Players Guide to New Coin-Op Games

electronic GAMES

Videogames · Computer Games · Stand-Alone Games · Arcades

AUGUST, 1982
$2.95

Dell 04114

A Teacher
Punctures The Critics
**EXPLODING
THE ARCADE
MYTHS!**

Strategy Session:
**Stampede
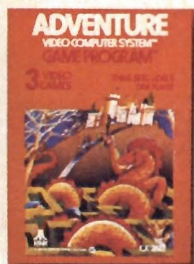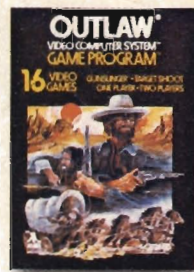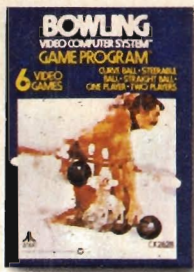Galactic Invasion
Crossfire**

**FLIPPING OUT
OVER VIDEO
PINBALL**

**Inside TRON'S
Computer
Graphics**

0

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BASIC PROGRAMMING — GAME PROGRAM — VIDEO COMPUTER SYSTEM

VIDEO CHECKERS — GAME PROGRAM — 19 VIDEO GAMES

A GAME OF CONCENTRATION — VIDEO COMPUTER SYSTEM — GAME PROGRAM — 8 VIDEO GAMES

FOOTBALL — GAME PROGRAM — 3 VIDEO GAMES

COMBAT — VIDEO COMPUTER SYSTEM — GAME PROGRAM — 27 VIDEO GAMES

BREAKOUT — GAME PROGRAM — 12 VIDEO GAMES

CANYON BOMBER — VIDEO COMPUTER SYSTEM — GAME PROGRAM — 8 VIDEO GAMES

PAC-MAN — GAME PROGRAM — 8 VIDEO GAMES

CIRCUS ATARI — VIDEO COMPUTER SYSTEM — GAME PROGRAM — 8 VIDEO GAMES

MAZE CRAZE — VIDEO COMPUTER SYSTEM — GAME PROGRAM — 256 VIDEO GAMES

CODEBREAKER — GAME PROGRAM — 20 VIDEO GAMES

SUPERMAN — VIDEO COMPUTER SYSTEM — GAME PROGRAM

STREET RACER — VIDEO COMPUTER SYSTEM — GAME PROGRAM — 27 VIDEO GAMES

SURROUND — VIDEO COMPUTER SYSTEM — GAME PROGRAM

MISSILE COMMAND — VIDEO COMPUTER SYSTEM — GAME PROGRAM — 34 VIDEO GAMES

ASTEROIDS — VIDEO COMPUTER SYSTEM — GAME PROGRAM — 66 VIDEO GAMES

GOLF — VIDEO COMPUTER SYSTEM — GAME PROGRAM

CASINO — VIDEO COMPUTER SYSTEM — GAME PROGRAM — 4 VIDEO GAMES

NIGHT DRIVER — VIDEO COMPUTER SYSTEM — GAME PROGRAM — 8 VIDEO GAMES

OTHELLO — VIDEO COMPUTER SYSTEM — GAME PROGRAM — 4 VIDEO GAMES

SLOT RACERS — VIDEO COMPUTER SYSTEM — GAME PROGRAM — 9 VIDEO GAMES

CHAMPIONSHIP SOCCER — VIDEO COMPUTER SYSTEM — GAME PROGRAM — 54 VIDEO GAMES

HOME RUN — VIDEO COMPUTER SYSTEM — GAME PROGRAM

DODGE 'EM — VIDEO COMPUTER SYSTEM — GAME PROGRAM — 3 VIDEO GAMES

TO

electronic GAMES

SWITCH ON

Is This Gaming's Golden Age?

By ARNIE KATZ

"Can you really fill up a whole magazine with stuff about electronic games four times a year?" Skeptics never failed to ask this question, in one form or another, every time **Electronic Games** came up for discussion prior to publication of our first issue last fall.

I doubt they meant it as a put-down. Most of them simply couldn't imagine that there would be enough happening to fill up the 84 pages (including covers) planned for the first issue.

"Don't worry about it," I remember Bill Kunkel assuring one particularly insistent worrier. "We could fill up five times as much space."

The way **Electronic Games** is growing by leaps and bounds, our esteemed co-founder may soon have the chance to put his copy where his mouth was. Not only has the magazine jumped from a quarterly to a monthly schedule, but this month's issue is a robust 16 pages larger than the one you bought in June.

And the biggest — absolutely the biggest — problem we have is shoehorning everything we want to print into the magazine. Even though we hope to continue to fight inflation by adding still more pages to future issues, it's unlikely that our task will get much easier.

Why? There's too much happening—

too many exciting new products, too many landmark innovations — to cover everything as thoroughly as we'd really like. That's one of the reasons we're launching a bi-weekly newsletter, **Arcade Express**. (Rest assured, however, that the **EG** edito-

rial staff will never stop grappling with this thorny problem.)

"Future Shock" by Alvin Toffler describes the accelerating rate at which scientific and technological developments are taking place. The author contends that, in the not too distant future, a major breakthrough will occur about every three seconds.

Don't look now, Mr. Toffler, but I think it's already happening in the electronic gaming world. The meteoric rise of the hobby is spurring manufacturers to pour millions into research and development.

The result: constant change and equally constant improvement in just about every segment of gaming. Within just the last year or so, such breakthroughs as color quadrascan, trackball controllers and computer voice synthesis have greatly enriched the coin-op gaming experience.

Progress on the home front has been just as swift. Not only are manufacturers introducing revolutionary hardware in both the programmable videogame and computer fields, but the quality of software is rising so rapidly that some programs which were smash hits last year seem almost quaint compared to the latest releases. Even as recently as 1980, who could have confidently predicted that relatively powerful microcomputers would sell for well under $350, or that advanced videogame systems like ColecoVision and the Atari Supergame would be able to present such faithful adaptations of top coin-op games?

Even the stand-alone game field is buzzing with new ideas. Enhanced graphics, more complex games and even vector graphics monitors built right into the unit are either already here or actually on the way to the stores.

The greatest beneficiary of all this activity—yes, even more than the manufacturers — are we gamers.

If that's not a golden age of gaming, it'll do until the real thing comes along. ⊖

HIGH SCORES
1. 720,000
983,000 AK
975,000 FT
891,000 BK
756,000 RC

"Hurry up with that electronic report . . . can't entertain that cat forever, youngster!"

ELECTRONIC GAMES HOTLINE

POWER TO THE PAC-MAN!

There's no question about which cartridge is dearest to the hearts of home videogamers these days: It's **Pac-Man** by Atari for the VCS. This month's popularity poll finds **EG** readers voting for the livingroom version of this maze chase contest in record numbers. As a result, **Pac-Man** gobbled up all the competition in sight and landed on top of the chart in its very first month of eligibility. No home game has previously accomplished this remarkable feat.

And what about the dethroned champion, **As-** teroids? Well, it's still in the top 10 among videogames, but newer titles are pushing it hard in the ballotting.
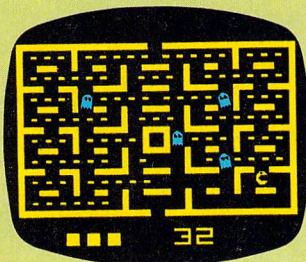
Meanwhile, **Missile Command, Astrosmash, Adventure** and **Kaboom**! are maintaining their high level of popularity. Mattel's **Major League Baseball** moved up on the list this time, and **UFO** (Odyssey) made a welcome return to the top 10.

As it has since the inception of the poll, **Star Raiders** continues to lead all other microcomputer game programs—and by a substantial margin at that. Other long-time favorites held their own against Atari's space piloting game, but none of them look like they will challenge for the number one slot any time soon.

Hottest of the newcomers is definitely **Protector** in its new edition from Synapse by the game's originator, Mike Potter. Right now, the new *Protector* appears to be catching on even better with gamers than Potter's first version.

The standings are comparatively stable in the coin-op realm this month, with *Pac-Man*, **Tempest** and **Defender** clinging to the top three places. **Donkey Kong** is showing good staying power, edging up to the fourth position, leaping over **Centipede** and **Battlezone** in the process.

It is particularly interesting to note that *Pac-Man* and *Defender*, both of which have sequels already in the arcades, continue to do very well in their own right. Even though **Stargate** cracked the top 10 and **Ms. Pac-Man** missed by the margin of a mascara'd eyelash, the newcomers have not yet blunted sales for the machines which inspired them.
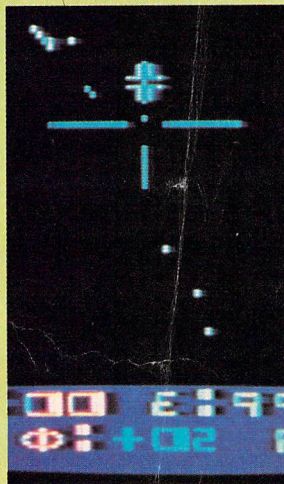
APOLLO LAUNCHES FOUR

Proclaiming the dawn of "a new age of sophistication for videogames," Pat Roper, president of Dallas-based Games by Apollo, lifted the veil on that company's next four cartridge releases for play on the Atari VCS. "Unlike other cartridges," the good-humored gaming executive explains, "the new Apollo games have a storyline that takes them out

FREEDOM FIGHTER BLASTS OFF

A gala press reception at New York City's World Trade Center heralded the introduction of the first new games for the Odyssey² system since **K.C. Munchkin** and **Monkeyshines** made their debut last winter.

Action game fans should be especially pleased by

COIN-OP RECORDS SET

Arcade aces across the country are re-writing the record books almost daily. Official sanction record scores for **Asteroids, Asteroids Deluxe, Centipede** and **Tempest** have been set in recent months.

Leo Daniels of Caroline Beach, N.C., now stands at the head of all players of *Asteroids*. The 20-year-old rock-basher played for 36 hours and 4 minutes while racking up 40,010,910 points. This was almost 10 million points more than the previous record held by Dennis Hernandez of Geneva, N. Y.

Even more impressive is the accomplishment of Keven Gentry, Lake Charles, La., who out-distanced the previous record set for *As-teroids Deluxe* by an incredibly wide margin. Gentry's 2,117,570 points wiped the previous high of 269,230 right off the old vanity board.

Franz Lansinger may have been a trifle disappointed about not cracking three million points on *Centipede*, but the Mountain View, Ca. resident's total of 2,999,999 easily eclipsed the old mark of 530, 388 set by Ashland, Kentucky's Doug Humphrey. (Fame is, however, sometimes fleeting. See ''*Coin-op Records Tumble''*.)

Meanwhile, Jay Nelson of Huntington Beach, W. Va., has established the first national high score for *Tempest*. A frantic 37 minutes of play resulted in 512, 674 points.

''We commend these players for their outstanding display of skill,'' says Ken Harkness, president of Atari's Coin-Operated Video Games division, which markets all four machines. The California company has issued special award certificates to mark these achievements.

Sterling Ouchi, Keith Wade, Paul Pedriana, John Hooper, Greg Falcioni, Dennis Smith, Mike Johnston, Joe Dearman, Phil Iati, Joe Fernandes, John Shadrick,

COIN-OP RECORDS TUMBLE

The citizens of Lakewood, Ca., might have thought the Big Quake was finally at hand one weekend last spring. It turned out to be a false alarm, though. It was just the sound of coin-op game high-score marks shattering one after another.

Phil's Family Amusement Center served as the setting for the World Record Weekend, an all-out assault on the previous top scores reported for a dozen coin-op favorites. Organized by arcade proprietor Phil Iati with the timely assistance of Robert Pafundi and Gary Schank, this landmark event brought together arcade aces from all over southern California. The World Record Weekend was so big, in fact, CBS News provided live coverage of the action as well as several taped reports.

Iati, who screened applicants for this mighty bid videogaming immortality, said, prior to the contest, ''It is a great opportunity for videogame players to see the superstars. Everyone can learn how to beat the games by watching the experts, rather than by trial and error.''

Those hoping to pick up such pointers must have had a field day. New high marks were set for **Battlezone, Missile Command, Centipede, Star Castle, Crazy Climber, Defender, Pac-Man, Armor Attack, Scramble, Phoenix,** and **Astro Blaster.**

Why did Iati go to the trouble of staging such a mammoth competition? It's all part of his effort to provide just the right ambiance at Phil's Family Amusement Center. ''We're trying to provide more than just an arcade,'' Iati explains. ''Phil's is a place to come if you want to have a great time and learn how to play these sophisticated games. My customers are of all ages, and I believe in stimulating the mind at a very young age, and computer games are one method of achieving this goal.''

Electronic Games' Picked Hits

Most Popular Videogame Cartridges

Position This Month	Last Month	Game	System	Manufacturer
1	—	Pac-Man	Atari VCS	Atari
2	2	Missile Command	Atari VCS	Atari
3	3	Adventure	Atari VCS	Atari
4	4	Kaboom!	Atari VCS	Activision
5	5	Astrosmash	Intellivision	Mattel
6	9	Major League Baseball	Intellivision	Mattel
7	1	Asteroids	Atari VCS	Atari
8	—	Space Battle	Intellivision	Mattel
9	8	K.C. Munchkin	Odyssey²	Odyssey
10	—	UFO	Odyssey²	Odyssey

Most Popular Computer Software Programs

Position This Month	Last Month	Game	System	Manufacturer
1	1	Star Raiders	Atari 400/800	Atari
2	2	Jawbreaker	Atari 400/800	On-Line
3	4	Missile Command	Atari 400/800	Atari
4	5	Castle Wolfenstein	Apple II	Muse
5	—	Protector	Atari 400/800	Synapse
6	3	Empire of the Over-Mind	Atari, TRS-80 Apple	Avalon Hill
7	—	Thief	Apple II	Datamost
8	—	Eastern Front	Atari 400/800	APX
9	—	Caverns of Mars	Atari 400/800	APX
10	—	Wizardry	Apple II	Sir-Tech

Most Popular Coin-Op Videogames

Position This Month	Last Month	Game	Manufacturer
1	1	Pac-Man	Namco/Midway
2	2	Tempest	Atari
3	3	Defender	Williams
4	8	Donkey Kong	Nintendo
5	4	Centipede	Atari
6	5	Battlezone	Atari
7	—	Venture	Exidy
8	9	Gorf	Midway
9	—	Missile Command	Atari
10	—	Stargate	Williams

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 700 Reader Polls. We update the "picked hits" lists in every issue of **Electronic Games.**
So send in your votes!

ATARI REPORT

★ Hoping that lightning will strike twice, Atari's coin-op division has introduced **Dig Dug**. Designed by Namco, the same Japanese company that created **Pac-Man**, this maze chase has some major features not found on Namco's earlier games. The most striking is that *Dig Dug*, the intrepid miner controlled by the gamer, actually creates his own tunnels.

★ **Caverns of Mars**, the 400/800 program that won a major prize in Atari's software development contest, is going to graduate from its APX (Atari Program Exchange) edition to become a regular part of the company's line of games.
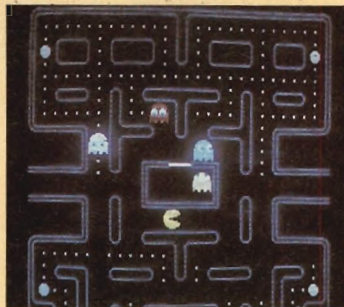
★ The California videogame mavens will be putting out home versions of a couple of the year's biggest coin-op hits. Before the end of summer, **Berzerk** and **Defender** will both be available for the VCS. Naturally, what will be offered are somewhat streamlined versions of the fullblown commercial arcade machines.

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 rewrites 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.

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!** ——————

Atari Battlezone
Mike Johnston, 22 years
Los Alamitos, CA 90720
Start: 10:15 a.m. 3/26/82
Finish: 5:30 p.m. 3/26/82
Total Time: 7 hrs. 15 min.
Old Record: 5,205,000
New Record: 5,899,000

Atari Missile Command
Joe Fernandes, 19 years
Artesia, CA 90701
Start: 11:30 a.m. 3/26/82
Finish: 1:00 a.m. 3/28/82
Total Time: 37 hrs. 30 min.
Old Record: 51,957,175
New Record: 52,246,260

Atari Centipede
Sterling Ouchi, 18 years
Torrence, CA 90502
Start: 12:30 p.m. 3/26/82
Finish: 5:00 p.m. 3/26/82
Total Time: 4 hrs. 30 min.
Old Record: 2,999,999
New Record: 3,058,437

**Cinematronics
Star Castle**
Sterling Ouchi, 18 yrs.
Torrence, CA 90502
Start: 8:00 p.m. 3/27/82
Finish: 6:30 p.m. 3/28/82
Total Time: 34 hrs. 30 min.
Old Record: 7,000,000
New Record: 7,105,000

Taito Crazy Climber
John Shadrick, 15 years
Los Alamitos, CA 90720
Start: 11:15 a.m. 3/28/82
Finish: 11:50 a.m. 3/28/82
Total Time: 35 min.
Old Record: Not Established
New Record: 320,750

Williams Defender
Joe Dearman, 16 years
Cerritos, CA 90701
Start: 6:30 p.m. 3/27/82
Finish: 8:30 p.m. 3/28/82
Total Time: 26 hrs.
Old Record: 24,575,000
New Record: 24,630,495

Midway Pac-Man
Paul Pedrian, 15 years
Cypress, CA 90630
Start: 11:30 a.m. 3/28/82
Finish: 6:30 p.m.
Total Time: 7 hrs. 30 min.
Old Record: 3,400,000
New Record: 5,579,350

**Cinematronics
Armor Attack**
John Hooper, 19 years
Lakewood, CA 90715
Start: 9:30 a.m. 3/28/82
Finish: 6:00 p.m. 3/28/82
Total Time: 8 hrs. 30 min.
Old Record: 157,570
New Record: 319,670

Stern Scramble
Gregory Falcioni, 24 years
Cerritos, CA 90701
Start: 6:00 p.m. 3/28/82
Finish: 3/28/82
Total Time: 22 min.
Old Record: Not Established
New Record: 111,120

Centuri Phoenix
Keith Wade, 17 years
Lakewood, CA 90715
Start: 10:30 a.m. 3/28/82
Finish: 11:15 a.m. 3/28/82
Total Time: 45 min.
Old Record: Not Established
New Record: 312,355

**Sega/Gremlin
Astro Blaster**
Phil Iati, 28 years
Lakewood, CA 90715
Start: 9:30 p.m. 3/26/82
Finish: 9:40 p.m. 3/26/82
Total Time: 10 min.
Old Record: Not Established
New Record: 64,610

AN EPYX QUESTION

In a recent issue of **EG** you talked about the **Star Warrior** game for the Atari 400/800, but failed to mention that it's available for the Apple II+ and the TRS-80. Also, you have mentioned that the game was made by both Epyx and Automated Simulations—are they the same company?

Peter Clark
Sacramento, CA

Ed: Actually, the overall company name is Automated Simulations. Epyx is a division within the overall corporate structure. Your other question, raises a valid point, and we do attempt to mention whenever a game is available for more than one computer system. There's only one problem: The same game may be markedly different on the TRS-80 as opposed to the Atari. Since our space is so limited, despite the expanding page count, it's impossible to review up to four versions of the same game.

GETTING IT DIRECT

All of the major home videogames package with their systems a set of instructions for connecting the system to your TV. Is there one among the major systems that can be used directly with a video monitor (of the type used with closed circuit and computers)?

Also, I've noticed that Intellivision cannot be used with a monochromatic set. Why not? (My hunch-its internal color generator is non-switchable.)

Alex Alegado
Pomona, CA

*Ed: All the current videogames and computers should be able to transmit direct video signals (rather than sending them through the RF switch box for unscrambling). **EG**'s Technical Editor* Henry Cohen is at this very moment hard at work getting the lowdown on direct TV transmission. Such straight-on visual transmission is yet another advantage coin-op games have over their home programmable cousins.

Regarding your second question; to our knowledge, only the Atari VCS has a capacity to transpose alternately colored graphic objects into straight black and white.

*Al Miller's **Starmaster** —which can only be played in color, uses that b&w/color slide-switch to alternate the visual from space grid to straight-ahead space dogfight.*

SPECIAL STRATEGY KUDOS

*Ed: We here at **EG** get many of our hottest tips from you folks. It's absolutely incredible how quickly you game*

STAR WARRIOR

WOUNDS: 0%
SHIELD: XTR
HDG: NW

ENERGY: 266
SETTING: 5
CHARGES: 27
MISSILES: 2
TIME: 3.6
FLITTER

?H

PAC-MAN

32

Electronic Games
235 Park Ave. South
New York, N.Y. 10003

Readers Replay
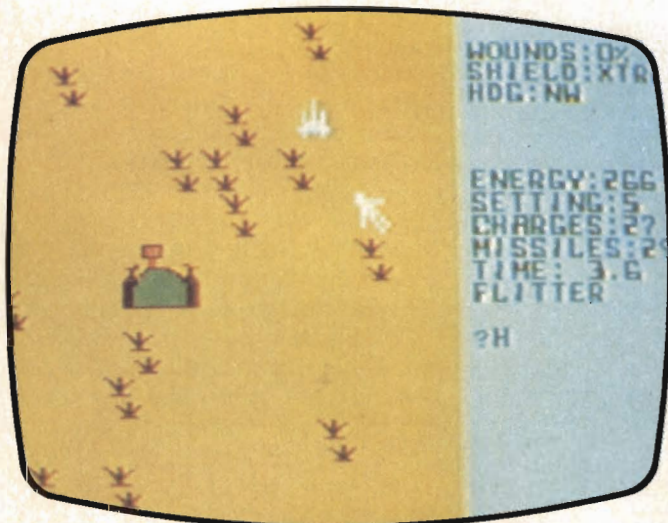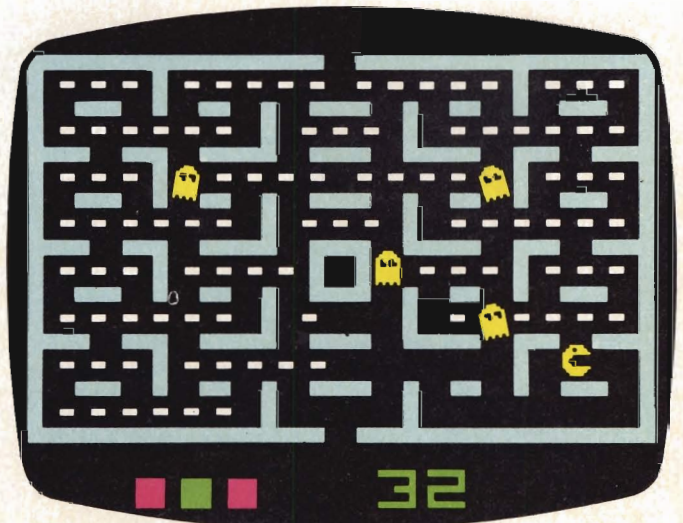
geniuses are able to sniff out any cartridge's secret message. We want to give a special wink of the old **EG** Vanity Board to Bernard Lewis of Laurelton, NY for being the first to produce a successful "pattern" for the Atari VCS **Pac-Man**. Of course, the key to Bernard's technique involves avoiding the ghosts altogether, even when they turn blue. How well this conservative approach will fly without any ghost-seeking Pac-Maniacs remains to be seen.

In any case, Bernard, for work and service above and beyond the call of duty, we'll send you the Midway version's ninth key —the very first time we get that far...

PARTNERS?!?

Does a company such as Activision or Imagic have to consult with, or ask permission from, Atari or Mattel before it produces a cartridge?

Stanley Takai
Chicago, Ill.

Ed: Although Activision and Atari have, indeed, signed an agreement (no details have ever been released), no other software manufacturer has announced a similar pact as of this date.

Really, the whole field of electronic gaming is still so new that there is no long-standing set of legal precedents. The picture should clear with the passage of time.

CALLING ALL ZIRCONS!

I was wondering where I could purchase a Channel F (formerly from Fairchild) by Zircon? I am also interested in getting cartridges for it. Thank you for your trouble.

Tony Roper
Olton, TX

Ed: No trouble at all, fellow arcader. Zircon, Inc., is located on Vandall Way, Campbell, Cal. The system lists for $99.95 new or $69.95 on a trade-in with an old Channel F1. Cartridges list

from around $20. to $30. A complete list, including new games, can be obtained directly from Zircon.

TEMPEST IN A TEMPEST!

After reading the strategy session on **Tempest** in the May **EG**, I cannot agree that moving around is a loser's strategy. The first time I tried the moving strategy I broke 100,000. I have gone from the 9th to the 42nd level in one game. I have reached the 63rd level and scored 607,000 points.

I am not saying that the standing-still method is wrong, I'm just trying to give the moving-around method a fair shake.

Arnold Bogenschutz
Albert Lea, Minn.

Ed: Perish forbid that anyone would ever think that we oppose any strategy
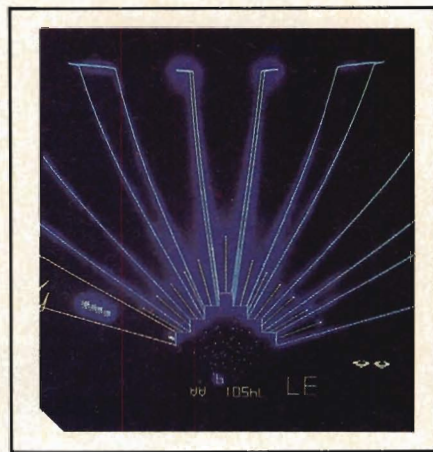
TEMPEST

that works best for you as an individual player. Our videogame experts are merely giving the tips that have worked best for them. Their suggestions are hardly written in stone — adapt and find what works the best for you

In any event, the moving method has got to be a bit more interesting, if nothing else.

Besides, just standing around and waiting for the various nasties to pounce is too hard on the nerves.

LET'S GET ON SCHEDULE, GUYS!

How about publishing a calender that would list the dates when the various cartridges for Atari, etc. will be on sale?

Stan Takai

Ed: What a great idea! What an absolutely marvelous idea! Err, there's only one fly in your otherwise perfectly clear ointment: The companies themselves are never sure when games will be released. In addition, different games are issued in various parts of the country at different times.

So far, the closest we've gotten to a calender is the beautiful new Atari VCS catalogue, with its month-by-month sale listings.

Availability of chips, production facilities, advance orders and all those other variables make this idea currently impractical, but don't worry, the minute it looks feasible, **EG** will be there!

THE IBM-PIRE STRIKES BACK!

Recently our family purchased an IBM Personal Computer System. I read in your magazine that several companies were coming out with game software for the system. Would you please tell me where to buy them and which independent companies will be producing such software?

Paul Campbell
Yakima, WA

Ed: Computer software can most easily be aquired through local computer shops or through mail order operations.

With regard to established software support for your proud, new beauty, Automated Simulations, Avalon-Hill and Sir-Tech have already either turned out, or are in the process of producing, games for the IBM personal computer.

With the graphic and speed capabilities of the IBM micro, it should prove a near-irresistible system to the top game software designers.

The bottom line, of course, will depend on the number of microcomputer systems IBM can sell. The greater the owner-support, the more software creators will jump on board.
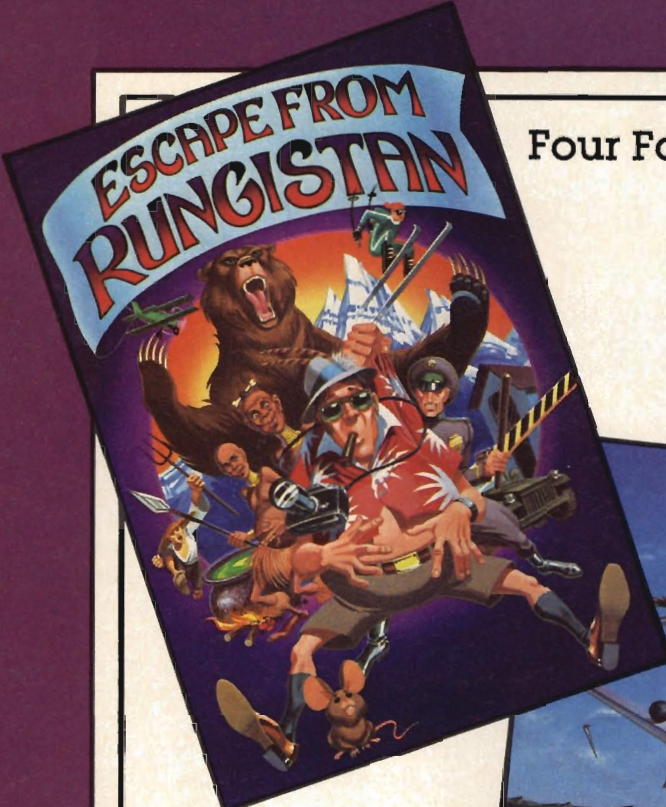
Okay, you gang of game mavens, that about finishes us up for this edition. So keep those cards and letters coming in, cause we love to hear from you!

Oh, one last quickie: please, guys, enough with the calls pleading for Atari's secret messages. OK? OK.

Q&A

BY THE GAME DOCTOR

Lots of interesting looking questioners filling up the old game sawbones' waiting room, I see. But before we get on with the inquisition, the Doctor wants to make sure that all those readers whose queries were selected as the best in each issue get the **Electronic Games** T-shirts as promised. We have the names and addresses of the winners, but we need one more bit of data before the shirts can go out. Previous winners should contact the Game Doctor at the usual address and tell us your shirt size. Because, after all, when you strut around the neighborhood in your **EG** finery, we want you to look as sharp as possible.

All right, then, now let's get on with this month's inquiries, the best of which comes to us from Paul Nelson of Hopkins, Minn., our shirt winner for August.

Take it away, Paul!

Q: *Does anybody make an extension plug for the Atari-type joystick? If not, how would I go about adding a few feet to the present length?*

Also, does EG plan on offering any mail order type services? I read all about the new brands of games such as Imagic, Games by Apollo, etc. but don't know where to buy them? Keep up the good reviews on new products, but tell us where to get 'em!! (from Paul Nelson of Hopkins, Minn.)

A: Extension cords for joysticks have just now become available from that wise old videogame wizard, Cliff Blake of Screensonics (see advertisement elsewhere in this issue). And those folks interested in similar joystick-related paraphernalia should watch for next issue's article on the wonderful world of joysticks. You'll find out not only about the latest in controllers—

including monogrammed joysticks and coin-op style, button-directional controls—but the lowdown on special adapters that will allow controllers from one system to be used in playing games on other programmables and computers. We're even going to tell you how to get genuine, coin-op/industrial controllers for use with your home system. So stay tuned!

As to **EG** becoming involved in selling game-related items, we just can't do that. We feel that, in order to remain totally objective in our coverage of the field, it's important that we not get involved personally in the admittedly-booming business of retailing hardware and software. But worry not, friend Paul, our corps of faithful advertisers will be more than

glad to sell you anything your little videogame-loving heart desires. Just write to one or more of the companies featured in our pages for a catalog and/or price list, or check your local Yellow Pages for a video or computer center in your area. Also, many toy and convenience stores sell programmable videogame software these days.

Q: *I have an Atari VCS and just love the "climbing" games in the arcades, such as* **Crazy Climber, Donkey Kong** *and* **Space Panic.** *Will any of these games, or anything like them, be available for the VCS and, if so, when? (from Ken Bays of Shady Spring, West Va.)*

INTELLIVISION
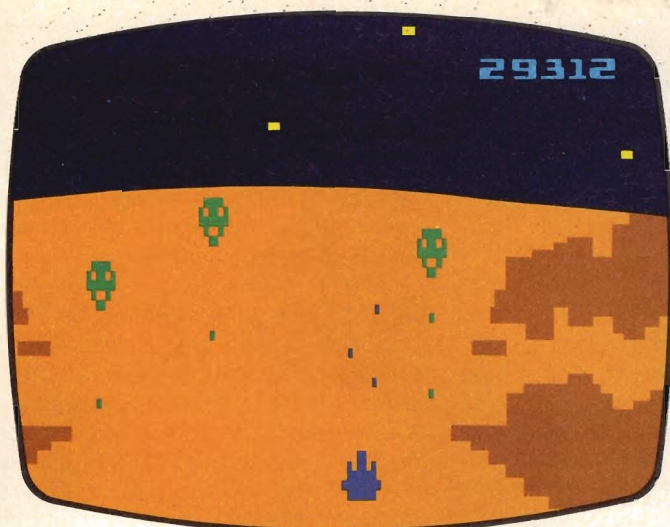
APOLLO'S SPACECHASE

ASTEROIDS

A: *Crazy Climber* is probably out as a home videogame, at least in its current format, as it requires two joysticks. *Donkey Kong*, however, has already had its home rights snapped up by Coleco, which recently previewed versions for the VCS, Intellivision and their own senior programmable system, ColecoVision.

Owners of the Apple II or Atari computers can also pick up a home version of Universal's classic, *Space Panic*. It's called **Apple Panic** from Broderbund Software, and comes in 48K disk for either system.

Q: *I've just recently purchased a Mattel Intellivision and have decided to acquire the keyboard (when it finally makes its debut). My question is: How can I tell if a particular computer game will work on my Mattel system? Not being familiar with computers, I'm a little confused when I read in "Computer Playland" that, say* **Space Chase** *is "Swifty Software/Atari 400 & 800/ 16K". Please explain what such information means? (from Larry Rankine of APO, N.Y.)*

A: First off, Larry, only Mattel-compatible software will run on the Intellivision—currently that's not very many programs. It remains to be seen if independent companies will produce compatible software, though Imagic and Coleco are promising to do so.

As to explaining what our review data means, sure 'nuff! After the title comes the name of the company that manufactures the game. Next is listed *all* the possible systems on which the game can be played. In the case of *Space Chase*, only someone with a 16K Atari computer can run the program.

Other information might detail the format(s) in which the program is available: tape, disk and/or ROM cartridge.

Q: *On page 14 of your May '82 issue the* **Asteroids** *(VCS version) playfield shows extra ships in the upper right hand corner. All advertising, TV and print, shows this same format. However, the game itself displays only a number signifying the extra ships available. Why the discrepancy? (from Dale Finley of Fraser, Mich.)*

A: Sharp, Dale, sharp. Actually, this question is asked fairly often and the answer is simple. These days, when a company shows a playfield in an advertisement, it is rarely an actual photograph of the TV screen with the game in play. Rather, it's generally an artist's representation of the field. Perhaps in the early design stages, actual ships appeared at the top of the screen. In any case, the game was probably still unfinished when the drawing was done.

Similarly, several readers have recognized that the VCS playfield for **Missile Command** is similarly errone-

ous. There are more explosions occurring than is actually possible in the real game.

In this medico's opinion, you can rest assured that the companies aren't trying to deliberately fool anyone. In many cases, playfields are actually less attractive in still form than they are in the game itself. Activision's **Skiing**, for example, is much better-looking than the playfield repro, as in Mattel's **Space Battle**.

Q & A QUICKIES: Richard Grimes wants to know how to pronounce "**Galaxian**" and "**Pleiades**" and craves info on Odyssey²'s **Freedom Fighter**. You pronounce *Galaxian* Ga-lax'-ee-en, and *Pleiades* is said Play'-id-eeze. *Freedom Fighter* is a one- or two-player space game for the 0² system that should already be on sale. Watch for a review in the September **EG**!

Richard Wightman, meanwhile, is concerned about videogames damaging his new 13-in. RCA color TV since no color-shifting (to protect the tube from burn-in of the on-screen images) occurs during play. No reason to be concerned, my friend. Color-
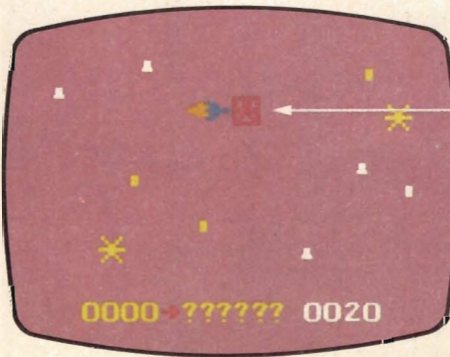
FREEDOM FIGHTER

shifting is not needed during play, since on-screen objects are being moved about. It's only when the image remains static that the danger exists of phosphors in the TV tube burning an after-image onto the screen. And poor Bruce Bernier is disconsolate over the lack of arcade hits being adapted for the Odyssey². Unfortunately, there's not much good news on that front, since there are, quite simply, many more VCS and Intellivision systems out there than Odyssey's and the software companies know it. It remains to be seen if the folks at N.A.P. incite third-party software companies to action. Keep the faith, Bruce.

Q: *I've got a question as an owner of a Sears Super Video Arcade System. Although it resembles the Mattel Intellivision, it looks different. Will all the Mattel cartridges, keyboard, etc. all interface properly with the Sears version?* (from Rick Catalano, Chicago, Ill.)

A: Not only is your Sears system the technical twin of the Mattel Master Component, it even has an added advantage. In the Sears version, the controllers unplug freely from the console for easier replacement.

Q: *I recently purchased the IBM Personal Computer. I am very impressed with its computing capabilities. Because of its fantastic graphic capabilities, I am expecting some of the most exciting computer games ever invented. Will the major software producers get involved with the IBM, and will we get the lowdown on them in "Computer Playland"?* (from Bob Hoxie, Brookfield, Conn.)

A: As you already know, Automated Simulations has announced it will enter the IBM game market. While other companies may turn out a quickie program or two, the expense of the IBM may well work against its viability as a microcomputer for the masses. Only time will tell, of course, but any and all information will be instantly detailed on the pages of EG.

Q: *Concerning the Intellivision computer, does it make your cartridges better? Or does it require special cartridges? Also, is Mattel going to be making games for the Atari? If so, why?* (from Jason Anugwom of Los Angeles, Cal.)

A: I must assume, Jason, that by "computer" you mean the keyboard that interfaces with the Intellivision Master Component. No, it will not improve the quality of the existing game cartridges for the system. The keyboard simply allows the system— most of the power originates in the game-playing console, by the way—to function as a personal microcomputer. The keyboard also contains a slot for

cassette tapes which are the medium by which programs are loaded into the computer. It should also be mentioned that there are currently *no games* listed among forthcoming cassette releases, a point to ponder if gaming is your primary interest.

As to your second and third questions: Yes, Mattel is making games (12 planned, in 1982 alone) for the Atari VCS. As for why, well, the old Doctor isn't exactly privy to the decision-making process at Mattel Electronics. Taking a wild guess, I'd say the com-

pany wants to cover all the video-game bases.

And that's about it for this installment of the computer clinic. We again wish to remind you potential winners to send in your T-shirt sizes with your queries. But before we go, I'd like to print a short letter from arcader David Kim: *"I have heard that in the Philippines the govenment has ordered that all arcades be closed up and all coin-ops banned. I certainly do not wish to see this happen here in America. I think people in the arcades relax from the*

day's work and the kids have a place to go."

The old Doc sure can't think of better sentiments than those with which to close out this installment of Q&A.

Remember to keep those cards and letters coming to **EG**, care of the Game Doctor. You'll get my bill in the morning.　Ⓖ

VIC-20

Is the VIC-20 the King
of the Low-Priced Microcomputers?

That Commodore makes computers should come as no surprise to **EG** readers. But the fact that the company's low-priced VIC-20 may well be one of the best and most versatile home computer/videogame systems around—now *that's* something to think about! Having achieved a moderate degree of success with its PET model in the U.S., Commodore (an American company), produces the biggest-selling home computer in Europe. It appears that, with the VIC-20, Commodore is finally in a position to enjoy the same enormous sales success right here at home.

Before waxing ecstatic, over one of the truly fine game-playing machines extant, a brief description is in order.

First, Commodore lists the VIC-20 as a 5K expandable color computer. In reality, as it comes from the box, the VIC-20 has 3.6K of RAM and 1.4K of graphics RAM in residence. That's where the unusual 5K designation comes from. We think of it as a 4K system. Second, it is expandable to 32K, according to the manufacturer, but presently the expansion cartridge (not board) available from Commodore only takes the machine to slightly over 12K of RAM excluding graphics. Third, the VIC-20 is a high-resolution system, altough not nearly as high as the Atari 400 or 800. The Commodore unit can produce 32,384 pixels (picture elements) versus 61,440 for the Atari systems. The comparison not-withstanding, the VIC-20 produces picture quality on the TV screen, from its ROM cartridges (plug-in games) that is worthy of a coin-op machine. In fact, with its outboard RF modulator (the device that converts composite

video into a "TV" signal), it generates one of the cleanest pictures seen from any video device. Color saturation, sharpness, contrast and a lack of "RF" noise are all exemplary.

And speaking of ROM cartridges, the VIC-20 games actually go to 16K because they contain RAM as well as ROM. In other words, the cartridges expand the capacity of the computer to meet the needs and graphics of the game in question.

If your interests lie in game playing only, the VIC-20, especially for its price, is as powerful or more powerful than most other systems on the market.

The Atari 400 contains 16K of resident RAM, the VIC-20 adds it when it is needed to play games. Resident ROM for the VIC-20 is 20K, a high level for low-cost home computers.

TEST LAB

By HENRY B. COHEN

This makes its presence felt by allowing the use of PET graphics. This is a very powerful built-in drawing system that makes programming your own games—or games from the owners manual or other VIC-20 or Commodore PET sources—possible. The ROM also makes the computer "user friendly" by way of containing a large number of statements ready to be displayed on-screen. When loading a program from a tape, the prompts are numerous and keep the console operator fully informed as to the exact status of the loading operation at all times.

The cassette unit (and only Commodore's may be used) is powered by the computer itself. The machine searches for a selected program (it can locate any program whether properly titled or not), informs you when the program is found, reports that the system is loading and tells you when it is ready to run or list. All this is accomplished in plain, simple English — very friendly. In addition, after a program is loaded, the tape is automatically stopped and cued for the next operation. This might be the loading of another program or the saving of a new program. Whatever, the tape is held in position, poised for action. A verify feature permits a check on programs just transferred to tape to ensure that they match exactly that which is held in the computer's memory. This makes certain that a program is stored correctly before it is dumped. This feature may also be used to cue up a tape on which some programs are already stored.

Saving or loading a program is as easy and foolproof as possible. The downside is that, like all tape storage systems, the process can be painfully slow at times, taking up to a minute or two to load a 4K program. And alas, all games (on tape) are furnished at the 4K level since the tapes come with no RAM expansion.

Expansion cartridges are available so perhaps some games, to be released in the future, will operate at higher levels of memory. For now, you get 4K more or less, when using tape. Even at this level, however, graphics and signal qualities remain good but nowhere near the high resolution levels of the various ROM cartridges.

Speaking of games, Commodore has signed an agreement with Bally that should allow games developed by Bally to become available for the VIC-20. We can hardly wait to give them a try, given the superb level of graphics resident in the system.

The principal programming language of the VIC-20 is Commodore PET BASIC. Like all BASICs it is a bit slow. Programming can become somewhat tedious, no more however, than with any other system. If you take the time to learn them, this BASIC dialect provides many commands which would ordinarily have to be typed in, such as PRINT as a single keystroke (in this case, a question mark). Some of the multifunction keys, and there are many, require careful scrutiny of the instruction manual before they can be used, or they make no sense at all. It took your intrepid reviewer three hours to program a relatively simple game the first time out. It even took a few phone calls to Commodore, but finally the job was done. Now the only question is why did I do it?

Greater familiarity with the VIC-20

SLOT MACHINE

SPACE LANDER
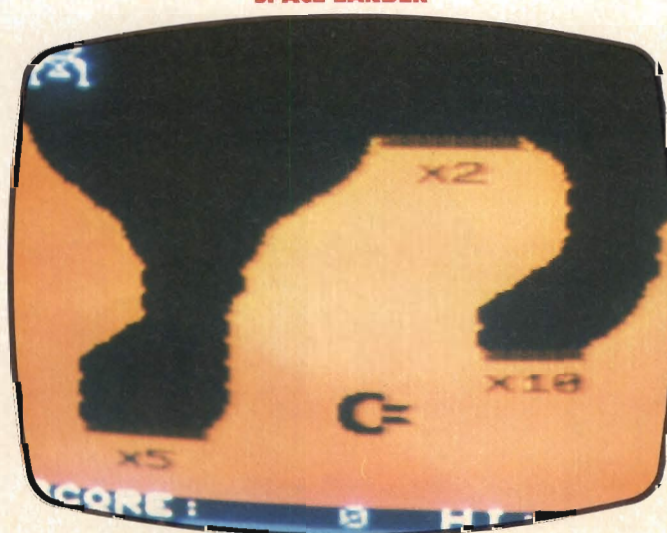
would surely help, but so would a more comprehensive instruction manual. Conversely, the manual is one of the best-written and -illustrated ever produced. It simply doesn't go far enough. Commodore wanted very much to keep it "friendly", and they may have gone too far. This, of course, corresponds to Commodore's overall marketing positioning as "the friendly computer".

Friends are fine but sometimes you need a good stern teacher to help get you through the work at hand.

Enter the *VIC-20 Programmers Reference Guide*/($16.95), which is essential bedtime reading. Besides taking the basic instruction manual further along, allowing use of all the VIC-20's many tricks, the guide includes information on 6502 machine code programming, a vital skill for any serious VIC-20 computerist.

Happily, the VIC-20 uses the Atari joystick to perform certain game con-trolling actions. This is good to know as Commodore joysticks are sometimes hard to find, and you can save a few dollars if you have an Atari system handy. The joysticks are identical, save for color and the Commodore name on top. The same should hold true for the paddles. However, no games have been released that require paddle controls at this writing. Commodore has said that at some time in the future this total Atari controller compatibility may change (we hope not), but for now the Atari joysticks work just fine.

The full-sized typewriter keyboard, a veritable blessing, is all but unheard of in a microcomputer listing at only $300.00. Interface/expansion ports abound on this machine, but they are true computer ports, not videogame ports. This means that a careless or heavy hand can break the protruding circuitry of a ROM cart or, even worse, snap off a piece of the motherboard which contains all of the computer's

circuitry. Those ports on the right side of the machine which accept the joystick/paddle or light pen and the plug from the incredibly hefty power supply pose no problem. On the back, however, are two large openings and one small one. The largest accepts the ROM carts or other memory expansion devices. Placement of the ROM cartridges into the machine is tricky as you have to exert pressure to work the cartridges into the slot. The internal retaining spring is stiff and the cartridge must be pressured from first its right and then its left side. It's easier and safer to simply lift the machine until the port faces the operator and guide the cartridges in by eye. All of this care, unusual to game system owners, is necessary to prevent breaking off a section of the unprotected ROM cartridge circuit board.

The cable from the cassette recorder terminates in a seven-wire plug that sits on the motherboard of the computer through the small opening mentioned. Again, care is needed to prevent forcing the plug in wrong. It is polarized to prevent such a mishap but undue pressure will surely break something. As mentioned, this is a

"There's nothing like playing Space Invaders by campfire."

computer, not a videogame with computing capability. It must therefore, be treated with deference, not reckless abandon.

The unit also has provision for a disc drive and printer, but that's not all. The VIC-20 has a port for about the lowest priced in-line modem on the market. This is the device that hooks the computer up to the telephone enabling communication with other VIC owners and computers. For gamers this means access to "dial-a-game" and the new VIC network that will shortly be in operation. The modem is expected to sell for about $110.00. With all these goodies—the computer, cassette recorder, disc drive, printer and modem—the entire system lists for $1,478.90. Discounted, this remarkably adept system should be available for a little over $1,100.00 — quite a bargain. The 8K expander cartridge would add an additional $59.00 at list price. The game cartridges (ROM cartridges) list at $30.00, making them competitive with the cartridges for most other systems.

If the VIC-20 sounds almost too good to be true, it does have a few small faults, one of which must be em-phasized. And this problem is not only true of the VIC-20, but of all microcomputers.

Videogame systems have features built-in to prevent burning-in your television's picture tube. Burn-in manifests as permanently seen after images of a video or computer game. If a high intensity white image is held on the screen for hours at a time, six to eight being a sufficient dosage, burn-in may occur. Videogames either shut down their picture, if not used for a few minutes, or vary the color, contrast and images placed on the picture tube.

The VIC-20 performs this function some of the time by using demonstrations in the ROM Carts which are constantly changing. But, should you play a game—like **Poker**—and leave it running indefinitely, portions of the screen may well be burned-in hours later.

One solution would be to add a "game" switch to the VIC to trigger a shutdown of the picture after two minutes of user inactivity. Another option would be to modify the machine and its programs to trigger such a circuit automatically. Realistically, however, a warning sticker should be affixed to the instruction manual and/or the packaging.

Also, because the machine runs hot, as most computers do, it should never be operated on a carpet or bed. There are ventilation holes on the bottom of the unit that must not be blocked in use at any time. Only operate the VIC-20 or any other electronic device with bottom vents on a hard, flat and smooth surface.

How does **EG** rate the VIC-20? It's very, very impressive. This is a machine that people interested in home computers should look into carefully.

The games on ROM cartridges are graphically as good or better than others at anywhere near the price. The quality of the TV signal is better than most anything we've seen regardless of source in terms of color saturation, purity and overall cleanness.

The VIC-20 is a serious computer as exemplified by its almost industrial quality power supply, RF modulator and cassette recorder. Nothing about it is flimsy or overly refined.

In sum, the VIC-20, is a superb machine, a fine home computer—all attainable at an extremely reasonable price. ©

GAMES ON DISC

Playing Around with Videodisc Machines

By HENRY COHEN

How would *you* improve electronic games? Ask most arcade aces this question, and the answer comes straight and fast: "Better graphics!" Say what you will about the importance of involving play mechanics and intricate on-screen action, the area in which today's contests most obviously fall short of the ideal is the quality of the visual images flashing across the tube.

There has been improvement in the last few years, of course. Comparing the graphics used in the newest computer games with those of the first programmable videogame cartridges leaves no doubt about how far the games have progressed in this regard. It's like putting a Picasso next to a picture from a child's coloring book.

Additional improvement may be hard to achieve. Hemmed in by the limited memory of home system hardware, designers are years away from offering the gaming public totally realistic battlefields, race tracks and baseball parks.

Or are they? It is possible that, within the next two years, scientists

Using actual videotape photos, players line up their shots.

will combine two leading-edge technologies to create electronic simulation games with visual effects that can only be termed mind-boggling.

The Magnavox and Odyssey divisions of North American Philips are currently working on a project that would link the Odyssey² programmable videogame system with the Laservision videodisc player to produce a new type of game. The idea behind this marriage of technologies is to produce games that use photographic-ally generated backgrounds with computer-generated play action and foregrounds to achieve a new, higher degree of visual realism.

What would a contest developed in this fashion be like? Just imagine a game that could use a race track filmed from the driver's perspective and then transferred to the frames of a laser-scannable disc. Now think of a video-gaming computer superimposing the outline of a windshield over this view. When you begin to drive your electronic racer, the appropriate track scenes flash before your eyes — fully detailed pictures that appear on the screen at perfectly simulated speeds.

And when you make a wrong turn and crash, the computer really takes over! A fiery explosion is instantly followed by a video of an ambulance rushing to the rescue. Even as you and your auto are carted away for repairs, the screen fills with the image of a race official waving a yellow caution flag to warn the other drivers. After a few more seconds, you and your mighty machine are as good as new, ready to resume the race.

This is no science fiction scenario. It is next door to a reality. A game embodying these design principles may be available at retail stores before the end of 1983.

That's only the beginning. A video-disc may eventually supply all on-screen graphics as dictated by the program inside a computer. Not only will the background visuals come directly from the disc, but the very nature of the game graphics will be utterly different. On-screen characters of the future, whether they are in the form of humans, robots, monsters, spaceships or missiles, will be based upon photography. Instead of manipulating "stick men", for example, players will control the movements of real people whose images have been played onto the disc for this purpose.

The concept is mind-blowing. It transcends all computer-generated graphics now in use. The videodisc could also produce sounds as well as pictures. No more digital sound simulations — just the real thing!

Already today, there are at least two videodisc games, one available to consumers, the other only for industry.

Using power-range from one to six, gamers select the power of the swing. The computer then rates your score.

Mark Your Score Card Then, Press (1)

All the nuances of real-life golf are captured with the graphic fidelity of video and the accuracy of a computer.

heard since the halcyon days of color TV but it's true!

We all use lasers in our space and war games but these, of course, are simulated. The real thing, however, permits the generation of a level of video signal that equals or surpasses the quality of most television signals transmitted over the airwaves. Lasers can also supply full high fidelity stereophonic or two-channel sound.

Simply put, perfect pictures and commensurately perfect sound.

Laservision games first appeared in the multi-award-winning "First National Kidisc." This video record contains simple target games that require a quick activation of the pause/still button to produce a winning score. Too soon and you stop short of the bullseye, too late and you pass it by. Scoring must be maintained on a separate sheet of paper or in your head. Not very sophisticated by videogaming standards, but definitely a precursor of tomorrow's disc games.

Ford Motor Company produced a vastly more sophisticated game for the purpose of training its personnel to use the ultra-refined Sony videodisc players. These units are totally microprocessor-controlled machines costing about $2,800.00 versus the consumer machines selling for well under $1,000.00.

The disc entitled "Go For The Green" is a highly developed golf simulation that uses all of the

Whether or not you're a fan of videodiscs, a few facts about the technology will help put things in perspective. First this potential game revolution involves Laser discs, not CED, although the latter may be suitable for some gaming purposes. Second, contrary to what you may have heard, the new generation of Laser products is perfected. Now that's a word you haven't

machine's high technology features in its operation. This includes immediate access to any of the 54,000 frames of picture information—commercial units take about 26 seconds to switch frames; the ability to shuttle back and forth between and among frames in the same fashion as a computer uses a floppy disc and full wireless remote control.

This videotape/game hybrid even provides colorful overviews of each hole.

Ball In Water 1 Stroke Penalty
74 yds. to pin
Choose Club
(1) 8 Iron
(2) 9 Iron
(3) Pitching wedge

OAKMONT COUNTRY CLUB
Oakmont, PA
6th Hole
195yds-par 3
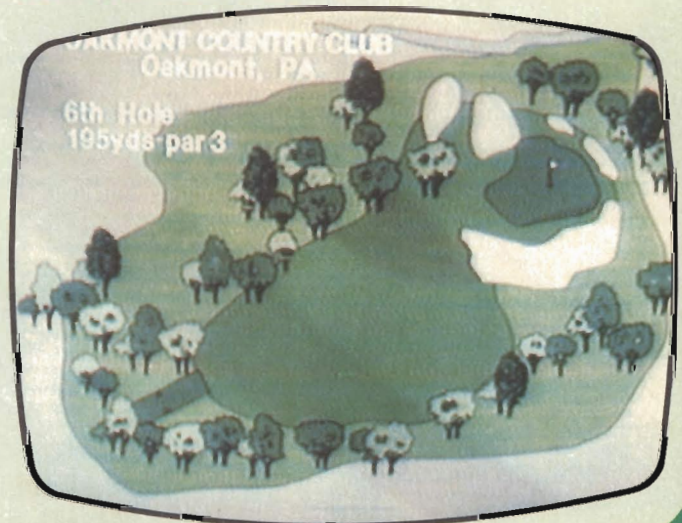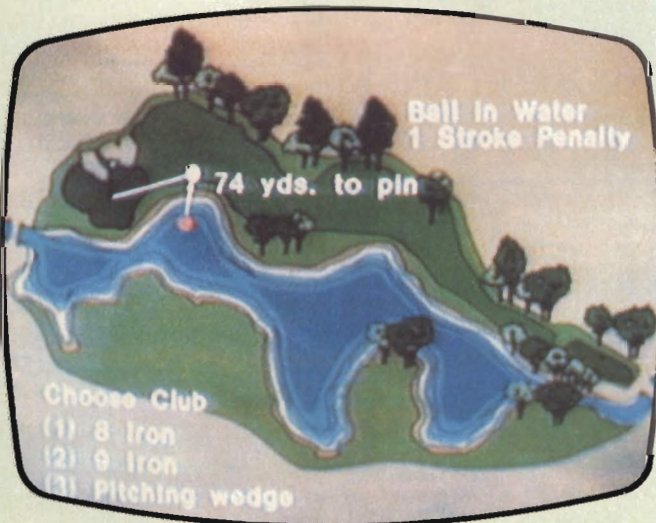
In the game, the player is first confronted by a filmed introduction to Golf from famous professional Dave Marr. The introduction may, however, be skipped and the game begun directly. A menu allows the electronic duffer to choose the aforementioned introduction, hole selection or golf tips. In other words how you use and play the disc is up to you, not the machine.

To create this disc, Ford filmed six of the toughest holes in North America from the tee-off to the sinking of the final putt. The designers prepared overviews of each hole as well as shots of each of the main entrances to the golf courses. In addition, almost every conceivable situation was filmed for each hole from landing a ball in the water to getting stuck in a sand trap. The only exception is the case of the missing ball entirely. Perhaps too much reality is not the perfect answer either.

You begin play by picking a course and hole from a choice of six and pressing the appropriate button on the player's remote controller. Press another button and the Sony videodisc whisks you off to the golf course.

An aerial view of the hole bursts

onto the screen. After showing the yardage, the participant is invited to select the appropriate club and swing power for the first shot at a hole-in-one. Once these selections are made and entered into the microprocessor control, you see a close-up of
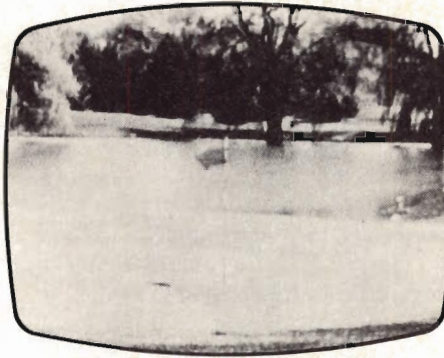
Reality meets computer gaming, with lakes, greens and flags.

a hand placing the ball on a tee. Then the selected shot is made (on screen), and the ball takes flight. Appropriate sounds are heard in the background though the arcades must furnish a groan if you really blow it. If your shot is on the money, the screen shows the ball landing on the fairway or the green. If not, it displays the ball landing

in the water or sand trap. In that event, you have to play your way out of trouble. At least you won't get wet. Before each stroke, the choice of club and power is again presented for your attempt. Eventually, you can work your way onto the green or fairway, or if you landed there in the first place, a final drive or a putting sequence begins.

After selecting the putting stroke (measured in power levels of 1, 2, 3, 4 or 5) and inputting it to the machine, the results of the shot are shown. You see the ball as it is hit and travels to the hole, stops short, curves away or passes it. Of course, you may also see a perfect putt.

All of this action is photographic, filmed and presented with all the realism the camera permits. After successful completion of the hole, your final score is shown. You must keep track of each hole on a separate sheet of paper, another real-life touch.

If you really blow it and are sufficiently discouraged, you may view the golfing tips to help you get back into the game. Even a "pro" can receive these tips at the touch of a button. Who knows, they may even improve

your real-life golf score, too!

Obviously the game's branching techniques only allow one really good tour of the course. Once you learn the correct strokes and power levels for each hole, the game becomes a mere task of inputting selections you know will work perfectly. But that is the purpose of the exercise, to teach you how to use the machine. Nevertheless, the game is great the first or second time. Far more important, the reality of the Laservision technique is a window to the future.

EG has concentrated on **Golf** because it is the first and only full game for the Laservision system. It's so impressive, the folks at North American Philips have further intensified efforts to interface the Odyssey and Laservision at the earliest possible moment.

In order for this wedding to take place and its offspring to be welcomed into an overpopulated world, however, two things have to take place. The first is that the rapid access time on consumer machines must fall from 26 to under 3 seconds. This is anticipated within the next year. The second event is that full microprocessor controls have to be built into consumer machines. Otherwise, all the games will be able to do is to use the laser system for background graphics.

If computer generated graphics and play action are to be used, then neither access time nor rapid search and shuttling capabilities are required. The laser system can present the backgrounds, in motion or in perfect freeze-frame indefinitely, just as the technology stands today. To reach the highest levels of game action, however, rapid search and pinpoint shuttling capabilities are necessary.

Also in the design stage are adventure games which lend themselves rather well to this new use of technology. If filmed, these games would be far more exciting than any current role-playing contests. You could fight computer generated dragons in realistic dungeons. Moreover, since the backgrounds no longer have to come from the limited memory of a game cartridge, more exciting and precise dragons could be created by the computer. Game action and complexity could be radically increased.

What price technology? That's a good question—and still a major sore point.

None of these goodies come cheap. The retail price for Laservision players is not expected to fall very much, if at all. That means a hefty $700.00+ expense just to buy the player. Whether or not Magnavox will build an Odyssey² into its players remains a question, even at NAP. If not, the cost for the two units may well be around $850.00 before software. Game cartridge/videodisc packs will probably sell for about $50., give or take a little. The system is expensive and will most likely remain so. Don't get your hopes up about lower pricing in the near future.

On the plus side, this would be close to the ultimately realistic videogame system in terms of graphics and flexibility.

The industry expects to develop solid-state lasers in the next few years. This means smaller players than are currently available. As mentioned, faster access times and full microprocessor controls are only a few short years away at most.

When, eventually, these features become standard and disc-generated graphics (as well as backgrounds) become available, then total on-screen play realism will be achieved.

This is what makes the Laservision/Odyssey promise so exciting.
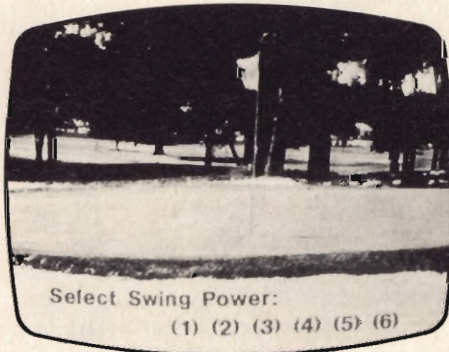
Video-computer golf—so true to life you can almost smell the green!

The technology for the system exists right now, even if the normal course of slow-but-steady product improvements precludes immediate introduction of the system.

If the cost is too high for consumer support, then games on disc will fail—a noble and expensive experiment. But if this look into the near future excites you, as it certainly does those of us at **EG,** let the manufacturers know you're with them. For now, those who are sufficiently well-heeled can buy a Sony player, get hold of the *Golf* disc (also manufactured by Sony) and bring home the future, today. The rest of us will have to wait until NAP, through Magnavox, unleashes what has to be the best videogame system yet.

ARCADING

Coin-Op Machines
Are Lapping Up the Lire

Scene: the afternoon sun shines brightly on the town of Tarquinia, two hours north of Rome by car. To the American, as he ambles down streets of white-walled houses, it seems incredible that he is even on the same planet as the United States. He hefts the knapsack on his back and decides to find coffee.

In the small, almost empty bar, he remembers being told that the Etruscans were here over 2,500 years ago, before the Roman Empire was a gleam in Fate's eye. He listens to the rapid Italian spoken all around him until a more constant, more insistent sound from a back room electrifies his senses: The ever-recognizable heartbeat of a **Space Invaders** machine.

Scene: Orvieto is further North, in the region known as Umbria. Each corner the American turns presents a vista older, more medievel-looking than the last. The town goes beyond the picturesque. He imagines himself back in the age of feudalism until he looks through an unmarked, open doorway.

It is a game room, a *sala giochi*. He sees the pool table, the foosball table and a few pinball machines. And lining the walls are the tall, beeping cabinets he has come to know well in America: videogames! He has heard that video arcades are gaining popularity throughout Europe, but he had no idea that he would ever find one in a town Orvieto's size. Pulse quickening, he enters.

Scene: Palermo, like the rest of Sicily, has been occupied through the ages by countless Greeks, Romans, Vandals, Goths, Byzantines, Saracens, Normans, Angevins, Aust-

rians, Spaniards, French, and Germans. Each culture has left its mark there. In the amusement park he has found tonight, the American sees Topolino, Italy's Mickey Mouse, and a ride called "King Kong," with horror-house paintings of New York City. He buys a *gelato*: Italian ice cream is now the best in Europe, with the possible exception of the Scandinavian variety. Then he finds himself before a large tent containing at least a dozen videogames

MOON CRESTA
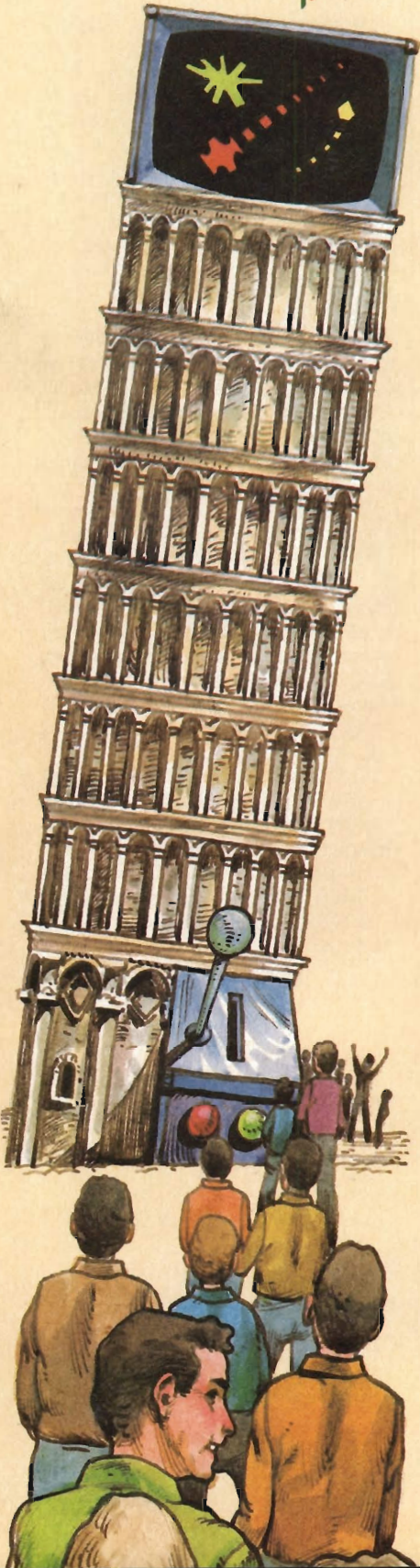
ITALIAN STYLE

By TOM HIRSCHFELD

VANGUARD

and three times that many excited Sicilians.

The machines themselves present a startling mixture of old, new, and unexpected. The American finds such old favorites as **Carnival** next to newer friends like **Vanguard** and **Venture**. He notices **Scramble**, **Phoenix**, **The End**, **Moon Cresta**, and **Astro Fighter**, although their cabinets bear the unfamiliar and funny-sounding names **Scrugger**, **Falcon**, **Take Off**, **Galaxy**, and **Galaxia**, respectively. He supposes the bogus names do not matter much to the Italians, and they may be caused by copyright evasion or uneven supply of cabinet decals. He is really startled, though, when he sees **Space Panic** in a **Crazy Climber** cabinet and **Donkey Kong** masquerading as *Space Invaders* right next to a real *SI* machine.

There are unfamiliar games, too,

mainly Japanese imports that have not yet made it to the States. The American rarely sees instructions or printouts in Italian: English, Japanese, and even German are commonest. Furthermore, pinball machines, which the Italians call "i flipper," are still relatively popular.

Scene: Giocagio (pronounced joke-a-JOE) is the largest arcade in Rome, probably in Italy, and one of the largest in Europe. In its two sprawling floors, it has over 80 machines and attracts up to 1,500 players every day. The American decides that he has to go.

In his shaky Italian, he buys five game tokens for 1,000 lire. That's about 15 cents per game. Then he begins wandering from one darkened room to the next, up staircases and down, seeing more familiar games

TEMPEST

than he had thought possible.

The customers of Giocagio know how to have a good time. Mainly teenagers and university students, they joke and shout while they play. As usual when surrounded by Italians, the American feels his nationality even more strongly. A few conversations show him that these students are not so different from Americans, though, since they agree that videogames are always better than studying.

Once, in fact, when he asks a question to a group gathered around a **Pac-Man** machine, they look embarrassed and ask, "Uh, do you speak English?" More tourists!

Scene: Later, strolling down the Champs Elysees, the Broadway of Paris, the American ponders why videogames should be so popular in Italy. After all, he knows why he likes them: They are exciting and a challenge both to his mind and to his physical coordination. As he passes a McDonald's, however, he decides that part of the games' attraction to the Europeans is that they are so American.

Strange, though, that he has not seen an arcade yet in Paris. Just then, of course, he hears **Gorf** beckoning from a doorway on his right. . . Ⓖ

DONKEY KONG

JOYSTICK JURY
What Makes a Videogame Great?

What makes a good electronic game? That's the topic up for debate by the learned members of the **Electronic Games** Joystick Jury. It's safe to say that this forum of opinions only opens the discussion rather than coming to some sort of definitive conclusion. But then, few of the issues tackled by the Jury are the sort which have a specific correct answer. Those readers who wish to react to any of the ideas put forth here are invited to avail themselves of our usual letter column, "Readers Replay".

Picking the winner of the $25 prize for the best mini-essay was even harder this time around. After much deliberation, the judge's verdict awards the loot to R.C. Jackson of Springfield, Illinois.

And now without further preamble, let's have the bailiff bring in the jury!

The making of a successful electronic game is the goal of many businesses in today's marketplace. The revenues from such are astronomical, and can cause instant fads. The reasoning for what makes one game capture the public's hearts and another fall flat, is very simple in my opinion. It is the play mechanics that are the universal key to a successful electronic game.

The play mechanics to which I am referring are those which govern how the game develops. First of all, the game needs a strong idea. This may consist of an interesting soundtrack, fascinating configurations, brilliant colors, a very original theme, or a combination.

These are excellent features indeed. If studied, it would be found that the successful games all have a majority of them. But it is the organization of the aforementioned features to create a game which is not impossible to play. It should be difficult enough to require practice, an in-depth knowledge, patternization of play, and/or skilled talent to master the game.

Once mastered, it should give the wizards of arcade games a totally new goal, whether it be in a topping of a high score, opening doors to a deeper version of play, or just the conquering of the machine to the point of playing forever.

(R.C. Jackson, Springfield, Illinois)

I feel that the most important element of a game is that the first, or first few, boards or waves be easy enough for any player to get through relatively quickly. This allows the new player to get a good feel for the controls. This sets the player up for harder and/or faster phases later on. Although many manufacturers would disagree and start their games out relatively hard on the first few boards so that the machine would bring in big bucks.

If these people could only hear the comments I hear at the arcades. I mean comments like, "I don't want to play that game. It's too hard and I can't seem to get the hang of it." I believe that the most popular games, like **Pac-Man**, are on top because of the ease with which the game can be learned.

After ease of learning, I feel colorful graphics, sounds and special effects are very important in grasping a player's attention and holding it. *Pac-Man's* intermissions, **Donkey Kong's** grunts and storyline, and **Tempest's** changing boards are their particular keys to opening the doors to big player participation.

(Tony Cwikla, Windsor, Connecticut)

The most important idea in creating electronic games is non-stop action. The designer must put unknown dangers in the game to add to its excitement, and to make it more difficult to win as well.

Most gamers enjoy destroying the enemy and blasting creatures from the

screen. Therefore, the "shooting device" should have both vertical and horizontal movement, plus blasting speeds of single shot and rapid fire. The screen should be full of many different colors that change periodically throughout the contest. The final touch should be original sound effects that correspond to the action on the screen.

(Craig Horner, Seville, Ohio)

I consider several factors important in creation of a great electronic game: Originality, graphics, and the sound.

To be original, there must be nothing else like it, and the game must have the quality to be a winner. Graphics need to be outstanding so the player will come back to that game again. Last but not least, the sound must be explosive so that other players will come over and notice the new sensation. Very few games have demonstrated these three qualities, the ones that make a machine stand out in the crowd: *Pac-Man*, **Asteroids**, *Centipede*, **Red Baron**, and *Tempest*.

(Deming Fanslau, Roselle, Illinois)

The creation of a great electronic game starts with one thing—competitiveness. Great games such as *Pac-Man*, *Asteroids* and *Defender* would not be so popular if not for their competitiveness. An electronic game that lets you get into that spaceship, cannon or whatever it may be and makes you want to play your very best is the sign of a good game.

(Ben Stein, Bronx, New York)

Instructions play a major part in my enjoying a game. I like the instructions to be easy to read and understand. They must also be concise. If I read the instructions and still don't understand the game, I usually put it aside until I'm bored of playing the better ones. Then I might take it out and try to tackle it without the aid of instructions. Instructions that you can read once, put down, and easily understand the game makes that game much more enjoyable. You can spend your time playing instead of reading!

(Greg Martz, Mt. Vernon, New York)

The most important element for a popular electronic game is its simplicity. For instance, *Pac-Man* is a very simple game and is a very popular game in commercial and home arcade fields. The new **Ms. Pac-Man** and **Frogger** are also simple games that are

RED BARON

very popular. All three only use one lever. People seem to stay away from games that use many levers and buttons.

(Trent Werner, Burlington, Iowa)

Every electronic game should have acceptable graphics, color, theme and imaginative features. I think the most important element is the reward involved for a well-played game. In pinball it could be a free game via scoring or special. In an adventure game, it could be a visual readout of your quality of play described in words. Or in a battle game, it could be success in completing your goal of "Saving Earth", or something like that. In other words, without a feeling of accomplishment, games can lose their appeal by becoming frustrating and monotonous.

(Al Phillips, San Leandro, California)

Logically, there must be some sort of marriage among all elements of a videogame. In today's world of sophistication, realistic and accurate imagery with bright colors is essential. Sound adds enormously to a good videogame

and is also necessary (eg., *Pac-Man*, *Defender* and *Centipede*.) Farther down the list would be simplicity and uniqueness. Both are needed to a certain extent. In all, I believe that one single element cannot dominate a videogame.

(Ray Elgin, Sierra Madre, California)

If the tremendous response to **Electronic Games** proves anything, it's that you are an unusually knowledgeable and opinionated bunch. That's good. It means you care about this hobby and feel strongly about the things that affect it.

Here's your chance to air your views on electronic arcading in front of this magazine's entire readership. "Joystick Jury", a column of reviews by readers, will begin publication in the next issue.

All you've got to do to participate is follow these few simple rules:

1. Type (or clearly print) your comment on a separate sheet of paper that also includes your name and full address.
2. Keep comments brief and to the point—no more than 100 words.
3. Observe the rules of fairness and courtesy. "Joystick Jury" should be a forum for reasoned opinions, not an arena for name-calling.

Each issue we'll print the most interesting responses to create a symposium on the topic under examination by the jury. The issue's best comment, as judged by the editors of **Electronic Games,** will win a cash prize of $25. (All submissions become the property of **EG,** and none can be returned.)

Here is the next Joystick Jury topic:

Commercial amusement centers and home videogames both have won widespread popularity in the United States over the last few years, with more than 25 million people enjoying electronic gaming on a regular basis. The question which the Joystick Jury must weigh is: Do you prefer to play in arcades or at home—and why?

Deadline: August 1, 1982

Videogame Graphics Inspired Disney's Blockbuster

By LES PAUL ROBLEY

The splendid hand-crafted animation for which Disney Studio is noted, has almost taken a back seat to the computer-generated images of **Tron**. The computer won out over animation, because of its almost unlimited capabilities—namely, the camera isn't bound by any physical limitations. It's no problem to have the computer move the camera three feet from the ground to 50. feet—and have the background change in correct perspective. Camera moves are very difficult with hand animation since one background cannot be used for the entire scene. A series of backgrounds must be drawn for each frame of movement and that, needless to say, can get very costly.

"We had played all the videogames," says *Tron's* writer-director Steven Lisberger. "And when we investigated computer art, we realized that by combining the concepts of electronic games and computer imaging we could bring something to life that hadn't been there before."

Tron is the first feature to use computer imaging extensively. While other motion pictures such as *Westworld*, *Star Wars*, and *Demon Seed* have used computers as an effect in an environment, *Tron* uses them to totally create the environment.

Richard Taylor supervised the 20 minutes of computer-generated footage. His firm, Information International, Inc. (Triple-I) of Culver City, Ca., along with Mathemetical Applications Group, Inc. (MAGI) of New York have employed digital computers to create the mind-blasting videogame segments. A computer hook-up be-
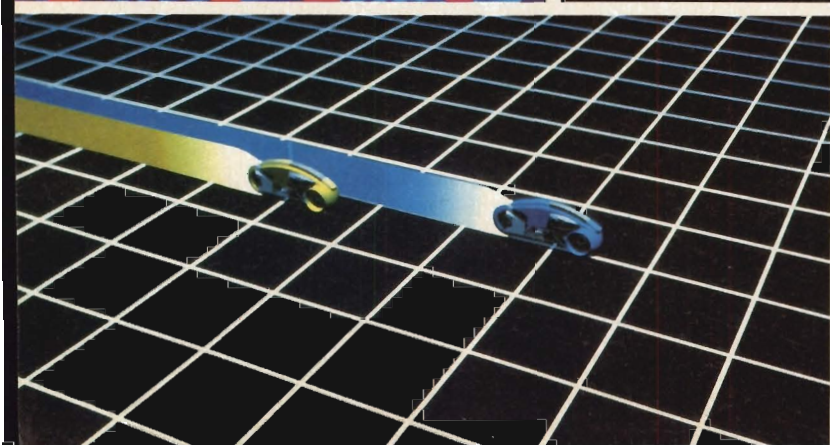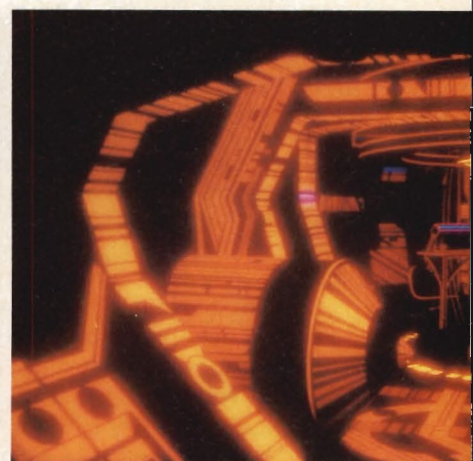
TRON

tween MAGI and Disney avoided any shipping time delays that would otherwise have been necessary for previewing and correcting certain scenes.

Very briefly, here's how designers developed the computer-generated world of *Tron*. An artist's rendering of a sequence such as the light cycle chase was plotted on a sheet of graph paper. Three views of the shot, the top, side, and bottom, were fed into a digital computer. The computer then knew the precise three-dimensional measurements of everything in the shot (In this case, it was the two cycles, their walls of light, the grid pattern on the floor, and the distant graphics on the wall). It thus became possible to choreograph the two cycles' frame-by-frame movements in the scene to perfection.

Next, each object in the sequence had to be assigned a certain color and texture. An older method utilizing analog computers could vary the strength and frequency of electrical waves to create a picture, but the newer digital method employs pulses of electricity to illuminate tiny pixels on a special computer screen. Each pixel was given a certain color hue and intensity. "It's no different from the way they light the big billboards on Times Square," says Larry Elin, head of the MAGI team, "except that the billboard has maybe 8,000 lights and one of our monitors can have over two million pixels."

Despite its seemingly endless capabilities, the computer does have certain drawbacks. There's still an ever-present "video look" that will probably never replace the resolution or subtle color shading of an original frame of celluloid. No doubt we've only seen the tip of the iceberg of what can be achieved with computer graphics. To create the police recognizers, the electronic tanks, or the massive flying aircraft carrier in *Tron*, it was by far the only way to fly.   G

VIDEOLIVERY

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EG8

EXPLODING THE
ARCADE MYTHS

A Scientist Evaluates the Coin-Op Gaming Scene

By B. DAVID BROOKS, Ph. D.

"Never will I let my daughter go into one of those arcades. They're full of drugs, booze, and all kinds of things!"

That comment was the beginning of a story told during several interviews prompted by claims of worried members of a California community. The City Council of Long Beach, California had been considering a permit for a new arcade. A particularly negative attitude pervaded the group of citizens as they angrily expressed their objections. Supposedly, their sentiments were typical of the anti-arcade positions frequently expressed at PTA, church, and other community meetings. One spokesman for the group summed it up by saying, "An arcade would result in groups of adolescents and young adults loitering, littering, vandalizing, fighting, drinking and engaging in other forms of anti-social behavior." Shades of "There's going to be trouble, trouble, trouble, right here in River City!" The 76 trombones were all that were missing.

The initial attacks of the group which opposed an arcade permit, focused on the dangers to children of the videogame apparatus, itself. (Remember this? "Those c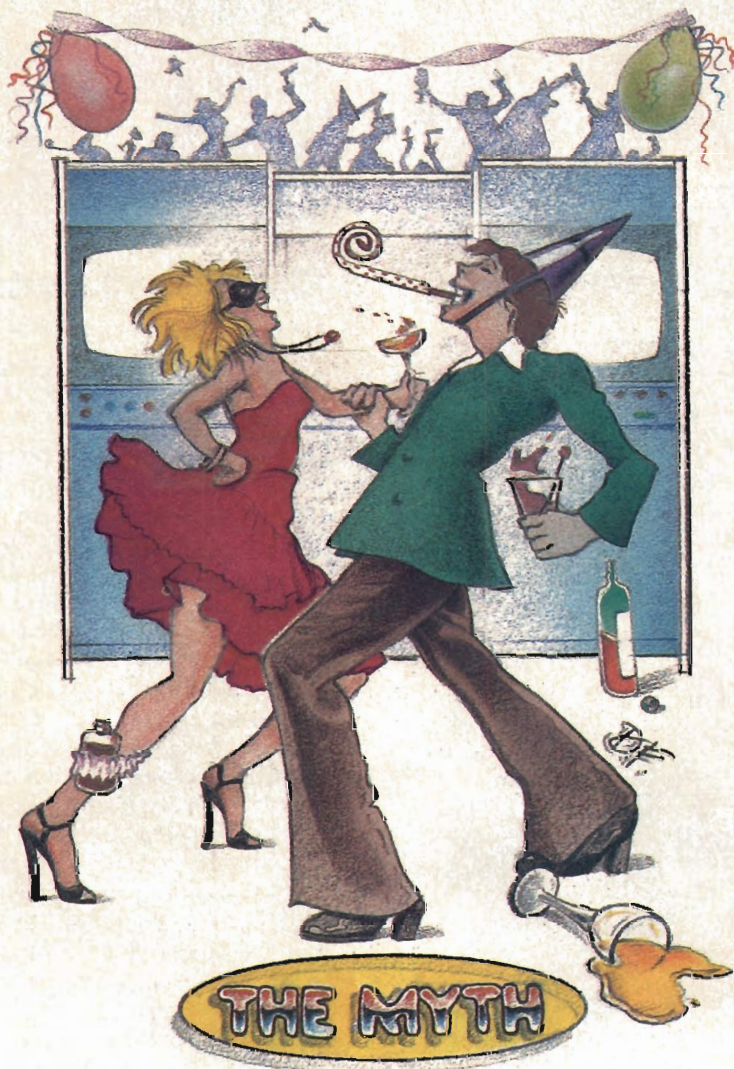hildren sitting at that TV all day! We're headed for a whole generation of blind children!") Understandably, concerned and cautious parents get excited about such things. The anti-apparatus approach, however, was soon sidetracked when the Council revealed somewhere between a third and a half of all quarters in video machine slots today are dropped by adult hands. Not only were many arcaders adults—some of them, it was soon realized, might be the council members themselves! To no one's surprise, the opponents of the arcade permit shifted the focus of their concerns.

"I heard" began the next spokesman, "about a chiropractor . . . about six doors down from an arcade who has had a number of patients as a result of the arcade. These patients were mostly older people, attempting to shop in the neighborhood, who were knocked down by skateboarders and bicyclers and other youngsters trying to get into their favorite game and get in front of the line. Broken arms and that type of thing." Now the opposition group rallied 'round the theme of the evils occurring when children congregate, unsupervised, in neighborhoods. Whatever argument appeared to have a chance of being persuasive—that was the complaint the group would support.

Hearsay statements and other statements that can't be checked for accuracy can create sticky problems. And two signif-

THE MYTH

ARCADE MYTHS

THE MYTH

First, the consumption of undesirable substances was virtually eliminated, since players couldn't disguise what they were drinking or smoking. Second, the source of most litter problems in public places was removed.

> "Kids' bikes and skateboards are hazards on the streets in front of arcades."

In very few cases, I found this to be true. For the most part, however, my experience showed that all that was needed to remedy these situations was to inform the amusement center's manager who, in turn, asked the young people to move their bikes. Typical of most youngsters, they did what they were politely asked to do.

> "There is 'win-at-all-cost' competition going on among videogame players. It makes for an unhealthy atmosphere."

In direct contrast to the tense atmosphere often found at, say, a Little League ballgame, non-players in the arcades visited seemed entirely relaxed: talking, joking, watching and encouraging other players. It seemed that the player obtaining a really high score was to be congratulated rather than scoffed at by his peers. Certainly, there were arcaders engaged in competition with each other, but the "win-at-all-cost" atmosphere simply was not observed. The key, it seemed, was that *the primary competition was between man and machine, the player and the apparatus*. Competition between players, therefore, lacked the negative overtones that are so prevalent in many games in which kids participate. One comment that was overheard ("Wow, he is really good. I'll try to beat that score.") seemed indicative of the common desire to beat the score rather than the friend. The type of competition that is often encouraged by wise parents and counselors—the kind that stimulates a desire to better one's own performance—was plainly evident.

icant problems of this type now face arcaders: First it has become difficult in many locales to gain a permit to open a videogame amusement center (and, if permits are granted, they are frequently accompanied by operating restrictions that go far beyond those common to other legitimate recreational outlets). Second, parents are placing restrictions on their children's attendance at arcades because of parental fears conjured up by horror stories concerning places they themselves have never before visited.

There is an old adage, "Where there's smoke, there's fire," that pushed me to try to take an objective look at the arcades. The "River City" fear of pool halls may have been excessive, but it wasn't entirely unfounded. What really is going on in the videogame amusement centers? Are they as bad as some adults say? I designed a

plan to collect information from a variety of arcades, large and small, in various parts of Los Angeles and Orange Counties.

Let's look at some of the fears parents and other adults have expressed and then relate them to conditions I found when I devoted about forty hours to what the professors might call "structured observations."

> "Arcades are places where kids really go to smoke and drink."

In all but two of the ten arcades I checked, there was a total prohibition on food, drink, and cigarettes. The use of prohibition (rather than the use of some form of limitation) meant the removal of two common problems:

The effort to relate that fear to what I actually observed on my visits to amusement centers with videogames proved most interesting. The feelings that "No one over 30 can be trusted" or "Adults are our enemies," were certainly not evident in the arcades. Positive interaction between youngsters and adults was often observed as they engaged in friendly conversations about their game skills and accomplishments. The universal "enemy" was some invader from outer space. Adults and peers were friends, sharing a common bond in their efforts to survive against the little blips on the screen.

Sure enough, in the 10 arcades visited, I saw several school-age children—a total of no more than six—during hours they should have been in school. When questioned, two said they had doctor appointments that day. One youngster had been suspended from school. The other three admitted they were cutting class. Two cutters said, "We would have gone to the beach today, but it was too cold."

No gambling at all was observed. When asked about gambling, one player responded, "Do you realize how difficult it would be to even the odds? My boyfriend scores in the thousands. I'm just learning this game, so my score is not nearly as good as his. How could we bet? Anyway, the game is between me and the centipede. My boyfriend wants me to get a high score. That's what's fun." Apparently, it is true that because videogames are games of skill that are enjoyed by players with wide variations in abilities, they don't lend themselves to gambling.

The games certainly are fascinating, so it seemed quite possible that some players might truthfully be called "addicts." During these planned observations, therefore, a substantial amount of time was spent in search of the "addicted" player. Try as I might, I could not find even one. There were players, however, for whom the term "overdoing it" might be appropriate. Generally, these were highly skilled players who were able to get a lot of mileage out of a single quarter. These extremely capable players reminded one of the fan who knows each baseball player and his batting average, the box score for a World Series game in 1968, the number of pitches thrown during batting practice, and the winner of every World Series in history! Arcades, like many recreational activities, have their share of "buffs"—but, seemingly no more than their share.

★ ★ ★ ★ ★

Let's try to add up the findings from our survey of arcades. Are the commonly stated objections to videogames in arcades well supported in the real world? In the cases observed in this survey in Los Angeles and Orange Counties in California, the fear and trepidation that weigh on many parents across the country seem ill-founded. The videogame industry is relatively new, and just as in their early days the movies, the soda fountain, the bowling alley and the River City Pool Hall created concerns, so have videogames conjured up many parental fears. As

is generally to be expected, there will be just enough isolated examples of unscrupulous operators and troubled kids to reinforce these fears. But let's go back for a minute to the total story told by that Long Beach mother—the story that began this article. Her story so closely parallels what I observed in the arcades. Her story could be my story: *"I used to say I'd never let my daughter go into one of those arcades. They're full of drugs, booze and all kinds of things. Then, guess what happened? the owner of the restaurant where I worked put in a small arcade. I was amazed. Kids who were loitering around the shopping center, smoking and racing their bikes and skateboards, came into the arcade and they really started to enjoy the games. There never seemed to be any trouble. What I had expected never occurred. I guess I was believing all those awful stories about drugs and stuff and I never bothered to go in and check out the arcade myself. One funny thing's happened: my daughter and I started to play the games together and I'm really enjoying it."*

Certainly, parents should be concerned about the health and welfare of their children. But those who are truly concerned will find the time to visit an arcade or two to determine for themselves whether the local videogame arcades are suitable places for their children to spend leisure time.

Who knows, before we know it, Junior and Dad may be cheering each other on as the steady-handed wrangler snags a cow or the laser-pierced asteroid explodes in a rainbow of color. Your friendly broker advises you to investigate before you invest. Your friendly amusement center operator says almost the same thing: investigate before you play. My conclusion: investigate, and you will *want* to play.

☺

PASSPORT TO

ADVENTURE

By ARNIE KATZ

Save the Princess
and Reap the Rewards

ALI BABA
Quality Software/Atari 400&800/32K disc

This beautiful fantasy extravaganza is to the typical hack-and-slash electronic epic as rice is to potatoes in all those commercials on television. That is, **Ali Baba** truly comes as a refreshing change. After years of adventuring in worlds basically derived from Greek, Roman or—very occasionally—Norse myth, players plunge into the exotic fairyland of Scheherazade's **Tales of 1,001 Arabian Nights.**

Despite its clear foreshadowing by the Apple II adventure **Fracas,** *Ali Baba* seems more ideally suited to both the Atari hardware and the prevailing temperment of Atari owners than any program yet published. Design master Stuart Smith has crafted an action ad-

venture that capitalizes on the 800's ability to deliver a staggering assortment of sights and sounds. The haunting—and oh-so-atmospheric—tune that opens the game merely hints at further riches to come. Be prepared to blow a game or two until you overcome the tendency to watch goggle-eyed as things leap around the screen to menace your nimble but weak hero on his way to rescue the kidnapped princess.

This game is especially notable for the incredibly easy-to-use control system. By means of a few easily learned commands, always reinforced by on-screen prompts, the player can cause the video adventurer to perform a wide variety of tasks at the flick of a joystick. This gives *Ali Baba* much of

the detail and richness previously found only in text and graphics adventures, without sacrificing any of the immediacy and rapid pace of the action adventures.

The input method also makes it possible for true multi-gamer participation. There isn't even the problem of having several different sets of fingers fighting to hit the same keys on the keyboard. Each player sits comfortably in front of the television set and uses his or her joystick to enter commands unimpeded by the activities of other players.

Smith is truly ingenious in his utilization of what is, after all, a rather simple command device. Once the player has used the up and down arrows on the computer's keyboard to indicate whether it is to be a new or re-started game and if players will use keyboard or joystick to enter their orders, it is never again necessary to worry about anything but the joystick itself. Those who haven't experienced *Ali Baba* may find it hard to believe, but it is even possible to alter the difficulty factor of the adventure *while play is in progress* or change the rate at which wandering monsters appear in the game just by moving the joystick in the right direction at the appropriate time.

The program prompts players to move by displaying the options on the screen. From the moment this prompt appears, the player has three seconds to move the applicable character or the computer assumes your hero or heroine has decided to rest to regain strength, recover from a serious wound or to admire the scenery. Movement is executed discretely, meaning you must push the stick in the desired direction and then allow it to return to the neutral position. If the prompt is still visible, the same character can then be moved again. How long the turn lasts for each character is a function of factors such as the individual's dexterity and the degree to which objects carried may hamper getting from place to place. Pushing the action button will terminate a character's turn before it has exhausted its full movement allowance if the player so desires.

Other events that automatically end a character's turn include the act of exploring an object by moving on top

of it, leaving a room or approaching one or more enemies with strength equal to at least half the character's own power. The last case, of course, leads to the combat portion of the game.

The story of *Ali Baba* is set in the fabled land ruled by the great Sultan Shabriar. When Ali Baba, the ruler's most trusted messenger, arrives at the palace one fine morning, a distraught monarch orders him to inform the Sultan's elite corps that Princess Buddir al-Buddour has been kidnapped! Cogia Houssain and his band of cutthroats have spirited her away to their secret cave.

The nimble Ali Baba decides to retrieve the royal daughter himself. After avoiding many perils, he finds the princess and, ultimately, brings her safely back to Sultan Shabriar.

The supreme goal of *Ali Baba* is to duplicate the achievements of the legendary adventurer. He rescued the Princess without receiving aid from any other character or causing harm to any living creature. As noted in the well-done, though somewhat meandering instruction booklet, any human player who can match this feat earns ''personal congratulations'' from Stuart Smith.

Don't worry, though, *Ali Baba* provides the means for achieving at least the return of the princess through means that stop somewhat short of the ideal description just given. A wide variety of weapons— each character can carry a sword or club for dueling and a knife or shiv for hand-to-hand fighting—and armor will increase Ali Baba's abilities to strike and absorb blows. And those who don't want to face untold dangers with one valiant hero have the option of augmenting Ali Baba's party of rescuers with some of the mighty men and women of the sultan's elite guard. These characters, each of whom has a short biography and a complete statisti-

cal read-out in the rulebook, can be humans, elves, dwarves or, most untypically, halflings. (What refugees from **Lord of the Rings** are doing in a Middle Eastern fantasy will have to be explained by someone with a greater knowlege of such lore than your reviewer.)

The expected assortment of traps and pitfalls bars the way to easy completion of the quest for the princess. There are animated statues, mystic runes (which sometimes bring good fortune rather than bad to the reader), illusions and stout doors that must be bashed down in order to make further progress.

And of course, there's the usual collection of evil people and fell beasts. Animals range from the not-very-dangerous rats to deadly dragons.

Although *Ali Baba* is designed around a specific quest rather than as a freeform world in which to adventure, it is unlikely that most gamers will use the program up very quickly. The play routine is sufficiently different from the norm to make it quite a challenge to
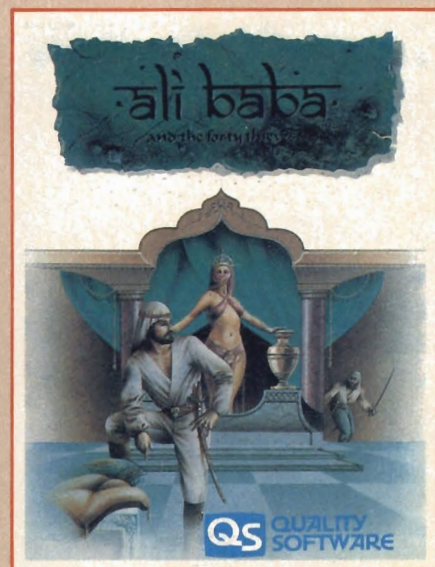
ALI BABA

find and return the princess even with lots of aid and powerful weapons. Those who succeed will certainly be able to play through again with fewer such aids, without becoming bored with the game's various situations.

Truthfully, Ali Baba may not be quite to every electronic adventurer's taste. It is, after all, quite unusual in many respects. Our hunch, however, is that many veterans of adventure programs will enjoy the opportunity to try something a little different —and quite special.

G

PROGRAMMABLE PARADE

By BILL KUNKEL
AND ARNIE KATZ

Make a Million—or Lose Your Shirt!

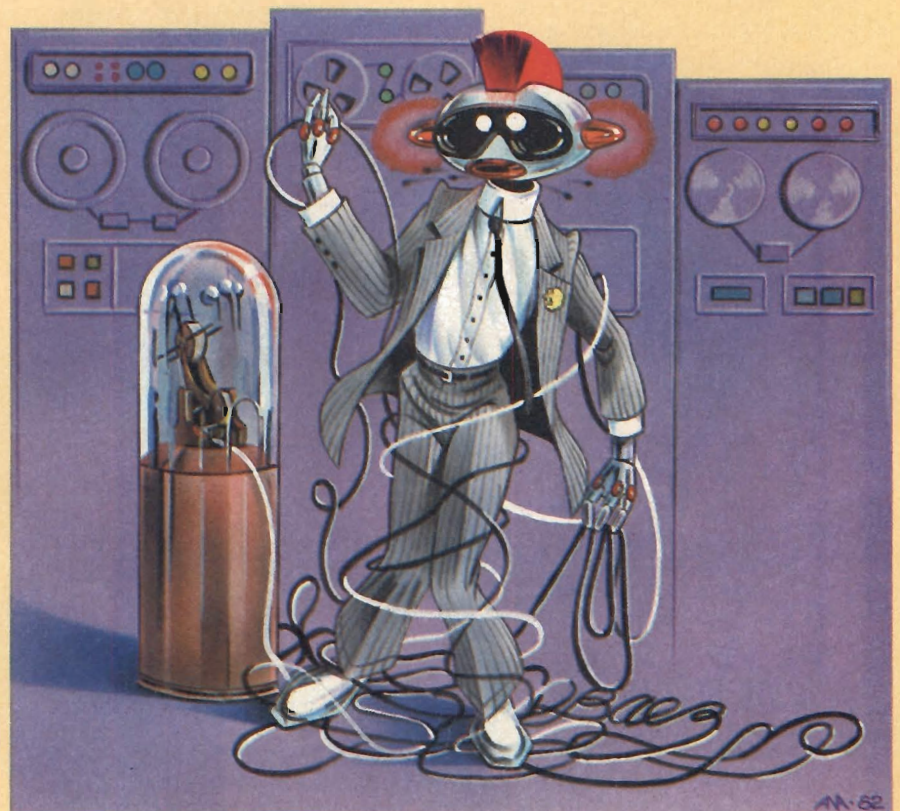### GREAT WALL STREET FORTUNE HUNT

Odyssey/Odyssey2

It's ironic—but a proven, historically verifiable fact—that Americans get more interested in money games whenever the country's actual fiscal situation takes a turn for the worse. It's almost as though we seek to experience in a vicarious game setting the unlimited scope for building a personal fortune that the real world is denying to us. By playing a financially-oriented contest successfully, we prove to ourselves that it is, after all, only the whims of fate that make one person David Rockefeller and another an unemployed auto worker.

And if the nation's home arcaders turn to a money game in the midst of the current economic slump, our guess is that the one they'll be playing is **The Great Wall Street Fortune Hunt.** Having tackled the topics of heroic adventure-fantasy and global military/political confrontation, the design team of Steve Lehner and the Averitts turned to the stock market as the inspiration for the third title in Odyssey's Master Strategy Series.

Fortune Hunt may lack the super-duper graphic flourishes of **Quest for the Rings** and **Conquest of the World,** but it is hardly less involving. Playable either solitaire or head-to-head, the videogame/boardgame hybrid provides a very thorough simulation of the interrelated factors that make market prices dip and soar.

The beautifully produced components include a multi-color game board on which players indicate their intention to buy or sell the various stocks, investment record pads that also present a chart for calculation of option prices, and a couple of sets of share/margin counters. The main show, however, takes place on the television monitor. The cartridge that accompanies *Fortune Hunt* fills the screen with four major elements. The upper third contains a stock ticker that, in quite true-to-life fashion, reports the current market price of each of the 27 issues included in the game. The companies have been chosen to represent a wide variety of industries and include such household names as Toyota, Texas Instruments, Sears, IBM, U.S.

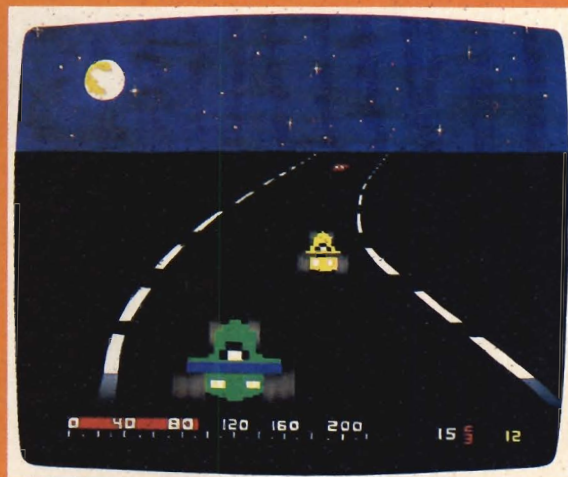Steel, American Broadcasting Company and Exxon. All 27 are briefly profiled in the game's instruction book.

The middle of the screen is a facsimile of a newswire. These news flashes can exert a tremendous effect on the market in general, though they will usually affect a small handful of issues much more strongly. Participants in *Fortune Hunt* can get a good reading of where the market has gone in each of the preceeding four quarters by scanning the bar chart located on the right side of the screen.

Finally, the track along the bottom of the "playfield" gives a report of each investor's portfolio.

In a wise move, *Fortune Hunt* is actually four games in one. The basic game is a snap to learn and should appeal to casual players and those who don't really want to explore all the intricacies of the financial world. After gamers fully understand the essentials, it is possible to progress to higher difficulty levels which introduce such possibilities as buying on margin, treasury bills and options.

Each player—or team if there are more than two would-be tycoons—starts the game with $10,000. The winner is the investor who accumulates the greatest net worth after 20 turns of play, with each turn representing a three-month period of time.

Players gain access to their investment portfolios by pushing their joystick to the left. This causes the balance in the account to flash on the screen in either money green or bullion gold depending on which portfolio is being studied. Pushing the joystick will then scroll the portfolio forward to print out the various holdings.

Selling an issue is even easier. Call up your portfolio on the screen, scroll to the part of the account occupied by the share you want to turn loose and use the action button of the joystick to dispose of the stock in 100-share lots.

The instruction book goes into all necessary rules with satisfying thoroughness. Illustrated examples guide the players from step to step, defining any terms that might be unfamiliar.

The Great Wall Street Fortune Hunt will, quite obviously, not be everyone's cup of tea. But those gamers who enjoy the idea of watching the ebb and flow of staggering economic forces can hardly make a better investment than buying a copy of this unique videogame.

COSMIC SWARM

CommaVid/VCS

And now for something completely different...

Cosmic Swarm, yet another piece of independently-produced quality software converts the arcader into an extra-terrestrial exterminator. Players control ships that appear in a corner of the playfield and take on cosmic cooties who continually slither on-screen from above, carrying nest portions in their mouths. The termites quite frankly, are out to take over the neighborhood by filling up the playfield with nests. Every time a player's ship hits a nest particle, its destroyed. As if all this wasn't troublesome enough, a gamer's ship must periodically refuel by docking with a special craft. It appears randomly, and moves up and down either the left or right side of the screen only once. If the gamer fails to dock, the ship runs out of fuel and the game ends. Needless to say, should the refueling craft be accidentally atomized, the game comes to a similar abrupt end.

Now, to the matter of dealing with these space pests. The termites can be destroyed by a blast from the ship's laser cannon. The most desirable approach, however, is to strike a nest block while it is being carried by the termite. This "energizes" all the on-screen nest portions, making them vulnerable to laser destruction—they are otherwise invulnerable—by turning them bright red. This "energized" mode continues until the next time the gamer is forced to destroy a termite.

Perhaps *Cosmic Swarm's* most intriguing play mechanic involves the manner in which the ship is controlled. When the action button is up, the probe can move North, South, East or West. When the button is depressed, manipulating the steer rotates the craft. The laser fires when the button is released.

Difficulty switches primarily affect the speed at which the buggers move as they fill up the playfield with their rotten, green nests.

The graphics are extremely straightforward, not the sort that immediately draw the fascinated gaze of every game fan in the room. But they are perfectly suited to the game concept, which is where the program's considerable strength really lies.

Besides, it's always nice to see com-panies trying out new ideas. *Cosmic Swarm* is a darn good one.

STAR VOYAGER

Imagic/Atari VCS

Science fiction-loving arcaders will forever remember 1982 as "The Year of the Space Pilot Games". There will be no fewer than three cartridges with this basic theme available for the VCS by the time champagne corks pop next January.

Star Voyager differs from the other two games in at least one major way. Whereas **Starmaster** (Activision) and **Star Raiders** (Atari) both split their coverage between the strategic and tactical aspects of interstellar warfare, *Star Voyager* concentrates on simulating only the experience of piloting a single fighting ship. So those who are troubled by the logic of a situation in which one star cruiser is zipping back and forth across the entire known universe to fight an entire spacefleet single-handed may, in fact, find *Star Voyager's* narrower focus easier to accept.

The game's main display represents the front viewscreen of your sleek spaceship. Below this viewport is a square radar screen which indicates the craft's course.
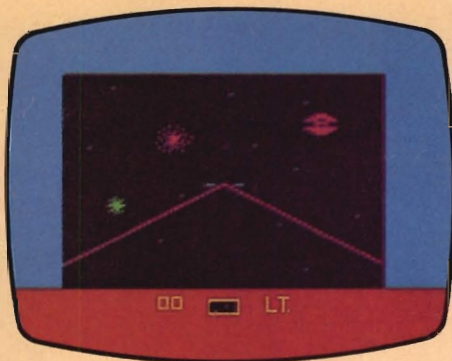
The gates are the most crucial element of *Star Voyager*. Since a player must guide his craft safely through a gate in order to restore the energy supply, failure to negotiate about every second gate will cause the ship to be a drifting, lifeless hulk. Energy is rapidly depleted by rocketing through space, discharging the ship's weapon.

And don't worry, you'll have plenty of chance to practice your space gunnery as well as your piloting prowess. Between each gate lie representatives of the enemy space armada, just itching for a little dogfight in space. Depending on which variation you choose, your ship is hardly defenseless. You can fire either torpedoes or laser beams, depending on the parameters of the scenario.

The former require only a fraction as much energy, while

the latter appeared somewhat easier to aim during our test missions.

Imagic has quickly established its imprint as symbolic of state-of-the-art audio-visual effects. *Star Voyager* does nothing to tarnish this budding reputation. The well-delineated enemy ships, the kaleidoscopic trip through the games and the opening notes of ''Thus Sparch Zarathustra'' (the game's theme-song) all shout quality.

It may not have the sweep of some other space cartridges, but *Star Voyager* is an exciting and challenging solo contest.

DEMON ATTACK

Imagic/Atari VCS

Demon Attack is the most appealing of Imagic's trio of software releases for the Atari VCS. The game is easy to learn, features eye-popping graphics and sound effects, and should be one of the best-selling videogames of 1982. In other words, except for fantastic play value, ever-changing, state-of-the-art visuals and, generally, coin-op quality production values and superior packaging, *Demon Attack* doesn't have much going for it.

Players man horizontally mobile
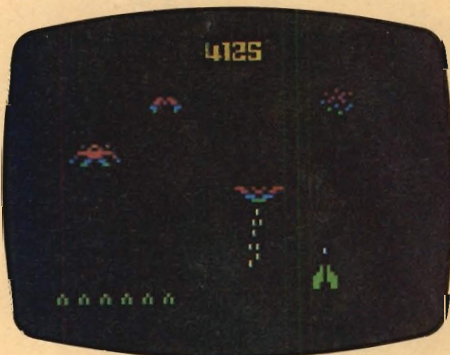
DEMON ATTACK

laser-ack-acks and fire up at swarms of multi-specied alien invaders. At the initial phases of battle, the winged demons from the ice planet Krybor are easily enough defeated. They appear on any of these, stratified horizontal levels, but only the lowest demon actually drops bombs. Coming eight to a wave, the best policy early on is to dodge the lowest, armed demons while picking off these on the higher two horizontal levels. Firing at and destroying the armed invaders only causes another armed auxiliary to take its place, so better to eliminate the non-threatening goblins who will be replaced by more of their harmless kind.

At higher levels, the invaders, when hit, split into two, smaller, moth-like attackers. These kamikaze-like nasties not only bomb you but will attempt to ram themselves into you while emitting high-pitched, bird-like chirps. As the player nears the 5,000 point level, the going gets even rougher as the aliens begin dropping heat-seeking missiles that will drift considerable distances to find their targets.

The contest also offers some intriguing play variations, including guided missile options. These, however, have a drawback. By steering a missile, the player similarly steers his ship, often running it smack into a rain of deadly missiles. But the most ingenious offshoot of the standard game is variation 9, which let's a pair of players ''trade off'' their action. Player one, indicated by a blue cannon, begins the game in full control for several seconds, after which the laser firing cannon will turn a bright orange, indicating that player 2 is now in control. This clever innovation allows for plenty of strategic possibilities and masks for a totally new sort of two-player contest.

The bottom line in *Demon Attack* is the absolutely coin-op quality graphics. As many as a dozen different species of alien demons appear to challenge the arcader as he presses on through wave after wave of demonic assault. Bat-winged goblins, spinning, yellow cyclopses, fanged gargoyles and multi-colored gigantic moths are but a few of the outrageous visual images conjured up by the Imagic game masters.
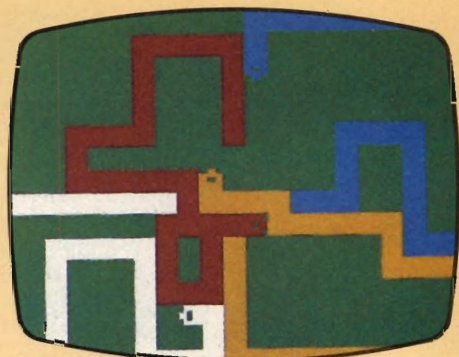
SNAFU

Mattel/Intellivision

In case you haven't noticed yet, there's a renaissance in line-building games currently underway. Although Atari abandoned the genre when it axed **Surround** from its VCS catalogue, companies like Crystalware, Sirius Software and Mattel haven't lost faith in the appeal of this type of contest.

Snafu is easily the most ornate treatment of the concept ever attempted. Making maximum use of the Intellivision controllers' ability to enter sophisticated commands, the company's design staff has endowed the title with a wide range of play options.

The cartridge's 16 variations can be divided into two categories: trap games and bite games. In the former, each player uses the direction disc to steer a cursor around the playfield,

SNAFU

creating a tail in the process. The idea is to keep your own line growing while causing your opponent to lose by blundering into a collision.

The bite contests give traditional line-propagation games a new twist. Each player—there is no solitaire mode for this quartet of variations—directs a snake around the screen. The idea is to maneuver so that the head of your video reptile intersects the rearmost portion of your opponent's line and bites it off. The participant with the last moving piece on the screen is the winner.

Each game can be customized to a surprising extent. The controller is used to choose one of four possible play speeds, the game variation and the number of rounds which must be won to claim victory. Some of the options are diagonal movement, extra trails, and extra obstacles. There's even provision for an eliminated trail from one round persisting into the next as an especially dangerous barrier.

Snafu's bite games are strictly head-to-head affairs. One player commands a red serpent while the other directs a blue one. It's a valid variation on the standard line games that may turn out to be this cartridge's biggest attraction.

The difficulty of playing an arcade game with the Mattel controller is the only real fly in the ointment. Some gamers have developed great facility with the direction disc, but even they may have a little trouble coaxing their on-screen snake to go in the desired direction in versions which feature only horizontal and vertical movement. It can be frustrating to hit a point on the circumference of the disc that doesn't correspond to a possible direction.

Snafu is a solid game that furnishes Intellivisionaries with the chance to sample a type of abstract strategic battle of wits that has previously been unavailable for this popular videogame system.

"EITHER THIS SPACE GA OR MY LIVI GOING 1(

IS THEIR BEST
ME EVER,
NG ROOM IS
65 MPH."

Aliens up ahead. Aliens attacking from the rear. Alien ships on every side. Meanwhile, the earth is moving steadily into range of enemy missiles, as the alien planet rushes by below.

Presenting Star Strike. The exciting new space game complete with brilliant colors, gripping tension, and special effects so realistic they appear three-dimensional. So you almost feel like you're flying.

Be careful, though, and don't lose your concentration. You've got to destroy the enemy planet. Before it destroys the earth.

Play Intellivision® Star Strike. Then, when the battle's over and the dust is clear, compare it to other space games. We think you'll agree that color, excitement and special effects make Star Strike the clear winner.

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TRAVEL ONE-MILLION LIGHT YEARS FOR A QUARTER

Outer Space Arcading

Ever since Japanese designers developed an intriguing little videogame called **Space Invaders**, science fiction has proven to be the single most enduring theme for coin-op arcade games. And outer space battles, their popularity fueled by SF's huge popularity in other media, are still going strong. **Asteroids**, **Missile Command**, **Galaxian**, **Astro**

Blaster and **Vanguard**, are just some of the many science fiction smashes that have thrilled the arcade world in the last couple of years.

DEATH FROM THE SKIES!

Sega's latest space game, **Zaxxon**, is a tour-de-force of graphic effects that uses three-dimensional action in a

three-part space war scenario.

Employing both the shadow cast on the ground by the ship and an altimeter located at the left of the playfield, gamers first must maneuver their craft over the walls of several defensive installments. It's virtually a suicide mission. Initially, the craft must use bombs and lasers to destroy enemy positions including the menacing
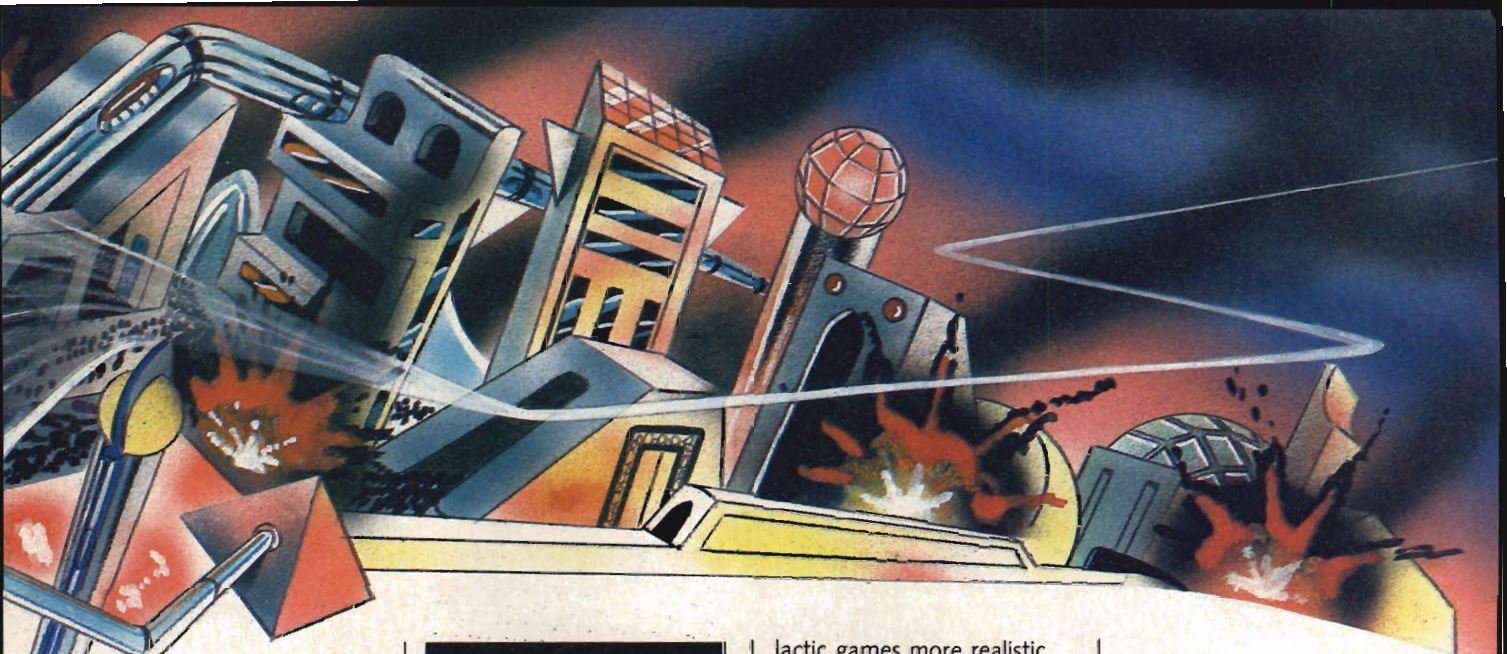
titan missiles aimed right at the intruding craft.

Stage two takes place in deep space, where the arcader must survive a vicious dogfight. The battle concludes on a base protected by an enormous war-robot of incredible dimensions. Those skilled space pilots who can dispatch the big bucket of bolts can then start the whole mission all over again.

The only potential problem with this magnificent video star war is the difficulty of piloting the player's ship—which will take *practice*.

ZAXXON COIN-OP

ZAXXON

So grab that joystick, space cowboys, and start up that rocketship!

CAN YOU BREAK THE BOSCONIAN FORTRESS?

Today's SF arcade games not only feature state-of-the-art graphics, sound provided by computer voice chips and the most responsive controllers available. Their play action also tends to be a bit less linear than the first wave of invasion games. And players who recall the symbolic alien onslaught of **Space Invaders** are sure to find the latest generation of interga-lactic games more realistic.

Heading the list of newcomers is Namco/Midway's **Bosconian**. *Bosconian* adds a new dimension of realism to space battles with its eye-popping visuals and its computer-produced voice. Players use the machine's radar screen to guide their ship, armed with simultaneously firing front and rear guns, through deep space in search of alien base stars.

These huge space stations consist of six globe-like compartments, each bristling with anti-spacecraft weaponry, connected to a central hub with spoke-like corridors. That's the base stars' primary weakness.

The base star also sends out endless formations of defensive spacefighters. The gamer can destroy the station by either bombarding and exploding all six of the globe-sections or hitting the fortress's hub when the portal is open.

The ultimate effect is the most realistic space battle ever produced.

A STEP BEYOND STARGATE

Robotron from Williams is the third entry in that company's master series, the first parts of which were **Defender** and **Stargate**.
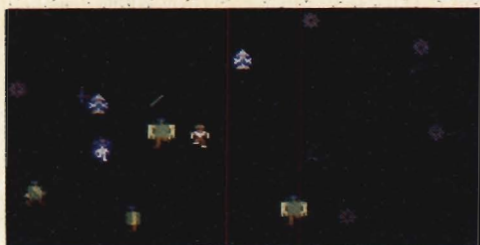
ROBOTRON

In *Defender*, players manned horizontally scrolling spaceships in a never-ending battle with the mutant hordes that have ravaged the planet's surface. *Stargate* takes the adventure into deep space, and *Robotron* actually places our defender on the alien planet's

THE LURE OF THE LABYRINTHS

Maze games are among the top moneymakers in today's arcades, presenting space games with their first major challenge for coin-op supremacy. The single biggest reason? **Pac-Man**, of course. Yet

the maze-chase is hardly the only sort of maze game. **Berzerk, Targ, Mouse Trap** and **Donkey Kong** all qualify in one way or another as maze contests.

There are essentially three types of labyrinths: maze chases, maze shoot-outs and maze explorations. Let's take a look at some of the most recent examples of all three types. Some are sequels, while others are completely new concepts. But they all show quite clearly that this videogame format has only begun to be heard from.

THE GOBBLER IS A LADY

Pac-Man is, indisputably, the most popular videogame of all time. One of the big reasons for its success is its appeal to female arcaders. In response to this heartwarming acceptance on the part of distaff gamers, Midway has produced a new, deluxe version of the Namco classic the Bally division introduced to this country.

The new *Pac-Man*, Midway decided, should overcome the mania for pattern play that reduced the original game to an exercise in endurance. The new machine introduces four

MS. PAC-MAN

extraordinarily different playfield-mazes. The company also made the ghost's movement more random.

The game's cutest innovation, however, is the introduction of a lady gobler, a **Ms. Pac-Man**. She has her own theme music and, in between clearing boards of dots, players get to watch an entire muncher courtship ritual. Pac Man meets Pac Woman, they fall in love, and eventually marry. As the game ends its little saga, a stork delivers the star of the next Midway gobbler game—the Pac-Baby, of course!

IT TAKES A THIEF

Gobble games are not the only type of maze chase contests, of course, as anyone who remembers the early home videogames **Take the Money and Run** (Odyssey²) and **Dodge 'Em** (Atari VCS) can testify.

In Pacific's **Thief**, a gaggle of police cars pursue a player-operated thief's auto. The thiefmobile picks up both money and points as it goes, passing over bills which disappear in his wake and even running into power-pill-type dollar signs periodically that allow the felon to turn the tables and chase the lawmen.

Thief's greatest triumph is its use of the revolutionary Texas Instruments phonetic computer voice chip. This precious bit of silicon not only reproduces the spoken word with total clarity, but it even provides suitable inflections for the game's sarcastic commentary. Throughout play, gamers hear the voice of the police dispatcher as it comes

THIEF

52 Electronic Games
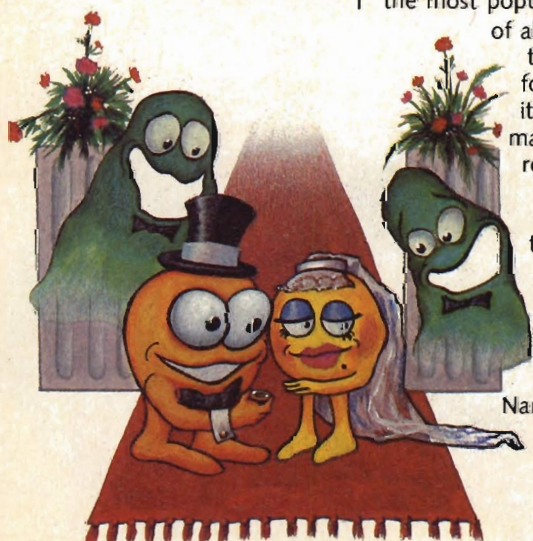
surface, where he must save all types of humans from a multitude of horrendous creatures that stalked the ravaged surface of this doomed world.

Robotron is a remarkable technical achievement. It is perhaps the fastest-moving arcade game ever created,

with dozens of aliens converging on the player's surrogate as he attempts to hold back and destroy the attackers while rescuing the hapless inhabitants.

The game also involves a highly original play routine. The arcader grips two joy-

sticks, the left controlling movement while the right fires the laser. Simply moving the righthand joystick to the right fires a burst in that direction. This allows players to literally sweep the area in a 360º arc.

At the start, Robotron is challenging but beatable. In

these initial scenarios, the arcader must deal mainly with grunts which can be destroyed with a single laser blast. At later levels, the dreadnaughts can only be held at bay with the weapon.

Robotron is fast, colorful and tremendously exciting.

MAYHEM IN MAZELAND

Corridors of A-Maze-Ment

gerber

over the squad car radios. "Car 26" a disgusted deskman gripes after a cop car flubs its pursuit of the thief, "you better take up another hobby!"

The constant patter provides the most charming audio found in any new coin-op, e-clisping all others in wit and clarity. The game itself is quite good, with changing mazes and lots of fast action, but this is one coin-op that may talk its way to the top of the arcade heap.

PERILS OF THE PYRAMID

The maze exploration theme is another popular electronic gaming genre. In

TUTENKHAM

this type of game, the player is an adventurer, searching for a hidden prize, often while facing extreme danger. Some games combine elements of the maze exploration and the

TUTENKHAM

maze shoot-out, in fact, such as **Wizard of Wor** and **Venture.**

Tutenkham is the latest, and one of the most impressive,

games in this expanding category. The setting is ancient Egypt, land of the Pharaohs, most particularly and tombs of those departed worthies. The scenario involves a search through the mysterious pyramids' tunnels for a hidden treasure. Many of the professionals at a recent coin-op trade fair were predicting big things for this contest of exploration with excellent audio and graphic effects.

KILL—OR DIE!

Berzerk, one of the coin-op world's most successful maze games, serves as the ultimate example of the maze shoot-out. At the start of each game, players are trapped in the middle of a maze, surrounded by deadly robots. Arcaders must guide their on-screen surrogate past the robots, destroying them when possible, while working their way from sector to sector.

Frenzy, also from Stern
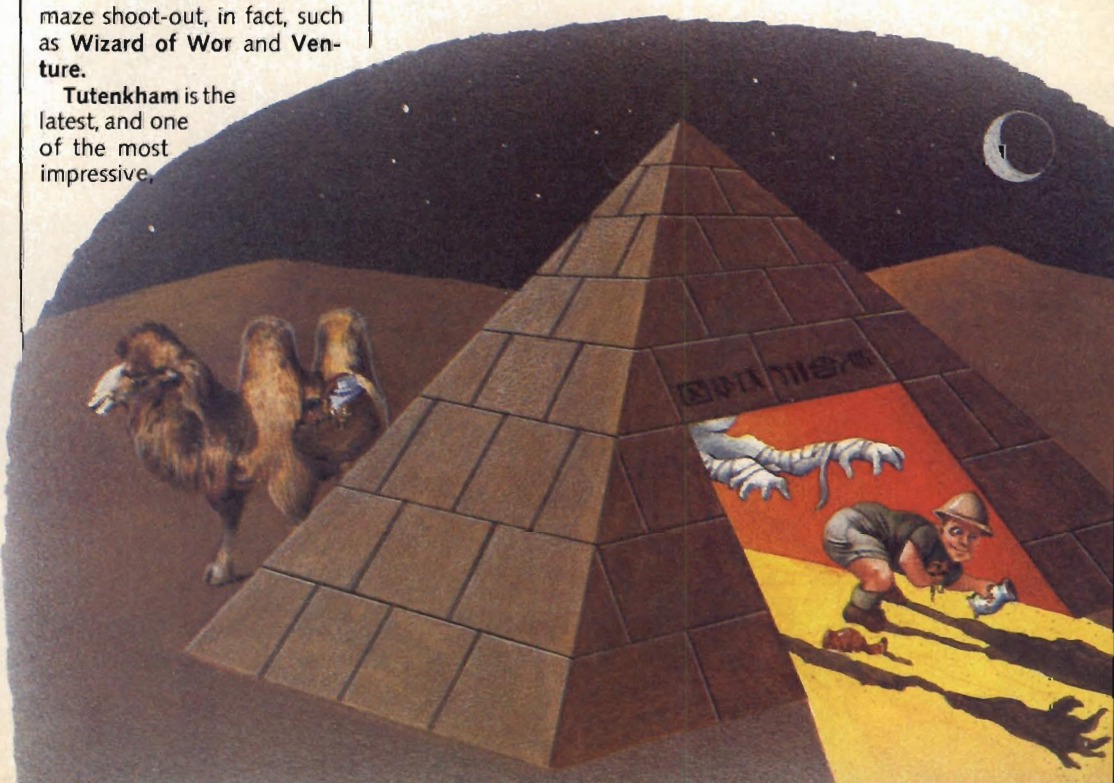
BERZERK/Continued

Electronics, a revamped version of *Berzerk*. The major difference is that there are two types of walls on the *Frenzy* mazes: solid and perforated. Players can shoot through the non-solid walls in order to eliminate a pesky robot on the other side. The solid walls, however, cause your shots to, heh heh, ricochet right back at you.

Another interesting change is the presence of a female version of Evil Otto. The sinister bouncing head, reminiscent of the police-balloons from the old TV show, "The Prisoner", takes off after players who tarry too long in any one sector.

IN SEARCH OF TREASURE

Centuri's new coin-op, **The Pit**, is another fine example of the maze search. Players begin the game above a deep mine shaft tunnel. The gamer uses the joystick to send the character into the bowels of the earth, there to retrieve his prizes and get them back to the surface.

So whether it's a game of pursuit, exploration and treasure hunting or a straight-out shoot-'em-up, labyrinth con-

COIN-OPS COURT THE ELECTRONIC ATHLETES

SPEAKING OF SPORTS

Sports simulations have long been the weak sister of the coin-op videogame field. Despite the popularity of sports translations in home programmable and computer formats, baseball, hockey, basketball and football appear frequently in coin-operated form.

The reasons have less to do with the popularity of such games than with the realities of the coin-op business. Sports games, especially team sports, simply take too long to play. As a result, when manufacturers have introduced sports programs, the subjects are generally non-team events such as auto racing. In fact, with the moderate to healthy successes of games such as **Rally-X** and **Turbo**, a revival of racing and driving/steering contests may be at hand.

DROPPING THE CHECKERED FLAG

The latest in the long line of racing
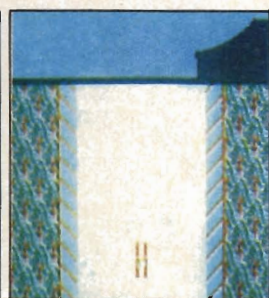
GRAND CHAMPION   **ALPINE SKI**

and driving machines is Taito's **Grand Champion**. This videogame offers interesting graphics and an overhead view to produce a wild, multi-car, high-speed auto *Grand Champion* features several interesting variations on the more familiar overhead race programs. The most obvious is the number of cars on the track. The mass of machinery requires video Richard Petty's to make their way through the smallest of openings with the guts of a burglar and the hand-eye coordination of a diamond cutter.

The jammed-up track creates a degree of realism heretofor lacking in contests of this type, emphasizing skills quite similar to those required of real race car drivers.

KING OF THE MOUNTAIN

Taito's other new sports-category entry is **Alpine Ski**, a highly challenging recreation of slalom skiing.

The contest begins with the skiers getting a ride up the slope on a special ski lift. Thereafter, the arcader takes over. Navigating your skier *up*screen with directional and speed controls, electronic snow-sliders must deal with trees, ice patches and even

tests are obviously doing a-maze-ingly well in all the amusement centers.

It's hard to believe in retrospect, but when Stan Jarocki, president of Bally's Midway division first saw Namco's then brand-new **Pac-Man**, he recalls being only moderately impressed.

"After all," he quotes himself as saying, "who plays maze games?"

Of course, Stan Jarocki can easily afford to laugh about the whole thing now. After all, Midway's Pac-Man has become the most popular coin-op of all time and spawned an entire genre.

special snow-making vehicles in addition to the more traditional obstacles, moguls and flags.

Ice patches are particularly treacherous going. More often than not, novice ski bums will find themselves careening off the side of the mountain.

HOT
BATTLES
COLD
WARS

THE ART OF WAR

Battle simulations have never attained the popularity that their outer space cousins have garnered in the arcades. Seven superior wargames such as Cinematronics' **Armor Attack** and Atari's **Red Baron** have never reaped the success of their space-age siblings. Put a pair of conventional Earth tanks on a playfield and arcaders' minds instantly revert to visions of yesteryear— when primitive and decidedly low-resolution "tank games" were the rule. Place that same struggle on the surface of our lunar neighbor, and you've got **Battlezone**, a science-fictional firefight on the moon that went right into the "Top 10".

HIT THE BEACH!

For those fans whose idea of a good video battlegame tends to be somewhat less sophisticated—as in blowing things up *real good*— Centuri's new coin-op, **D-Day**

may prove exactly their cup of tea.

Players man a centrally located engine of destruction and rake the beach with fire as an endless parade of shock troops assault the coastline.

An especially interesting graphic element involves night battles. Once the sun goes down, the battle rages on under the roving illuminations of arcing klieg lights. As these cones of golden brightness sweeps the otherwise impenetrable darkness, the effect is truly the highlight of this videogame program.

FIGHT IN THE SKIES

Looping is a horizontally-scrolling flight contest that combines two rather interesting aspects of flying games into a single test of hand-eye skills.
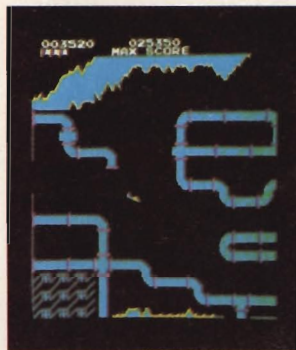
LOOPING

This engaging, but challenging contest uses a hard-to-handle flight control system to pilot an old-fashioned barnstorming/air circus aircraft through a hybrid combat and stunt flying mission.

The first test of the arcader's mettle, beyond just getting the craft off the ground in one piece, involves destroying a military target while avoiding its guardian flying-machines,

barrage of balloons, and other defenses. The battle continues in standard attack-evade dogfight style until the plane suddenly enters a pipe-like maze which can be negotiated using a sequence of tightly controlled "loops" for big bonus points.

Complete the entire scenario, and it begins anew.

THE SPIES HAVE IT

Perhaps the most offbeat of the new coin-ops comes from the ever-innovative Sega/Gremlin. (You may have heard of a few of their recent entries—**Frogger, Turbo** and **Zaxxon**—unless you've been partying atop Mt. Everest the

last few years.) **.005** makes the arcader a secret agent, with a case full of top-secret documents.

A crew of lawmen relentlessly dog the undercover protagonist and attempt to cut off his return to a waiting copter. The agent can duck into any of several buildings: warehouses (whereupon the operative must elude the searching flashlight beams of his pursuers), ice rinks (slippery as the proverbial greased pig) and jails (to be avoided).

POWERHOUSE PINBALL
Tables Explode with Fabulous Features

NEW DIRECTIONS

As is painfully obvious to all pinball fanatics, their beloved flipper games have been teetering on the brink of oblivion for awhile now. The tremendous popularity of videogames and the lack of innovation in the design of the pin playfields are the big reasons for this fall-off.

HYPBERBALL

Suddenly, however, the pinball machines in new, and frequently almost barely-recognizable forms, are coming back strong. Among the most popular games at a recent Chicago coin-op trade show were **Hyperball** (Williams), **Rapid Fire** (Midway) **Orbitor** (Stern) and **Caveman** (Gottlieb).

Let's take a look at these revolutionarily modern machines—many of which do not strictly meet the definition of the term "pinball machine", as we shall now see.

WHAT, NO FLIPPERS!?!

The introduction of flippers to pinball games thereafter to fanatics simply as "flippers", was a change born out of legal necessity. Some critics considered games without flippers,

pins gambling machines, pure and simple, since little skill was involved in the play. Since that point, the flipper has been the staple of the pinball machine.

Both *Hyperball* and *Rapid Fire*, however, though housed within the familiar pinball machines, have a pair of machine-gun styled ball-launchers instead of flippers. Play consists of spraying pinballs to specific points on the playing surface, such as drop targets and rows of directional pointers that light when ready.

Rapid Fire employs a similar play mechanic, with players blasting away at targets with

all the color, speed and excitement of even the top videogames.

LUNAR PINBALL

Perhaps the most interesting variation on the traditional pinball machines is a newcomer from Stern called **Orbitor I**, which takes the standard format and plays it on a table constructed to resemble the surface of the moon. A non-flat playing surface is one of the most innovative ideas to hit the flipper field—yes, this one *has* flippers —and the ball

movement must be seen to be believed.

ORBITOR 1
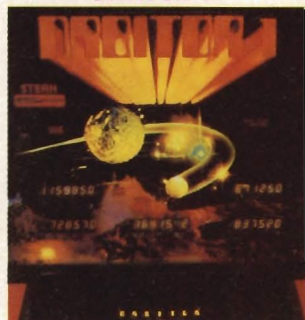
MULTI-LEVEL MADNESS

The dual-level pin is another major development in the rejuvenation of pinball's old-fashioned image. Games such as **Black Knight** have created such a stir among gamers that the first videogame simulation of a bi-level pin, **David's Midnight Magic**, is selling like wildfire. I guess it's pretty clear that pinball is a long way from dead.

VIDEO MEETS PINBALL

Finally, there's **Caveman**, the first pinball/videogame crossover from Gottlieb. *Caveman* is a standard, but totally modern, flipper game with a difference. At certain points, players take their fingers off the flippers and grip a joystick in order to play the videogame portion of the contest on the monitor inserted into the machine's backboard.

Skeptics have been writing off pinball machines for so long, many gamers have actually begun to believe the doomsayers. But remember that the pin is the direct precursor of the coin-op videogame and as long as the manufacturers demonstrate their willingness to evolve and experiment, the zap of bumpers and the electronic beeps of drop targets will be heard throughout the land for some time to come. ⊖

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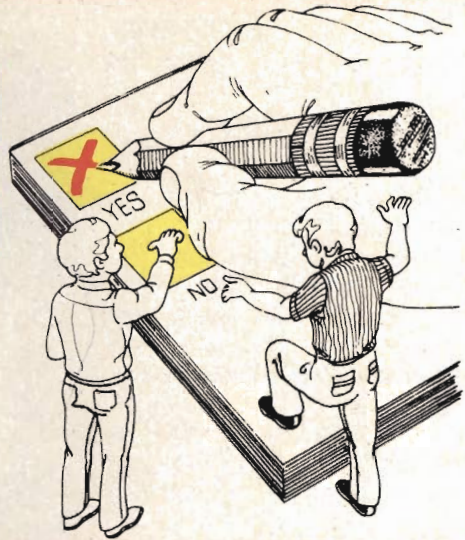
READER POLL

Interaction between the readers and editors of **Electronic Games** helps make this a better magazine. The more we here at **EG** know about who you are and what you want to read, the better we can satisfy your needs and desires. That's why we run a Reader Poll in every single issue of this magazine. Rest assured that, even though we protect the anonymity of every respondent to our survey, the editor personally reads each and every ballot received. And of course, this is also your ballot for casting your vote for the most popular videogames, computer game programs and coin-op arcade machines.

Please return this poll sheet—or a photocopy if you prefer to keep your **Electronic Games** in perfect condition—to: Electronic Games, 235 Park Avenue South, New York, N.Y. 10003.

Sex: Male_____ Female_____

Age: Under 14_____ 15-17_____ 18-19_____ 20-21_____ 25-29_____ 30-34_____ 35-44_____ 45+_____

Household Income:

Under $5000_____

$5000-9999_____

$10,000-14,999_____

$15,000-19,999_____

$20,000-24,999_____

$25,000+_____

Marital Status: Single_____ Married_____

Number of Children in Household:
Ages:
Under 2_____

6-11_____

12-17_____

Please rate the following features from 1 (awful) to 10 (great):
Switch On!_____Q&A_____Test Lab_____E.G. Hotline_____

Computer Playland_____Programmable Parade_____

Insert Coin Here_____Strategy Session_____

Arcade America_____Passport to Adventure_____

Inside Gaming_____Stand-Alone Scene_____

Players Guide_____

How many hours per week do you spend playing various types of 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_____

Please rate the following subjects from 1 (not very interesting to me) to 10 (of great interest to me):

Fantasy & Science Fiction_____ Sports_____ Wargames_____

Coin-op games_____ Videogames_____

Computer games_____

My favorite videogame cartridges are:

1. _____
2. _____
3. _____

My favorite microcomputer game programs:

1. _____
2. _____
3. _____

My favorite coin-op games are:

1. _____
2. _____
3. _____

Take the Money and Run— if You Can.

THIEF
Pacific Novelty

You've heard the expression, "He talks a good game"? That's exactly what this maze chase contest from Pacific Novelty does, and it uses the most advanced voice chip technology to do it.

Thief boasts the revolutionary Texas Instruments 5200 "phonetic" chip which delivers a steady patter that is occasionally so amusing gamers will literally drop their joysticks in astonishment. The sound, produced syllable by syllable rather than as entire
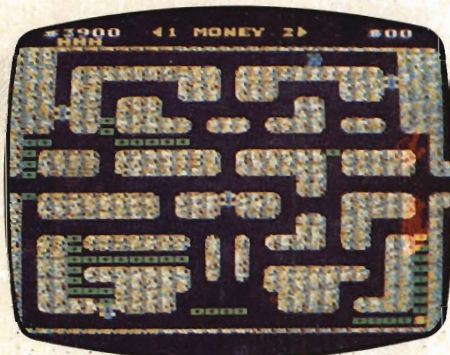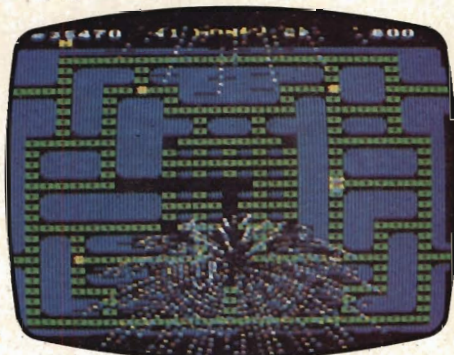

THIEF

words, is used to simulate the voice over a police radio, busily directing the on-screen police cars toward the thief in the player-controlled vehicle. Combining elements of *Pac-Man* and **Dodge 'Em**, *Thief* is a multi-maze contest with solid graphics and smooth on-screen movement, via the player-operated joystick.

By BILL KUNKEL

As the player's car moves through the labyrinth, which is composed of currency, the money is scooped up, leaving the empty area black. As play progresses, the computer-directed police cars get smoother and faster. At several spots in the maze are large dollar signs, which serve the same pur-

pose as the power pills in *Pac-Man*. That is they allow the thief to ram the police cars for bonus points. This element is not only derivative, it's unnecessary.
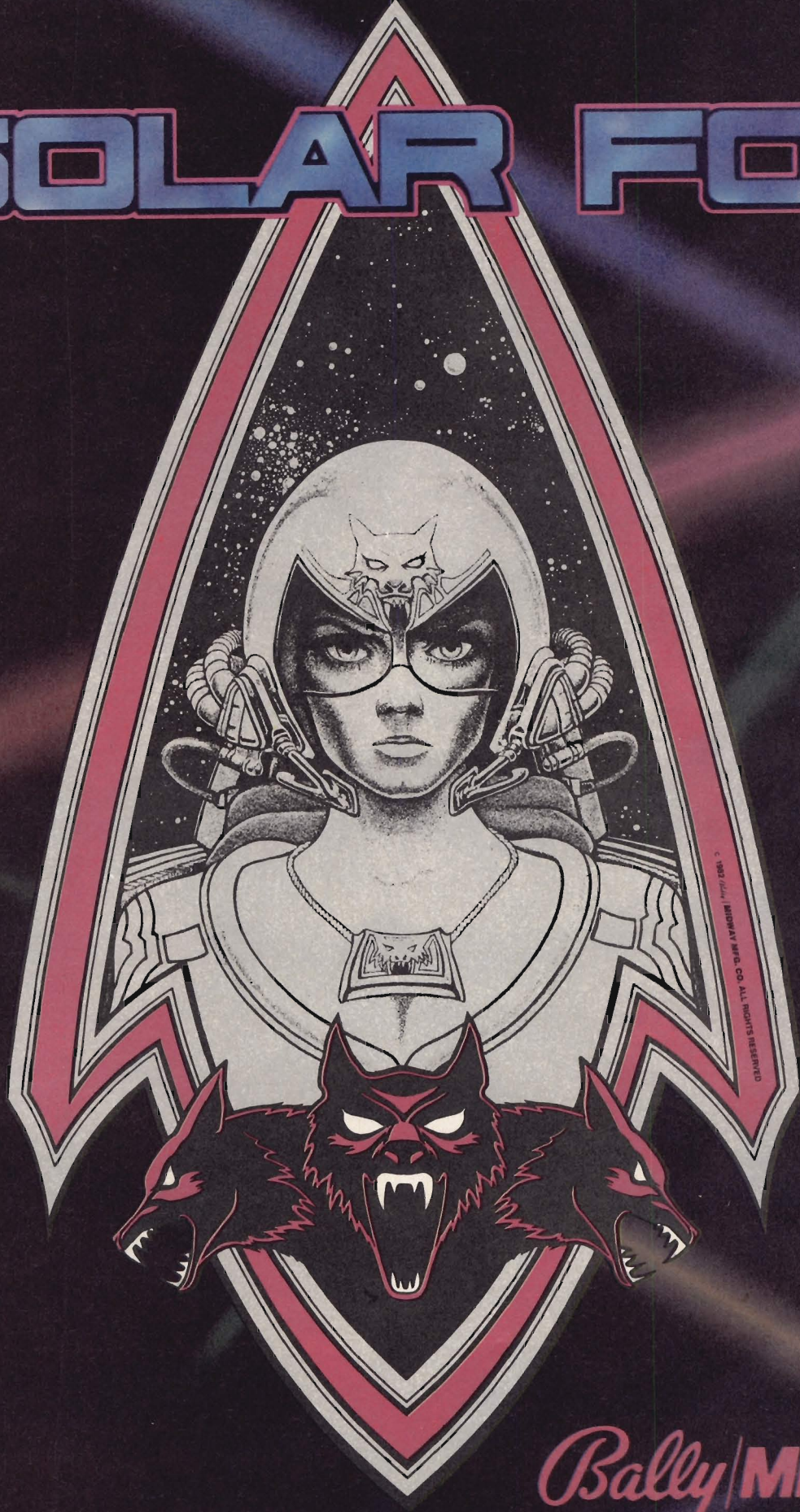

THIEF

Clearing a maze earns the gamer a shot at a brand new labyrinth and faster, better-cornering squad cars. The graphics are clean and easy to follow, the joystick action is smooth and responsive. Nonetheless, *Thief* is primarily an *audio* triumph, one of the few video contests that deserves an arcader's attention just because it *sounds* so good.
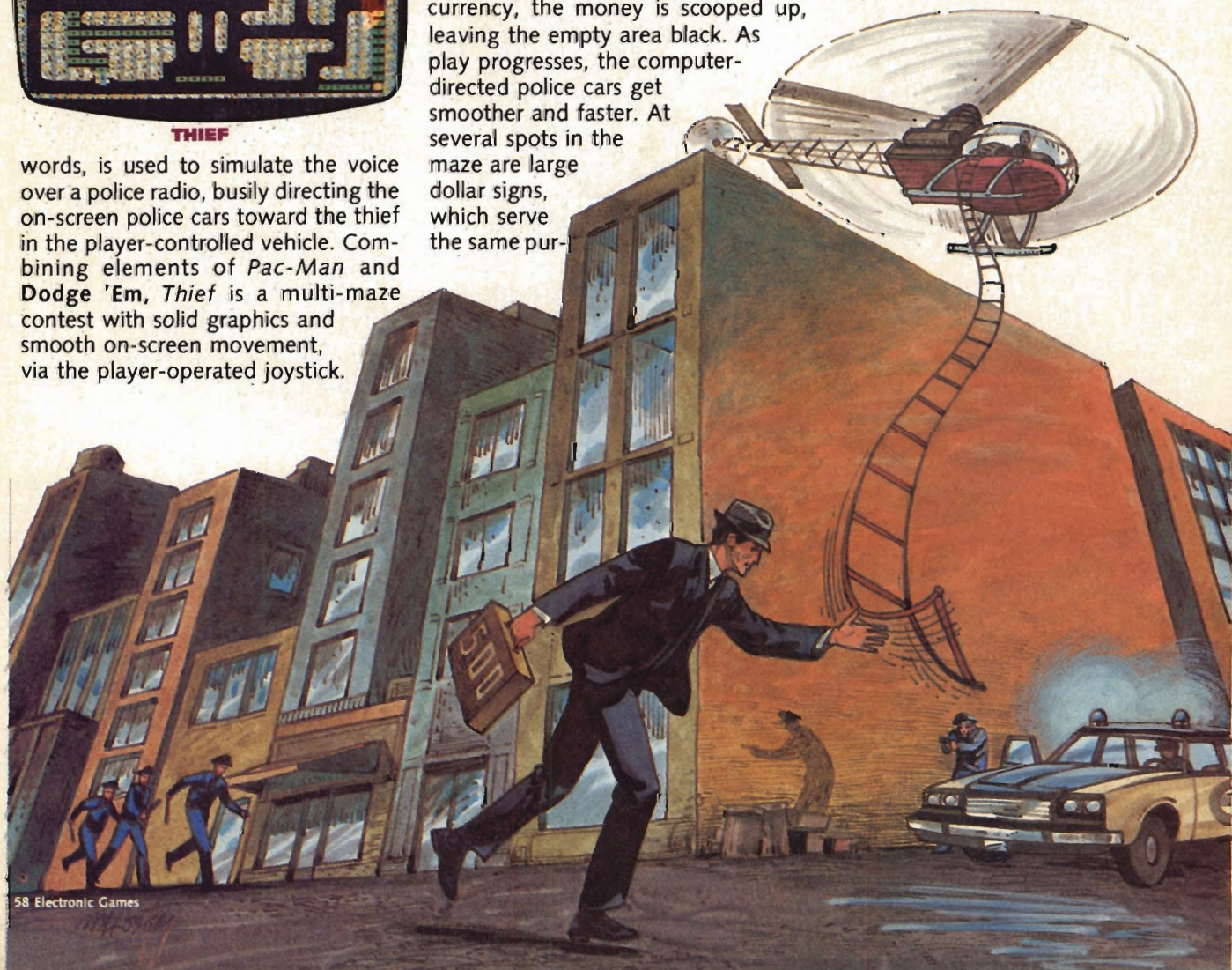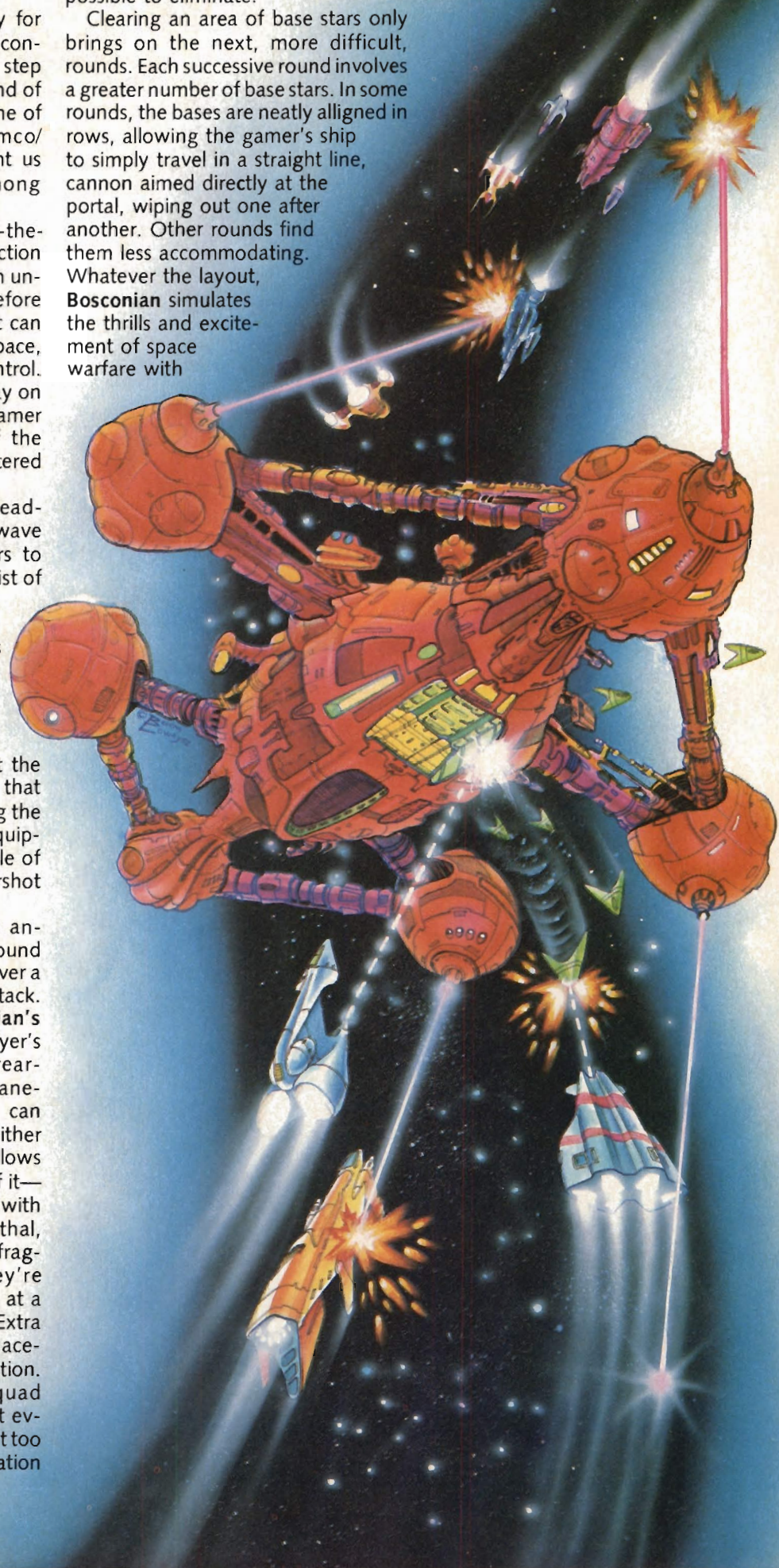
Okay, arcaders, are you ready for the most incredible space-battle contest ever devised for video? Then step up and grip the joystick for a round of **Bosconian,** the latest in a long line of coin-op triumphs from Namco/Midway (who previously brought us **Galaxian** and **Pac-Man,** among others).

Bosconian combines state-of-the-art graphics with topflight play-action to simulate war in deep space with unsurpassed authenticity never before seen. Players man a warship that can move independently through space, guided by a sturdy joystick control. Using a computer scanning display on the right of the playfield, the gamer directs his ship toward one of the numerous enemy base stars scattered through the galaxy.

Base stars are enormous dreadnaughts, capable of sending out wave after wave of protective fighters to repel an attacker. The bases consist of six massive globes, connected via spoke-like corridors to a central portal which opens and closes periodically. Base stars can be destroyed in one of two ways—either the attacker can blow it up on globe at a time for extra points, or simply fire a missile at the portal, timed to detonate while that portal is open, instantly destroying the entire base. Each portal is also equipped with a deadly cannon capable of launching rocket-bombs in scattershot fashion.

A computer-activated voice announces the beginning of each round of play and issues an alarm whenever a base star sends out a formation attack. This brings up one of **Bosconian's** most intriguing features. The player's cannons are both front-and rear-mounted, and they fire simultaneously. This means that gamers can blast obstacles and enemy while either closing in or retreating. It also allows the ship to clear a path in front of it—the space lanes here are choked with asteroids and cosmo-mines (lethal, spiked boobytraps which spray fragmentation particles when they're detonated)—while blasting away at a formation closing in on its tail. Extra points are gained when the space-gunner destroys an entire formation. To do this, pick out the squad leader—the pink ship—and shoot everything else first. If the leader is hit too early, the remainder of the formation
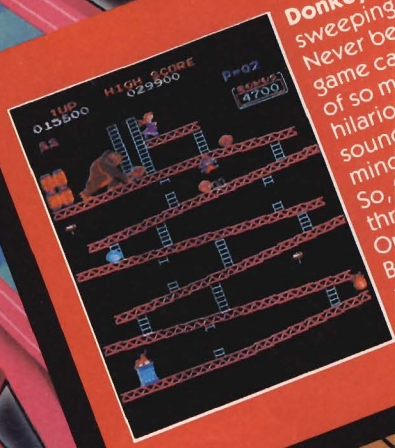
Clearing an area of base stars only brings on the next, more difficult, rounds. Each successive round involves a greater number of base stars. In some rounds, the bases are neatly alligned in rows, allowing the gamer's ship to simply travel in a straight line, cannon aimed directly at the portal, wiping out one after another. Other rounds find them less accommodating. Whatever the layout, **Bosconian** simulates the thrills and excitement of space warfare with

BOSCONIAN/Continued

an absolutely invigorating realism. Ships swoop down on their targets, deftly sidestepping attacking formations and cosmo-mines, as explosions light up the heavens.

In order to give players a better chance in this far-from-simple contest, Midway has thoughtfully printed up little strategy booklets giving inside playing tips on their latest triump. To obtain a free copy of this valuable collector's item, write to: "Bosconian Scoring Tips," c/o Midway Manufacturing Co., 10750 West Grant Avenue, Franklin Park, Ill. 60131. Enclose a stamped, self-addressed envelope and tell 'em that **EG** sent ya!
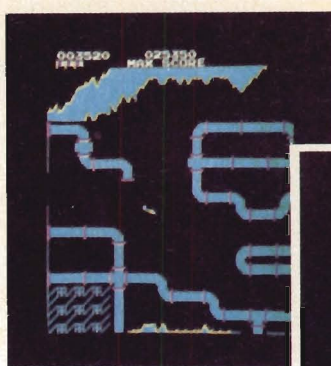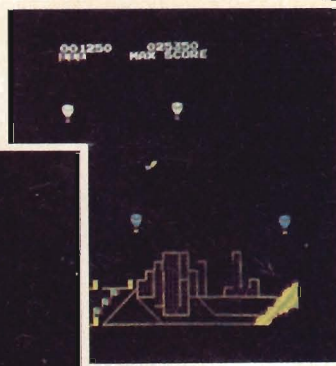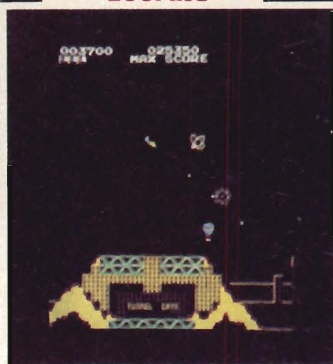
LOOPING

Venture Line

Traditionally, coin-op airplane games have not done well. Even Atari's magnificent flight-simulator style Red Baron failed the two-bit test. The only flying machines in which arcaders really seem to take an interest are those with laser cannons mounted on the front.

Hoping to buck this trend is an interesting new entry from Venture Line

LOOPING

called **Looping,** which blends aerial acrobatics with a horizontally scrolling shoot-out in the sky. Clever audio and quality graphics get maximum impact out of the game's scenario.

Players begin by taking off in their machine gun-equipped aircraft and taking *on* the retinue of hot air balloons that fill the sky. Using the game's tricky steering mechanic, the human pilot must destroy both the balloons and the bridge they're protecting in order to move on to later phases, such

as a maze-like network of pipes which must be navigated in **Scramble** fashion.

Looping is cute, colorful and challenging and would probably make an interesting change of pace from the usual run of science fiction and adventure games. The game's major difficulty is the steering, and several quarters will invariably go west before even skilled arcaders are able to grasp joystick firmly in hand and loop the loop at will.   ᴳ

In a country in which any consumer with the money can buy a modern oven that looks just like grandma's potbellied wood-burner or a lighting fixture that resembles a coal-oil lamp, it's only natural to find videogames that ape the action of the traditional pinball machine. In all three instances, the apostles of a new technology are making a reverent bow in the direction of a colorful bygone era.

Perhaps that's part of the reason why translating flipper game action to the cathode ray screen fascinates so many videogame designers and players. It's as though some of them are, at least subconsciously, trying to prove that their beloved videogames have somehow made the pinball tables obsolete.

Of course, pinball machines are different enough from videogames to co-exist very nicely with them. The flipper contests have rebounded in popularity in the commercial amusement centers this year, indicating that the coin-op parlors of the future will probably continue to feature videos and pinballs side by side.

Whatever the real reason for the creation of video pinball programs, there's little question that they are steadily growing more popular. The artistic success of some of the most recent entries has won this type of contest the electronic gaming world's full acceptance. The fascinating dynamics of the pinball table are now just as much a videogame design staple as the invasion game, scrolling shoot-out or maze-chase.

Producing a decent video pinball program requires a lot more than just laying down a pretty design for the table. As Bill Budge, who created

Bill Budge's

Raster Blaster

VIDEO PINBALL FOR THE APPLE II; REQUIRES A 48K APPLE II
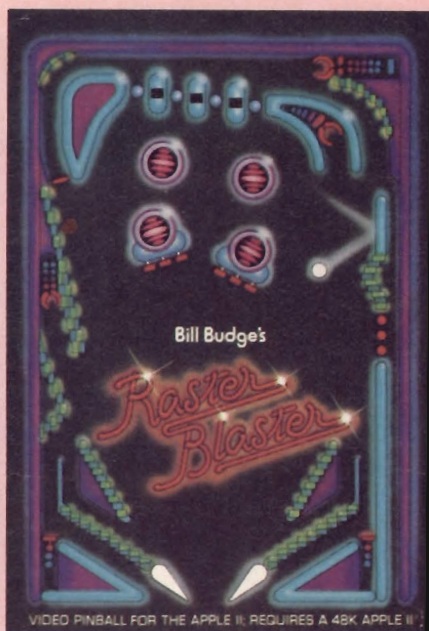
RASTER BLASTER

1981's most popular Apple II game, **Raster-Blaster,** notes, the real challenge is electronically reproducing the physics of the pinball table to give the resulting game the right feel. Budge counts getting the ball and flippers to behave fairly realistically as his greatest achievement in *Raster-Blaster*, and this aspect of the program has done the most to propel it to its current pinnacle of success. Even so, it must be admitted that the day is still quite far off when a real-life Tommy, the deaf-dumb-and-blind hero of The Who's rock opera, will be able to play the video version of his chosen indoor sport strictly by feel. Video pinball games are still, at bottom, videogames and not flipper machines.

Three of the four main programmable videogame systems have a pinball program in their game catalogue. Interestingly, all of them depart from the usual pinball table dimensions in favor

of making use of the whole screen in the manner of most videogames.

It is somewhat appropriate that the best flipper cartridge comes from the system that began life as the Bally Professional Arcade. Astrocade's **Bally Pin** provides two action-packed tables to delight flipper fanatics. Although the variations have much in common, clever alterations individualize each one enough to give the arcade decent variety.

There are, as might be anticipated, a number of similarities. Both are five-ball contests playable by one to four participants. To give the gamer independent control of each flipper, the designer has cleverly rigged things so that the player holds one of the Astrocade controllers in each hand and uses one trigger knob to manipulate each on-screen bat.

In version #1, the so-called white table, the rectangular drop targets, upper kicker targets and lit bumpers produce the most points, though hitting the wall and ceiling of the table above the flipper, the unlit bumpers and the spinner which appears directly over the ball-shooter once a sphere is in play, all add a little to the tally.

The spinner is also important, because hitting it randomly moves the four bumpers located near the middle of the field and resets the drop targets. Hitting the four upper kicker targets on the white table lights the corresponding middle bumpers, signified by the appearance of a "+" on the object, which multiplies the point value tenfold.

Many arcaders will find the dark background of *Bally Pin*'s second table much easier on the ideas. For this reason, the second version is often pre-

VIDEO PINBALL

BALLY PIN

Main Score   Ball Bonus
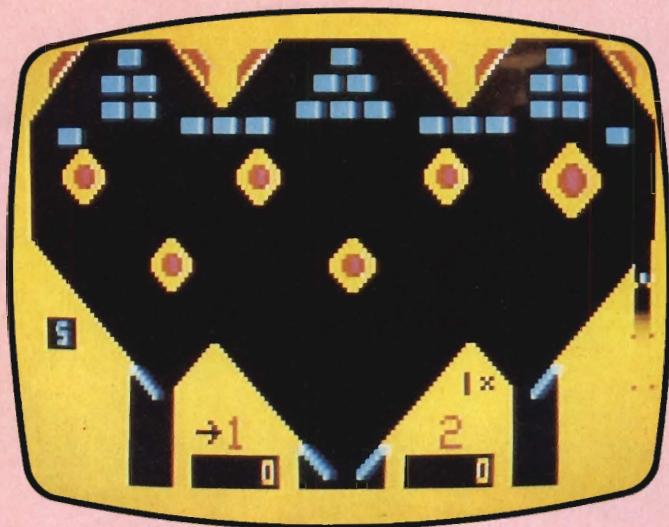
THUNDERBALL

ferred over the overly bright white table.

Eliminating all the drop targets to double the bonus score is the prime strategic objective on the second table of *Bally Pin*. Knocking off all 24 drop targets also earns the player 1,000 bonus points. In a fashion similar to table #1, hitting the upper kicker targets confers enhanced scoring opportunities. Each of the six objects will light a corresponding thumper bumper, multiplying its score by 10.

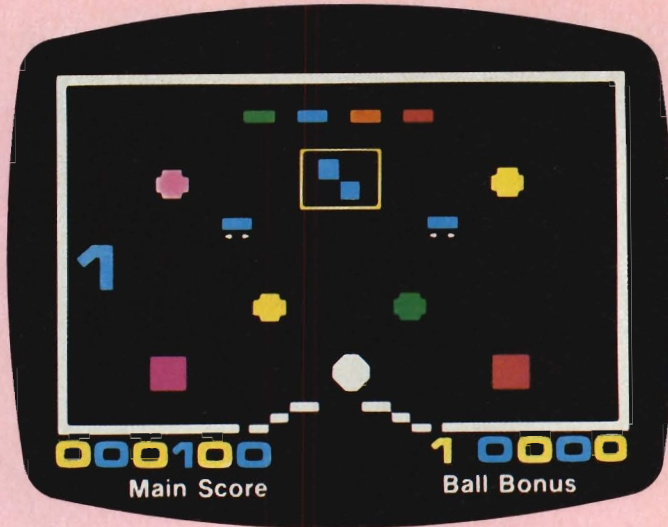**Thunderball** for the Odyssey[2] has its good points, but it is a much cruder simulation than *Bally Pin*. The biggest drawback is that both flippers are worked simultaneously by a single button. This prevents the player from coordinating the use of the little bats the way ace pinballers do on regulation flipper machines.

In partial compensation, the arcader can move the flippers along the bottom of the screen for a short distance to either the right or left. This permits a *Thunderball*-er to keep the ball in play when it would have slipped between standard stationary flippers.

The *Thunderball* playfield is dominated by six thumper bumpers, four circular ones and two with a square shape. Each is worth 100 points when hit, though the value escalates to 500 points if the bumper happens to be lit at the time.

The juiciest targets are the four backfield bonus bumpers. These rainbow-colored beauties are worth 4,000 points each. These are accumulated in a special on-screen bonus point tally on the screen, and added to the main total when the ball-in-play dribbles down the drain hole. Hitting all four targets will cause them to reset

as will accumulating 5,000 bonus points on a single ball.

Although Atari's **Video Pinball** playfield has the standard videogame dimensions, it harks back to the simplicity of such venerable flipper games as Williams' **Satin Doll.** The table isn't jammed with bizarre target variations and the overall design promises few surprises, but the overall effect isn't at all bad.

The diamond-shaped drop targets located at the top center of the screen should be the main goal. Eliminating all three earns 300 points and, even better, ups the multiplier on the 100-point thumper bumpers by one.

Next most crucial are the rollovers located just below and to the left and right, respectively, of the drop targets. The left-hand one is worth 100 points each time the ball passes through it, and its basic value increases by one each time it is hit. When the ball drains, the player gets 1,000 points times the number shown on the rollover, up to a maximum of 4,000 points.

The Atari rollover, easily identified by the presence of the corporate symbol, is the route to receiving extra balls. Each time a ball hits it, the player's
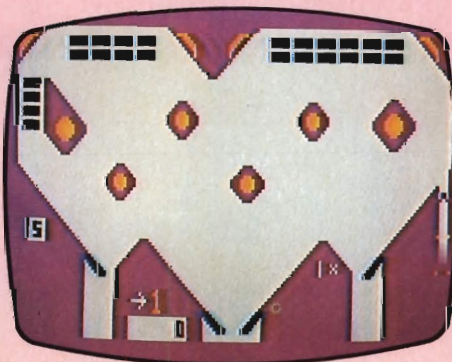

BALLY PIN

score jumps by 100 points and a little Atari symbol appears just above the flippers. When the Atari rollover is energized four times by the same ball, the symbols disaappear and the player has earned an extra ''life''.

Video Pinball boasts one of the classic elements of real pinball, a ''special-when lit'' bonus target. This appears for about four seconds in the center of the field just above the flippers. It flashes when touched by a ball and puts 1,000 big points on the board.

Although pinball cartridges for programmable videogame systems certainly have their merits, the extra memory power of microcomputers has let game inventory produce video pinball simulations that are amazingly close to the real thing.

Raster-Blaster is a full-featured video pinball program that utilizes most of the popular elements found on machines actually in the commercial amusement centers in 1980-1981. High-resolution graphics, full color and sound make this machine language program one of the most stunning available for the Apple II. Now that Budge Co. has released a version of *Raster-Blaster* for the Atari 400/800 as well, this game has become the computer software standard.

The right flipper rotates the lane lights at the top of the screen, and the action of the ball illuminates them. Turning on all the lane lights adds 10,000 points to the score, advances the bonus multiplier and lights the raster ''R''. Then if you can hit the three rightside targets, which counts for 10,000 points, you'll light the ''B'' in blaster and tally an additional 10,000.

The grabbers come into play when the arcader completes the six center targets. When a ball is shot into an active claw, it is held for later release. Fortunately, the player then gets a new ball to replace the captured one. If three balls are caught at the same time, they all come free at once. This is worth 15,000 points plus a 10,000-point bonus and introduces the eye-popping frenzy of multiple-ball action. The *Raster-Blaster* playfield really comes alive when three electronic spheres are bounding across the brilliantly colored surface.

The ball-saving shields at the bottom of the screen are handy for averting the timely end of a round. They are always energized if *Raster-Blaster* is played on the "easy" setting. Otherwise, completing the two sets of center targets activates them, but only while the ball currently in play remains live.

Other plusses for *Raster-Blaster* include multiple-player capability, independent control of flippers and more true-to-life table dimensions than any pinball program that preceded it.

Bill Budge's pride and joy had the microcomputer pinball to itself for nearly a year, but now Broderbund has published a spunky new challenger in **David's Midnight Magic.** Suitable for one to four players, this five-ball contest is a deluxe two-level playfield design that even comes equipped with its own vanity board for recording high scores. (Totals are saved for the duration of the play session in progress, unless the gamer cuts a notch in the disk that permits a permanent save of the 10 best point tallies.)

Designer David Snider has endowed his creation with great flexibility by providing for play using the keyboard, paddles or even joystick. In many ways, the two-button joystick, such as the one manufactured by TG Products, makes the best controller. In this mode, each of the action buttons energizes two flippers, one each on the upper and lower tables.

There is one control problem of sorts when the joystick or paddles are used. Some controls remain on the keyboard and thus become almost impossible for a normal two-handed player to implement. It is marginally possible to take advantage of the ability to nudge the machine by tapping the space bar, but only a true pinball wizard will be able to take advantage of the magnetic ball barriers which can sometimes prevent the sphere from disappearing

down one of the two unguarded drains at the extreme left and right edges of the screen.

The formula for success in *David's Midnight Magic* is to accumulate as many bonus points as possible by concentrating on zapping the drop targets. At the end of a round, each such bonus point is multiplied by 1,000 and added to the running total. The five drop targets at the left side of the upper table, worth 5,000 points and-five bonus points when completely eliminated, are especially good for this purpose, as are the rollover dots that line the long alley on the far left of the table.

The effect of bonus points is greatly enhanced when the player slams a ball through the circular track at the top of the lower table. Each time this is accomplished, the multiplier for bonus points advances by one. There's nothing like garnering about 40 bonus points and then tripping a 3x multiplier to put your initials on top of the scoring list.

The ball-catcher on the upper table also possesses great significance. Putting a ball into the snaking track scores a whopping 10 bonus points and gives the player a replacement ball. Trapped balls are released in any of three ways:

1. If three balls are caught at the same time, all are set free.

2. When the arrow is lit, a hit into the notch at the top of the lower table will release all trapped balls.

3. If the final ball of the game runs down a side drain, any captured balls return to active play.

There'll be several more pinball simulations this year. By the time you hold this issue of **Electronic Games** in your hands, Mattel will fill the gap in its line by producing a pinball cartridge for Intellivision. Among other touches, the new game will feature a playfield with the familiar flipper game geometry and the type of play-features you'd expect on a commercial table.

Apple II owners will have the chance to play at least two more pinball simulations before 1982 ends. SubLogic, best-known for its air flight simulation program, plans to introduce **A2-PB1 Pinball** before the end of the summer. Themed **Night Mission**, it permits up to four arcaders to challenge its intricate table. Also heading to the stores is **Zero Gravity Pinball** from Eugene, Ore.-based Avant Garde Creations. The company is keeping this one under wraps, but advance word is that the 48K, Apple II program will contain some features that designers of previous video pinball contests have overlooked.

DAVID'S MIDNIGHT MAGIC

COIN-OP CLASSROOM

Save the Survivors in Defender

By BILL HEINEMAN

Editor's note: The tale-spinner of the commercial arcades is back with another strategy story designed to improve your ability to play a leading coin-op machine. The subject this time is Williams' **Defender,** *one of the most popular —and most challenging — contests to reach the family amusement centers in many years.*

The **Threshold** possesses sub-light engines, hyper-reverse, and also hyperspace capabilities. In addition, the ship has three shields, so if all the shields are used and the ship takes a hit, then it will be destroyed and end your mission. You will lose a shield if you are not or if you collide with an enemy ship.

The *Threshold's* laser torpedo gun feeds off the main engines, giving unlimited laser fire. The sonic blaster, however, uses so much energy that it requires the energy in the main storage cells. The engines run on atomic fuel and can be used all you want. The reverse feature flips the ship in the opposite direction in less than 1/100th of a second without causing any harm to the occupants. Its use is also nonrestricted.

Hyperspace is a different story. Its use is not recommended due to the fact that the onboard hyperdrive system still has a few bugs in it. It has a tendency to overload the engines and

destroy a shield. Use hyperspace only in extreme emergencies.

The *Threshold* has one unique feature. The ship can absorb energy from various sources such as explosions and psychic energy. Each Humanoid will give you 500 energy units if saved from the Aliens, and another 500 units if taken home.

The ship has only three shields and three charged energy cells for smart bombs. When all the shields are used, the ship is destroyed. The shields and smart bombs can be built up by absorbing all the energy that you can find. It usually takes about 10,000 energy units to get a shield and a smart bomb. The sonic blaster is called the smart bomb because it releases a powerful sonic boom which literally shakes apart any enemy ship within its 250-meter range. The humanoids will not be affected, other than having headaches you wouldn't believe.

The Aliens have been identified as Landers, Mutants, Bombers, Baiters, Pods and Swarmers. Knowing that their causes is hopeless, they are abducting and killing the Humanoids so the asteroids will explode, leaving us without any raw materials. Your job is to fly to the nearest asteroid and rid it of the four attack waves of enemy ships, then advance to another asteroid and continue the fight. You

must keep the enemy occupied until Earth can build up our fleet and launch a full-scale attack on their home world.

The Landers only mission is to capture a Humanoid and kill it. If a Lander is destroyed, then the Defender ship will absorb about 150 energy units into its reserves. The Lander flies low over the terrain until it's directly over some poor helpless being. It then picks up the person and flies straight up until the Alien escapes the gravity field of the asteroid. The Humanoids cannot bear to leave their home, so they kill themselves by exploding in an attempt to destroy the Lander. In the process, the Humanoid's psychic energy is released in full force onto the Lander. The Lander is so overwhelmed by this energy that it changes into a Mutant.

The Mutant now is so excited over this new energy that it decides to share its energy with all the other Landers. The Mutants, however, just don't have the energy to convert to other Landers, so they will go to the nearest Earth ship and ram it in an attempt to liberate the energy contained in the craft's atomic engines. The Mutants give off the same amount of energy as the Landers when hit. If all the Humanoids are killed before the Aliens are destroyed, then the asteroid blows up. The energy in the blast will most certainly mutate all the Landers. Warning!!! The lasers can and will kill a humanoid if you shoot him, so watch your fire!

The recommended strategy against the Mutants is to fly at top speed until a Mutant is behind you, then reverse flight and shoot it. If there is a large fleet of Mutants around you, then it is highly recommended that you smart bomb the whole bunch.

The Bombers fly either East or West and plant stationary energy charges. A collision with one of these bombs destroys one of the ship's shields. If a Bomber is destroyed, then 250 energy units are released. The bombs can be shot down, but remember that you are under constant enemy attack. The Bombers can be blasted with no trouble at all because they offer little resistance.

The Pods are non-hostile craft until shot. At that point, they split into an unknown number of Swarmers. Smart bombing the Pods might destroy the ship completely, but it only works 50% of the time. The Pods destruction leaves 1,000 units of energy to be collected by your ship's battery cells.

Swarmers appear only after a Pod

has been hit. They group into a near impassable wall of ships. The demise of a Swarmer yields 150 units. The best way to rid yourself of Swarmers is to shoot the Pod, get behind the small fleet of Swarmers, follow the ships closely, and open fire. This strategy is possible because the Swarmers have a very poor tracking system and rely on numbers and small size for their strength. If you get more than five ship lengths behind the Swarmers, then the Swarmers will turn around and open fire on you.

The Baiters are reinforcement ships called in by the enemy fleet. These ships are faster and more maneuverable than ours. The Baiters' capabilities are the reason that we have not launched a full offensive on the fleet in the asteroid field. The Baiters only mission is to destroy the *Threshold* at any cost. You will get only 250 units for the elimination of this dangerous craft. The strategy for the Baiters is to shoot them as they appear. But if the Baiters grow too numerous, then either smart bomb or use Hyperspace. Note: Do not concentrate on destroying Baiters!! They are merely a distraction and will not stop appearing until you have

either destroyed the enemy fleet or you yourself have been killed.

All the enemy ships, with the exception of the Pods and the Bombers, can and will fire upon you. The enemies, in the order of accuracy, are the Baiters, Swarmers, Mutants and Landers. If the ship is hit by enemy fire, then the *Threshold* absorbs 25 units of energy and loses a shield.

The best way to stay alive is to rescue a Humanoid and not return the being on the surface of the planetoid. This way the Landers won't be able to kill all of the Humanoids and destroy the meteor. But remember, the Humanoids get homesick very quickly and will jump off the ship at the first chance, so don't get *too* close to the surface.

The defense of the Earth is in your hands. Rumor has it that the Aliens are trying to enlist the aid of the Yllibian Empire, but, we have no confirmation. Good luck!

G

STRATEGY

SESSION

Lasso More Dogies in Stampede

By FRANK TETRO JR.

STAMPEDE

Activision/Atari VCS

In **Stampede,** the gamer plays the part of a cowboy on horseback attempting to control a roving herd of cows for as long as possible. The rider has total vertical maneuverability along the left side of the playfield and must keep the dogies from moving past him, over the left edge of the screen. Once three cows have gotten behind the electric horseman, the game is over—unless you've earned bonus cows by scoring 1,000 points or more.

The joystick control moves the horseman up and down with the action button employed to toss his lasso. Video riders can thus deal with the stampede in one of two ways. The player can rope a cow for points or simply nudge the dogie along by making physical contact. If you continue to nudge a steer for too long,

however, it'll get ornery and only move a short distance ahead.

There are four kinds of cows. The light brown Jerseys are worth 25 points; medium brown Guernseys are good for 15 points; the dark, red Herefords count for a mere 3 points; and, last but hardly least, the maverick, and extremely stubborn, Black Angus dogies are good for 100 points.

Stampede also presents the rider with a pair of obstacles. One is the skull of a cow, bleached white. A horse making contact with these bones will be tripped up. Secondly, all the cows are moving, with the exception of the mavericks. These black beasties sit stock still and must either be roped or they will invariably get behind the cowboy. They also cause the horse to rear in a manner similar to the skull.

The major frustration novice players face is having to deal with several black mavericks simultaneously. Not to

worry. As long as you play either variation 1 or 2, there is an easy-to-remember pattern that will allow you to control the appearances of the Black Angus cows.

In these variations, light brown Jerseys are always followed by a row of medium brown Guernseys and then a row of dark brown Herefords. After the Herefords are roped, get ready for the appearance of a maverick. Once you snatch the last Hereford, the computer picks a random number from one to three. If one is chosen, a skull will appear. If two is picked, an Angus will turn up, and if three is selected, nothing will follow and the sequence will begin again.

Using this information, and remembering that there are six horizontal levels on which the cows can run, the following technique should be employed: As the game begins, rope everything on-screen except for the Herefords, which will eventually, fill the field. The player can now clear any of the horizontal rows and just wait to see whether an Angus, skull or nothing turns up. This allows the gamer to dictate the flow of the action. The pat-

So saddle up and git yer lassos ready, 'cause the Stampede shows no mercy to greenhorns!

GALACTIC INVASION

Astrocade/Astrocade (Bally Arcade)

Galactic Invasion is a **Galaxian**-type contest in which players control a laser cannon that moves horizontally across the bottom of the playfield in an attempt to destroy the swooping aliens before they either obliterate the base with a bomb or by ramming into it.
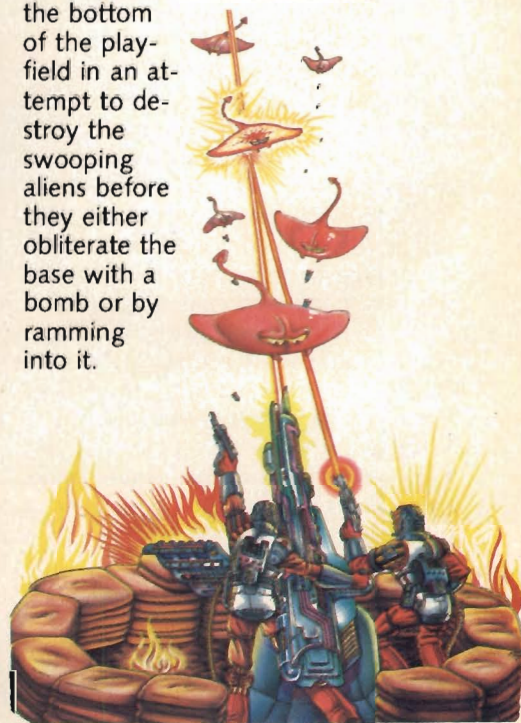
GALACTIC INVASION/Continued

There are three rows of aliens. The bottom rung, consisting of eight blue "swoopers", are each worth four points. The middle row, composed of six red convoy-protectors, is good for five points apiece, and the top stratum contains the two convoy-leaders, worth anywhere from 15 to 80 points, each depending on the manner in which it's eliminated and how many protectors accompany it. If the leader descends with two protectors and he's destroyed before the protectors, his point value is 15-20. If you hit one protector, then the leader, it gets you 30 points. Taking out both red protectors, then blowing up the leader, will reward you with the full 80 points.

The essential strategy in all games of this type is to keep moving. Never give the aliens an opportunity to home in on your position as they will almost never miss a non-moving target.

Stay in front of the "swooping" aliens, and attempt to fire in such a way that it flies into your blast. This also serves the secondary purpose of keeping your laser base out of the line of enemy fire.

Once a convoy breaks off from the pack, attempt to destroy it totally. Eliminating an entire formation gains substantially more points than picking off one here and one there.

Remember that once either a swooper or protector disappears off the sides or bottom of the playfield, it will reappear at the top of the screen, so be prepared.

Avoid the corners at all costs, as they leave you with no escape route should the aliens attack from the open side.

Once the arcader clears a screen and a new board appears, notice that the invaders will hesitate momentarily before they begin to descend. Take advantage of this opportunity to destroy as many swoopers as you can.

Try not to blow away all the protectors. If the leaders are forced to take the trip downscreen without protection they are worth fewer points.

Keep a steady hand and a sharp eye—and stay on the move, since these aliens just love to "kamakaze" a sitting duck.

CROSSFIRE
On-Line/Atari 400 & 800/32K disk

In a videogame somewhat reminiscent of the coin-op **Targ**, On-Line's **Crossfire** postulates the following scenario: You are the sole survivor of a

STRATEGY
SESSION

city being invaded by sinister aliens. Players get an overhead view of the city blocks through which they must move, armed with a multi-directional laser pistol. Unfortunately, the aliens are similary prepared for battle.

The aliens possess curious advantage: They must be destroyed four times to eliminate them totally. Each time an invader is hit, it undergoes a metamorphosis into a new physical form, until it reaches its ultimate, fourth-level configuration. Also, the aliens always regenerate at the same point along the edges of the playfield, which they surround on three sides (every side but underneath).

You start the game with 35 missiles. With each playfield you clear, the

CROSSFIRE

number of available missiles decreases by five until the supply shrinks to the minimum number of 15. When you are down to 10 or fewer missiles, a quartet of diamond-shaped objects begins blinking somewhere on the playfield. To reload, you must pass over one of these dots.

There are also four roller-shaped objects which pop up periodically at various points on the board. Rolling over these bonus thingies scores anywhere from 100 to 800 points, so pass over them whenever it's feasible.
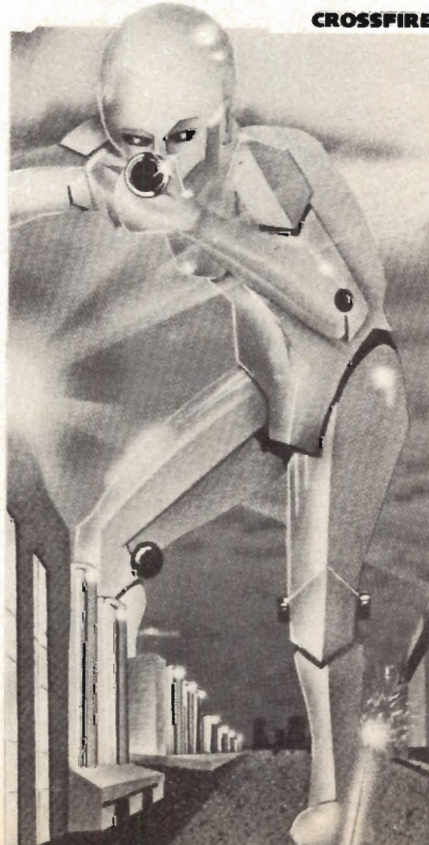
As the game begins, head immediately for one of the playfield's corners and stay there, unless forced to move in order to elude a blast. By hiding in a corner you reduce the possible number of directions from which you can be hit from four to two. You will, of course, be compelled to move about frequently within that corner area in order to avoid getting caught in a crossfire, but always scoot back at the first opportunity. Fire sparingly. While you will be able to reload by rolling over the dots, this invariably draws you out into the open, making you vulnerable from four sides.

The bonus rollovers appear in the following sequence: lower left, lower right, upper right, and then upper left. They have progressive point values of 100, 200, 400 and 800. The first rollover appears after the gamer has fired 12 shots, and will pop up at similar intervals throughout the game. Once you miss one, however, no further rollovers will appear until the next board.

Keep in mind that you can't outrun a bullet. The only way to elude the alien's blasts is by turning a corner. But beware that you aren't going from the frying pan into the fire.

Crossfire can be played with either the joystick or the keyboard. There are partisans for both methods. Most gamers will be more familiar with the joystick, but it does have a drawback. To fire, you must point the joystick in the direction you wish to aim, then hit the action button. The problem is that, after the shot is fired, the cursor will begin to drift in that direction unless you instantly release the stick.

Quick reflexes and a mastery of the controls of your choice are the keys to mastering this excelling game. Players who have sluggish responses or who remain in one place for too long will very quickly learn why the game is called *Crossfire*. Ⓖ

A GLOSSARY FOR GAMERS

Just about every hobby eventually develops its own language of specialized terms and slang expressions. Although electronic gaming is a relatively new pastime, there are already a few words and phrases that may be unfamiliar to newcomers. To dispel the fog, here's a list of terms in general use.

Action Button: The stud on a home arcade hand controller. In action games, it is frequently used to initiate firing.

Arcader: A participant in the hobby of electronic gaming.

BASIC: A high-level language that is frequently used by programmers of microcomputers.

Chess Computer: This device utilizes a microprocessor to play the classic strategy game. It is, in general, not usable for other computer applications.

Computer Game: An entertainment software program created for use on a computer. Technically, videogames and coin-op games are also computer games, but this term is generally used only to refer to game programs for microcomputers.

Disc: One of the three principal media on which game programs are stored. Floppy discs can hold more information and loads faster than tape.

Machine Language: This is the binary code directly understandable by a computer and does not need to be "translated" by the machine before the program is implemented. The result is a program that executes faster.

Monoplanar Keyboard: A flat, pressure-sensitive board often used in lower-priced computers (and also on the Odyssey² videogame).

Programmable Videogame: A system which allows the operator to switch cartridges and thus play a variety of games with the same basic machine.

ROM Cartridge: A medium for the presentation of programs. Although ROM carts are somewhat more expensive, they have several advantages including virtually instantaneous loading and a resistance to physical abuse.

Senior Videogame System: A programmable unit with more than 4K of resident memory and high-resolution graphics capability. These machines are priced at $200 and up.

Software: Programs for videogame systems and computers. They are the instructions that tell these machines what they are supposed to do.

Standard Videogame System: A programmable videogame unit with less than 4K of resident memory and low-resolution graphics capability. These machines are priced under $200.

Stand-Alone Games: Portable—handheld and tabletop—games which do not have to be attached to a television set or monitor to work.
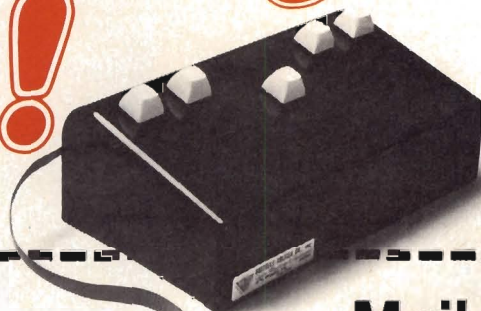
Tape: The least expensive method of storing programs for use with a computer. The drawback is the lengthy loading time.

Videogame: This term almost always means a programmable videogame. Actually, it could be used to refer to any game that requires a video monitor, but the more restricted definition is more popular.

Voice Synthesizer: A peripheral device which enables a computer or videogame, to produce an artificial, but human-sounding voice.

Ⓖ

ARCADE ★

A Visit to Star Fleet Command

S tar Fleet Command is the sort of attractive arcade that dots the western United States. Located in Mountain View, Cal., SFC is the creation of Shirley Raynal and her "first mate", Michael Cameron.

The intrepid owner is also known as Chief Petty Officer (grade E-7) Shirley Raynal, a Navy officer stationed at nearby Moffett Field. She's been stationed there for the past seven years and spent an additional five years at Treasure Island, another Naval installation near San Francisco. She is also a dental hygienist, full-time Navy person and an *active* arcade operator. Michael is a former Navy man who works as her right hand at Star Fleet.

Shirley decided she'd had enough of working for other people back in November, 1981. So she mortgaged her home and all her belongings, cleaned out her savings account and wound up with $110,000., enough to lease the store, buy the machines and set up shop.

Initially, she faced many of the same difficulties that beset arcade operators around the country. At first, the city was unwilling to license Star Fleet, but Shirley's background and strict rules eventually changed their minds. As Shirley recalls, one woman on the city council who was origially the most strident arcade antagonist has not only softened her stand, but has even visited SFC a few times to play — what else? — **Pac-Man.** Additionally, several undercover police who had been assigned to check the place out when it originally opened have since become coin-op regulars, smashing asteroids

AMERICA

By DAVID LUSTIG

and obliterating invading aliens on a regular basis.

As befits her background, Shirley runs a tight ship. All her machines are placed on pedestals. This is done both to bring the game up to adult height as well as to discourage very small children from playing. In fact, no child is admitted to SFC before 3:30 P.M. and with very few exceptions, must even then be at least 12 years old. Since there's a lot of pedestrian traffic, Shirley doesn't allow the kids to park their bicycles in front of the arcade. Instead, she's purchased a bike rack and placed it in a vacant lot across the street. She also emphasizes the importance of children using the crosswalk.

No food or drink is allowed inside Star Fleet Command. If someone hits a machine more than once they are gone, for good. Shirley is extremely protective of her coin-ops, and anyone who mistreats them is issuing her a personal challenge.

SFC caters to the local businessmen and the nearby Navy personnel. Shirley feels the strategy-oriented games work best because of their appeal to the pilots.

The top machines are **Tempest, Stargate** and **Defender,** followed very closely by *Pac-Man* and **Super Cobra.** *Super Cobra* and *Defender* are Shirley's particular favorites, while manager Michael is a *Defender*-afficionado.

So if you find yourself in the pleasant countryside of California, you'll want to check out Star Fleet Command — a definitely ship-shape arcade!

NEW PRODUCTS

VIDEO BUMPER STICKERS

Video Babies, Inc., PO Box 9503 Friendship Station, Washington DC 20016, or telephone (202) 363-0979/ $1.50 each, postage pre-paid

As the world of videogame peripherals grows by leaps and gobbles, enterprising merchandisers are scrambling to cover all the bases: T-shirts, beach towels, caps, ties and jackets have all made their appearance on the scene. The latest addition to the arcader's cannon of game-related goodies are coin-op inspired bumper stickers, from the Washington, DC-based Video Babies. In addition to the more traditional symbols of the arcading hobby, these innovative folks have such irresistible tag lines as "I Jump for DONKEY KONG!" (with appropriate artwork) and "I Brake for PAC-MAN".

Items may be ordered directly. Send for a price list.
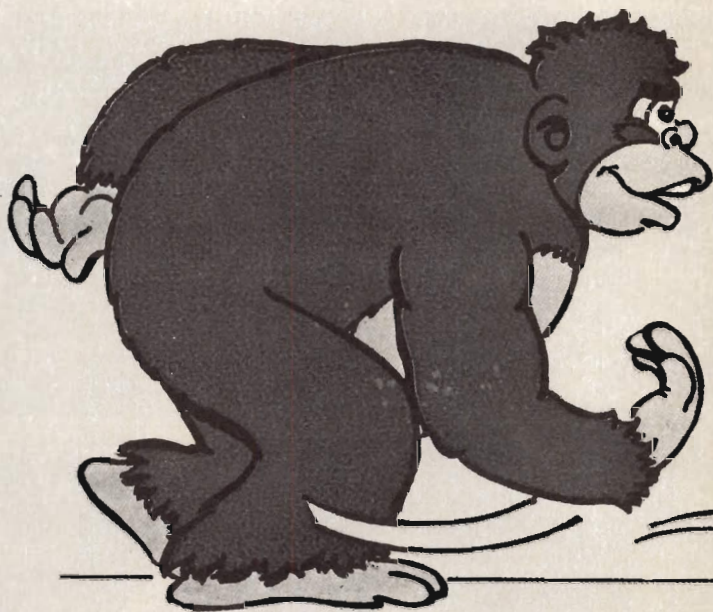
PAC-MAN PUZZLE AND PAC-MAN CARD GAME

Milton Bradley

As the ever-ravenous gobbler spreads his maw over all facets of the contemporary life-style, arcaders have delighted to everything from beach towels bearing the classic playfield to children's games that employ the most familiar countenance since the smile face.

The Puzzle is especially for young gamers who get to put a tri-sected gobbler back together in seven slots. The Card Game should appeal to somewhat older Pac-fans. It utilizes cards bearing various number of dots, goblins and even power pills.
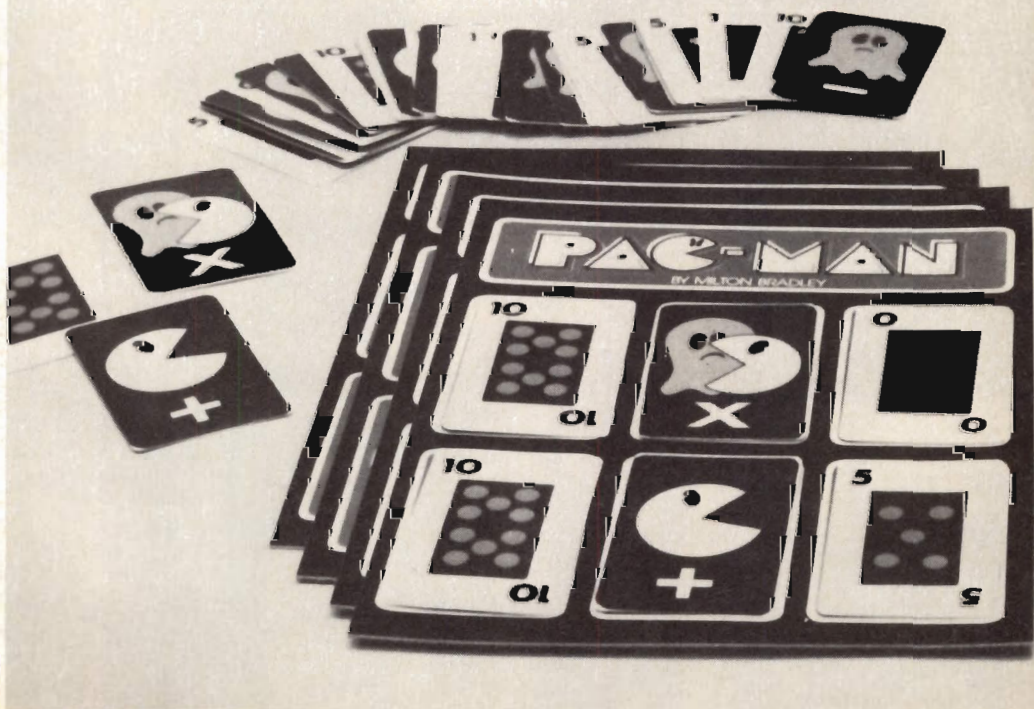
VIDEO GAME CART

*Model G900/Bush Industries/ price unavailable*

There is certainly no lack of attractive cabinets in which to house TV's, VCR's, videogames, computers, and peripherals, but this recent entry from Bush Industries is not only beautiful, it's unique.

The Model G900 is designed to hold a single programmable console, joysticks, paddles, and upwards of 35 game cartridges. The entire unit can then be easily wheeled alongside the old tube for the ultimate in computer-game convenience and class.

I JUMP FOR
DONKEY KONG
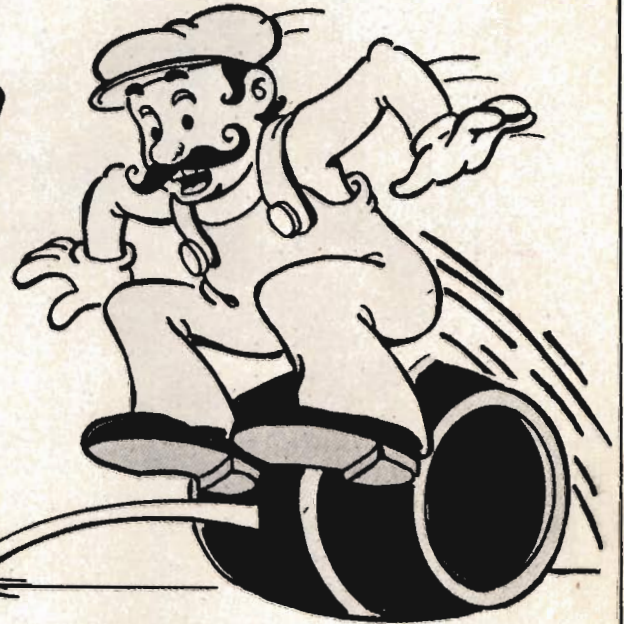
TELEDAPTER AND JOYSTICK WIRE

Teledapter manufactured by Rhoades, the extension cord by Screensonics, through which both items are available from Screensonics, PO Box 8892, St. Louis, MO 63102 Both are priced at under $15.00 each.

Imagine delighting to the sounds of **Space Invaders** exploding, or energized gobblers feasting on blue ghosts—all in super high fidelity! It's easy with the Rhoades Teledapter, an inexpensive, easy-to-attach device that hooks directly from TV to stereo, with high fidelity gaming audio that will transport arcaders out of this world.

Screensonics, a friendly, family-run game-o-rama also makes available such fascinating items as name plates for your favorite joystick ($5.) and extension wires for Atari VCS sticks (under $15.).

Be sure to watch for an upcoming **EG** feature on the world of deluxe controllers.

MICROCOMPUTER DICTIONARY

by Charles J. Sippl and Modern Dictionary of Electronics by Rudolph F. Graf/Radio Shack/$7.95 and $8.95

As the world of the microcomputer becomes more and more complicated, the market for easy-to-grasp primers widens. Two recent entries from Radio Shack should prove useful for the professional as well as the hobbyist. The volume boasts both drawings and photos.

MINI ARCADE GALLERY

Hunt Down the Cosmic Criminals!

By JOYCE WORLEY

### COSMIC HUNTER

Milton Bradley/ Microvision/$17

Cosmic Hunter is an unusual hunt-and-capture game that supplies would-be space rangers with five hunters to locate and capture alien prey. Barriers on the screen make it hard to get to the foe, and the gamer will often find it difficult to avoid unseen traps waiting to capture his craft.

The arcader chooses between two skill levels. The first features four hidden traps and fairly fast movement. Skill level two is much more difficult. The hunter must avoid eight unseen traps, while the movement of both hunter and prey is extremely rapid.

Numerous objects appear on screen at the start of the game. The hunter is a blinking, black, stationary square. Only one hunter appears at a time. When the first is destroyed, the second replaces it, until five hunters have been captured. The alien creature is a single, black, moving square. It streaks rapidly up, down and sideways on the playfield. All the other single, non-blinking stationary black squares are barriers which hinder movement. When the alien is shot, one of the barriers comes to life as a new creature. Destroying all the creatures causes a new series of barriers to appear, continuing the game until all five hunters

have been demolished.

The gamer pursues the alien around the screen using four directional arrows. If the hunter falls into one of the invisible traps, a beep sounds, and it can't move from that spot for a few seconds. The hunter is vulnerable to
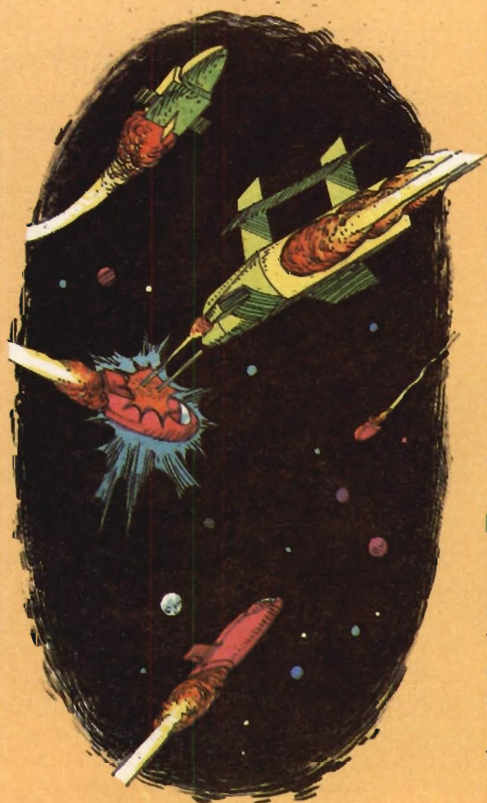
attack by the alien while it's in such a snare. However, the creature can also fall into the traps.

Press the fire button to capture the prey when the creature is in the hunter's range (two squares away, horizontally or vertically). The arcader cannot attack diagonally, but unfortunately the creature can! The hunter can be captured if the creature is one square away in any direction, including diagonally. The captured ship then disappears, and another comes on screen in a new position.

Players can check scores any time during the game. The number of undestroyed hunters appears on the left side of the display, and the number of captured aliens shows on the right.

This is an ambitious game for the Microvision unit. Even at the slower speed, it's difficult, and only arcaders with lightning reflexes will master *Cosmic Hunter* at its fastest setting.

PHASER STRIKE

Milton Bradley/ Microvision/$17

In **Phaser Strike**, the gamer launches missiles against enemy ships crossing the sky, and it takes deadly accurate marksmanship to win in this war of nerves.

The arcader chooses the width of the targets by pressing the Size key.

There are five variations. Enemies can be four, three, two or one dot wide. The fifth variation randomizes the targets' width. The computer presents alien ships of different lengths in no particular pattern.

Gamers pick the number of ships by pressing the target key. The number chosen, from one to nine, is multiplied by 10 to produce the total number of enemies, 10 to 90.

One ship at a time flies across the screen. Three arrow keys at the bottom of the cartridge control the phaser cannon. The left arrow shoots a missile diagonally from the bottom left of the screen to the upper right corner. The middle arrow launches its shell straight up, while the right arrow shoots diagonally to the upper left corner of the playfield.

You only get one chance to hit a target, then the next ship appears.

Successfully destroying an alien ship produces a rewarding sound. If you miss one, there's no signal. The next ship automatically appears. After all the targets have been launched, the score indicates the number of enemies destroyed.

This game is easy to play at its lowest skill settings. High scores are not hard to reach when using target size four and slow speed. But, when you increase the difficulty, you increase the excitement. At the hardest settings, target size one and fast speed, the game is tough to conquer.

Phaser Strike is a good contest for players with high skill levels, but less talented gamers can have a good time at the easier settings.

CONNECT FOUR
Milton Bradley/ Microvision/$17

Are you looking for something different in the way of a strategy game? Here's a Microvision cartridge that fills the bill!

Connect Four pits one player's wits against the computer or monitors the game when played by two human strategists. The object is to place four markers in a row in any direction, horizontally, vertically or diagonally. Sounds like Tic-Tac-Toe? Not on your life! This brain-game demands careful planning to get to place the markers where you want them, and that's where the fun comes in.

The field is divided into a six- by seven-block grid. A marker appears in the top row of the play area. The control knob moves the token to the row in which the gamer wishes to place it. Pressing "Drop" causes the piece to fall to the lowest available square in the column. You can't place a marker in any square except the lowest vacant spot in any given row. This is what elevates *Connect Four* above Tic-Tac-Toe. The arcader must try to maneuver his opponent into dropping playing pieces in positions that help him reach the desired spot.

Pressing "Comp" makes the computer play first, but players can switch sides with the computer at any time during the game.

Play alternates until four tokens have been placed in a row to win the game, or until the board is filled and the contest is tied.

The computer is pretty cagey at skill level one. At skill level two, it becomes an even more formidable opponent. If you're hunting a mind-tickler in a tiny package, *Connect Four* is the one for you!

BOWLING
*Milton Bradley/ Microvision/$17*

Owners of M.B. Electronics! Microvision should be delighted by the support given to this mini-

programmable. Milton Bradley has an entire library of cartridges for use with their handheld programmable electronic game system. It is, in fact, the fine selection of cartridges that makes Microvision desirable to the gamer who wants a mini-arcade to carry along wherever he goes.

The **Bowling** cartridge is a case in point. Elegantly simple, the game still provides stimulating action for one or two pin-bashers. The arcader selects the number of bowlers, one or two, and the speed of the ball, fast or slow. Pressing "Go" flashes the frame number and sets·up the pins. The ball automatically appears at the top and falls to the foul line of the LCD display, where it zips back and forth across the alley. When it's in the best position to knock down the most balls, press "Bowl" to roll the ball down the lane. After a spare on the first ball, press "Bowl" again to release the second ball. A strike on the first ball removes the need for a second ball, so the device automatically skips it unless it's the tenth frame.

The score appears on screen after the bowler completes each frame. A plus sign following the score indicates a strike or spare, and the points from your next ball or balls will be added to the tally for this frame.
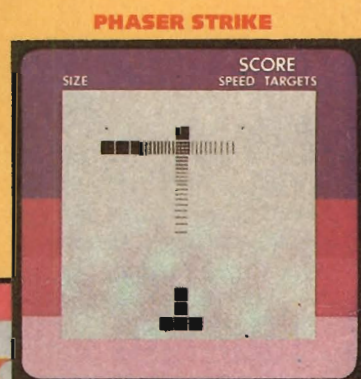
The LCD window in the Microvision unit measures about two inches square, but in this cartridge, the usable LCD is roughly one by one and a half inches. The pins are dots, while the ball is a square. Even at slow speed, the ball moves fairly quickly, but at top speed, it's almost blindingly fast. ⒢
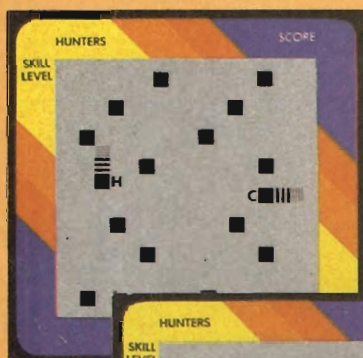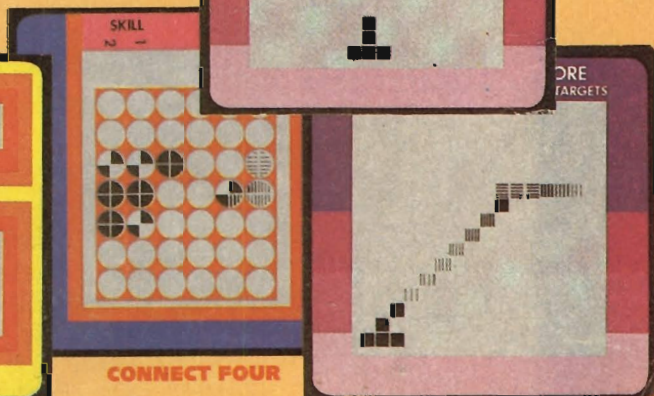

COSMIC HUNTER

BOWLING

CONNECT FOUR

PHASER STRIKE

By CHARLENE KOMAR

THE ELECTRONIC COTTAGE

The Electronic Cottage/(*William Morrow and Co., $14.95/by Joseph Deken* is a guide for the computer novice who wants to really *understand* what all the fuss is about. In essence, it functions as a mini-course in what computers are, what they do and how they do it—and, most important, how all that relates to day-to-day life.
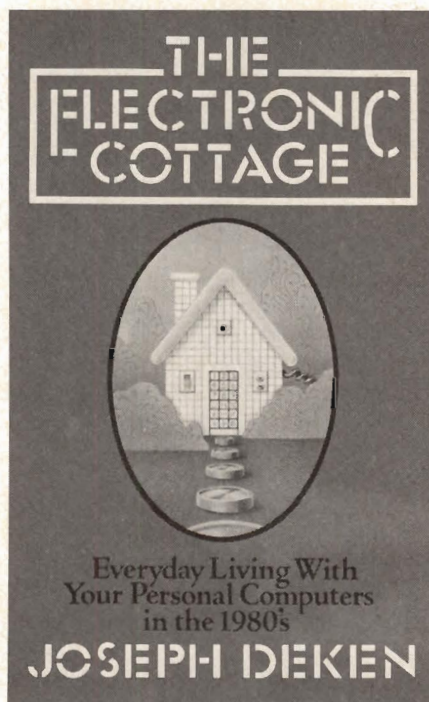
It's not a theoretical book. It doesn't ignore the tremendous future possibilities, as computers become even more sophisticated and more related facilities are available to an increasing number of computer owners. But it concentrates on the practical ways computers can be used by the average person, and on the changes in thinking patterns computers may cause.

For the game player, there's a chapter on games, hypergames and metagames. Hypergames are existing games which are adapted for computers, becoming more complex in materials and environment. Metagames are those in which the player creates a superstructure of strategy and interaction beyond the basic game.

Examples are provided, but the emphasis here is really on concepts.

This isn't a book for the casual reader. It's designed for the person who really wants to learn about computers as a part of life—not government computers, or corporate computers, but *your* computer and *my* computer.

Deken states that computer literacy is his goal. The volume can undoubtedly advance individuals toward that aim, but only the committed reader. Perhaps a more accessible showing isn't possible—after all, "sophisti-

cated" and "technical" are words that go hand-in-hand with "computers." But it seems unlikely that the average person will stick to this book long enough to make a breakthrough in understanding computers, and how deeply they'll change our lives.

SCORE!

Score! Beating the Top 16 Video Games/(*Signet, $2.50)/by Ken Uston*, takes on a formidable task: Guiding readers in the best ways to play **Pac-Man, Ms. Pac-Man, Defender, Tempest, Centipede, Galaga, Stargate, Qix, Frogger, Make Trax, Galaxian,**

Asteroids, Donkey Kong, Scramble, Star Castle and **Space Invaders.**

Obviously, covering that many games means dealing with a variety of skills and approaches. Luckily, in this case, it works.

Each of the 16 games is presented individually, but before the analyses, the volume offers some valuable general tips. To get more for your quarter, it suggests several steps a player should follow. Most of them have the same basis: self-discipline. Don't rush to drop your coin into an attractive new game, it advises, you'll do yourself more harm than good in the long run. Hold back and watch others play for a while. Note carefully how the game works—how the controls work, how the player's man moves, how the enemy moves, and how many points you get for doing what.

Then, it recommends, turn to *Score!* Read the sections on controls, the board, and game characteristics for that particular game before you begin to play.

Score! also advises checking out the actual physical game carefully before playing. Be certain the game is working, the controls are in good shape, there's no glare on the glass and it's really the game you think it is, not a cheap imitation.

Finally, it's playing time. Invest in a dozen or so quarters, then re-read the parts of the book you've already covered, before moving along to the strategies. Finally, go back and play, play, play.

The next chapter concentrates on general playing tips, arcade etiquette and the best use of *Score!* It also includes definitions of words non-arcaders may not be familiar with and clarification of how these expressions are used in the book.

A clever addition is a 2-page "video-graph" on which the reader can record his gaming progress.

The bulk of the book is devoted to the games. The analyses are well-organized and easy to follow. Divided into eight areas—basic objective, scenario, novice, good and expert scores, controls, the board, characteristics, strategies, and other versions—they cover just about anything you'd want to know. Characteristics, for example, includes scoring and number of men, how you lose, and facts you should know. Strategies is divided into beginning and advanced, so there's something here for every level player.

There are plenty of diagrams. These are invaluable in understanding the games and the book's suggestions. For instance, the chapter on *Donkey Kong* offers no less than six full board diagrams, as well as sectional drawings.

The final chapter covers home videogames and portable tabletop games. Frankly this is something of a waste. These categories simply can't be competently treated in only a few pages. An entire book could be devoted to any one of the home video systems, and the tabletop games combined could certainly fill a volume.

But that's a minor criticism. If your passion is arcade games, this volume could be invaluable. A large part of its success is author Uston's very readable style. Never ponderous or pretentious, he gives you all the technical knowledge you need without being boring.

HOW TO MASTER HOME VIDEO GAMES

If you liked **How to Master the Video Games,** you'll love **How to Master Home Video Games**/(Bantam $2.95/by Tom Hirshfeld. The new volume, devoted to selected Atari, Intellivision and Activision games, is much like its predecessor in style and construction. Sometimes, as a matter of fact, you'll almost think you're reading the same book.

As has become traditional, it seems, the game tips are sandwiched between more general chapters. The book starts off by addressing beginners. In dealing with the basics, it takes the point of view of an arcade addict who's unfamiliar with home systems. There's nothing wrong with that in itself, but a sizeable number of readers might be recent purchasers of home games

The second chapter is certainly accessable to everyone. It gives a quick technical explanation of how home videogame systems work.

Next come nine steps to follow to become a home video master. Some of these seem awfully obvious—for instance, reading the games instruction booklet—but it probably doesn't hurt to point out even the very basic basics.

The back of the book includes off-television exercises, a listing of high-score records and of clubs, a coming-attraction chapter on Atari's **Pac-Man** cart (on the market by the time the book was published) and instructions for finding programmer Warren Robinett's secret room in the **Adventure** cartridge.

It also contains a quick overview of 10 of the most popular arcade games.

Only the chapters on Atari games, though, include a chart highlighting various features of the game variations. This seems a sensible approach; with the wide number of variations available on Atari cartridges, it would be foolish to try to offer hints for all of them. Still, they can't be ignored.

Certainly, the book is only suitable for some home videogamers. Obviously, it's most attractive to Atari owners and entirely useless to Odyssey² buffs. Sports game fans will be disappointed: not a single such game is included.

It's not really feasible to include all games produced by all companies in a book of this sort. But some of the choices here seem somewhat strange. Perhaps a better idea would have been to narrow the focus of the book, dealing with, say, only space games in this volume. A series would be possible.

But what it does, it does well. There are many tips, and they're very practical and workable. Beware, however, of becoming bogged down. Hirschfeld's style is a trifle heavy, and you may feel more like you're reading a textbook than a home videogame guide. ⍝

What Has Your TV Set Done For You Lately?

Sure, watching "the tube" is enjoyable a lot of the time. But today, home entertainment is much more than just broadcast TV. Today, your TV set can bring you movies you choose yourself to play any time you like. Fun and games. Problem-solving, self-improvement, and personal security. Unique, priceless memories of family and friends. Art you create yourself. It's a whole new world . . . the fascinating world of video.

Whether you're a video veteran, a beginner just getting your feet wet, or someone intrigued with the thrilling possibilities the field offers now and for the future, VIDEO Magazine should be your guide to this world.

Every month, VIDEO will show you how to *use* your TV, not just watch it. You'll read news of and invaluable test reports on the latest video equipment. You'll find sources, previews, and reviews of pre-recorded programs to buy or rent. You'll learn helpful home taping techniques: using a video camera, lighting, dubbing in audio, creating video art. You'll profit from expert technical advice. You'll explore all the alternatives to broadcast TV available today and the developing technologies coming tomorrow.

In short, you'll enjoy the most comprehensive information possible from the first and foremost video publication—and in a lively, thoroughly entertaining way.

video

It's worth watching every month!

COMPUTER PLAYLAND
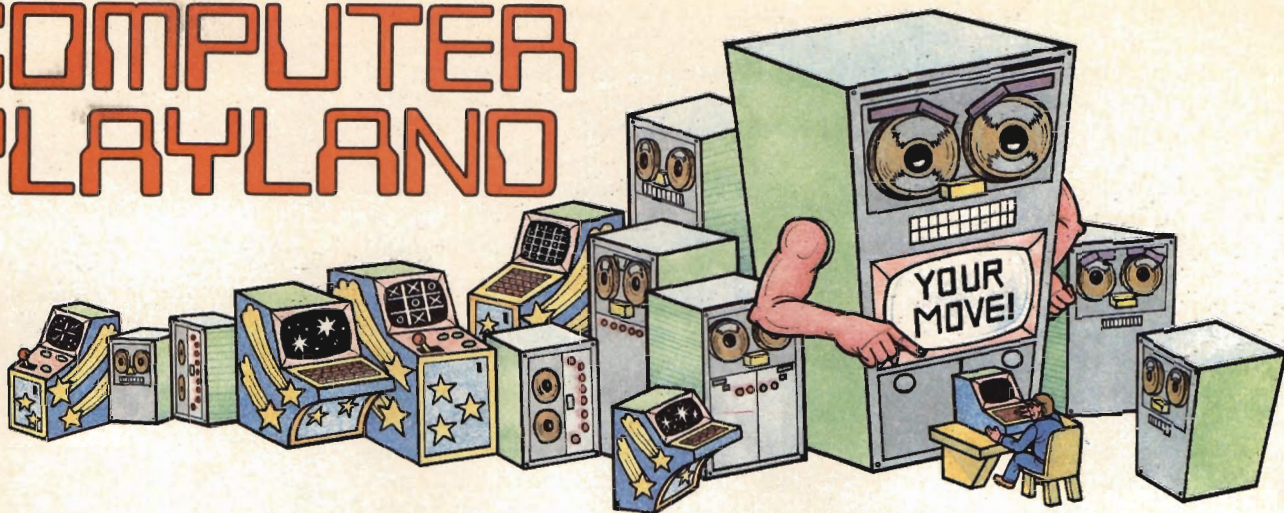
Fly Through the Night on a Wing and a Prayer!

NITE FLYER
Computer Consultants of Iowa/Atari 400&800/24K Disc

How about this, arcaders of the friendly skies: a real-time flight simulator that permits armchair pilots to plow 747's into an endless succession of runways in the dead of night.

Sound delightful? Actually, it's quite a bit of fun, with minimal but effective use of line-graphics and total joystick control. The big problem is the incredibly inadequate documentation. Although the accompanying instruction booklet presents a full-bodied appearance with its multipage, spiral-bound book, novice barnstormers will be appalled to realize that the bulk

of the space—five of the seven pages—is devoted to catalogue ads for other CCI products. The assumption seems to be that only 747 captains and fighter jet aces will be purchasing **Nite Flyer.**

The first page of directions consists of the most minimal information on some of the most technically sophisticated data imaginable. To top it all off,

the language used comes so close to being totally incomprehensible it reads as if it might have been written by Prof. Irwin Corey. Check it out: ''Your score...is determined by three factors. The time of flight, adjusted by the original distance, is multiplied by 10. This is added to the length of the runway after you come to a complete stop; divide by 2. The third factor is the points deducted (CR) for every program cycle (about 1 second each) that you are off the glide path.''

Everybody got that straight? The second page illustrates the four gauges the player will need to navigate a successful landing. These meters indicate velocity, glide path, distance and also altitude. Underneath these appear
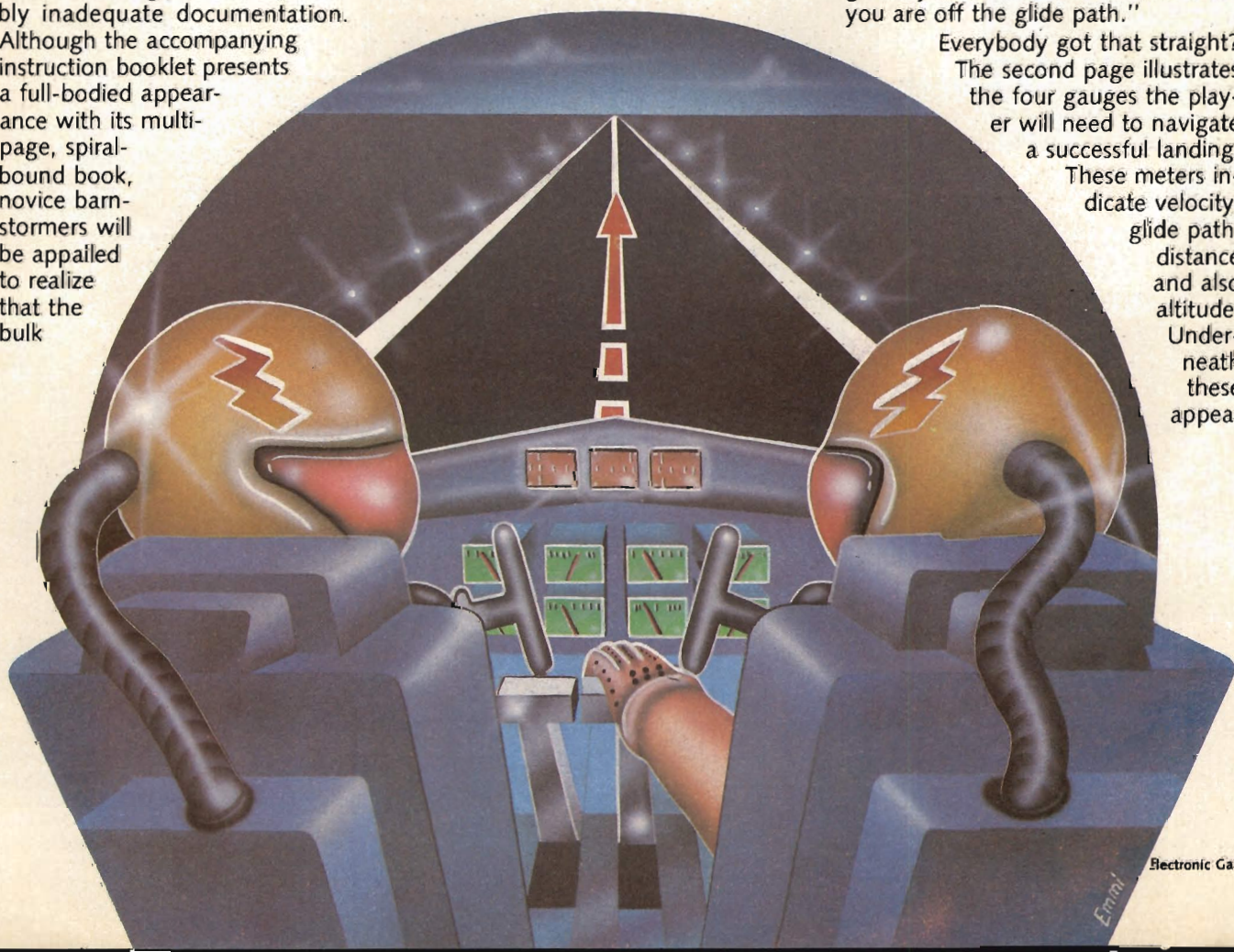
five more gauges, indicating distance, velocity deviation, time, altitude change and altitude..

Now please don't get the idea that flying and landing a jumbo jet is simple, but it's a lot easier than the scant directions would have the gamer believe. Keep in mind the minimum and maximum altitudes required for approach and landing and make sure the deviation in speed or altitude is within bounds. You may crash anyway, but you might get to see the light at the end of the runway.

A major problem, concerns the joystick. As anyone who has ever tried his hand at flying simulations knows,

pulling the stick toward you sends the craft into a climb, just as pushing it away begins a dive. Not so here, for some inscrutable reason, where the process is reversed.

Win, lose or crash, this is quite a decent flight simulator. Just keep your nose up and you'll be thumbs-up all the way! (Bill Kunkel)
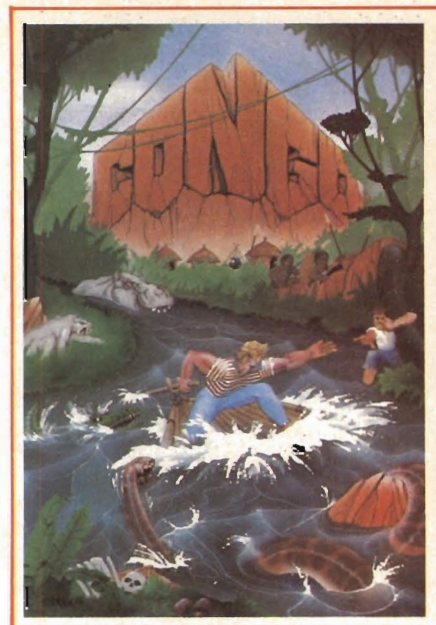
CONGO

Sentient Software/Apple II/48K disc

The only thing gamers like better than a bonus cannon is an electronic game that offers a new type of playing experience. **Congo** certainly fills the bill. Sentient Software, best known until now for its intricately crafted text adventures, ventures into uncharted waters with the simulation of a perilous journey along Africa's mysterious Congo River.

Designed by Michael **(Oo Topos, Cyborg)** Berlyn with Harry Wilker, *Congo* casts the player as a jungle guide for hire. The expedition has literally come apart at the seams as a result of a night attack by ferocious panthers. The rest of the explores have run off in blind panic, leaving you on your own in the midst of danger.

As a bona fide intrepid hero, there's only one course of action open to you.

CONGO

You must build a raft, navigate the deadly river, save any survivors of your party you can reach and bring them to safe harbor on the shore.

The electronic Jungle Jim maneuvers a homemade raft along the swiftly flowing river using either the keyboard or joystick. This reviewer recommends the former only for confirmed masochists, since getting the drifting and clumsy raft to go in the desired direction is rough sailing even with the best of control devices.

The river flows horizontally across the screen from right to left. It is possible to keep the raft from proceeding further downstream, but the powerful current prevents actual backtracking. In practical terms, this means that once

the raft passes some objective on its way to the mouth of the Congo, there's no way to reverse direction and go back to it.

The shoreline which runs along the North bank of the river presents a variety of dangers—and some point-scoring opportunities. If you can avoid the frantically pacing panthers, hungry crocodiles and treacherous shallows, you can carefully guide your makeshift craft into the safe harbors which you pass during your journey. Survivors are sometimes seen waving their arms to attract your aid, and they can be picked up either from mid-stream islands or the shore by the raft.

Successfully docking the raft in a safe, treeless eddy of the river is worth 150 points. There is a bonus of one point for each second left on the onscreen timer when docking is accomplished. Bringing survivors with you also earns extra points. The player gets 50 points if the passenger came aboard from a shore village and 100 if the survivor jumped aboard from an island.

The river itself has its full share of perils. There are hostile natives in deceptively fast canoes, hippos capable of splintering the flimsy raft and pythons that can squeeze you lifeless. The last-named menaces do not appear until the arcader has accumulated a fair number of points, and the opening stages of the contest mostly give the player a chance to get into the rhythm of the action.

The graphics are good, though not quite perfect. A range of mountains,

indicated just beyond the shoreline, is not especially well drawn and may at first cause some players confusion.

On the other hand, the rendering of the raft, hippos and natives is excellent. In a game in which the objective is so straightforward, graphics must provide a lot of the entertainment value. The visuals in *Congo*, even with the exceptions previously noted, are more than equal to the task.

This is not going to be a high-scoring game for most arcaders. Getting to 3,000 points to earn an extra raft is a solid achievement, and few will attain the 6,000-point milestone without lots of practice.

A good tactic, at least in the early going, is to hug the shoreline as closely as possible while keeping the raft no more than a few inches from the right edge of the screen. This provides plenty of time to see—and dodge—any threats approaching from the left. It also enables the electronic sailor to see the safe harbors far enough in advance to line up for docking.

In truth, *Congo* may be a little tame for gamers who dote on screen-ripping explosions and chaotic target-shoots. Yet this well-conceived contest will provide most computerists with a refreshing change from the play-mechanics found in other popular programs. It is a subtle—and surprisingly involving—change

to the mind as well as the reflexes.

(Arnie Katz)

PEEPING TOM
Micro Lab/Apple II/48K disc

Sometimes, looks can be mighty deceiving. This is especially true when browsing the racks for a new computer game. It's still not unusual for a brilliant program to come packed in the equivalent of the plain brown wrapper, while a showy carton occasionally masks a dull game.

It's hard to say exactly what one might expect from examining the protective sleeve in which **Peeping Tom** is wrapped. The cover of this Mike Lovesay design shows a man looking at a half-open window through a big pair of binoculars with, shall we say, an over-eager expression on his face.

Though some purchasers may, indeed, be disappointed that raising the shade won't reveal hi-res drawings of Pia Zadora, most arcaders will be so pleased with this novel action contest that they won't protest *too* much.

Considered logically, the idea of shooting aliens through sections of window covered by opaque shades doesn't make a lot of sense. Most marksmen would take a few extra seconds to raise the shade to achieve a clear field of fire. But this is the crazy world of videogaming, where everything goes and the play-action's the thing.
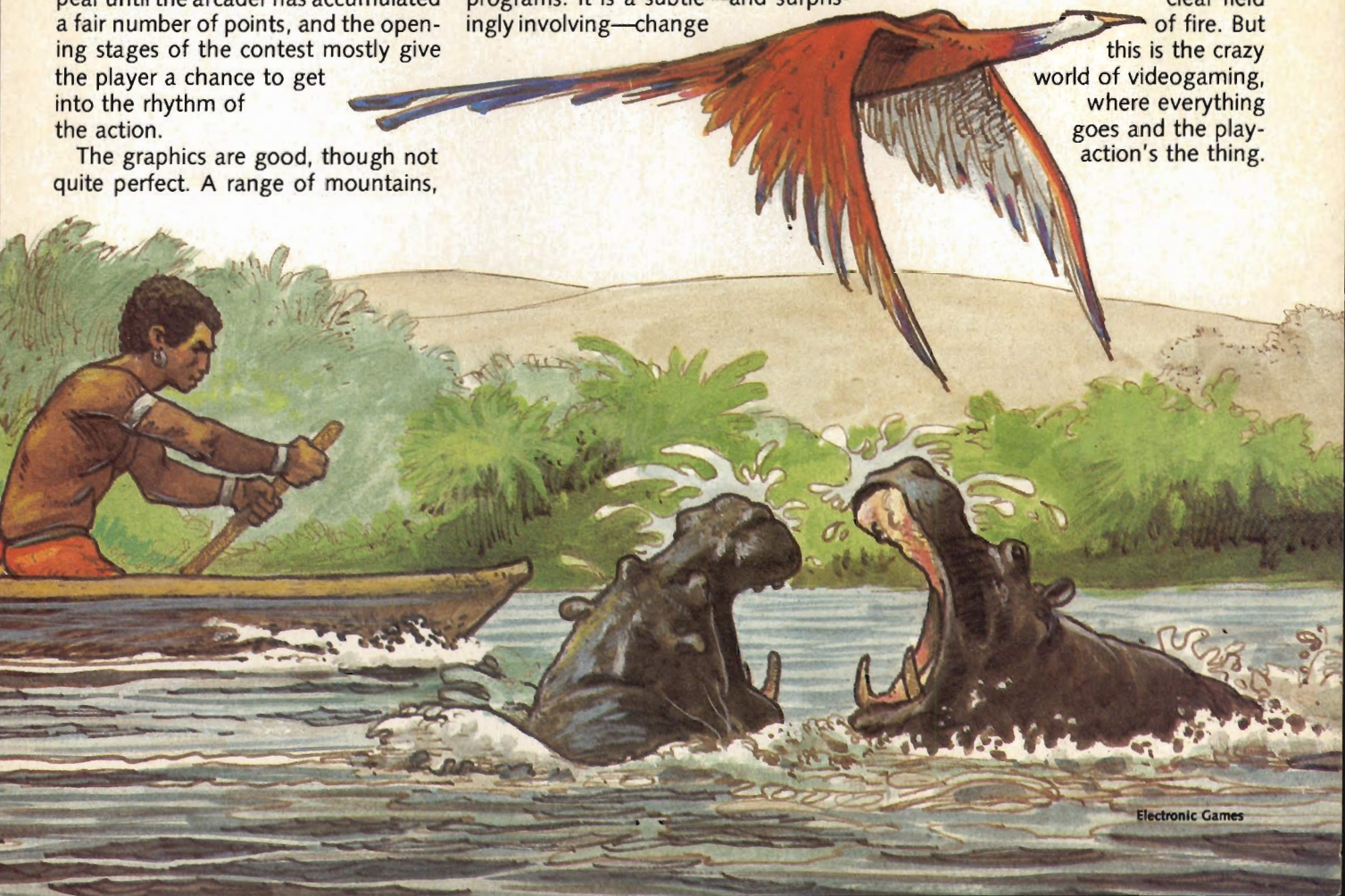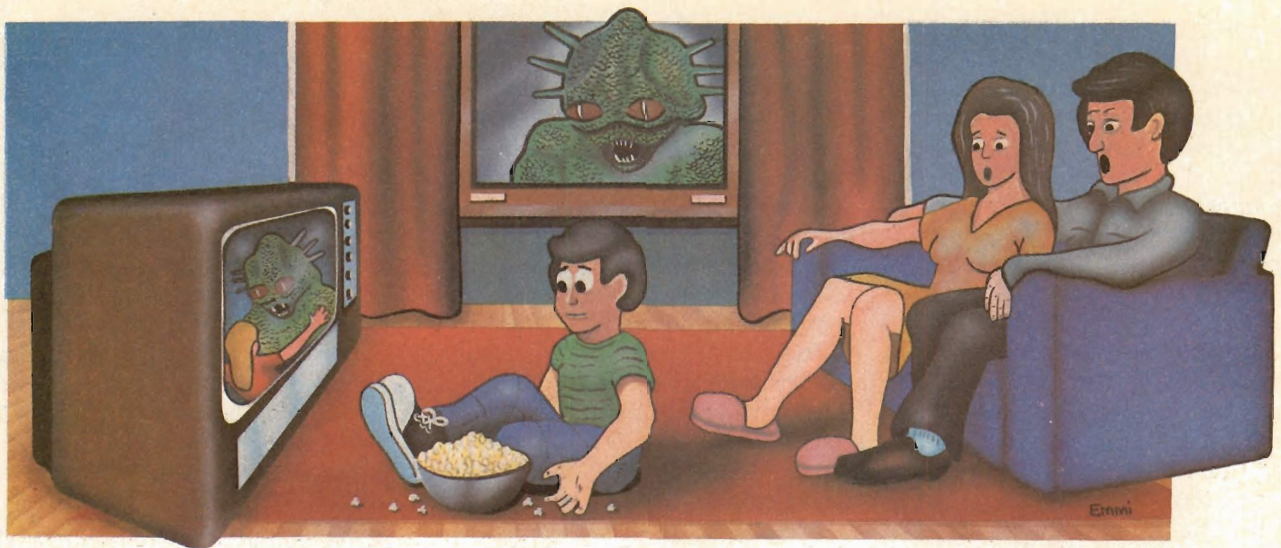
PEEPING TOM/Continued

And this game has nothing but action from beginning to end. How difficult is it to learn how to play well? Here's a clue: The player gets nine—count 'em!—ships with which to combat the equal number of distinct groups of invaders. Novice peepers will need every single one of them, too, because these beautiful but deadly creatures are relentless attackers.

The gamer uses one of the Apple paddle controllers to move a horizontally mobile ship across the bottom of the playfield. You fire up the screen at aliens hidden behind a closed window that is divided into sections. When one of your ship's laser bolts hits an attacker hiding behind a closed section, it opens. This not only makes it easier to zero in on the remaining targets, but also earns a 100-point bonus.

If you eliminate all nine batches of aliens before exhausting your own supply of ships, the game restores your original nine lives, adds a tenth as a bonus and begins a new cycle of play at a more difficult skill level.

Those who don't have a joystick (or who dislike them for some reason) can play *Peeping Tom* with the keyboard using the arrow keys to move the ship and the space bar to fire. It is also possible to halt the action for a breather by hitting the "ECS" key or silence the audio effects by pressing "Q".

It is possible that the game will frustrate players when they first boot the disk. As mentioned earlier, *Peeping Tom* can prove a very tough nut to crack. A little patience will reward the arcader with one of the best new ac-

tion games to come along in quite some time. (Arnie Katz)

RUSKII DUCK
Gebelli Software/Apple II/48K disc

This is a crazy new game from Gebelli Software, a relatively new outfit that is already becoming well-known for its offbeat approach to entertainment software. It is somewhat similar in general concept to **Adventure** (Atari) for the VCS, but it offers better graphics and a dash of humor in a somewhat more varied setting.

The goal of the game is for the player to capture the MX missile plans and return them to the CIA building. **Ruskii Duck** opens with a beautifully done animated outdoor scene complete with roads, parks, and moving cars. Different buildings line the sides of the screen. The player must enter the various structures and manipulate objects found inside so that the object can be accomplished.

There is a flower shop, T-shirt shop in the park, hardware store and a large variety of other types of businesses in this little world. In many places, there are also bombs that can either be dismantled with the screwdriver or exposed to explode by the hammer. The player gets ten seconds in which to leave the room if a bomb is exposed. It is necessary to run from building to building looking for the hammer so the boxes in the shops can be opened.

The keyboard controls once again are a slight sore spot with me. The game would lend itself quite well to joystick play, but the authors opted for left and right arrows for horizontal movement and "A" and "Z" keys for the verticals. If the player presses any of those keys only once, movement is slight in that specific direction. It is necessary to press a direction key twice to make continuous motion. Pressing the space bar when on top of an object allows the player to carry it. It is often frustrating to attempt to align correctly with the object so that it can be picked up. But this is a small complaint. The animation and color is excellent and *Ruskii Duck* so much fun, that it is highly recommended to all Apple gamers. (Leigh Goldsteen) ⊖

RASTER BLASTER NAMED TOP APPLE PROGRAM

Raster-Blaster, the hi-res pinball simulation by Bill Budge, rated as the top Apple II program of 1981 in a special poll recently conducted by *Softalk* magazine. Despite the computer manufacturer's disdain for entertainment software, it turns out that nine of the top 10 programs for last year fall into the game category. In fact, 23 of the 30 most popular are games.
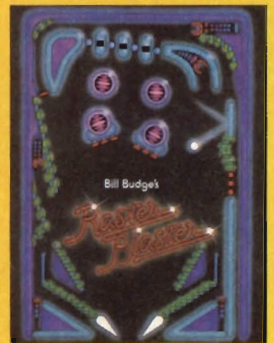
Published by BudgeCo., *Raster-Blaster* set new standards of excellence for video versions of flipper games. The company has recently moved to give its pride and joy wider circulation by producing an edition for play on the Atari 400/800 systems.

1981's Leading Apple Games

1. Raster-Blaster/*Budge Co.*
2. Castle Wolfenstein/*Muse*
3. Apple Panic/*Broderbund*
4. Olympic Decathalon/*Microsoft*
6. Alien Rain/*Broderbund*
7. Wizardry/*Sir-Tech*
8. Space Eggs/*Sirius*
9. Sneakers/*Sirius*
10. Ultima/*California Pacific*

Source: *Softalk magazine*

Bill Budge's
Raster Blaster

STAND-ALONE SCENE

Death Swoops From the Skies!

By JOYCE WORLEY

GALAXIAN
Coleco/$70

Buckle your seat belt, put one hand on the joystick, and the other on the firing button. Here come the Galaxians, and all that stands between the earth and certain defeat is you.

The stand-alone version of Midway's **Galaxian** is now available from Coleco, and this diminutive device is the most elegant tabletop game ever released. *Galaxian* is the second in Coleco's family of miniature arcade machines, following in the steps of its previously released **Pac-Man**. The unit is a replica of the coin-op version, and features realistic arcade sound effects. The action takes place on a bright, multi-colored vacuum flourescent display.

The arcader chooses from among 3 games, *Galaxian*, **Head-to-Head**, **Galaxian** (for two players), and **Mid-**

way's **Attackers** (an invasion game). Each player handles a miniature joystick and firing button.

In *Galaxian*, 13 alien fighters and two flagships hover in formation. The fighters dance back and forth across the top of the screen. As they reach the sides, a pair of ships break from the right and left ends of the formation to attack the player's cannon. Destroying a Galaxian while still in formation awards only 10 points to the gamer, while successfully shooting a fighter in the midst of a dive-bomb attack scores 50 points. If the player atomizes all the fighters, the flagships attack. These are worth 50 points either in attack or in formation. When the arcader destroys all the enemies on the screen, a new field of aliens appear, but the fighters fire more rapidly. The game ends when the defender loses three cannons. The display shows the point total, then flashes the best score earned for the session in progress.

The animation is beautiful. The Galaxians are red and blue, and the flagships are gold and scarlet. The cannon is orange and green and fires blue missiles. The arcade-style hood that surrounds the playscreen cuts down on room light just enough to make everything on the field clearly visible.

The attacking Galaxians swoop down on the player's cannon in a graceful curve, relentlessly dropping bombs. When flagships enter the attack mode, they change into Galaxians, but they approach with a tricky bouncing motion that is devilishly hard to predict. Since the flagships are worth as much in formation as attack, take them out while they're sitting ducks, rather than waiting to catch them on the fly.
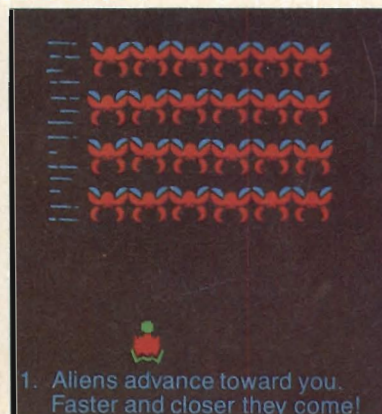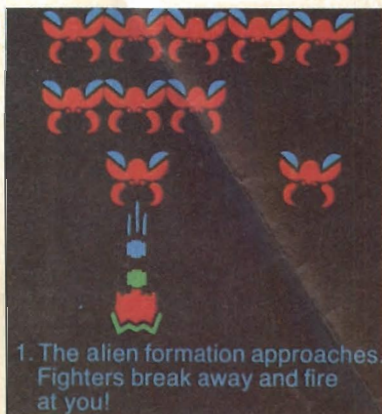
Obviously, there are differences between this and the coin-op version. There aren't as many Galaxians on the screen, and there's no differentiation among the rows of aliens, either in appearance or point value. In the arcade version, the flagships can attack with two Galaxian escorts, and point values are affected by the number of escorts destroyed ahead of the flagship. Also, the attack mode in the arcade version is a more complicated sweep across the screen.

But these are unimportant differences when considered against the main fact: This is simply the most attractive and playable stand-alone game ever devised. Arcaders who love the large-sized game will be entranced by this miniature, and they will find the play satisfactorily challenging.

The second game in the unit is another big plus. *Midway's Attackers* is a version of **Space Invaders**. Four rows of six aliens descend toward the player's cannon, and a flagship periodically scuttles across the top.

The differences between this game and *Space Invaders* enhance rather

GALAXIAN PLAYFIELDS

1. The alien formation approaches. Fighters break away and fire at you!

2. You dodge their missiles and shoot back . . . it's a hit!

1. Aliens advance toward you. Faster and closer they come!

2. You maneuver and fire numbers decrease— missiles keep coming

than diminish *Attackers*. There are no shields; the player must scoot his cannon back and forth to avoid the hail of bombs. The aliens quick-step across the screen, and as the player shoots each one, they close ranks. This pokes a hole in the usual invasion game strategy. If gamers concentrate on shooting vertical columns of aliens, the lowermost attackers will surely land before they can be destroyed. Players must sweep across the rows, left to right and back again, demolishing the lowest rank of aliens so they cannot reach the bottom of the screen.

Head-to-Head Galaxian is the sleeper game of the month. This is such a good idea that some manufacturer should bring out a version for the home video screen. Two players compete in all-out war to destroy each other's fighters and defensive cannon. The left joystick moves the defender at the bottom of the screen, while the right controls the defender at the top. A row of four fighters protects each cannon. Single fighters periodically break from formation and dive bomb the opposing player's cannon. Shooting an enemy fighter tallies 10 points in formation, and 50 points in attack. If you accidently shoot your own fighter, the points are added to your opponent's score. Shooting a defender counts 200 points.

Head-to-Head Galaxian has a short version (about one minute) and a long version (approximately two minutes). About 15 seconds before the game ends, the sounds change to indicate this. Then the difference between the two players' scores is shown, with an "L" or "R" to indicate whether the left or right player is victorious in this highly competitive and challenging game.
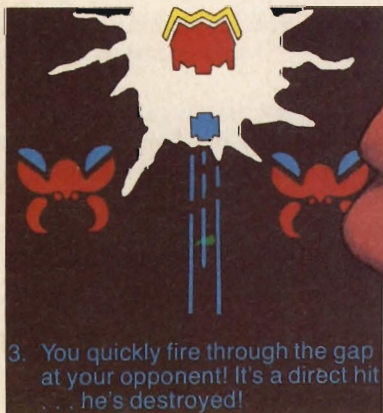
3. You quickly fire through the gap at your opponent! It's a direct hit . . . he's destroyed!

There are few serious flaws in this unit. The joysticks seem a little lightweight for the joy they're doing. Also, the arcade-style hood surrounding the playfield makes it hard for two players to see the screen at once in the head-to-head games. It would also have been better design to put the single-player joystick on the right instead of left, so that right-handed players wouldn't have to reach across the control panel to maneuver the joystick with their best paw.

These quibbles aside, Coleco's *Galaxian* is truly a state-of-the-art unit. If you're only going to buy one stand-alone this summer, make this the one!

DIGITAL DAREDEVIL

Tomy Corporation

The throbbing engine bucks and the roar of the motor pulsates in your ears. Looming ahead is a stack of oil drums—and there's no way to miss them! Rear the bike onto its back wheels; you have no choice but to leap over the barrels. Can you make it? Can you fly this cycle over the

obstacles and land safely on the other side? A successful jump will make even Evel Knievel proud!

Digital Daredevil invites the arcader to try his skill as a motorcycle stunt driver. The cyclist is a stationary side view image on the screen, facing a moving strip of film representing the roadway. As the film strip slides across the screen, the cycle appears to be racing down the road. The cyclist must pass by or leap over several obstacles in the street, including traffic signals, a stack of oil drums, and a car.

The gamer chooses between two skill levels, and can vary speed during the race from high to low. Use one hand to control the speed button and the other for the jump and reset buttons. Press the jump button at just the right moment and the cycle flies right over the obstacle. But if your timing is a

little off, the cycle crashes in a blaze of flashing lights. The reset button returns the motorcycle to an upright position and also functions as a pass button if he's not in good position for the next jump.

The arcader scores points for successful jumps, and loses valuable time for every crash. The reset button must be depressed after each wreck until the cycle has returned to the proper position, and this takes several seconds.

Digital Daredevil is unexpectedly hard to master. The gamer must get just the right combination of speed and timing to clear each obstacle. It's actually a little easier to play at the faster speed, but switching between fast and slow when coming up to an obstacle helps make more leaps successful.

This is a very simple game with uncomplicated play mechanics. There is no real animation, just painted images on a moving strip and a back-lighted drawing of a cyclist. The controls are sturdy buttons that should withstand a lot of hard use. A two-digit scoring dial counts to 99, then rolls over to begin again.

This is a good bet for the younger arcader with a yen for a dirt bike!

DIGITAL DAREDEVIL

OTHELLO
Gabriel/$120

Othello players are everywhere. The company's motto for the game, "A minute to learn, but a lifetime to master", does much to explain its phenomenal popularity. It's easy enough for an eight-year old, but sophisticated enough to challenge a master strategist. Since the game is so popular, there are always many players hunting evenly matched opponents. Gabriel's computerized version of *Othello* is one answer to this search.

This fully electronic unit requires no extra board or playing pieces. *Othello's* protective carrying case makes it safe to take along wherever the gamer goes. An attractive LCD display of a 64-square board fills the upper portion of the unit. Vertical rows are lettered A through H, and horizontal rows are numbered 1 through 8. Two indicator lights at the top of the board indicate whose turn it is. The lower two-thirds of the unit houses the simple controls.

The player chooses a skill level, graduated from one through eight, novice to expert. The computer displays two disc of each color in the center of the board. Black goes first, placing a disc that flanks at least one white piece. Pieces surrounded in this manner are flipped over to show the color of the capturing player. Play follows in rotation, and the competitor with the most pieces at the end of the game is the winner.

The computer will play either white or black. If desired, the player can change sides with the computer at any point in the game—handy when you land in an untenable predicament.

The controls are uncomplicated. The gamer presses Level, then any number from 1 to 8 to choose the level of difficulty. Press "2-Play" if two humans are challenging each other. To make a move, simply enter the letter/number coordinates of the desired board position, then press "Enter". At any time during the game, pushing "Score" will call up a numerical readout on the display.

Othello is sturdy enough to withstand the rigors of travel or extended play. It is also thoughtfully designed. For instance, the end of the housing containing the LCD board is tipped at an easy-to-see angle. Its appearance is attractive, though unpretentious. The buttons are bright green against the steel-grey case. Pleasant sounds accompany the action, and the computer buzzes if the gamer attempts an illegal move.

By eliminating the need for board and playing pieces, electronics have made this unit desirable for players who want to enjoy *Othello* everywhere they go. Gabriel's *Othello* provides a stimulating opponent for players of all skill levels in an uncomplicated and user-friendly computer version. Ⓖ

STATE-OF-THE-ART: STAND-ALONE GAMES

Hollywood's favorite slogan during the 1950's was: "Movies are better than ever!" Manufacturers of the newest table top and hand-held games could make a very similar claim—and with a lot more justice.

The improvement in the stand-alone field just since this column began last winter is nothing short of amazing. Better control devices, improved displays and more sophisticated designs have vaulted the best of the new stand-alones into a position where they are worth the attention of the serious gamer.

That's why this column has begun to upgrade the standards by which the games are being judged. That's why, occasionally, a review may be only mildly favorable—or maybe even negative—on a unit that could have drawn solid praise at one time.

Call it progress.

OTHELLO

COMING NEXT IN
electronic GAMES

GETTING GAMES UNDER CONTROL

Have you heard about the latest advance in home arcading? It's premium-quality controllers! If the standard-issue command devices don't please you, many companies are itching to arm gamers with the perfect paddle, the ultimate joystick or even livingroom versions of the trackball and button controllers now used on many coin-op machines. **EG** combs the shelves to spotlight the finest units presently available.

THE ILLUSTRATED HISTORY OF PINBALL

Roger C. Sharpe, who recently told readers about the fascinating history of the coin-operated amusement center, returns to the pages of **Electronic Games** with an account of the history of the arcades' greatest pre-videogame attraction, the pinball machine.

THE PLAYERS GUIDE TO MAZE GAMES

Pac-Man isn't the only critter patrolling the lanes of electronic labyrinths. In fact, there are no less than three distinct types of games that utilize a maze as an important strategic element. Next issue, **EG**'s magazine-within-a-magazine examines the dozens of maze games which have flooded the home and coin-op markets in the last two years.

POP CULTURE MEETS ELECTRONIC GAMING

Many observers attribute the success of such videogames as **Space Invaders** to the influence of such pop cultural phenomena as "Star Wars" and "Star Trek". Now the games are beginning to influence the other media.

In the next issue of Electronic Games, you'll find out how games are affecting movies, television, comic books, records—and vice versa.

There'll be plenty of other articles and features of interest to arcade addicts, plus these regular columns:

- ★ Test Lab
- ★ Switch On!
- ★ Q&A
- ★ Inside Gaming
- ★ Mini-Arcade Gallery
- ★ Computer Playland
- ★ Programmable Parade
- ★ Stand-Alone Scene
- ★ Games Library
- ★ Strategy Session
- ★ Insert Coin Here
- ★ Coin-Op Classroom
- ★ Passport to Adventure
- ★ New Products
- ★ Arcade America
- ★ Editors' Choice
- ★ Readers Replay
- ★ EG Hotline

So watch for the September issue of Electronic Games
On Sale August 12, 1982

A Computerized Master Strategy Game by Odyssey²

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Wall Street Fortune Hunt

MCD 65   ABC 50   TWA 53

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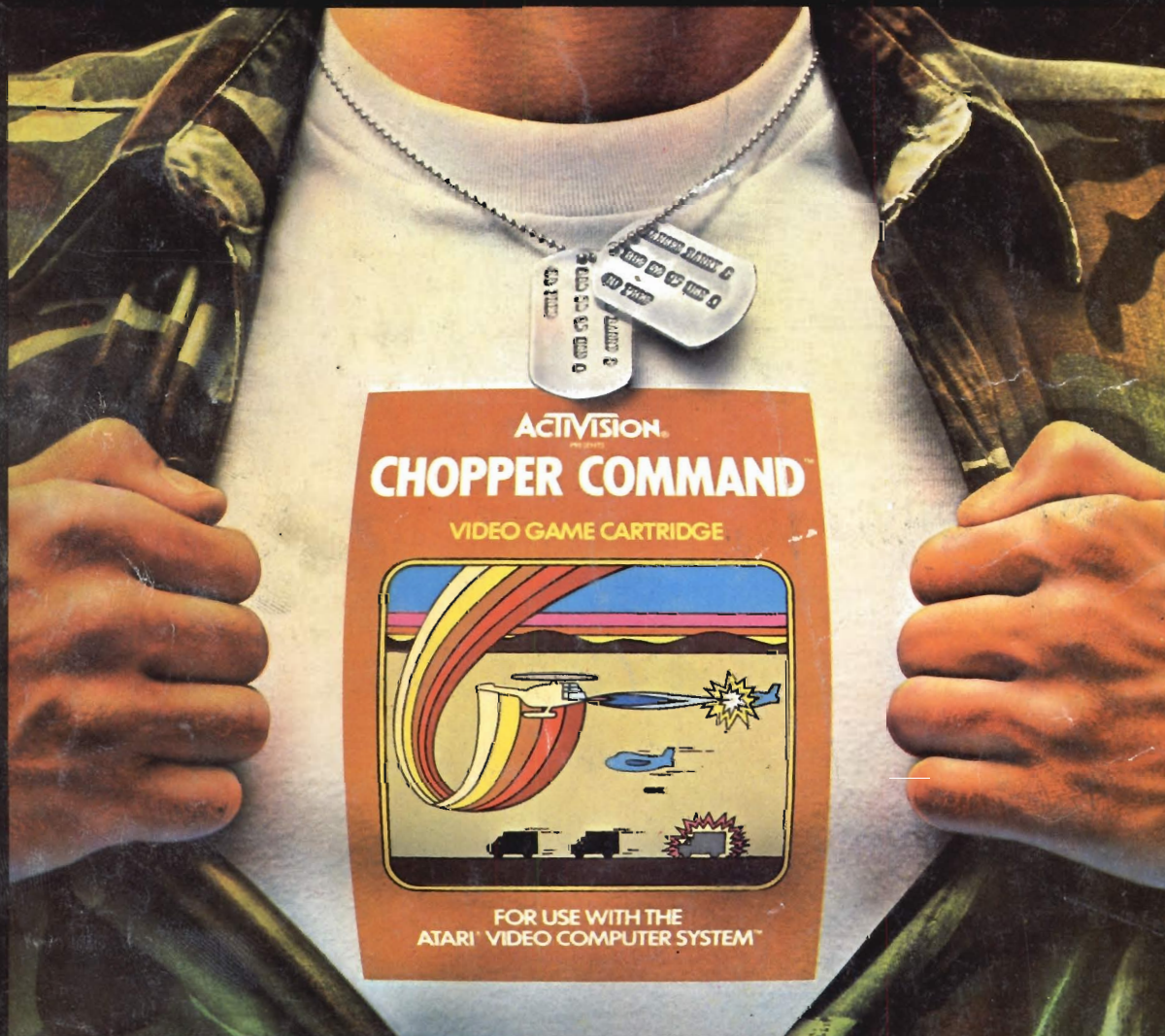
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