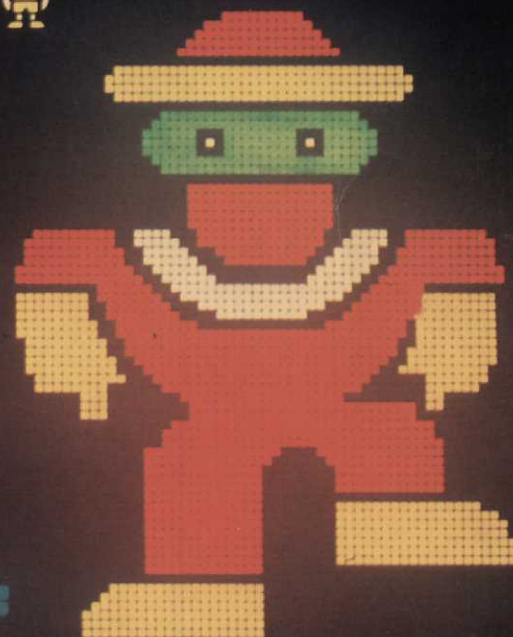
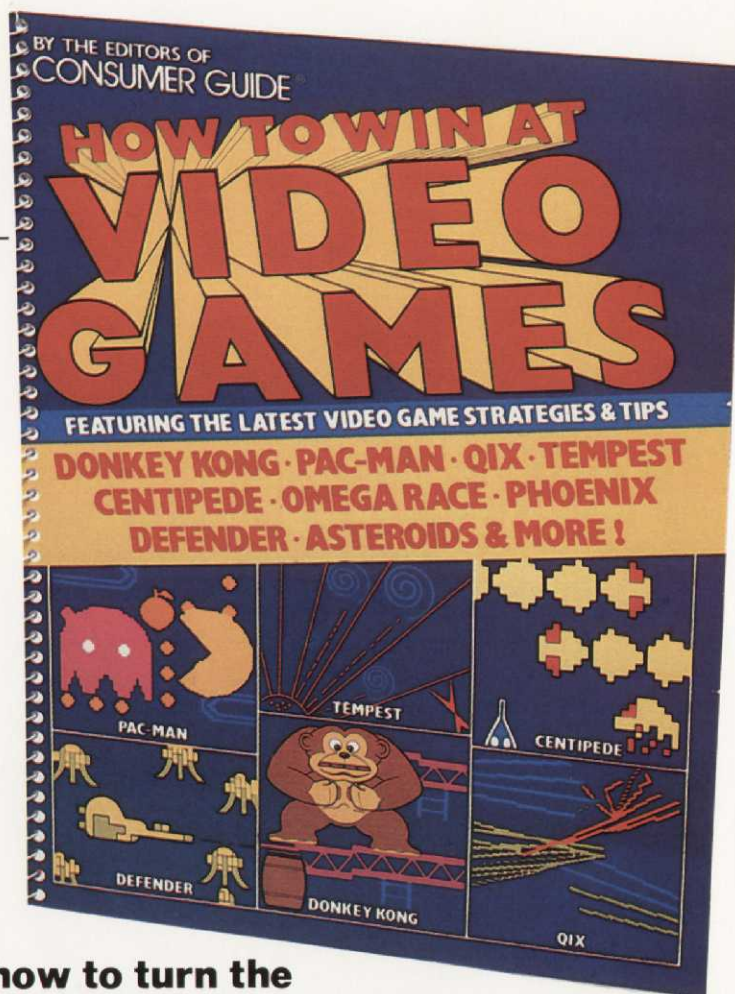


HOW TO WIN AT
**VIDEO
GAMES**

9th~Key Pac~Man Pattern
2084: Robotron Apocalypse!
Zaxxon Strategy
Evolution of Space Games

JoySTiK^{T.M.}





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MESSAGE

STAFF

The rumor goes something like this: The Pentagon (or the CIA or the FBI) collaborated with Atari in the development of a realistic video war game. What they were after isn't clear, and the reasoning differs from rumor to rumor. Either the Pentagon wanted to subliminally train future personnel in the art of video. Or the Pentagon wanted to locate and recruit—immediately—those talented gamers with the most impressive war-game skills. Whether they found what they were after—or whether the story is even true—is certainly top-secret information. The game was real enough, however, and was appropriately titled *Missile Command*.

The rumor became more and more believable as we put the pieces together on our feature article: *The Evolution of Space Games*. While more and more video games become more and more fantasy-oriented, space games become more and more realistic. More like actual war games. If nothing else, the rumor reinforces what should by now be an indisputable fact: video games are intrinsically linked with major aspects of life. And that's what this magazine's all about.

We've got strategy, sure—and plenty of it. All of the strategy is verified, accurate, and versatile. Our 9th-Key Pac-Man pattern—in *The Winning Edge*—is the most sophisticated and authoritative high-score pattern to date. Look for future *Winning Edge* articles on *Defender* and *Donkey Kong*.

But we've got more than arcade strategy. David and Sandy Small have done a masterpiece on role-playing games in their column, *Computer Games '82*. And Eugene Jarvis—the mind behind *Defender*, *StarGate*, and *Robotron*—talks freely about his aggressive games and *Robotron*—talks freely about his aggressive games in *Innerview*. We've got Pac-Man throwing out the first ball at Dodger Stadium and Disney producing a new video-game movie. This is *JoyStik*, people: the video-game magazine of magazine from Chicago. The video-game magazine of the future. If you've been looking for the on-paper answer to the on-screen pulsations of the video arcade, look no longer. You've found *JoyStik*—and you'll never be the same again.

Matthew White
Editor-in-Chief

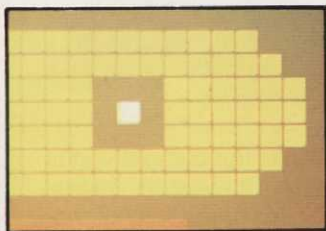
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Louis Weber
Associate Publisher
Estelle Weber
Assistant to the Publisher
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Editor-in-Chief
Matthew White
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Vice-Presidents
Frank E. Peiler
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Marketing Director
Dan Blau
Circulation Manager
Edward Geraghty
Editorial and Subscription Offices
3841 W. Oakton Street
Skokie, IL 60076
Illustrators
Gary Gianni
Mark Stearny
Steven Boswick
Clarence A. Moberg
Photographers
Donna Preis and George Siede
Sam Griffith

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FUTURE WAVES

By David Stuart

YOU'VE GOT TO HAVE A GIMMICK

Can you believe it? So-called video-game experts said that Pac-Man was "too cute" to be a successful game. Asteroids was slugged "too dull—the graphics are boring." Defender was "too hard to learn; no one will ever take the time to learn how to play it." The experts predicted that all three games would be

monumental flops. So much for experts. Today, video-game manufacturers are ignoring the experts and taking fresh new approaches, trying new things. The variety of games appearing in the arcades and home-video stores is exciting. Here are a few games we find intriguing.



FANTASY

"Fantasy" from Rock-Ola is an unusual new "extended storyline" game that sends the player through a series of adventures. Pirates kidnap a young girl (named Cheri) from Fantasy Island. In the nine scenes that follow, the player tries to rescue Cheri, scoring points by defeating enemies along the way. Highlights include

vicious pirates, coconut-throwing gorillas (a Rock-Ola trademark?), deadly helicopters, hungry tigers, restless natives, attacking birds, and more. Whew!

Keep an eye out for these storyline games. We think you will be seeing more and more of them in the future.

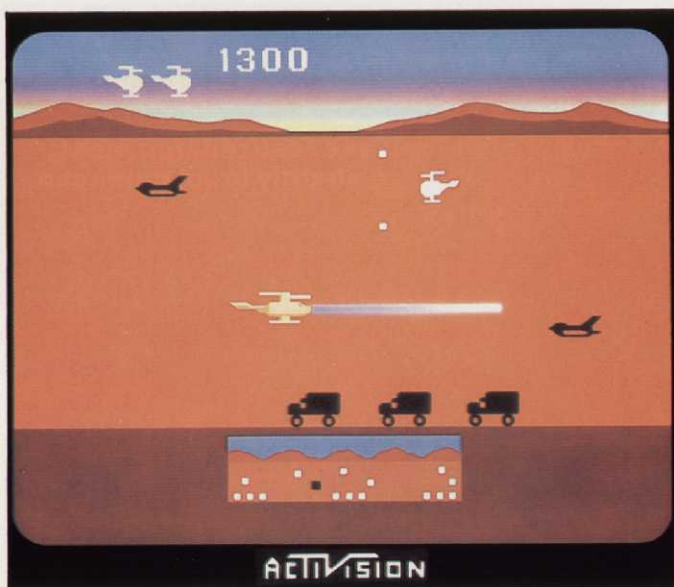
THE ELECTRIC YO-YO

"The Electric Yo-Yo" is from Taito, the company that gave us Space Invaders and Qix. The game revolves around a yellow and red yo-yo that you maneuver with a joystick. Earn points by stringing out the yo-yo and erasing "blox," while avoiding deadly trions and bions that will destroy the yo-yo. The longer the string, the more points earned. With every 50,000 points, the player earns a

new yo-yo. Eight different fields of configurations add to the challenge of "The Electric Yo-Yo."

While the comparison to Qix is inevitable, we feel Yo-Yo offers—if not more fun for the money—more value for the money. The new yo-yo every 50,000 points could potentially keep you going for quite a while.





CHOPPER COMMAND

Activision's "Chopper Command" is an exciting new home game. Your helicopter is assigned to escort a truck convoy carrying medical supplies. Enemy aircraft will try to knock you out of the sky. Fight back with laser rock-

ets, but look out for those multi-warhead missiles that are zooming your way.

Chopper Command combines excellent graphics with an interesting story idea. We think you'll enjoy this one.



ATARI 5200

Video fans everywhere are anxiously awaiting Atari's new System X or Atari 5200 (the company has not decided on a definite name yet). The new home video-game system will retail for about \$330, and cartridges will cost from \$32 to \$40. Here are some of the system's features:

- a universal controller that includes keyboard, joystick, and paddle controls.
- a joystick that controls speed, as well as full circular direction
- a controller that fits comfortably into almost any hand and has left- and right-handed fire buttons
- a single wire that connects to the television (once connected to the set you never have to touch the back of the TV)
- better graphics (an im-

provement over Atari's VCS 2600)

- a special feature that puts the screen to silent black when you change cartridges (no more raspy white noise).

Atari spokesman Jeff Hoff told *JoyStik*, "We'll have 13 cartridges for the 5200 by Christmas. These will include Asteroids, Space Invaders, Missile Command, Star Raiders, Super Break-out, Galaxian, Pac-Man, Baseball, Soccer, Football, Tank, Qix, and Centipede."

Atari's new system is expected to compete head-to-head with Mattel's Intellivision. Pre-Christmas sales will tell which system emerges from the battle as winner.



DEFENDER

Can "Defender"—one of the most popular video games of all time—succeed as a hand-held game? Entex Industries hopes that consumers will say yes. The hand-held version has many of the features that made the arcade game a big hit—Alien Baiters, Landers, Mutants, Swarms, and Pods. The

Smart Bomb "escape button" saves the day when all else fails.

You will have to try this one out for yourself. We doubt that you will ever find the compact game to be as challenging as the arcade favorite. However, it may strike another entertainment nerve.

INNERVIEW

Eugene Jarvis shook the world and shook it hard. At only 27 years old, he's able to claim creative credit for such giant video-game successes as *Defender*, *StarGate*, and *Robotron*. He's part of a new breed, no doubt: the video-game designer. And if Eugene Jarvis continues to match his past accomplishments, he will soon lead that video-game breed.

Jarvis is known throughout the video-game community for his double-edged talents. He is both a creative game designer and a creative computer programmer. Seldom are both talents combined in one frame. Jarvis is also, as he himself says, a "rebel." Although his rebellious attitude has caused problems in the past, he continues to "toy with it." In other words, he says what he thinks.

JoyStick editor Wayne Robert Williams talked with Jarvis at Vid Kidz—Jarvis' newly founded independent company in Chicago. The discussion was a stream-of-consciousness triumph. After three hours of cerebral battle, Williams had what we wanted: a critical insight into the workings of Jarvis' mind.

Jarvis graduated from the University of California at Berkeley with a degree in electrical engineering and computer science. He's worked on pin-ball games at Atari in San Jose and on video-games at Williams Electronics in Chicago.

Robotron—although manufactured and distributed through Williams—is actually a Vid Kidz product.

Jarvis has always worked in idyllic environments. Both Atari and Williams let the game designers do what they wanted—as long

**"I think managers have realized that most software people are slightly brain damaged."
Eugene Jarvis**



as they produced. "I think managers have realized that most software people are slightly brain damaged," said Jarvis, "that they're off on their own planets."

Vid Kidz gives Jarvis the opportunity to successfully implement his ideas—without interference. Three qualities appear to dominate a Jarvis game. Those qualities are 1) ambitiousness of design, 2) aggressiveness of game play, and 3) satisfying interaction of all game elements.

The games have always been ambitious. When asked what ideas led to the birth of *Defender*, Jarvis said: "Steve Ritchie and myself were sitting in a room toying with concepts and game ideas. Steve said: 'Wouldn't it be neat if you were flying over a planet on a screen.' And we tried to figure out what to do with it. You could be flying over the planet, you could go up and down in any direction you want . . . I eventually said: 'We can't do that yet, but what we can do is fly left and right, and so on.'"

Defender was Williams' and Jarvis' first video-game. And it was the biggest success of 1981. *Robotron*—Vid Kidz first game—was even more ambitious in concept. "Robotron as originally conceived," said Jarvis, "put you in a large world of a futuristic underground civilization where there were corridors and a central controlling station—a whole elaborate scenario.



Robotron: "It's the dog salivating, you know. You hear the bell and you're starting to sweat."



Defender: "I'm an action player. I like to be aggressive. I don't like to be on the run."

One day, I realized to implement that I'd spend 10 years of my life. I'd never finish it. At some point I had to say: 'How can I distill from this the essence of the idea of Robotron.' You have to reach into your designer's bag of tricks to produce the essential affect."

Aggression has been a constant theme of Jarvis' work. "I'm an action player. I like to be aggressive. I don't like to be on the run. I

like to feel like I have the fates in my hands and that through my skill or lack thereof I control my fate." The aggressiveness is encouraged in Jarvis' games. When asked about the strange physical sensation given in *Robotron*'s Brain Wave, Jarvis responded: "I think it's, yes, Pavlovian. It's the dog salivating, you know. You hear the bell and you're starting to sweat."

The most admirable aspects of Jarvis' games are

their interrelation. Every part of the game—no matter how complicated—is intrinsically related to the theme. "I personally object to episodic games," said Jarvis, "where you play one screen of *Space Invaders* and one screen of *Break-out* and one screen of *Galaxian* and one screen of this and one of that. To me, that's not a game. It's just taking five bad games, putting them together, and calling them one good game. I'm philosophically against that." *Robotron* is Jarvis' most successful attempt at this interrelationship. "Nobody has really advanced to the point of putting a story behind it, having a scenario associated with making more than just a game—a whole reality behind why you are there. I want you to ask and answer: Why are these robots doing these things?"

One final note concerns Jarvis' dedication to the player. He wants to keep you going—if you deserve it. "Games like *Defender*, *Robotron*, and *Asteroids* give an extra ship every 10,000, 25,000, or what have you. You never feel like you're out of the game. Even if you have the most miserable start, you can always redeem yourself."

Jarvis is in the enviable position of creating the games he wants and knowing that people will see them and play them. "I have my message to deliver and I'm communicating. I think I'll just do what I feel like doing and hope somebody likes it."

THE EVOLUTION OF SPACE GAMES:

HOW WE GOT FROM SPACE INVADERS TO ZAXXON



Arcade games—in all their wonderful variety—have evolved rapidly, for sure. In many respects, they've evolved in a panic. However, the space-game genre, unlike the maze and role-playing genres, appears to be somewhat on track. There is more of a clarity—a logic, if you will—in the progression from game to game.

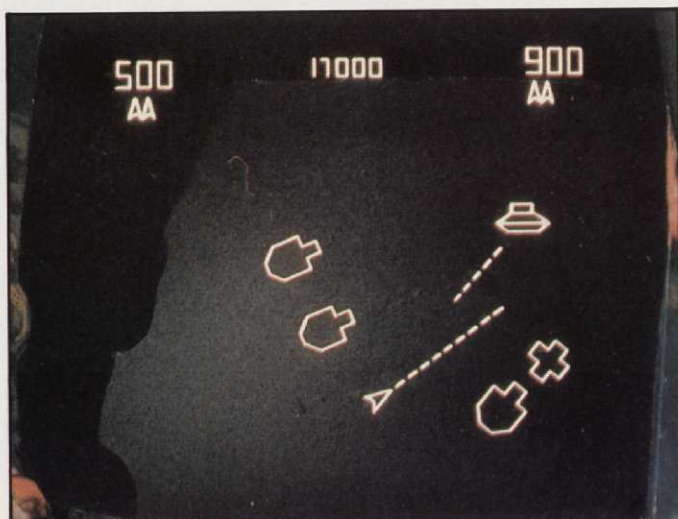
Three general evolutionary trends are evident. First of all, space games—like most arcade games—are becoming more complex graphically. Color barriers have been broken and we've successfully entered three-dimensional-like game play. Second, the games themselves are becoming more complex. With a few rare exceptions, space games are offering more characters, more strategic control, and more video space for exploration. Designers are no longer confined to the limits of the screen.

The third and most important evolutionary step—and this can't be stressed enough—is the trend toward realism in play. We are no longer fighting aliens in another galaxy. We've come, in many ways, down to earth. Why, in fact, do space games strive toward realism when most other arcade games exploit fantasy? There are two good reasons. First off, the video screens of the arcade are in many ways similar to screens used in actual space pilot training. And, second, the modern space explorations—the real ones—are so fantastic and compelling that video games could do no better than mimic what's already there.

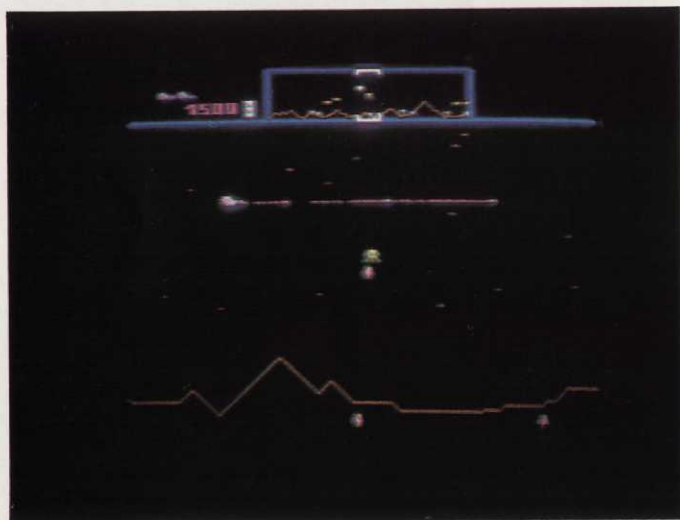
Here, then, is our feature on the evolution of space games. We wrap up this article with profiles of three contemporary—though radically different—games: *Omega Race*, *Defender*, and *Zaxxon*. What should be evident is that we've only begun. The future now appears limitless. We are but in a metaphorical Stone Age—in a pre-verbal stage—on the way to civilization and beyond.



ARCADE GAMES



ASTEROIDS



DEFENDER



PHOENIX

Twenty years ago, in Cambridge, Mass., an MIT engineer named Steve Russell created a game called Spacewar to be played on an MIT computer. Its complexity served to excite his peers (including Nolan Bushnell, who would later found Atari), but Spacewar's popularity was limited to this audience. Bushnell, inspired by Russell's unique program, went on to design a coin-operated version of the game. He called it Computer Space.

Unfortunately, Computer Space and other games in that genre did not catch on. Not only were they too complex for the average gamer, but antiwar sentiments of the 60's and 70's prevented mass appeal. Game players were not yet interested in space "shoot-em-ups." So Bushnell scrapped his plans for the complex and settled for the simple. The result was a wildly successful concept—Pong. For the next seven years, paddle sports and simple tank/combat games dominated the arcades. Then, along came Space Invaders, and that changed everything!

Space Invaders was introduced in Japan in 1978 and became a phenomenal U.S. hit in 1979. The game was simple and predictable. The characters remained the same throughout the game—with an occasional high-point Mother Ship to break the monotony. The only screen-by-screen change concerned the pace: things got faster. The controls were simple pushbuttons: left, right, and fire.

Asteroids and Galaxian were 1980's answer to Space Invaders. Asteroids was by far the more successful of the two—although Galaxian was a highly successful game. Midway—the manufacturer of Galaxian—played it safe. They kept the concept and controls similar to Space Invaders. They did introduce, however, two strong evolutionary concepts: color, and—more importantly—enemies with individual personalities.

Asteroids remained black-and-white and didn't really give any component a personality. What they did offer was a new game concept and a more complicated control panel. Both of these added to the realism of the game. The concept simulated actual flight. In many ways you defied gravity as you flew around—or off—the screen. These off-screen sensations—although primitive—were telling of the future. Asteroids was the first space game to break the boundaries of the screen.

The complicated controls simulated what real controls must be like. It took awhile to figure them out. Once you did, however, the interaction between man and machine was intense.

Missile Command was a late entry in 1980 and provided the most radical concept in space games. Here, you were to save actual cities from nuclear destruction. Pastel colors were utilized successfully on the screen. And the controls were new. You still had "fire" buttons—but you had three of them, for different locations on the screen. And you maneuvered your missile by a Trak Ball.

Missile Command was one of a kind. No other arcade game has attempted to imitate the concept (saving cities from destruction). One game that picked up on the realism, however—and took it one step further—was the most important space game to date, building on several of the past evolutionary steps. It was also the most successful game of 1981—surpassing even Pac-Man. The game was, of course, Defender.

Defender stretched every concept to its ultimate limit. You want complicated controls? You got them. You want color? We'll give you over 250 of them. You want to break open the screen? We'll smash it. You want realism? We'll have you save Humanoids. You want personality? We'll give you eight of them. And we'll give each of them a name.

The various post-Defender games were never really on target. Defender had planted a punch that set the industry on its ear. One common answer to Defender was the multi-leveled game. Gorf and Phoenix are the best examples. These 1981 games would take several concepts and place them side-by-side: one per screen. The most satisfying aspect of both of these games was the color and graphics.

Omega Race reached deep in the past for its subject matter. The feel of the game was very much like Asteroids—only better. The minor evolutionary step it took was giving a date and story line to the game (the year is 2003, Android forces are attacking).

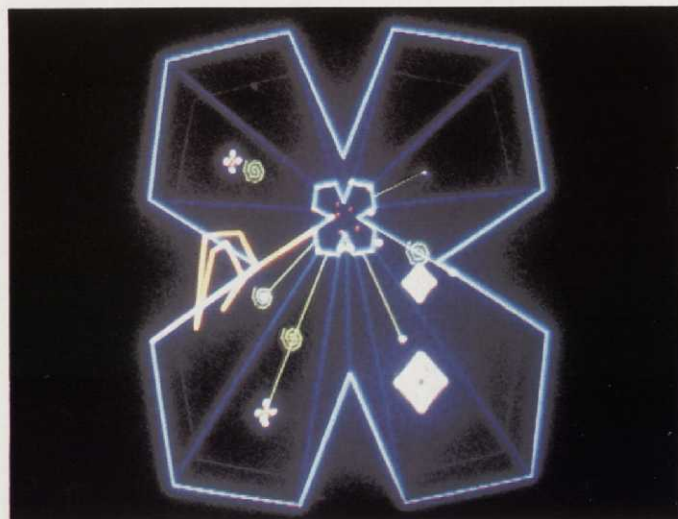
Stargate offered the arcades an important sequel

to Defender. Although in many ways similar, it was in many ways a better game. New attention was given to graphics (it's even worth letting your world blow up to see the spellbinding graphics). Reward waves (Yllabian dog fight) were given every five screens. Unlike the abrupt wave changes in such games as Phoenix and Gorf, the Stargate waves were intricately incorporated into the concept. New technical innovations—specifically the Inviso button—satisfied Defender junkies who wanted ever more complex control capabilities.

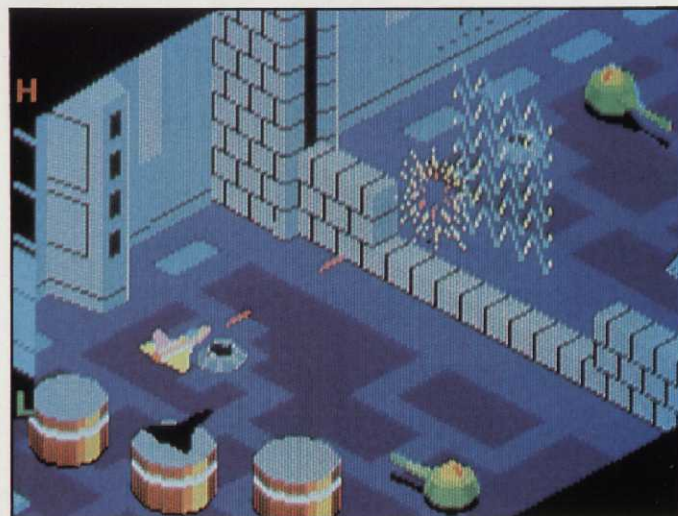
Tempest, another late 1981 entry, claims to be a space game, although we consider it more electric (see the article on p. 44). We're not quite sure what the theme of this game is (astral tightrope walker?). The big evolutionary steps were technological. The clean, crisp lines as a result of the use of vector graphics are some of the best in the industry.

Zaxxon wraps up—for now—the evolutionary process of space games. It signals a monumental moment in the genre. The Zaxxon graphics are simply phenomenal. Its 3D slant is spectacular. Unfortunately, the game play is not good.

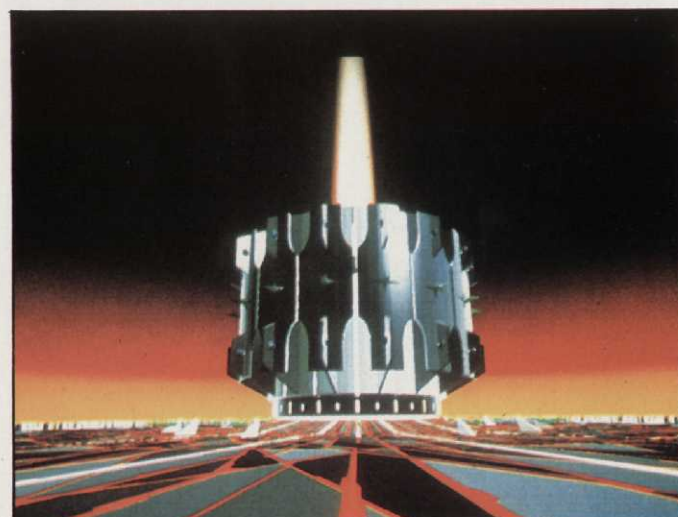
What does the future hold? Who knows. Zaxxon will make an impact. Look for more 3D games in the future. The marriage of Zaxxon graphics and Defender game-play may be the next major step. Or there may be something new and revolutionary on the horizon. Only one thing is clear—space games will constantly evolve and improve.



TEMPEST



ZAXXON



TRON: THE FUTURE OF SPACE GAMES?

OMEGA RACE



SCORE

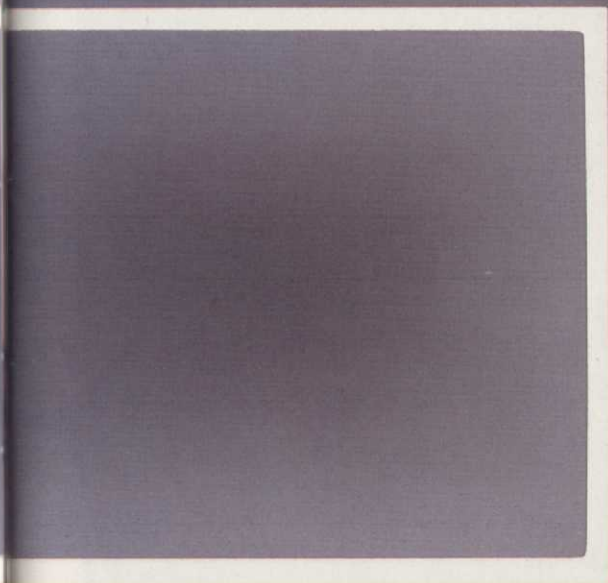
38000

LAST SCORE

1500

CREDIT 1





Omega Race is proof that evolutionary steps are not necessarily bold displays of color and light. The advances introduced in Omega Race are ever-so-subtle. The most significant advance is the sensation of flight. Asteroids attempted to defy gravity. Omega Race succeeds! Omega Race was also one of the first games to back the video game with a story line. The year is 2003. Android forces are attacking the city of Komar. It is up to Omega Fighters to save the city from alien attack. The method of fighting is a strange space race, where Omega Fighters are trained to run circles around the enemy....



OMEGA FIGHTER

ELEMENTS

It is most important to understand the game elements. High scores are the rewards for those with top-notch reflexes, not pre-planned strategies. The elements can be easily learned after a few dollars of play.

A. OMEGA FIGHTER.

This is you. You have the ability to turn at any angle—full circle if you wish. You move forward by means of Thrust. Fire-power comes in a series of four shots each. You get new fire-power once your first shots hit an object or disintegrate. It's best to plan your shots wisely. When in doubt, however—fire.

B. FORCE-FIELD.

The Force-Field is always there, but becomes visible only when you bump into it. The Omega Fighter bounces off the Force-Field like you'd bounce off a giant rubber band. You can take the corners full throttle, therefore, without worry of a crash. Just be prepared to bounce.



PHOTON MINE

C. PHOTON MINES (350 points).

These triangular Mines are deposited randomly by Command Ships. More and more of them appear as the game progresses. Don't collide with them! Shoot them!

D. VAPOR MINES (500 points).

Treat Vapor Mines as you would Photon Mines. Just be doubly aware of them. And make sure to destroy them.

E. DROID SHIPS (1000 points).

Droid Ships slowly and steadily track you. They can't shoot at you. Droid Ships are easy to kill. And as long as you keep moving, there's no way they'll catch you—just don't run into them! If you kill a Command Ship, one of the Droid Ships will transform itself into the new Command Ship.



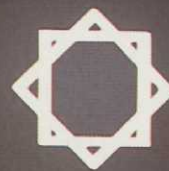
VAPOR MINE

F. COMMAND SHIPS (1500 points).

This is one fast adversary. It tracks faster than the Droid Ships and has the ability to shoot. Kill Command Ships before they become Death Ships. Chase them. Command Ships warn you of their Death Ship metamorphosis: They start spinning rapidly.

G. DEATH SHIPS (2500 points).

This is hyperaccelerated attack. If a Death Ship appears, you must kill it. But be careful! The Death Ship can shoot and maneuver much faster than you can. Use all of your raceway skills. Death Ships leave plenty of Photon and Vapor Mines. The faster you kill it, the better.



DROID SHIP

AA. GUIDANCE CONTROL KNOB.

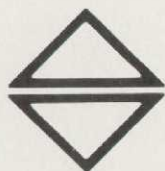
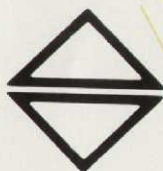
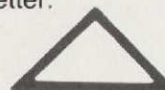
This rotating knob will move your Fighter in any direction you wish.

BB. THRUST BUTTON.

This moves you forward. A light tap is really all you need for most situations. If you want to travel a good distance, hold the button down. But be careful. It's difficult to control your Fighter at high speeds.

CC. FIRE BUTTON.

This unleashes deadly laser rays that neutralize and destroy enemy targets. You shoot in a series of four. Plan your shots carefully so that you're never left defenseless.





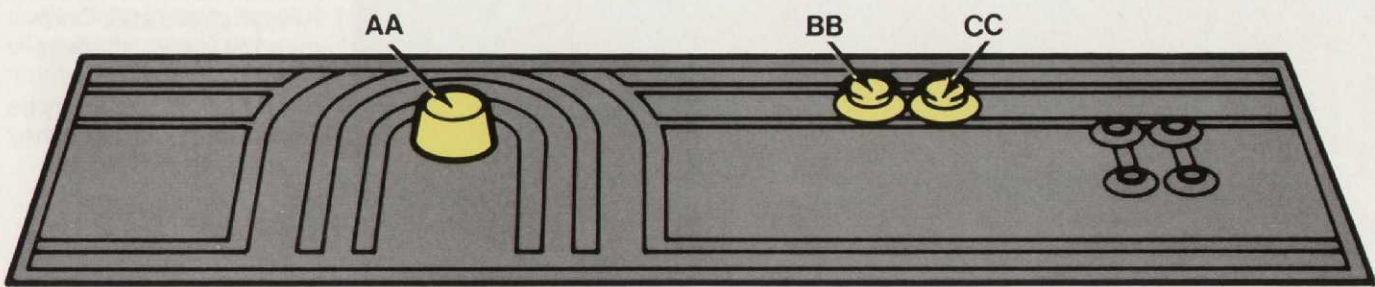
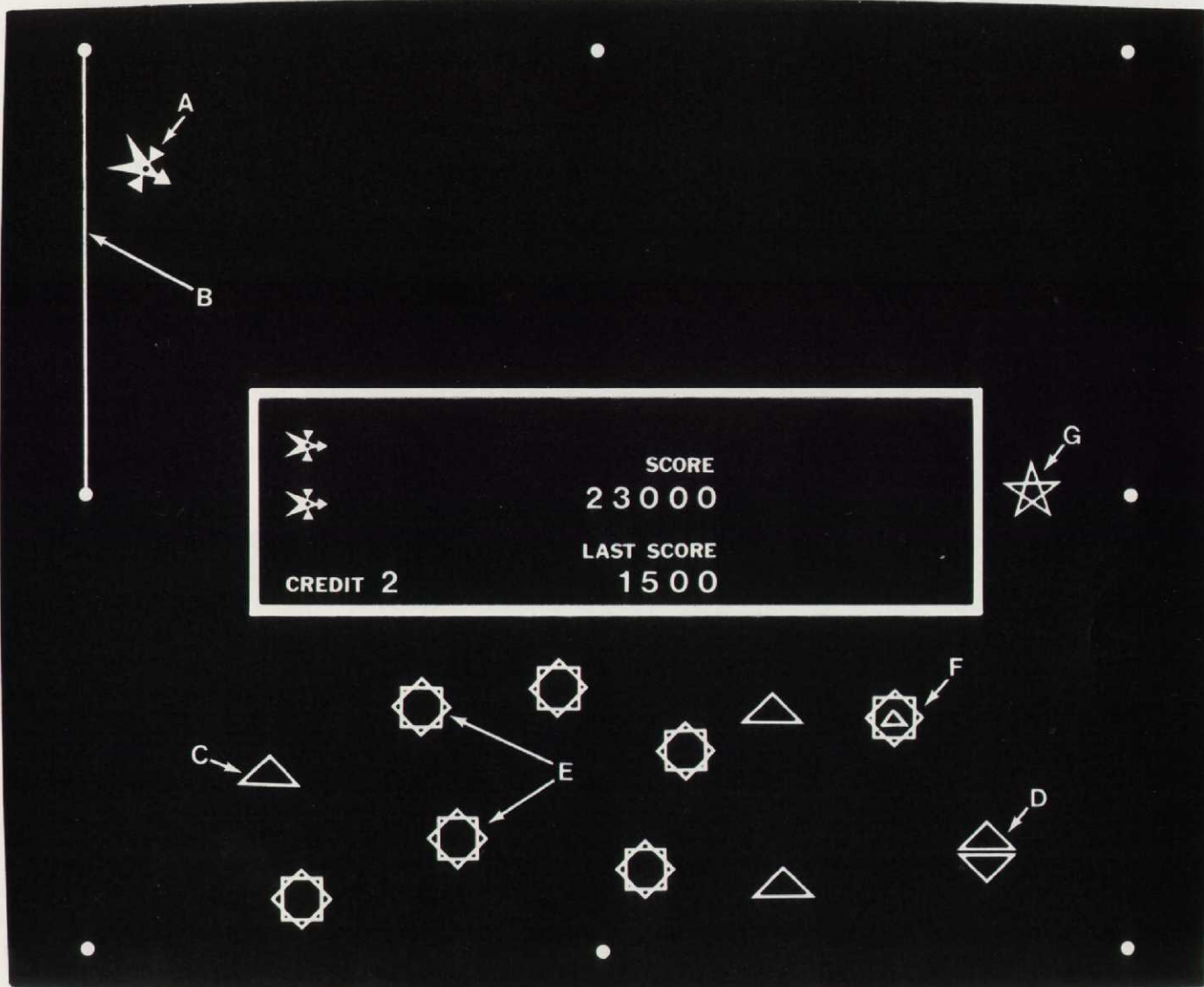
COMMAND SHIP

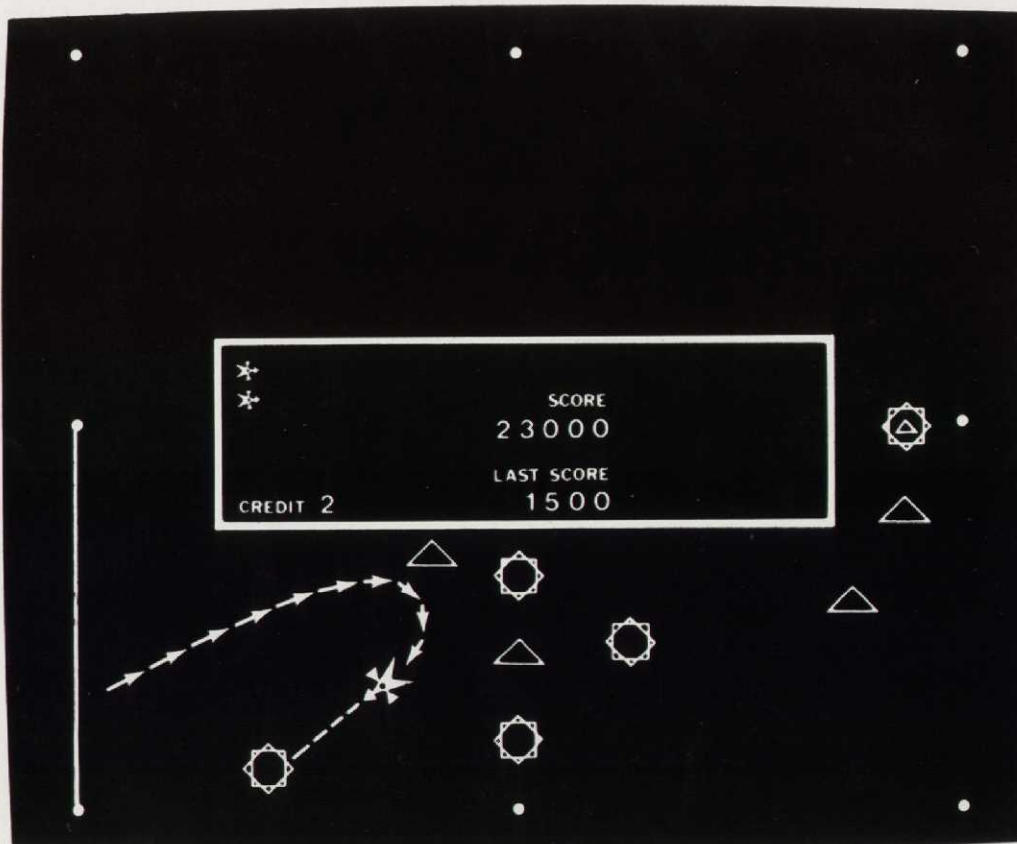


DEATH SHIP



FORCE-FIELD





STRATEGY

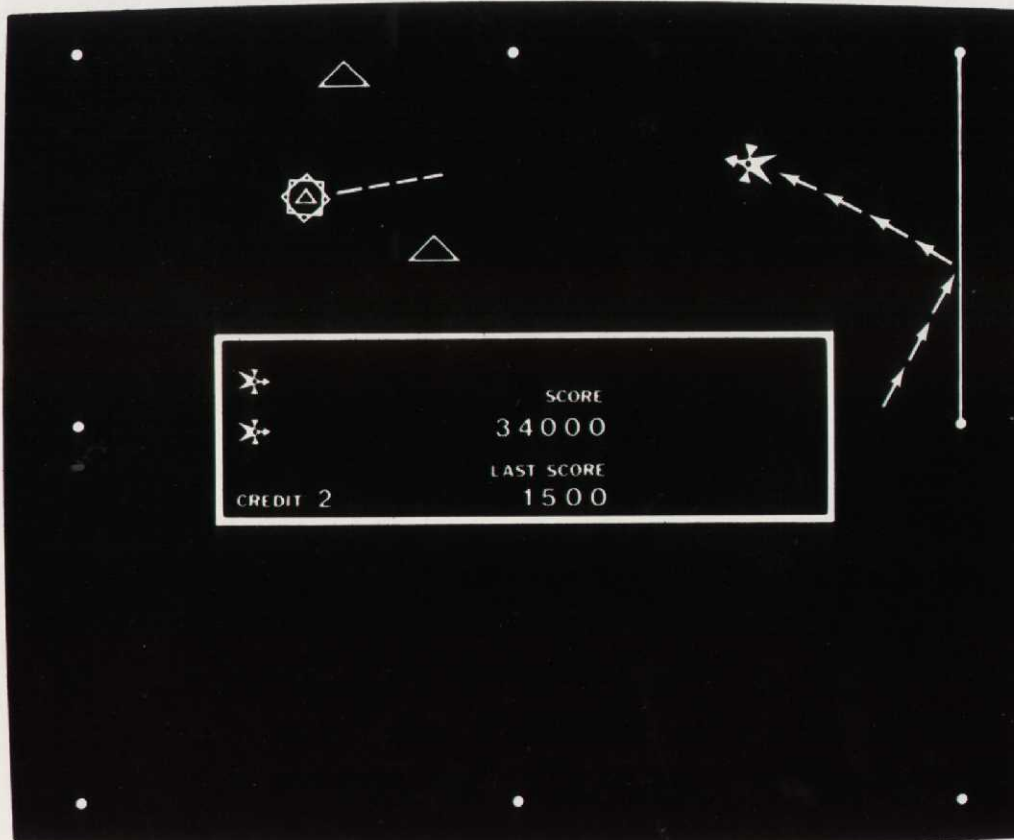
There are few secret strategies to Omega Race. The most important consideration is to kill Command Ships fast, before they turn into Death Ships. If you take too much time, you'll be confronted with numerous mine fields and aggressive aliens. You get an extra Fighter and bonus points at a score determined by the arcade owner, usually 40,000 points. Some special tips on how to get that bonus package are given here.

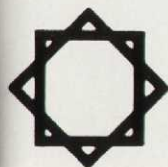
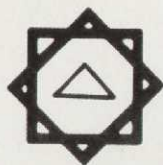
A

A. Thrust direction is determined by Fighter direction. If you find yourself heading quickly toward enemy Droids, don't panic. Simply turn your ship around and thrust in another direction. You can control your thrusts somewhat by bouncing your Fighter off of Force-Fields. It's important that you be in control of your Fighter at all times.

B. Keep moving. Remember, you're able to race around the city. You've been trained to do this. It's important that you keep moving in order to baffle and confuse the Androids. Always chase after Command Ships. Kill them before they become Death Ships. Death Ships may be worth more points, but they aren't worth the hassle.

B



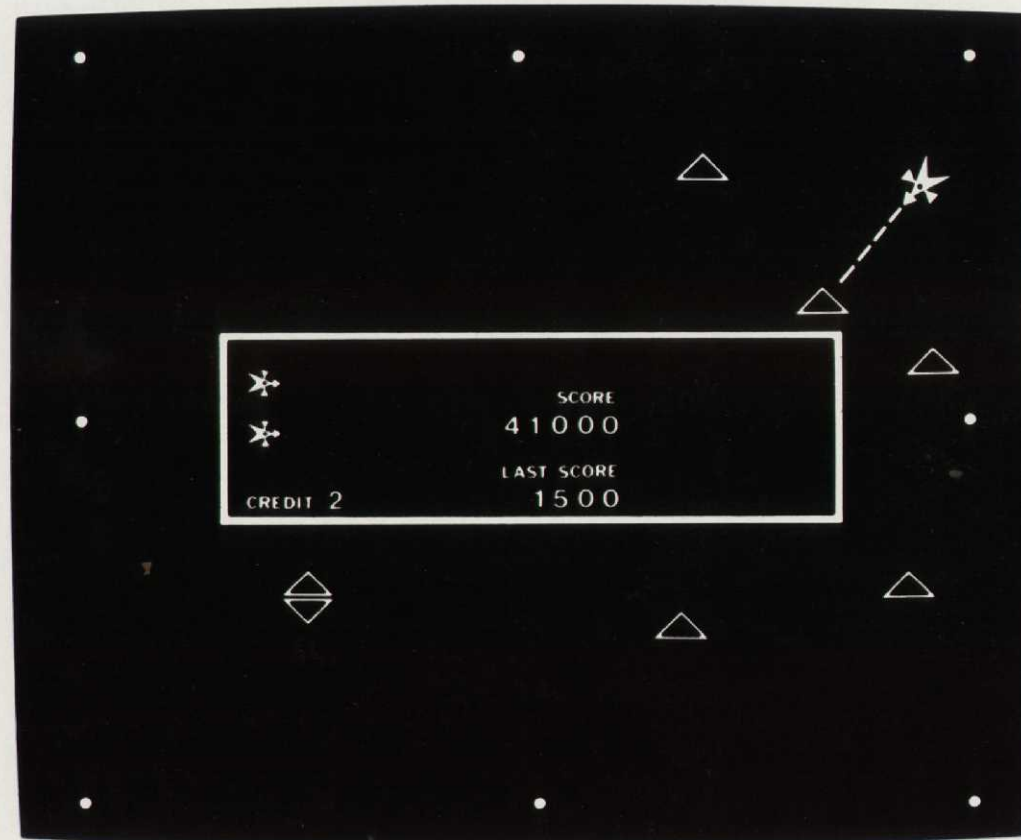
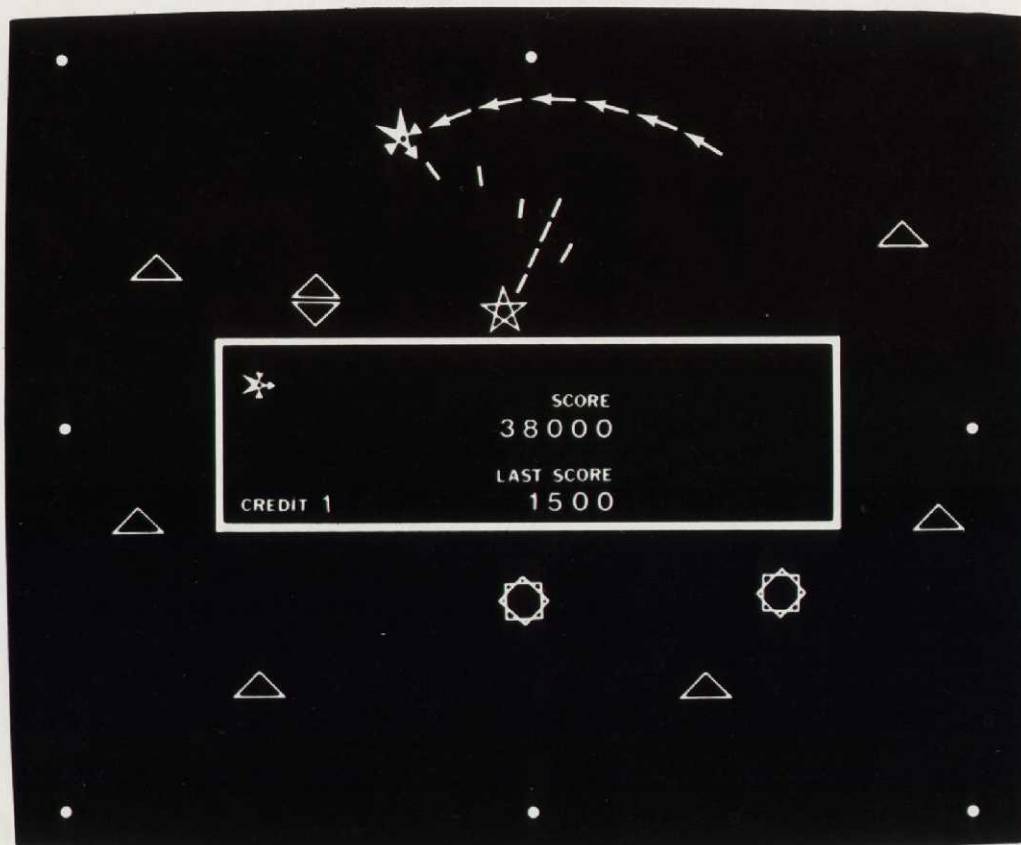


C

C. Never shoot straight at a Death Ship. Use your powers of movement to run circles around the Death Ship. When you've got a good shot at it, arc your Fighter around the Death Ship, as shown. Then shoot. It's super important that you never shoot straight at a Death Ship. You may in fact destroy it, but it will probably destroy you in the process.

D. Clean up Mines. You always have spare time after an attack wave. Use this spare time to destroy as many Mines as you possibly can. Those Mines are worth points! And if you don't kill them now, they'll sit waiting for you on the next screen.

D



DEFENDER





Few people would dare design a game more difficult than Defender. If difficulty were the zenith of evolutionary principles, Defender would have already achieved the top evolutionary spot. This game broke all past rules—and broke them successfully. The limits of the video screen were once and for all broken. You command a ship through a continuously changing terrain. The use of color in Defender was the most ambitious video-game attempt—with over 250 different color combinations. The major evolutionary advance, however, was the stark realism. You indeed feel control over this ship's flight. It's even been rumored that the Air Force trains their recruits on Defender machines. The shapes are basic computer shapes. But the action is beyond par.



SPACESHIP

ELEMENTS

A solid understanding of Defender basics is essential to high scores. Spend your first Defender quarters experimenting, feeling out the personalities of each of the enemies and the possible movements of your Spaceship. After you know the elements, you're ready to properly defend the Humanoids.

A. SPACESHIP.

You command this Spaceship over and under the Earth's surface. You can progress through the atmosphere at the speed you choose. You can reverse and you can instantly Hyperspace to another part of the world at will.

B. HUMANOIDS.

Humanoids are peaceful while they're still human. They often walk around the Earth's surface in groups. Don't shoot them. Protect them. If allowed to mutate, you've got one big problem on your hands. Although you'll survive an inadvertent collision with a Humanoid, the Humanoid will die.

C. LANDERS (150 points).

You must destroy all the Landers on a screen to complete an attack wave. A Lander's basic objective is to grab Humanoids and carry them to the top. They'll fire at you, but you can easily avoid their fire. There are four to five Landers on a screen at most times.



HUMANOID

D. MUTANTS (150 points).

These are formed when a Lander successfully carries a Humanoid to the top of the screen. The Lander then sucks the Humanoid into his space craft and forms a Mutant. These are dangerous. Their main objective is to kill you, and they never shoot straight—always at an angle. If a Mutant appears, muster all your energy to kill it. If the Landers carry all of your Humanoids to the top of the screen, the world explodes. This is no pretty sight, and nearly impossible to stay alive in. Our advice? Don't let your world blow up.

E. BAITERS (200 points).

Baiters appear near the end of the attack wave, to speed up the game. They will track you closely. They can shoot faster and move faster than you. Kill the Baiters as soon as they appear. They're fairly large targets. If too many Baiters appear, you'll probably have to use Hyperspace. Baiters disappear when you've destroyed all the Landers.

F. BOMBERS (250 points).

Bombers are fairly passive. They travel in groups of two to three, leaving Mine Fields behind them. You cannot shoot these Mines. You must avoid them. Try to kill the Bombers before they leave Mines.



LANDER

G. MOTHER SHIPS (1000 points).

Mother Ships (a.k.a. Pods) are some of your worst enemies. They also yield high points. One Mother Ship appears on the 2nd wave, three on the 3rd, and four on the 4th. When destroyed, five to seven Swarms are released by the Mother Ship, and must be killed.

H. SWARMERS (150 points).

Swarms are released from Mother Ships after the Mother Ship has been destroyed. These are no fun. They track you closely. Some people use a Smart Bomb the instant a Mother Ship has been killed. Others skillfully and cautiously kill the Swarms one by one.

I. SCANNER.

This Scanner displays an overview of the entire war zone. Your playing area is bracketed. Your lasers cannot kill enemies past the playing area. This Scanner should be constantly monitored. If you want a real challenge, try playing the whole game with the Scanner only. Don't look at the screen. It will help develop and test your Defender skills.

CONTROLS

AA. JOYSTICK.

This maneuvers your Spaceship up or down—not across. You can safely move anywhere on the screen, even below the earth's surface.

BB. THRUST.

This control moves you forward at whatever pace you desire. If held down, you'll accelerate to top speed. If left alone, you'll stop.

CC. FIRE.

You have an unlimited amount of fire. Our advice: fire constantly. Develop "Defender Fingers."

DD. REVERSE.

There's no need to Reverse when you're learning the game. After you've mastered Thrust and Fire, use Reverse to eliminate the Landers as fast as possible, as keyed by the Scanner. Reverse is also useful in killing Mutants.

EE. HYPERSPACE.

Again, there's little need for Hyperspace when learning the game. Hyperspace makes your Spaceship disappear and reappear—anywhere. You have no control over where you'll end up. The only real need for Hyperspace is when the Baiters appear or when your world has blown up.

FF. SMART BOMBS.

You begin with three of these, and earn a new one every 10,000 points. Again, there's no need for Smart Bombs when you're learning the game. Smart Bombs destroy everything on the screen. Use them only after you've scored 30,000 points, and then only when you need to. For example, when Mother Ships appear in a group, blast them senseless with the Smart Bomb. You'll earn top points.





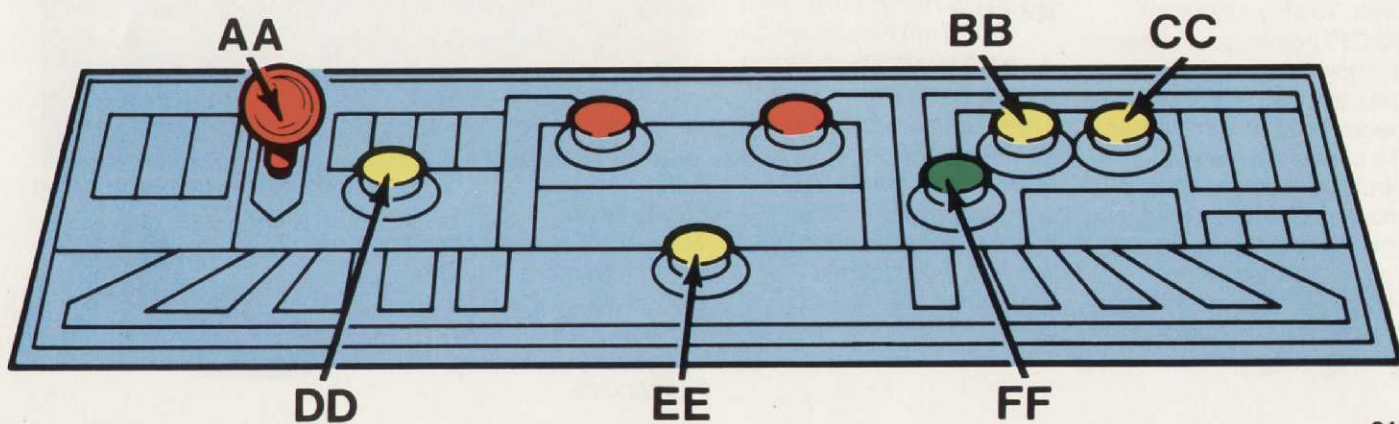
MUTANT



BAITER



MOTHER SHIP



A



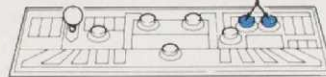
STRATEGY

The key to strategy is staying alive. You get a new Smart Bomb and a new Ship every 10,000 points. As the game progresses, more aggressive enemies enter the playing area. To stay alive past 30,000 points, you'll need to know how to use each of the controls. The strategies below build on each other. It's essential to know strategy A before you can move to B, and so on. Once you get to strategy B, you're still using what you've learned in strategy A. You're simply adding to

its depth. Remember: Your basic objective is to kill all the Landers on the screen to complete an attack wave. It's necessary to kill them fast, so that (1) they don't mutate your Humanoids and (2) Baiters don't appear.

A. BEGINNING STRATEGIES.

There are certain basic strategies that must be developed and learned as soon as possible. All of these strategies, once learned, will continue throughout your entire game.



1. Hit the Thrust and Fire buttons together.

Consider these two buttons as one button. Always hit them together and hit them as fast as you can. Develop "Defender Fingers." Don't stop doing this unless you're in an instant-death situation. It's important to keep moving and to keep firing.

2. Fly low.

Many top Defender players seldom fly more than two inches above the Earth's surface. It's important in adequately protecting the Humanoids.

3. Kill kidnapping Landers.

Destroy the Landers when they're raising your Humanoids to the top. Don't kill your Humanoids. Once you've killed a Lander, scoop up the Humanoid and return him to the Earth for extra points. You earn 500 points for saving a Humanoid, and an extra 500 for returning the Humanoid to Earth. You also get the points for killing the Lander.

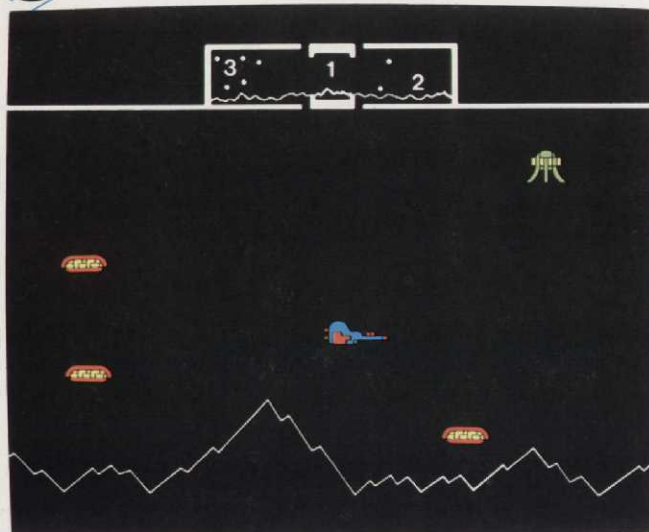


B

B. REVERSE STRATEGY.

Reverse Strategy begins on the second screen. It should be used sparingly, and only when necessary. The most advantageous Reverse Strategy concerns the Mutants. Mutants are

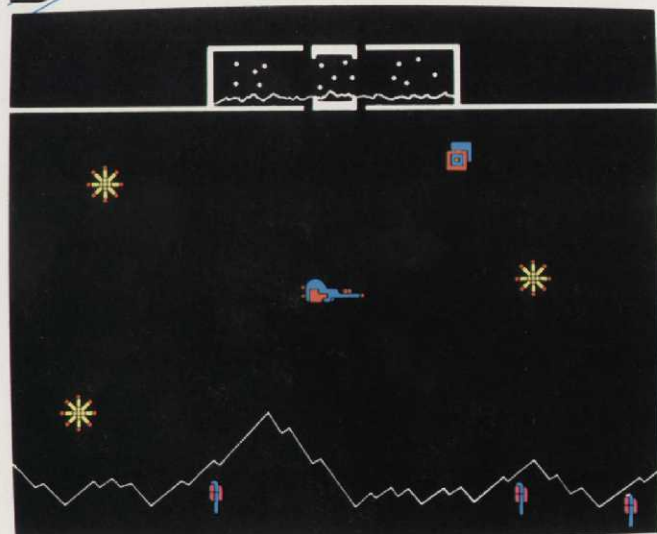
dangerous and difficult to kill. They also track your every move. A good way to kill them is to move up toward a Mutant, reverse, and destroy it instantly. Your reversal will confuse the Mutant and stall him for an instant.

C

C. HYPERSPACE STRATEGY.

Hyperspace becomes necessary when the score starts building, say around 30,000 points. If you've dawdled during an attack wave, several Baiters may appear. These Baiters are faster moving and faster shooting than you are. There's no need to waste a valuable Smart Bomb on them. You might as well

escape them with Hyperspace. Just beware: You have no idea where you'll end up. Be prepared to move instantly as soon as you've reappeared on the screen. Point 1 on the Radar Screen shows where you might be before Hyperspace. Point 2 shows where you might wind up safely. Point 3 shows where you might wind up—and die.

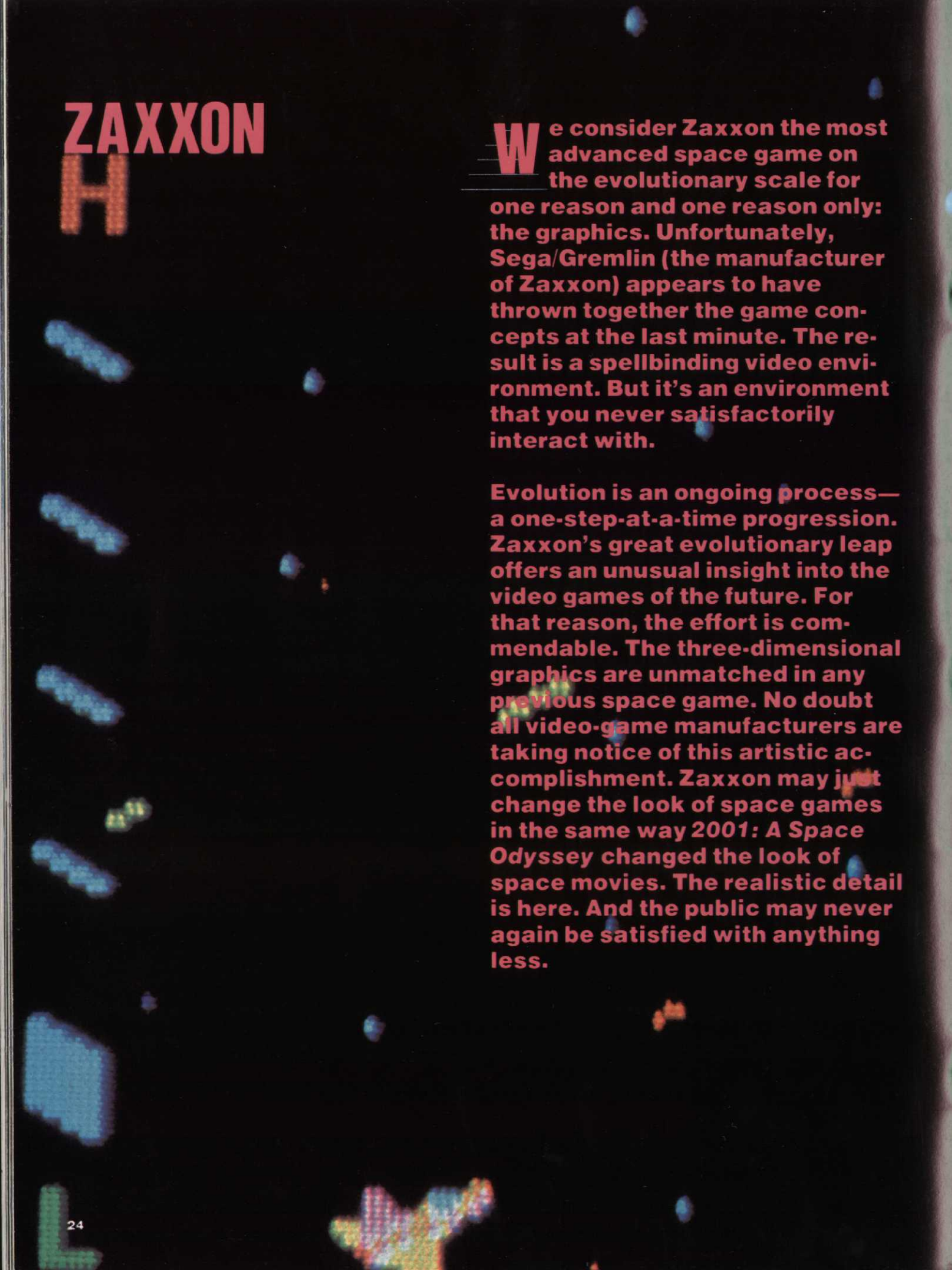
D

D. SMART BOMB STRATEGY.

Smart Bombs are valuable. Use them for maximum point potential. You should be able to survive without the Smart Bombs until around 30,000 points, at which point you'll have six of them. Wait until several Mother Ships appear on the screen at the same time. Then Smart Bomb the whole screen for 1,000 points per Mother Ship. The only other time to use the Smart Bomb is when you have no other choice. It's best to use the Smart Bomb smartly.

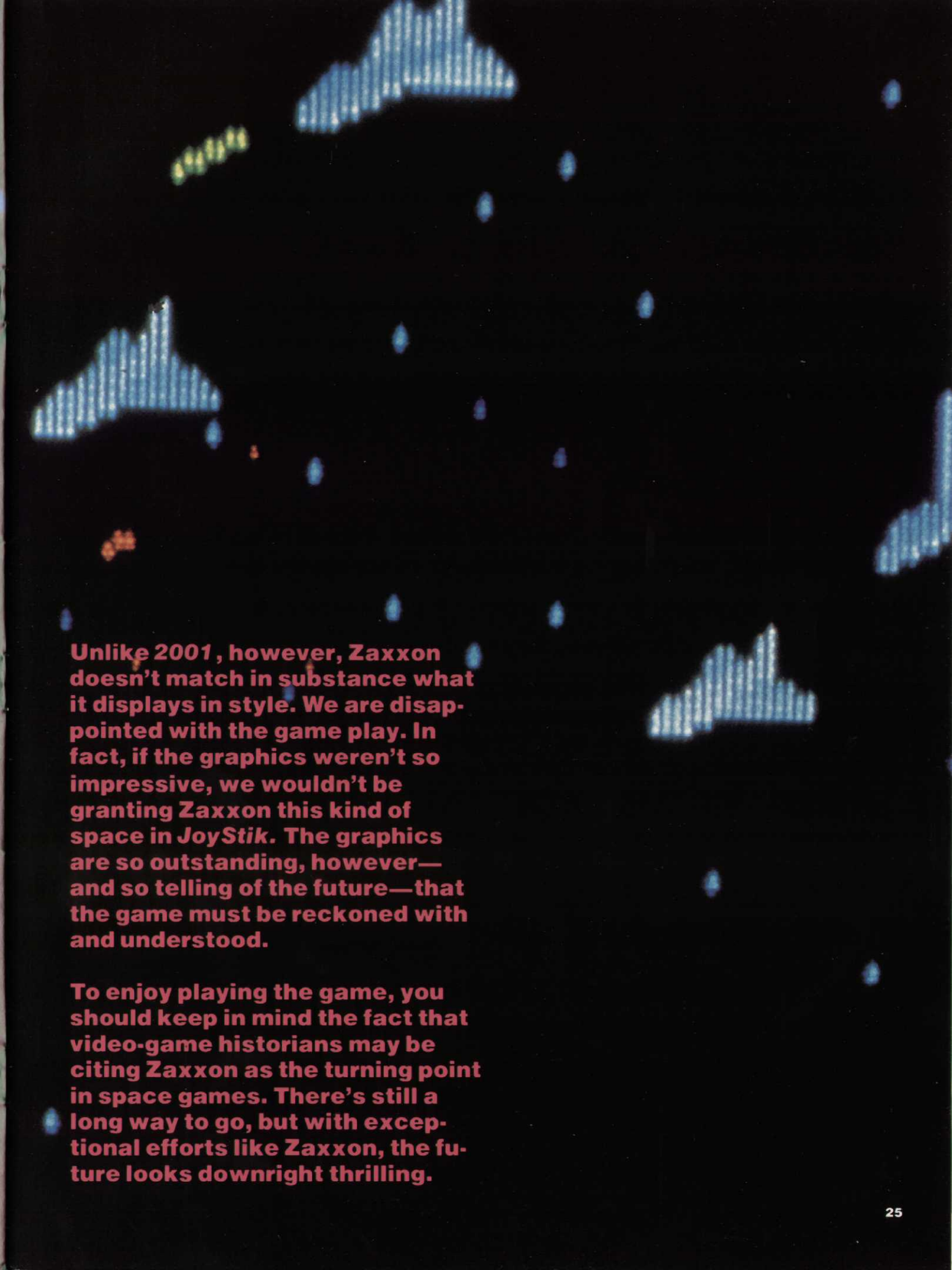


ZAXXON



We consider Zaxxon the most advanced space game on the evolutionary scale for one reason and one reason only: the graphics. Unfortunately, Sega/Gremlin (the manufacturer of Zaxxon) appears to have thrown together the game concepts at the last minute. The result is a spellbinding video environment. But it's an environment that you never satisfactorily interact with.

Evolution is an ongoing process—a one-step-at-a-time progression. Zaxxon's great evolutionary leap offers an unusual insight into the video games of the future. For that reason, the effort is commendable. The three-dimensional graphics are unmatched in any previous space game. No doubt all video-game manufacturers are taking notice of this artistic accomplishment. Zaxxon may just change the look of space games in the same way 2001: A Space Odyssey changed the look of space movies. The realistic detail is here. And the public may never again be satisfied with anything less.



Unlike 2001, however, Zaxxon doesn't match in substance what it displays in style. We are disappointed with the game play. In fact, if the graphics weren't so impressive, we wouldn't be granting Zaxxon this kind of space in *JoyStik*. The graphics are so outstanding, however—and so telling of the future—that the game must be reckoned with and understood.

To enjoy playing the game, you should keep in mind the fact that video-game historians may be citing Zaxxon as the turning point in space games. There's still a long way to go, but with exceptional efforts like Zaxxon, the future looks downright thrilling.



FIGHTER SHIP

ELEMENTS

The elements of Zaxxon are simple. Once you understand your own capabilities and your enemies' characteristics, the game becomes quite easy to master. The illustration at right is an artist's condensed rendition of the game. You will never see all of these components on the screen at once, but this rendition will help you to understand the basics of the game.

A. FIGHTER SHIP.

High scores depend on your ability to properly maneuver this Fighter Ship. Once you grasp the basic techniques of flight, the obstacles become relatively easy to destroy or dodge. Basic tip: fly low 90% of the time. The only time to raise your altitude is when you fly over Walls or Forcefields, or through outer space.

B. BRICK WALLS.

You must fly through the gaps at the tops of these Walls. Always shoot at the Walls when approaching them. Like a bat using radar, you can then easily judge your altitude by the location of your fire, and adjust as necessary. The more waves you pass through, the harder it is to pass beyond these Walls (the gaps are smaller). But if you're agile enough in technique to navigate the Walls through the first few waves, you'll be able to "thread the needle" in later waves.



MISSILE BASE

C. TANKS.

You get 300 points and can replenish your fuel reserve for blowing up Tanks. There's little danger of running on empty as long as you blast a Tank now and then along the way (they're the easiest objects to hit).

D. GUNS.

These are shooting enemies, and they're more aggressive on later screens—especially when firing horizontally across your path. They're fairly easy to destroy if you're low enough. But you must avoid their fire. Guns yield a random number of points when destroyed.

E. MISSILES.

These are the most consistently dangerous opponents in Zaxxon. They also earn you 150 points. It's worthwhile destroying Missiles once they've been launched. Do not casually fly over their bases, however. They have a knack for coordinating their launches when you're just overhead.

F. FORCEFIELDS.

Forcefields are dangerous and cannot be destroyed. You can easily fly over them in early waves. But you must learn to successfully fly under them in later waves. The techniques become somewhat difficult because you must learn to react immediately after passing under them on later waves. Always beware of the Forcefields. It's easy to forget about them when concentrating on the destruction of other objects.



GUN TANK

G. PLANES.

Grounded Planes are easy to destroy. You must fly very low. They yield 100 points, and should be bombed when convenient. Our advice: Never bomb a Plane when you have to contend immediately afterward with a Forcefield or Wall. Chances are, you'll run smack into it.

H. RADAR TOWERS.

Radar Towers are positioned to make them difficult to destroy. However, you'll earn 1,000 points for blowing them up. By all means, learn to fly well enough to destroy them. Beware of brushing them with a wingtip.

I. ROBOT.

You must battle the Robot—the most dangerous enemy—from the second wave on. It is not the Robot that you destroy, but his Red Missile (which takes 6 shots to destroy). As soon as you're on the hexagonal tiled surface, level off at about 2½ marks on the altimeter and start shooting at the Missile. Once again, fire constantly to see where your shots are hitting and adjust your position accordingly.



MISSILE

J. SATELLITES.

Blow them up for 300 points when in outer space. There are two that come across the screen on each wave. They are on the highest level that your plane can reach.

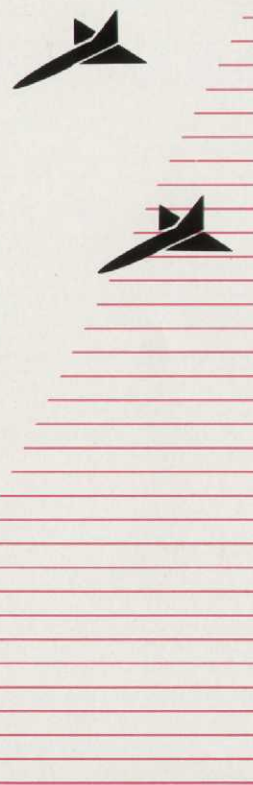
CONTROLS

AA. JOYSTICK.

This realistic Joystick controls the altitude and lateral movement of your plane. It is equipped with a fire button and a red light to signal the firing of each shot.

BB. FIRE BUTTONS.

In addition to the Fire Button on the Joystick, there are two more on the panel. They all serve the same purpose. Using two at once may ensure constant fire. One is located on the left for right-handed pilots and one is on the right for southpaws.



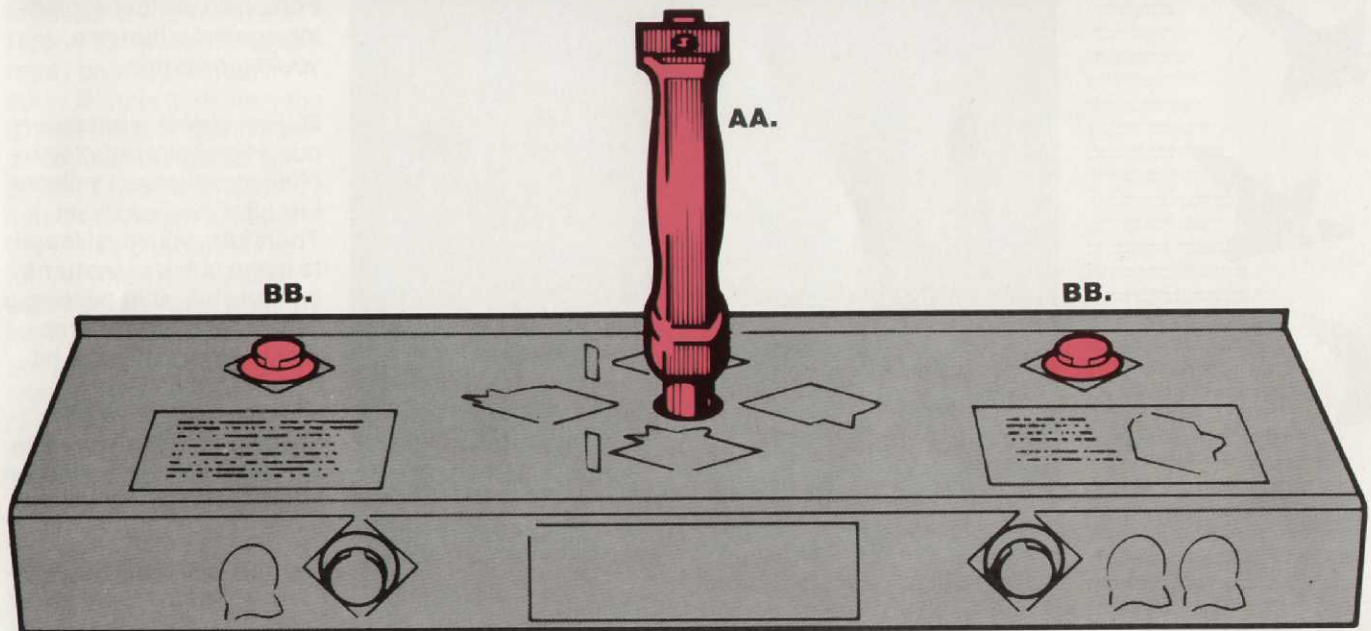
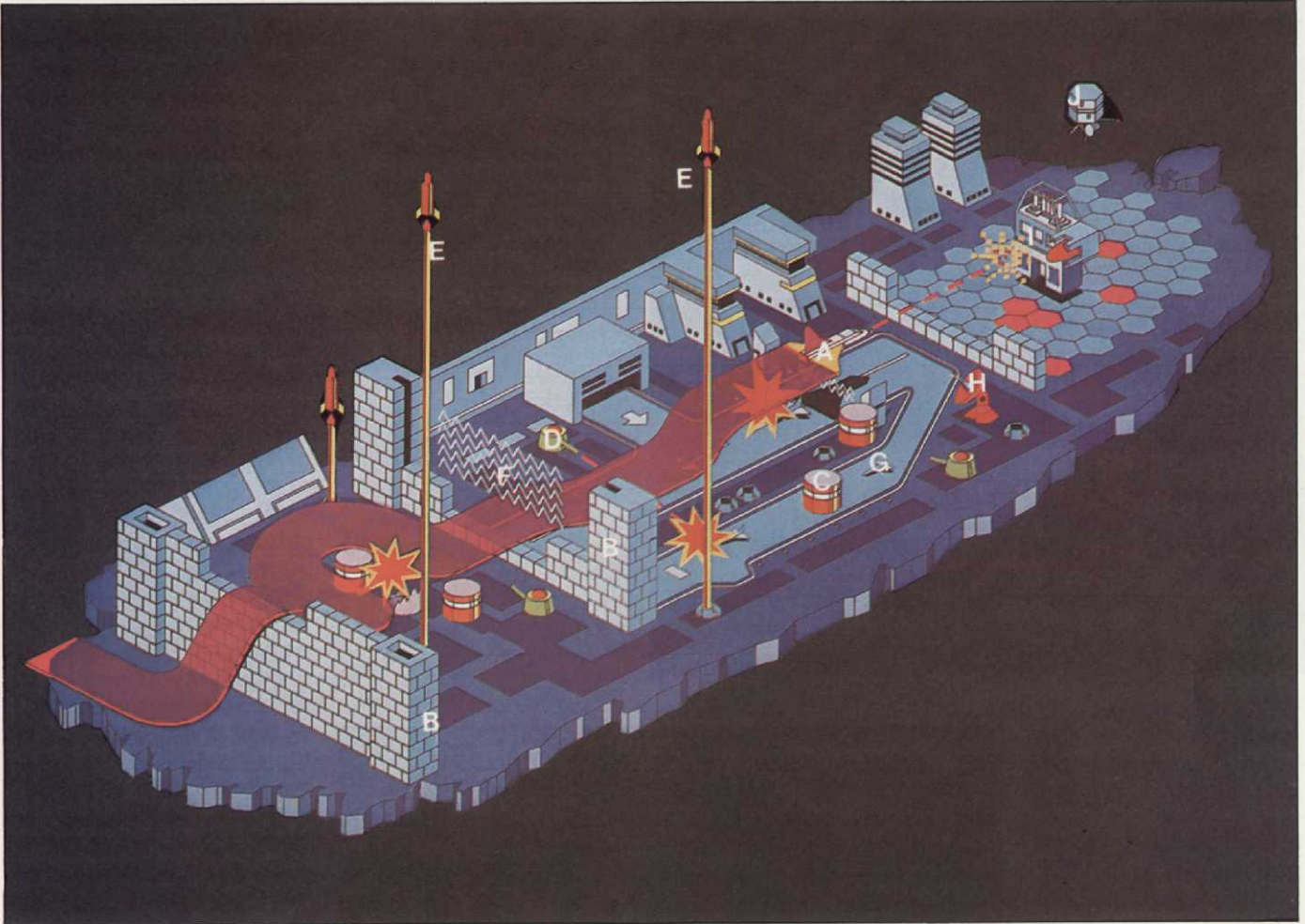


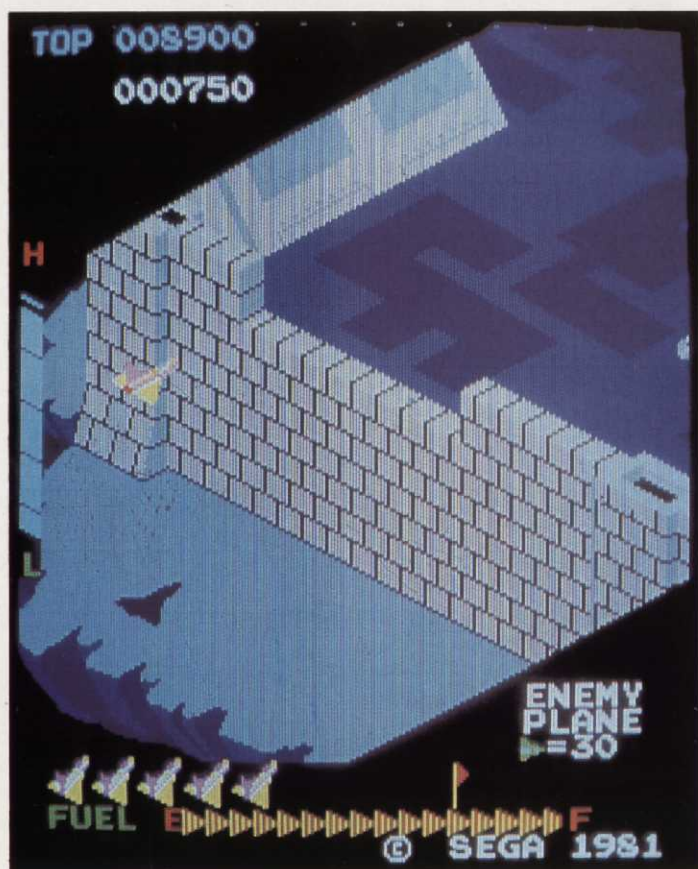
FORCEFIELD

SATELLITE

RADAR TOWER

PLANES





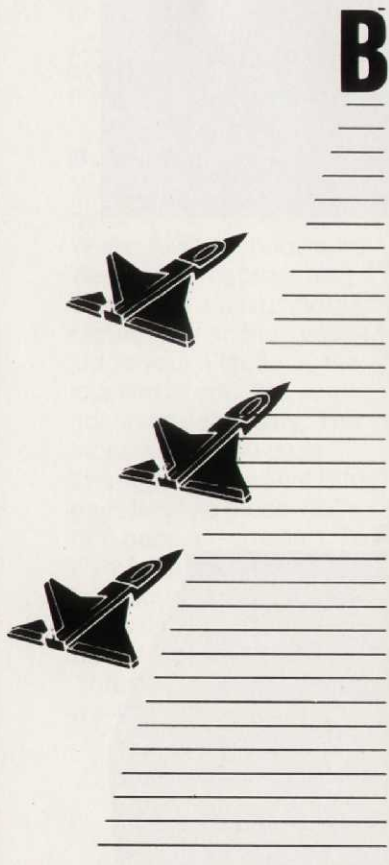
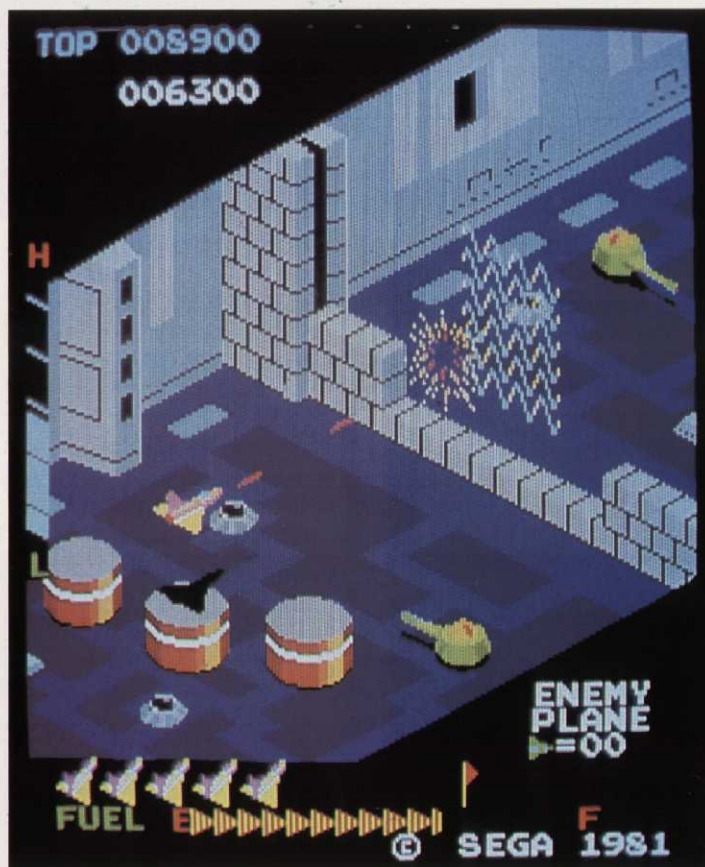
STRATEGY

Good Zaxxon strategy means good flying abilities. A general strategy is to stay low when you're on the Space Platform and change altitude often when in outer space. If you consider Zaxxon an obstacle course, you basically understand the game. The following strategies will help to get you thinking about the game's design.

A. You'd better learn to navigate over Walls if you want to succeed at Zaxxon. Although you'll probably collide with one during your first few games, a little foresight will ensure accurate and consistent passage over all Walls. Always shoot at the Walls and Forcefields to observe where your shots are hitting. Adjust your position by this observation and then fly through the gap at the top of the Wall and below the Forcefield. This gets trickier as the game progresses, but test fire should ensure safe passage. When your shots continue on past the Wall and the Forcefield without exploding against either one, you're on course.

B. Forcefields are dangerous. High point targets are often inconveniently placed just after the Forcefield. Therefore, you must learn to make quick sharp turns immediately after passing a Forcefield in order to maneuver into position to hit these targets. On later screens, beware of horizontally firing Guns, which are designed to thwart such maneuvers.

B



C. You must learn to survive the dogfight in outer space without loss of your ship. If you destroy 20 Fighter Planes, you're awarded 1,000 bonus points. By all means, destroy the Fighter Planes. It is usually good strategy to change altitude immediately after hitting one to avoid being hit by its final shot.

D. Confrontation with the Robot occurs on the second wave, the fourth wave, and so on. Your prime objective is to destroy the Robot's Cruise Missile. You get 1,000 points if the Missile is destroyed while still in its launching site in the Robot; 200 points if it's already been launched. It takes 6 shots to destroy the Cruise Missile. Start firing as soon as the Robot appears. The Missile is located at a height of about 2½ marks on your Altimeter. As when negotiating safe passage over the Walls, fire constantly and gauge your position by where the shots are exploding against the indestructible Robot. **Caution:** If the Missile is launched, nail it. It is impossible to avoid. You must destroy it. If you don't destroy it, watch out: You're one dead astronaut!



VIDEO DEBUT: REPORT ON THE AMUSEMENT

I'd been to trade shows before. Usually they're held in huge convention centers with acres of glittering booths and scantily clad models—lavish productions, meant to give prestige and excitement to products that otherwise have none. So, when I heard that the third annual Amusement Operators Expo (AOE) was soon to take place in Chicago, I didn't get too excited. When I learned that it was being held in a hotel (even a Hyatt) and that it would also include days of lectures and seminars on how not to lose your shirt in the video industry, I started looking for excuses not to attend. As it turns out, I'm glad I couldn't come up with one.

When I was blown through the front doors of Chicago's Hyatt Regency, my first impression was favorable—warmth. I followed the

signs down a surprisingly quiet hallway, rolling my eyes at the lack of people around. And then I saw it. I felt like Alice falling through the looking glass into video wonderland. Blinking, beeping video games surrounded me—for as far as I could see! The brochures said there were 315 exhibits, but it looked more like 315,000. And in front of every machine there stood a man or woman wrestling furiously with the controls—and all for free! I immediately lost control and ran madly toward a vacant Donkey Kong machine. Lunging at the joystick, I suddenly remembered why I was there. I shook myself to my senses, nonchalantly extracted pen and paper from my jacket, and began scouting out the room.

Like I said, I'd been to trade shows before. This, however, was by no

means a conventional show—it cried out for unconventional coverage. There were two games that dominated the attention of all the show-goers—Zaxxon and Robotron. These games will possibly be the biggest successes this year. They deserve a proportionate amount of coverage—which they received. You'll find everything you could possibly wish to know about them on pages 24 and 32 respectively.

But this show had so much more to offer. I've found that the "little guys," the smaller manufacturers, often have the most imaginative ideas. What they might lack in budgets and technological breakthroughs, they make up for in creativity. So, after talking with the "big boys," I decided to spend some time on the games in the corners—the ones that didn't have the usual bevy of

bleached blondes passing out brochures. "Why be a conformist?" I thought.

I stuffed my hands in my pockets and meandered casually to the outskirts of the exhibit hall. Over in a corner, far from the bustling Midway and Williams booths, I found a lonely looking group of games. I approached them—unobserved by the company representatives—and was quietly amazed. The manufacturer was Rock-Ola and the game was called Pioneer Balloon. You, the pioneer, are in a hot air balloon (that just happens to be loaded with bombs), flying over a succession of six different terrains. During the first wave your balloon is attacked by deadly birds, as well as arrow-shooting covered wagons. The second wave meets you with more birds and a village of natives who throw boomerangs at



By Scott Phillips

OPERATOR'S EXPOSITION

you. The third wave was my favorite. Get this. You're flying over the ocean in your balloon (still being attacked by balloon-eating birds) and this gorilla floats by on a log raft and starts throwing coconuts at you! At that point I'd have given my last quarter to meet the thing that came up with that one. From there you battle water spouts and horse-drawn bazookas until you finally make it to "Fort Freedom." The biggest challenge of this game, of course, is trying to take it seriously.

I was just thinking that I'd seen it all when I looked at the machine next to me. It was also by Rock-Ola, and it was named "Jump Bug"—a fantasy trip in a red video Volkswagen. Of course, this was no ordinary compact car. This bug could jump across buildings, over volcanos, under water, and through deep space.

And it did all of this while being chased by clouds, aliens, skulls, and renegade jelly fish.

From there it only got better (and stranger). I discovered a game called "Frisky Tom" by Nichibutsu. It depicted a buxom Marilyn Monroe-type in a bathtub connected to a maze of plumbing. This plumbing was being sabotaged by a gang of rats armed with big red bombs. What you might call a plumber's nightmare.

Another beauty was by a company called Konami. It was titled "Tutankham" (obviously short for Tutankhamen) and was staged in an Egyptian pyramid. The goal was to meander through the maze, avoiding Egyptian adversaries, and ultimately make off with Tut's treasure. An interesting touch was Tutankham's radar screen a la Defender.

There were also a few strangely mutated spinoffs of video machines. One of them was just too weird for words. It was called "Sweet Licks," and, believe it or not, it was from Namco—the original Pac-Man people. It was basically a flat table with eight holes in the top of it. At random intervals "Cake Monsters" would pop their heads up, gopher style. The players job was to beat their little skulls in with a big, red mallet. You actually got points for smashing heads! Another spinoff game that caught my eye might be of particular interest to members of the video NRA. Picture yourself standing in front of a big-screen television displaying a scenic picture of the countryside. Suddenly, a blurred target shoots across the skyline. You grab your double-barreled shotgun, aim, and blow it out of the sky. Sound fun kids?

Well, I must admit that I fired away until the crowds thinned out and the lights began to dim.

I put on my jacket and walked slowly out of the exhibit hall and up the escalator to the lobby. It was nearly deserted, so I strolled by the hors d'oeuvre table, thinking that I had really accomplished something. I succeeded in covering some of the top video games to hit the 1982 market, and I had managed to play some very entertaining games that I might not see again. "This has been one of the best shows I've seen," I thought to myself as I licked the cocktail sauce off my finger. After all, I'd been to trade shows before.



NEO

2084: ROBOTRON APOCALYPSE!

By Matthew White and
Wayne Robert Williams

Robotron signals a new wave in both video-game concepts and technology. The concept is deep and ambitious—and much stronger than it first appears (robots taking over the earth). The technological innovations are adopted from existing computer capabilities and utilized—for the first time—in video games. The result is, well, Robotron—a strangely compelling yet frightening game.

The concept is deep, very deep. And it takes awhile to understand and appreciate exactly what is going on. Once you've grasped the Robotron essentials, however, it's too late to turn back. You're hooked, mainlined, and sinkered. And you can only hope and hope against hope that your inner core is strong enough to combat Robotron's irresistible lure.

The game is described on screen as a science-fiction adventure against powerful robots. You've got to save—so they say—the human Clones from the death-stomp of these dynamic machines. What isn't said on screen—and what is only discovered after hours of diligent play—is how you must distort and train your mind to deal with these creatures. You become transformed—in a very short period of time—into a space-age Citizen Kane or Great Gatsby or Thomas Sutpen. You become seduced by power and its attributes. And you become convinced that such power is exclusively and rightfully yours to wield.

To wit: Saving the Humanoids may be your responsibility, but it is only one of your objectives. Your prime objective is self-preservation and advancement. And that means not saving the Humanoids, but exploiting them. There's no room in Robotron for bleeding hearts or charity or humanitarianism. You must first of all survive. And to survive at all you must constantly build your point value (power). The more points you achieve, the more your power is reinforced (a new man every 25,000 points). The capture of cloned Humanoids helps you achieve your power recharge. And that's that.

The first two Robotron Waves are deceptively easy. You will—with minor difficulty—be able to both preserve your livelihood and defend the helpless Humanoids. Don't be misled, however. The soul-battles of the future lay dormant within these first couple of screens. Prepare for the future. Seldom again in Robotron will you play in this best of all possible worlds. The 3rd Wave initially tests your strength of character. And the three major climactic battles will effectively test that character.

The three climactic battles in Robotron concern three archetypal battles of the human spirit. The first is encountered during the Brain Wave—the 5th screen. Here you must compete against Brains—the most intelligent enemies in Robotron. In-

stead of killing your Clones, the Brains turn these Clones against you—transforming them into dangerously mutated adversaries. The Brains also possess the power to seek you out and kill you—with Cruise Missiles. You must contend intelligently against the intelligent Brains. And that means saving as many Humanoids as possible—but not for benevolent reasons. You save them to save yourself—to keep Brains from turning them against you.

The second climactic battle pits you against the super-powerful Tanks (7th Wave). Here you must deal alone against the brutest of brute force. The Tanks are the strongest and most active enemies in Robotron. You too must be strong and must forego conscious rescue of the Clones in order to survive. You must play hardball!

The third and most frightening battle occurs on the 9th screen—the Grunt Wave. Here you battle against incredible (nearly impossible) odds: against an army of nearly 100 Grunts. You are one solitary human (with super power, no doubt) against a nightmarishly malicious wave of indifferent and destructive forces. This is what despair is all about! It's like fighting against the army of Zombies in *The Night of the Living Dead*. But Robotron—to its credit—gives you a fighting chance in video to defeat the undefeatable in life. It's the toughest battle to fight, but it can be won.

Not all of the battles can be won, however. Eventually, you will come crashing headfirst to your inevitable fall. And Robotron is the first video game we know of that makes sense out of that eventual self-destruction. Your ambitions get the best of you. To die in tragic glory would be to end your Robotron play on the 39th Wave—Armageddon. If you survive through Armageddon, prepare for a psychological depression. You would have conquered the unconquerable. And your abilities will never be put through a more rigorous test.

Hey, it's just a game. But then *The War of the Worlds* was just a radio broadcast and *The Rocky Horror Picture Show* was just a movie. What Robotron offers the dedicated gamer is the cathartic opportunity to test his or her reactions to super power. It's a game that reveals a lot about the gamer. But it's a game nonetheless.

As far as the technology goes, Robotron again breaks new ground. Williams Electronics, Inc. (the manufacturers of Robotron) have programmed each machine

with two DMA (Direct Memory Access) controllers. This hardware—unlike conventional video-game hardware—allows an unprecedented amount of movement on the machine at one time. The Grunt Wave—with nearly 100 Robots each moving individually—is a triumph of video-game technology.

For a few of Robotron's background details, see the interview with one of the designers—Eugene Jarvis—on page 6. We learned a few of the name sources from Ron Crouse—marketing director at Williams. The little Clone Mikie is named after the President of Williams Electronics, Inc. The Grunts—although acronymed on screen as Ground Roving Unit Network Terminators—are so named because basic programming work is affectionately termed “Grunt Work” at Williams. Enough of the ballyhoo, however. Turn the page and peruse the strategic world of 1982's most impressive new video game: Robotron.



CLONES: In progression: 1,000; 2,000; 3,000; 4,000; and 5,000 points



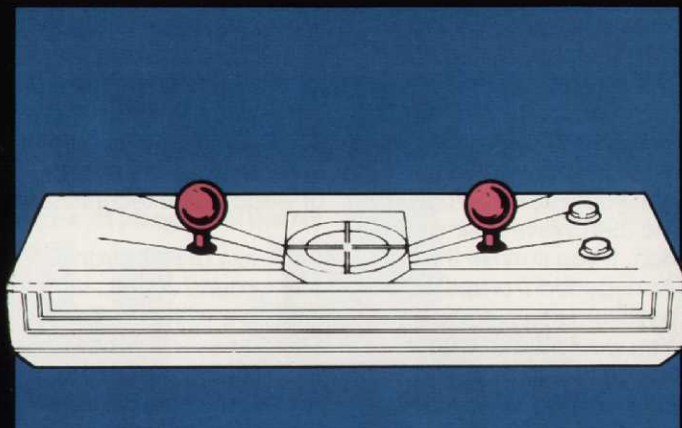
ENFORCERS: 200 points



GRUNTS: 100 points



BRAINS: 500 points



There are only two controls. The joystick on the left moves your player in eight directions. The joystick on the right fires your ammunition in eight directions. You can thus move to the left while shooting to

the right. But it takes some practice and coordination. The sensation, in the end, is electric. You feel as if you're grasping two electrical knobs completing the circuit.



WAVE 1: There's no excuse for losing a man on Wave 1—ever. Your only enemies are Grunts and there aren't many of them.

Always be sure to scoop up the two cloned Humanoids (i.e., don't kill the last Grunt until both Humanoids are rescued).



WAVE 2: This is your introduction to a combination of opponents: Grunts, Hulks, Spheroids (which produce Enforcers), and Electrode Blocks. Eliminate

the Spheroid before it produces Enforcers. Then, destroy Grunts and scoop up Humanoids before the Hulks kill them.



WAVE 3, 4, 6, 8, et al.: These Waves feature the same combination of adversaries as encountered on Wave 2. However, the numbers of adversaries will

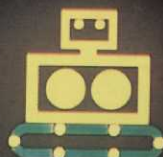
increase and they'll become more aggressive. Be especially aware of Spheroids when they first appear. Avoid deadly collision!



SPHEROIDS: 1,000 points



HULKS: Indestructible



TANKS: 300 points



ELECTRODES: No points



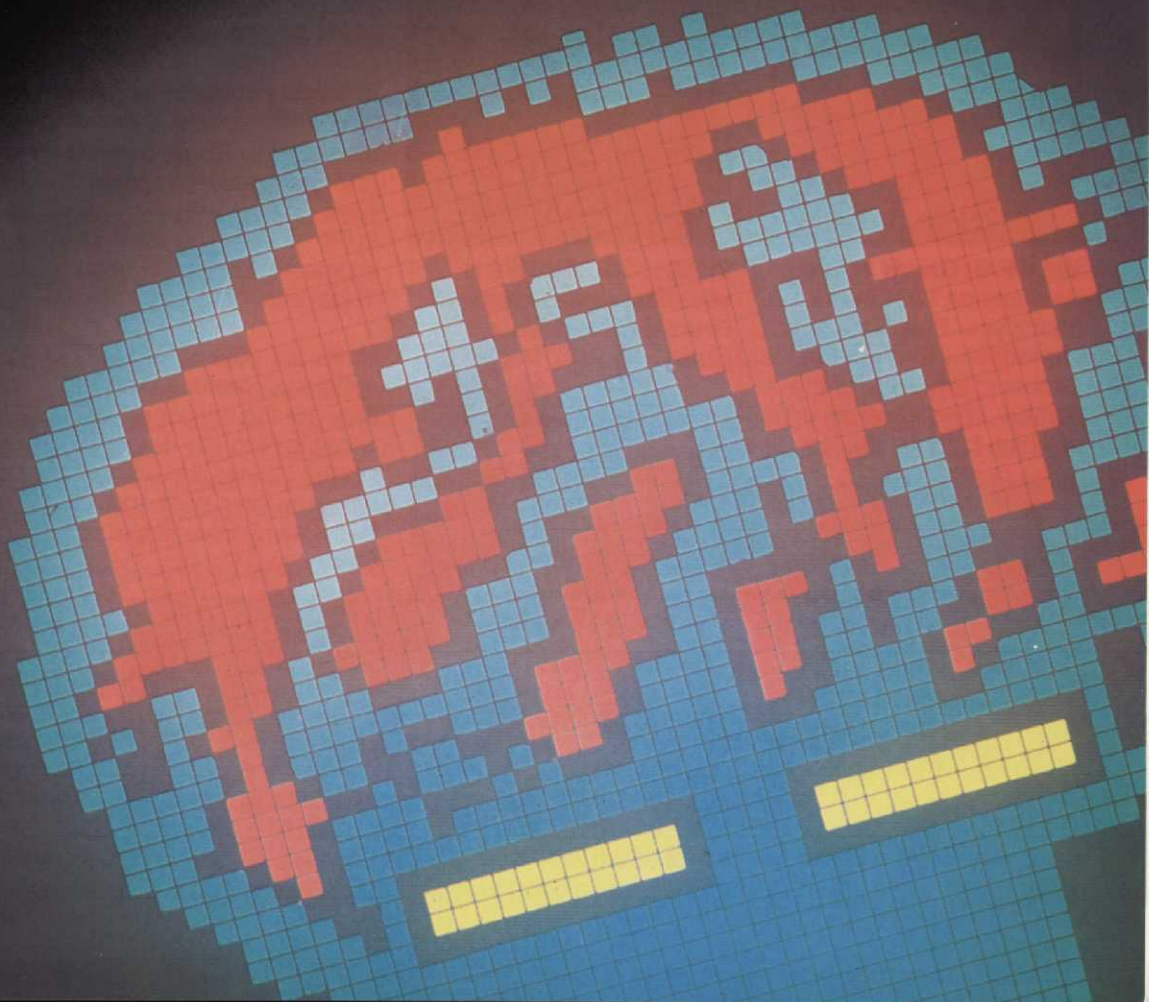
WAVE 5 (Brain Wave): You'll reap big points for scooping up all the Mommy Clones and the one Mikie Clone. But first eliminate

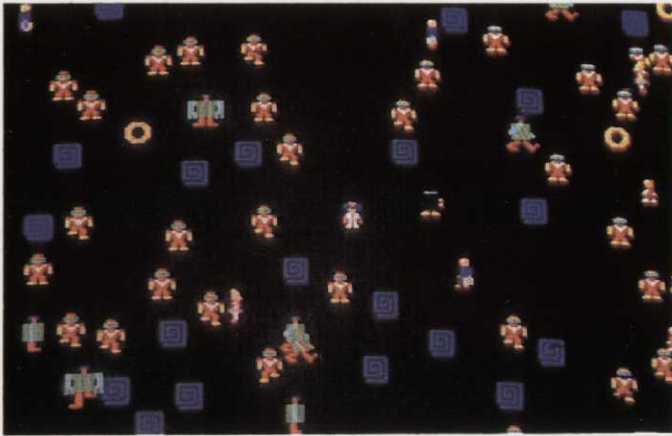
the single Spheroid. Don't worry about the Grunts. Kill them when you can. Kill Brains as soon as possible!



WAVE 5 (Brain Wave cont'd): The Brains fire off Cruise Missiles that must be destroyed before they track and destroy you.

When Brains contact Humanoids, they transform them into Progs. Progs are deadly and must be eliminated.





WAVE 7 (Tank Wave): Tanks are not your only adversaries on this screen, but they are the most dangerous. Destroy them, if possible, when they are

still Quarks (blue spirals). Failing this, destroy them when they are first developing—before they start shooting. You won't get them all, but try.



WAVE 7 (Tank Wave cont'd): Fully formed Tanks will fire cannonballs at you. There are two types of cannonballs: those fired directly at you and those

designed to rebound off the wall and zap you. Stay snug against the walls—not just near them—to avoid the rebounding cannonballs. Keep moving!



WAVE 9 (Grunt Wave): As many as 100 Grunts will attack you. Blast your way immediately through the Grunts to any edge of the screen. Then, clear an area in which to battle the En-

forcers. Constant fire is your best weapon against Grunts, Electrodes, and Hulks.

OBSERVATIONS

Grunts are destroyed when they come into contact with Electrode Blocks.

You get an additional life every 25,000 points.

Enforcers sometimes get "stuck" in corners. Concerning this, Eugene Jarvis (the game's co-designer) says, "It was actually a bug in the program. Since it was so interesting, we decided to leave it in."

Hulks are your only indestructible enemies. And they are the only enemies capable of totally destroying the Clones. Your fire can, however, push the Hulks away from helpless Clones.

FUTURE WAVES

Listed below are the most memorable Robotron moments beyond the ninth screen.

WAVE 10: The second Brain Wave. All the Clones are Daddies.

WAVE 15: The third Brain Wave. Multitudes of Mikies.

WAVE 20: The fourth Brain Wave. All three species of cloned Humanoids are represented. Hulks conspire with the Brains in future Brain Waves.

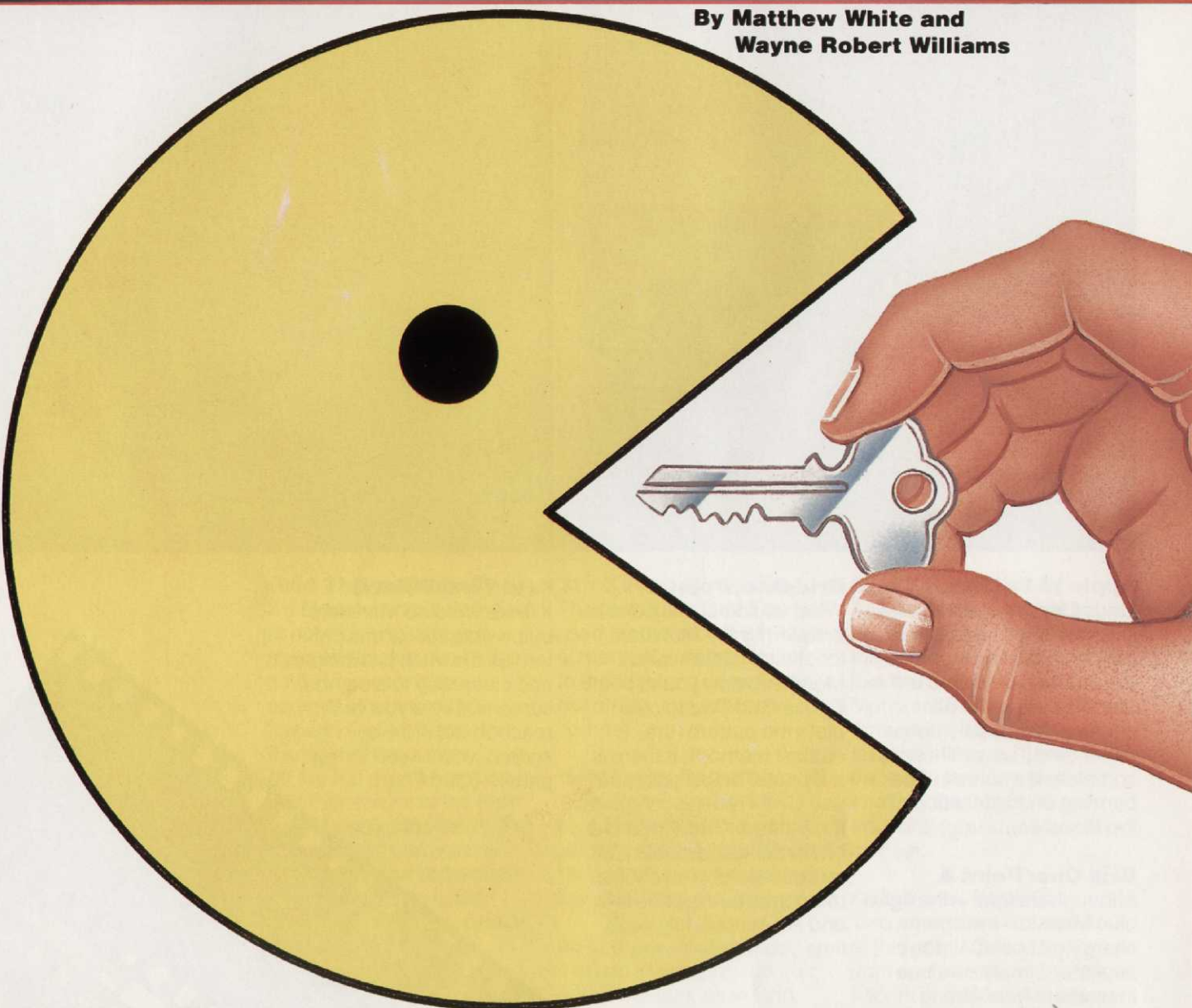
WAVE 22: Both Tanks and Enforcers. Learn to deal with this deadly combination now. You'll encounter it again before the 40th—and final—wave (after which you're back to Wave 1).

WAVE 39: Armageddon. When you reach this wave, you will have approximately 1,000,000 points. Survive this nightmare and you've proved your unique Robotron powers. After Wave 40, it starts all over again.

THE WINNING EDGE

By Matthew White and
Wayne Robert Williams

Steven Boswick



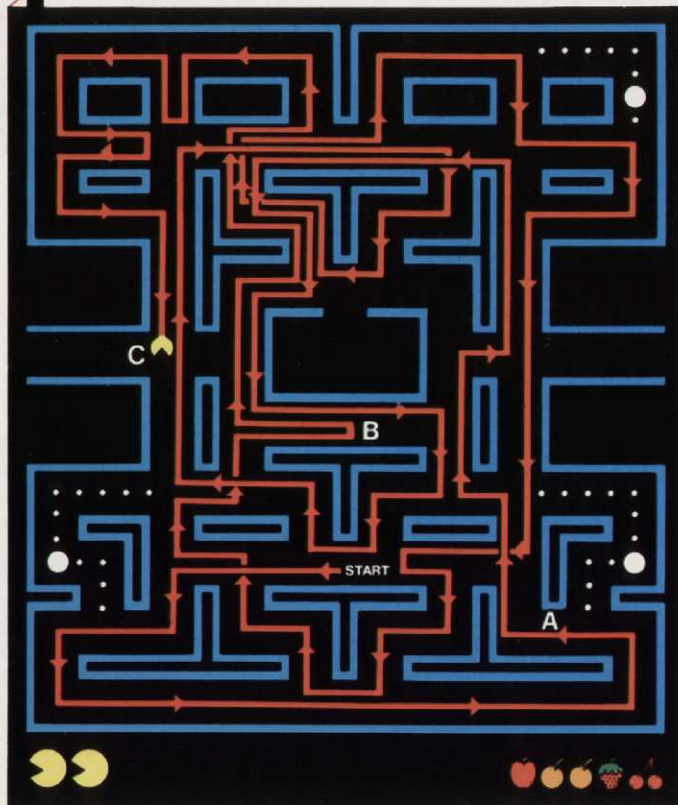
— **L**et's get one thing straight. This Pac-Man article will not teach you how to play Pac-Man. It will tell you how to improve an already good score. If you're just learning the game, you'll have to look elsewhere for preliminary instruction (we suggest *How to Win at Pac-Man* by the Editors of Consumer Guide®). This article will help only those who've helped themselves—who already reach, at a minimum, the Apple screen.

The patterns on these pages were developed by Bob Sofsky and Company—a group of people known throughout the Los Angeles area as “Pac-Masters.” They contacted us initially via letter, one line of which reads: “Our scores are consistently between 500,000 and 2,000,000. We consider a good game, 1,000,000, and a great game 1,000,000 on the first Pac-Man.” We sent one skeptical *JoyStik* editor, Wayne Robert Williams, to L.A. to verify their claim. He came back spellbound and enthusiastic.

Remember: These are not patterns for beginners. These patterns are good from the Apple screen to the infinite limits of the keys. Our 9th-Key pattern is not only authoritatively good, but easy to describe and follow. If you've been looking for an honest-to-goodness 9th-Key pattern, you've found it here.

In every future issue of *JoyStik*, this column—*The Winning Edge*—will offer the best in expert tips and strategies. It is a column that assumes your expertise; it is designed to transform your good game into a great game.

1



Apple to 3rd Key

Grids One, Two, and Three illustrate successful game play from the first Apple to the 3rd Key. Grid One is the starting pattern for all screens. You must choose either Grid Two or Three to complete the screen—depending on the location of the Monsters.

Grid One: Point A

Although Bashful—the light blue Monster—will be charging at point A, don't hesitate. Simply continue the pattern headstrong. Bashful will back off.

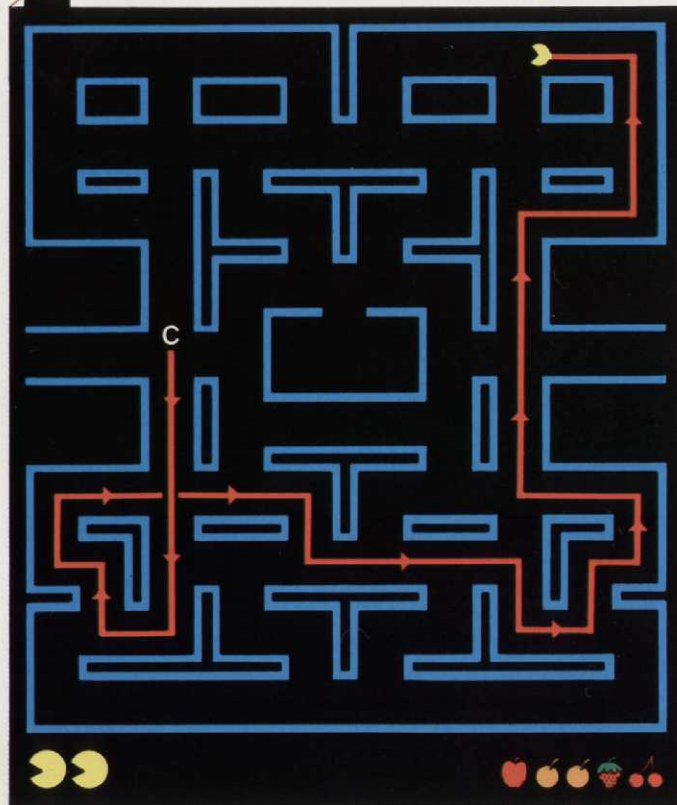
Grid One: Point B.

Pluck the fruit here at point B. Then stop and retreat immediately. If you go a fraction beyond the point necessary to pluck the fruit, you'll be thrown off the pattern. We call this "quick-pluck maneuver": "Stopping on a dime."

Grid One, Point C

What you do at this point is dictated by the Monsters' locations. If there is no Monster below you at point C, use Grid Two to complete the pattern (the easiest method). If there *is* a Monster below you here, use Grid Three to complete the pattern. Grid Three is a bit harder to learn, but just as successful. You should memorize both patterns and act accordingly each time you play.

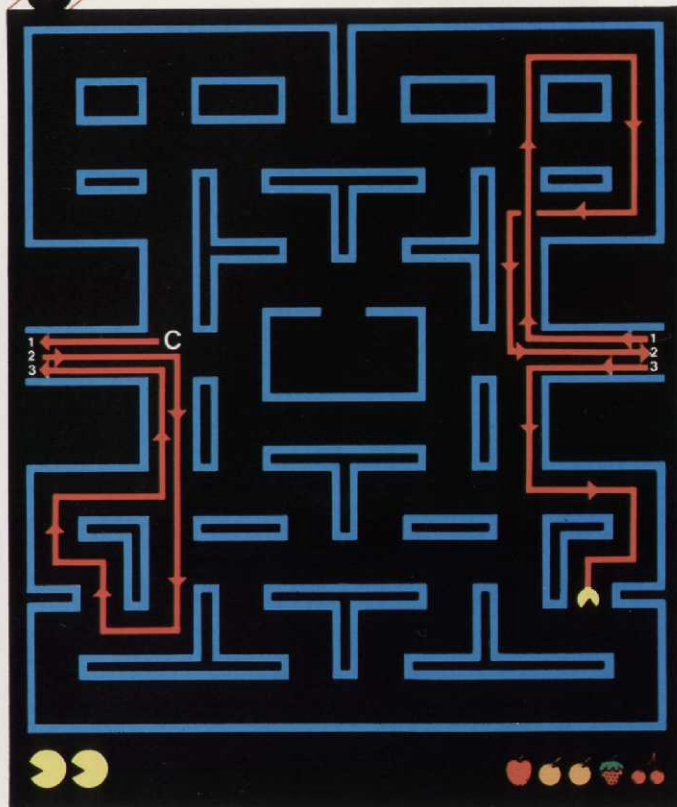
2



Grid Two, Point C

If there were no Monsters below you, follow this pattern as drawn. It is a simple and clean way to clear the screens. Once you've reached the 3rd-Key screen, you'll need a new pattern (Grid Four).

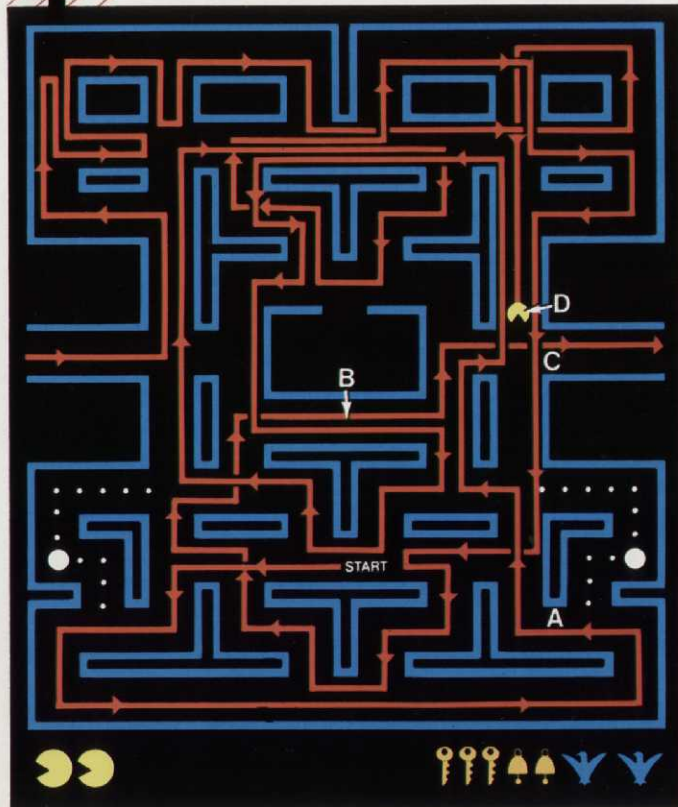
3



Grid Three, Point C

If a Monster was below you at point C, you'll have to make extensive use of the tunnel in clearing the screens. As drawn, go through the left tunnel to the right of the screen, pick off the top right energizer, and then return to the right tunnel toward the left of the screen. Once on screen left, pick up the bottom left energizer, return to the tunnel left and go to screen right. Pick off the final energizer at the bottom right.

4



3rd Key to Ninth Key

The pattern on Grid Four is used for the 3rd- to 9th-Key screens. It initiates similarly to the previous grids. But it eventually charts a new course.

Grid Four, Point A

As in Grid One, the light blue Monster will be approaching from top. Don't be scared. Simply continue the pattern as drawn.

Grid Four, Point B

Instead of plucking the fruit and retreating, as in Grid One, you continue through the Fruit and toward the tunnel. There is no need to "Stop on a Dime."

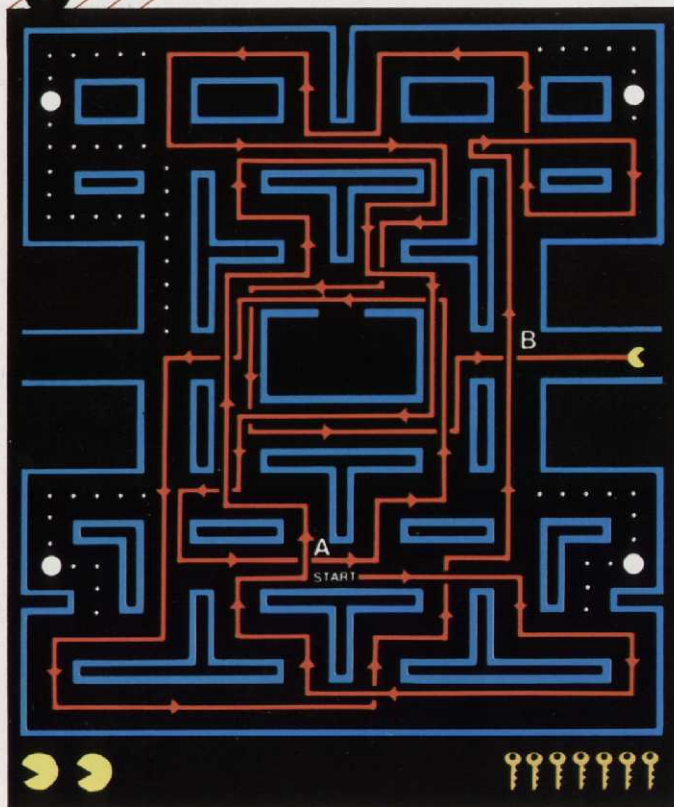
Grid Four, Point C

All four Monsters must be heading toward the right of the screen. And you must lure the red and pink Monsters behind you through the tunnel. If they aren't behind you, lure them into the tunnel by shaking the joystick back and forth (you know how to do this).

Grid Four, Point D

Two energizers will remain at this point: One at bottom right and one at bottom left. If there is no Monster below you, go to the bottom right energizer and then over to the bottom left. If there *is* a Monster below you, slip through the tunnel, get the dots and energizer at the bottom left, and then clean up the energizer and dots at the bottom right.

5 9th KEY PAC-MAN PATTERN



Ninth-Key Pattern

The 9th Key—and all subsequent keys—have stumped even the best Pac-Man players. That's because, as you know, Monsters refuse to turn blue after energized and your Pac-Man moves slower than usual. On this page is the best and most complete 9th-Key Pattern we have ever seen. We recommend it highly and without reservation.

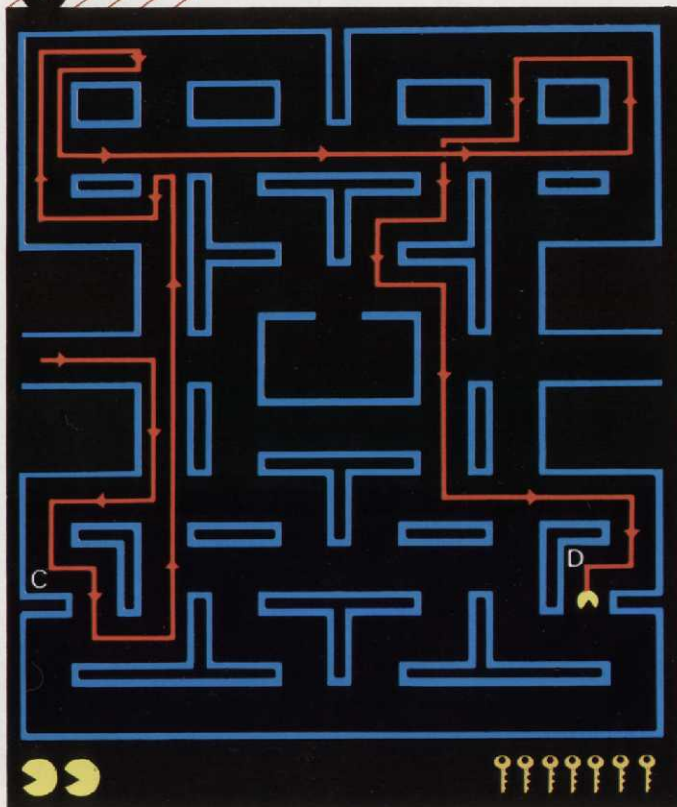
Grid Five, Point A

If your timing is right, the light blue Monster will lightly brush the top of Pac-Man at this point. This is a good indication that you're right on track.

Grid Five, Point B

The red and pink Monsters must follow you into the tunnel. If you are ahead of time on the pattern, it may be necessary to give a quick joystick jerk to get them to follow you.

6



Grid Six, Point C

This grid is a simple continuation of the pattern. It picks up where Grid Five left off. As you approach the energizer at point C, the red and pink Monsters will be coming out of the left tunnel. When you hit the energizer, they will retreat through the tunnel, allowing you to continue the pattern.

Grid Six, Point D

The light blue Monster will be approaching the last dot from below as Pac-Man approaches it from above. If he's too close for comfort, don't chance it by playing chicken for the dots. Simply loop around the block and get the dots from below. Most of the time, you can get the dots from above.



PAC-MAN DAY

It was only a matter of time—or maybe it was Pac-Karma. But whatever the reason, it was wonderful. As the foundation for a multimedia promotional campaign for the Pac-Man home video cartridge, Atari designated April 3, 1982 as National Pac-Man Day. On that Saturday, in larger-than-life costumes, Pac-Man and his adversary Speedy (the red Monster) toured 27 major U.S. cities. They were transported via special Pac-Vans equipped with the sounds of the Pac-Man game.

In each city, they visited hospitals and donated video computer systems and game cartridges to the patients. They attended major sporting events—and for the first time ever, a video character threw out the first ball at a baseball game. They also visited shopping malls and gave out T-shirts by the dozen. And prominent mayors even presented them with keys to their cities.

Seem like a lot of traveling for one day? Well, fortunately, video images can be reproduced to appear simultaneously in as many places as necessary.





... in Dodger Stadium, Los Angeles, California



... in Seattle, Washington



... in King of Prussia, Pennsylvania



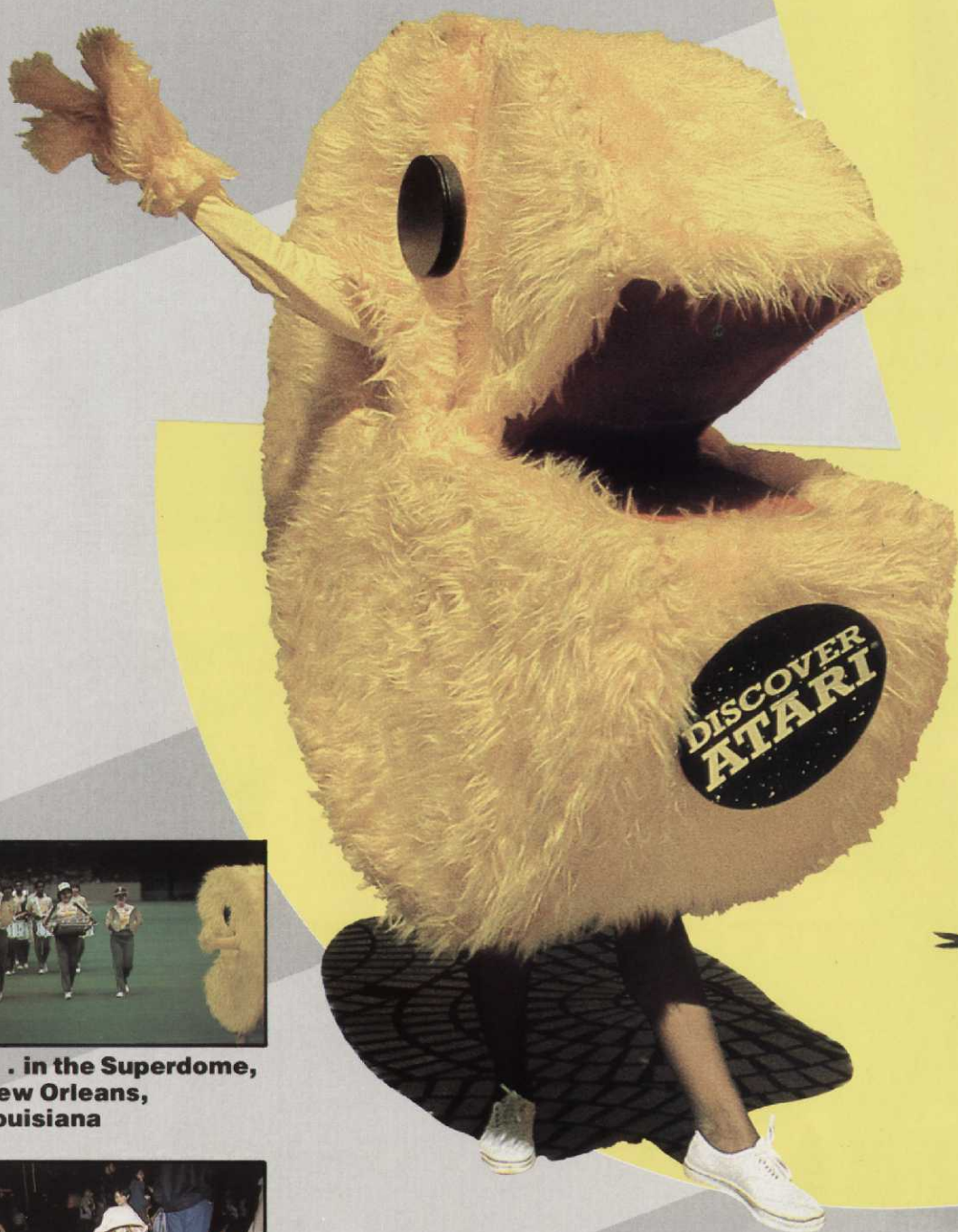
... in Phoenix, Arizona



... in the Superdome, New Orleans, Louisiana



Pint-size Pac-Man in Pittsburgh, Pennsylvania



Photos by Fred Smith and Associates

JoyStik™/September 1982



... in Dodger Stadium, Los Angeles, California



... in Minneapolis, Minnesota



... in Atlanta, Georgia



Sound-a-like Contest in Dade County, Florida



Look-a-like contest in Rochester, New York

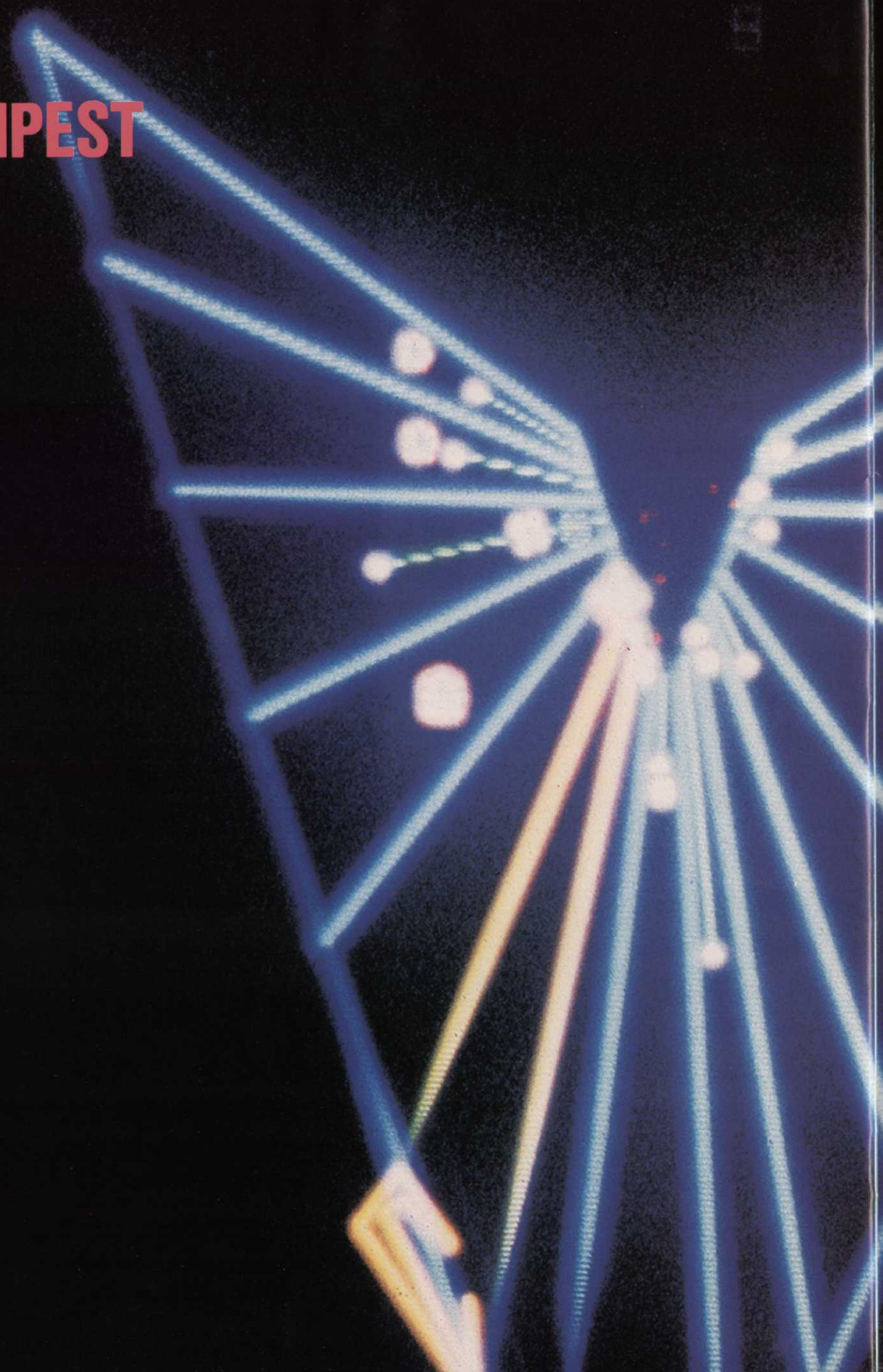


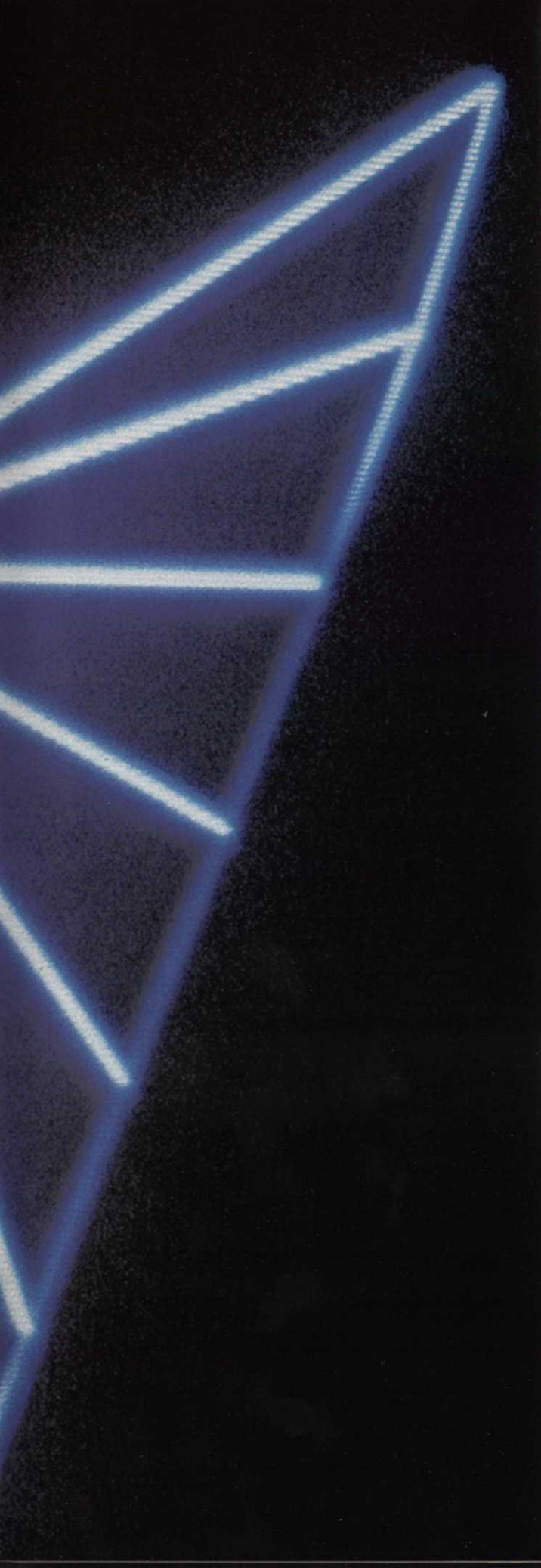
... in Tampa, Florida



... in Baltimore, Maryland

TEMPEST





The original plan called for monsters. That's right, monsters—not the odd electrical shapes that define the modern Tempest machine. At a late developmental stage, Atari programmers realized that the Tempest video screen wouldn't generate proper monster resolution. But the game cabinets had already been built and illustrated with monsters! A fundamental change had to be made. And made fast. The change was made, all right. And it was this charged electrical change that makes Tempest a most unusual game.

This is one electric game. No matter what the original plan was, the modern Tempest machine is electricity itself. Some players may consider themselves "astral tightrope walkers" perched "atop the opening of a 'three-dimensional space platform' . . . dodging and destroying enemy aliens." That's what Atari thinks you think. We tend to consider ourselves live wires, open-circuits—moving not only to stay alive, but to define life itself.

Anybody can kill aliens. But how often are you given the opportunity to become electricity? Tempest displays a three-dimensional electrical field charged with enemy electrical shorts. You can be short-circuited (electrocuted?) in a variety of ways—each of them oddly, and at times intricately, predictable. Your task as the open-circuit is to fry the enemies in the electrical field. Once the enemies are destroyed, you're sucked forcefully through a vacuum tube and positioned swiftly in a new electrical field with a totally new 3D pattern.

There are sixteen different electrical fields. Each one is programmed to appear in a preplanned order. This is a main feature of Tempest's electrifying design. You can choose any one of five entry-level patterns—1, 3, 5, 7, or 9. Number one is the easiest entry level and number nine is the most difficult. You progress—if you stay alive—from your chosen entry level to pattern 16, at which point the electrical fields change color. A new set of electrical fields is then generated, and the bonus points rise. If you reach a high level, you can begin your next game on that level. You simply deposit your quarter within 30 seconds after your last game. For example, if you end your first game on level 15, you can begin your second game on level 15. The object of the game remains the same on every screen. The pace speeds up, of course, and the patterns become more intricate. The going, in other words, gets tougher. But the rules are the same.

The idea has caught on. We've heard reports that the original designers are unhappy with the game, in its new form. They wanted monsters. Let them stay unhappy. We'll just take full advantage of their magnificent error, and enter willingly into the revolutionary game-world of electricity.



LIVE WIRE

ELEMENTS

A. LIVE WIRE (Open-Circuit).

You energize this player through the electrical field. The trick is to keep moving. You have unlimited ammunition. On the entry-level screens (1, 3, 5, 7, or 9), it's best to fire constantly—to fry the enemy. You'll have to plan your fire more strategically on later screens.

B. TANKERS (100 points).

In and of themselves, Tankers present minimal danger. They become dangerous either (1) after you jolt them or (2) when they reach the top of a lane. In either situation, they split into two Flippers. And Flippers are dangerous. Kill the Tankers near the center of the tube. Don't let them get too high. If you kill them near the tube top, the Flippers will be on top of you. Tankers move slowly, in one lane only.

C. FLIPPERS (150 points).

Flippers are very quick and very dangerous. They can flip from lane to lane rapidly. Spawned by the Tankers, Flippers progress quickly toward the ends of the lanes. Try to kill them while they're in this process. When they've reached the top of the lanes, they chase you with lightning speed. You can kill them then, but it's tough—you must fight fire with fire. It's always preferable to kill them when they're still in the lanes.



PULSAR

D. SPINNERS (150 points).

Spinners are nothing more than good-looking Missiles. They shoot quickly out of a tube—and often out of tubes with Spikers. Avoid Spinners. If they hit you, you're dead. If they miss you, they'll spin away from the electrical field, never to bother you again.

E. SPIKERS (50 points).

These are slow-moving, predictable enemies that never cross lanes. They rarely reach the top. Spikers have but one purpose: to create Spikes—as long as possible. Destroy the Spikers as quickly as you can or you'll have to contend with longer Spikes.

F. SPIKES (no points).

Spikes are inanimate enemies. They are not killed; they are simply destroyed. Spikes cause problems at the end of an electrical pattern—after all the animate enemies have been dealt with. In order to reach a new electrical pattern, you must travel down through a lane. If there's a Spike in the lane, you'll be impaled—which means you're one dead wire. Spikers leave Spikes. If you fry the Spikers fast enough, the Spikes they leave will be short. You can then quickly chip away at them.



TANKER

G. FUSEBALLS (250, 500, or 750 points).

Fuseballs appear late in the game. They're slow, but unpredictable. They constantly change lanes, moving up and down to dodge your shots. They're aggressive, but they aren't fast. They're very clever. Destroy them at the first opportunity.

H. PULSARS (200 points).

These enemies attempt to short-circuit lanes within the electrical field. They've completed short-circuits once they start pulsating. It is impossible to cross lanes that Pulsars have effectively short-circuited. You must destroy them when they're in the process of crossing lanes, when they're not pulsating. If you're in a lane when a Pulsar short-circuits it, you're dead.

AA. FIRE BUTTON.

You have an unlimited amount of fire. At the beginning, fire constantly, keeping your finger down on the button. On later screens, when accuracy is of prime importance, it's dangerous to fire constantly. Plan your shots for the best impact.



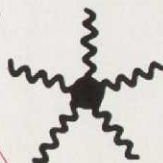
FLIPPER

BB. SUPER ZAPPER.

You can use the Super Zapper twice on each pattern. The first time that it is used it will destroy every enemy in every lane except for Spikes. The second time that you use it the machine will choose what it considers to be the enemy posing the most immediate threat and destroy that enemy only. Super Zappers aren't cumulative. You cannot build up Super Zappers. If unused they are lost forever. During your warp to the next platform the Super Zapper will recharge for use on the next pattern.

CC. CONTROL KNOB.

This supersensitive knob will spin you rapidly around all the open lanes. Learn how to control this knob precisely—to both move quickly and to enter any lane at will. You must learn to control the knob for three situations. (1) Learn how to operate the knob at lightning speed. That means running it rapidly around the electrical field. (2) Learn accuracy. You must be able to stop on a dime—at will. Stopping accurately means the difference between high and average scores. (3) Learn to cross lanes when traveling down the lane, to a new electrical pattern. If, when moving down a lane, you witness an impaling Spike, switch lanes. You can do it. And this trick will ensure your safe journey to a new electrical field.





SPIKER

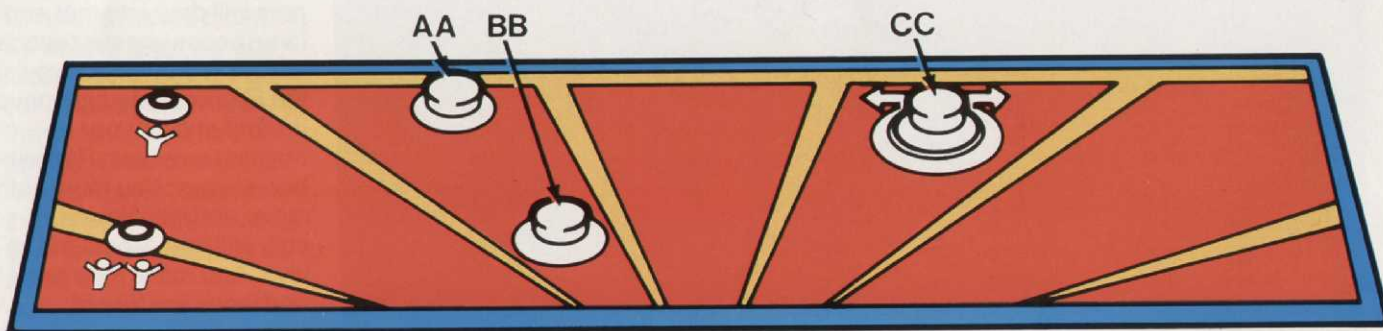
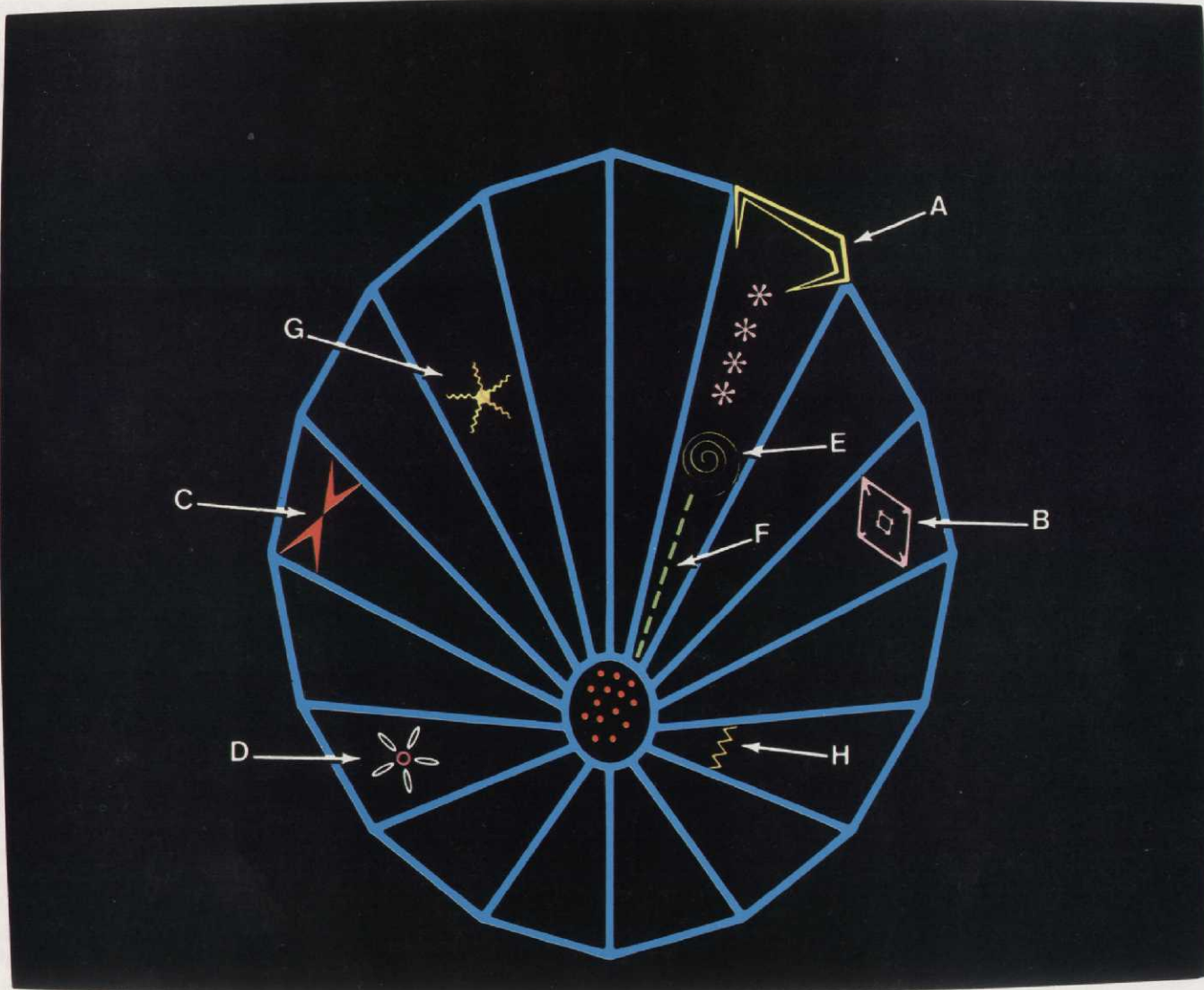
SPIKE



FUSEBALL

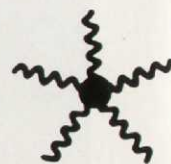


SPINNER



A

A. Move constantly. Remember: You're a live wire. Be constantly aware of the enemies. Dart quickly to lanes where enemies are. Speed is especially important when frying Flippers. If Flippers have reached the top lanes—and begin their chase—you must attack them with lightning speed. And fire constantly. Don't be timid. And watch out for Spinners!

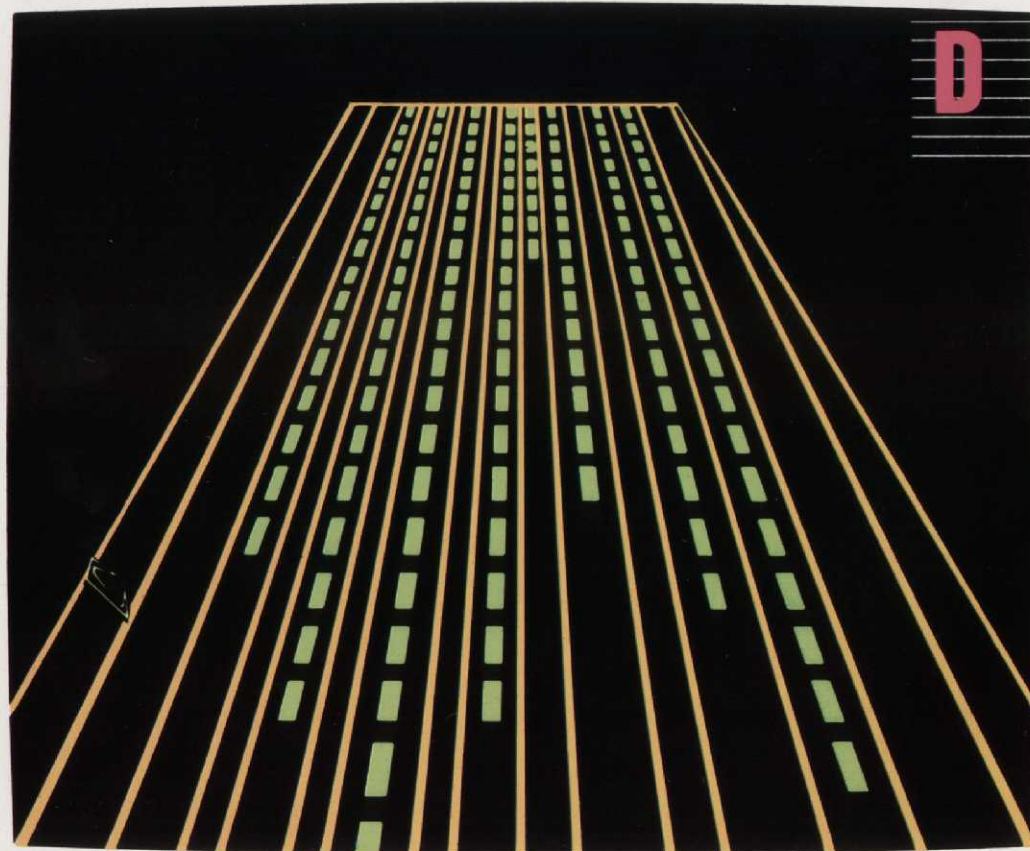
**B**

B. Shoot from the ends of unconnected patterns. There are two types of patterns: Those that allow your piece to sweep full circle around the pattern, and those that do not allow you to sweep full circle. When playing the latter pattern types—unconnected patterns—there are two “safe” spots to ambush Flippers. Those spots are on top of the extreme (end) lanes. You can stay safe on top of an end lane by jiggling your piece back and forth and firing constantly. The Flippers will drop into that end lane, becoming susceptible to your fire. After destroying the Flippers, you can move around and kill your remaining enemies. Remember, always: You must both *move* and *fire*. You can't stay still and expect to survive. And make sure that end lanes are free of Spikes.

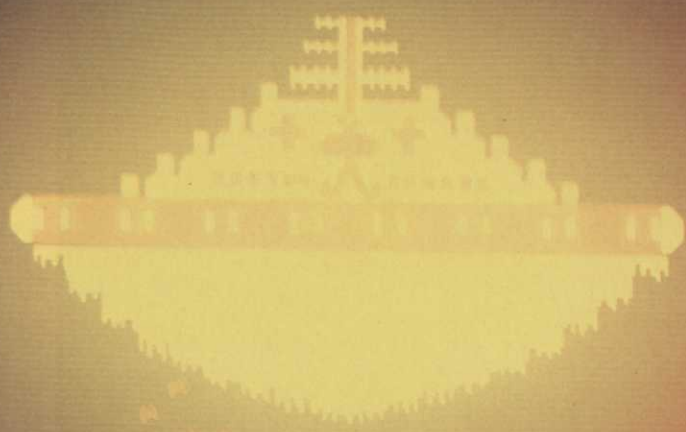
C. Kill two Flippers with three shots. Flippers are your most persistent enemies. It's important to kill them fast, before they reach the top of the lanes. A simple, effective method of killing them is this: Fire one shot at the Tanker, which will then split into two Flippers. One Flipper will immediately enter the lane to the left of the Tanker, the other Flipper to the right. Move to the lane at the left and shoot one Flipper. Then move back two lanes—to the one on the right—and kill the other Flipper. Do this lightning fast, or it won't work. Once this strategy is mastered, Flippers can be eliminated early in the game, before they reach the top.



D. Keep lanes free of Spikes. In order to move from one pattern to another, you must move through one of the 16 lanes. This occurs once the animated enemies have been killed. Inanimate Spikes remain after the other enemies are dead. If you're at the top of a lane that has a Spike—and you move through that lane to the next pattern—you'll be impaled. Take all the free time you have to push spikes back. Always know where your free lanes are. On unconnected patterns, it's best to keep the end lanes free of Spikes. On connected patterns, leave the widest lanes free of Spikes. Once the words "Avoid Spikes" appear on the screen, you should be able to instinctively move to a free lane.



PHOENIX





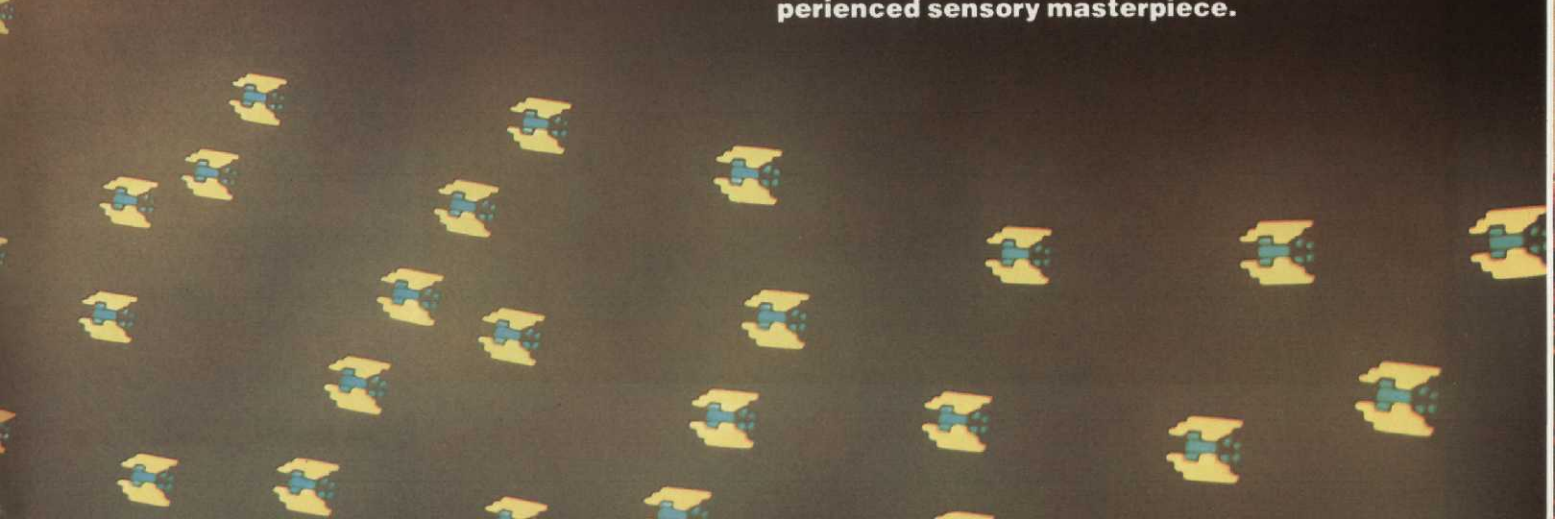
Kill the Birds! That's a frequent cry from within the arcades. And indeed there are many Birds to kill: big Birds and little Birds, fast Birds and slow Birds, orange Birds and blue Birds. And like the Phoenix of myth, these Birds seldom die. They rise continually from the ashes.

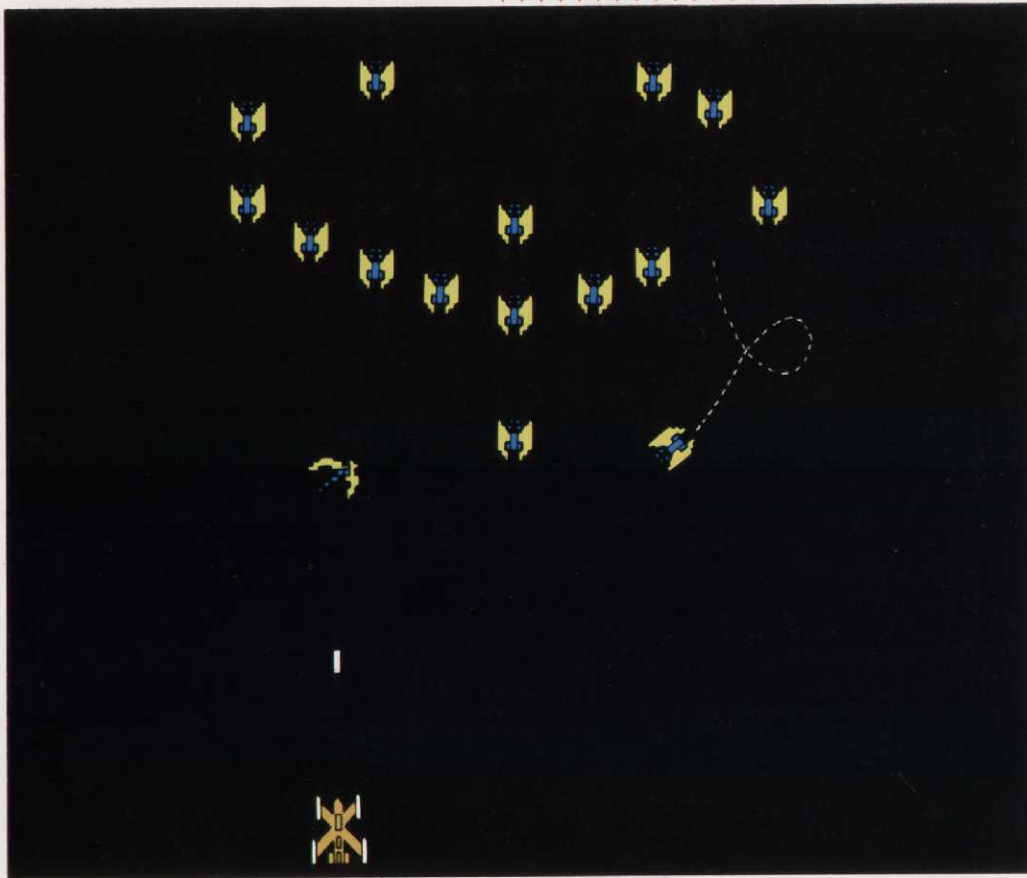
"Phoenix" etymologically means: to Defend. That's the primary function of this game's Birds. The Birds defend a Spaceship. And there are five Waves of defending Birds. The first four Waves are Birds alone, which you must destroy before getting to the payoff: the Spaceship, defended aggressively by Warbirds.

This is no ordinary video Spaceship. It differs from most video games in some extraordinary ways. First of all, it's huge: The Spaceship dominates the video screen during this fifth Wave of play. Secondly, this is a living Spaceship. You monitor at all times the Alien within its confines.

This is a close-encounter situation. It is imperative that you plan as close an encounter as possible with the Alien, to score top points. In other words, the closer the Alien is to your Missile, the more points you rake in.

Phoenix has spawned a cult. Per our research, the game does better in street locations than in the arcades. And that makes sense. The music and graphics are lost, somewhat, in the high-energy atmosphere of the arcades. When Phoenix can be played in relative quiet, among only two or three machines, it's a rarely experienced sensory masterpiece.





A

A. WARBIRD STRATEGY: SCREEN ONE.

The Birds move more slowly and they are less aggressive on this screen than they will be on future screens. They don't abruptly change direction too often. There will be time to pick off an occasional reborn flying Bird. After it's shot, it bursts to reveal points received.

B

B. WARBIRD STRATEGY: SCREEN TWO.

The action is faster here. However, you should be able to kill most of the Birds at the onset—before they peel off and attack. Move to either the far left or far right when Warbirds fly off screen. They'll be like sitting ducks once they reappear.

C

C. PHOENIX BIRD STRATEGY: SCREEN THREE.

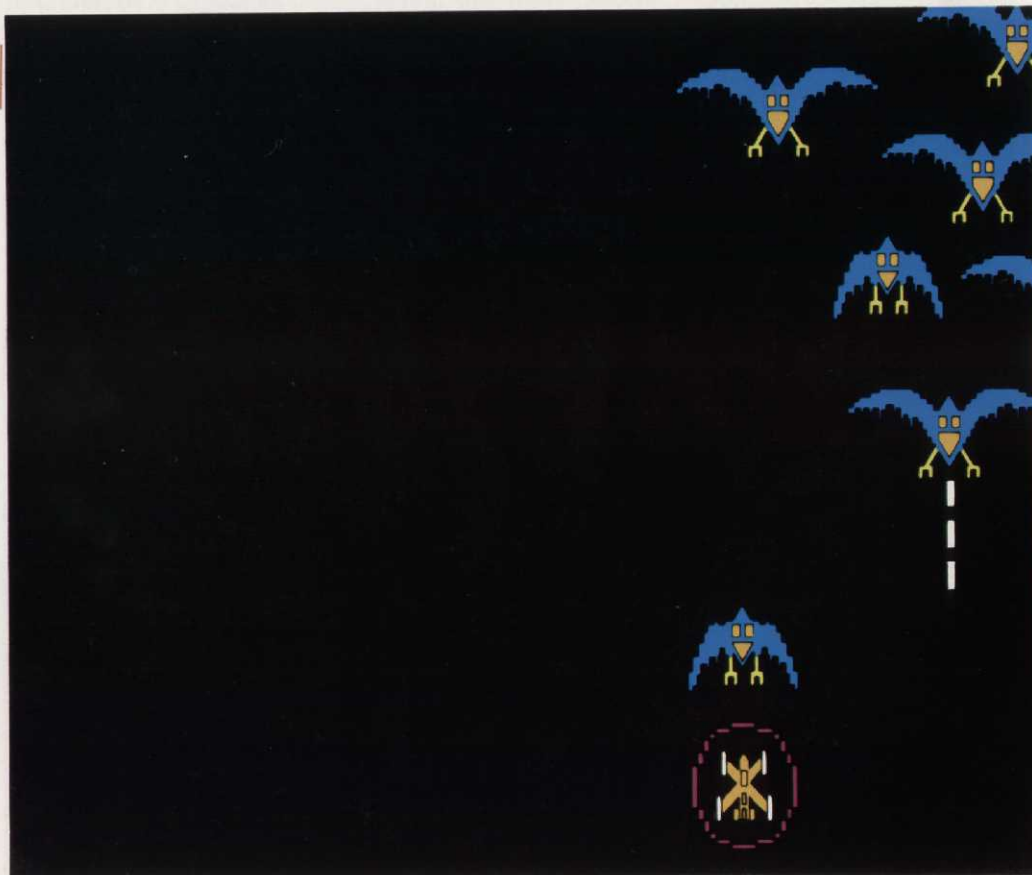
Keep your target shooting skills sharp by picking off the lowest egg as it spirals across the center of the screen. Then, quickly move to the far right of the screen. The Birds will gather above you. You will have time to kill one before the first three bombs fall. Slip to the left just enough to avoid the bombs. Some Birds will drift left with you. Pick one off. Then, swing back to the far right to pick off another Bird or two. When more bombs fall, slide left again—just enough to avoid the bombs. Continue this side-to-side shifting movement until all the Birds are destroyed. Remember: these Birds are easiest to hit when they are at the side of the screen—but so is your Laser Base.



D

D. PHOENIX BIRDS STRATEGY: SCREEN FOUR.

The Birds are more aggressive and they descend more quickly on this screen. Use the same strategy as on Screen Three. Keep alert. Strategic use of the Forcefield will destroy approaching Birds on contact. But the Forcefield needs time to regenerate; don't get caught with your Forcefield down. The Birds, from this screen on, seem to regularly volunteer for kamikaze missions when your protective Forcefield is unavailable. At these times, you must avoid the Birds and their bombs. But don't let them trap you at the sides of the screen!

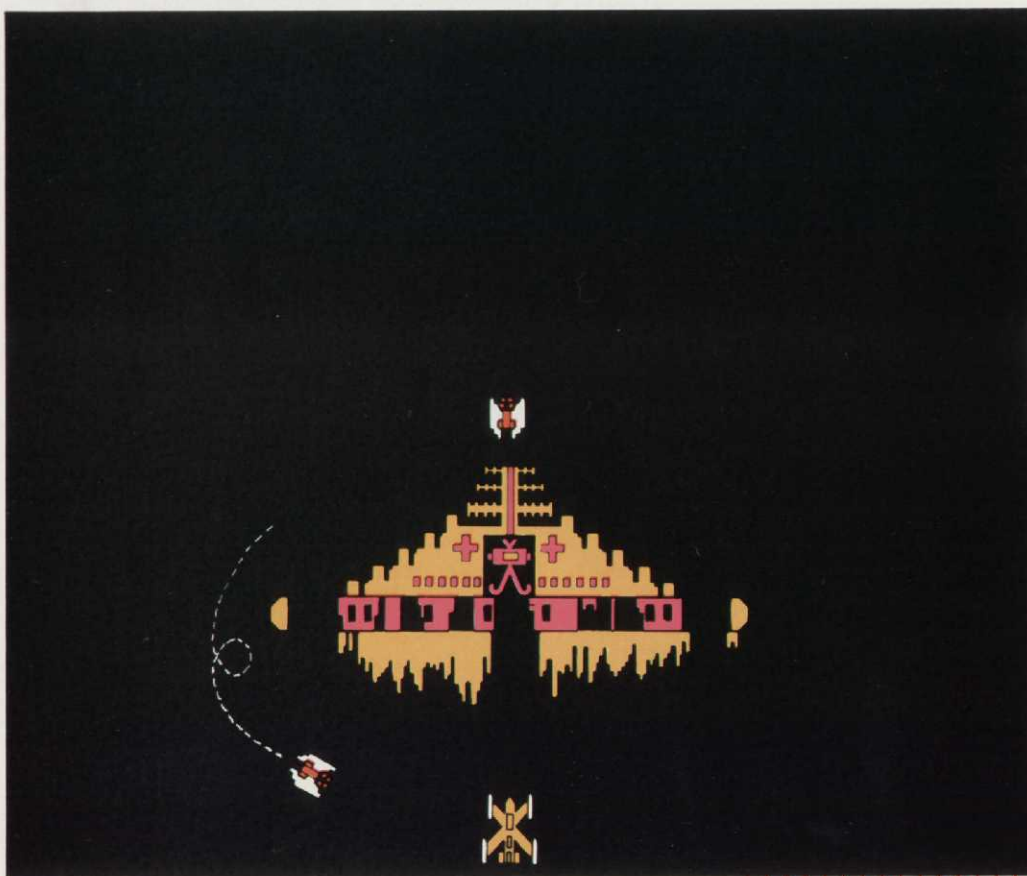




E

E. SPACESHIP STRATEGY: SCREEN FIVE.

Your goal is to clear a path to shoot at the Alien through the Orange Underbelly and the revolving Purple Band. Concentrate first on the Purple Band. It is most easily accessible at the far left and far right of the ship where the protective Orange Underbelly is thinnest. Fire constantly, poking holes in the Purple Band. Shift back and forth to both sides of the ship to avoid the attack of the Warbirds. Warbirds will home in on your position should you stay in one place too long. The Warbirds are worth points and should be picked off whenever possible. These Birds *will* often attempt to crash into you. It's therefore best to kill them when they first appear beneath the ship. You cannot shoot them when they are protected by the Orange Underbelly of the ship.



F. SPACESHIP STRATEGY (CONT'D): SCREEN FIVE.

Since each volley of your shots must hit something before you can shoot again, the most efficient way to wipe out the entire Orange Underbelly is when it is close above you. Let the ship descend a bit before wiping it out—but don't cut it too close. Eliminate the Orange Underbelly with a constant side-to-side motion, avoiding the attack of the Warbirds. Beware of bombs dropped by the Alien. It becomes progressively more difficult to clear the area directly beneath the Alien as you play the Spaceship screen again and again. It will take lightning fast reflexes to sit directly under the Alien for any length of time.

F

THE NEXT VOICE YOU HEAR....

By David and Sandy Small

Arcade games have been going through an evolutionary process very much like that of motion pictures. The first games had only limited sound—doorbell chimes, for instance, were used in pinball machines. These chimes might be compared to subtitles in old motion pictures. Well, motion pictures developed sound, then better-quality sound, and movie producers discovered the visceral emotional impact of sound. Is there anyone in the Western World who can't identify the "dum-dum Dum-dum DUM-DUM" from the movie *Jaws*? That can be compared in effect to the beat in *Space Invaders*, steadily increasing in speed until the defender's hands are shaking, and his or her blood pressure is pounding.

Then movies got Dolby sound. And six tracks. And *Sensurround*—remember how the movie *Earthquake* rattled the movie theaters? Arcade-game manufacturers followed the same evolution. And came up with a winner.

I still remember my first encounter with the Berzerk! machine, and hearing it distinctly say: "Destroy the Humanoid." Yes, arcade-game makers were teaching the games to talk. Now... the people behind the machines had more to offer than stunning visual effects, and gut-wrenching sound effects. Now the machines could talk. And insult. And challenge.

Right now there are two basic means of generating speech. One is speech synthesis. The other is to

digitize human speech, and replay it later. Speech synthesis is an old technique—and crude.

The speech has the same quality as that of a Cylon in *Battlestar Galactica*—a deep, machinelike resonance. This was fine for some arcade games ("Destroy the Humanoid"), but not so good for others. For example, what if you want a female voice?

The manufacturers turned to a newer technique, called digitizing. You'll be hearing this word more and more in a related field, that of record manufacturing. As one quick example, the rock group Fleetwood Mac "digitally mastered" their recent album "Tusk."

To understand digitizing, you must understand how speakers work. When we play a sound over a speaker, the sound is reproduced by the speaker cone moving in and out. That's all, no magic, no mystery—just a speaker cone moving in and out.

Digitizing works by substituting in numbers what was once a direct reproduction of the original sound. Instead of "saving" a direct copy of the speaker's movement, as in records and tapes, it numbers the location of that speaker—every movement 50,000 times a second. Each time—50,000 times a second—we record where the speaker is at that instant. We store this information as numbers (i.e., the speaker is currently in position #9, now it has moved to #45, etc). Then, we'll save the numbers.

Why go to all this trouble? Because the other method of recording suffers from drawbacks. Magnetic tape can be erased, or stretched—it can even break. Records can get dust caught in the grooves, and so on.

But digitized sound suffers from none of these faults. Numbers can't be stretched or get dusty. They're just numbers.

Now here's something arcade designers (thought we'd never get back to them, right?) could really sink their teeth into. Numbers! Why, these people use computers every day. And computers make child's play of numbers. It seemed ideal.

The first, and major, problem was saving those 50,000 digits, per second! We can't scrimp and save less without degrading the quality of the speech that comes out. In fact, this problem, and that of fetching and playing these numbers that fast, have prevented digitizing from inexpensive wide use for quite some time. (Of course, the key word is "inexpensive." The telephone companies have been digitizing speech for years, and sending numbers down the wire rather than actual "voice." At the receiving end, the numbers are converted back to speech. You've been using digitizing for years, and may not have even known.)

Only in the past few years have integrated circuits been marketed that could save the amount of information required to digitize

sounds. It's a *lot* of data, even for a computer. The price had to come down drastically before arcade designers could use them; now, with very high-density chips (called ROMs, for Read-Only-Memories), digitized speech has become very common.

In summary, the digitizing process is something like this. The game designer wants the game to say, "Another creature for my amusement." (Yes, this is a real example; go listen to "Space Fury.") The designer picks up a microphone, and says just that. The microphone is connected to a computer, which samples the voice 50,000 times per second. The computer then writes the numbers, some 300,000 total (six seconds of speech), to ROM chips, and stores them forever.

Arcade games are on the forefront of technology. (Don't think your arcade quarters are going to waste; they are financing one of the greatest computer research and development operations of all time!) What's great is that all this work in the development of "audiovisual experiences," as an Atari public relations person might say, has offshoots that help us in other aspects of our life. Already check-out machines in supermarkets talk, reading off prices. And automobiles are being built that say, "Please check the oil." What's the next step?

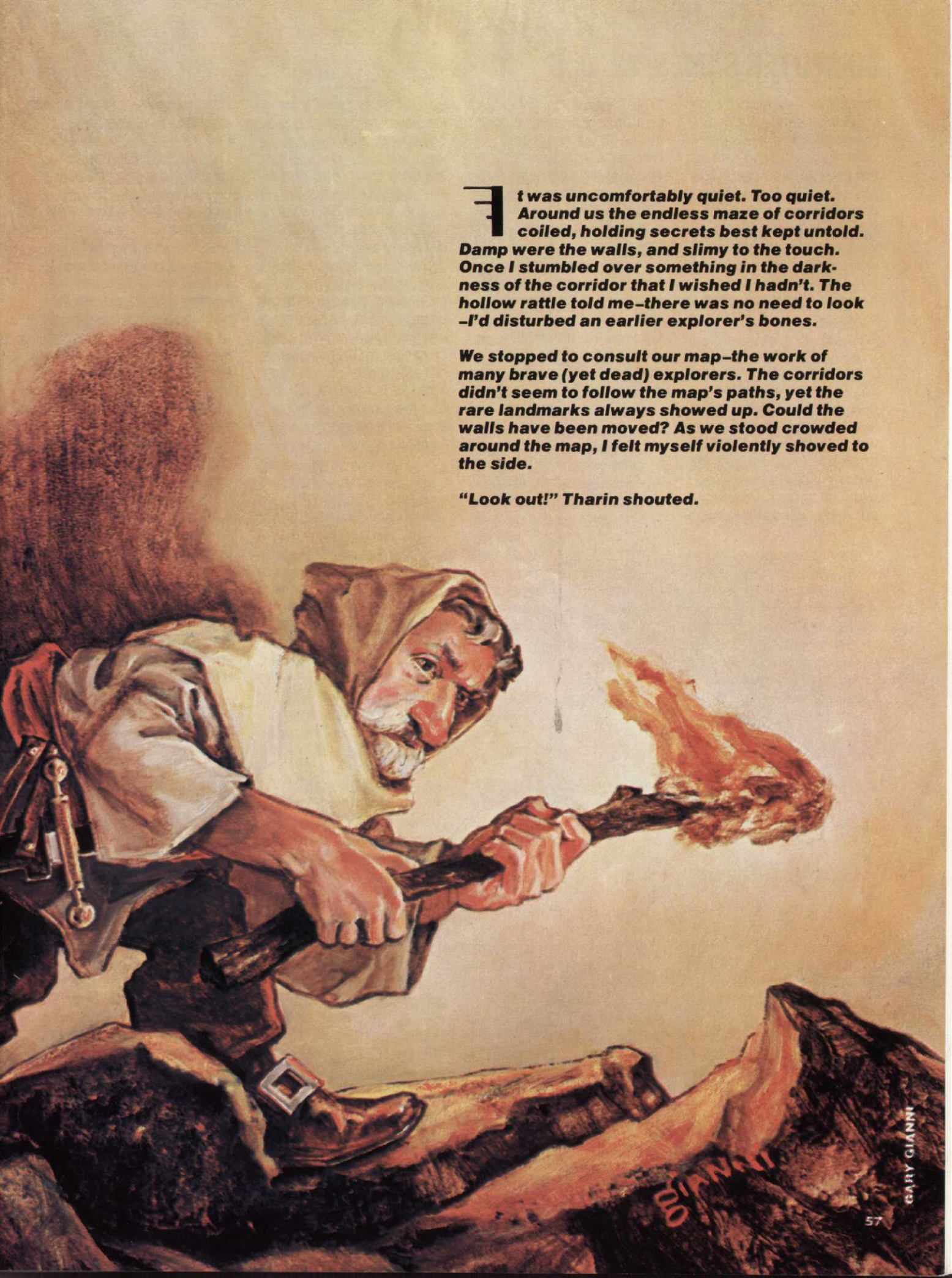
Wait until I tell you about the research being done into artificially producing odors....

COMPUTER GAMES '82

By David and Sandy Small

DnD





It was uncomfortably quiet. Too quiet. Around us the endless maze of corridors coiled, holding secrets best kept untold. Damp were the walls, and slimy to the touch. Once I stumbled over something in the darkness of the corridor that I wished I hadn't. The hollow rattle told me—there was no need to look—I'd disturbed an earlier explorer's bones.

We stopped to consult our map—the work of many brave (yet dead) explorers. The corridors didn't seem to follow the map's paths, yet the rare landmarks always showed up. Could the walls have been moved? As we stood crowded around the map, I felt myself violently shoved to the side.

"Look out!" Tharin shouted.

COMPUTER GAMES '82 DnD

As I picked myself up off the floor, I saw a slimy creature drop from a concealing nook in the roof to the floor where I had been standing. Tharin pulled out an old dagger and slid it into the creature. There was a hissing sound, and when he pulled the dagger out, I saw half the blade rust and dissolve in front of my eyes.

"Rust Mold," he said nonchalantly. He was a tall Elf, Tharin, with golden hair. Although skilled in lore and understanding, he was as uneasy as I in this endless dungeon. Still, the prospect of the treasure drew us further. Despite our fears, we continued on.

We escaped the concealed pits, the trapdoors, the sections of corridor where the roof would collapse at the slightest sound. Cain—our wizard—protected us from many evil spells. As enemies neared us, a red warning glow appeared, and we would wait until Cain had rendered them harmless.

We walked for miles through the maze, cautiously, and then we turned a corner to find—Orcs! We

had surprised them, for they had their weapons sheathed, and they lounged around a sputtering blue fire. (Third class fire spell, naturally). We had no choice but to attack, and attack fast. I drew my sword, which flickered in the darkness, and I hissed with hatred as I attacked. I heard a bow's sharp whistle just before my sword bit into the neck of one Orc. Cain began to rapidly mutter words in a strange language. We slew half the Orc party before they drew weapons and fought.

The memories of the battle are individual, disconnected entities to me. I saw Tharin stumble while retreating, parrying a huge Orc's swordfall. The Orc moved in for the kill with a powerful two-handed sweep. I reached for, grabbed, and threw my knife in one quick motion—hoping that I'd judged the right location in the gloom. I had; a sword rang on the ground as the Orc fell. And finally, Cain's spellbound mutter came to an end. (While wizards are handy, they are nearly useless in battle because of the time it takes to cast a spell). A red orange glow surrounded Cain, grew, and split off from him. It stood seven feet tall, garbed in flaming robes, then strode toward the nearest Orc. Ignoring the repeated stabbings of the Orc, the glow picked the Orc up and threw it into the wall with such force that dust shook from the roof.



With the appearance of Cain's creation, the battle ended. A few Orcs dropped their weapons to run, but Cain's creature—now white hot in its wrath—was swifter still. Soon there was no sound but our breathing. Cain's Shadow was dissolved into nothingness.

"Look", said Alder. He picked up a sack from the ground and emptied it upside down. Gold coins fell out, a few diamonds, and to my surprise, three small silver rings. Immediately, a red glow of warning—the work of Cain's protective spell—glazed above the treasure. Sadly, Alder was too swift to await the counterspell. He picked up a gold coin, heard the sizzle and at the same time smelled his burned flesh. Alder dropped the coin. We were near no fire, yet anything that touched us burned—another common protective Orc spell. Alder's burn wasn't too bad (he had swiftly dropped the coin). I helped him wrap his hand.

We were deep in the Labyrinth now, perhaps deeper than any of its builders had ever been. A feeling of uneasiness hovered over us all. We heard vague voiceless mutterings. And the whole corridor in front of us began to glow neon red. It grew brighter. There was extreme danger ahead. A heavy, deep footfall could be heard, again and again, growing stronger. Cain said, "It is large, and very old; it has great power. I cannot disperse it." We all redrew our weapons.

It heaved into view, a misshaped head, rippling muscles, a large, curved Orc-blade in one hand and

a mace in the other. To our surprise, it spoke: "Go, now, before you are slain. You cannot pass."

We all glanced at each other. Clearly it would bar our way. Dare we fight it?

I looked at the clock. Two A.M. I pressed SYSTEM RESET, turned my Atari machine off, and got up stiffly from the chair I'd been sitting in for the past four hours. I went to bed.

They have arrived in force. They are the super-sophisticated "Dungeon" games for home computers. In just the last year, they have quickly become one dominant force in the home machine market—challenging in sales even the popular arcade-style games.

The games are called "role playing" games. Instead of passively watching someone somewhere do something—as in movies or TV—the user of these games actually directs the character. The user must make decisions, pick up clues, and in general assume the character's role.

It's a wonderful experience. Ever since the first such computer games surfaced, I've found myself addicted. Why? For me, there's nothing as frustrating as watching someone in a given situation (let's say on TV) do something idiotic. Do you, like me, say "No, don't go down into the cellar!"? If so, then get a computerized game. They offer the rare feeling of complete mastery and power. Add to this the ever-present danger (a character can get killed awfully easily) and the prospects for great treasure and reward, and

the game generates even more interest. Finally, unlike arcade games, characters in these fantasy games remain between sessions. The relevant facts about the situation and the character are stored and can be recalled anytime the user wants to play—even weeks later.

If you don't have the initial capital for a computer—or if you want to test your interests—most cities have stores with rental options. For example, there's a computer store here in Austin that rents out time on their store computers. Each night the place is crammed with people playing some of the more popular Apple fantasy games, such as Wizardry, Ultima, and the Sword Thrust series. The store even keeps your personal disks in a special place for repeat or continued use. (I can remember staying up night after night playing Moria and Labyrinth—my favorite dungeon games—on the PLATO computer system.)

*Perhaps the whole genre of these games—now just reaching the home market (and selling like mad—10,000 copies of Wizardry in a year)—is derived from two sources. The first is a game called Adventure, which is to computer role-playing games what *The Lord of the Rings* was to the publishing industry. In Adventure, a character was directed by the user around the Colossal Cave, a place of many dangers and treasures. With two-word commands ("Get Water"... "Drop Emerald") the players would try to work their way through the Cave. It was an extreme success and similar versions are on*

most of the computer systems I've seen—including the home machines. The second force was the whole "Dungeons and Dragons" movement, started by TSR (it's their trademark), where several people would get together to explore a hideously dangerous—yet very lucrative—area designed by the Dungeon Master (who is more or less the diety of the area). DnD groups are in all major cities across the country. And they have a lot of the same attributes as the computer games—for instance, a character is saved between sessions. Many players have several versions available, a kind of fun, schizoid approach.

Look for more and more fantasy games. Look for them to become more sophisticated, allowing the user increasing choices. And look for the people who design them to make them even more fun, lifelike, and exciting to play. It's the coming thing.

So put away your starship. Quit blowing up space rocks over and over. Stop defending the cities from the nuclear attack. Pick up a sword, a little spell-knowledge, and come with us to explore the Labyrinth.

I noticed a small section of the wall was dry, instead of damp, and seemed worn smooth. I pressed into it. The section of corridor that the Guardian was standing on, blocking us, fell away, as did the creature. I quit pressing and the floor snapped back up, trapping the Guardian below. We could hear his blows thudding into the floor as we hurried across it toward the glow from the gold and diamonds in the distance.

HOME VIDEO

THE NEW VIDEO GAMES: IMITATIONS OR INNOVATIONS?

By Phil Wiswell

At the press conference opening the 1982 Toy Fair in New York, Bernard Loomis—chairman of Toy Manufacturers of America, Inc.—told his audience that video games were a major reason for the toy industry's sales increase (18.5% last year). "Video games," he said, "carrying the highest ticket prices in the industry, sold very well despite the weak economy."

We can draw two conclusions already. First, video games are firmly entrenched in the popular culture. Second, there is room for more than a handful of giants in the video-games business, and this year will bring a blitzkrieg of new games and companies.

At the 1982 Winter Consumer Electronics Show in Las Vegas, Mattel announced a voice synthesis module called Intellivoice (\$100). The module is impressive, adding male and female voices to three special new game cartridges—Space Spartans, B-17 Bomber, and Bomb Squad—that would be popular without the addition of speech. The module has three functions: to introduce the game, to warn of dangers, and cheer winners.

Mattel also introduced 12 other new video games at the show. The graphics of Star Strike are stunning, as the player's jet fighter tries to maneuver a few hundred feet above the bottom of a narrow canyon, on the

sides of which the aliens have dug in for battle. Frog Bog is a very innovative game, designed for youngsters. Two frogs, one for each player, are sitting on their lily pads. The object is to catch dragonflies as they buzz overhead. The 10 other new games all make use of Mattel's excellent graphics. And several are spacewar games developed to compete with Atari's classics, like Space Invaders and Asteroids.

How has Atari reacted to all the hoopla surrounding Intellivision? By sending their engineers back to the drawing boards to design the (tentatively titled) Atari Video System X, also introduced at the Consumer Electronics Show. This new, more powerful console—listing for \$329.95—will compete head-on with Intellivision. In fact, much of Intellivision's advanced design is reflected in the System X, such as a pause button and a to-be-announced voice chip that will add speech to the games.

The initial software planned for the Atari Video System X includes Super Breakout, Space Invaders, Missile Command, Galaxian, Star Raiders, Asteroids, Baseball, Football, and Soccer. All of these are simply upgraded, improved cartridges from Atari's V.C.S. library of more than 50 games. These new

games play well, but are too familiar to be the proof of the pudding. It remains to be seen what new directions this System X will take.



Atari Video System X

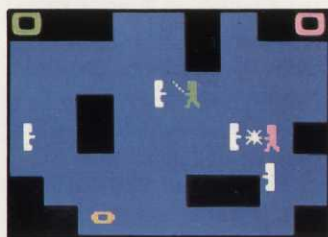
The only console competitively priced with the System X and Intellivision is the Astro Arcade (formerly the Bally Professional Arcade), sold by Astrovision for \$299.95. It has excellent graphics and animation and comes with four built-in games. Unfortunately, an outdated line of software has left it dead in the water. At the Toy Fair, Astrovision introduced nine new games (from \$24.95 to \$34.95), bringing the total close to that of the Atari V.C.S.

One of the nine new games is called Wizard, based on the popular arcade game Wizard of Wor—and designed by the same team of engineers. It is a very good cooperative two-player game, each player having to guard the other, sometimes back to back, as they try to descend through increasingly difficult levels of a dungeon. Solar Conqueror is similar in concept to Asteroids, and Cosmic



Star Strike/Intellivision

Raiders plays a lot like Defender. But Coloring Book With Light Pen and Music Maker are truly original, unusual, and highly entertaining video cartridges that let you doodle with graphics and sounds under creative formats.



**Quest For The Rings/
Odyssey²**

NAPCEC's Odyssey² video-game system (\$199.95) includes a type-writer keyboard. This feature has allowed the engineers to develop a unique Master Strategy Series of games for each using a plastic overlay on the keyboard. The first offering in the series is the Quest For The Rings, an innovative concept combining a mapboard, tokens, and game pieces with the video screen. Two players must act as partners in a search for the hidden ten Rings of Power, which might be at any of 23 castle locations shown on the mapboard. The second game in the series is Conquest Of The World, a Risk-like game of global war, and more historical battles are planned.



**Conquest Of The World/
Odyssey²**

Activision, the first company to produce game cartridges for another company's console, may be partly responsible for the plethora of new games displayed at Toy Fair. Two years ago, Activision began producing and selling cartridges for use with Atari's V.C.S. After several lawsuits, everything has been settled between the two companies. The legal thinking compares video games with the recording industry—anyone should be free to produce software that is compatible with someone else's hardware.



Barnstorming/Activision

The reason for Activision's success—they have released 15 cartridges so far—is that the game designers (four out of five are Atari veterans) are innovators rather than imitators. Their games compliment, rather than directly compete with, Atari's line of software. The newest releases—Stampede and Barnstorming—are original design concepts. In Stampede, for example, the player controls a cowboy on horseback whose object is to ride herd on a bunch of stubborn cattle that are roped in and thus gain points. The games are cute.

A few months before Atari and Activision finally settled

the litigation, two people from Atari and two from Mattel joined forces as Imagic, Inc.—the first company with cartridges planned for both Atari's and Mattel's systems. The first three cartridges—Demon Attack, Star Voyager, and Trick Shots—are all for the Atari system. But the next three, slated for release this summer, will be for Intellivision.

Demon Attack is good and Star Voyager is okay, but neither represents a new wave in video games. In Demon Attack, the player fights off wave after wave of birdlike creatures using a cannon at the bottom of the screen; and Star Voyager is much like Atari's Star Raiders and Mattel's Space Battle, though not nearly as involving. Trick Shot is different. It's the only billiards game on the market that works nicely. One game gives you 14 different trick shots—all of which can be made in an actual game of pool—to perform. Another game is English Billiards, a unique offering.

Attention Luke Skywalker: the empire is going to strike back again . . . and again . . . as Parker Brothers premiered The Empire Strikes Back game cartridge for the Atari V.C.S. at the Toy Fair. Having licensed the name and theme of the game from Lucasfilm, Ltd., Parker could probably have sold the game even if it wasn't any good. But it is! The player controls the fighter plane that must attack the giant Imperial Walkers (remember those enormous

mechanical camels?) who can spit laser fire faster than a player can yell "Star Wars!" Unlike other shoot-em-ups, the Imperial Walkers must be hit 48 times before they are weak enough to die.

Coleco, the Connecticut-based manufacturer of above-ground swimming pools and electronic games, has also entered the video-game business. They plan seven cartridges for Atari and nine for Intellivision. All of the games—Donkey Kong, Venture, Cosmic Avenger, Mouse Trap, Lady Bug, Carnival, Smurf, Zaxxon, and Turbo—carry the same name as the successful arcade games on which they are based. If you know these arcade games, you'll realize there is nothing original in Coleco's design, except that the programs are packed in smaller chips.

So there you have it. . . more video games than you can shake a joystick at. The flurry of new games that will reach the stores in time for this Christmas season will make it more difficult than ever to make a choice. But the competition will also create a buyer's market, and we can expect to see some systems and games discounted. Even at bargain prices, however, a video game is not cheap. So don't make a purchase based on an artist's rendition of the game. After all, in this "fancy, frilly, you-gotta-have-a-gimmick world" only some of the gimmicks are worth a second play.

TECHNOCRACY

© 1982
Walt Disney Productions



DISNEY'S TRON

TRON: THE MOVIE

Picture, if you dare, a world "where energy lives and breathes, where laws of logic are defied, where an electronic civilization thrives." That is the world of *Tron*, a blockbuster movie from Walt Disney Productions. It opens in theaters across America on July 9. The futuristic adventure, which can be compared to a video game on film, stars Jeff Bridges. It is set in a world never before seen in motion pictures.

The movie combines two worlds: the real world—the land of flesh and blood—where a single program controls a huge computer system in a communications conglomerate; and the electronic world, where electric-and-light beings fiendishly plot to overthrow the program that controls them.

COMPUTER-GENERATED IMAGES

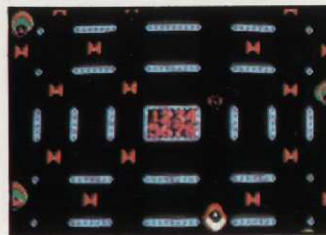
In the mid-1960's aerospace and scientific researchers first began using computer graphics to simulate objects digitally. The futuristic technology is now being applied in the entertainment field (see Small's article on digitizing voice in the arcades, on p. 55). In *Tron*, Walt Disney Productions pioneers a new film-making technique: combining computer-generated images with special techniques in live-action photography. The live action against a computer-generated background promises to be spectacular.

A representative for Mathematics Applications Group, Inc. (MAGI) told *JoyStik* how the electronic settings were generated for the film: "We describe to the computer—mathematically—a three-dimensional environment (including buildings, vehicles, landscapes) in which the live-action characters can appear. In addition, we describe camera angles and light sources. We then instruct the computer to generate the picture."

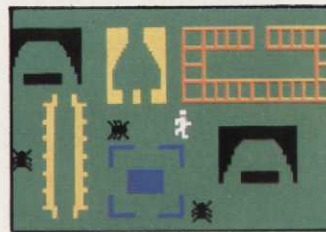
Several films, including *Star Wars* and *Looker* have incorporated computer imagery; *Tron* is the first film which uses the technique to create a three-dimensional world.

TRON GAMES

Midway Manufacturing Co. has created a *Tron* video game that debuted in a national tournament. Finals were held in New York City. The game will also be found in 240 Aladdin's Castle arcades, theater lobbies, and—most likely—your favorite arcade.



MIDWAY'S TRON



MATTEL'S TRON

Also, watch for Mattel's Intellivision *Tron* cartridge. If Mattel utilizes their graphics to top potential, the game should be as 3D as the movie. Tomy Electronics is manufacturing a hand-held *Tron* game. Look for it in stores beginning in July.

MORE PAC-MANIA

Make way, Mickey Mouse and Snoopy! The Pac-Man Phone is coming. American Telecommunications Corporation (ATC), which makes the Mickey Mouse and Snoopy telephones, recently unveiled the Yellow Callers at the 1982 Consumer Electronics Show in Chicago. Look for the Yellow Fellow Phone, which features push-button dialing and automatic redial of last number called, at phone stores in September. You can expect to pay about \$60 for a gobble to gab on.



ATC'S PAC-PHONE

Other Pac-Man items that you'll be seeing before Christmas include: ice skates, watches, waste baskets, lamps, air fresheners, suspenders, socks, ashtrays, yo-yos, recipe boxes, Halloween costumes, radios, toothbrushes, cigarette lighters, and more.



TOMY'S TRON

© 1982
Walt Disney Productions



COMPUTER ENVIRONMENT

JOYSTIK CHARTS

Player's Choice: Juraszek



If Steve Juraszek's picture looks familiar, maybe it's because you saw the young man in *Time* magazine's January 18, 1982 issue. Steve's record-breaking Defender game (15,936,100 points) was the central piece around which *Time* built its cover story. The sixteen-year-old high school student from Glendale Heights, Illinois, recently revealed to *JoyStik* his five favorite arcade games.

Game and Manufacturer	Top Score	Comments
1. DEFENDER Williams	15,936,100	"Defender is probably the most challenging game, and it's the one with the most controls. Also, I like the fact that no two games of Defender are ever the same."
2. TURBO Sega/Gremlin	48,000	"The graphics are great in Turbo. You drive through cities, tunnels, snow, and waterways."
3. CENTIPEDE Atari	68,000	"I like Centipede's trakball because it's easier to maneuver than a joystick."
4. TEMPEST Atari	180,000	"I like all the different colors in Tempest. This game has rapid-fire action, and a 'super zapper' that can destroy everything."
5. STARGATE Williams	300,000	"This game has many options. It's almost harder than driving a car because there are so many decisions to make quickly."

Editor's Choice: Williams

High scores are for the young with the reflexes and the stamina to keep at it. My idea of a fun game features miraculous escapes from tight situations—which are common in Robotron—or showboating on Donkey Kong with clever sleight of joystick and jump button. I prefer to be a jack-of-all-machines rather than a master of any one particular game. The five top games listed are those I enjoy playing the most.

Game and Manufacturer	Top Score	Comments
1. ROBOTRON Williams	149,000	"I like being constantly on the offensive, facing ever more devious combinations of opponents on wave after wave."
2. DONKEY KONG Nintendo	110,000	"The strategies learned in, <i>How to Win at Donkey Kong</i> by the Editors of Consumer Guide, have increased my scores dramatically. The animation is entrancing."
3. CENTIPEDE Atari	55,000	"The trakball is a welcome relief from the pains of joystick-elbows. My scores are not high, but it is always an enjoyable game."
4. QIX Taito	89,000	"There is no other game like Qix. The audio is grating and annoying, but the visuals are pleasing."
5. PHOENIX Centuri	48,000	"The audio and visuals combine to make Phoenix a wonderful game to play."

Walt Day is a pioneer in the research and verification of high video-game scores. All of the games listed here are arcade games. Mr. Day is affiliated with Twin Galaxies Entertainment Centers. Look for more high scores in future issues.

Game	Player	High Score	Date (all 1982)	Arcade Location
Alpine Ski	Randy Hansen	174,000	5-7	Bun n' Games: Racine, WI
Armor Attack (Doubles)	Derek Davis, Ernest Mitchell	2,257,850	4-2, 4-3	Scoop's Ice Cream Parlor: Stillwater, OK
Battlezone	Mike Johnson	5,899,000	4-3	P.J.'s: Lakewood, CA
Bosconian	Gary Splawn	185,000	4-27	Mini Golf n' Games: Gastonia, NC
Centipede	Joesoef Rijanto	4,421,232	4-7	Capt. Video: Los Angeles, CA
Defender	Rick Smith	33,013,200	4-3, 4-4	Odyssey Arcade: Mission Viejo, CA
Donkey Kong	Leo Daniels	398,000	4-20	Light Years Amusement: Kerry Beach, NC
Galaga	David Marcotte	4,314,000	5-5	Johnny Mack's: Seminole, FL
Kickman	Nick Farley	4,642,920	3-19	Zthee King's Corner: Colorado Springs, CO
Make Trax	Walter Day	1,508,310	3-20	Twin Galaxies: Ottumwa, IA
Missile Command	Roy Schildt	60,220,510	4-6, 4-8	Capt. Video: Los Angeles, CA
Mousetrap	Briggs Miller	30,314,000	4-25	Central Video: Dunkirk, NY
Ms. Pac-Man	Rick Greenwasser	130,300	5-10	Twin Galaxies: Kirksville, MO
Omega Race	Rick Klin	600,700	5-10	Fun n' Games: Hamilton, MT
Qix	Ben Goldberg	359,556	5-5	Silver Ball: Berkeley, CA
Pac-Man	Paul Pedriani	5,579,350	4-3	P.J.'s: Lakewood, CA
Space Fury	Loren Hawkinson	222,590	4-18	Fun n' Games: Hamilton, MT
Space Invaders	Matt Brass	150,880	4-3	Twin Galaxies: Kirksville, MO
Stargate	Anthony J. Scott	15,926,075	5-9	The Good Earth: New Orleans, LA
Tempest	Tim Shea	828,453	4-23	Starcastle: Smithfield, RI
Thief	Eileen Ramsey	741,000	4-27	Bun n' Games: Kenosha, WI

NEXT...

Here's just one of the many features you can expect in the next issue of JoyStik.

The Conveyor Belt is a difficult pattern to master in Donkey Kong. Your major obstacle is movement: You must learn how to run against the grain, so to speak. If you run in the direction that a Conveyor Belt is moving, you go twice as fast. If you run against a Conveyor Belt's direction, your progress is twice as slow. The pattern below is a simple guide. It's most important to get to the top quickly, for two good reasons (1) your bonus will be higher and (2) more Foxfires are released as your Bonus score diminishes. One important tip: Unlike the Ziggurat Pattern, Foxfires enter, this time, on the side Jumpman is on.

Point 1. Move to this point and stop. Do not grab the Telephone. Wait for all the Foxfires to come out on the left-hand side of the screen (three on L=3; four on L=4; five on L=5). Once they've entered, resume the pattern, grabbing the phone.

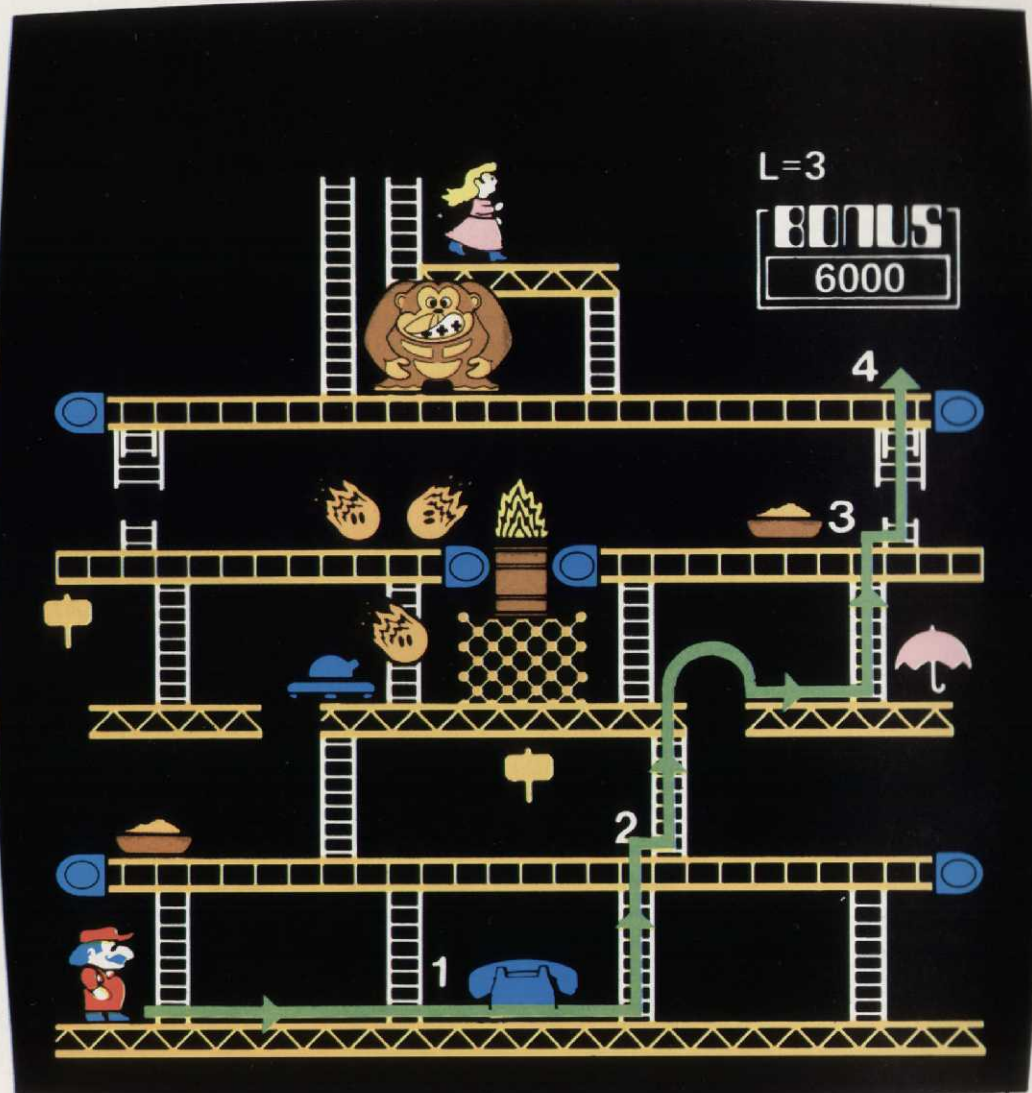
Point 2. Make sure a Foxfire isn't coming down the Ladder. If it is, you'll have to get the Hammer and kill it. If it isn't, don't worry about the Hammer.

Point 3. When you reach this point, you'll probably have to jump a Cement Tub or two. You can do it. Although you move forward slowly on this Conveyor Belt, you can still jump as far. Plan a jump that will

place you at the bottom of the Ladder.

Point 4. Get on the Ladder and climb it to the top. Prepare for a new screen.

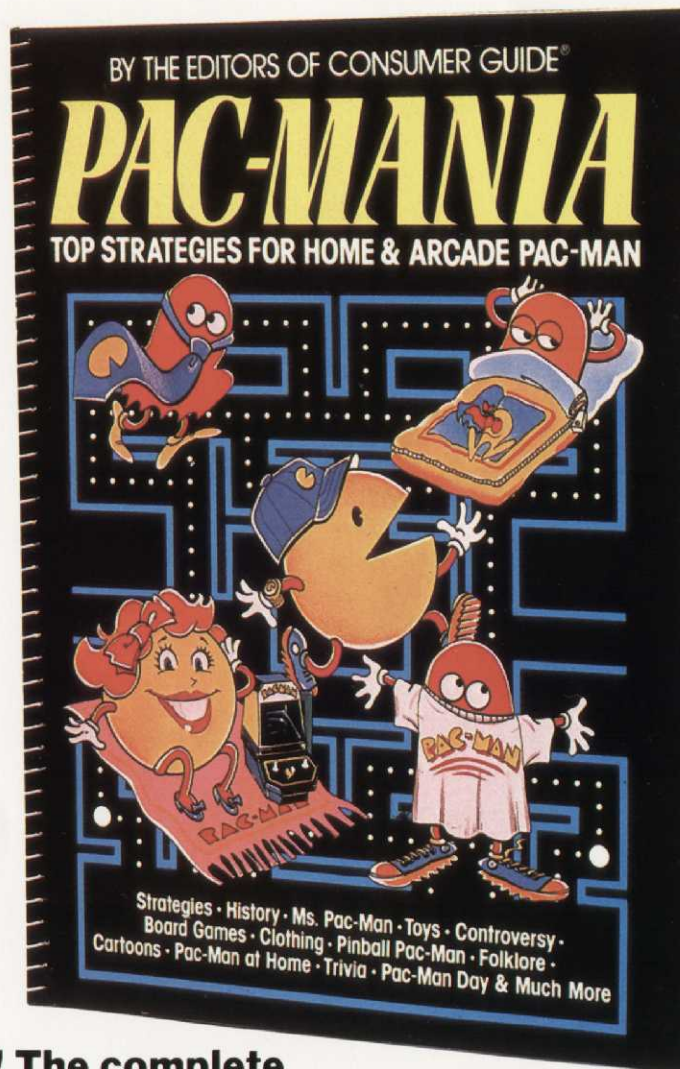
To learn how to get to this Conveyor Belt Screen—and beyond—make sure to pick up our next issue.



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Your reaction to JoyStik is vital—be it hate mail or strategy, comment or exposition. Let us know what you think. Send letters to:

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