Are You Ready For The Total Gaming Experience?
FLYING HIGH WITH THE NAVY

The Complete Guide to Pac-Merchandise

GAMING AND THE HANDICAPPED: Videogames Light Up Their Lives

Secrets of Joysticks—REVEALED!
So you think you can beat every game made for your Intellivision® system, huh?
Well, so did Billy Grubb up there.
Until he played IMAGIC'S® new games for Intellivision—the first games ever to unleash the enormous power locked away in every Intellivision system.

First, Bill played Demon Attack®. Wave after wave of deadly demons bombarded Bill with lasers. The tricky demons split in two, even let loose with a few fireballs. But somehow Bill managed to wipe them out and take off into space searching for the demons' home base.

Unfortunately for little Billy, he found it.
Next, Bill gave Atlantis a shot. The Gorgon attack vessels filled the skies above the underwater city of Atlantis. Bill fought back from his two missile posts. As night fell, and the Gorgon death rays took their toll, Bill launched his starfighter and attacked the enemy head-on in the air.
But little Billy was no match for the fierce Gorgon warriors. No match for IMAGIC.
By now, Billy was feeling a little sick. He was ready for Microsurgeon. Using a surgical robot probe, Bill began exploratory surgery on the
patient. The status report warned of serious problems in the heart and lungs. Bill raced down the circulatory system fighting white blood cells and bacteria all the way.

The beating of his patient's heart was deafening as Bill raced against the clock to remove the cholesterol blocking the arteries. Then the beating stopped.

And so did Billy.

Next, Bill grabbed for Beauty & the Beast. "This'll be easy," he said with his last glimmer of cockiness.

It wasn't.

After climbing up a building through dozens of open windows, jumping over rolling boulders, narrowly avoiding vicious rats, and ducking under deadly birds, Bill was still four stories away from the beast that was bullying his best girl. Then he fell off the ledge.

Bye-bye, Billlllllllllll!!!!

Let this be a warning to all you cocky, know-it-all, self-proclaimed video game wizards out there:

Laboratory tests have proven that IMAGIC games, when played in large doses, may be hazardous to your self-esteem and cause chronic Hugedigitosis (sore thumb).

In other words, our games are created by experts for experts.
FEATURES

Arcade action games, adventures, sports simulations and many, many more. Budding computer gamers can read about this year's super software in the

PLAYERS GUIDE TO COMPUTER GAMES

Want to try the ultimate in video-games? Climb into the cockpit of the LAMPS helicopter simulator and you'll be...

FLYING HIGH WITH THE NAVY

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GAMING & THE HANDICAPPED

Everyone loves electronic games, but they actually offer some folks a new lease on life. Read the good news about our hobby:

A good joystick practically becomes an extension of the player when the action gets hot, but hand controllers
are just enigmatic "black boxes" until you've read:

HOW JOYSTICKS WORK

You can get the gallant gobbler on everything from an ice pop to a pendant:

A GUIDE TO PAC-MERCHANDISING

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3-D REALISM THAT'S UNREAL.
THE CHALLENGE OF NEXAR™

Beyond galaxies known to man, beyond time as we perceive it, lies the source of intergalactic power. In a remote corner of the universe, future SPECTRA WARRIORS are trained for the conquest to come. To meet the CHALLENGE OF NEXAR™.

As you enter the mesmerizing Warp of NEXAR™, you are drawn into a zone that no man has ever conquered. Radioactive beacons guide you to an area where the next level of challenge awaits you. Your mission is to penetrate the warp zone, destroy as many ships as possible, and return to base. Your fuel and time are limited. The clock ticks away as you move, and the power meter drains. You are racing against time as you try to overcome the next wave of attacks.

To become a Full Fledge SPECTRA WARRIOR, you must survive wave after wave of attacks—99 levels to be exact. Those who can go beyond will receive their due recognition and earn their place in the LEAGION OF THE CHOSEN. Come, join the elite group and meet the Challenge of NEXAR™.

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The Surgeon General Says...

By ARNIE KATZ

Video games may be hazardous to our nation's youth, says United States Surgeon General, Dr. C. Everett Koop. Admitting that he has absolutely no scientific evidence whatsoever to support this brazen statement, Dr. Koop adds the good news that many young people in this country are already addicted to the games "body and soul". And, no, he has no proof to support that allegation, either.

Like many other Americans, I have always looked to the office of the Surgeon General for guidance on matters relating to public health. This is what makes Dr. Koop's entirely unsupported and undocumented attack on the hobby of electronic gaming, a leisure time activity now enjoyed by nearly 80 million Americans, even more disturbing and hard to swallow.

If video games represent such a potential danger, Dr. Koop, perhaps you'd better tell...

*Quadraplegics on the West Coast for whom video games represent a ray of sunshine in what can, at times, be a nightmarish existence.
*Children with learning disabilities in upstate New York, where playing video games is proving valuable in helping youngsters to overcome the life-stunting, and often embarrassing, handicap of dyslexia.
*Senior citizens in Michigan, for whom sessions of videogaming are a means toward overcoming the feelings of insecurity and inadequacy that sometimes accompany the onset of advancing years.
...And, of course, all the people from coast to coast who are honing their mental and physical abilities to a new level of keenness thanks to the bracing challenge supplied by all forms of electronic games.

"Addiction" is an emotionally loaded and highly charged word in our society. It conjures up lurid visions of helpless zombies groveling in the gutter until they can summon enough strength to mug an old woman for her welfare check. The use of this word to describe the enthusiasm which millions feel for these games, without offering one bit of scientific verification to back it up is irresponsible and inflammatory, to say the least.

The idea that videogamers are addicts is simply not supported by the well-established facts of the situation. Readership polls conducted on a monthly basis by Electronic Games since the inception of the magazine shows electronic gaming fans spend about an average of six hours a week enjoying the hobby. Remember, EG's readers represent the most involved segment of the game-playing public. Since hard-core gamers are devoting such a moderate amount of time to the hobby, does it really seem likely that the rank and file arcade-r would spend much more time than this with a joystick? From where I sit, that sure sounds a long way from Dr. Koop's "addiction". The Surgeon General should be providing facts, not creating hysteria. The unreasonable and unprovoked attack on electronic gaming, which has an unparalleled record of safety over the last decade, is the latest example of what is proving to be an unwelcome governmental trend.

Continued on page 102
IT'S ONE HOME VIDEO GAME YOU CAN REALLY GET INTO.

Inside Reactor, you fry nutrinos! Bounce positron clusters! Knock out control rods! Shrink the reactor core! Drop decoys! Load the bonus chambers! But most of all, avoid the dreaded vortex! It's one game that demands everything you've got. And gets it.

Reactor. Parker Brothers' version of the intense arcade game. You can't help but get into it. For your Atari Video Computer System™ or Sears Video Arcade™.

*PARKER BROTHERS The ones to beat.*
ELECTRONIC GAMES HOTLINE

PICK AXE PETE PICK-OFF PICKS CHAMP PICKER

The Pick Axe Pete Pick-Off, sponsored by Odyssey, was held to locate the best player of the popular Odyssey climbing game.

Five finalists won trips for themselves and a guest to the World's Fair in Knoxville, TN, for the finals. A gutsy 10-year-old arcader named Tony Scardigno copped a pound of gold, worth more than $6,000 while proving himself world's champion picker. The crowd-pleasing event helped swell Fair attendance to a single-day record of over 110,000.

Tony wasn't sure what he'd like to do with the cash, but said he hoped to take "about an ounce" to buy some videogames, and put the rest away for college.

Hoping to qualify for the two-night trip to the World's Fair and the chance to play for a pound of gold, over 10,000 Odyssey owners sent in photos of their top scores and anxiously awaited results.

The country's top players, each qualifying with more than 9,000 points were: Jodi Schumacher and her brother, Bryan, from Trenton, OH; George Floyd, from Rogersville, TN, Mike McKim, from Alexander, AK, and Tony Scardigno, from Weehawken, NJ.

EG editors Arnie Katz, Bill Kunkel and Joyce Worley judged the Pick Axe Pete Pick-Off, with Katz MCing, while Kunkel added color commentary and strategy hints right down to the conclusion.

(Above) The five finalists pose together for a pre-tournament photo. Tony Scardigno (below) shows his championship form with the joystick.

TEAMWORK COUNTS AT WILLIAMS

Williams' new coin-op videogame, Joust, allows two players to challenge each other or work together against the unknown forces of a mythological world.

Players fly on an ostrich or stork and attempt to unglue enemy riders astride buzzards. Those gamers able to conquer, turn the enemy into an egg that hatches into an even more dangerous pterodactyl, unless the arcader picks up the egg first.

Later, fire destroys the landing ledge and a lava troll grabs anything flying over its den. Each new wave brings new strategic decisions, particularly about whether to team together or go against one another.
"THE MOST UNIQUE TWIST ON THE MAZE CHASE IDEA SINCE THE ORIGINAL PAC MAN."
BILL KUNKEL, EXECUTIVE EDITOR, ELECTRONIC GAMES MAGAZINE

"CHALLENGING PATTERNS, DELIGHTFUL GRAPHICS AND WILDLY CHOMPING TEETH MAKE JAWBREAKER ONE OF THE MOST ENTERTAINING ‘EAT-EM-UP’ GAMES." JEFF ROVIN, EDITOR IN CHIEF, VIDEOGAMING ILLUSTRATED

"JAWBREAKER RIVETS YOUR EYES TO THE SCREEN. IT’S ADDICTING." RAYMOND DIMETROSKY, ELECTRONIC FUN MAGAZINE

THE EXPERTS HAVE ONE WORD FOR JAWBREAKER.™
"GREAT."

When editors and writers with leading video game magazines start piling praise on a new video game, it really means something. Because these are the people who see them all and play them all.

And they see some very exciting things in the new Jawbreaker video game. Bill Kunkle, for instance, calls Jawbreaker, designed by John Harris, "The most unique twist on the Maze Chase idea since the original Pac Man".

When the game starts,

you're loose in a candy factory, getting your choppers on every bar of candy in sight. But watch out for the happy faces. They're after you. Swallow the vitamin pill and for a few moments you can eat the happy faces. Eat up all the candy bars and a tooth brush cleans your teeth.

So take it from the experts. For the kind of fun and excitement you'll really eat up, Jawbreaker has what it takes. Get your hands on that joystick and you may never let go.

For use with the Atari® Video Computer System™

TIGERVISION®

Division of Tiger Electronic Toys, Inc.
999 Orchard, Mundelein, Illinois 60060, Telephone, (312) 949-8100.

Jawbreaker—Trademark of Sierra On-Line, Inc.

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**STRATEGO SUMMIT HELD**
Milton Bradley sponsored an unusual promotional undertaking in New York City to honor their latest release, Electronic Stratego.

Look-alikes for Ronnie Reagan and Soviet Premier Brezhnev were police escorted in big black limousines to the steps of the Public Library at 5th Avenue and 42nd Street, as the band played "Hail to the Chief".

The guys played a round of MB's new Electronic Stratego boardgame, giving many New Yorkers a chance to peek in at the action. The outcome will have little effect on the world situation, since the two players played to a tie.

**HOUSTON HOSTS ASTROSMASH SHOOT OFF**
The Astrosmash shoot off, themed "Sports in Space", brought top arcadees to Houston, TX, after nearly 12,000 entrants submitted score verified photos of their TV screens as applications. The competition lasted five months and involved 72 finalists, each of whom were allowed to take one guest on the three-day trip to Houston, courtesy of Mattel.

Manuel Rodriguez, from Stockton, CA scored a winning 835,180 points in one hour of play and pocketed $25,000 in prize money.

Charles Tappan from Elmira, NY copped second place by scoring 828,560, winning $12,500 for his troubles while 3rd and 4th placers received prizes of $10,000 and 5th through 8th rankers earned $5000.

Eight additional regional winners received 1983 Intellivision products, bringing the total jackpot in cash and prizes to $100,000.

**ATARI BRINGS E.T. HOME**
Atari has just scored the coin-op and home rights to the videogame versions of that blockbuster hit movie, "E.T.". The film's director, Steve Spielberg, will work closely with Atari on the design, content, and execution of the game, but this shouldn't prove too grueling a task for Spielberg, a self-confessed videogame fanatic.

This news, along with the Atari/Lucasfilm connection, puts Atari on top with regard to film-based videogames.

**11-YEAR OLD TRIUMPHS AT MONOPOLY**
The New York City Monopoly champ who forced noted industrialist Howard Samuels into bankruptcy, as well as humiliating Boston Celtic President Red Auerbach and Met star Rusty Staub was none other than an 11-year old whiz named Paul Bosco. Bosco accumulated $13,000 in assets in a final 90-minute round of competition against the three bruisers, in a contest sponsored by Parker Brothers.

The head-to-head play-off promoted the new electronic Monopoly Playmaster, which enhances the game with sounds and visual effects while managing dice rolls, property trading and bank loans.
MATCH WITS WITH THE MINDMASTER.

But Be Warned! The Supercharger™ Gives the MindMaster an Unfair Advantage.

Escape from the MindMaster™ is the newest Supercharger™ game from Starpath.™ And it uses all the extra game playing power that the Supercharger™ gives your Atari® Video Computer System.™ For the most exciting, most challenging action you’ve ever encountered.

Starpath™ Supercharger™ games come on economical cassette tapes, they cost much less than a single conventional game. (Supercharger™ must be purchased separately.)

Take on the MindMaster today. But prepare to be humbled.

For store locations, call:
(800) 227-6703 outside CA
(800) 632-7979 inside CA

The exclusive Multi Load™ feature takes you through seven unique game scenes — each with its own action and graphics — the equivalent of several conventional game cartridges. It’s like getting an LP instead of a 45. But since Escape from the MindMaster™ and all
Photos of readers’ best scores are really pouring into the offices of Electronic Games, and the competition among the land’s arcade aces is even keener than expected. There are plenty of top players out there, and the rankings listed here show that they’re hitting the joystick hot and heavy in a bid for national recognition.

The scores tabulated here reflect the first group of games which the editors of EG selected to kick off this continuing compilation of home videogaming records. We'll be adding more games and updating their scores each month, a few at a time, until we're covering most of what’s hot.

To have your gaming achievements recognized in the National Arcade Scoreboard, all you’ve got to do is follow a few simple rules:

1. Every score must be accompanied by a photograph of the TV screen showing the score. These photos do not have to be of publishable quality, just readable by our judges.
2. All photographs received become the property of Electronic Games and none can be returned.
3. Be sure to include your complete name and address. (We will print only the name and city in the magazine, but we may want to contact high scorers for helpful gaming hints.)

Games currently eligible for the National Arcade Scoreboard are:

★ UFO (Odyssey) — Game #1
★ Asteroids (Atari VCS) — Game #6
★ Grand Prix (Activision) — Course #4
★ USAC Auto Racing (Mattel) — Course #1
★ Spacechase (Apollo) — Game #1
★ Defender (Atari VCS) — Game #1
★ Space Hawk (Mattel) — Game #1
(auto-fire, if desired)

THE HONOR ROLL

UFO/Odyssey/Odyssey '7/Game #1
1. 1,636 — Lee Raymond, no address given
2. 1,575 — Jim Peterson, Farmington Hills, MI
3. 1,461 — Marlon Burns, Chicago, IL

Asteroids/Atari/Atari VCS/Game #6
1. 199,990 — Ed Semrad, Waukesha, WI
2. 195,310 — Bob Clarke, Racine, WI
3. 129,460 — Bob Prindle, Erie, PA

Grand Prix/Activision/Atari VCS/Course #4
1. 11:35:68 — Mike Randle, Folly Beach, SC
2. 1:36:73 — Ed Semrad, Waukesha, IL
3. 1:37:03 — Isaac Banegas, New York, NY

USAC Auto Racing/Mattel/Intellivision Course #1
1. 2:55 — Jerry Kurfess Jr., Jackson, MI
2. 2:56 — Robert Allen, Sarasota, FL
3. 2:57 — Ed Rovetti, West Corina, CA

Spacechase/Apollo/Atari VCS/Game #1
1. 185,075 — Tom Garcia, Whittier, CA
2. 93,300 — Ed Semrad, Waukesha, WI
3. 45,500 — Adam Kric, Medford Lakes, NJ

Defender/Atari VCS/Game #1
1. 2,002,850 — Art Childs, Gaylord, MI
2. 1,182,500 — Ron Kramer, Glassport, PA
3. 1,154,900 — Paul Peterson, Bethel Park, PA

Space Hawk/Mattel/Intellivision/Game #1
1. 10,142,040 — Luc Labelle, Manitoba, Canada
2. 5,130,660 — Steve Connelly, Boone, NC
3. 2,166,490 — Rod Gideon, Ft. McMurry, Canada
CommaVid™

Presents

PLAYABLE VIDEO GAMES
for your Atari® Video Computer System™

CommaVid video games are designed to keep you involved. New games where your pleasure increases as your skills develop. More than just flashy graphics, you'll find challenges that hold your interest play after play.

THE REVIEWERS REPORT: Room of Doom
"This game is a real challenge both to your marksmanship and your staying power. Like any good video game it requires practice and patience to get through all the Rooms of Doom..."

Four Joysticks; Highest Rating
Walter Salm
Electronic Fun with Computers & Games
Vol. 1 No. 1, Nov. 1982

Play Room of Doom for yourself! See if you can escape from the gunmen trying to annihilate you.

OTHER VIDEO GAMES FROM COMMAVID:

COSMIC SWARM

Fight off the attacking alien termites before they jam your space station.

MINES OF MINOS

Aliens stalk the corridors. A single robot survives to battle them.

MISSION OMEGA

The last mission from earth, and only you can save the universe.

CommaVid Inc., Box 3308, Fox Valley Center, Aurora, IL 60505

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# THE NATIONAL VANITY BOARD
## Today's Top Coin-op Scores

Electronic Games is proud to announce the creation of the National Vanity Board to identify and honor the nation's arcade aces. Just as the National Home Arcade (set to debut next month) salutes the achievements of the lords and ladies of livingroom gaming, the National Vanity Board will monitor the triumphs of the kings and queens of the coin-op videogaming world.

**EG** will update the listings each month based on information provided by game manufacturers, arcade operators, and, most importantly, our hundreds of thousands of readers. If you or one of your buddies writes the record book for the most popular commercial arcade machines, getting the proper recognition for the new champ is as easy as following these three steps:

1. Set the record.
2. Show the arcade manager on duty your record score and have him (or her) sign the proper portion of the report form—copies or facsimiles are fine.
3. Mail your score report to: Electronic Games, 235 Park Avenue South, Sixth Floor, New York, N.Y. 10003.

<table>
<thead>
<tr>
<th>Game</th>
<th>Developer</th>
<th>Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battlezone (Atari)</td>
<td>Dennis Hranitzky</td>
<td>9,600,500</td>
</tr>
<tr>
<td>Astor Blaster (Sega/Gremlin)</td>
<td>Ralph DeMarzo</td>
<td>91,640</td>
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<tr>
<td>Gorf (Midway)</td>
<td>Jim Harsch</td>
<td>1,237,500</td>
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<tr>
<td>Dig-Dug (Atari)</td>
<td>Dwayne Lindsey</td>
<td>3,499,010</td>
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<tr>
<td>Star Castle (Cinematronics)</td>
<td>Jack Haddad, Tony Garza</td>
<td>12,536,960</td>
</tr>
<tr>
<td>Centipede (Atari)</td>
<td>Darren Olson</td>
<td>15,207,353</td>
</tr>
<tr>
<td>Centipede (Atari)</td>
<td>Darren Olson</td>
<td>15,207,353</td>
</tr>
<tr>
<td>Donkey Kong (Nintendo)</td>
<td>Steve Sanders</td>
<td>863,500</td>
</tr>
<tr>
<td>Frenzy (Stern)</td>
<td>Alexi Anastasio</td>
<td>1,069,380</td>
</tr>
<tr>
<td>Pac-Man (Midway)</td>
<td>Dave Marsden</td>
<td>14,880,210</td>
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<tr>
<td>Galaga (Midway)</td>
<td>Jack Pardo</td>
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<tr>
<td>Omega Race (Midway)</td>
<td>Rick Klin</td>
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<tr>
<td>Scramble (Stern)</td>
<td>Jason Itzler</td>
<td>8,410,500</td>
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<td>Phoenix (Centuri)</td>
<td>Darnel Stephens</td>
<td>585,778</td>
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<tr>
<td>Stargate (Williams)</td>
<td>Mike McFarland</td>
<td>64,830,268</td>
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<td>Robotron (Williams)</td>
<td>Steve Harris</td>
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<td>Tempest (Atari)</td>
<td>Eric Clayberg</td>
<td>1,697,634</td>
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<td>Vanguard (Centuri)</td>
<td>Greg Mercier</td>
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<td>Wizard of Wor (Midway)</td>
<td>Johnny Thatch</td>
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<tr>
<td>Tron (Midway)</td>
<td>Don Carver</td>
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<td>Solar Fox (Midway)</td>
<td>Rick McClellan</td>
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<tr>
<td>Thief (Pacific Novelty)</td>
<td>John Carver</td>
<td>389,890</td>
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<tr>
<td>Kick-Man (Midway)</td>
<td>Rich Turkushev</td>
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<tr>
<td>Kangaroo (Atari)</td>
<td>Francis Haggerty</td>
<td>162,400</td>
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<tr>
<td>Space Firebird (Sega/Gremlin)</td>
<td>Bobby Henderson</td>
<td>128,520</td>
</tr>
</tbody>
</table>

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**Score Report Form**

- Name of Player (Please Print)
- Player's Address
- Name of Game
- Score
- Name of Arcade
- Arcade Address
- Arcade Operator's Signature

---

**Here Are the Arcaders to Beat!**

---

Continued on page 38
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"That's crazy." Maybe. But it's our way of getting you into the most exciting games of the century — the new Games of the Century from 20th Century Fox — the wildest, fastest, most challenging video games you've ever seen.

"Sounds great. But what about the $3.50?" Just buy any one of our new video games. Then fill out the coupon and send it to us along with proof of purchase and the back panel from the game package plus a ticket stub from any 20th Century Fox movie you've seen lately, and we'll send you a check.

"Can't beat a deal like that." True. And nobody can beat our games.

FOR ATARI VCS' AND SEARS VIDEO GAME SYSTEMS.

$3.50 CASH

Fill in your name and address and send it along with proof of purchase, the back panel from a Fox Video Game, and one ticket stub from any 20th Century Fox Movie to P.O. Box FM 129, El Paso, Texas 79996.

NAME

ADDRESS

CITY STATE ZIP

THEATRE NAME OF MOVIE DATE

OFFER EXPIRES 3/15/83

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Games of the Century
ARE YOU HOT ENOUGH TO

Introducing "JOURNEY ESCAPE," the challenging new DATA AGE™ Video Game.

You're on the road with America's hottest rock group, Journey. And they're counting on you. You're the only player who can help Journey make it to their scarab escape vehicle. Only you can outsmart the promoters, avoid the photographers and fight off the love-crazed groupies. If you can handle it!

It's a tough game. As Journey says, "Some will win, some will lose . . ."

Are you hot enough to play with Journey?
Don't stop believin'.

Get your JOURNEY ESCAPE video game today!

DATA AGE

DATA AGE is Video Games for the Atari® Video Game System and Sears' Tele-Games™ Video Arcade.

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DO PLAY WITH JOURNEY?

UP TO NOW, YOU'VE HAD IT EASY.
EG-ING US ON

As an EG reader from the first issue I have enjoyed and agreed with all of your editorials in "Switch On" and believe that most, if not all, readers share these thoughts.

It seems to me that too many people, in both the arcade and retail ends of the business, all share a here-today/gone-tomorrow philosophy. As you know, owning a videogame system can be an expensive hobby if the person isn't a careful, comparison shopper. That's what I am when it comes to my new ColecoVision and my old Atari VCS. If I can save money by buying the cartridges from several different stores, fantastic. I've written to many of the companies in your magazine and in others and have gotten fantastic response to requests for catalogs, etc. But several companies have sent price lists or catalogs that were either so out of date or unreadable or insulting that they won't get any of my business. Also, very few are willing to put you on a mailing list, even if you buy from them.

How about reader response cards, such as Video has? These cards have gotten a lot of use from me, and with the proliferation of videogame companies, manufacturers, retailers, repair shops, etc., etc., this could be a great addition to an already great magazine.

Jim Woodward
Boynton Beach, FL

Ed: The shrewd comparison shopper — especially in major metropolitan areas — can find a world of difference in terms of price and service from one retailer to another. Those arcaders who are forced, by geography (or some other reason), to deal with mail order firms should definitely follow Jim's lead. Always send for the catalog first, since this is the only tangible clue the gamer has as to the nature and standards of a particular shop. If a mail order store is sending out antiquated or illegible catalogs, it might be a sign that this place deserves a pass.

As to the use of reader response cards, this is a subject that has gotten quite a bit of debate here at the EG offices. Within the last few issues, however, readers have begun requesting the cards in considerable numbers, and as you know, we do what our readers tell us. So it's a pretty fair bet that these reader service cards will be turning up soon.

VIC'S MIDWAY CONNECTION

It was your "Test Lab" column on the Commodore VIC-20 that finally convinced me that it is a good gaming machine. Since Midway has licensed Omega Race for the VIC, will we see other Midway titles such as Pac-Man, Galaga, Solar Fox and Tron for my system, even though they have released some of these to other companies?

Daniel Levey
Palo Alto, CA

Ed: In terms of licensing coin-op titles to home arcade systems, we are finally beginning to see a trend emerge that we at EG have long supported — non-exclusive licensing. What this means is that the right to use a title is granted only for a specific system. In other words, if you are Atari

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[Image of a Commodore VIC-20 and a game screen]
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and have just licensed, say, Galaga, under the non-exclusive arrangement, you get the rights to produce Galaga for the VCS, or 5200. Non-compatible videogame systems, such as the Odyssey², the Intellivision and ColecoVision, could then pick up the rights to produce Galaga for their systems. That way, just because you don't happen to own the most popular programmable unit or computer, you've still got a good shot at getting your favorite coin-op in home format.

PICTURING THE TOP SCORE

I have two very disturbing problems. I have a 110 Instamatic camera and have unsuccessfully taken pictures attempting to document my high scores both with and without a flash. How do you do this?

Also, since most videogames "roll-over" at 99,999 points, how do you prove a record score?

Matthew Klein
Bridgeport, CT

Ed: When taking a photo of a TV playfield, never use a flash, as this simply "whites out" any screen by filling it with intense light. Okay, now that you've got the flash disconnected, turn out all the other lights in the room, so that the only source of illumination in the room is the TV screen.

As to the roll-over problem, this is a difficulty all around. In fact, in the recent "Defend Atlantis Shoot Off", Imagic came smack up against that very problem. In fact, it became necessary for Imagic to produce a new, harder version of Atlantis for the 80-plus super-gamers who made it into the semifinals.

In our own EG Scoreboard, we attempt to select games that won't be rolled-over — such as the Odyssey²'s UFO and Activision's Megamania.

WANTED: ASTRO SOFTWARE

I am a loyal Astrocade fan and I'm very disappointed about the amount and quality of games currently on the market for that system. They have had stupid commercials boasting of their four-player capability, 256 colors (which nobody really cares about), and a series of magazine ads stating the same thing but adding that they have four new game cartridges to come. Unfortunately, these games never seem to get into the stores — and retailers don't seem to know anything about them. I would like to know what the current situation is with the Astrocade.

Evan Feldman
Hewlett, NY

Ed: Unhappily, the current situation with the Astrocade is still up in the air. Several new games have arrived at the EG offices for testing, including Pirate Chase and the excellent Incredible Wizard — Bob Ogdon's home version of his Wizard of Wor. Unfortunately, distribution on these titles has been scattered shot, with most retailers never even knowing the games even exist. Unhappy, starving Astrodader might try some of the independent software vendors producing games for the Astro. The top companies at the moment seem to be Wavemakers (Box 94801, Schaumburg, IL 60193), Esoterica Ltd. (PO Box 614, Warren, OH 44482) and L&M Software (8599 Framewood Dr., Newburgh, IN 47630). Send for a complete catalog and watch for our upcoming feature on the "Astrocade Underground!"

PAC-MANIA, PART IV

I am an EG subscriber and just couldn't wait for the October issue and the "Test Lab" feature on how to customize the Coleco Pac-Man with an Atari VCS joystick controller.

However, due to the lack of a well-run electrical supply store, I was forced to hunt down an Atari joystick from an out-of-town dealer, who still didn't know what a male adapter was.

They left me no choice but to wire direct. Now all four-directional moves are as accurate as the coin-op, but Pac has a couple of new scrolls and a "safety zone" on the right-hand side of the goblin's starting point.

I'll gladly accept any suggestions as to what the problem is.

Arthur E. Pleau
(address unknown)

Ed: Although we've been unable to detect any changes in Coleco's other

Continued on page 102
WE EXPANDED THE MEMORY
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When it comes to color, the others might as well be in black and white. ATARI offers you 256 colors, and lets you display 128 colors on the screen at one time. The Apple II+ 16 total.

The ATARI 800 Home Computer's sound capability also comes through loud and clear compared to other computers. The Apple II+ has very limited music capability. And because the ATARI 800 requires fewer commands to create sound, it's easier to use than the Commodore 64.

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FLIGHT SIMULATOR

...THE ULTIMATE VIDEOGAME

Step into the ultimate in electronic simulation — the interior of the United States Navy flight trainer, about to land on the deck of an aircraft carrier, all computer-created.
Flying High with the Navy
By DAVID LUSTIG

The rules for this electronic game are simple. As a helicopter pilot, you have the responsibility of protecting the U.S. Naval Fleet from enemy submarines and anti-ship missiles. In addition, you will participate in rescue operations, observation, reconnaissance and cargo handling.

As the pilot, you must watch for the enemy and be prepared to evade oncoming fire. Fuel is critical and must be monitored at all times. When it runs low, you must land at a base, on an aircraft carrier or on the stern of a frigate equipped with a helo pad. To add a little spice to the "game," unexpected emergencies — engine fires or rotor failure — can crop up at the most inopportune times.

There's no high score, but if you win, you get the satisfaction of knowing you beat the odds. If you lose — and just one mistake ends the game — well, you get to start all over again.

Have all the rules memorized? Good. Your life will depend on how well you remember them.

Obviously, this is not a home arcade game. It's the U.S. Navy's SH-2F LAMPS helicopter simulator at North Island Naval Air Station in San Diego, California.

Used by nearly every facet of industry as well as the military, simulators
tracking and cargo handling.

The military, a stickler for proper identification, classifies the simulator as the SH-2F Weapon System Trainer, Device 2F106.

Both the builder, Reflectone, and the Navy are proud of the fact that this is the first helicopter flight trainer that uses flight test data so specific that the end result is an extremely faithful duplication of flight characteristics and performance.

How faithful?

Well, if someone blindfolded you, sat you down in the copilot's seat, and then, with all systems operating, uncovered your eyes, it'd be virtually impossible to believe anything but that you were inside the real thing, flying through the night. Only on close examination would you be able to detect the complex series of dots that form the buildings, mountains and, of course, the ocean and its ships.

Doubting Thomases who don't believe such things are possible from a simulator on stilts, soon change their tune after a spell at the controls.

All sounds - radio static, rotor blades and engine noises - are faithfully duplicated. Without a headset, the noise is almost deafening, and the vibration can give your kidneys a real workout.

All cockpit instruments are functional and when the pilot bounces a landing and comes down too hard, the simulator bounces and shudders as if it were really happening. From the armed force's point of view, this means that a three-man crew can strap themselves in and do practically everything the real SH-2F can do at a fraction of the price.

For pilots and copilots, it offers excellent flight and ground-handling characteristics and total training in instrument and cockpit procedures.

The computer-generated visual presentation can be either a landing strip or deck, submarine or ship targets, sonobuoys (sonar devices dropped from the helicopter) or smoke markers.

To train the sensor-operator (the third crew member), the simulator generates aircraft, ships, submarines, radar returns, torpedoes and a total acoustic environment.

All activities are controlled and monitored by instructors who sit at controls outside the simulator and watch three cathode ray tube displays. More than 40 problems can be cued in at any time. So just when the training crew thinks everything is under control, instructors happily punch up an enemy MiG that whizzes by, launch an anti-aircraft missile, or create an engine fire. When that last problem is inserted, literally all hell can break

Continued on page 103

The simulator may not look very aerodynamic from without, but inside it's an electronic wonderland!
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How Your Favorite Controller Works

By HENRY B. COHEN

Four robots are heading toward your outnumbered on-screen hero, and every last one of them is blazing away with a laser gun. You slam the stick to the side, and then quickly throw it in the opposite direction while thumbing the action button for all you're worth. Zap! Two angry androids skrag each other in a crossfire! Blam! Laser bullets send two metal monsters to robot heaven.

That kind of action is the heart and soul of videogaming, yet most of us rarely give a thought about the gizmo that makes it all possible — the joystick. This article, instead of telling you how to use your stick better, will pry off the outer casing and show you how the joystick gets the job done.

Basically, most joysticks employ a simple combination of four on/off switches. So-called eight-way sticks merely read the position of any two switches to produce the additional four-directional settings.

Some joysticks, mostly those used with home computers, contain potentiometers (not on/off switches) which perform their work. These joysticks are in effect multi-volume controls and allow for theoretically more precise control than the simpler on/off type joystick.

The way controllers — all controllers — interface with electronic games is by inputting status changes to the memory unit of the game. When a game is played, its computer is always asking questions of the game player. In a simple "shoot-em-up", all the game needs to know is where the cannon is and whether it's firing. In effect, the position and status of the cursor is called for. The game asks these questions constantly and the player, through the positions of the switches of his/her controller, answers them. Most games ask for a simple on/off answer, if the joystick is not moved, the answer effect "off" and the cursor (a cannon in this case) simply doesn't move. If the joystick is swung to the right, the answer is "on" and the game responds by sending the cannon to the right for as long as the stick is held in position or until the end of the playfield is met. If along the way the player chooses to fire, the button is pressed and the computer gets an answer to its unending question of "should I fire" and acts accordingly.

At this point, it should be clear that what separates the men from the boys in terms of joystick control is the quality of the switches they contain and the precision with which they can be manipulated.

Once you understand the mechanism involved in left/right cursor movement and firing, it's easy to see how the same methodology works for all other positions and depends entirely upon the program of the game being played. In a game where both horizontal and vertical movements occur, the computer is simply asking (at all times), "am I up or down?"

To the left, we have an interior, close-up look at the type of joystick that works on switches being clicked on and off.

The most popular joysticks in use today are the so-called "leaf-switch" controllers, such as those used by Wico.
Learning how a joystick works is a sensible first step toward picking the "gourmet" controller that best compliments your style of play.

right or left?" The answer comes from the position of the joystick. In games in which diagonal movement is required, the computer notes when the joystick is moved into a position to activate any two of its four switches. For example, if we were moving an object to the upper right, both the "up" and the "right" switches would be activated. The game would read these two activations as a single command and move the object on-screen in the desired direction. But again precision plays an important role. In the best sticks this command would be generated "cleanly" as both switches would be activated at almost exactly the same time. In a cheap or poorly made stick, one or the other switch might activate a fraction of a second faster than the other. This could cause slightly off-target movement until both switches engage.

Even with superior sticks, diagonal movement is not as precise as straight left/right or up/down, because joysticks become mechanically misaligned through usage. There's no way you can avoid this. To make a joystick absolutely perfect would require it having its own microcomputer chip to account for these variables before issuing a command to the game computer. The cost and complexity of this type of controller is simply not warranted for the small gain in precision to be derived. RAM (random access memory) is used in tracball controllers but this is the essence of another article.

In sum, the precision of a joystick is based primarily upon the quality of the switches it contains and then of course by its overall quality and the quality of its housing. Can the housing hold all the many pieces of the joystick in place during strenuous game play and for how long?

In addition, the shaft of the stick must be strong enough to withstand arduous use and not place so much pressure on the switches that they fail from overuse.

It is in this area that different design philosophies begin to take over. Atari has opted to provide low-cost, easily replaceable joysticks with its systems. To this end, cheap "clicker switches" (actually small metal bubbles on a printed circuit board) are used. The resulting design is simple in terms of the number of parts it contains. They break down more readily than others, but are quite durable considering their low cost and are cheap to replace.

Going to the other extreme, the designers of WICO's Command Control line has fashioned a set of leaf switches (right from the arcade controllers they make) into an almost impregnable design for the home market — and that is at the low end of their line. The manufacturer's deluxe controller utilizes the entire joystick assembly found in many arcade machines in a housing for home play. In all cases, leaf switches and steel parts are used where needed. This level of construction virtually ensures a lifetime product and because leaf switches were chosen, adjustments to the leaves can be made over time to account for any usage variables.

Up to this point, we have covered the basics of the most common joystick designs, the on/off, four- and eight-way units. As mentioned, some computers are driven by potentiometer-type joysticks and were, in fact, somewhat more precise than other styles of joysticks. Let's take a closer look at this means of game controller.

Again, the game or computer is constantly asking questions about "where is my cursor and what is it doing?" In effect, the cannon or other on-screen gamer-controlled object is called for. The potentiometer joystick answers these questions not only by telling the computer if it's on or off, but by offering input in the form of user changeable voltages. These voltages are read by the computer as numbers, and numbers are more precise than simple on/off statements. This is why the cursor (or cannon in this example) seems to glide unerringly to rest exactly where you want it to be. Again, potentiometers are simply variable resistors or volume controls identical to the kinds of controls you find in most TVs and radios, etc. Two of them are used in a single joystick concurrently moving left/right and up/down, providing the computer with all it needs to know about the desired location of all objects under gamer control.

They are more expensive to make than other kinds of controllers and are more subject to wear. Consequently, they break down more often than on/off joysticks. Add to that the fact that some game programs and computer chips are not made to respond to resistance or voltage changes and it becomes clear why they are not more popular.
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ATLANTIS
Imagic/Atari VCS

Now here's a videogame that's conceptually irresistible, graphically gripping and a blast to play. Dennis Koble's Atlantis casts the gamer as sole defender of the fabled undersea city, which is under a relentless air assault by a squadron of jet bombers.

Atlantis itself is depicted as a domed subsea metropolis surrounded by a series of defensive anti-aircraft batteries. At the left and right ends of the playfield are a pair of angled cannons which point toward the center of the field, while a big gun sits directly between them, aimed straight up.

Attacking aircraft come at the storied city in three waves and at a variety of speeds. The first jet soars across the top of the playfield. If the Atlantean defenses fail to eliminate the plane on this initial fly-by, the jet reappears halfway between the top of the screen and the surface of the ocean. Failure to blow away the enemy at this level means bad trouble. On its fourth (and last) go-round, the jet skims along just inches above the ocean's surface, raking Atlantis with bombs as it whizzes by.

Atlantis is a magnificent videogame. The graphics create a sense of realism that will enthral the arcader. Explosions are vivid and drenched in vibrant colors. During each round, a small-but-lethal lead ship appears, and if the Atlantean "ack-ack" guns score a hit on this craft, the entire squadron destructs in sequence. A hit on the lead ship causes the target to glow for an instant before bursting into what resembles a mini-solar flare. But the most pleasing visual in a game drip-
ping with them is the final explosion, Atlantis itself shattering into a thousand pieces. As the underwater city blows apart, sharp-eyed players see a tiny escape craft quickly launched into space. This craft turns out to be the Cosmic Ark from the game of the same name by Rob Fulop, sent on its mission to re-populate new-Atlantis.

Atlantis is a cartridge with something for everyone. Primarily, though, it's fun, a delight to look at and play, exciting and challenging. It has a simple play mechanic — moving the joystick left and right and hitting the action button activates the left-side cannon, and pushing it right or up does the same for the other two. The only problem is trying to imagine why anyone would not like Atlantis, one of the year's finest videogames.

**STAR RAIDERS**

*Atari/Atari VCS*

Sharp-eyed readers have undoubtedly noticed that one program has consistently rated at the top of our readers' popularity poll for computer game software — Star Raiders for the Atari 400 and 800 microcomputers. Those who don't yet have a personal computer may well have wondered what all the shouting was about. Now anyone with an Atari 2600 can discover the thrills of piloting a space fighter in this new edition of Star Raiders created especially for the company's videogame machine.

This is naturally a slightly slimmed down version of the original destroy-the-dreaded-Krylons-and-save-the-galaxy epic. The amazing thing is not how much had to be cut, but rather how much the designers crammed into this cartridge. A few of the frills are abridged or gone entirely, yet the VCS Star Raiders is an outstanding achievement, because the cartridge is remarkably faithful to its computer inspiration. Certainly, this is one of the most ingeniously complex games ever offered for a home videogame system.

The solitaire space piloting contest puts the player at the controls of a star fighter embarked on a perilous mission. The universe-spanning Krylon Empire is on the march, moving from sector to sector destroying star bases which are friendly to Earth. The player (and unseen crewmates, Commander Champion and Li San O'Roarke) must protect the friendly space stations while battling three types of Krylon ships in a series of dogfight-style engagements. Krylon fighters and cruisers are more maneuverable than the gamer's star fighter, but their unshielded hulls can only take one hit from your photon torpedoes before exploding. The Krylon base stars represent the heavy hitters on the enemy side. The base stars are torpedored and have shields which prevent a photon blast at long range from doing enough damage to explode the craft. These must be duel at extremely close range, making the situation especially dangerous for the doomed planet's lone defender.

To set up Star Raiders for play, the gamer must plug a joystick into the left controller jack and the new Atari video touchpad into the other socket. An overlay provided with the Star Raiders cartridge is then slipped into place on top of the touchpad keys, held securely in place by tabs that project from the top and bottom edges of the thick cardboard overlay. This system allows the player to pilot the space fighter with the joystick while controlling hyperwarp, the attack computer, shields, and selection of fore screen or galactic map display. The attack computer can be left permanently in the "on" position by setting the left difficulty switch to "B". Setting the other difficulty switch to "B" keeps the shields on all the time.

"Set and forget" has its appeal, especially in a game in which so much
is happening at the same time, but score-minded space cadets will want to keep the difficulty switches pushed to "A" so that the computer and shields can be toggled on and off at need. The reason is that every ship activity depletes the energy supply, which can only be replenished by journeying to a sector with a friendly star base and docking with it. Many players will end up leaving the shields (one energy unit per second drain) operational most of the time, while shutting down the attack computer (0.5 energy units per second drain) until the space fighter enters a sector containing enemy ships, is indicated by a "red alert" sound.

The Galactic Display is used for locating your foes. Appropriate silhouettes mark the presence of Krylon ships and friendly star bases, while a blue bar indicates the space fighter's present location. As pilot, use the cursor to maneuver the yellow on-screen cursor so that it is in the sector to which you desire to travel via hyperspace. Pushing the action button starts the trip. The further you want to travel by this super-fast method, the more power you utilize. The two easier difficulty levels prevent the space fighter from making a hyper-jump when it doesn't have enough fuel left, while the two harder levels require the gamer to check the fuel status manually before each hyper-jump.

When the machine emits three tones, it means that an enemy ship is visible in the front display. If the control panel is red, the attacker is actually behind you. If green, it's in front, but still out of range of your twin torpedo tubes. The panel turns blue when the Krylon is visible and within range.

The attack computer tracks two targets at a time, showing them as dots on a small secondary display located in the lower right corner of the forward view. When one of those dots is centered, the torpedoes are locked on the target and need only be fired with a push of the action button. The dot will also change from blue to red if it is locked in tight, giving another visual clue as to the current situation. The higher the level of difficulty, the more accurately the Krylon fighters, cruisers and base stars will return your fire. Damage is indicated on the control panel and can only be repaired by visiting a friendly star base.

The game assigns a rating to each player depending on how efficiently he has completed the mission to save the galaxy from the Krylon threat. The major factors determining this final score, ranging from Cook to a mystery rank at the top with five sub-ranks in each, are: the amount of fuel expected, the difficulty level of the scenario and the number of friendly star bases destroyed during the course of play.

Star Raiders is a premium-priced cartridge because it comes with the new touch pad, which will be used as a controller in other upcoming games, but don't let that deter you from adding it to your collection.

Gorf
CBS Video Games/Atari VCS
Midway's 1981 multi-screen invasion game makes the switch from the commercial arcades to the home screen in pretty good shape courtesy of CBS, yet another famous company that has joined the electronic gaming gold rush within the last year. Although the graphics are a trifle crude compared to the coin-op—they are about average for a VCS game—the play action is satisfyingly varied.

Gorf confronts would-be space pilots with a four phase mission. The first step is to defeat the horde of gorks and drohds which are trying to land on the Earth. This phase is a pretty standard invasion game in which the player manipulates a cannon back and forth across the bottom of the playfield while exchanging fire with rows of creatures marching down the screen.

The next challenge is to destroy the Gorfian laser ship which hovers in the orbital zone just above the location of the first mission. A flying gorf and kamikaze invaders function as a protective escort for the laser ship. The best tactic is to work on the screening guards first, because the laser ship will simply be replaced by an identical craft if you blow it up before getting rid of the flying gorf and the Kamikazes.

The ever-resourceful Gorfian Empire next sets up a space warp near the top of the third scenario's playfield. Five attackers zoom out of this hole in space one at a time to attack the player's ship with torpedoes. When you've sent the five attackers to their final reward, it's time to face off against the Gorf flagship. You must score a direct hit on the ship's reactor vent to trigger the multi-colored explosion that signifies victory. The flagship, meanwhile, attempts to eliminate the gamer's craft by firing heat-seeking missiles at it, so executing a skillful move-and-fire sequence is especially crucial at this point.

And when you've finally atomized the flagship, you'll only have a few seconds to enjoy the victory. After that, it's back to the first phase of the mission at a higher level of difficulty. There are nine such levels, so few arcades will wear this cartridge out the first week they've got it home.

GOPHER
U.S. Games/Atari VCS

With Gopher, U.S. Games introduces its new line of "family"-oriented videogames being produced in cooperation with Fisher-Price. Stressing non-violent themes and state-of-the-art graphics, Gopher is what the coin-op folks call a "cute" game.

Arcaders use the joystick to maneuver an on-screen farmer left and right in an effort to keep a pair of pesky gophers from gobbling up the carrot patch. The garden is represented by three carrots and, as the game begins, a pair of hungry gophers burrow their way onto the playfield at the base of the screen. The voracious vegetarians can tunnel both vertically and horizontally, and they will soon start digging holes to the surface—which is where the farmer comes in. By moving the farmer's hoe over a gopher-hole and pressing the action button, the hole is
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Play the STAR WARS JEDI ARENA home video game. Alone or head-to-head. The challenge awaits you.

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that is both adorable and a ball to play. The joystick action is smooth as silk and the challenge is considerable. Good players will soon find themselves able to bonk gophers while they zip along at ground level—making a bee-line for the carrot patch.

Not only are the graphics superb, but so is the audio. Imaginative sounds such as "Farmer in the Dell" as the game's theme song—fill the program. The gophers whiz as they burrow underground; the duck quacks as it flaps overhead; there's even a little "clunk" sound when hoe meets gopher-head.

This game is just about perfect, in fact. Its audio/visuals and game concept would do Activision proud, and the concept behind Gopher is as laudable as its execution. Highly recommended.

filled in. When a gopher peers over the top of a hole, it's "whack-a-mole" time! By positioning the hoe over a gopher and pressing the button, the gopher gets a thump on the head and the player gets bonus points.

Remember, though, there are two gophers. While one of the little varmints is luring the farmer to the right side of the field, his partner is generally making for the left end of the field as a prelude to zipping out and scarfing down a carrot. Lose all three carrots and the game is over. Periodically, a big duck will come quacking onto the scene, winging across the top of the playfield and let drop a seed. If the farmer can grab the seed and plant it in the right spot, a bonus carrot will grow!

Gopher is one of those rare games
The Goblin's time bombs are ticking away. And his Super Bombs sit fiendishly up on High Voltage Towers. The city is on its knees.

Only Spider-Man's spidey powers can get us out of this! Thwipp! He shoots his web and swings up the buildings to reach the bombs.

Thwipp! He shoots again, escaping the Goblin on his web-cutting jet glider.

But watch out! Goblin and his warped gang of criminals have more sneaky ways to cut your web and plunge you to the streets below.

Can you get Spider-Man to the bombs in time? Your web fluid is getting lower. And time is ticking away. . . .
VENTURE
Coleco/ColecoVision

The first five releases for the incredible new ColecoVision not only establish new high water-marks for home arcing, but provide an accurate index of where videogames are at today. The manufacturer has produced a high-graphics arcade hit (Donkey Kong), a science-fiction shoot-out (Cosmic Avenger), a maze-chase (Lady Bug), a whimsical, "cute" fantasy contest (Smurf) and, with this adaptation of the Exidy coin-op, Venture, a superb graphic adventure.

Venture sends the arcader, as the on-screen bow-slinging adventurer named "Winky", through a multi-level (three-playfield) dungeon in search of treasure. Play begins with an overview of the first floor, complete with roving "hall monsters". When Winky enters one of the four rooms on this level, the scene shifts to a close-up of the spot. Each room is guarded by a particular type of monster, hence the "Goblin Room", "Snake Room" et al. The exception is the "Wall Room", where the menace consists of four moving partitions, each white hot and capable of incinerating old Wink with the merest touch.

Once inside a room, the object is to grab the treasure and get out. Winky can kill any of the monsters with his endless supply of arrows, but slaughtering the guardians won't win any points, and their corpses are just as deadly — should he make physical contact — as they were when alive. After a lengthy pause the dead bodies disappear, but before they do, a cadaver in the wrong spot could delay Winky sufficiently that an inevitable visit from the local Hall Monster occurs. These horrors can sweep through virtually anything and they're much faster than the surrogate adventurer.

The ColecoVision version of Venture is a virtual duplicate of the coin-op original — which, interestingly, wasn't a hit in the arcades. Each room has its own signature music, and when the treasure is successfully looted from a chamber, it is colored red when viewed in the overhead diagram. The monsters are masterfully rendered and beautifully animated, from the flowing bats to the clanking skeletons. Treasures are racked up between levels and pictured on a box chart under the score.

Unhappily, the game is not the joy to play it should be.

The difficulty is joystick control. On-screen movement is jerky and slow, response time painfully stiff. What should be free-wheeling play is transformed into awkward frustration. While it's true that the joystick control in Exidy's Venture is not the slickest in the world, duplicating an arcade game's flaws is definitely carrying verisimilitude too far!

It is a tribute to Venture's strength that most gamers will love it in spite of this shortcoming. We hope that such trade-offs will not be necessary in the future, however. The ColecoVision is too good a system to play games that are "almost" great.

K.C.'S KRAZY CHASE
Odyssey/Odyssey²

K.C. Munchkin is gone, a casualty of last year's lawsuit, but he still holds a special place in the hearts of Odyssey² fans, who continue to keep K.C.
Munchkin riding high in EG’s monthly popularity poll. The original cartridge remains in limbo, but K.C. is coming back as the star of a new game that ought to delight the little electronic rascal’s fans.

This maze-chase is one of the first cartridges designed to work with the Odyssey’s “voice” speech synthesizer module. It plays very nicely on machines which lack this gadget, but is even more fun when you can hear K.C. chatter away as you use the joystick to steer him through one of five standard mazes. (Like K.C. Munchkin, this cartridge also features a nifty extra; you can easily program your own custom-designed maze using the keyboard.)

The maze corridors are dotted with trees, which K.C. can chomp for points. Unfortunately, the labyrinth is also inhabited by the Dratapillar of Venus. This multi-segment beastie likes to eat the trees just as much as our hero. Of course, what the Dratapillar would really like is K.C. himself for dessert. If the Drat’s head touches the gallant gobbler, the game is over. On the other hand, Dratapillar segments make a delicious meal for K.C., who can chomp them at will.

Whenever your on-screen character eats a Dratapillar section, it has an unsettling effect on the monster’s hench-creatures, the single-segment Drats which also roam the maze. Eating a Dratapillar segment turns all four Drats white with fright, paralyzing them in place and making it possible for K.C. to munch them for bonus points.

Scoring places a lot of emphasis on devouring the Drats, which are worth 10 points each, and the Dratapillar, worth three points per segment, rather than the one-point trees. There’s also a hefty 20-point bonus for wolfing down the entire Dratapillar, so the snake-like being must be your prime objective. (The game resets at a harder level of skill when the Dratapillar is completely eaten.)

The Voice really adds an extra dimension, even if some of K.C.’s little comments do seem to pop up randomly. But when you hear the digital devil cackle delightedly after finishing off another screen, it gives you a very satisfied feeling, indeed.

K.C.’s Krazy Chase is a welcome addition to the Odyssey’ game library. The catalog can always stand to be enriched by another smooth-playing action game, and this maze contest is absolutely top drawer.

Continued on page 106
### Most Popular Videogame Cartridges

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<th>Game</th>
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<td>Pitfall</td>
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<td>2</td>
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### Most Popular Computer Programs

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<th>Game</th>
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<tr>
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<td>Star Raiders</td>
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<td>3</td>
<td>2</td>
<td>Pac-Man</td>
<td>Atari 400/800</td>
<td>Atari</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>Jawbreaker</td>
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<td>Sierra On-Line</td>
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<tr>
<td>5</td>
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<td>Missile Command</td>
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<td>Centspede</td>
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<td>Apple II</td>
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<td><em>Preppie</em></td>
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<td>Scott Adams Int'l</td>
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<td>10</td>
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<td><em>Crush, Crumble, Chomp</em></td>
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<td>Atari 400/800</td>
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### Most Popular Coin-Op Videogames

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<td>Galaga</td>
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<td>10</td>
<td>7</td>
<td>Pac-Man</td>
<td>Namco/Midway</td>
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</tbody>
</table>

### Readers Choose Top Games

Since mere quantity of play doesn't necessarily equal actual popularity, Electronic Games bases its standings on the votes of its readers. These lists of most popular games are based on the more than 1000 Reader Polls. We update the "picked hits" list in every issue of Electronic Games. So send in your votes!
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Deep beneath ocean waters you safeguard a sunken sea chest. One that'll make you a millionaire the moment you make it to land! Unfortunately, enter the shark that'd rather make you a meal. You shoot! And shoot again! Angering an octopus who's out to ink you. You're left contending with his tentacles... the shark's swimming faster... then, another disaster! Oxygen's on the outs! You must reach the life line from your buddy above. Undoubtedly, you're dinner... or you'll drown in desperation... unless you're careful... or awfully quick.

Good luck!

Entry form can also be obtained by mailing to Entry Request, P.O. Box 4972, Chicago, Illinois 60680.

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You’re being attacked from both sides by the most evil aliens to ever fly the unfriendly skies. Luckily, your intergalactic fighter can blast seven enemies into cosmic dust at once. Trouble is, those aliens are very fast. If you can turn the lights off and be in bed before the room gets dark, then you might be ready for Turmoil.

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Those cranky crabs are trying to drive the ducks from their once quiet pond. Imagine crabs taking to the air armed with bricks and bombs! Luckily, Deadly Duck has a few tricks of his own. His gun barrel bill can unleash a bevy of crab cracking bullets at a moment’s notice. Look out Deadly, here comes another brick! It takes more than luck to play Deadly Duck.

You’ve got to be cool and you’ve got to be steady to play Fast Eddie. Eddie is on a wild treasure hunt, climbing up and down ladders everywhere in search of prizes. Things would sure be a lot easier if it weren’t for all of those pesky little Sneakers... running around. They literally keep him jumping!

Sirius™

Video Game Cartridges For The Atari 400, Atari 800, VIC-20 And Commodore 64 Computers

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Showdown in the

Space is Waiting...

If the following little scene occurred once during the early days of home computing, it probably happened a thousand times:

The would-be personal computer purchaser strolls into the local Radio Shack or similar outlet circa 1975 and asks the clerk for a demonstration. After regaling the potential customer with a high-sounding spiel about the glorious Computer World of the Future, the clerk powers up the machine, boots a taped program and — faster than you can say “Jack Robinson” fifty or sixty times — the small screen lights up with computerized tic-tac-toe or nine-man morris.

Such demonstrations certainly impressed pioneering home computerists of the day, but it is doubtful that video tic-tac-toe could’ve sparked anything like the booming electronic gaming hobby we know today. The negligible popularity of such simple contests — admittedly all that the early micros could handle — might have put gaming with computers on hold for several more years.

Things didn’t turn out that way, of course. New types of games broadened interest in computer arcading by offering many different types of mental and physical challenges.

Many sources of inspiration helped bring modern microcomputer gaming to its present level, but none was more important than science fiction. When imaginative programmers discovered that putting short vertical lines on either side of a small circle produced a tie-fighter a la “Star Wars” that any gamer would instantly recognize, it opened up a new world of possibilities.

Ever since the first “trek”-type space piloting and combat programs burst onto the scene, the connection between science fiction and computer gaming has been strong and close. The availability of more powerful microcomputers in recent years has enabled software publishers to build on this relationship to provide a galaxy of outer space contests to delight game-playing computerists.

Stop, Thief!

Most science fiction games portray the excitement and
Far Future

dangers of interstellar war to the death. Bandits, a multi-scenario invasion game by Sirius Software, instead focuses on the perils of crime on the cosmic scale.

In this colorful and varied arcade contest, the gamer operates as the security chief of a lunar base bedeviled by thieves from outer space. Wave after wave of deep-space desperadoes swoop across the screen and attempt to pick up a load of the base’s equipment. The goal is to prevent the robbers from carrying the goodies back to their world.

There are a variety of alien criminals with larceny on their minds. The arcade’s cannon is protected by a shield, energized by thumping the space bar on the Apple’s keyboard, but the available energy for this device is squeaky tight. The player will frequently have to face whole swarms of bandits without any form of protection beyond a quick hand on the joystick in order to save the shields for times when lack of such protection can spell certain elimination.

Flying Through the Universe

Star Raiders, by Atari for the 400 and 800 computers, gets many votes as the ultimate “trek” program. It was the first to blend the universe-spanning strategic phase of locating the enemy with pulse-pounding ship-to-ship dogfighting rendered in high resolution graphics. Small wonder that Star Raiders has placed at the top of every single reader popularity poll conducted by EG since the magazine’s inception.

Apart from the often stunning visuals, the underlying strength of Star Raiders is that it gives the player a lot to do, from picking which of several displays to show on the screen to navigating through hyperspace to reach distant portions of the galaxy. There is so much happening, in fact, that several people can carve up the responsibilities and play as a team. Of course, the control scheme, described in minute detail in the profusely illustrated instruction manual, is simple and logical enough to be handled by a solo spacefarer.

Other superior games in this genre include Gebelli Software’s Zenith and Sirius Software’s Epoch, both for the Apple II. The latter concentrates on the tactical side of things, while the former asks the arcade to protect a city undergoing reconstruction from additional enemy attack.
Death Comes from Space

The invaders from the void are launching a rocket attack at the six cities lined up across the bottom of the screen. You command the defense, using a joystick-directed cursor to target the incoming missiles and destroy them with your own defensive rockets. That's the concept of Missile Com-

mand, a coin-op hit that has been, if anything, more successful as a home game than as a pay-for-play machine.

Atari's version for the 400/800 systems is probably the best of all the editions. Although there is only one command center under the player's control, this makes it easier to apply sophisticated strategy than in the somewhat busier and more frenetic commercial arcade device.

Non-Atarians may want to investigate ABM, a fairly similar program for the Apple II by Muse Software. Here, too, the idea is to fire at the incoming missiles and prevent them from flattening the cities under your protection.

The lack of a home trackball controller has frustrated true Missile Commanders for some time, since quick cursor movement is the road to victory. Both WICO and Atari will rectify this lack within the next year or so, which should gain even wider acceptance for this outstanding design.

Classic Space Thrills

It would be impossible to cover science fiction computer games without at least mentioning the three great standard programs—Space Invaders, Asteroids and Galaxian. Year in and year out, these three games have held their popularity against the encroachments of newer—and often more intricate—games.

Space Invaders probably deserves credit for sparking the commercial videogame boom back in 1979. Though it has vanished from all but the largest arcades, SI is still very much alive and well in home computerland. Atari's version

FLEEING THROUGH THE LETHAL LABYRINTHS

Those A-maze-ing Mazes

Electronic maze games are a fairly recent phenomenon, but the lure of the labyrinth's twisting and turning corridors has called out to mankind since the dawn of civilization. The myth of Theseus and the Minotaur, in which the legendary hero penetrated the mighty beast's maze-like fortress, delighted citizens of the ancient world while paper-and-pencil mazes are still a popular diversion for young and old alike.

Mazes have added a fascinating strategic element to electronic gaming since Pac-Man first gobbled his way into the hearts of arcaders all over the world. The presence of an on-screen labyrinth turns movement from a series of mad dashes back and forth across the playfield into a fine art in which the player must plan his route of movement carefully to arrive safely at the desired destination.

There are three principal types of electronic maze games:

Maze-chases. In this type of contest, in which Pac-Man and Ms. Pac-Man are the most popular examples, the player's on-screen representative is generally a weak character who must avoid the menace of stronger pursuers while picking up objects lining the corridors while passing over them.

Maze-shoot-outs. This is a hybrid which combines elements of the maze-chase with blast-'em-up action. While there may be objects which must be acquired, the on-screen character must also duel with armed enemies patrolling the playfield.

Maze-explorations. This type of game is the closest electronic equivalent to the paper mazes, mentioned earlier. The whole idea is to find the single usable path through the convoluted layout in the shortest possible time.

The Galloping Gobblers

Pac-Man, available in a fine home edition by Atari for its 400-800 computers, is the classic gobble game which
for the 400/800, originally intro-
troduced on cassette, is now
available in the more conve-
nient ROM cartridge form.
It is a good game, even
even though the revised graphic
production may be too dis-
similar to the coin-op to
please real fans. These puns
are advised to check out
Rocklan’s Super-Invaders, a

400/800 game that is much
closer to the quarter-snatch-
ing original.
Asteroids’ unpredictability
proved a refreshing change
from the pattern laid down by
Space Invaders. The use of a
vector graphics monitor in the
coin-op version has frustrated
attempts to directly translate
Asteroids to the home screen,
though Atari’s 400/800 edi-
tion is acceptable. However,
the thrust-based movement
system has cropped up in a
number of other games. Star-
Maze, by Sir-Tech for the Ap-
ple II, may well be the best of
these distant cousins. In it, the
player pilots a small space
cruiser through a labyrinth,
only a portion of which is
visible on the screen at any
time. This maze is filled
with enemy ships to fight,”
“power jewels” to collect,
and careening meteors which
break into small rocks when
struck by
your weapon.
Although, Galaxian,
something of a se-
quel to Space Invad-
ers, did well in the
commercial amuse-
ment centers, there’s a bit of a shortage
concerning home
computer programs.
The best of the
crop is Galactic
Chase for the Atari
400/800. Fortunately,
it reproduces en-
ough of the true ar-
cade action to keep
Galaxian-lovers happy
for many moons to
come.
Now that Atari has
published a 5200
Galaxian, perhaps we’ll
soon see one for the 400/
800.

established the broad outlines
for this category of contests.
Pac-Man’s strongest suit is
its elegant simplicity. No bank
of bewildering buttons or 50-
page rule book gets in the
way of a player’s enjoyment of
this beautifully conceived
design. This quality goes far
to explain why Pac-Man is
often the first game a new-
comer to a coin-op arcade will
try. Its pocket universe is in-
nstantly understandable,
though its wealth of strategic
possibilities keeps players’
eyes glued to the screen.
Jawbreaker, from On-Line
Systems, is an Atari 400/800
program that ties a relatively
standard Pac-style maze set-
up to the novel theme of a
romp through a candy store.
Entrancing graphics, high-
lighted by the toothbrush that
comes out to clean the gam-
er’s on-screen chombers be-
tween rounds, and charming
sound effects like the rendi-
tion of “Raindrops Keep Fall-
in on My Head” that opens
the action, stamp this disk a
winner.
Another intriguing gobble
game for the Atari is Ghost
Hunter by Arcade Plus. The
added wrinkle in this one is
that the player can, by eating
a power pill, change into a
ghostly gun and shoot the
pack of nasties chasing him.
Datamost has published a
pair of entertaining maze-
chases for the Apple II, Snack
Attack and Money Munch-
ers. The former is a colorful
design in which a whale
swims through the maze eat-
ing up the food, while the object in
the latter is to munch
every dollar signs
before the money
munchers get
them first. Snack
Attack alternates
among sev-
eral different
mazes, while
Money Munch-
ers creates
a new labyrinth
at random for
each round of play.

Finding
the
True Path
Exploration mazes,
though admittedly the least
popular of the three main
types at the present time,
hold an attraction for many.
Such games generally give the
player a "mouse" eye-view of
the maze configuration,
though there's usually an
opportunity to get at least a
brief look at the overall layout.
Both of the best-known
maze-explorations are de-
signed for use with the Atari
400/800 — Thunder Island
(A.N.A.L.O.G. Software) and
Captive (PDI). The PDI title,
already the best one on the
market, is due to get even
better shortly, since the com-
pany plans to have a rede-
signed and upgraded version
in the stores by the time you
read this. The new version
will turn Captive into a semi-
Adventure contest, as players
will hunt for treasures and
dodge dangers while trying to
figure a way out.

Using Your Head
Most maze games reward
hand-eye coordination richly,
because they require a lot of
intricate steering with many
quick turns and reverses of
direction. There are, howev-
er, a few significant excep-
tions.
Mission Escape, designed by
CE Software's Jim Jacob-
son for the Apple II, turns
the usual maze-shoot-out situa-
tion into a heavy strategy
game by dramatically altering
the movement scheme. In-
stead of allowing continuous
input, it prompts the human
player to enter a short series
of moves followed by a similar
interval during which the
computer-controlled forces
go on the march.
Lazer Maze, an Apple II
program from Avant-Garde
Creations, is represented as a
simulation of a system of jus-
tice that prevails in the far
future. One combatant (the
player) must fire his lazer pi-
tol into the maze and then
predict its exit point. The lords
of the maze materialize the
computer-controlled foe at this
point. If the human player
correctly guesses where the
beam leaves the playfield, the
opponent is destroyed by the
blast. Otherwise, the tables
turn and the foe lob a deadly
bomb that is virtually certain
to destroy the computerist's
on-screen surrogate. The
catch is that the playfield is
dotted with mirrors which can
reflect the lazer beam, making
it quite challenging to quickly
trace the expected course of
the shot in the least possible
amount of time.

Corridors of Danger
Although Berzerk, the title
which did most to build the
popularity of this type of
game, has not reached the
microcomputer market yet in
an authorized edition, it hasn't prevented designers
from applying the concept to
quite a few computer pro-
grams.
K-ray Shoot-out, by K-
Byte for the Atari 400/800, is
a smoothly executed maze-
chase on ROM cartridge. The
computerist directs an on-
screen character through a
series of rooms guarded by
laser-firing robots who pop
into view at random points
along the walls. Its sophisti-
cated scoring system gives
accurate marksmanship its
due, but places great stress on
maneuvering so that the
robots destroy themselves by
shooting each other or
stumbling into a wall.

More similar to the well-
known maze-shoots are Borg
(Sirius Software) and Thief
(Datamost), both of which are
playable on the Apple II. In
both, players move from
robot-filled room to robot-filled
room, blasting away at
attacking androids and dodg-
ing the sinister stalker who
enters the fray when the
player's on-screen character
stays in one particular room
too long.
Guardian, from Continental
Software for the Apple II,
tests the player's mettle
against a series of increasingly
dangerous mazes, including a
couple with invisible, deadly
walls. The gimmick here is
that the hero begins each
round completely surrounded
by a ring of assorted crea-
tures. As soon as the Guar-
dian fires the first shot against
the order of encircling enem-
yes, all of the monsters make
a beeline for him. He must
dodge and shoot until he
reaches the teleportation
chamber, which randomly
moves from corner to corner
after each shot is fired.
Teleportation also figures
importantly in Teleport, the
latest Apple II creation from
Cavalier Software. The idea is
to pick up one of the aliens
which has gated in from
another dimension and con-
duct it to the on-screen tele-
porter which will instantly
ship it back from whence it
came. Needless to say, it
moves around quite a lot dur-
ing the course of play, which
makes completing the mis-
sion something less than a
snap. It also doesn't help a bit
that the player is absolutely
defenseless from the time he
stuns an alien until it is safely
shoved through the telepor-

Driving the Maze
Walking or running isn't
the only way to travel
through one of these elec-
tronic labyrinths. Some games
help the on-screen character
save some shoe leather by
having him ride up and down
the snake-like corridors in
some sort of vehicle.
Dodge 'Em, in which the
player attempts to pick up
dots while avoiding a collision
with one or more "crash cars"
is the original driving maze.
It has proven a winner for Atari
as both a coin-op and VCS
 cartridge.
THE WORLD MARCHES TO WAR!

Of Battles and Bytes

People have played war games for nearly as long as they've been fighting the real thing. As most gamers know, chess is actually a highly abstract representation of medieval combat, complete with knights, castles and royalty.

Far less abstract in conception are the board war games first introduced by the Avalon Hill Company in the late 1950's, still popular with millions of armchair generals today. These usually involve moving pastebord counters representing troops over a map divided into spaces by overlaying a hexagonal grid. Luck plays only the most minor role in such contests, since the ratio of attacking to defending forces, modified by terrain and other factors, usually suggests the outcome of any given battle.

Non-electronic war games are not, however, without their drawbacks. They often take a long time to set-up, require a pair of reasonably well-matched opponents and eat up at least a couple of hours of playing time for each game.

Computerized war games, which have only appeared in a big way during the last 12-18 months, are designed to overcome all three of these problems. Set up is either automatic or quickly accomplished with a few keystrokes. Solitaire versions are included in most programs and speed of play is noticeably increased over most conventional war games.

Battles of Olde

While World War II is still the favorite setting for war games, many players are attracted to the seemingly simpler and somehow more romantic campaigns of the more distant past.
Electronic Legends of World War II

World War II was the most colossal conflict in the history of humanity, with fighting taking place in almost every corner of the globe. Its historical effect on the modern era — and its tremendous personal impact on the lives of hundreds of millions of individuals — has made WWII the focus of more interest among computer war gamers than any other military event.

As is the case among board war gamers, electronic generals are especially enthusiastic about games based on the titanic struggle between Germany and Russia on the east-

This game, designed by Chris "Eastern Front" Crawford, may be particularly suited to first-time computer war gamers. It's straightforward joystick-activated control system and the small number of units involved in the game make it a more approachable program than some of the more complicated battle programs.

Strategic Simulations has justly earned raves for its excellent line of electronic war games. Napoleon's Campaigns focuses on the continent-spanning military excursions of the man from Corsica, while the Battle of Shiloh allows gamers to relive one of the crucial battles of the Civil War.

Avalon Hill's Microcomputer Games Division has recently published Legionnaire, a slightly fanciful version of Caesar's conquest of Gaul (modern day France). The solitaire player takes the Roman banner and can adjust the difficulty of the game through selection of the tribes to be fought and the number of legions chosen to do the job. Some tribes are easy pickings for Caesar's infantry and cavalry, while others can give as good as they get.

Panzerblitz, playable solitaire.

The most intriguing game based on the Pacific theater of operations is Strategic Simulations' Guadalcanal Campaign. This is the first electronic "monster game", a term war gamers apply to a simulation that treats a battle or campaign in such minute detail that it may take hundreds of turns to refight the whole battle. Fortunately, Guadalcanal Campaign employs a particularly simple routine of play that leads the gamer through the action virtually effortlessly. As a result, Guadalcanal Campaign probably plays two or three times faster than a comparable conventional boardgame. If you've always wished you had time for one of those multi-map, 200-piece conventional war games but never did, this one is definitely worth a try.

War Today — and Tomorrow

Smashing out of recent headlines comes Southern Command from computer war gaming's number one publisher, Strategic Simulations. The Arab-Israeli War was a testing ground for weapons and tactics developed by the major superpowers, as well as a human drama of major proportions. Now you can find out if you could lead the Israelis to victory against the numerically superior Arab forces.

Much as all of us would wish, war is likely to follow humanity into the future. Another SSI title, Warp Factor, is a clever attempt to put battling space navies in the far future into computer game form. The array of available ship types, each with different weaponry and other charac-
sions, regiments and brigades are the concern in a tactical contest in which the doings of squads and platoons are of central interest.

While most war games treat the operational or strategic aspects of the conflict in question, more and more attention is being paid to small unit engagements in some of the newer titles. Good examples are Galactic Gladiators and Cytron Masters, two of the Rapidfire Games recently introduced by Strategic Simulations. The former presents hand-to-hand fighting between small elite units in the far future, while the latter revolves around fights between custom-designed one-man air cars.

Swashbuckler, from Data-most, takes a romantic period from the past as its inspiration, rather than growing out of science fictional speculation about the nature of war in the future. In this solitary contest, the player is a brave swordsman who might fight a veritable army of pirates on the deck of his ship. Well-thought-out keyboard controls permit the player to move the on-screen hero around and execute several offensive and defensive sword-fighting maneuvers.

**War — Arcade Style**

What could be a more natural backdrop for a target or shooting game than war? This accounts for the fact that there are many titles which are arcade games with a military theme rather than realistic military simulations. One of the cleverest of these is Night Mission, a video pinball disk from Sub-Logic. Winner of a 1983 Arcade Award for Best Computer Audio/Visual Effects, Night Mission translates the idea of a night bombing raid over Europe into an action-packed electronic flipper game with loads of user-modifiable features.

Broderbund's Sea Fox for the Apple II involves the WWII-era running conflict between hunter submarines and destroyer escorts charged with protecting all shipping. Sea Fox puts the player at the helm of a heavily armed sub which must sink a series of convoys against the opposition of fleets of enemy submarines and destroyers. High resolution graphics and multiple scenarios of increasing difficulty are among the program's best features.

Kamikaze by Hayden Software, on the other hand, echoes the air-sea battles which frequently occurred in the Pacific phase of the Second World War. The arcade commands a surface vessel which must shoot down the aircraft passing by overhead before it is bombed or becomes the victim of a suicide attack by one of the planes.
Those Sensational Scrolling Shoot-Outs

The development of scrolling for electronic games introduces a fourth possibility: the entire playfield "pans" in the direction of movement so the character never lacks for running room.

Although sports simulations and adventures use scrolling quite extensively, arcade programs represent the most exciting application of this feature.

There are two main varieties of scrolling shoot-outs, mono-directional and duo-directional. The first category consists of games in which the scenery moves slowly across the screen in a constant direction. This type of scrolling shoot-out gives the player little or no chance to move back over terrain that has already scrolled past. The best-known example of this type of game is Scramble.

The duo-directional format sets up a situation in which the game actually takes place on a number of different screens connected edge to edge. The gamer's on-screen representative — usually some sort of armed craft — can go back and forth at will, moving from screen to screen as necessary. The most familiar duo-directional scrolling shoot-out is Defender.

The virtues of the scrolling shoot-out are immediately obvious to any game fan. They generate a very high level of excitement as the player runs the gauntlet of assorted dangers.

A Mission of Rescue

They won't release the hostages. They've got your citizens under close arrest in a series of barracks. Your mission: pilot your helicopter from a reasonably secure launch pad to where the hostages are being held and ferry them to freedom.

Here Comes Trouble

Once upon a time, the boundary lines of a single play-screen hemmed in videogaming action. If a player's character reached the edge of the picture, only one of three things could happen:

1. The character rebounded in the opposite direction.
2. The character destructed instantly upon contact with the edge.
3. The character vanished briefly, only to reappear at the corresponding spot on the opposite edge.
Of course, the captors aren’t going to meet you with open arms and a brass band. Enemy tanks patrol the area around the barracks, and overflights by rival jets are also fairly common.

High resolution graphics for Choplifter (Broderbund) are among the best you’ll ever see in a game for the Apple II. The helicopter can be turned to face due East or West — or even point right at the player during an anti-tank strafing run. Animation of the hostages is also fine. When the whirlybird lands near a barracks building which it has previously blown open, the captives run across the screen toward the ‘copter from all directions.

There are three on-screen scoring indicators. One notes the number of hostages who have been safely delivered to your home, the second indicates how many hostages are actually in the helicopter, and the third shows how many hostages have perished during the rescue try.

Perils of the Red Planet

Caverns of Mars, a prize-winning program originally produced as part of the Atari Program Exchange (APEX), has successfully made the big jump to the company’s regular software line for the 400/800 computers.

This mono-directional scroller is somewhat unusual in that the playfield moves up the screen instead of to the right or left. The goal is to pilot your spacecraft down the tunnels that honeycomb the red planet and destroy the installation at the center. Once that is accomplished, the gamer has to get the lead out and race upward through the tunnels before the explosion of the installation catches the ship in its wake.

Running the Gauntlet

Protector, originally created by Mike Potter for Crystalware, appeared in a much improved version for Synapse Software during 1982. Now this duo-directional blast-'em-up has been released for a third time as Protector II. It’s worth untangling the confusion of the titles if you own an Atari 400 or 800 with 32K of memory, however, since the latest edition is, by all odds, the best yet. Perhaps Mike Potter will continue to revise this multi-scenario scroller every year or so to keep it right up with the state of the art. But if you’re too impatient to wait for Protector Mark X, you can’t miss with this title’s latest incarnation. Absolutely outstanding.

Tony Suzuki displays his brand of design artistry in Star Blazer, an Apple II program that boasts some of the most intricate graphics that ever decorated an arcade game. Any doubters are encouraged to carefully observe what happens when one of the periodic resupply missions drops a care package into a tree instead of into the lap of your attack fighter.

Neptune, an Apple II title from Gebelli Software, takes the mono-directional scrolling shoot-out beneath the waves. You command a well-armed submarine with which you must blast a pathway through to reach the undersea foes. Shooting and avoidance scenarios are both included, which provides the kind of variety that extends the play-life of a program.

Another excellent multi-scenario scrolling shoot-out is Starblaster by Picadilly Software for the Apple II. One of the most unusual features of this program is that it has an unusually complete demonstration mode. You can see all of the scenarios clear to the end of the line (the alien super-ship) even before you get good enough to penetrate that far during a real round of play.
A Guide for Heroes

When W. Gary Gygax and Dave Arneson invented the nonelectronic role-playing game that eventually reached the marketplace as Dungeons and Dragons, the main idea was to provide some interesting between-battles local color for fantasy miniatures campaigns. It wasn't long, however, before other publishers like Game Designers Workshop began applying the concept of role assumption games to other settings, including science fiction.

Computer adventures are, of course, a development growing out of the earlier non-electronic role-playing contests. With examples of themes on which to base computer adventures spread out before them, programmers have refused to be restricted to only doing adventure disks with a fantasy theme.

One of the most popular categories is the science fiction computer adventure. Although some action adventures and illustrated adventures have appeared, text only seems to be a popular format for this type of disk. The idea, evidently, is that many players would rather imagine their own spaceships, aliens and unexplored worlds rather than deal with relatively primitive on-screen representations of such things. Of course, the way graphics are improving these days, it won't be long before SF adventures vie with cartoons or even special movie effects in the visuals department.

Champions of the Spacelanes

The designer of the celebrated Empire of the Over-Mind has now produced a new title called GFS Sorceress, usable on most of the popular microcomputers. As Joe Justin, expelled into deep space for a murder which he did not commit, you must find and repair a spaceship (The GFS Sorceress of the title) and then set about clearing your name. This involves visiting several different planets which are all components of the interlocking riddle, which upon solving, will restore Joe Justin's good name.

Queen of Phobos, an illustrated adventure, is a treasure hunt through a giant semi-abandoned ship, the Queen of Phobos. The player must wander through the intricate maze of halls, finding treasures and having run-ins with a band of looters who have the very same idea in mind.

Starcross, the newest entry from Infocom, also tests the player's skill by having him (or her) explore a ship from another galaxy which has crashed into your space territory with a challenge for humanity. Like other Infocom games, this one is beautifully packaged (in a plastic flying saucer) and also contains supplementary materials which may well come in handy during the mission.

Another fine science fiction mindbender is Cyborg, an Apple II disk written by SF author Michael Berlyn. He has done a fine job, too, when it comes to crafting a highly distinctive test of the player's reasoning powers. Can you find out what happened to wipe out your short-term memory in time to thwart the crisis that menaces you?

Time-Tripping

If rocketing through the universe isn't precisely your cup of tea, how about a jaunt through the past? Two first-rate games with this theme are currently available, Time Zone and Adventures in Time.

The former is particularly noteworthy. It's a multi-disk epic in which the player must visit numerous eras of the past and future — and even take a short trip to another planet — in order to prevent a doomsday device from wiping all life from the face of the Earth.

Mystery and Intrigue

As previously mentioned, the year just ended saw a great expansion in the subject matter of computer adventures. Besides the fantasy quests and science fiction odysseys, designers have also
Mission Impossible, one of the original Scott Adams Adventures, has gotten a facelift that should secure a much wider audience than it captured the first time around. The new edition, part of Adams International’s Saga series, adds high-resolution color illustrations and, if you have a Votrax synthesizer, a full complement of speech and sound effects.

**Realms of Fantasy**

Of course, the world of swords and sorcery has sparked the creation of more adventure games than all other sources combined. There’s something about the thrill of saving the day with a timely spell or deadly sword-thrust that fascinates a good number of computerists.

Wizardry, by Sir-Tech for the Apple II, is generally regarded as the best fantasy role-playing game on the market — and with excellent reason. Although no computer game yet invented can match the creativity of a topflight live dungeon-master, Wizardry includes more of the features adventure gamers want most than any other title. For instance, there are sharply delineated character classes, a wide assortment of treasures and monsters, and a well-animated underground maze which is viewed from the perspective of someone actually stalking down the twisting and turning halls.

Those who’ve already mastered Wizardry will want to try their hand at Knight of Diamonds, an adventure module for the most powerful characters who have already survived the challenge of Wizardry. More such modules are promised as is a deluxe edition for the 64K IBM Personal Computer.

Another program with great scope is *Ultima*, an Apple II game published by California Pacific. The novel wrinkle here is that time passes at an ever-accelerating rate as gamers explore the expansive world depicted in this action adventure. Eventually, the technology advances to the point at which you can actually hop into a rocketship and journey through space in search of new thrills.

Another fantasy adventure on the grand scale is *Swordthrust*, the creation of Don Brown. Like Wizardry, this is a multi-scenario series. That is, when you’ve come to the conclusion of one adventure, you can just buy a new disk which contains another one. Many adventurers hold the belief that this series shows the closest similarity to non-electronic role-assumption games.

does this text-game allow players to communicate in complete sentences instead of just cryptic verb/noun word phrases, but the non-player characters seem to take on lives of their own, scurrying around the mansion on who-knows-what sinister errands.

Sirius Software has published a pair of really unorthodox adventure programs. *Kabul Spy* sends the gamer behind the Iron Curtain to bring a noted scientist back to the free world, while *Escape from Rungistan* is based on the idea of a vacation going haywire, necessitating a break from the Rungistan jail and lots of runnin’ and hidin’.
Crossing the Road
It is extremely doubtful that anyone reading this magazine made it through kindergarten without hearing the riddle, "Why did the chicken cross the road?" Several companies, noting the success of Freeway, the VCS-compatible cartridge from Activision, are now trying to help computer gamers answer this question.

Frogger, by Sierra On-Line for the Apple II, is a faithful translation of Sega's popular pay-for-play machine. All the play-action, sounds and graphics of the original have apparently survived intact, and this computer edition is a "must buy" for anyone who has ever spent time at the local commercial amusement center trying to steer the amphibian through the traffic and across the river to home.

Quite similar, albeit with a somewhat different graphic treatment, is Cricketeer. This time, players use the keyboard controls to hop the gallant cricket to a protected haven. Finally, for those who enjoy a dash of way-out humor, there is Scott Adams' Preppie. This arcade game, available for just about every system, gives you the chance to do something drastic to all those folks in the alligator shirts.

A Lighter Touch
Most computer arcade games are pretty much sober-sided affairs, but a dash of humor does manage to worm its way in occasionally. One of the best at injecting a note of humor into otherwise challenging games is Mark Turmell.

Beginning with Sneakers and continuing through Beer Run and FreeFall, all marketed by Sirius Software, Turmell has displayed a deft touch when it comes to creating cartoon-style computer graphics that wouldn't be out-of-place on a Saturday morning kiddie show.

Games to Flip Over
David's Midnight Magic (Broderbund), Raster Blaster (BudgeCo) and Night Mission (SubLogic) prove that pinball and videogames aren't as incompatible with each other as some skeptics had thought.

David's Midnight Magic, for instance, has a two level table with multi-ball capacity that any flipper fanatic would have to love. There's even a special feature that lets a player who has hit the right combination of playfield features save a ball before it disappears down one of the side drains. David Snider won an Arcade Award for the Best Computer Game of 1983.
Guess Who's Coming To Dinner...

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For the Atari Home Computer

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Since EG introduced this column some months ago, I have tried to be content with the hope that many of you will find the subject matter interesting enough to possibly give some of the new pinball machines a shot when you visit your local game room.

I know how flagrantly this thought flies in the face of convention, given the incredible success and diversity of current videogames, but the silver ball efforts are no less inspired.

In fact, one of my greatest concerns, when EG editor, Arnie Katz offered the opportunity to do this column was whether the number of models being released could sustain the needs of a monthly magazine.

So far they have. And the coming months show no signs of this diminishing: The coin-op artform continues to undergo change, and truly radical departures from the pinball "image", as evidenced by this issue's picks.

Pinball is fighting to get back into the playing public's favor. If nothing else, flipper machines can provide a challenging departure from video, or a new learning experience for those who have never enjoyed the satisfaction of a nicely placed reverse, a firmly hit spinner or the completion of a sequence of targets. The same even holds true if pinball was once a part of your game-playing repertoire, now abandoned for the joys of today's screen gems. Whatever category you fall into, there's a revolution going on that's waiting to be discovered by the adventuresome arcader looking for new battles to conquer in that universal, never-ending quest of man against machine. All you need to do is keep your eye on the ball and roll with the flow.

SPEAKEASY
Bally

At a time when the thinking is directed more at ways to dramatically alter or even disguise pinball, here's a model which shuns the approach. Instead, Speakeasy serves up the basics in a solid package while also throwing in some subtle nuances to bring it all up-to-date.

In many ways, Speakeasy resurrects the past by being a two-player game, rather than incorporating four-player capability. It also brings back to life a long-time favorite pinball theme — cards. In addition, the machine is an add-a-ball game in which much of the strategy and play-action is directed to winning multiple balls rather than just free plays, putting more emphasis on attaining higher scores as a result.

As for the features on the board, there's a rhyme and reason for everything, and it's all tied together from
top to bottom and side to side. The play begins with five lanes at the top (5 through 9), all in the same suit (hearts). The challenge for players is to get the "cards" out sequentially, in order to win two added balls. If you screw up and get a lane at the "wrong" time, there's even the option of pressing an extra flipper button at the left side of the cabinet to cancel any out-of-sequence light, at a cost of only 25,000 points (a sometimes expensive ante, but a bit of imaginative strategy to utilize in a pinch).

Moving down on the board, there are three thumper-bumpers, widely spaced across the middle. On the left is a spinner lane, with values increasing proportionately to other targets hit. The right side has a return lane featuring a star roll-over and more increased values as well as a potential special.

The real focal point of Speakeasy is a center set-up of Bally's new "flyaway targets," which do just that when a ball comes in contact with them. There are five in all, from the 10 of spades to the ace of spades. Making them in sequence means an added ball, but whether you can get them this way or in the wrong order, the bonus multiplier values rise and there's also an increase in point totals from 25,000 points up to 125,000 points. It's an intriguing design twist, because the targets function much like drop targets or spot targets, but allow front access or back for the ball. You'll be seeing them again in some form in the future.

But there's still more to Speakeasy. Two side kick-out holes, when lit, activate a center "wheel of fortune" beneath the field for extra point values, an added ball or even the loss of a ball. Mix in a right-side roll-down with four jokers needing to be lit for an added ball, and you get the idea of this novel game from Bally which offers a full deck of flipper fun and scoring totals to match those players on a streak.

**PUNK**
Gottlieb

This company has remained faithful to the art with this modern-day pinball game which even throws in some dynamite sound effects as part of the background during play.

Punk is a shooter's game, pure and simple. Its layout offers a vast array of shots and complementary rewards. There's a full board with three lanes leading off the top, along with a couple of thumper-bumpers to aid the play. At the right is a kick-out hole for locking up a ball, and there's another deep-set hole at the top left with the same function in this multi-ball design. The scoring can really build when more than one ball is rocketing around the board.

Four sets of three-bank drop targets
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"Light years ahead of the rest"

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VARKON
Williams

If you think you've seen all that pinball has to offer, the latest variation on a theme by Williams will surprise you. First off, don't expect to see that familiar cabinet shape you've come to associate with flipper games because Varkon borrows from its coin-op cousins and might well be overlooked next to a Robotron or Defender. You see, this pinball is playing video's game even to the point of its double joystick control on the front panel of its upright cabinet.

Beyond the shock of this initial sight is the fact that the action taking place before the player is a mirrored reflection of a smaller-scale, "flat" field, which appears to be vertical when normally viewed. It gives the illusion that the ball is actually traveling up and down against and with gravity. You have to see it to really appreciate the effect.

The play begins either when a timer counts down to release a ball that rests between the flippers, or when the arceder presses a lane-change button. If nothing else, Williams has maximized the available space with five top targets (1 through 5) and a right side of two lanes (V-A) that lead down to a lone thumper-bumper and another lane (R). At the left, there are three more spot targets (K-O-N) and a top spinner that sends the ball down and around. When this area is lit, rather than having the ball released back into the main playfield, there's a sudden...
burst of light and sound effects and a chance for increased point values in a mini-playfield that might conjure up memories of Bally's *Elektra*, with its lower field play.

The balance, despite the obvious constraints, is pretty good with reverses as well as straight-away shots possible to all points of the board. The left side targets increase bonus multiplier values, while the right side lanes build the thumper-bumper scoring in an effort that can easily be missed amid the throngs of videogames around the arcades these days.

Whether or not the deception will be enough to intrigue videogame players remains to be seen, but Varcon is an interesting departure from the norm and once again proves that pinball can take on many different forms while still providing the essential ingredients that keeps pinball a unique commodity in the game playing universe. So give it your best shot when you see it at your local arcade and decide if Williams has, in fact, hit on something that's worth pursuing down the road.

If your special interest is new games, you'll want to be sure to catch the April installment of "Pinball Palace." I'll be offering insights and observations based, in part, on machines introduced at the A.M.O.A. (the Amusement Machine Operators Association) in Chicago.

This trade show is one of the most important events for the coin-op industry, and it's likely that the pinball games we'll all be playing six or even 12 months from today will make their debut at this closed-to-the-general-public event.

Next month, meanwhile, I'll be investigating a few more in the current crop of flipper games.
JUNGLE KING

Taito

Originally, there was the home videogame, Freeway, in which players directed chickens over a variety of real-life highways. It was followed soon thereafter by Frogger — the first time a home videogame beat a coin-op to a popular new play-mechanic idea.

Just as Freeway foretold Frogger, Activision's Pitfall has helped add the “swinging” game to the pantheon of gobble, maze chases, climbing contests, invader games, and digging videogames, by providing gamers with an arcade swing-fest.

Jungle King from Taito looks to be that storied company's biggest hit since Space Invaders. This three-scenario contest fits the classic formula for successful videogames: easy to learn, difficult to master. The game begins with a Tarzan-type jungle lord swinging back and forth on a vine. Soon, a second, empty vine will arc into view from the left end of the playfield, much like a circus trapeze. By hitting a jump button and joystick, the hero will leap from his vine onto the next. If he makes the leap, he moves on to the next rope, and so on throughout this scenario.

Completion of this round brings the player to the river sequence, in which the jump button becomes a “stab” controller. As the jungle king swims up the river in search of his lady who has, of course, been spirited off by local cannibals — we quickly learn that sharks infest these waters. By timing the push of the button to activate a lethal blow to the savage predator, points are scored and territory is cleared.

The final scenario involves the actual rescue — from a boiling cauldron, no less — of jungle queen by jungle king. Jungle King is an undeniable kick the first few plays, but doesn’t seem to hold up for extended periods of time. Moreover, the graphics are, especially at the start, downright hideous, looking as if they were drawn and crayon-colored by a kindergarten class. Subsequent sequences are somewhat more eye-pleasing, but this one is never going to challenge Zaxxon — or even Pitfall for that matter — in terms of visual frills.

The play’s the thing here, though, and gamers seem to be enjoying it. Several potential problems have emerged, however. One is the long playing time for each game. There doesn’t seem to be any great time-pressure to jump, so poor players tend to stand in front of the machines for loooooong periods of time.

More seriously, the estate of Edgar Rice Burroughs, creator of the original Jungle King — Lord Greystoke, aka Tarzan of the Apes — have brought suit against Taito to cease producing the games.

Stay tuned, Junior G-Men for the latest breaking news...

KANGAROO

Atari

Ever since that cute little round-headed guy with the insatiable appetite turned arcade coin slots into horns of plenty, the buzz-word in arcade circles has been "cute". For the first time since the great videogame explosion began, science fiction blast-'em-ups are being edged off the arcade floor space by such graphic charcoal as Donkey Kong, Dig-Dug, Frogger and, of course, Ms. Pac-Man.

Not that the SF games aren’t still hot as a pistol — witness Tron, Zaxxon and Frenzy — but even the games in this traditionally macho genre have begun to “cute”. The newest title from Williams, best known previously for such “players’ games” as Defender and Stargate, is Moon Patrol, a visual knockout of a machine that blends ray gun excitement with the whimsy of “The Love Bug” in outer space.

Of all the cute-pie coin-ops raking in the quarters, Atari’s Kangaroo takes the top honors. The game revolves around an adorable little marsupial who has been snatched from his kangaroo mama’s pouch by a band of chimp terrorists — obviously guerrillas in training. They blindfold the poor little dude and take him to the top of a steep, multi-leveled playfield, where he must wait for his player-controlled mom to rescue him.

Arcaders are armed with a joystick that moves, or jumps, the kangaroo
SATAN'S HOLLOW

The hot new battle game that dares you to cross the blazing Bridge of Fire to do battle with the Master of Darkness—Satan of the Hollow!

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in any desired direction. Our heroine can also leap straight up, or duck down low. This all becomes necessary because, in addition to scaling the various corridors to reach its offspring, the kangaroo must put up with a barrage of apple cores hurled by the devilish chimps who skitter up and down the tree-lined right vertical end of the playfield.

Your marsupial surrogate is no sitting duck, however! She's equipped with boxing gloves that are activated by the push of a button on the command console. Of course, to throw a punch requires getting within range of the cantankerous primates, but a shot to the chimp-chops is good for healthy bonus points.

Reaching the top of the playfield—and the baby—wins the player a grateful "Mom!" (coming from the baby 'roo via a word balloon) and a shot at the next playfield, a stair-step affair in which the kangaroo must leap northeasterly onto suspended platforms. Again, you're shooting for the top of the playfield and the baby animal while dealing with the antagonisticapelings. The final sequence is a more traditional ladder/climbing sort of scenario which is elevated by means of its superior graphics to first rate play.

There are scores of cute little touches all along the way. Bonus items dangle from the ceilings and can be snatched for extra points, enchanting music plays throughout and when our heroine is either conked with an apple core or tumbles from a shelf, a golden halo appears over her head.

It's not the most imaginative game to come down the pike since Pac-Man, certainly, but it's cute as a button, loads of fun to play, and surprisingly addictive.

**TOKEN TALK:** Several very interesting games are on their way to family amusement centers across America. While "Insert Coin Here" will eventually deal with all the major games at great length, we thought you'd like a preview of a few of the most fascinating new entries.

**Solar Fox** from Midway is a sort of outer space maze game without lines. Your ship captures objects by passing over them. It's exciting, challenging, and, as the saying goes, "easy to learn, difficult to master".

**Gravitar**, an Atari coin-op, is an absolute *tour-de-force*, and one of the most challenging "players' games" used exclusively for bopping the chimpanzees that scamper vertically along the playfield border. The stick in its down position will cause the kangaroo to duck. Pushing the stick away will send the marsupial straight up in the air, while moving it upward-diagonally will produce leaps in those directions.

Otherwise, the stick is used simply for directing the kangaroo in the ordinary compass directions and in scaling ladders.
ever designed. Players move across an overview of several space caverns which become magnified—as in Venture—once the cave is breached. This is a thrust-steering game, a la Asteroids and only top guns need apply.

Finally, be on the lookout for what may be the most revolutionary new videogame since Pong! It's from Sega and the name is Subroc-3D—a fully three-dimensional game that requires no glasses and will be available both in

**JUNGLE KING**

**HOW IT PLAYS**

After selecting the one- or two-player button, players simply hit the action button and the directional joystick on the console to activate the various functions—swinging, stabbing, etc. When the jungle king swings from one vine to the next, he can land at any of three levels. It's best to land him at the highest level, thereby reducing the risk of his falling just short on a subsequent jump.

When underwater, keep an eye on the diving bar, indicating the amount of time your jungle hero has underwater.

**JUNGLE KING**

![Jungle King Controls](image)

upright and sit-down formats. A combination dogfight-sea battle, we can guarantee you that your eyes will pop and the quarters will drop.

Watch for complete coverage of these games, Moon Patrol (Williams) and lots more in upcoming installments of "Insert Coin Here" and our annual "Player's Guide to the New Coin-Ops" in the April issue of Electronic Games.

Cosmic Creeps will send you right into orbit—out of this world to a galaxy where Space Skeeters carry unsuspecting Orbinauts into oblivion. Where Creeps are constantly on the attack. And where it's up to you to save an entire generation of Cosmic Kids.

Even the most space-weary videonauts will love Cosmic Creeps. It's a test of astronomical skill, strategy and stamina. And it's a lot of fun.

For the whackiest blast-off ever, take a trip to the store and get Cosmic Creeps. It's a space game from a different universe.

**Telesys**

**FUN IN GAMES.**

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Dan Bunten is a good example of the seriousness that is now associated with computer game programming. In the past, many top programmers worked in the business and education ends of the software business, and it was only the part-timers who dabbled in games.

Bunten has created three games for Strategic Simulations Inc.: Cartels & Cutthroats, Computer Quarterback, and Cytron Masters.

"When I did Cartels and Computer Quarterback, I was working part-time. When those games did well I decided to devote my full attention to the job, so I hope things continue in that direction," said Bunten from his home in Little Rock, Arkansas.

If his last three outings are indicative of what lies ahead, things should continue to go quite well. "Cartels & Cutthroats is a business game that is a full-scale simulation of the marketplace for up to six companies. It is complex in its inner workings, yet simple to play because the gamer has only seven data inputs to work out," says Bunten.

"With Computer Quarterback, I wanted to make a strategy game that could be played head-to-head or against the computer. Now, I know more about graphics, and what I did in the past in BASIC, I would now do in machine language to make response time much quicker," testifies Bunten.

So with a business game, a sports game and a robot clash (Cytron Masters) under his belt, what does such a versatile programmer do? "I'm going to do another business game next. I don't know anything more about it than that yet," says Bunten. "I have some other ideas on future projects, but overall I think my diversity has hurt me. Someone like Scott Adams has worked so long in adventures that he has become a household name in that genre. When he comes out with a new game, the adventure gamers say, 'Oh, another Scott Adams game!'"

Another thing that really helps games is extensive documentation, which can give the gamer a feel that here's a product to which some time has been devoted. That feeling can easily be gotten from the opening of Cytron Masters. The first few pages of the booklet contain the background story as to how the Cytron battles originated. The reading is so good that it's almost a disappointment when the story ends and the game instructions begin.

Bunten thinks touches like that set the game apart in the marketplace. "Some companies lose sight of the finer touches. I think if someone is going to spend $30-$40 on a product, they deserve more than one page of instruction and a game disk. On C-
tron Masters, we decided to put an instruction mode into the program to make learning the game easier. Those touches are appreciated by the game-
ers."

The credit for the fictional opening to the Cytron Masters instruction booklet must go elsewhere. "My brother wrote the opening," Buntten notes. "I am a science fiction buff from way back. I was probably first influence by Larry Niven. But my brother wrote that opening piece."

Even the packaging aspect of software publishing interests Buntten. "I don't think Cartels & Cutthroats is a good name for that program because it doesn't tell enough of what it's about. I think the name has hurt sales. With all the games currently being turned out, it is important to be successful with each phase of marketing," he explains.

But to the players, it's the program that counts, not the package. Buntten's three works, Cartels & Cutthroats, Computer Quarterback and Cytron Masters, all stand tall in the gaming world in this regard.

Whether he's soaring through outer space, engineering a super-simulation of a major team sport or simply delighting moguls — and, of course, those would-be moguls — Dan Buntten has the right stuff.

Tired of eating little white dots? Add variety to your video game diet with Fast Food, the most exciting new entrée on the menu.

Gobble up pizzas. Munch french fries. Chomp down hot dogs. But, when you see a purple pickle, don't eat it.

Along with being a banquet of laughs, Fast Food is one very challenging game. Its random patterns and rapid action will test the skill of even the most advanced video game hot dogs.

Buy Fast Food. You'll get a "burp" out of it.
The Menace of the MCP Returns

And as Flynn distracts the MCP, Tron flings his special disk into the heart of the evil program and destroys it forever! Or did he??!!!??

When news broke regarding the MCP's downfall, all the enslaved programs rushed to their I/O towers to talk with their Users once again. But, there were many programs written by the MCP himself who were loyal to him to the very end. These programs had a "back-up" copy of the MCP in the event of the MCP's destruction. (Back-up is a term that means a spare). The MCP helpers sent a copy of the MCP to another computer system to keep Tron from derezzing the only existing copy.

Once Tron found out about this illegal use of an I/O tower he attempted to shut it down, but was too late. The MCP had escaped. Tron jumped into the I/O tower to track down his nemesis, and took five weeks of searching until he found the MCP being bored to death inside an IBM 360 computer with nothing but accounting programs to terrorize. The battle begins . . .

The MCP has been busy for the past five weeks. It has constructed another light cycle game grid, a large maze patrolled by tanks, and another protective wall (slightly weaker) around himself. The I/O tower has been surrounded by the dreaded "grid bugs."

Tron must first prepare himself to do battle with the grid bugs so he can enter the I/O tower, make contact and get instructions from his User on how to reprogram the MCP into a babbling idiot. Upon entering the courtyard of the tower, the bugs awaken and are found multiplying. Tron moves to the right as fast as he can, derezzing each and every one of those little critters that stand in his way. Reaching the right corner, he moves straight up, throwing disks as he goes until he is near the entrance of the tower. Tron continues firing at the grid bugs to reduce the population explosion until the timer on the tower gets below 100 nanoseconds. He makes a flying leap into the tower and is taken to the real world for a brief time.

Alan, Tron's User, tells Tron that the only way to eliminate the MCP is to repeat what he did in the ENCOM computer system by throwing a special disk into the heart of the MCP. Entering the MCP's cone is the only way of guaranteeing success.

With this new knowledge, Tron rezzes up his trusty light cycle and jour-
neys to the MCP's cone. But wait a minute—here comes those three evil blue warriors. Three evil blue warriors that Ram, Flynn and Tron derezzed long ago. It looks like they want a rematch but three against one? That's not cricket ol' chum! Let's see if my 'pattern' still works. I go straight ahead halfway up the grid and make a turn to the right until I get near the right wall. I move downwards, leaving a small channel for a cycle to go in but not out. I go to the bottom wall and turn toward the left wall and, sure enough, one of those blue jokers goes into a one-way street. One down, two to go. The second cycle is coming straight at me. I get close and move

(Above) The Grid-bug scenario dares the player to reach the I/O Tower while (below) Tron battles the MCP

When it comes to video games, there's nothing else like a game by Telesys. Nothing whackier. And nothing more challenging.

Eating little white dots is pretty bland, compared to munching the flying burgers, shakes and fries in Fast Food. It's a furious feast!

Keep Stanley I. Presume hot-footing it as he dodges Coco's barrage of nuts in Coco Nuts. But don't laugh—this is serious business. It's a knock out!

And try Cosmic Creeps—a space game that's out of this world. It's up to you to save the Cosmic Kids from Skeeters, Creeps and oblivion. It's a blast!

Stick it, with Telesys video games. You'll be stuck on them for good.

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straight up the left side and then back down again, entrapping the little bugger.

Two down, one to go. I now follow the upper wall and cut off the last cycle near the top of the game grid and proceed at a slow pace. The blue cycle runs out of room before me and zaps himself. Three down and now I've got to go.

Tron stops, derrizes his cycle and looks at the maze before him. Looks deserted. Better yet, that tank looks even more deserted. Tron climbs into a badly damaged unmanned tank and starts it up. The tank has a moveable turret but there is no shielding of any kind, so one hit and it's bye-bye for Tron. The maze contains five extra-shielded tanks. Tron moves again in another "pattern", making sure to avoid any head-on confrontation. Using the only advantage, a steerable turret, and bouncing all his shots against the walls, Tron makes mincemeat out of the tanks before proceeding to the deadly cone.

The MCP knows Tron is coming so he builds a massive wall around himself and begins spinning it at a dizzying rate. Tron enters the MCP's I/O tower and begins hurling his disk again and again at the moving wall. The MCP has a new trick up his sleeve and shuts the entrance to the room so Tron can't escape and begins to move both himself and his deadly wall toward Tron. Tron, seeing the mess he is in, throws his disk to the side of the cone where the wall is at the left end. With only seconds to spare, Tron makes a vertical hole in the wall and before the hole has a chance to disappear around the other side, he makes a mad dash throwing disks as he goes into the cone and wipes out the MCP.

The darkness is lifted once again but what has happened in the five weeks that the MCP was free?? I wouldn't trust your computer if I were you...
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ATARI POLE POSITION IS FORMULA YOU CAN FEEL.

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Selling the
Gallant Gobbler
By TRACIE FORMAN

ove over, Snoopy, Luke Sky-
walker and Strawberry Short-
cake! There's another face in the mer-
chandising game that's lately adorned
everything from roller skates to vita-
mins. In fact, the marketing of Pac-
Man has been so successful that
more than 120 manufacturers
have jumped on the Pac-Man
bandwagon, with over 500
different gobbler products.
Pac-Man fever hit the merchandising industry with such a bang that last September, Bally/Midway played host to its Pac-Man licensees with a seminar in Chicago concerning the future of gobbler products. The mood was upbeat, as it well should have been. In the last year, America's favorite face generated product sales of over $10 million. While that may seem like a drop in the bucket compared with the earnings from the Pac-Man and Ms. Pac-Man videogames ($150 million and $200 million, respectively), there were a lot of happy faces at the Chicago seminar.

Dedicated Pac-Maniacs can now wake up between Pac-Man sheets, wash up with Pac-Man soaps and toothbrushes, eat their breakfasts off of Pac-Man dishware, and dress in everything from Pac-Man underwear to Pac-Man sun visors. There are Pac-Man key chains, coin purses, ties, and chalkboards, not to mention the old merchandising standbys like T-shirts, lunch boxes, wristwatches, and the like.

But who ever heard of a "Star Wars" popsicle? Epitomizing the unique appeal of Pac-Man to merchandisers, the Pac-Man ice-pop was introduced by Popsicle Products last year. It features the gobbler's likeness as a lemon ice, or if you prefer, you can munch a cherry-flavored sculpture of Blinky the monster instead. And popsicles are just the tip of the iceberg when it comes to unusual products bearing the gobbler's name.

For example, you can buy IMG Inc's gold-and-diamond Pac-Man necklace, which features a 14k gobbler munching on a string of a hundred and three .10 point diamonds. With its $20,000 price tag, it's the most expensive Pac-Man product you can buy, and a sure-fire way to impress your girl friend. If that's too rich for your blood,
you could settle for any of a number of Pac-Man earrings, rings, charms, belts, or bracelets, available in every price range and easy to find.

If jewelry isn’t your style, there’s always the new Pac-Phones. They’re available in phone stores across the country and feature a good likeness to “you-know-who”. Flip him open and he becomes a regular telephone.

But by far the most unusual of the Pac-Man products is Calfax’s Pac-Man chatter-animals. It’s a plush toy, but with a difference: talk to it and it replies with the familiar wakka-wakka sound, punctuated by flashing lights in its eyes. The longer you talk to it, the longer it talks back to you.

Also soon to tour the country: An ice-follies type show without the ice, featuring a bigger-than-life Pac-Man, Ms. Pac-Man, and all of Bally/Midway’s best-loved videogame characters, singing and dancing their hearts out for the kiddies!

But why this proliferation of Pac-Man products in the marketplace? Until the Pac-Man phenomenon, no videogame was ever so firmly entrenched in our culture. Before the advent of the gobbler, who ever heard of a videogame product (except the occasional T-shirt)? Why has Pac-Man suddenly ventured out of the arcade and into the home?

The man responsible for the Pac-Man marketing bonanza is Stan Jarocki, vice-president of marketing at Bally/Midway. Standard practice (before Pac-Man) would have been to turn the name and likeness over to a national licensing agency and then forget about it, but Jarocki saw the enormous marketing potential in Pac-Man and broke tradition by keeping it “all in the family”.

Pac-Man is truly a phenomenon, as a game and as a character. Jarocki notes that “Pac-Man products require no aggressive sales pitch because, we’ve got the silent salesman (the game itself) on the street. If each videogame earns $50 a week, that’s six hundred quarters. So six hundred people, multiplied by the number of machines across the country. Even making allowances for multiple plays by the same people, millions of people are exposed to Pac-Man every week.” He also mentioned that because the gobbler is an established and familiar “product”, it’s a natural for merchandisers eager to give the public what they want.

What’s in the future for Pac-Man products? Are they here to stay, at least for a while, or are they doomed to an early obsolescence? Although it’s the consumers who’ll be the ultimate judges, Jarocki says that Bally/Midway will continue to stress Pac-Man in their licensing division, and because the new Super Pac-Man and Baby Pac-Man machines will keep the gobbler characters in the public eye, licensees can still expect plenty of income in spite of the built-in instabilities of the merchandising game.

In fact, the success of Pac-Man products has spawned a whole new strategy in the development of the games themselves. According to Jarocki, Bally has a number of games in the works which are being developed primarily for the purpose of marketing the game characters. The first of these mass-market games will be called Domino Man, and Jarocki promises that the character is just as endearing as the gobbler himself.

Whether the future games will be successful or not still remains to be seen. But no matter what the fortunes of his imitators, it’s clear that Pac-Man has changed the way America looks at videogames.
ZENITH
Gebelli Software/Apple II/48K disk

Earth has decided to build an artificial sky city to cure its problems of dwindling resources and overpopulation, and your space cruiser is charged with patrolling this outer space metropolis, ZENITH, while it's under construction.

Why does ZENITH need guards? Well, there's a race of aliens a few parsecs to the left that isn't too thrilled by the idea of humanity erupting into the void and constructing a permanent base.

Finally, the attack against ZENITH comes! You must zoom back and forth above the surface of this man-made world, hunting down the aliens and their deadly spacecrafts while also repairing any damage done to the city's buildings by enemy bombs.

Your fuel is sharply limited, but if you use your tractor beam to snare a few aliens, you can journey into hyperspace and trade your prisoners for fuel with the alien mothership.

This first-person piloting and combat game features several different screens. Besides the well-executed hyperspace and refuel sequence, there is a view of ZENITH as it would look through the front port of your ship, and a map display which shows the locations of aliens, ships and buildings within the city.

ZENITH is playable using either the Apple keyboard or the system's standard two-button joystick. In the latter case, one button fires the laser, while the other repairs damaged buildings and activates the tractor beam. Pushing both simultaneously causes your cruiser to enter the hyperspace mode if you have enough prisoners to trade for fuel.

The control panel, located at the bottom of the screen, fulfills several
GAMING

important functions. Three flashing lights show when fuel is low or if there's damage to the laser or shields, a gauge graphically shows the amount of fuel remaining, your current score is indicated and there's also a pictorial representation of the number of aliens

which overtly attempt to drum some particular subject into the player's noggin are often looked upon with considerable disdain.

It isn't hard to explain. Electronic gaming is supposed to be entertainment, and few people are that entertained by extra doses of schoolwork.

On the other hand, a program like Marathon, simple to play with good visuals to hold attention, can transform tedious drills into something a bit more pleasurable.

This well-done game tests the abilities of one or two players to quickly solve simple addition, subtraction, multiplication and division questions. It is possible to have all questions involve one type of arithmetic operation, or a grab bag approach can be chosen to sharpen overall mathematical skill.

Runners advance along this race's course by successfully picking the right answer to each problem from a series of possibilities by using the joystick. Every fifth question challenges the player to furnish the multiple of a given number as quickly as possible.

KAMIKAZE
Hayden Software/Apple II/48K disk
Designer John Van Ryzin carries us back to the Pacific Theater of World War II for this action contest based on the theme of air-sea warfare against the Japanese.

You captain the vessel that's patrolling the waterway seated along the bottom edge of the playfield, which moves back and forth as needed in response to either paddle or joystick input. Although the sky above is sparkling and clear at the start of the game, it doesn't remain empty for long. Soon, bombers are appearing overhead, one coming into view from each direction, dropping bombs as they pass over the ship. Not surprisingly, the goal is to shoot down the bombers for points. (Low-altitude bombers are worth 25 points at the

MARATHON
EduWare/Atari 400&800/48K disk

Nothing turns off the typical home arcader more than even a whisper of the word "educational". All electronic games are learning experiences, at least to some extent, but the ones

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As long as the computer’s snakes are longer than your’s, an attack on your part must come from either the sides or the back. Should you run head-on into one of the longer snakes, in this case, the computer’s would triumph. Each side’s snakes become longer when they eat parts or wholes of other snakes, other snake’s eggs, or the frog that jumps around the maze.

When your snake becomes longer than the computer’s, the yellow color turns to green and you can attack them from any direction. At random times the snakes lay eggs, which cut the snakes’ length by one segment. If a snake is already only two segments in length when the egg is laid, the snake will die. This keeps you from merely crawling around the maze without eating anything.

Out of these eggs come more snakes. It takes only a short time for the computer’s eggs to hatch, but you must protect your egg until the maze is cleared of enemy snakes before the egg hatches. Frogs also like to eat eggs, and in that quality lies the game’s only flaw. When the blue snakes wipe out the yellow/green collection, the blue snake takes a meandering path back to the corner he came from before the game goes on to the next level. While on that trip back, the gamer has no control over the snake and during that trip the egg in the maze has no defense from the roaming frog.

At the beginning of the game there are three blue snakes. An extra snake is earned for reaching 20,000 points, a lofty goal indeed. The game can be played by joystick or keyboard, and under keyboard control the keys are defined by the user. Eating a frog scores 500 points, an egg scores 150 points times the level of competition, a serpent is worth 100 points per segment until level three when the values increase at every other level, and a ser-
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pent’s head is worth 200 points with increments similar to those for the rest of his body.

David Snider has certainly proven with this outing that everything hasn’t yet been done with mazes that can be done. Serpentine is a game that’s as addictive and enjoyable as any maze ever created for the home computer, with graphics, outstanding enough to carry the title of Broderbund.

(Rick Teverbaugh)

BRITISH HERITAGE JIGSAW PUZZLE, Vol. 1
Thorn EMI/Atari 400-800/16K cassette

The British are coming! The British are coming! And they’re packing a ton of absolutely fascinating computer game programs. Thorn EMI may still be an unfamiliar name to computerists on this side of the Atlantic, but the UK-based publisher has already established a fine reputation for producing outstanding games that are just a wee bit different than the usual target-shooting festival.

A good case in point is the company’s British Heritage Jigsaw Puzzle, Volume 1. As the sensibly written instruction booklet acknowledges, this tape will not completely substitute for your favorite 1000-piece puzzle, but it does provide an hour or two of pleasant recreation for those who never tire of putting the pieces together.

The two main variables in this program are the number of pieces which must be assembled to reveal the Tower of London and the Tower Bridge. The smallest size is five by five pieces, while the largest is an eight by eight arrangement. The player also has the chance to decide how the game should handle the positioning of an incorrect piece. The program only inserts correct pieces in the easier version, but will wedge a wrong one into place if you’re competing at the tougher level.

After booting the cassette, the completed picture appears on the screen. Study it carefully, because once you push the “option” key, that’s the last you’ll see of it until you finish the puzzle. At that point, the finished piece is displayed.

The player pushes “T” to start with the top portion of the puzzle or “B” to begin at the bottom. Three pieces then move onto the screen on an invisible belt, with a flashing black and white dot to indicate which one of the trio is ready for you to place. The puzzler then utilizes the joystick to move an on-screen cursor to the portion of the screen where the piece (hopefully) belongs. If you have made an incorrect choice, the computer will beep and either go on to the next piece or put the one you just made the mistake on into the desired position, depending on the difficulty level. In the latter event, you can remove the wrong piece later in the game by simply inserting the right one when it comes up on the belt.

British Heritage Jigsaw Puzzle, Volume One is, quite obviously, not for everyone. But if you’re looking for a pleasant change-of-pace and a few hours of classy entertainment, you can’t go wrong with this one.

(Arnie Katz)

LAZER MAZE
Avant-Garde Creations/Apple II/48K disk

An exciting, riveting arcade game that requires no game paddles or joystick, yet takes strict concentration and a sharp wit? Lazer Maze is all that and even a bit more.

The scenario for this game is the 24th century, where outright war has given way to a tactical one-on-one type of combat, used in settling disputes. The Area Grid of Justice is the site for this unique battle. Armed with only a lazer and facing an arena of mirrors, the warrior must figure where his shot will exit the maze. His opponent is then placed at that spot. If the prediction’s correct—instant annihilation! If he’s wrong, the foe will throw a bomb over the maze and almost certainly kill the combatant.

Lazer Maze is the home practice recreation of this battle, used to sharpen the wits and reaction times of those futuristic fighters.

Once the game disc is booted, the player can choose between entering directly into battle or going through the instructions. The on-screen instruction is quite good and prepares the gamer well for what lies ahead. Once into the battle, the gamer must look as quickly as possible to find the location where his lazer shot will exit the maze. He then enters the digits of

Continued on page 82
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that location. His foe is placed on that spot and the lazer is fired. If he misses, the opponent throws a lethal bomb. If he hits it right, the computer awards points depending on how long it took the gamer to enter the proper location and how many mirrors the shot struck before exiting the maze.

At the opening or beginning level there are 20 mirrors in the maze. The only way to advance through intermediate, high, highest and master’s levels is by amassing a significant score on the lower levels. After awhile the game becomes easy enough that missing a spot on the grid is extremely rare, but that doesn’t mean the challenge is gone.

After almost every round there is the feeling that the exit locations can be found a bit quicker, giving an even more impressive point total.

One complaint about the game is that it can only be played by one player at a time. It would help the competitiveness of the game if one player could try and then a second follow, both at the same level. Both could then advance at their own pace in the quest for the ultimate high score.

Overall, Lazer Maze is a quick thinking game that is perfect to pull out when the joystick bluster on the inside of your hand begs for a rest. Quite inventive in design and execution.

(Rick Teverbaugh)

TELEPORT
Cavalier Software/Apple II/1148K disk

The attack in Teleport comes not from outer space or beneath the sea, but from an entirely different dimension. Fortunately, the invaders, who gate onto the playfield one at a time, are a little confused by their trip and thus may be rounded up by the player.

This would be child’s play, except for the fact that you must operate within the limitations of a fairly severe power shortage. Your gun can stun an alien, but it can only disable one nasty at a time. While you’ve got it in this helpless state, you must lead it to the infinity door and shove it through this portal back into its own dimension. The link between the dimensions isn’t entirely stable, however, so the infinite door has a way of moving around the screen periodically, meaning that you’ll have to cross a playfield full of confused-but-dangerous aliens on the way to completing your mission with-
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GAMING and the

Special Controllers Let Everyone Play

By DIANE YANKELEVITZ

Some people think videogames are so bad they're trying to ban them from their communities, but a growing number of folks have found reason for praising them. They are the severely disabled, people who are able to play the Atari VCS using custom controllers. Tommy Gonzales, 13, is a videogame freak, the kind you hear about who plays Pac-Man for hours on a single quarter. Once he was playing the only Pac-Man machine in his neighborhood for such a long time that a group of older boys got impatient waiting for their turns and threw him into a trash can! That was before a gunshot severed his spinal cord. Tommy is now a C-3 quadriplegic. He is only able to move his head and needs the aid of a respirator to breathe. With the help of a specially adapted mouth control he's back to playing Atari VCS videogames for hours at a time. The difference is that now it's one of the very few things he can do for himself.

John Carasic is a 12-year-old boy with cerebral palsy. Currently, his favorite videogame is Asteroids. John has just recently become able to play videogames because he's acquired a controller he can use. John is spastic and has almost no control over the muscles in his body. But the ones he does control, he can use to smash electronic space debris with as much—if not more—pleasure as any youngster his age.

John has a pressure switch mounted on his wheelchair by his right knee which is wired for a fire-button control. In back of his head sits a plate with two switches which he hits by moving his head sideways—left and right controls. With the flick of a switch, they turn into up-and-down controllers. (So far, a way hasn't been figured out to allow him to play all four directions at once.) A soft-touch button is placed where he can swing his leg over and hit it for the reset function, so he's able to play all by himself.

John is unable to speak and has a computer with which he communicates. When asked to say something, he lists the videogame cartridges he wants to buy next.
Kirk Kilgour was perhaps the finest hitter/blocker to ever play for the U.S. National Volleyball Team. He won the NCAA Most Valuable Player Award during his collegiate career and is a well-known coaching figure in both America and Europe. He presently coaches Pepperdine University in Malibu, CA. Kirk is a quadriplegic. He is also a very competitive man who plays Atari VCS videogames for hours at a time and can wipe out a screen of space invaders using a mouth control. He also has a multiple game board which allows him to select from up to eight cartridges with the press of a button.

Tommy, John and Kirk are examples of a growing number of severely handicapped people who are discovering for the first time, that there is something they can do on their own that is fun. Some people consider videogames a waste of time, but these people find it a tremendous morale booster as well as an interesting way to develop the muscular skills they need in order to function. For instance, with the practice John is getting in controlling his head movement, he may one day be able to operate a power wheelchair. Handling the four-button joystick requires the same motion as the one needed to operate a push-button phone or an adaptive driving panel. Operating a paddle control requires the same motion as turning a stove knob or a doorknob. The adaptive controllers can be used by quadriplegics, paraplegics, amputees, those with muscular dystrophy, cerebral palsy and stroke victims.

The person who designs these special adaptive devices is Ken Yankelevitz, an aerospace engineer and computer programmer. After taking the Atari joysticks apart to see what made them tick, or not tick, he decided to try to design a more reliable one. He showed the management at Atari, Inc., some of his ideas and they began referring handicapped people to him.

The challenge was to convert a unit that had been designed for manual manipulation into a unit that could be used by someone not possessing the normal capabilities. Ken experimented with different ideas, including puff, suck and bite switches, telephone keypads mounted at mouth height, helmets and various switches. He worked directly with the quadriplegics, and with their eager reactions and enthusiasm for the project, found a design that would work. The device allows the severely handicapped to play the very same videogames that millions of other kids are playing.

He found that each handicap is slightly different and requires different hardware to allow the person to operate it effectively, so he began designing many different switching devices. The most popular and versatile is a soft-touch button box controller.

Most young adults with spinal cord injuries have had accidents while involved in some exciting activity, like motorcycle riding. These are not sedentary people and one of their biggest mental problems is boredom. They sit at home or in hospitals staring at TV for hours because there hasn't been much else they could do. Playing videogames gives them a chance to be active, to respond both mentally and physically as they dodge asteroids, defend cities or maneuver a chicken across a 10-lane highway while horns honk and engines roar.

Several hospitals in Southern California are using the controls in their children's and young adults' units and people all over the country are benefiting from these controllers.

Now, who says videogames are bad?
Good morning, gamers, wherever you are! Before we get down to the business at hand, I have a few leftover items to clear up from the last few times out. First off, to the European Odyssey² fan who wondered why the N.A.P.-produced title *Stone*

Sling wasn’t available in the U.S., the news is that it is now! The game is available in North America under the title *Smithereens*. It lets a pair of gamers aim catapults at one another’s castle towers. Here’s yet another reminder to all those T-shirt winners to send us a note regarding their shirt size and address. We’ve had quite a few problems with mail deliveries, so if you haven’t gotten a shirt yet, and should have, please drop us one more line.

Speaking of lines, there seems to be quite a pile-up in the old Doctor’s doorway. Stop pushing, you guys! I can fix a broken joystick, but the G.D. isn’t of much use in fixing people..."}

Q: Could you clear up once and for all the difference between ROM and RAM? Also, I own the Atari VCS (2600) and am planning to buy the new 5200 when it comes out. Will I have to disconnect the VCS’s wires from the switchbox when playing the other system? Finally, what type of controllers will be supplied with the new system?

A: Okay, Tim, that’s not one, not two, but three fine questions — more than good enough to cop you this month’s T-shirt. In fact, just drop us a line that includes your shirt size and complete address, to make sure we don’t get any Tim Lyman impersonators in here.

Here’s the poop on ROM vs. RAM: ROM stands for “Read Only Memory” and the cartridge videogames with the chip anchored inside are ROM carts. This means that the entire game program is encoded on the chip and the computer is simply addressing itself to the task of reading it. RAM, on the other hand, signifies “Random Access Memory”, the amount of “free” memory the computer has access to. A computer’s memory power, therefore, is measured in terms of its usable memory, or RAM. A program that’s already been written and is being given to the computer for translation, is ROM.

Now, on to the 5200. This new Atari system uses a new type of RF box — the silver switching unit familiar to all videogame owners — that is not compatible with either the 2600 or any other existing home programmable. This means that those arcades with more than one home unit will have to detach the 5200 from the TV set in order to connect up any other system.

Finally, the 5200 comes with a pair of joystick-keypad controllers that are used primarily for game control and input devices, but Atari has already announced that a 5200-compatible trackball is on the way.

Q: I read in another videogame magazine that Mattel is planning to stop making the Intellivision. Is this true? If so, will Mattel continue to supply software for the system?

A: Just goes to show you, Randy, when you want the facts, look to *EG*. No, Mattel has not decided to dump the Intellivision, but is, in fact, busy doing a slight technological redesign job on their system. The new, re-
engineered model will be much more compact, but will be totally compatible with existing master components.

As a result, look for the price on the current systems to begin dropping sharply as time goes on. Several rumors of big rebates are already rampant throughout the industry, and look to be based on fact. With ColecoVision retailing at around $200 or less, Intellivision almost has to bring their price down.

**Q:** Will color Quadrascans screens be available to the general public in the near future? Also, how, exactly, does Quadrascan work?

(Roddy T., Hacienda Hts., CA)

**A:** Quadrascan is Atari's trademarked name for their vector graphics monitor. It is so named because it breaks the screen up into four "quadrants", giving certain types of game programs greater flexibility. Vector graphics are preferred to the traditional raster scanning technology in the creation of line drawings. Unlike the standard method of plotting a series of points which combine to form a line, vector graphics more closely resembles an "Etch-A-Sketch".

With the advent of games such as Atari's Tempest and Sega's Space Fury, color vector graphics monitors came to arcade games. Home players can buy a black & white v-g monitor right now — GCE's Vectrex system uses one — and a color version should be available by the summer of '83.

Watch for them...

**Q:** I own an Atari 400 and wish to upgrade the memory. What is the maximum amount of RAM I can have and which companies offer these upgrade kits?

(Dave Bargiel, Detroit, MI)

**A:** Several companies are currently producing RAM upgrade boards for Atari's 400, among them, Axlon has a 32K board, Mosaic 32 and 48K. Unlike the 800, where several smaller boards are used in sequence to build to 48K, the 400 uses a single board, which must be removed and replaced with the upgraded version.

**Q:** I want to buy a computer on which I can learn to program my own videogames. I know that BASIC is too slow for this. Are there any computer systems now available which will allow the user to program his own videogames — or will they have to be written in machine language?

(James H. Walker, address unknown)

**A:** Neophyte programmers may want to check out a super new program from Broderbund available for both the Apple II and the Atari computers called The Arcade Machine. This neat little program allows novice designers to select graphic images from a matrix of possibilities, determine angles of attack and virtually program their own Space Invaders-type game. The Arcade Machine should make an excellent prelude to programming.

As to whether or not professional-quality designs have to be in machine, or assembly, language — yes. At this time, the Doctor knows of no other computer language as compatible to most videogames. BASIC may be a good introductory language, but I'd guess that 99% of all computer game software published today is in machine language, even the newer text adventures!
Q&A Continued

Q&A QUICKIES: Bobby Long of Stone Mountain, GA wants to know whether Coleco will be producing versions of Zaxxon for the Atari VCS or Intellivision, and the answer is: both. At least as of now, licensing fees are structured so that it becomes difficult to snatch the home programmable rights to an arcade smash without making a VCS version available. Remember, the majority of system-owners out there still own the 2600. Though what Zaxxon will look like on the 2600 I can't imagine... Darren Norbury worries in the coin-op capital of the world (Chicago) about game prices rising to 50¢. But game prices are still determined largely by the arcade operators, who can set the machine to accept quarters, tokens, cheese sandwiches or whatever. We will soon be seeing the first dual-price videogame — Sega's 3-D extravaganza, Subroc, which will cost 25¢ in upright and 50¢ in sit-down versions. Playing time will be almost doubled in the sit-down version. However... Doug Bliss of Overland Park, KS, inquires as to whether or not a Tron game will be licensed for the Atari VCS — and he's stuffed the ol' Games Quack. As of now, Midway holds only the coin-op rights and Mattel’s rights are exclusive in the home market. Of course, Mattel could always issue one of their several Tron titles — Deadly Discs, Maze-a-Tron, etc. — under their VCS-compatible “M-Network” banner. Rex Desierto, who's now aware that both O.O. owners and Intellivisionaries have access to voice synthesis units, wonders if a similar item is on the drawing boards for the VCS. The situation right now makes it seem unlikely that Atari will be adding chit-chat to the sounds of gobbling and exploding ICBM's. But as I have learned in this crazy, mixed-up business: Never say never. If it does happen, you’ll read it here first.

Several readers have asked about ColecoVision’s VCS Emulator and whether or not the Starpath (formerly “Arcadia”) Supercharger will run off it. The answer, straight from the Starpath’s mouth, is yes. Anything that will run on the 2600 should run on the Emulator... And speaking of emulators, a new manufacturer, Protector, is busy producing a similar VCS-adapter for all Commodore VIC-20 systems.

Now here's an interesting question from Lake Oswego, Oregon's Sean McClain, who can’t understand how super-arcaders are posting such high scores on Midway's Pac-Man when he's read that the screen "breaks down" after 250 keys. The answer probably lies underneath those four (in)famous ghosts, Speedy, Blinky, Pokey and Clyde. Players vary their "pattern" strategies in some cases to maximize bonus points while, on the opposite side of the spectrum, other gamers base their tactics on avoidance, eating only those ghosts they happen to meet while in the energized state. Then there's the fruit and keys to consider — how many times did the player consume those point-potent delicacies? These and other questions must all be taken into account when explaining the wide range of scores attained by Pac-Maniacs who’ve made it through the two-and-a-half hundred racks...

CREDIT DEPARTMENT: Our January issue featured an article covering arcades in the 21st Century. Unfortunately, we neglected to credit the photographers, Heithaus-Young and Dave Lustig, for their contribution. Our apologies and appreciation.

And that about wraps it up this session with the old Game Doctor. But keep those cards, letters (and tokens) coming, gang! Until next month, Happy Arcades to You!
GROW WITH US!
A special message for electronic games retailers

Playing electronic games is now America’s fastest-growing hobby. Here are some facts:
★ More than 10 million quarters are dropped into current coin-op champ "Pac-Man" every single day.
★ Nearly 5 million programmable videogame systems are hooked up
to U.S. TVs already. Four million
two are expected to be sold this
year alone, along with 30 million
game cartridges to play on them.
★ Sales of computer games are
expected to exceed 1 million units by
the end of the year.

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Program Design, Inc. 11 Idar Court, Greenwich, CT 06830
Monopoly Meets the Computer

By JOYCE WORLEY

It's winter. There's snow on the ground, and cold winds that make outdoor pursuits less than inviting. But what better way to spend the cold winter days than with bright new electronic games. This month we're looking at three games guaranteed to make the hours go quickly until spring comes. There's a fine old family favorite, a high-skill challenge for the arcader with fast reflexes, and a new classic that appeals to all ages. If you're looking for a little winter excitement, run down to your local store, where there's always certain to be something that will make the hours fly.

MONOPOLY PLAYMASTER
Parker Brothers/$65

Roll the dice and move your marker. Buy property and increase the size of your empire by building houses and hotels. Then just lean back and watch the cash flow into your account.

Sound familiar? It should. Parker Brothers' Monopoly is still the most popular board game in America, and there's hardly a household that does not have a Monopoly set stuck back in the closet. Now, Parker Brothers has something to enhance the famous game, something that brings this old reliable into the modern world of electronics. Until you've played Monopoly with the new Monopoly Playmaster, you haven't wheeled and dealt in the modern manner.

The Monopoly Playmaster is an electronic accessory for the classic board game. If you thought Monopoly was fun before, you ain't seen nothing yet! The Playmaster increases the pace of the game and uses lights, sounds,
and other visual effects to elevate the action into the 21st Century.

Put the Playmaster in the middle of a regular Monopoly board. Line up the Community Chest and Chance slots of the Playmaster with the corresponding spots on the standard board, and all the property spaces on the board will correctly match up with the Playmaster properties. From this point, the game is just like a regular round of Monopoly. A human banker must still take charge of the money and property cards. Players choose tokens and start from “go.” Each contestant, one at a time proceeding around the table to the left, presses the token button corresponding to the piece he chooses. This tells the computer the number of players and their order of play.

The Playmaster strobos each player’s token light to indicate his turn to play. To start, press the dice roll button. Flashing lights circle the Playmaster, then stop where the token should be placed. Roll doubles, and it plays “Merrily we Roll Along.” As in the regular game, three sets of doubles and you land in jail. Stay there up to three turns or get out sooner by rolling doubles. Failure in an attempt to roll doubles gets a loud raspberry and the siren sounds.

If you land on Chance or Community Chest, and a card directs your token to a different location, hold down the “arrow” button until the light reaches the correct spot, to inform the computer of your movement.

The Playmaster assumes someone will buy any unowned property that is landed on by a gamer. If the player doesn’t want it, the property must be auctioned off by the bank. In addition, the bank randomly announces auctions after every four to six turns. The auction sound rings forth and auction lights flash, then a steady light shows which property is to be sold. The winning bidder pays the bank for the property and the banker presses the bank button to signal the transaction’s completion. The game won’t proceed until this is done.

When all property has been sold, the game unit starts announcing buybacks at random intervals, every four to six turns. A buyback tune plays and the buyback lights flash, then a steady light indicates which color-group has been selected for repurchase. Only singly owned properties within a group can be bought back; if a player owns more than one property in a color group, he can ignore the buyback. However, if the player owns only one, he must return the deed to the bank. If unmortgaged, the bank pays the full property value. If mortgaged, the bank pays the mortgage value less 10% interest.

With the help of the Playmaster, it’s possible to take out property loans instead of just mortgaging them in the traditional way. The only requirement is that you must own all property within the color group. Then press the loan button. The tune “We’re in the Money” plays, as you continue pressing the button until the lights advance to the correct location. If the light shines steadily, a loan is available. Flashing lights indicate there’s already a loan on that color group. If the lights go out, it means there previously was a loan which has either been paid back or defaulted. If a loan is available, press the bank button. The tune rings out again, and the player collects the money from the bank.

There are big advantages to taking loans instead of mortgaging your property. First, you get the full value of the color group, instead of only 50%. You can build houses and hotels on loaned-against properties, but not on mortgaged properties. And you can still collect rentals on properties with loans but not from mortgaged land. But there are disadvantages, too. Eventually the Playmaster calls in the loan and the bank demands you repay it in full at once. You can’t repay any loan before it’s called. The recall comes at a random time chosen by the Playmaster, but not until you’ve taken at least seven turns. The “call loan” melody plays and lights flash. Either pay the loan in full plus 10% interest, or return the color group to the bank for auctioning.

The Playmaster has a full dozen separate sound effects, from “Charge” for passing go, to “Taps” for bankruptcy. “I’ve Been Working on the Railroad” plays when you land on a railroad, raspberries sound to indicate taxes, and a European siren accompanies a trip to jail. Beethoven’s “Piano Sonata” signals Chance/Community Chest, and the “Fifth Symphony” calls loans.
Almost everyone plays Monopoly by “house rules,” altering the game slightly to match their own family’s tastes. The *Playmaster* doesn’t interfere with this. It’s still possible to use house rules, except in one circumstance. It is absolutely necessary that unowned property must be either purchased when someone lands on it, or sold at auction. This is the one rule that cannot be altered when you use the *Playmaster*.

The *Playmaster* doesn’t supersede the regular Monopoly game; the arcade must have a standard Monopoly set to use the *Playmaster*. But what it does do is greatly enhance the game with pretty lights and tunes, while speeding up the pace. It brings new life to an old favorite, significantly trimming the length of time for a game, and adding musical signals and flashing lights to make an already great game even more fun to play. It’s easy to use, and even a younger family member should have no difficulty with it after the first run-through. The *Monopoly Playmaster* is a real winner for every family who enjoys the game.

**FROGGER**

*Coleco/$70*

No one knows if Froggie is goin’ a-courtin’, or if he’s just trying to get to the other side of the road. Whatever his reason, people have always been excited about the jumper’s travels. There’s something about a frog’s love life that makes all men anxious to help him along, and maybe that’s part of the reason for the tremendous popularity of the Sega pay-for-play machine that exploits the trials of the hard-hopping toad in his efforts to get back to the hearth and home — in this case, his comfy cave on the other side.

Coleco carries the sport of frog-watching one hop further than it has ever gone before. Now the ardent toad-fan can enjoy a miniature version of *Sega* hit at home. There are a few notable differences between the diminutive stand-alone and its big brother, but most people will agree that the cuteness of the Coleco mini-arcade makes up for the small deficiencies it may have.

The object of the game is to get the croaker across the road to the safety of the sidewalk where he can catch his amphibian breath for a moment, then ferry the river to Froggie’s home, a snuggly lil’ cave on the far side of the stream. It would all be so simple for our green friend if he were the only inhabitant in his part of town, but the road is clogged with traffic moving hither and yon; he must share the sidewalk with a deadly serpent, and the only way to get across the river is by catching rides on the backs of turtles and floating logs. Life just isn’t easy if you’re only a frog.

The gamer only has to master one control to get Frogger home. The joystick allows movement forward, backward, or from side to side. The unit only has two other controls, the on/off skill selection, and a reset button so you can play another game immediately. Hustle the toad through alternating rows of traffic, hopping from lane to lane when the highway is clear enough to pass. When Froggie reaches the center strip, let him get his breath before his perilous trip across the river. First he must leap onto the back of a swimming turtle, then to a row of logs floating down the stream. Be careful not to float off the playfield, because that means instant death. Keep jumping from turtle to logs, until you have him adjacent to his home. Froggie’s final hop must take him into his cave, or else he will perish.

The row of traffic, both on the highway and in the river, move in alternate directions, so Froggie must use a little strategy to keep from being swept off the edge to his destruction. The first lane of cars moves from left to right, so jump into the fray from a midpoint on the screen, then follow behind a car until you have an opportunity to jump behind a vehicle in the next lane, this time moving from right to left. Then leap to the next row, timing Froggie to land in a vacant spot, behind a car. The next jump takes him to the sidewalk. Catch your breath, then hop a turtle and ride from the left side of the playfield to the right. There, hop a log to carry Froggie back to the left. This brings him to the only real hazard he must face. The second row of turtles dives at random intervals. If old green-jeans is on the wrong turtle at the wrong time, he’ll drown beneath the waves. There’s no warning whatsoever that the turtle is about to dive: the wary gamer must note the spot where turtles like to dive, and try to time the jumps to avoid the phenomenon that always occurs on the left third of the screen.

Once past the diving turtles, it’s a simple matter for the arcade to get his toad through the last couple of hops, to the safety of the cave. At skill level one, there are four hoppers to guide
Hitch a ride on a friendly turtle's back, but don't let it carry him off the side!

home, then the next round begins. But now there's no safety strip, because the sidewalk is the home of a wriggly serpent. The red snake slithers across the walkway from right to left, and one touch of his coil squeezes the life from our hero. The only way to handle the snake is complete avoidance. Time the jump into his domain to land behind him on the sidewalk. Then just follow at a respectful distance, until you get to the far left and are ready to board the passing turtle-train.

At skill level two, the gamer must get six frogs across to their caves in each round, and the serpent is on the sidewalk from the beginning of the game. There's also more traffic on the highway, making it more difficult to find clear spots for toadie's hops.

The gamer gains four points for each row of hazards he can maneuver his frog through. When a toad arrives safely home, it's worth 10 times the amount of remaining time, and there's a 300-point bonus for filling all the cave-homes with frogs. The arcader starts play with three hoppers and earns another at 5000 points.

This is a charming unit, styled in handsome green and black to resemble the Sega coin-op. The joystick operates very smoothly. Animation borders on the adorable; it's hard to find fault with the cutely matrixed river denizens, and the road traffic's cleverly cartooned vans. The playfield is very colorful, using red and three shades of green to make up the game components.

The only real flaw in the unit is that there's no warning when the turtles are ready to dive. This shouldn't be true, and is a definite flaw in an otherwise excellent game. But the careful arcader can avoid taking his frog into positions where the dive is apt to occur and thus overcome this problem.
Arcaders will miss the logs turning into crocodiles, and Froggie will almost certainly regret the absence of the lady toad that graces the coin-op because there's no lady love in this version. But the end result, even with the deficiencies, is that Coleco has done it again. Frogger is an attractive addition to their series of mini-arcades, pretty to look at and fun to play.

SUPER COBRA

Entex/$50

Missiles scream past, as enemy forces try to knock your 'copter out of the air! Bomb the surface-to-air weapons before they get off the ground. Once the missiles are launched, it takes careful flying to avoid mid-air collisions. When past the gun emplacements, there are new problems to face. First, meteor showers create an almost impenetrable barrier, followed by treacherous terrain as you first skim over the tops of mountains, then maneuver the 'copter through a narrow cave passage. The mission: reach and destroy the enemy base. Grab your joystick and man the missiles — Super Cobra takes every bit of piloting skill you can muster!

Super Cobra by Entex is based on the Konami commercial arcade shoot-out of the same name. This high-quality hand-held device will keep even an experienced arcade hopping to stay ahead of the missiles, avoid the terrain, and complete his mission before fuel runs out. This challenging game takes nerves of steel to master.

A handsome array of controls helps the gamer. Choose between two skill levels, set the speed control, and play the game with sound or mute. Even at the lowest skill level and slowest speed, the game is a tough one. But to make play streak along at highly sophisticated levels, use skill two and set the control on fast, then pilot your 'copter at jet speeds.

During play, the gamer launches sidewinder missiles straight ahead of his trajectory, while knocking out ground targets with bombs. Careful juggling of the joystick control makes the 'copter hover for short periods, and the speed can be varied faster or slower during game play.

In the first section, enemy forces have an impressive array of ground-to-air missiles. Try to blast them before they get into the sky. Once launched, knock them out of the air by carefully piloting them to line them up in front of you so your sidewinder missiles can destroy them. But keep your eyes on the fuel gauge; when you start running low, bomb the enemies' fuel depots to refill your tanks.

The second screen is very difficult. Meteors whirl across the sky, and the unlucky pilot must twist and dart between them. If they strike the 'copter, it is destroyed. There's little time to do anything but maneuver to avoid collisions, but remember to continue to drop bombs, picking up a little fuel as you go along.

Mountains almost completely fill the third screen. The pilot's only hope is to fly high, blasting away the missiles and fuel tanks that block the tiny passage-ways. The fourth screen is a cave. Skillful steering is the only answer if you want to survive.

After completing the fourth screen, Super Cobra is in range of the enemy base. This is a bonus round of play, worth 1000 points if you succeed. But there's little leeway for mistakes. The bonus round contains no fuel tanks, so the reserves had better be full when you start. And it goes so quickly, there's only time for a few passes at the enemy base.

There are several ways to score points. Get one point for every square the helicopter flies over. A missile destroyed on the ground is worth five points, and tallies eight points in the air. Fuel tanks are the most valuable targets in the regular game. They give 10 points and add fuel to your supplies. Finally, destroying the enemy missile base in the bonus round gives 1000 points to the successful chopper pilot.

The game status display indicates the round of play, one through four, then clears itself in the bonus round. Each time you complete all five rounds, a flag appears. There are four flags representing one round each, a flag that counts as five rounds, and two flags representing 10 rounds each. This makes it possible to count 29 completed rounds of play. The game starts with three Super Cobras, and you get a fourth chopper at 1000 points. Digital scoring rolls over at 10,000 points.

Some stand-alone games are too easy for an adult gamer to enjoy. This is not the case with Super Cobra. This is a high speed game requiring skill and coordination if you expect to master it. The fluorescent display successfully uses a few elements to produce complex imagery. The 'copter is blue-green, as are the fuel tanks. All other game elements are bright red. Terrain is made of square blocks, piled on top of each other to form walls, buildings, and the cave. The terrain scrolls past the chopper at the rate of speed the gamer selects. The most difficult play-screen is the second. The meteors are actually matrixed flying red boxes hurtling across the screen, which the pilot maneuvers between.

Keep one hand on the joystick, and the other on the firing buttons. Super Cobra is the first of a new generation of hand-held games from Entex, representing the state-of-the-art on scrolling shoot-outs for stand-alones.
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Pizza and Games — A Sizzlin’ Combo!
By LISA HONDEN

Have you ever wondered why some people out there still oppose the notion of arcades? Perhaps it’s because there still aren’t all that many family-oriented ones around—not yet, that is. This month, EG hits the East Coast, to meet two partners who serve up pizza and videogames in an innovatively entertaining way!

Tony Greco and Steve Kass, proprietors of Tony Greco’s Pizza Machine located in Island Park, NY, believe their business is entertainment. By offering coin-ops and pinballs to gamers, and giving the rest of the family everything else from soaps to “Monday Night Football” to some of Hollywood’s finest, the pair are attempting to fulfill the entire family’s entertainment needs.

Both Tony and Steve trace their roots to the entertainment industry, having been heavily involved with major nightclubs for the past 15 years. They feel Pizza Machine could be a great alternative to the bar scene, bolstered by the hot trend toward electronic games. Thus, their decision to give the gamers the machines they crave, along with a few other electronic diversions and pizza!

Included in Pizza Machine’s inventory of impressive state-of-the-art audio and video equipment are: an Aquastar III B Projection and Kloss Projection System, eight color monitors, three Panasonic W-J 200 Video Switchers and two Sony SL-5000 VCRs, not to mention 37 coin-op and three pinball machines.

Pizza Machine makes as few rules as possible, which may account for the Pac-Man cookies being gobbled down while players simultaneously eat the video version off of a Pac-Man board! Here, people who enter without shoes or even shirts can still gain admission, since the guys carry extra articles of clothing for that especially casual dresser.

The only rule that kids may not appreciate is that it’s impossible for anyone under 18 years old to enter the establishment unaccompanied by an adult. This gives Pizza Machine a more
relaxed and controlled atmosphere and also blunts any potential criticism from anti-arcaders. You could say the arcade-oriented restaurant is "adult" or "adult-accompanied" only!

Parents get just as involved in all the electronic gadgetry as the kids. And when the folks get tired of zapping UFOs, Dad can have a beer and watch good ol' Howard Cosell report while Mom may prefer to tune in to macho Tony Geary of General Hospital. Even video records will rock you after 10 p.m.!

There are three main dining rooms where you can always find a party in progress. Depending on the type of group involved, the video monitors built into the party's room will air whatever the revelers desire. For example, children's parties will usually run cartoons while a more sophisticated group may prefer to watch movies or listen to video music.

At the end of each month, Steve and Tony bestow an actual coin-op to the high-scorer of a designated machine. A complete reconditioning job is performed on the winning machine—right after the winner's name is announced. Not bad...

Kids under 12 are invited to join the Pizza Machine Fan Club. Membership entitles you to two free tokens upon joining, a free button to be used for future promotional events and membership functions, and two extra game tokens with each future Tuesday night visit, provided you fill your face with at least one tasty food purchase.

The two entrepreneurs host approximately 6000 patrons each week and find they rely heavily on customer feedback to decide which games stay or blow. The facility houses the very latest in coin-op videogames, which are periodically relocated around the game-playing area. In this way, the men hope to someday hit upon the optimal arcading conditions, where players can gobble goblins or obliterate nasties to their heart's content, without worrying about elbowing that anxious player who's just itching for a chance to beat your score next!

So the next time you're in the mood to save our planet or destroy someone else's, check out Tony Greco's Pizza Machine—and don't forget to bring your appetite.

There's plenty to mangia!
You Are Earth’s Last Defender!

By JOYCE WORLEY

ADVENTURE VISION
Entex/$75

There aren’t many programmable stand-alone games on the market at the present time. This aspect of electronic gaming is in its infancy, and up to this time only a few companies have thrown their joysticks into the mini-arcade contest.

For the last few months, this column has examined some of the programmable mini-arcades now available. Coleco’s “Total Control 4” offers gamers a chance to play Football, Basketball, Soccer or Hockey, all on the same unit. Milton Bradley’s “Microvision” has an entire library of games to fit the tiny hand-held system.

“Select-A-Game” from Entex already has more than a half-dozen cartridges, and the manufacturer promises there will be more. “Vectrex”, currently the king of programmable mini-arcades, was introduced late in 1982 with a library of high-quality arcade-style cartridges.

This month we’re looking at Adventure Vision, the second generation programmable stand-alone game from Entex. It’s a big system with a commanding appearance, standing almost 10 inches high, 8½-inches wide, and 13-inches deep. The viewing screen measures about 6½-by 4½-inches, and the image fills a space measuring roughly 4-by 4-in. Adventure Vision generates an impressive range of sounds through the self-contained speaker in the bottom of the unit. Thanks to the innovative addition of a sound-jack on the chassis, the midnight arcade can keep it all to himself using mini-headphones (not included with the game), or Adventure Vision can be played in silent mode.

Adventure Vision can be played solitaire or with another gamer. The console has twin sets of buttons, four on each side for dual play, and a single joystick between the control buttons to be shared by both players.

A red filter on the screen is meant to
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discourage excessive light from striking the viewing area. A whirling 4- by 4-in. mirror inside the cabinet reflects the action, producing an image by technological magic. The picture appears almost three-dimensional against the black interior. The image itself is made up of tiny red dots. The new system of personal graphics display introduced by Adventure Vision produces over 6,000 separate and distinct light locations, so that a very complex line drawing can be made to move across the screen with what Entex claims is over 20 times the detail permissible in other systems.

A portal in the middle of the console holds the game cartridge. Adventure Vision comes with Defender, patterned after the Williams arcade classic. Pilot the Defender ship and protect earth from wave after wave of invaders from outer space. The invaders aim to kidnap the humans left alive on our troubled planet, and your mission is to rescue them before they become part of the aliens' tricky life cycle.

Aliens come in five life forms, and none are friendly to the arcader. Landers kidnap the humans and carry them toward the top of the screen. There they merge into mutants that seek to destroy the ship. Pods free-float in space. When shot, a Pod releases a random number of Swarvers. Swarvers are intelligent and zero in on the ship if not destroyed first. Bombers lay space mines that destroy the Defender when touched.

The gamer uses an impressive number of controls, though not so many as the Williams arcade version. The introduction of the joystick to Defender considerably simplifies the play mechanics by moving the ship up and down, backward and forward. This is a much easier system to master than the multitudinous buttons in the arcade game. Adventure Vision only uses three buttons during play. Button One releases a smart bomb that destroys all alien life in the viewing area. Start with five bombs and get one additional bomb and Defender ship at each 10,000 points scored. Button Two throws the ship into hyperspace. Use this only as a last defense, as it is dangerous. In hyperspace, you run the risk of being blown up, a random occurrence. Third is the laser-fire button. Laser blasts demolish everything they touch, including the humans.

In addition to the action, the screen contains a game status display showing the score, remaining Defender ships, number of smart bombs left, and a radar scanner indicating the position of all alien life forms in relation to the Defender ship.

When the aliens succeed in destroying all the humans, Earth is destroyed and the Defender must battle fleet after fleet of aliens in outer space. The game ends when all six Defender ships are demolished.

Adventure Vision is an ambitious effort by Entex. The looks of the unit are certainly on the plus side. It's really handsome, with well thought out controls and design. The Defender cartridge that comes with it is exciting with good play-action and high speed. The animation of the aliens isn't as complex and lovely as the arcade version, but it's good enough for a challenge to the gamer.

If Adventure Vision is played in semi-darkness, the image is bright, but a little shimmery due to the technology involved. The whirling mirror makes the line drawing appear to waver. It's not too bad in the game functions, but the game status screen is so small that the flicker makes it hard to read the scores. But it's usable, and many gamers will feel that the complexity of the Adventure Vision games makes up for a little flicker. However, the unit can hardly be played at all in light. The image becomes so faded that you can't see any on-screen targets.

Adventure Vision has more arcade-style game cartridges on the drawing board. Before year's end, Turtles, Super Cobra and Space Force will complete the library of games, for around $18 each.
MARS CARS
Continued from page 82

Each playfield is a different maze constructed of small rectangular barriers. You destroy a barrier by moving over it, but the defenders can roam about more freely as you eliminate these 10-point obstacles. Tucked into each corner of every playfield, usually with a guard very close at hand, is a treasure. You must drive your own vehicle into each corner, scoop up the treasure and then exit through the "warp door" located halfway up the right-hand edge of the playfield. Completing one such room immediately sends you to the next one, where slightly smarter Mars cars will chase you hither and yon.

Control is by either joystick or keyboard at the player's option. As usual, the joystick option is overwhelmingly preferable, but Mars Cars isn't even too bad when played by tapping the Apple II's keys.

Datamost released David Husch's Mars Cars without a lot of fanfare and put it in a package that isn't apt to stimulate many casual browsers to give it a try. A wise computer gamer won't let the drab sleeve prevent purchase of what is really an enjoyable disk that's worth playing again and again.

(Annie Katz)

Next month, ladies and gentlemen, we'll be reviewing a totally unique type of computer software from EduWare, one of the most innovative game producers in the field. The game, entitled Marathon, duplicates the fabled race between the tortoise and the hare in a unique and entertaining game.

So place your bets—the tortoise is slow but steady, and the rabbit is quick but cockey. You bet your money and you take your chances.

See you next month.

JOYSTICK UPDATE
Continued from page 28

used more often. Also in their extreme positions, potentiometer controllers supply the same kind of signal to the computer as the on/off type. In this respect the potentiometer controller can play a game meant to be played by on/off controllers, but the reverse is not true.

Future pieces in this series will discuss how paddles (also a form of potentiometer controller) work and we'll also take a look inside the new world of tracball controllers and button clusters.
SWITCH ON!
Continued from page 6

The folks in Washington have gone from permitting the distribution of dangerous drugs (like thalidomide) on the basis of inaccurate tests, to banning substances (like cyclamates) in response to inconclusive tests, to damning something as innocuous as videogames on the basis of no testing at all! It is unfortunate that Dr. Koop's temperate remarks may actually undermine the credibility of the Surgeon General in future cases, in which the hazards may be very real and very serious.

The observant will notice that this editorial is not a point-by-point refutation. Such a response is impossible, because Dr. Koop did not introduce a single piece of evidence in his ill-considered diatribe. Besides, Dr. Koop will definitely have to do a whole lot more research on the subject of videogames—his comment, that all these games are no-holds-barred-shoot-'em-ups, is symptomatic of his ignorance on this topic—before it will even be possible to have a meaningful dialogue. If the Surgeon General thinks he can make a case against videogames, let him hold nationwide public hearings where proponents of both points of view can testify so that the truth will become known.

This is the time when electronic gamers across the land must make ourselves heard. If you were shocked and angered by Dr. Koop's unsubstantiated attack on videogames, please fill out the coupon below. Electronic Games will collect all the responses and see to it that this "shoot-from-the-hip" official—and President Reagan who appointed him—sees every last one of them.

Let's make the voice of videogamers heard throughout the land, before wrong-headed zealots like Dr. Koop pull the plug on our fun.

READER REPLAY
Continued from page 20

tabletop games, for some reason this problem sporadically turns up on the Pac-Man model. Coleco has no engineering explanation, and our technical whiz, Henry B. Cohen can only guess that perhaps the heat from soldering created a tiny bug in the chip. Until Coleco comes up with an answer on this, we can only suggest that any units so affected be sent to the company for inspection.

SHORT SHOTS: Christopher Galbraith of Southfield, MI also enjoyed our piece on "Joysticking" it to Pac-Man and wondered if a similar procedure would work on his Entex version of the game. The answer is: almost certainly. The technology discussed in that article should prove adaptable to any existing tabletop or hand-held electronic game, as stated at the end of the column... Eric Kinney of Walla Walla, WA has the address of a company called Recycled Software who have an exchange for Apple II game software: Box 136, Rt 1, Walla Walla, WA 99362.
Finally, Ali Maleki of Switzerland wonders how much the Starplex console-controller costs. It carries a reasonable price tag of $29.95 here in the states, but may sell for more in Europe...
FLIGHT SIMULATOR
Continued from page 24

loose, with lights blinking, bells clanging and a shudder identical to that of a real helicopter in deep trouble.

Thirteen simulated targets – four airborne, three submarines and six surface ships – can be programmed in along with enough electronic jamming to give the sensor operator a permanent headache. Finally, for that extra bit of realism, if the crew ditches their S2 at sea, the simulator actually pitches and rolls as if it’s really riding ocean swells.

The first time I went for a “ride”, I was smart enough to go along as a passenger, sitting in the copilot’s seat and watching instructor Lt. Mike Hoyt go through the motions.

For orientation sake, the instructors punched in the scene for an active runway at North Island Naval Air Station. And there we were, sitting on the runway at night. (All operations are conducted at night. That way, the tapes don’t have to be as detailed, thereby saving production costs. The Navy also feels that if their crews can operate at night, daytime flying ought to be a piece of cake).

After warming up the engine, Lt. Hoyt received clearance from the
I was a 97 lb. weakling!

...And then I slipped my Monster Maze cartridge into my computer.

First I saw a full screen maze. And then I entered a chamber of horrors. I scurried down endless halls looking for gold bars and vitamins and watched out for lurking terrors. And all as though it were in 3-D. I ate enough vitamins to subdue the monsters before I lost all of my nine lives. Hours of fun. Thrilling. Scary.

...And forgot all about being a 97 lb. weakling.

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North Island Tower. We gently lifted up, tilted the nose down just a bit and with “rotor” clattering, slowly picked up speed and moved down the runway. I almost needed motion sickness pills!

Gradually we picked up speed and altitude and left North Island behind. To our port side was Coronado and San Diego, shimmering in the night. Even the Coronado Bay Bridge, which connects the Coronado peninsula with San Diego, was there, properly lit up.

At first, we just bored holes through the sky, whizzing around San Diego as Lt. Hoyt showed me how the ship handled. Pushing in on the left foot pedal and moving the stick to the left, we smartly turned—up, down and all around.

Wondering how sophisticated the graphics were, I asked what would happen if we took aim at one of the many high rise apartments and condominiums that dot the Coronado shoreline, I had to open my mouth. With a knowing grin, my pilot went for the nearest condo.

Now, I knew it was just a simulator. I knew we were on the ground, or at least only 10 feet above it on stilts. I also knew it was just a computer image. But as the condo got closer, I started to sweat.

Since we were looking at a complicated series of dots, when “impact” occurred, we simply kept flying right through the building. Still, it was enough to send chills down my spine.

Lt. Hoyt then wheeled us around in a tight turn and descended to the lights of the Coronado Bay Bridge. Suddenly, we were flying from Coronado to San Diego at automobile height. Good thing there were no oversized trucks on the road that night.

The instructors then punched in an aircraft carrier and San Diego disappeared. Now, off in the distance, sitting alone in a midnight sea of black, was a lit aircraft carrier waiting for us to land.

Slowly, we approached. I asked the pilot what the carrier looked like from the front, and he obliged by taking me on a spectacular 360-degree tour of the ship—from 50 feet out.

Then we landed, slightly hard, and took off again to look for a frigate. This time it was a bit on the hairy side, because the helo pad of a frigate is minuscule compared to a carrier flight deck. We inched along until we were right alongside the ship, then maneuvered in and set down.
Fascinating. Well, thanks a lot guys. What? You want me to fly this thing?! "Sure", I replied, "a piece of cake." I've suffered from foot-in-mouth disease most of my professional career, why change now?

Switches were clicked, and we were back at North island, sitting on the runway.

Chewing gum like the pros do, I revved up the turbine and pushed down on the throttle. The helicopter gently started moving down the runway. Definite piece of cake. Hey, what's that bucking. What the hell, why is this thing shaking like we're inside a washing machine? I'm going too slow? Now he tells me. More throttle, lean into it a bit more. Slowly the shaking stops and we gain altitude. Like I said, nothing to it...

Everything was fine as long as I flew in a straight line and kept the air-speed up. Lt. Hoyt continually reminded me to watch the instruments. What do you mean watch the instruments? I'm too busy flying. What does he want me to do, watch the instruments or watch where I'm going? Those were the thoughts spinning in my brain.

Climbing to 500 feet, I slowly nudged the helicopter starboard, and we cruised out over the Pacific. Who do these guys think they're kidding? This was child's play!

With a roar and a thud, two F-14 Tomcats streaked out of the night and zoomed past us. It was nice to have friendly air cover. But hey guys, come back, where are you going? Hey, what's that streak over on the horizon? An MiG? Zoom! An enemy aircraft buzzes us. The radar picks up a surfacing submarine. Friend or enemy? Hell, I'm still trying to locate him when the helicopter shudders. We've been hit! The fire warning lights come on.

Pull the fire extinguishers! Pull the fire extinguishers? I don't even know where they are! An enemy missile screams by. Nuts. We're going down guys. Every man for himself. Lights flicker, bells ring and the whole damn thing shakes so hard I'm surprised we haven't fallen apart. I bank hard and then, presto, the screen freezes and the controls lock. The rear door opens up and a grinning group of instructors are doing all they can to refrain from outright laughter.

Oh yeah, that's right, this is just a simulator. Boy, you could have fooled me!

But wasn't that the point?
PROGRAMMABLE PARADE
Continued from page 37

SPACE SPARTANS
Mattel/Intellivision with IntelliVoice

Of the initial trio of releases for Intellivision with its new voice module, Space Spartans is both the most accessible and the most familiar. A sense of videogame deja vu may even be inspired by this cross between Star Raiders and Space Battle with chatter.

Getting maximum mileage out of its keypad controller, Mattel assigned functions to 12 keys and the firing button. Not only can the keypad summon up hyperdrive, battle computer, shields and tracking computer, but it can also give status readouts, energy level and initiate repair circuits.

Space Spartans uses the familiar sector grid for intergalactic maneuvering and provides a front-on tactical view of all interspace combat. The graphics, however, lack the fluid refinement of a game such as Space Battle and present, instead, a potpourri of crude and blocky images. This may be due to the nature of the IntelliVoice, which seems to run off the Master Component directly. A cutback in graphic resolution may well be inevitable with IntelliVoice cartridges, at least until the designers become more familiar with it.

Now the big question: how's the voice? Actually, there are four different voices, male, female, robot and alien, and the speech is generally clear and audible. The female voice is definitely the most distinct, however, in its role as ship's computer (keeping your pilots up to date on the condition of the shields, hyperdrive, impulse drive, battle and tracking computers). The male voice (portraying the central computer) is not quite as crystal clear and the starbase computer's robotic speech is a trifle ragged. The alien, meanwhile, is heard only at the game's conclusion, at which point he intones: "The battle is over."

Space Spartans is a long way from being a revolutionary videogame, in terms of concept, design or execution. It does what it does quite adequately, though, offering Intellivisionaries a classic strategy and tactics space-battle scenario. The voice module is well integrated into the game play, using the different voices quite inventively to perform the various functions.

All told, this is one of the better efforts to come from the Mattel videogame labs. Both strategic and
dogfight elements are well integrated into the overall game and, though not quite up to highest Intellivision standards, the graphics are more than acceptable. Intellivision fans should certainly give Space Spartans a look—and a listen.

**THRESHOLD**

Tigervision/Atari VCS

Where do all the ideas for new videogame cartridges come from? As readers of EG's "Inside Gaming" column each month know, anything from a traffic jam to a childhood fantasy can provide the inspiration for a videogame.

One important source of concepts over the last several years is the family amusement center. Space Invaders, Asteroids and Donkey Kong are just three of the many titles that have leap 

Yet the coin-op well isn't bottomless. The supply of pay-for-play machines suitable for translation into cartridges is far from inexhaustible. The home market requires too many new games in too short a time period for the arcades to ever provide more than a portion of the ideas.

Some cartridge-makers have recently begun delving into the world of computer software in their quest for new games. The results have been mixed. Every game that plays beautifully on 48K on the Apple II or Atari 400/800 won't hold together when reduced to 4K or even 8K for the VCS. And some of the designers who've tried to switch from computer games to videogames have learned, to their sorrow, that writing games for one of the programmable systems isn't necessarily a piece of cake.

The appearance of a VCS-compatible Threshold first published by On-Line Systems for the Apple II about 18 months ago, shows that it can be done. The VCS version can't dim the luster of On-Line's magnificent disk, but it is a very creditable and entertaining piece of VCS software. It's a multi-wave invasion game that, like Centipede, allows some degree of vertical as well as horizontal movement. It can get pretty exciting when your ship is weaving among the attacks about one-third of the way up the screen.

There are two distinct types of difficulty adjustments. First, the player or players—two can alternate in

Continued on page 110

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SEND STAMP FOR CATALOG

108 Electronic Games
"The Video Master's Guide to Defender"

Bantam Books has come up with an idea that’s going to have a lot of publishers saying, "I wish I’d thought of that first!" The idea is for a series of books providing strategies for videogames, featuring similar, attractively designed covers and all working under the title, "The Video Master's Guide to..." So far, four volumes are scheduled, and undoubtedly more will appear if these are successful.

Unfortunately, this excellent idea has not been perfectly executed. "The Video Master's Guide to Defender" (Bantam, $1.95), by Nick Broomis leaves a number of things to be desired.

Perhaps the main thing is organization. Have you ever had a friend try to explain a brand-new coin-op game you haven’t yet seen? Maybe he was a little excited, because he really liked the game, and was interrupting himself a lot as he remembered different aspects of the game. And maybe you really didn’t get all that good an idea of what the game was all about.

That experience is somewhat similar to this book. In its 79 pages, it hits all the important points about playing Defender, but all too often certain points seem thrown in out of nowhere, or explanations seem contradictory.

Admittedly, Defender is a complicated game that’s a challenge to explain clearly. But a guide to a game, in effect, promises to explain that game clearly and coherently, regardless of how tough that may be. "The Video Master's Guide to Defender" just doesn’t come through on that count.

The book does offer lots of illustrations. Some are almost too elementary, but they may be helpful to those who really like to see what’s happening when an action is explained. Another plus for the book is its enthusiasm; author Broomis is clearly enchanted with Defender, and communicates his sense of the "personalities" of each game element very nicely.

Unfortunately, enthusiasm doesn’t excuse a generally poor book. One wonders on what other basis Broomis came to write this book.

The author is described on the cover as an "expert"—well, after all, the book is "The Video Master's Guide to Defender," but never is it stated just what makes him a master, or expert. There’s no listing of his credentials. Is he a top scorer? In all, what’s the best he’s done? Is he simply a good player with an expert’s grasp of the strategies and procedures involved? It just doesn’t say.

Now, every game guide author doesn’t have to be the best player in the world. An individual may be a top-notch player but unable to put down on paper in a clear and readable style how he does what he does. In that case, give me the talented writer who may be slow of reflex—but well aware of the best approaches to follow to rack up a high score—every time.

But if an author claims expert status, there should be some statement to back up the claim. With the current boom in videogames, a game reviewer’s credibility, at the very least, is needed to protect gamers from those who seek a "how-to" book as a get-rich-quick scheme and really know little or nothing about the game involved.

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Electronic Games 109
**Threshold (Continued from page 107)**

Threshold — select the variation. Number three is the easiest, while number one's the hardest. Though this is guaranteed to confuse the plug-and-play brigade — the folks who never read the instructions — this feature makes the game convenient for better players, since the toughest version will always be first up when the cartridge is initially inserted.

The other possible adjustment involves the difficulty switches. The attackers fire ordinary missiles when the switches are in the "easy" setting. Slide them to the hard difficulty position, however, and the space nasties fire missiles that make mid-course corrections so they can home in on your position.

The various aliens appear on the screen in groups of six. The first wave is worth 50 points each. This increases with each wave, though at first the rise is only 20 to 30 points per creature. A bonus gauge located in the lower left corner of the playfield counts down from 3,200 each time a new wave starts. When all six attackers are eliminated, the remaining points indicated by the gauge are added to the player's score. There is an additional bonus of 50 points per level, so you'll always get something for clearing the screen, even if it's just a token.

Scoring 20,000 points earns an extra ship for the player, though you can have no more than three in reserve at any time. A second bonus ship is awarded at the 40,000-point milestone. When the tally passes 40,000, the aliens automatically switch over to guided missiles.

Threshold is a strong entry from one of the field's relatively new companies. The ability to move the ship up and down as well as from side to side adds just the extra spark needed to make it a highly playable invasion game.
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ACTIVISION/ATARI

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TIGERVISION/ATARI

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COLECO/ATARI

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MATTEL M-NETWORK/ATARI

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US GAMES/VIDTEC/ATARI

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ARCHAIA/ATARI

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COLECOVISION

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MATTTEL INTELLIVISION

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COLECO/INTELLIVISION

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OTHER GAMES

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GAME ACCESSORIES

WICO

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<tr>
<td>W15-9705</td>
<td>Deluxe Joystick</td>
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**AGES:**
- [ ] Under 2
- [ ] 3-5
- [ ] 6-11
- [ ] 12-17

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Please check off the equipment which you own or plan to buy within the next 12 months:

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<td>Giant Screen Television</td>
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<td>Stereo System</td>
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**How many hours per week do you spend playing various electronic games:**

- [ ] Less than 2 hours
- [ ] 2-5 hours
- [ ] 6-10 hours
- [ ] More than 10 hours

**How much do you spend per week on electronic games:**

- [ ] Under $2
- [ ] $2-5
- [ ] $6-10
- [ ] Over $10

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1. 
2. 
3. 

**My favorite videogame cartridges are:**
1. 
2. 
3. 

**My favorite microcomputer games are:**
1. 
2. 
3. 

**My favorite coin-op games are:**
1. 
2. 
3. 

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Electronic Games 113
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