time increased slightly. When coupled with the increased larva production time, this slightly slows down the creation of the hydralisk horde.

Queen: Parasite cost increased, parasite range decreased, and brooding range increased. Beware of the new corsair and valkyrie.

Ultralisk: Two new upgrades increase movement speed and bump up base armor from 1 to 3. Now is a more powerful siege weapon that is less vulnerable to small, swarming soldiers like zerglings and marines.

Zergling: Adrenal gland upgrade results in an even faster attack, making them more useful in the late game and much more effective at overwhelming enemy forces.

Terran

Medic

Damage Type: N/A
Size: Small
Strengths: Heals infantry automatically and quickly; can restore units with negative conditions.
Weaknesses: Has no attack; can use some optic flare ability.

Your infantry needs medics to survive. The medic's rapid healing rate can greatly extend the lifespan of your firebats and marines. Only one medic can heal a unit at a time, though, so don't go overboard: build one medic for every three infantry units. Stim-pack your infantry before combat, wait for medics to heal them to maximum hit points, and then rush in.

When moving medics, right-click on any infantry unit in your group and medics will follow him. If infantry stop to attack targets, medics will also stop to heal the injured. Medics heal infantry automatically, but they can be commanded to heal allied organic units like zealots and Zerg troops. Medics can also cast restoration and optic flare spells.

Restoration: Alleviates all negative conditions except for stasis field and brooding. Cost this on any unit to rid it of parasite, plague, ensnare, irradiate, blindness, or lockdown.

Optic Flare: Reduces the target's sight to 1 and eliminates cloak detection. Friendly units near the blinded individual will spot for it. Blinded spellcasters must get within modified sight range to cast a spell. Optic flare is nearly impractical, however, since any unit that can be blinded is better off dead.

Valkyrie

Damage Type: Explosive, splash-friendly
Size: Large
Strengths: Does splash damage in a large area; high hit points.
Weaknesses: Expensive; slow rate of fire; off-mlike power negated by armor upgrades; needs supporting aircraft to finish job; only good in large numbers.

Designed to support other ships against enemy flyers, valkyries fire eight missiles at a large area, dealing splash damage to all targets. Because they have a very slow rate of fire, you need other ships to finish off enemies. Each missile does 5 explosive damage, making valkyries vulnerable to scourges and less effective against mutalisks. They are good for hunting overlords.

Armor counts against each missile, so heavily armored enemies will shrug off the missiles. An upgraded mutalisk with 3 armor, for example, only suffers 1 damage per missile from an un-upgraded valkyrie. Valkyries are good in numbers, in a support role, and only when fully upgraded. A combination of battlecruisers and wraiths can prove cheaper and more useful.

Terran

Changes to Existing Terran Units

ComSat: Scan now costs 50. With dark templars and lurkers, multiple comsats now a must.

Missile Turret: No change, but new cloaked units necessitate building turrets earlier and more often.

StarPort: Cheaper and builds faster, so you can get air units more quickly to counter mutalisk hordes.

Nuclear Missile: Builds twice as fast, making nuclear strikes more viable. However, new cloaked units beget more cloak detectors, so be more cautious.

Battlecruiser: Now starts the game with 3 armor Yamato cannon now does 260 damage, so it can destroy a scout or a devourer in a single hit.

Dropship: Builds a little faster and also moves faster.

Firebat: Stim pack now doubles the attack rate of the firebat. Ideal versus zealots, upgraded zerglings, and dark templars.

Goliath: New Charon Boost upgrade increases air attack range to 8, the same as a guardian's. Ground damage now 12 and air attack upgrade modifier improves from 2 to 4. Unequivocally the best antiair ground unit.

Science Vessel: Cost altered to be less reliant on gas (100 mineral, 225 gas). Now accelerates faster and has larger sight radius, making it a better scout and detector. Irradiate now does 250 damage and deals damage faster. Science vessels now a necessity with the advent of dark templars and lurkers.

Wraith: 50 mineral cheaper and deals 20 air damage, although ground attack is now slower. Wraiths now more cost-effective as air-to-air fighters and should be built to complement valkyries.

Protoss

BENEDICT CRUISER Use the dark archon's mind-control ability to counter enemy battlecruisers.

Dark Archon

Damage Type: N/A
Size: Large
Strength: Can disable large groups of organic units; can mind-control any unit; can destroy most spellcasters with a single feedback attack.
Weakness: Has no melee attack; costly to kill; expensive to produce.

Dark archons are costly to form and require much micromanagement. But their three abilities can be quite formidable.

Feedback: This spell causes units with energy points to lose all energy and suffer a like amount of damage. Use it to eliminate cloaked wraiths, high templars, or ghosts, and to deplete the energy of queens, science vessels, and defilers before they can cast spells.

Mind Control: This spell turns an enemy unit to your side. It depletes 150 energy and brings all shields down to 0. Mind control is perfect against battlecruisers, carriers, reavers, and ultralisks, and to capture valuable enemy spellcasters. Mind-control a worker and

you can access that race's technology tree. You can then exceed your unit limit by building enemy warriors. You also gain spells or upgrades if you mind-control an enemy Protoss player's units.

Maelstrom: This spell paralyzes a 3x3 matrix of organic units (ground or air) for 12 seconds. You can cast up to three psionic storms on units in a maelstrom to decimate Zerg hordes.

Corsair

COAST IS CLEAR Use the corsair's disruption web to warp in troops and attack enemy bases with impunity.

Damage Type: Explosive, splash-friendly
Size: Medium
Strength: Fast cheap; very fast attack rate medium size; give it an advantage versus most flyers; can shut down enemy ranged ground attacks.
Weakness: Low damage; enemy armor negates its usefulness; can't attack ground.

The corsair is a perfect counter to the mutalisk, and is excellent at hunting down overlords. Its fast attack lets it go wing-to-wing with the wraith. Upgrade as soon as possible, because enemy armor will defang the corsair's rapid attack. Corsairs are useless versus heavy flyers. They can research one spell: disruption web.

Disruption Web: This spell lasts a minute and affects an area equivalent to one bunker or tower. Any unit inside cannot

attack. But ranged attacks into the web are fully functional. Use this spell to shut down siege tanks, missile turrets, and bunkers. Then destroy everything within with scouts, dragoons, archons, or carriers. This ability is a necessity for breaking Terran defenses and sieging islands. A hastily thrown disruption web can also stop lurkers, hydralisks, and other ranged attackers. They will have to move out of the web to continue firing, giving you time to counterattack or flee.

Protoss

SILENT KNIGHT Go for the enemy's comsats and towers so that your dark templar can have free rein inside the enemy town.

Dark Templar

Damage Type: Normal
Size: Small
Strengths: Permanently cloaked; does massive damage per hit; faster than an upgraded zealot.
Weaknesses: Expensive; fewer hit points than a zealot; more vulnerable once detected; can't attack air.

These permanently cloaked assassins can decimate a Terran or Protoss base in the enemy camp. Because these ranks tend to have limited detection ability early on, just one or two dark templars can be sufficient to spoil victory if you get them quickly enough. Their attack is slow, but the 40 damage they inflict more than makes up for their speed. When using dark templar, go for detection buildings first, such as missile turrets and comsats. Bring in a few zealots to distract enemy warriors for a more effective attack. If your enemy has ample cloak

detection, start using the dark templars more strategically. Attack defenseless expansion bases and unprotected fleets of the enemy's main base. Dark templars also make good spies for watching resource nodes.

Protoss

Changes to Existing Protoss Units

Photon Cannon: Not only does it build faster, but forge is also cheaper. You can and should acquire cannons faster.

Shield Battery: New range of 4 matrices and 100 starting energy make it more useful as a defense.

Observatory: Cheaper now, so you should build observers as quickly as possible to deter the new cloaked units.

Dragoon: Faster and cheaper to build. Range upgrade +2 instead of +1. Can be built quickly for air defense, and they get the drop on hydras, marines, and mutalisks.

Archon: New accelerate much faster, making them better offensive weapons. Great against ground and air. Beware the EMP shockwave, dark templars, and feedback.

Arbiter: Cheaper (100 mineral, 350 gas) and more practical.

Scout: Shields and hit points increased to 100 and 150 respectively, air damage upped to 28, and ground attack slowed. Star gate is cheaper and builds faster, so you can get scouts quicker.

Carrier: Reduced cost, increased base armor, and more powerful interceptors (40 hit points, 40 shield, 6 damage) make this a more viable war machine. Increased capacity upgrade builds faster and is cheaper. Still loses against bottlenecks, however.

Reaver and Shuttle: Both build times increased slightly. Build times for robotics facility and robotics support bay also tweaked so that you can no longer get to reaver drop as quickly as before. Reavers still available at same time for base defense, however. All transports now require that offloaded troops wait before they attack, thus reavers can no longer fire immediately upon disembarking.

Changes to StarCraft

Along with creating the new units, Blizzard has rebalanced much of the existing structure of the game. Even if you don't play BROOD WAR, these gameplay adjustments have been patched into regular STARCRAFT with patch 1.04. You can find a text file listing all the changes in your STARCRAFT directory. The alterations balance the game even further and give it more strategic depth.

The new cloaked units in Brood War make cloak detection a necessity, and the 1.04 changes make detectors for all sides cheaper and more available.

The Terrans benefit from better science vessels, even better cloak detection, and more effective firebats.

The Protoss have been helped significantly, in the sense that nearly all their buildings and many of their units have been tweaked so that they have a more credible early defense, better aerial defenses, and less restrictive midgame build orders. The dragoon is now a much more useful unit, as are the carrier and archon. The dreaded reaver drop, though, has been toned down.

The Zerg have been scaled down as far as producing hordes of units, but their

expansion speed remains the best of all races. To compensate for their slowed production (still faster than the other two races), their defenses have been improved considerably. You will now need to build more hatcheries in order to get the same horde effect as in the original STARCRAFT.

The air forces of the Terran and the Protoss have also been changed dramatically. Not only do their starport and star gate build faster and cheaper, but also their air units were powered up for a more balanced air war.

For complete details on all changes, read the patch.txt file.

Thief: The Dark Project

Better Breaking and Entering for Budding Burglars

by Lance A. Larka

Aye lad, so you want to be a Keeper, eh? A small weight on the great balance of the universe? Are you sure that you aren't disturbing my rest solely to become a liberator of wealth? Yes, young Garret, I know your past. I too was once tempted, but stayed the course. You shall too—if you survive, that is. You listen close now. I'm only gonna say this once, and it's your arse locked in Cragscleft prison if you don't listen.

Your first consideration for any mission is what you are going to lug with you. You might find some items during your mission, but don't count on it, so choose wisely before you start. Pay close attention to your briefing, oftentimes there will be some clue to what you'll be facing and what you'll need. Be sure to spend all your cash at the beginning of every mission. Money doesn't carry over from mission to mission. Likewise, don't be afraid to use all your equipment since you lose it after completing the mission.

Tools of the Trade

Let's start with the broadhead arrow. This basic killing tool works on humans, animals, and the trickster's minions.

See the Review

MARCH ISSUE • 4.5 STARS
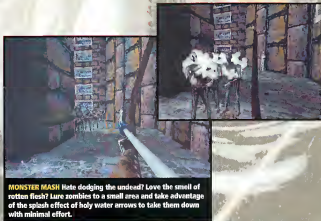
MONSTER MASH Note dodging the undead? Love the smell of rotten flesh? Lure zombies to a small area and take advantage of the splash effect of holy water arrows to take them down with minimal effort.

NO MUSS, NO FUSS

Shoot swords when they're standing on carpet. When you move the body, the carpeting will absorb the blood, covering your tracks and saving you a water arrow as well.

Don't waste time shooting these at undead though—they'll eat you alive for your trouble. Use a water arrow with holy water instead. Non-blessed water arrows are the only way to douse torches and fires, and to wash away incriminating bloodstains.

Speaking of holy water: you can get it from a special blessed vial or from a blessed fount. Either way you have only 30 seconds before its potency expires or you'll be left with a wet zombie instead of scattered body parts. Happily, the water's splash effect lets you damage multiple targets if they are close enough.

That reminds me! If you're trying to truly "spread the wealth" amongst a group of

undead, toss a flash bomb at them. If you aim one of these bombs properly, you can hit several closely clustered foes. This is especially useful against the faster spirits. You can also use a flash bomb to temporarily blind a foe, so that you can have a few seconds to run or to kill them.

Nothing has armor everywhere (although the Burricks come close). Before firing an arrow, take time to find the sweet spot. For humans, the unguarded neck or lower back is a prime place to aim. Hit zombies in the chest so your arrows don't pass through them. If you can, make your first shot a surprise; you do five times as much damage when their guard is down.

Bait and Switch

One way to distract your foes is to fire a noisemaker arrow past them. If you're good, you can use one of these to get a group of foes to cluster together and then finish them off en masse with a gas arrow, or herd them toward a preplaced mine.

You don't necessarily need a noisemaker arrow to distract a foe. Throwing items such as cups, boxes, and other objects will work in a pinch. Likewise, the sound of an arrow hitting the wall next to a guard will probably alert him and make him move.

Fire Arrows are my personal favorite even though they really light up your position. These little gems are great for making a group of foes into Burrick fodder when they stand together. Don't waste 'em if you can help it—if you run into one of the "cursed" creatures without any holy water, one of these will send the creature to eternal sleep. Also, since it's a pretty bad idea to carry a glowing lantern around when you're trying to hide, these

BOXED IN Throwing a few boxes in a doorway is a good way to slow down enemies like this Apebeast, so that you can pick them off more easily.

HAMMER TIME By kneeling in shadow and leaning around a corner, I can stay out of sight of this Hammerite priest until my arrow pierces his neck.

arrows are the only way that you can relight torches. Since some doors can be opened only when a set of nearby torches is burning, you better have a few of these handy if you want the big score—or the way out.

RUDIMENTARY ROBBERY RUBRICS

When you want to take a long swim underwater make sure to have a breath potion handy. It'll keep you from floating face down when you finally emerge.

Take a healing potion as soon as you start to get hurt. By the time it takes effect you may be in a much more dire situation and won't have time.

Constantine's sword and the blackjack are the only weapons you can wield that don't make you more visible to the casual eye. Use them.

Carpeting does more than muffle footsteps, it also soaks up blood. Kill guards when they're standing on a carpet and you won't need to expend a water arrow to clean up.

Guards aren't stupid! If you take a highly visible item when they aren't looking, they might notice it gone and come for you. Likewise, if you leave a door open, they might suspect an intruder.

Zombies will attack anything living, including those nearly indestructible Burricks. Since zombies can't be killed, lure the two groups together and watch the fur fly. After a while you'll only have to contend with the zombies.

You don't need to kill everything in your way; often it's just necessary to run by and get yourself to a new area and be safe. Use moss arrows to muffle your steps across noisy surfaces.

Before a mission, don't waste your money on speed potions or mines of either type, and pick up only two or three rope arrows since you can reuse them as long as you don't miss a wooden surface. Always take at least two healing potions: They are worth their weight in gold.

The other tool that you have in your quiver is the rope arrow. Sometimes, there are no stairs where you want to go. Shoot a rope arrow into a rafter and you can get to the top by "manteling" your way up. Don't forget to recover the arrow. You can also travel from rope to rope across multiple arrows when a mantel space isn't available.

There are a couple of items you might try to avoid. The gas mine and the exploding mine are fine for removing a determined pursuer, but it is all too easy to get turned around and stumble on your own trap. Not exactly the epitaph that I want on my gravestone. So be wary if you decide to use these.

On the other hand, the gas arrow is worth every penny. These are the ultimate in nonlethal weaponry. Like the fire arrow, the gas arrow is an area effect weapon and works best against grouped targets. And also like the fire arrow, it does not "drop" in flight and it doesn't need to be drawn all the way back in order to achieve maximum effectiveness.

Well, young Garret, I think I've passed on enough knowledge for this day. Remember what this old Keeper has told you and you'll be fine. Be sure to stay the path, for you are destined for great things. **CGW**

Decisions, decisions, decisions. BRIGADE COMBAT TEAM, BALDUR'S GATE, or FIRETEAM ... What's an anti-social guy like Lance to do on a quiet Friday night?

TIPS

CHEAT CODES • HINTS • WALKTHROUGHS

Action

Heretic II

The following cheat codes may only be accessed through the console, which you reach by hitting the ~ key.

angermonsters	Monsters get angry
meatwagon	Kill all non-boss monsters
playbetter	God mode on/off
twoweeks	Power-up on/off

Adventure/RPG

Fallout 2

On occasion, you'll run into two groups fighting each other in the desert. Move quickly to the exit grid and watch the outcome. If the "good guys" win, you can go back and loot all the booties for goodies when the victors leave. If the bad guys win, walk off into the desert before they come after you.

When you find the car, keep in mind that it can be refueled with either small energy cells (used by laser pistols and such) or the microfusion cells (used for plasma rifles and the like). Just put your hand on the hood and use whatever fuel you have in inventory if you run out of "gas" and have no refills, the spot will be marked on your map so you can come back for it later. And the trunk is a good place to store excess equipment while you travel.

Be careful going to New Reno with the car as it will be stolen once you walk away. You'll then have to track it down to get it back. You may want to let the fuel run down just outside town to be safe.

By the way, there's a bug with the car. Sometimes (and this happens to me all the time in San Francisco) the car will suddenly become half a car, leaving only the trunk part. Check the Interplay Web site (www.interplay.com) for the patch, which should fix the problem. Or you might try leaving the car outside the city.

While it may be handy to have NPCs around, they can cause some problems. Certain areas may be hostile to nonhumans, such as mutants or ghouls, or even just unusual humans. Save the game before entering any new place, just in case. You can, of course, complete the game without having any NPC companions at all.

Remember you can save during combat, as long as your turn hasn't ended. In a difficult fight, save when you make a good hit, and restore if things go badly. Late in the game, the long load and save times are irritating, but that's still better than replaying a combat over and over. This is especially true at the very end, when you could easily die on any round. —Scorpia

Always explore a new town during daylight hours. It's amazing how much you can miss in the dark. Also, many of the townspeople (especially merchants) are asleep at night, and you have to wait until morning to trade with them anyway.

Save often while traveling through the wasteland, and any long journey should be done in small jumps, a couple of squares at a time. Even with the High Outdoors skill, you'll have plenty of random encounters, and they get easier and more frequent the farther you move from Arroyo and the north.

Strategy/Wargames ▼

Zorndorf

n the large *Zorndorf* scenario, the computer-controlled Russian general Demicoud can occasionally cause the program to crash or lock up on Windows 98 systems. (Revenge of the Russian cyber-winter?) If this happens to you, try the following work-around:

1. When things bomb, reload *without* the computer as Russian.
2. Move Demicoud's corps as if you were playing the Russian side.
3. Save and reload as normal.
4. Save often. —*Jim Cobb*

Simulation/Space Sim ▼

F-16 Multirole Fighter/MiG-29 Fulcrum

When going into a death-match, you probably agonize over which plane to fly and which shoes to wear. You're on your own regarding the shoes. But as for the choice of plane, I'd take a MiG-29 over an F-16 any day of the week. Although the short-range missiles on both aircraft have an 11km range, the MiG has a considerably longer reach with its 148km R-77 Adder than the F-16 has with its 48km AMRAAM (curiously, the game counts the Adder as a medium-range missile in multiplayer games). This allows for the jet servicing

In This Corner

Weighing in at 18,216 pounds, the F-16.

equivalent of sniping from a safe distance. It also forces your opponent to turn away from the missile, so you can work your way behind him.

When the action gets up close and personal, the MiG is ultimately more maneuverable at moderate speeds than the F-16. In an F-16, you can afford to lean on the afterburner while you turn (the F-16's longer fuel tanks come in handy here). In a MiG, ease back on the

And in This Corner

Weighing in at 10,100 kilograms, the MiG-29.

throttle in a turning fight. In both aircraft, pop your flaps to pull tighter in the vertical plane.

Alternatively, bank your plane about 45 degrees and let those super rudders work their magic: you can effectively spin your plane's nose around to line up a shot this way.

Finally, if you really must know, I'd recommend something in a light loafer without socks. —*Tom Chick*

Warlords—Darklords Rising

Don't try to defend everything and don't worry about maintaining front lines. As long as you have at least one city, you'll survive. The important thing is to keep your hero stack alive and crushing. Eventually other heroes will join up, and you can see them defeating one enemy unit after another. But they're just not strong enough to settle out on their own

When you send heroes out to roam, keep them questing. Even an easy quest gives two experience points and may give you a powerful ally or piece of removables. Average quests are much more rewarding, offering more experience points and a chance to get armies from your first three mercenary or ally slots. So, put your hero on a creature that lists and move on to average quests as soon as you can. Remember that only one hero can get experience for attacking or completing a quest, if you're trying to build up two heroes in the same stack, they will have to alternate quests.

If you can field average quests for ruins that you can complete in the first five turns, accept them even if your hero is just starting out. A hero is much less likely to lose a quick challenge for the first five turns (a game is drawing down), so number what the creature is. Save the game before taking quests so you can back out. Even within the broad categories of easy, average, and hard there will be wide fluctuations. If you don't like the selections at one city, try moving to a city further away for hard quests, or closer for easy or average —*Sam Baker*

CGW'S MONTHLY READERS' POLL

Each month, 2,000 *CGW* subscribers are selected at random to rate 100 computer games. The results of that poll are combined with the results of previous months to yield a cumulative average for the best plays in gaming. If you receive a ballot, please return it with your ratings so that other gamers and game publishers can benefit from your feedback.

TOP ACTION GAMES

		GAME/COMPANY	SCORE	RATING
1	1	Half-Life Sierra	9.32	5
2	2	Quake II Activision	8.47	4.5
3	3	Jedi Knight: Dark Forces II LucasArts	8.05	4.5
4	4	Quake Pack 2: Dissolution of... Activision	8.44	5
5	5	Quake Pack 1: Armagon of Software Mesa	8.40	4.5
6	6	Jedi Knight: Mysteries of the Sith LucasArts	8.28	4
7	7	Unreal GT Interactive	8.20	4
8	8	Shogo: Mobile Armor Division Monolith	8.16	3.5
9	7	Quake II Pack 2: Ground Zero Activision	8.13	3.6
10	9	Rainbow Six Red Storm	8.11	3.5

TOP ADVENTURE GAMES

		GAME/COMPANY	SCORE	RATING
1	—	Grim Fandango LucasArts	9.15	4.5
2	1	Curse of Monkey Island LucasArts	8.20	5
3	2	Sanitarium ASC Games	7.29	4.5
4	3	Zork: Grand Inquisitor Activision	7.85	NR
5	3	Tex Murphy's Overseer Access	7.63	1
6	—	Blade Runner Virgin/Westwood	7.59	4.5
7	—	Realms of the Haunting Interplay	7.49	4.5
8	—	Last Express Red Orb	7.42	4.5
9	—	Leisure Suit Larry 7 Sierra	7.16	3
10	—	Tex Murphy: Overseer Access	7.15	3

TOP CLASSIC/PUZZLE GAMES

		GAME/COMPANY	SCORE	RATING
1	1	You Don't Know Jack 2 Berkeley Systems	8.09	4.5
2	1	You Don't Know Jack 3 Berkeley Systems	7.95	4
3	2	You Don't Know Jack Movie/... Berkeley Systems	7.93	4.5
4	—	Smart Games Challenge: 2 Smart Games Inc.	7.81	5
5	—	Worms 2 MicroProse	7.76	4
6	—	You Don't Know Jack TV Berkeley Systems	7.71	3.5
7	—	Shanghai Dynasty Activision	7.34	3
8	—	Magic: Duels of the Planeswalker MicroProse	6.80	2
9	—	Lose Your Marbles SegaSoft	6.62	4.5
10	—	Monopoly World Cup 98 Hasbro Interactive	6.11	4

TOP SIMULATION/SPACE COMBAT

		GAME/COMPANY	SCORE	RATING
1	—	Longbow 2 EA	9.00	4.5
2	—	Wing Commander: Prophecy Origin	8.29	4.5
3	—	European Air War MicroProse	8.23	4
4	1	iF-22 Novalogic	8.14	4.5
5	2	Independence War Infogrames	8.08	5
6	—	Fighters Anthology EA	7.86	3.5
7	—	F-22 ADF Infogrames/DID	7.60	4.5
8	—	MechWarrior 2 Mercenaries Activision	7.59	4.5
9	—	Flight Unlimited 2 Looking Glass	7.56	4.5
10	9	Descent: Freespace Interplay	7.42	4.5

TOP SPORTS/RACING GAMES

		GAME/COMPANY	SCORE	RATING
1	1	NHL Hockey 99 EA Sports	9.42	5
2	—	NBA 98 EA Sports	8.58	4
3	—	World Cup 98 EA Sports	8.49	4.5
4	2	Need for Speed III EA	8.29	5
5	—	FIFA Road to World Cup 98 EA Sports	8.11	4.5
6	—	NBA Live '98 EA Sports	8.24	4.5
7	—	Motocross Madness Microsoft	8.03	4.5
8	—	Jack Nicklaus 5 Accolade	7.94	5
9	—	Madden NFL '99 EA Sports	7.75	4.5
10	—	Diamond Mind Baseball 7.0 Diamond Mind	7.62	3.5

TOP STRATEGY GAMES

		GAME/COMPANY	SCORE	RATING
1	—	Heroes II Force of Loyalty 3DO/New World	8.35	5
2	—	StarCraft Blizzard	8.29	5
3	—	Tit-Can Coming... Greystag	6.73	4.5
4	—	Railroad Tycoon II Gathering of Developers	8.27	4.5
5	—	Total Annihilation GT Interactive	8.23	5
6	—	Total Annihilation: Battle Tactics Cavedog	8.19	4.5
7	—	Red Alert: Counterstrike Virgin/Westwood	8.12	4
8	—	Age of Empires: Rise of Rome Microsoft	8.04	4
9	—	StarCraft Insurrection Aztech New Media	8.00	3.5
10	—	Age of Empires Microsoft	7.96	4.5

TOP ROLE-PLAYING GAMES

		GAME/COMPANY	SCORE	RATING
1	—	Might and Magic VI 3DO/New World	8.83	4.5
2	—	Fallout 2 Interplay	8.75	4.5
3	—	Fallout Interplay	8.35	4.5
4	—	Final Fantasy VII Eidos/Squaresoft	8.18	4
5	—	Hellfire Sierra	7.82	4
6	—	Return to Krondor Sierra Studios	7.33	3.5
7	—	Dark Earth MicroProse	6.85	2.5
8	—	Shadows Over Riva Sir Tech	6.60	NR
9	—	Rage of Mages Monolith	6.30	3
10	6	Lands of Lore 3 Westwood	6.16	NR

TOP WARGAMES

		GAME/COMPANY	SCORE	RATING
1	—	Steel Panthers 3 Campaign Disk SSI	8.30	4.5
2	—	Panzer General II SSI	8.23	4.5
3	—	The Operational Art of War Talonsoft	8.18	4.5
4	—	Sid Meier's Gettysburg Firaxis	7.97	4.5
5	—	Battleground Red Barn Talonsoft	7.82	4
6	—	Battleground: Napoleon in Russia Talonsoft	7.69	4
7	—	People's General SSI	7.62	3
8	—	Great Battles of Julius Caesar Interactive Magic	7.33	4.5
9	—	Close Combat III Microsoft	7.26	3
10	—	Age of Rifles Campaign Disk SSI	7.02	3

Games on unnumbered lines are tied with game on line above ★ = 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.

THIS	LAST	GAME	GENRE	POLL SCORE	POLL RATING
★ 1	3	NHL Hockey 99 EA Sports	SP		
★ 2	—	Half-Life Sierra	AC	9.12	5
★ 3	1	Grim Fandango LucasArts	AD	9.03	5
★ 4	2	Might and Magic VI 3DO/New World	RP	8.93	4.5
5	6	Heroes II: Price of Loyalty 3DO/New World	AD	8.80	4.5
6	7	Myth II 3DO/New World		8.93	4.5
7	4	StarCraft Blizzard	ST		
★ 8	—	Fallout 2 Interplay	RP	8.75	4
9	5	Total Annihilation: Core Contingency Cavedog	ST	8.49	5
★ 10	—	World Cup 98 EA Sports	SP	8.49	4.5
11	8	Quake II Activision	AC	8.47	4.5
★ 12	13	Longbow 2 Electronic Arts	SI	8.16	5
★ 13	—	Jedi Knight: Dark Forces II LucasArts	AC	8.05	4.5
14	10	Quake Pack 2: Dissatisfaction id Software/Rogue	AC	8.41	4
15	—	Jedi Knight: Mysteries of the Sith LucasArts	AC	8.40	4.5
16	—	Need for Speed III EA	SP	8.25	4
17	13	Fallout Interplay	RP	8.35	4.5
★ 18	—	Thief: The Dark Project Eidos Interactive	AC	8.09	4.25
★ 19	17	FIFA 98: Road to the World Cup EA Sports	SP	8.31	
★ 20	—	Stout Panthers II Campaign Disk	WG		
21	15	Wing Commander: Prophecy Origin	SI		
22	16	Jedi Knight: Mysteries of the Sith LucasArts	AC		
★ 23	—	Railroad Tycoon II Gathering of Developers	ST	8.27	4.5
24	21	Unreal GT Interactive	AC	8.26	4
25	17	NBA Live 98 EA Sports	SP	8.19	4
★ 26	—	European Air War MicroProse	SI	8.33	4
27	24	Pinzer General II SSI	WG	8.07	3.5
28	24	Total Annihilation GT Interactive	ST	8.05	4.5
29	26	Curse of Monkey Island LucasArts	AD		
30	20	Total Annihilation: Battle Tactics Cavedog	ST	8.04	4
31	26	Final Fantasy VII Eidos Interactive	RP	8.18	4
32	—	Shogo: Mobile Armor Division Monolith	AC	8.06	4
★ 33	—	You Don't Know Jack Sports Berkeley Systems	CP	8.15	4
34	29	You Don't Know Jack 3 Berkeley Systems	CP		
35	28	The Operational Art of War Talonsoft	WG		
36	19	Quake II Pack 2: Ground Zero Activision	AC		
37	29	Red Alert: Counterstrike Westwood	ST	8.06	3.5
38	31	Rainbow 6 Red Storm	AC		
★ 39	—	MechWarrior: Brigs of Rome Microsoft	SI	8.08	4
40	—	Independence War Infogrames	SI		
41	30	Motocross Madness Microsoft	SP	8.08	4.5
42	36	Curse of Monkey Island LucasArts	AD		
43	43	Sid Meier's Gettysburg Firaxis	WG	7.81	4
★ 44	—	Age of Empires: The Rise of Rome Microsoft	ST		
45	35	Quake II Pack: The Reckoning id Software/Ritual	AC		
★ 46	—	You Don't Know Jack Movies Berkeley Systems	CP		
47	33	Jack Nicklaus 5 Accolade	SP		
48	—	HellFire Sierra			
★ 49	46	Smart Games Challenge 2 Smart Games Inc.	CP	7.91	
48	49	Fortingbrownd: Bull Run Talonsoft			
★ 50	51	Warlords III: Darklords Rising Red Orb/SSG	ST	7.88	4.5
51	43	Civilization II: Fantastic Worlds MicroProse	ST	7.88	4
★ 52	48	Sanitarium ASC Games	AD	7.79	4.5
53	52	Battleground: Napoleon in Russia Talonsoft	WG	7.79	4
54	47	Might and Magic VI	RP		
55	50	Madden NFL 99 EA Sports	SP	7.75	4.5
56	—	Caesar III Sierra	ST		
★ 57	—	You Don't Know TV Berkeley Systems	CP		
58	53	Moto Racer EA	SP		
59	—	Fighters Anthology EA	SI	7.86	3.5
★ 60	60	Grand Inquisitor Activision	AD		
★ 61	—	Tomb Raider II Eidos Interactive	AC	7.64	4
62	—	Twinsen's Odyssey Activision	AD	7.63	4
63	59	Diamond Mind Baseball P. Diamond Mind	SP	7.62	3.5
64	—	People's General SSI	WG	7.61	4
★ 65	—	Tomb Raider III Eidos Interactive	AC	7.61	4.5
66	61	Rainer Mastered Magica			
★ 67	61	Battleground 7: Merconnatus Talonsoft	WG	7.58	4.5
68	—	Flight Unlimited 2 Looking Glass	SI	7.58	4
69	72	Descent: Freespace—The Great War Interplay	SI	7.56	4
★ 70	69	MechCommander MicroProse	SI	7.54	4
71	68	Dungeon Keeper Expansion EA/Bullfrog	ST	7.54	4
72	67	Might and Magic IV EA Sports	RP	7.53	4
★ 73	65	Battlezone Activision	AC	7.54	4
★ 77	—	Warlords 2 II Interactive Magic			
76	74	Realms of the Haunting Interplay	AD	7.49	4
75	—	SimCopter Maxis	SI	7.47	4.5
76	—	Agile	SI		
★ 80	—	Activision Activision			
★ 81	—	Virtual Pool 2 Interplay	SP	7.42	4
82	61	NFL Gameday 99 989 Studios/Sony	SP	7.41	4
83	—	Breakfall Nogul Infinite Money	SP	7.41	4
★ 84	—	Test Express First Disc			
85	78	Age of Empires Microsoft	ST		
86	76	Interstate 76 Activision	SI		
87	—	Unreal Demo Interplay	AC		
★ 88	—	Return to Krondor Sierra Studios	RP	7.33	2.5
89	84	Dungeon Keeper 2	ST		
90	80	Dungeon Keeper 2	ST		
★ 91	—	M1 Tank Platoon II MicroProse	SI		
★ 92	—	Delta Force NovaLogic	SI	7.39	4
93	—	Flight Simulator 98 Microsoft	SI		
★ 95	—	F-16 Multirole Fighter NovaLogic	SI		
96	87	Shanghai Dynasty Activision	CP		
★ 97	—	Age of Rifles Campaign Disk SSI	WG		
98	88	Close Combat: A Bridge Too Far Microsoft/Atomic	WG	7.32	4
★ 99	—	Tiger Woods 99 EA Sports	SP		
★ 100	—	Grand Prix Legends Sierra Sports	SP		

WELCOME TO THE COOPERSTOWN OF COMPUTER GAMES. These are the games that broke the records, established the benchmarks, and held gamers in delighted trances for hours untold.

Alone in the Dark (I-Motion, 1992)

The Bard's Tale (EA, 1985)

Battle Chess (Interplay, 1988)

Betrayal at Krondor (Dynamix, 1993)

Chessmaster (Software Toolworks, 1986)

Command & Conquer (Virgin/Westwood, 1995)

Day of the Tentacle (LucasArts, 1993)

DOOM (id Software, 1993)

Dungeon Master (FTL Software, 1987)

Earl Weaver Baseball (EA, 1986)

Empire (Interstel, 1978)

F-19 Stealth Fighter (MicroProse, 1988)

Falcon 3.0 (Spectrum HoloByte, 1991)

Front Page Sports Football Pro (Dynamix, 1993)

Gettysburg: The Turning Point (SSI, 1986)

Gunship (MicroProse, 1986)

Harpoon (360 Pacific, 1989)

Kampfgruppe (SSI, 1985)

King's Quest V (Sierra On-Line, 1990)

Lemmings (Psygnosis, 1991)

Links 386 Pro (Access Software, 1992)

M-1 Tank Platoon (MicroProse, 1989)

Master of Magic (MicroProse, 1994)

Master of Orion (MicroProse, 1993)

Mech Brigade (SSI, 1985)

MechWarrior 2 (Activision, 1995)

Might & Magic (New World Computing, 1986)

M.U.L.E. (EA, 1983)

Panzer General (SSI, 1994)

Red Baron (Dynamix, 1990)

The Secret of Monkey Island (LucasArts, 1990)

Hall of Fame—New Inductees

Battleground Series (TalonSoft, 1995-present)

A TGW we rarely induct an entire series into the Hall of Fame, but the Battleground series is an exception. With each new release, TalonSoft regularly upgraded the older titles in the series. As a result, the Battleground series represents the best American Civil War gaming and Napoleonic era gaming ever on the computer. The graphics and interface brought miniatures and board wargamers to the same maps for satisfying battles. The soundtracks and film clips added additional color and historical depth to an already satisfying game experience.

Throughout the entire series, the play balance was near perfect. The transparent handling of bookkeeping chores for morale, troop quality, line-of-sight, and fatigue made every battle reflect the military realities of the period without slavish historical replication. If, after a time, you became overly familiar with a particular battlefield, clever "What-If?" scenarios added new challenges. Smaller scenarios broke huge battles into easily playable chunks (which were great when employing the canned, play-by-email system we've ever seen), and there have been plenty of opponents available to play any challenge lodgers on the Web (such as the excellent **www.leadeaters.com/battleground/sc-bgwchata.au.htm**). In short, TalonSoft's series offers all of the possibilities for glory with none of the horrors of war.

Tomb Raider (Eidos, 1996)

Y ou wouldn't think that an action game as "splashirking sensational" would be so popular. But from the moment it hit the market, Tomb Raider was destined for greatness. It had a beautiful 3D engine, enormous well-designed levels, moody atmosphere, and great sound. Best of all, it featured a gal—a girl with big guns, both literally and figuratively.

Lara Croft, Tomb Raider's spunky heroine, became a household name overnight. Time Digital ranked Lara 40th on its 1997 list of the "cyberelite," while the British government adopted her as a mascot. The explosion of Lara merchandising included comic books, model CDs, action toy figures, an oft-rumored feature film, and even a tour with rock group U2. Some gamers shied away because of all the hype, and it certainly didn't help that Tomb Raider II was a letdown. What got ignored was the game itself.

And what a game Tomb Raider was! What you initially thought was a gimmick quickly caught you up in a sort of addictive, sublime simplicity. It was hard to resist moving this incredibly athletic polygonal female through exotic locales, all the while dodging poisonous darts, solving more-cruel puzzles, and filling jaguars and dinosaurs full of lead. Arguably the first console-style game that was actually better on the PC, Tomb Raider is a triumph of stylish action and irresistible personality on any platform.

Sid Meier's Civilization (MicroProse, 1991)	**War in Russia** (SSI, 1984)
Sid Meier's Pirates (MicroProse, 1987)	**WarCraft II** (Blizzard, 1996)
Sid Meier's Railroad Tycoon (MicroProse, 1990)	**Wasteland** (Interplay, 1986)
SimCity (Maxis, 1987)	**Wing Commander** (Origin Systems, 1990)
Starflight (EA, 1986)	**Wing Commander II** (Origin Systems, 1991)
Their Finest Hour (LucasArts, 1994)	**Wing Commander III** (Origin Systems, 1994)
TIE Fighter (LucasArts, 1994)	**Wizardry** (Sir-Tech Software, 1981)
Ultima III (Origin Systems, 1983)	**Wolfenstein 3-D** (id Software, 1992)
Ultima IV (Origin Systems, 1985)	**X-COM** (MicroProse, 1994)
Ultima VI (Origin Systems, 1990)	**You Don't Know Jack** (Berkeley Systems, 1995)
Ultima Underworld (Origin Systems, 1992)	**Zork** (Infocom, 1981)

Chairman of the Bored

In Which One Editor Stares Into the Postholiday Void—and Whines

The dog days of gaming are upon us.

Now that the major gaming companies have shipped all their high-profile holiday games—whether they were finished at the time or not—we are officially in a "down time." This down time will last from now until around December 15, at which time 8,000 new titles will once again flood the market, 7,990 of which will be duck hunting games.

Around the Computer Gaming World office, you can tell that boredom has set in. With a dearth of good titles to write about, our brains atrophy by the minute, as professionalism steadily devolves into simianlike, Lord of the Flies barbarism. Nerf footballs are thrown over cubicle walls. Loud belching has replaced meaningful dialogue. Action Editor Robert Coffey—whose pact is still a mystery to us—growls and performs scary rituals with Vaseline and what appear to be human bones (not all that different from what he does the rest of the year).

For my part, I find myself gazing out the window, drifting off on all sorts of useless meanderings. Like: How many times must our new candy machine reject my brand-new, perfectly crisp dollar bills before I can meekly entitled to grab the nearest brick, crowbar, or intern, ram it into that infuriating hunk of crap, and take all the candy I've been so cruelly denied the past few weeks?

Or like: Why—given my age and given the fact that even by the most lowbrow junior-high standards it barely registers as "humor"—do I feel compelled to try to work in a joke about the product on my desk called "My Interactive Pooh"?

You see what I've been reduced to? Pooh jokes. Somebody give me something to do.

JEFF GREEN

alone would be enough to bum me out and make me reconsider my father's advice to became a real-estate appraiser, but to get all three in one day? Who do I look like here? Job? Oh, yeah, there was one more title today: ELITE DARTS. A computer darts game. Not to overstate this or anything, but let me just say, with no offense to the people who made this game, that the day I feel compelled to play darts on my computer is the day I'm going to don green neon tights and cape and swan dive from the top of this building.

Look, I'm not a marketing expert, and I haven't exactly compiled any research (because that would require actual effort,

RETURN TO KRONDOR practically all on the same day? These games sound alike, the boxes all look alike, and they all appeal to the same crowd. They all appeal to me, but being faced with all three at once, as I am now, is just too overwhelming—so I don't want to play any of them (I'd rather belch at my desk and play COW HUNTER.

Memo to the dark counters: Gamers play games every day, all year long. We crave decent titles, are willing to pay a lot of money for them, and will play them incessantly, whenever you put it out—if you do a good job.

So break the mold. Live large. Take a chance. Stop being a lemming. Be the gaming sensation of spring, rather than just another also-ran in December. You'll

> The day I feel **compelled** to play **darts** on my computer is the day I'm going to don green **neon** tights and a cape and **swan** dive from the **top** of this building.

Our only hope, on a daily basis, is the mail delivery. Every day, when the cart rolls by, the editors huddle around like apes before a monolith, clutching at packages with sneering, nervous desperation, hoping that some unexpected gem has arrived.

But inevitably, these days, it's just more dreck. Here's what I received today: COW HUNTER, DEER AVENGER, and BEARS AND BUTTHEAD'S BONANZA IN ONE. Now, any one of these games

and that's not in my description), but doesn't it stand to reason that, like a good movie, book, or CD, a good game is going to find its audience no matter when it's released? And doesn't it also stand to reason that releasing your game at the peak of the holiday season is a surefire way to have your title get completely lost in the glut?

I mean, how dumb was it for Sierra to release KING'S QUEST: MASK OF ETERNITY, QUEST FOR GLORY V: DRAGON FIRE, and

make a lot of bored gamers very very happy, and you may just help the editors of Computer Gaming World find their way back to the proper path of civility and decency again.

B-R-R-A-A-A-P!!!!! CGW

What Jeff doesn't realize is that the human bones that Robert Coffey is playing with belong to the last columnist to make fun of him in print. Send your voodoo curses and medicines to jfgreen@zd.com.

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TO SEE KILLER 3D, WHO SAYS YOU NEED 3D GLASSES?

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